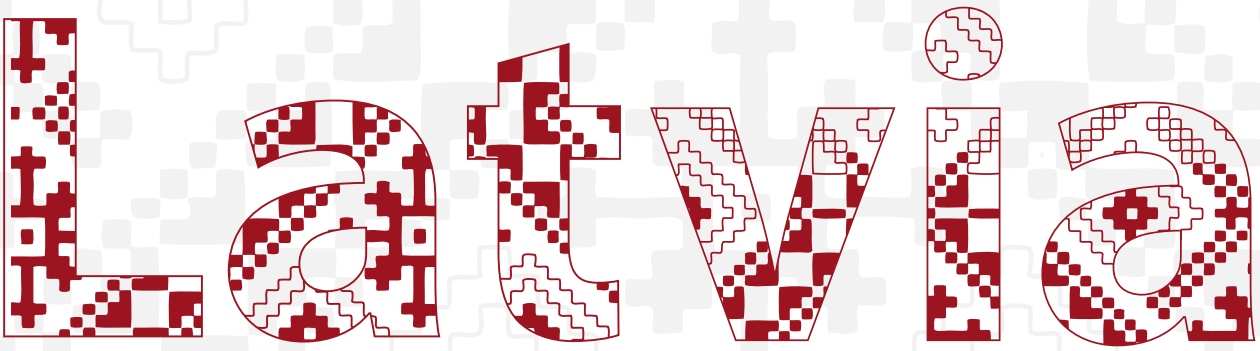
Latvia Tax Review

Equitable Growth, Finance, and Institutions
Europe and Central Asia Region



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Latvia

WORLD BANK GROUP

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ACKNOWLEDGEMENTS

The report summarizes a thorough research on the Latvia's tax system that the World Bank has undertaken over the past year. The report was prepared by the team of World Bank experts from the Equitable Growth, Finance, and Institutions cluster, and Global Practices for: Poverty, Macroeconomics and Fiscal Management (MFM), and Governance. The core team was led by Emily Sinnott (World Bank) and Emilia Skrok (World Bank), consisting of Michael Engelschalk, Mihails Hazans (University of Latvia and IZA); John Fanning (former Irish Civil Service), William Dillinger (former World Bank) and Bas Jacobs (Erasmus University Rotterdam). The team is greatly indebted to Jan Gąska, Paulina Hołda (World Bank), Māris Jurušs (Riga Technical University), Palma Mosberger (Central European University), Anna Pluta (Baltic International Centre for Economic Policy Studies and University of Latvia), Olga Rastrigina (University of Essex) and Joanna Tyrowicz (GRAPE) for their invaluable contribution to the report. William Shaw and Anne Grant provided excellent editorial and production support. Special thanks are due to Olga Rastrigina (Institute for Social and Economic Research, University of Essex) for invaluable support in terms of getting access to EUROMOD software and EUROMOD-adjusted SILC data as well as Agnieszka Boratyńska, Aleksandra Ignaczak, Jason Victor and Indiana Taylor (all World Bank) for their excellent editorial support and research assistance.

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EXECUTIVE SUMMARY

LATVIA TAX REVIEW – EXECUTIVE SUMMARY

1. INTRODUCTION

Latvia's Ministry of Finance requested the World Bank to collaborate on a review of the country's tax system as input for the design a medium-term tax strategy. The motivation behind the tax review is to find options to increase tax revenues by three percentage points of GDP to reach a target tax-to-GDP ratio of 33 percent in the medium term.[1] In Latvia, tax revenues are lower than predicted for its income level and institutional development. The additional revenues would be used to cover growing spending needs in the following areas:

Defense spending. The Government aims to increase defense spending to the NATO guideline target of 2 percent of GDP by 2018 (from 1 percent of GDP in 2015 and an estimated 1.5 percent of GDP in 2016).[2]

Investment in human capital. Health, education and social protection are additional areas that the Government has identified as requiring further investments. In particular, public health spending is low and health outcomes are lagging compared with much of the European Union (EU).

Latvia's tax policy needs to be restructured to support economic development and raise living standards. The speed of convergence in Latvia to average income levels in the European Union (EU) was impressive until the 2008-2009 crisis, but since then output recovery has been fast but not rapid enough for real GDP to return to pre-crisis level. A critical challenge then is to boost productivity growth in the economy: the level of productivity is low relative to OECD economies and its growth has slowed notably since the crisis. Increasing labor productivity is particularly important if overall productivity is to rise: informality and inactivity reduce both labor activity and productivity. Increased investment in skills and good health are an important part of the labor productivity and participation story—particularly as Latvia rapidly ages. But reducing the reliance of the tax system on low-skilled labor is also a key policy challenge. Latvia's tax system puts substantially more of a burden on labor compared to capital or consumption. This is all the more concerning given that wages for much of the population are low and so the current flat income tax structure has implications for social inclusion and poverty. Inequality of (after-tax) disposable income in Latvia is one of the highest in the EU, with only Bulgaria, Romania and Lithuania having higher inequality.[3]

There are multiple dimensions to be taken into account in examining tax reform options apart from increased revenue generation. Tax systems as a whole should be efficiently designed to meet *revenue targets* and *distributional goals* with the lowest possible distortions on economic activity. Taxes entail economic costs by affecting people's and firm's behaviors: decisions on working, saving/consuming, investing and employing workers. A tax system that relies too heavily on inefficient taxes, uncompetitive tax rates and poorly targeted or ineffective concessions will impose significant economic costs on the economy. This "excess burden" of taxation is the economic cost of taxation. Such economic distortions entail costs over and above the income that individuals and firms pay in taxation. It is also important who actually bears the economic costs of taxation—commonly referred to as the 'incidence' of a tax. Here it is important to look at *tax neutrality*—the degree to which taxes favor one type of economic activity over another and the distribution of the *economic incidence*.

The tax system entails distributional choices and one of the objectives of the review is to look at options to improve the equity of the system. Here both vertical equity, i.e. taxing less those of lower income, and horizontal equity, i.e. taxing the same those in economically similar situations, are of importance. Governments are inevitably confronted with an equity-efficiency trade-off: higher taxes on the richer parts of the population—to raise revenue and to finance benefits for poorer groups—can distort the economic incentives for work, entrepreneurship, saving and risk-taking of middle- and higher-income individuals. At the same time, redistribution to low-income individuals, through tax credits or benefits, could weaken labor supply incentives. On the other hand, fairness, or equity is an important consideration for widespread acceptance and sustainability of the tax system.

To reduce economic distortions created by the current tax system, increase equity and meet increased revenue goals, the following features of the current tax system of Latvia are important to address in a medium-term tax strategy:

- **Restore tax neutrality across firm types and economic activity**. The most pressing need is to rebalance tax treatment across enterprises. There are large incentives for firms to remain small in terms of turnover and the number of employees due to the microenterprise taxation regime. Depending on their legal form, size or production mix, firms face different possibilities to benefit from tax relief, allowances, exemptions and deductions. The lack of neutrality contributes to economic efficiency losses (e.g. small firms in Latvia have low export intensity), tax avoidance and forgone revenues. Investing government resources to promote certain segments of corporate sector whether done through tax allowances, exemptions and deductions, or expenditure subsidies is a decision to spend scarce budgetary resources on the corporate sector, and as such, should be subject to cost-benefit analysis.
- **Reduce high labor tax burden, especially for lower income individuals.** The effective tax rate on labor is significantly higher than on consumption and capital. For low-income earners, particularly the unemployed, there is a high participation tax, which equals total taxes paid when working (in the formal sector) plus the non-employment benefits that a worker foregoes when the individuals start working. High labor taxes reduce the incentive for hiring into and participating in the formal labor market. In addition, they encourage the underreporting of wages. Reducing the relatively high tax on low-income labor would encourage employment and formality. Decreasing the reliance of the tax system on labor taxes should be an aim of the tax system in the longer term given the low effective tax rate on capital and the shrinking and aging of the labor force.
- **Increase the relatively low impact of tax and benefit system on inequality**. The tax and benefit system has a relatively small impact on income inequality in Latvia. Latvia's Gini is the second highest for (after-tax) disposable income in the European Union (EU); Estonia's Gini is just 0.1 percentage points higher. The tax/benefit system does result in some redistribution of income from high-income to low-income households (Figure 1). However, fiscal policy has a lower impact on inequality in Latvia than in most developed countries. Not only is income taxation in Latvia not progressive, it is also horizontally inequitable: different income sources are taxed unevenly, favoring some forms of income e.g. from dividend income.
- **Confront informality**. The large shadow economy and widespread informality result in high tax evasion across income groups and economic activity. Increased formality improves inclusion and increases productivity: it enables workers to access health and pension insurance, improve their financial security, results in more opportunities for on-the-job training, and allows businesses to expand, modernize, innovate and become more productive.
- **Base future adjustments to the tax system on a system-wide view of its direction**. There have been many *ad hoc*—and often substantial—changes to system, particularly in response to fiscal pressures due to the 2008-2009 economic crisis. Any tax system changes must take into account interdependencies between different taxes to ensure the expected impact of the reform, for instance any changes to personal income tax have to be consistent with reform of the microenterprise regime, to limit income shifting between tax regimes.

2. LEVEL AND COMPOSITION OF TAXATION

Latvia has considerable potential to raise tax revenues. Latvia's tax share of GDP is one of the lowest in the EU in 2015 (Figure 1). Tax revenues to GDP in Latvia has been relatively stable since 2000, at around 29 percent of GDP, about 5 percentage points below the OECD average and 10 percentage points below the EU average. Not only is the tax revenue share of Latvia's GDP the fourth lowest in the EU, it is also one of the lowest in the world for countries at a similar level of development. Globally, controlling for degree of development, only small islands or resource-rich economies have lower taxes than Latvia. Compared to Estonia, Lithuania, Poland, Slovakia, and the Czech Republic, only Lithuania has lower tax revenues. A comparison with countries facing similar structural characteristics and institutions suggests that Latvia could increase its tax revenues by about five percentage points of GDP if it would collect the same taxes as its average country peer in terms of the countries' levels of institutional development.

The average effective taxation on labor income is significantly higher than on consumption and capital. Implicit tax rates measure the actual or effective tax burden on different types of economic income or activities by computing the ratio of tax revenue for each type of activity with the potential tax base.[4] Statutory tax rates often do not reflect the actual rates paid and so it is useful to look at the effective tax burden for different activities in the economy. Despite some decline since 2000, the effective taxation on labor remains significantly higher than on consumption and capital (Figure 2).[5] In Latvia, the implicit tax rate on labor dropped from 36.5 to 33 percent over 2000-2012 due to a fall in personal income tax (PIT) revenues. It is below the EU average of 36.1 percent. The effective tax rate on consumption at 17.4 percent in 2012 is relatively low for the EU for which the average if 19.9 percent. It did not change much between 2000 and 2012 despite an increase in VAT rates. Latvia's implicit tax rate on capital is now one of the lowest in the EU, having declined by about two percentage points from 12.3 percent in 2000 to 9.9 percent in 2012.

[1] See Declaration of the Intended Activities of the Cabinet of Ministers Headed by Māris Kučinskis, February 2016, Riga http://www.mk.gov.lv/sites/default/files/editor/deklaracija_en.pdf

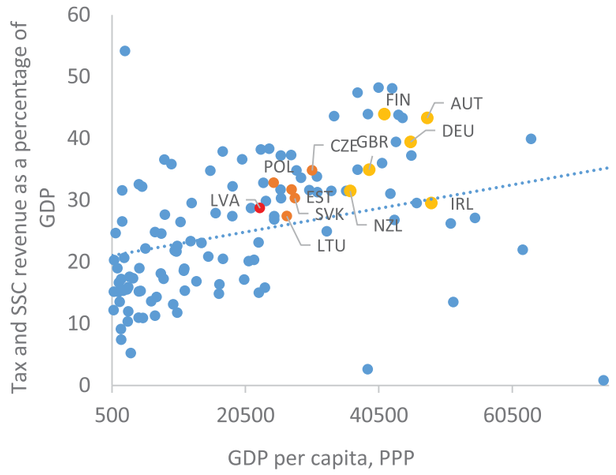
[2] Defense expenditure as a share of GDP for 2015 and 2016 is sourced from NATO (2016).

[3] Based on Eurostat data for the Gini coefficient in 2015 (latest available as of May 2017).

[4] For consumption, the implicit tax rate is the ratio of taxes (mostly VAT and excise) on the final consumption of households in the country. The implicit tax rate on labor is the ratio of taxes on employed labor to the total compensation of employees including payroll taxes. Regarding capital, the implicit tax rate is the ratio of capital taxes to the worldwide capital and business income of domestic residents.

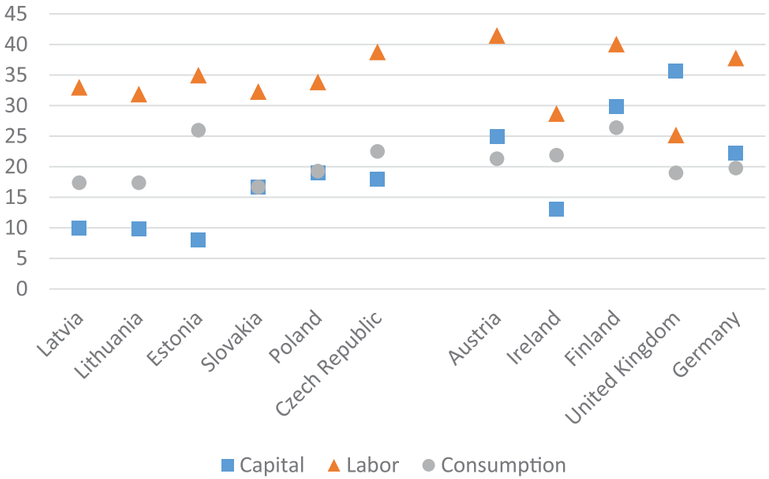
[5] The latest available data is for 2012.

[6]**Figure 1. Tax-to-GDP Ratios and GDP per capita, PPP in current US$, 2013**



Source: World Bank's World Development Indicators and IMF.

Figure 2. Average effective (implicit) tax rates, 2012



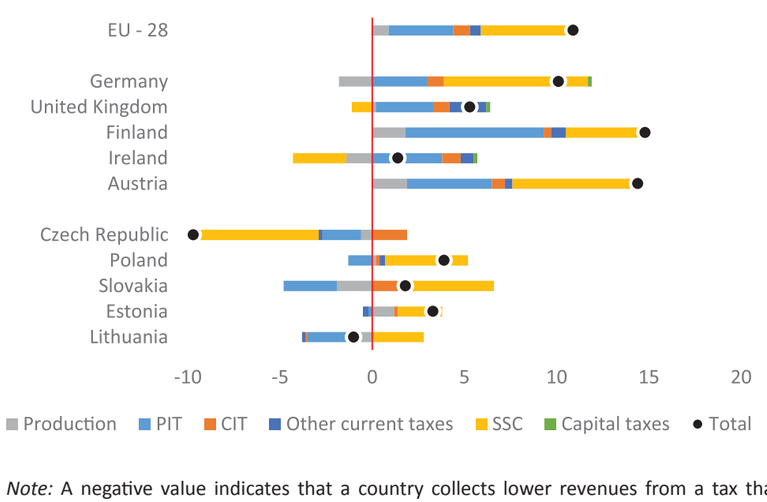
Source: Eurostat.

Personal income taxes (PIT) and social security contributions (SSC) account for the bulk of the difference between tax collections (as a share of GDP) in Latvia and the EU average (Figure 3). The share of revenues from capital taxation is also lower than the EU average. The picture looks somewhat different if compared to regional peers (the Czech Republic, Estonia, Lithuania, Poland and Slovakia). Latvia's revenues from social security contributions are still lower by 2.5 to 6 percentage points of GDP, which could be explained by a lower standard rate for SSCs, but the PIT-to-GDP ratio is higher than in all the selected comparison

[6] Based on the Gini coefficient of equalized disposable income from the EU-SILC.

countries. Latvia has a relatively high statutory PIT rate, with a relatively small non-taxable personal allowance. Other peers have either a higher untaxed personal allowance or a lower tax rate, at least at the lower end of income distribution. Latvia collects more VAT revenues as a percent of GDP than its regional peers, except for Estonia. Finally, Latvia's revenues from corporate income taxes (CIT) as a percentage of GDP are similar to those of Lithuania, Estonia, and Poland, but lower than in Slovakia and the Czech Republic.

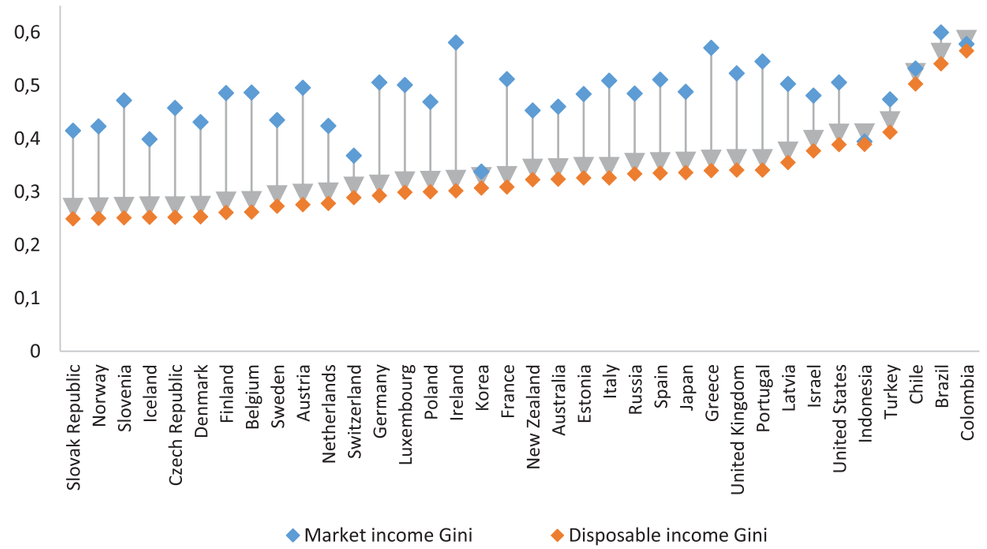
Figure 3. Difference between the level of tax-to-GDP in selected countries and Latvia, percentage points, 2014



Note: A negative value indicates that a country collects lower revenues from a tax than Latvia; a higher value shows that a country has higher revenues from a tax compared to Latvia.
Source: World Bank staff calculations based on Eurostat.

Fiscal policy has a lower impact on inequality in Latvia than in many EU and OECD countries (Figure 4). Market income inequality in Latvia is not particularly high, but the combined impact of direct taxes and government transfers is lower than in other EU countries. Latvia's Gini is the second highest for (after-tax) disposable income in the European Union (EU); Estonia's Gini is just 0.1 percentage points higher.[8] Benefits, especially means-tested benefits, play little role in reducing inequality, direct taxes have only a small impact and pensions play a lower role than on average in the EU. To achieve a higher reduction in inequality of disposable income, a broad mix of redistribution across benefits and taxes is important. However, various combinations can be used. Ireland for example, with a relatively low corporate profits tax, achieves a large reduction in inequality through a progressive PIT and substantial means-tested benefits targeted at low-income groups.

Figure 4. Gini Coefficient Before and After Taxes and Transfers, Selected Countries, 2014



Notes: The OECD assumes that pensions are a government transfer (and social insurance contributions are a tax). In-kind spending on education and health is not included in the calculations for OECD countries. Countries are ordered by Gini coefficient after taxes and social transfers from low to high values.

Sources: Gini before and after taxes and transfers are from OECD for all OECD countries and from the Commitment to Equity country papers for the remaining countries. Russia's data is for 2014. Government spending as a share of GDP is from the World Bank's World Development Indicator

3. PERSONAL INCOME TAXATION

Moving away from the flat tax system would improve the efficiency and equity of the tax system. Marginal tax rates at the bottom of the income distribution are too high (in some cases 100 percent) and personal income tax rates are flat at 33.5 percent for all incomes above the minimum non-taxable threshold. A differentiated non-taxable minimum whereby lower income earners receive higher tax-free thresholds was introduced in 2016. Together with increased allowances for dependents, the structure of the personal income tax has become somewhat more progressive over time. Nevertheless, flat taxes are sub-optimal compared to non-linear tax regimes because all individuals, including middle- and high-income earners, benefit from the non-taxable minimum income. Hence, in order to raise the (after-tax) disposable incomes for low-income earners via a higher non-taxable minimum income, marginal tax rates on average need to be much higher than if redistribution was done through a progressive income tax rate. Consequently, a flat tax causes more distortions for the same income redistribution, or can redistribute less income for the same degree of economic distortion. In The Latvian government could consider adjusting the structure of effective marginal tax rates by (i) making the tax system more progressive; (ii) reducing the welfare loss of the tax system; (iii) raising revenue, or by a combination of all three.

There is a case for increasing the rate on higher incomes in Latvia. Given that PIT accounted for about 20 percent of total tax revenues (see chapter 2) and the regressivity of other major tax instruments (e.g., the VAT),[7] there is a strong case for increasing the rate on higher incomes. Whether to introduce a higher tax bracket for higher incomes, however, fundamentally is a political choice regarding how much redistribution should be undertaken through the tax system versus the social value placed on the income of higher income earners. Simulations suggest that an increase in the current top rate of 23 percent is feasible and would result in more income redistribution and public revenue. Such an increase carries risks, of course. A higher top rate could

[7] VAT is effectively regressive: the estimated share of the VAT in household gross income falls steadily from 14.1 percent in the first quintile to 6.8 percent in the top quintile.

weaken incentives for work and entrepreneurship, and increase avoidance and evasion. The solidarity tax introduces a small element of redistribution in the system, and in the absence of other changes to make labor taxes more progressive, it should be maintained.

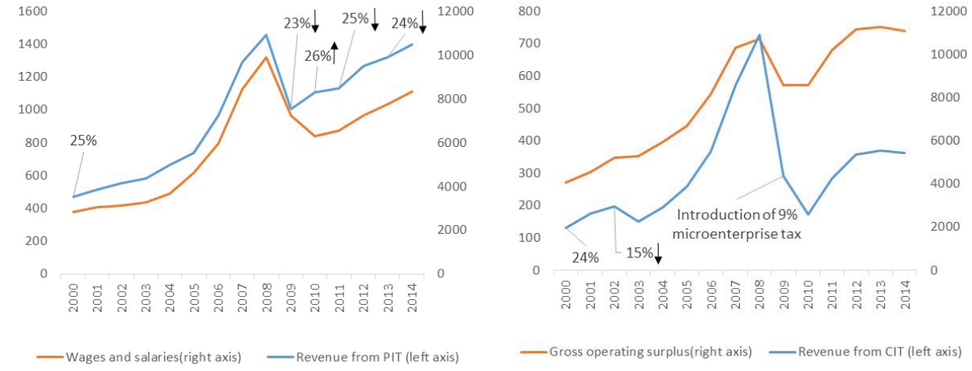
The tax rate on capital income is well below that of most EU countries, reflecting both low nominal rates and various exclusions from income. Since large parts of capital income remain untaxed, taxes on labor income and consumption need to be higher than they otherwise would have to be. The tax rate on capital income is not uniform, which enables tax avoidance by transforming capital income from one source into capital income from another source. For example, capital gains are subject to a 15 percent rate, but this income stream could instead be converted into dividends, which are subject to a lower 10 percent rate (both dividends and capital gains are zero-rated if held by corporations). The system also provides a strong incentive to overinvest in real estate and to issue debt rather than equity. Non-uniform tax treatment of capital income is inefficient, generates inequities and provokes tax arbitrage. Latvia should increase the share of taxes on capital income in total tax revenue along with making tax rates on various forms of capital income more uniform.

4. TAXATION FOR FIRMS

Corporate income tax revenue in 2014 equaled only 1.5 percent of GDP 2014, compared to the EU average of 2.6 percent. The CIT statutory rate is 15 percent, well below the EU average of 23 percent, and tax incentives for investments, tax credits (for farmers), deductions and loopholes further reduce the effective rate. Average and marginal effective corporate tax rates (EATRs and EMTRs), which take into account both the rates and the tax base, are relatively low by EU standards. This suggests that suggest that Latvia's CIT system imposes relatively low marginal investment distortions. There may be some scope for broadening the CIT base by reducing specific tax expenditures, particularly accelerated depreciation, provisions for the carrying forward of losses incurred in the past, and various deductions designed to encourage investment and R&D, which may not be providing sufficient benefits relative to the tax revenues foregone.

Low CIT revenues are due to a narrow and eroded tax base. The 2008/2009 economic crisis reduced the income tax base for both corporations and households, leading to lower income tax revenues. Unlike Estonia and Slovakia, personal and corporate income tax revenue in Latvia remained below the pre-crisis peak in 2014. CIT revenues stayed below the level corporate profits developments would have suggested, partly as a result of the introduction of a microenterprise tax, as well as other policy changes that also increased tax avoidance (see Figure 5). PIT revenues in Latvia increased by more than the recovery in the wage bill implied, probably with the assistance of a broadening of the tax base in 2010 to cover capital income.

Figure 5. Latvia: PIT and CIT and their Potential Tax Bases, 2000-2014, EUR Million



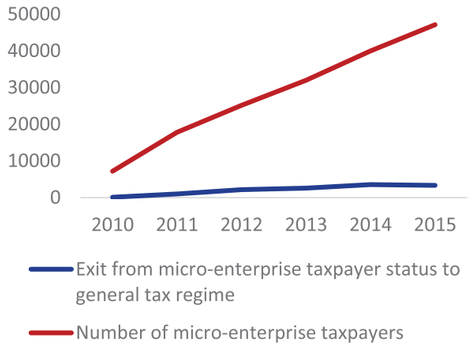
Source: Eurostat national accounts data, OECD data on income from taxes.

The CIT system in Latvia may distort corporate financial decisions. In Latvia interest is taxed only once, since it is deductible at the corporate level. Hence, the effective tax rate on interest equals the 10 percent rate of the PIT. However, dividends and capital gains are subject to higher effective marginal tax rates of, respectively, 23.5 percent and 27.75 percent. The deductibility against the CIT of interest payments, but not, in general, on equity may offer an incentive for corporations to use debt rather than equity financing. The asymmetric tax treatment of debt and equity should be reviewed to remove or reduce distortions in the financing of investment. It could be eliminated through an Allowance for Corporate Equity, a Comprehensive Business

Income Tax, or a combination of both where costs of equity and debt are both partially deductible for the CIT. A CIT approach that taxes distributed earnings as adopted in Estonia exempts the costs of equity in the form of retained earnings, but given that it does not provide an exemption for all types of equity costs it does not address financing bias completely.

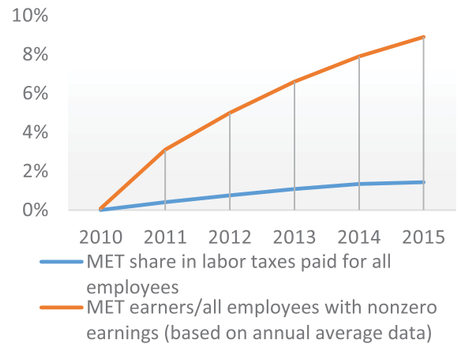
Latvia's microenterprise tax was introduced in 2010 to increase employment and encourage business start-ups. In 2016 the regime enabled small firms to pay a tax rate of 9 percent of sales volume in lieu of PIT, CIT, and social security contributions. The number of participating microenterprises and employees have increased sharply since its introduction, and tax losses due to the movement from the general regime are substantial. There has been a steady and large inflow of tax payers from the general regime into the MET regime. By contrast, there is little evidence of a significant number of firms leaving the MET regime to enter the general tax regime (Figure 6). While the MET may have reduced undeclared wage payments and VAT fraud, there is strong evidence of manipulation of wage reporting to qualify for the MET regime. Moreover, measures are not adequate to prevent avoidance of taxation through the MET regime, for example by establishing multiple microenterprises owned and controlled by connected persons. The MET regime also may inhibit the growth of innovative firms, and reduce contributions to and coverage of the social security system. Finally, tax revenue from MET is very low compared to the number of MET taxpayers and their earnings (Figure 7). The estimated tax revenue foregone due to MET amounted to 60 million EUR or 0.2 percent of GDP annually (in 2014-2015.

Figure **6. Number of taxpayers in the microenterprise regime and exiting the regime, 2010-2015**



Source: Calculations based on State Revenue Service data.

Figure **7. Changes in the share of MET tax revenue/earners in labor taxes/taxpayers in Latvia, 2010-2015**



Source: Calculations based on State Revenue Service data.

The MET should be phased out and replaced with an alternative programs to support new innovative and lifestyle businesses in the new regime only genuine new business start-ups would be covered, with various forms of tax relief focused on micro/small enterprises and linked to new jobs created. The lifestyle scheme should be offered only for small traders / proprietors with a low turnover e.g. less than EUR 20,000 per year, combined with the number of employees and the possibly location of business premises (e.g. Tax Card regime in Poland). However, the phase-out of the MET would have to be gradual and well designed to ensure transition to the general tax regime and accompanied by assistance to vulnerable workers who rely principally on microenterprise employment.

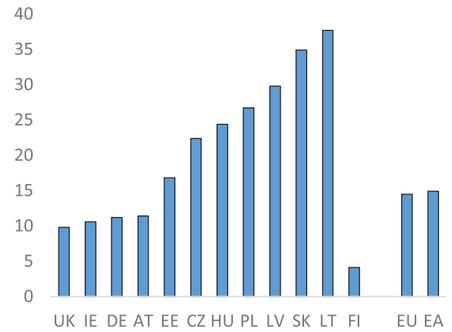
5. VALUE-ADDED TAXES

Latvia's value-added tax (VAT) is fairly broad-based, with a standard rate of 21 percent (close to the EU average) and a reduced rate that covers relatively few goods and services. Some portion of consumption is excluded from, or enjoys a reduced rate under, the VAT, similar to most economies. The reduced rates and exemptions in VAT are costly in terms of public revenue. The VAT exemptions in 2014 amounted to EUR 945 million, or 3.9 percent of GDP. Increased revenues could be realized from broadening the VAT base to eliminate unnecessary exemptions or raise reduced rates that no longer achieve policy aims in the most efficient way (taxation of energy or hotel accommodation). This decision needs to be based on a careful review of the

efficiency and distributional impact of preferential VAT rates on goods and services.

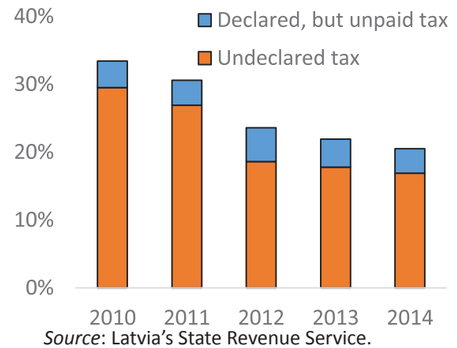
The most significant challenge for VAT is to combat the substantial amount of revenues that are lost due to tax evasion and avoidance. The VAT compliance gap—the difference between expected VAT revenues and VAT actual revenues collected due to tax fraud, tax evasion and tax avoidance as well as because of bankruptcy, insolvency and poor calculations—is high. Latvia has close to EU average VAT revenue ratios, but a very high VAT gap (see Figure 8).[8] Failure to comply explains a major part of this gap. The State Revenue Service (SRS) estimates that there has been a gradual but persistent decline in the gap since the crisis, closing the gap could still increase VAT revenues significantly—there is room to adopt more efficient tax administration methods to tackle tax fraud, evasion of VAT arrears, underreporting, and the shadow economy (Figure 9). Because the gap may have a variety of sources, knowledge of VAT gap structure could make it easier to design efficient methods to tackle it. The size of the gap in Latvia suggests that it would be advisable to adopt methods to tackle tax fraud, evasion of collection of past debts, underreporting, and the shadow economy.

Figure **8. VAT gap, in percent of VAT liability, 2013**



Source: CASE 2015.

Figure 9. Compliance problems, percent of total liability, 2010-2014



Source: Latvia's State Revenue Service.

VAT thresholds should be evaluated. The cutoff for firms exempt from the VAT due to small size is higher than in most EU countries, which while easing administration can increase tax avoidance (existing firms can split up into smaller companies to gain the exemption). Gains from reducing tax administration and compliance costs need to be carefully assessed against the competitive distortions stemming from the difference in treatment among taxpayers on both sides of the VAT threshold.

6. EXCISE TAXES

The relatively high excise tax in Latvia imposes a burden on domestic consumers and attracts illegal trade making it harder to increase taxes. There might be a case, however, for changing the application of excise duties to different products. When designing the excise tax system the government should seek to minimize the distorting effects of the tax on consumer behavior, use it to correct socially costly behavior, or both. In Latvia, there is a clear case for reform in how driving and alcohol are taxed. Fuel excise duties do not target the primary externality, CO_2 emissions, associated with driving. The government should consider basing the tax on fuel on CO_2 emissions. Taxation of fuel needs to be carefully redesigned so as not to harm the transport sector and Latvia's competitiveness. Reform of alcohol taxation should target alcohol products systematically, because a society consumes disproportionately more of the low alcohol content products such as beer. Changing the balance between the specific and ad valorem components of the tax on cigarettes will better target public health and may lead to higher revenues. These changes in excise taxes could bring additional revenues (up to 1 percent of GDP) but only if accompanied by improvements in tax administration to reduce tax fraud and evasion.

7. PROPERTY TAXES

There have been frequent calls for increasing property taxes to generate additional revenues in Latvia. Latvia has modern, relatively sophisticated value-based model of taxing property. Generating support for increased property taxation is likely to

[8] The VAT gap arises not only from fraud or tax evasion but also from errors, failure to take reasonable care, and nonpayment due to bankruptcy or insolvency.

be challenging: attempts to make the system of residential tax assessment be closer to the market value have met with considerable political resistance given the implied large tax increase on certain categories of residential property. The resistance comes from the fact that in Latvia, as in other economies in Central and Eastern Europe, the value of property is not always closely linked with financial situation of tax payer. Nonetheless, the Government should keep to the planned schedule for raising the assessment average ratio to 85 percent in 2018, with no compensating changes in tax rates or exemption policies. It may be desirable to extend the 90 percent tax abatement for low-income households to households with slightly higher incomes, perhaps with a reduced percentage of relief. However, proposals to impose lower assessment ratios or lower tax rates on lower value property, or to raise the maximum property value subject to a lower assessment ratio, would not necessarily benefit low-income renters. In general, it is preferable to address income distribution concerns through direct income tax and benefits rather than through measures in the property tax system.

8. TAX ADMINISTRATION

Despite considerable improvements in tax enforcement in recent years, the underground economy remains large. The difference between expected VAT revenues and actual collections has fallen since 2010 but remains above one-fifth of VAT revenues. Key steps to strengthen VAT compliance include: (i) the devotion of more staff resources and increased availability of data for the analysis of VAT compliance; (ii) stricter review of firms before they are permitted to enter the VAT net; (iii) introduction of an e-invoicing system for business-to-business transactions; (iv) withholding tax requirements for payments made to sub-contractors (either in high-risk sectors or to all sub-contractors lacking a tax registration number); and (v) requiring use of certified cash registers to record sales in cash-dominated sectors.

Improving voluntary compliance with the tax system is a key challenge. Allowing consumers of household services to deduct part of the costs of such services when documented through a tax invoice could improve tax compliance by service providers, but could also significantly reduce revenues from consumers. Key steps to promote voluntary tax compliance could include the use of outreach and communication to promote voluntary compliance in high-risk areas, innovative approaches to promote both the SRS and voluntary compliance (e.g. web-based presentations distributed via YouTube or tax-related TV spots), broadening the SRS program to honor the most compliant and biggest taxpayers in the country to small- and medium-sized businesses, and disseminating information on the penalties imposed on major tax evaders.

SRS tax administration and access to data could be strengthened. The use of audits could be improved by comparing risk-based audit results with other audit approaches to evaluate the risk parameters used, increasing staff with audit expertise, and increasing specialization in audit tasks, for example by size of business, sector, and high net-wealth individuals. Increased access to credit card and bank account information would improve the checking of income tax data. Measures to attract and retain highly-qualified staff could include special compensation levels or bonus systems for key expert positions and improved working conditions (e.g. flexibility in working hours or possibility for part-time work, job security, and in-kind benefits like kindergarten facilities).

9. POLICY RECOMMENDATIONS

Collecting an additional three percentage points of GDP in revenues involves substantial tax changes and will be challenging. Even if international benchmarking indicates that there is room to increase tax pressure, when a package of taxes that is estimated to yield the government target is put together it shows that large policy modifications are needed. The following illustrative changes outlined in Table 1 would at a maximum bring revenues close to the goal, which would be shared between central and local governments. The proposed changes rely primary on: redesigning tax burden within income taxation (from low-skilled labor towards capital), shifting tax burden from income to consumption taxation and improving tax compliance, with potential benefits for economic growth and equality.[9] These broadly are reforms aimed at:

- **Broadening the tax base.** For corporate income tax, given the low statutory and effective tax rates in an EU context, this will involve decreasing costly tax expenditures, such as generous accelerated depreciation rates for fixed assets and enhanced deprecation for new technological equipment, and limiting loss relief. Gradually moving taxpayers who belong—given their overall activity level—to the general tax regime from the microenterprise regime will also contribute. Tax expenditures on reduced- and zero-rate VAT provisions are lower than in many EU countries, but still should be reviewed for potential sources of increased revenues.
- **Changing tax structure.** Distortions due to taxation could be reduced and equity improved by raising more revenues from capital income taxation through a uniform treatment of different types of capital income involving a rise in tax rates for some income sources (particularly to reduce the bias for investing in real estate and issuing debt rather than equity), introducing a progressive personal income tax and changes to the way excise rates are designed. Over time, the role of property/wealth taxes and environment-related taxes, should grow.
- **Reduction in tax evasion/avoidance is a priority**. However, the gains from improved compliance, while potentially substantial, are uncertain. Thus, planned increases in revenues that are tied to increases in spending should mainly rely on tax design measures aimed at broadening the tax base or raising tax rates. But in order to reach the increased revenues goal, a continued reduction in the VAT tax compliance gap and a fall in the underreporting of wages will be necessary.
- **Decreasing inequality of (after-tax) disposable income**. The most appropriate instruments for tackling inequality are direct personal income taxes and benefits. Apart from introducing more progressivity in the personal income tax system, benefit changes would also be necessary to decrease inequality: benefits, especially means-tested social assistance, play little role in reducing inequality compared to other EU countries.

[9] The report did not use a general equilibrium model to assess the economic impact of the proposed package. Instead, it uses a review of the theoretical and empirical tax literature and partial equilibrium tools to design key elements of the reform and asses their impact.

Table 1. Estimates of revenue impact of tax measures

Measures	Revenue impact (% of GDP)
1. Personal income tax (wages)	0.09-0.3
1.1. Non-linear tax schedule, lower tax for low-income workers*	
3-rates PIT (19%/23%/33%)	0.31
3-rates PIT (19%/23%/29%)	0.10
3-rates PIT (19%/23%/29%) + EITC	0.00
1.2. 19% PIT rate for self-employed	-0.01
2. Personal income tax (capital)	0.11
2.1. Uniform tax rate (15%) on capital income	0.11
3. Corporate income tax	0.06-0.68
3.1. Changes to tax depreciation	
Remove accelerated depreciation of fixed assets	0.22
Remove enhanced depreciation for new technological equipment	0.29
3.2. Limit on the offset of losses carried forward	
Limit loss relies to 80% of profit before taxation	0.06
Limit loss relies up to 5 years	0.17
4. Microenterprise tax regime	0.21
5. VAT	0.13
5.1 Eliminating reduced VAT rates	
Standard rate for accommodation services in tourism	0.04
Standard rate for district heat supply and firewood	0.08
5.2 Reduce VAT threshold	0.01
6. Excise tax	0.37-1.0
Alcoholic beverages	0.30
Cigarettes	0.20
Fuel	0.50
7. Property tax*	0.10
8. Compliance	0.56
VAT gap (20%)	0.24
Underreporting of wages (20%)	0.32
TOTAL MAX	3.09

Note: * Denotes that local government would benefit from the proposed tax change.
Source: World Bank staff estimates.

Latvia Tax Review

Equitable Growth, Finance, and Institutions
Europe and Central Asia Region

INTRODUCTION

1. INTRODUCTION

1.1 Context of review

Since the introduction of the flat personal income tax (PIT) in the mid-1990s Latvia has made several changes to the tax system that moved away from the original uniform PIT and corporate income tax (CIT) rates. In 2016, a series of measures were put in place aimed at reducing income inequality by making the tax system less regressive: the non-taxable minimum was increased and is set to be differentiated in favor of lower income groups in future years.[1] A solidarity tax on higher income earners came into effect on January 1, 2016.[2] Looking forward the Ministry of Finance intends to draw up a medium-term tax strategy to put in place a more permanent change to the design of the system and asked the World Bank to do a review of the tax system as a basis for the reform.

Latvia was among the first wave of adopters in the recent episode of flat-tax directed reforms with a flat tax of 25 percent introduced in 1997. Latvia's flat tax reform followed on from the introduction of a flat tax in Estonia and in Lithuania in 1994. The flat tax replaced a degressive[3] personal income tax (PIT) regime with a general marginal tax rate of 25 percent and a 10 percent marginal tax rate for high incomes. The corporate income tax (CIT) rate remained unchanged at 25 percent, and capital income remained tax exempt. Latvia's flat tax system differed from that of later adopters, such as Russia or Romania, as in Latvia the flat tax rate was set at the highest rather than lowest marginal income tax rate, and capital income was exempt. Additionally, the non-taxable minimum was only slightly increased in Latvia compared to the larger increases seen in many other countries with the aim of reducing the average income tax imposed on lower-income earners through a flat tax.

Over time the parameters of the tax system were altered, moving away from the initial flat tax concept and introducing a lower CIT rate; further changes put in place during the stabilization program following the financial crisis of 2008-09 have made the PIT system more regressive. In 2002, the CIT rate was reduced to 15 percent, below the current PIT rate of 23 percent. Modifications were made to the tax system following the 2008-09 financial crisis, including a reduction in the non-taxable minimum, the introduction of a 10 percent tax on interest and dividends, a 15 percent tax on capital gains, and a reduction in tax expenditures through a tightening of tax exemptions, deductions and credits targeted to selected groups or specific activities. In response to the crisis a new tax regime for microenterprises was adopted in 2010, which reduced taxation and social insurance contributions.[4] It is estimated that 19.2 percent of private sector employees[5] reported at least part of their income through the microenterprise regime in 2015. In addition to potential tax avoidance, for example through the shifting of activities to microenterprises, a concern is that some microenterprise workers may accrue lower entitlements for pensions as well as other social insurance benefits such as unemployment.

Latvia's recent tax changes were prompted by concerns over high inequality, and the Government intends to implement further tax design changes to enhance the equity of the system. Inequality is high; Latvia's Gini is the second highest for (after-tax) disposable income in the European Union (EU) (with Estonia just 0.1 percentage points ahead).[6] Aside from the recent PIT tax changes, there is a large agenda to address equity concerns of the current tax system. Labor taxes make up a large share of overall revenues and are relatively high at 34.09 percent, made up of 10.5 percent (employee's part) and 23.59 percent (employer's part). The labor tax wedge for low-income workers is particularly high, raising concerns on incentives for labor supply (Strokova and Damerau, 2013a and OECD, 2015).

[1] See the October 7, 2015 statement of the Minister of Finance, Janis Reirs, on the equity objective of the 2016 budget http://www.fm.gov.lv/en/news/51418-minister-of-finance-janis-reirs-next-years-budget-focuses-on-solitaire-reduction-of-income-inequality

[2] The solidarity tax will be levied on annual incomes above EUR 48,600 and the solidarity tax rate is equal to the state social insurance contribution of 34.09 percent (23.59 percent paid by the employer and 10.5 percent by the employee). In essence, the new solidarity tax removes the cap on social insurance contributions, but its proceeds will go to general revenues and it will not entitle contributors to increased social insurance benefits. The solidarity tax came into effect on January 1, 2016. The Ministry of Finance (2015a) estimates that 4,700 individuals will be affected by the tax or 0.6 percent of the employed (Source: http://www.fm.gov.lv/lv/aktualitates/jaunumi/nodokli/51253-solidaritates-nodokli-maksas-tikai-personas-ar-alguvirs-48-600-eiro-gada).

[3] Under a degressive tax, the tax rate decreases as the taxable amount increases. It should be noted that the degressive PIT system was in place only since 1996; prior to 1995, the PIT system was progressive with five rates ranging from 15 to 35 percent.

[4] The microenterprise tax rate was 9 percent from turnover till the end of 2016. The tax replaces state social contributions both for employers and employees as well as PIT and CIT depending on the legal form of taxpayer. To qualify for status of microenterprise taxpayer the employee's income should not exceed EUR 700 per month, turnover should not exceed EUR 100,000 per year, and the number of employees may not exceed five. Source: http://www.fm.gov.lv/en/s/taxes/

[5] The estimate was given in discussions by the Ministry of Welfare in 2015.

[6] Based on the Gini coefficient of equalized disposable income from the EU-SILC.

The government target is to increase tax revenues by three percentage points of GDP to reach a target tax-to-GDP ratio of 33 percent in the medium term.[7] This is to cover growing spending needs in Latvia. Latvia has one of the smallest governments in the EU—Latvia ranks third lowest in the EU in government revenues and spending: general government revenues equaled 35.8 percent of GDP and government expenditures 37.1 percent of GDP in 2015. In addition, Latvia's tax share of GDP is one of the lowest when compared with countries of a similar level of development. As the economy grows and converges toward the higher-income EU economies, there may be an increasing need for social spending both to invest in human capital and provide a better safety net. The Government has identified national security—defined as social protection and military spending—as a critical area that needs more fiscal resources. Spending and coverage of the Guaranteed Minimum Income program (the last resort social assistance program) is low relative to needs (Strokova and Damerau, 2013b). The Government aims to increase defense spending (currently at 1.4 per cent of GDP). Education and health are additional areas that the Government has identified as requiring further investments. In particular, public health spending is low and health outcomes are lagging compared to the EU (Levin and Sinnott, 2015).

Any shift in taxation and expenditure policy will take place within a framework of commitment to fiscal sustainability. Latvia institutionalized a framework to maintain fiscal sustainability—hard won in the crisis period—with a Fiscal Discipline Law in 2013 and the creation of an independent Fiscal Discipline Council to monitor compliance with the Law in 2014. The country joined the Eurozone in 2014. Public debt is among the lowest in the EU. The general government structural deficit target (taking into account permissible deviations and structural reforms in the health sector) is 1.7 percent of GDP for 2017 and 2018, with a reduction in the deficit planned thereafter. The policy remains broadly compliant with the principles of fiscal discipline, both according to the IMF and Fiscal Discipline Council. However, the IMF[8] called for further moves to improve tax compliance and shrink the shadow economy, while the FDC noted that budget deficits exceeded the targets approved in budget law in recent years. At the same time, the FDC argued that achieving the Government's objective of increasing the tax-to-GDP ratio to one-third by 2020 will require coordinated efforts to build a reliable and sustainable revenue flow and coherent tax policy framework.[9]

The Government is working to achieve consensus support for tax system reform from its social partners. There was widespread criticism of the introduction of the solidarity tax by the business community and across media outlets. Partly this was related to competitiveness concerns, but also objections were again raised on the imposition of new taxes when tax evasion is high. The business community and media most often focus on "envelope wages" as the big tax fraud issue, whereby a formal employee receives not only a declared wage but also an undeclared "envelope wage". Further efforts to raise compliance under the existing tax system is thus an important element of building support for tax reforms. In addition, the Government wants to make sure that additional spending is efficient and achieves the intended benefits. With this in view, the Government has been investing in detailed sector strategy and spending reviews, including in the areas of health and social protection.

1.2 Objectives of the review

There are multiple dimensions to be taken into account in examining tax reform options, and it is useful to set out a brief set of principles to be focused on in reviewing the Latvia's tax system. First, the Government requested that the tax review identify options to increase government revenues to finance higher spending on security (particularly health, social protection and defense). Second, the Government aims to improve the design of the tax system to enhance productivity and employment, and to help position Latvia businesses to be flexible, competitive and robust in the face of dynamic global conditions. Finally, the government would like to improve the equity of the tax system, both by taxing lower-income households less than upper-income households (particularly by reducing the high labor tax wedge faced by low-income workers) and by treating equally those of equal income.

The efficiency and welfare implications of the tax system are critical to the review. Tax systems should meet distributional goals and revenue targets with the lowest possible distortions on economic activity. Taxes entail economic costs by affecting people's and firms' behavior: decisions on working, saving/consuming, investing and employing. These 'excess burdens' of taxes are the economic costs of taxation. They arise over and above the income that individuals and firms pay in taxation, since the latter are compensated by larger public revenues. Governments inevitably confront trade-offs between

[7] See Declaration of the Intended Activities of the Cabinet of Ministers Headed by Māris Kučinskis, February 2016, Riga http://www.mk.gov.lv/sites/default/files/editor/deklaracija_en.pdf

[8] Staff Concluding Statement of an IMF Staff Visit, December 9, 2016 http://www.imf.org/en/News/Articles/2016/12/09/MS120916-Latvia-Staff-Concluding-Statement-of-an-IMF-Staff-Visit.

[9] Fiscal discipline surveillance report (No 1-08/1186) http://fiscalcouncil.lv/05-10-2016-surveillance-report.

equity and efficiency: higher taxes on richer groups—to raise revenue and to finance benefits for poorer groups—can distort the economic incentives for work, entrepreneurship, saving and risk-taking of middle- and higher-income individuals. At the same time, redistribution to low-income individuals, through tax credits or benefits, could weaken labor supply incentives. The tax review will aim to estimate the magnitude of these types of efficiency effects.

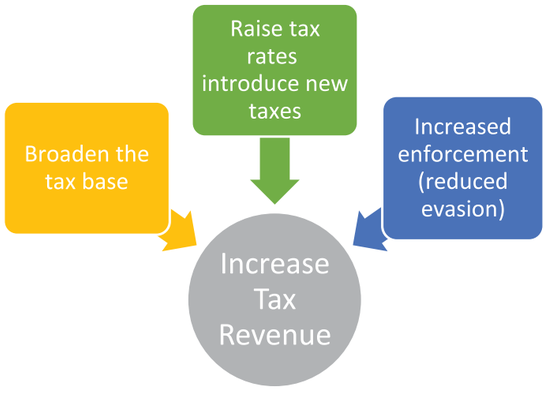
Apart from the revenue mobilization and equity objectives of the tax review, the review will consider policy changes to achieve the following objectives:

- **Raise the efficiency of the tax system and identify potentially welfare-improving tax reforms.** Efficiency considerations aim at minimizing the tax distortions and administrative burdens to meet given equity or revenue objectives. By removing the inefficiencies, the Government can raise more revenue, redistribute more income, or lower tax rates. In addition, some features of the tax system are neither equitable, nor efficient. In such cases reforms can be identified that raise efficiency, equity or both.
- **Reduce avoidance, evasion and the grey economy**. An important concern is the impact of tax policy and administration on informality and the size of the grey economy. Neutrality in the tax treatment of various sources of income is important to combat tax avoidance. The different tax regimes applied on goods, inputs, and various forms of income and asset types should avoid generating strong incentives for individuals or firms to shift income across tax bases, between people and over time.
- **Improve competitiveness**. Taxes affect the competitiveness of firms, which helps determine overall levels of productivity and living standards. Latvia is a small open economy that faces tax competition on tax rates, tax bases, and tax burdens from other countries in the EU, and in particular its Baltic neighbors. Changes in tax policy should take into account the impact on the competitiveness position of Latvian firms and the level of the international playing field. Thus, comparisons with the tax systems of neighboring countries (in particular Estonia and Lithuania) are important to analyze the implications for the mobility of labor and capital, including attracting inward foreign direct investment (FDI).
- **Reduce administrative and compliance costs**. Simplicity is a critical feature of a tax system that aims at minimizing tax collection costs for the government and compliance costs for individuals/firms. In addition, the parameters of the tax system should be transparent and easy to grasp.

The tax review looks at the tax structure in its entirety and examines its general evolution over time. The study aims to inform the Government's formulation of its medium-term tax strategy, and to support dialogue aimed at reaching agreement in society on reforms to the tax system by presenting the analysis and policy recommendations for public discussion.

The framework used for evaluating options to increase revenues takes into account possible behavioral responses to tax changes (where possible). The report considers changes to both the tax system rules (e.g. rates, deductions) and tax administration policies, such as enforcement tools (audits, evasion penalties, public disclosure) (see Figure 1). Indirect ways to increase tax revenues through policies that boost economic activity, income and wealth are not discussed in the review. The review, however, pays attention to how individuals and firms respond to taxation. To the extent possible, it considers not only how behavioral responses affect labor supply and investment, but also tax avoidance and evasion.

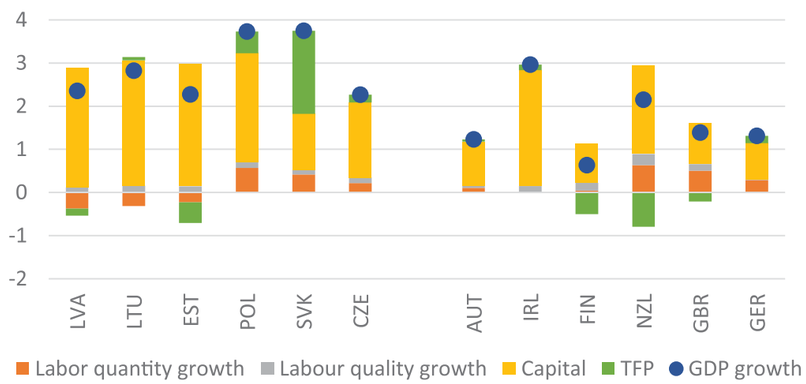
Figure 1. Potential sources of revenue increases



1.3 Economic context

Latvia has achieved rapid income growth over the last 20 years, although the process was marked by significant volatility. Latvia is a small open economy that has made significant progress in catching-up to the income and productivity levels of the richer EU economies since regaining independence. Rapid income convergence has been supported by market-oriented reforms, an openness to foreign capital inflows and technology transfer from abroad, with a significant boost coming from market integration with the EU. Similar to other countries in the region such as Estonia, Lithuania or Poland, strong economic growth was based primarily on capital deepening (Figure 2). At the same time, growth was relatively volatile, with a particularly marked boom starting around the EU accession in 2004 (GDP growth averaged 10 percent over 2003-07), mostly based on credit-fueled domestic demand. The overheating economy experienced an inflationary spiral and a loss of competitiveness, with a doubling of unit labor costs and a real estate bubble. The bursting of the domestic demand bubble coincided with the international financial crisis, leading to a major economic downturn with GDP shrinking by about a quarter.

Figure 2. Contribution to GDP growth, percentage points, average 2005-2015



Source: Groningen Growth and Development Centre, Total Economy Database.

Investment and value added in Latvia have been driven by large firms. Firms with more than 20 employees accounted for about 70 percent of total investment, while micro companies made up 23 percent (Figure 3), in itself a significant increase from the previous year. Similarly, around 70 percent of value added is generated by firms employing more than 20 people (Figure 4). Large enterprises play a similar role in Slovakia, Czech Republic or Lithuania, but a somewhat smaller role in Estonia. However, small companies (up to 20 employees) are critical for employment. In the Baltic States as well as peers from Central Europe, small (and micro) companies account for at least 40 percent of employment.

Figure 3. Investment by company size in Latvia, in EUR million, 2015

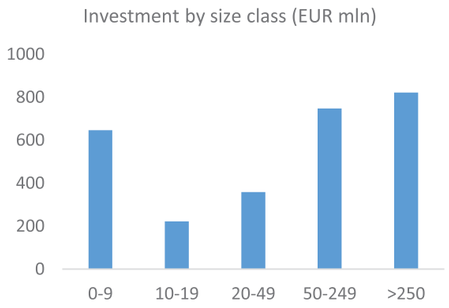
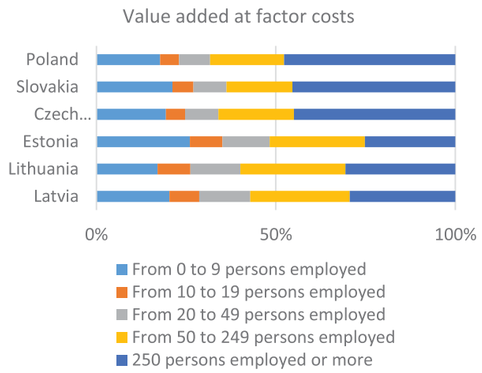


Figure 4. Structure of value added by size of the enterprise in Latvia and in benchmark countries, 2015



Source: Eurostat, SBS.

The economic adjustment of 2009-2010—achieved through internal devaluation and fiscal austerity that reduced domestic demand by about one third—was rapid and impressive, but also came at a cost. The economy adapted swiftly, and most of the imbalances accumulated during the boom years (including the excessive increase in private sector indebtedness, unsustainable current account deficits and oversized public spending programs) were addressed, backed by an international financial assistance program (EUR 7.5 billion, i.e. 30 percent of GDP, of which 4.5 billion was used). Latvia maintained the currency peg with a view to joining the euro area, so adjustment was achieved through a significant internal devaluation, in part driven by productivity increases stemming from labor shedding. Unit labor costs decreased, restoring external competitiveness and supporting an export-led recovery. The budget deficit was reduced by cutting expenditures and raising revenues (including a 20 percent decrease in public sector wages and an increase in VAT rates), with the total austerity package amounting to 17 percent of GDP over four years. In addition to the hardships faced by Latvian workers, the adjustment also led to massive emigration flows. Ten percent of the working age population left the country during 2008-2013, and emigrants were disproportionally young and relatively well educated—the share of university graduates among Latvian emigrants is higher than among their age group that stayed in Latvia (Hazans, 2015).

Latvia will need structural reforms and investment to support productivity improvements and achieve rapid convergence with richer EU countries. Despite major reform efforts in response to the crisis, some structural vulnerabilities still remain to be addressed to maintain a high and sustainable pace of convergence and to make the economy more resilient. Latvia can further its integration into global-value chains, and increase investment in knowledge-based capital and innovative capacities. Latvia's exports are dominated by goods with a low technological content (agricultural, food, wood, metals products), and productivity gains will be essential to move up the value chain (OECD, 2015). A sector-level analysis also points to the importance of investment in addition to structural reforms (IMF, 2015). Some sectors lack "intrinsic" convergence and their productivity growth is quite sensitive to investment. A prominent example is the manufacturing sector, where during the last few years investment has fallen short of the level needed to achieve the historical average labor productivity growth. One reason for the low level of investment could be the weak credit environment, as the stock of bank credit has declined for many years.

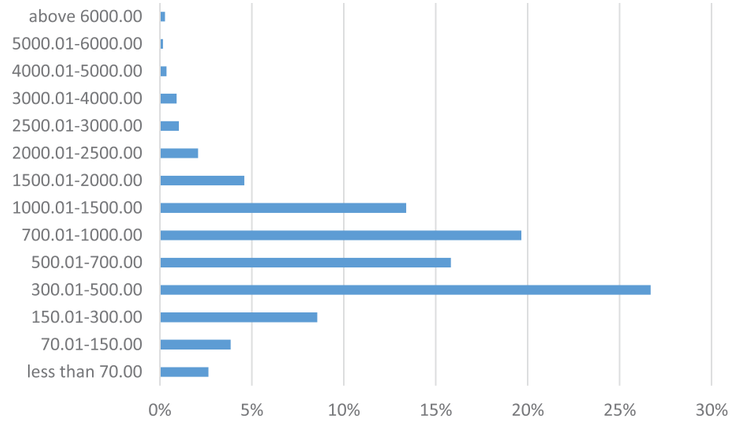
At the same time, economic growth will need to be more inclusive to address significant income inequality and high levels of informality. Despite impressive economic growth over the past two decades, growth has not been inclusive and a high share of the population (19.4 percent in 2014) are at risk of poverty. Income inequality in Latvia is among the highest among OECD countries and second highest in the EU after Estonia. The Gini coefficient for incomes after social transfers and pensions was 35.5 in 2014 compared to 25 in Slovenia, which is the most equal country in the EU. Low earners is Latvia are among the lowest earners in the EU: only in Bulgaria and Romania do the bottom 20 percent of income earners have lower incomes than in Latvia.

The labor market recovery is continuing, and unemployment among individuals aged 15-74 has fallen from its crisis peak of 19.5 percent in 2010 to 9.6 percent in 2016. A major concern is that long-term and low-skilled unemployment remains high compared to before the crisis. Long-term unemployment (unemployed for more than one year) equaled 4.5 percent of the labor

force in 2015, compared to 1.6 percent in 2007 (Eurostat). The unemployment rate for workers aged between 15 and 74 with no more than a lower secondary education was 22 percent, much higher than in 2007 (10.6 percent) and the rate of unemployment for workers with a tertiary education qualification (5 percent in 2015). Labor demand has yet to fully recover. Although vacancies have increased from 0.4 percent of total posts at the end of 2015 (the lowest in the EU) to 1.6 percent in the last quarter of 2016 (compared to 1.8 percent for the EU average). Older groups are more likely to spend a long time out of work, and there is a concern that the cyclical unemployment caused by the crisis becomes structural over time as people's skills deteriorate and those without long unemployment spells are preferred in the labor market.

Labor force participation rates in Latvia are high and have increased in recent years. Latvia's labor force participation rate is 68 percent for those aged 15–74, higher than the EU15 average (65 percent) but below that of Denmark (70 percent) and significantly below Estonia and Sweden (72 percent) (2016 Q3 data). Labor force participation rates (for workers older than 25) are higher for more educated workers, with the biggest differences between the lowest-educated group (with less than upper-secondary education) and those with secondary and above education. For women, these differences occur over their whole working life, but for men, they emerge in the mid-40s. Education becomes very important in terms of exit from the labor force for both sexes: the more educated are much more likely to stay in the labor market around retirement age.

Figure 5. Distribution of monthly income earners, by EUR wage band, in percent, 2015



Source: Central Bureau of Statistics.

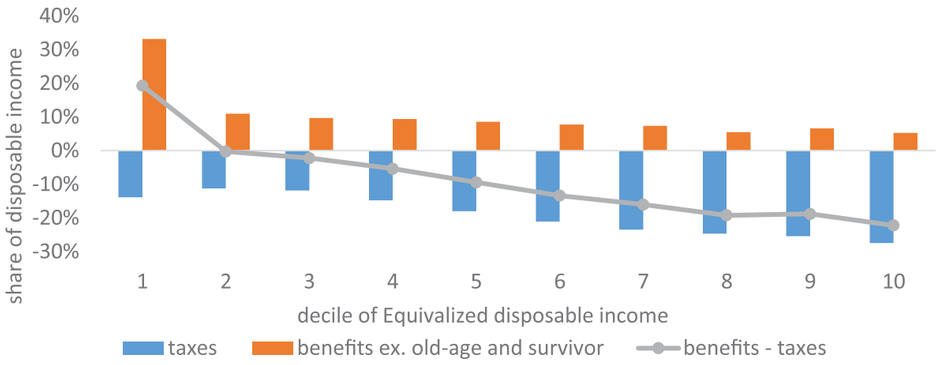
The real adjusted gross disposable income of households per capita is just recovering to the high of 2008. According to Eurostat, the real adjusted gross disposable income of households per capita[10] was EUR 12,756 in 2015 compared to EUR 9,974 in 2009 and EUR 11,947 in 2008. Households with workers younger than retirement age rely mostly on labor income, while pensions rise in importance for households with older workers (World Bank, 2015). Social assistance is small for all age groups, and substantially contributes to income only for short episodes of need for a low proportion of the population. The majority of workers (77 percent) earned under 1,000 EUR a month in 2015, with 42 percent earning 500 euros or less a month (up from 30 percent in 2014), which is close to the minimum wage of 370 EUR a month (Figure 5).

The tax and benefit system does redistribute from high-income to low-income households (Figure 6). Households in the lowest income decile receive more benefits than they pay in taxes, and higher income deciles pay a larger share of income in taxes. However, redistribution through benefits (social insurance and social assistance transfers) is limited beyond the poorest 10 percent of the population, and the redistribution that occurs through the tax-benefit system is much smaller than in most other EU economies. For example, in the U.K., the increase in disposable income due to the impact of the tax-benefit system for the poorest decile is close to 40 percent (Mirrlees et al. 2011) compared to 15 percent in Latvia.

[10] Real adjusted gross disposable income of households per capita in PPS is calculated as the adjusted gross disposable income of households and Non-Profit Institutions Serving Households (NPISH) divided by the purchasing power parities (PPP) of the actual individual consumption of households and by the total resident population.

Figure 6. Distributional impact of the Latvian tax and benefit system

Tax and benefit share of disposable income, by income decile group, in percent, 2014



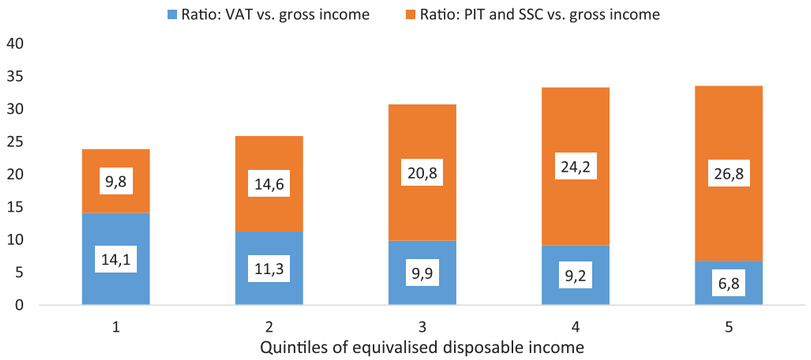
Notes: Deciles are based on adult equalized disposable income. Negative values of incomes are removed and incomes more than +4 standard deviations from the mean are top-coded.

Source: Calculation based on National EU–SILC 2015 (income 2014).

The impact of the tax-benefit system is more regressive if the value-added tax (VAT) is considered. The estimated share of the VAT in household gross income falls steadily from 14.1 percent in the first quintile to 6.8 percent in the top quintile. The distributional impact of VAT is estimated by using EU-SILC 2015 household survey data as the main income source, and assigning annual spending on VAT to each EU-SILC household using information imputed from HBS 2014 as described in ANNEX A: VAT CONTRIBUTION TO INEQUALITY. Figure 7 presents the shares of VAT spending in household gross income by quintile, in comparison with PIT and social security insurance contribution (SSC) spending.

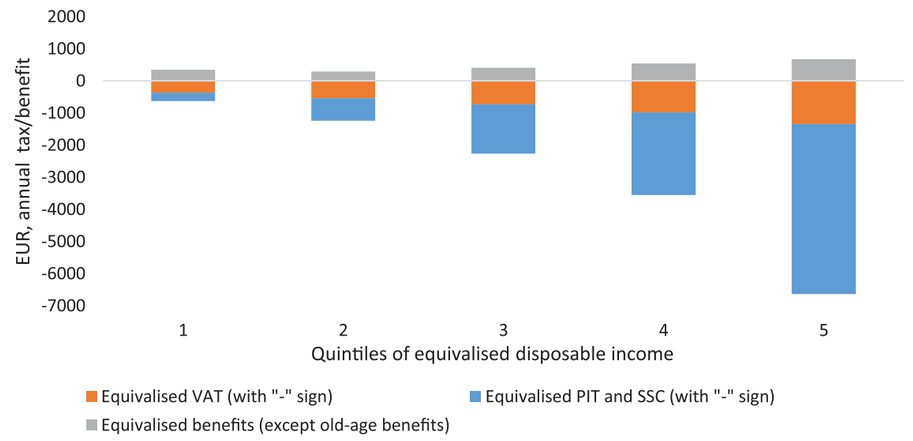
While effective total rate of PIT and SSC is progressive (as it grows from less than 10 percent for the first quintile to almost 27 percent for the fifth quintile), it appears that VAT is regressive, with lower income households paying a greater share of their income on VAT than higher income households. This finding should be treated with some caution, due to data limitations (purchases made abroad or in the unofficial sector have not been identified and excluded from assigning VAT). However, this is unlikely to change the conclusion qualitatively. Figure 10 compares VAT spending in absolute terms with PIT and SSC spending, as well as with benefits (excluding old-age benefits) received. It appears that in each quintile households pay more in VAT that they receive in benefits.

Figure 7. Estimated VAT, PIT and SSC as shares of household gross income, 2014, by quintiles of equalized disposable income



Notes: Quintiles ordered from poorest to richest in terms of disposable income.
Sources: Calculation with EU-SILC 2015 and HBS 2014 microdata.

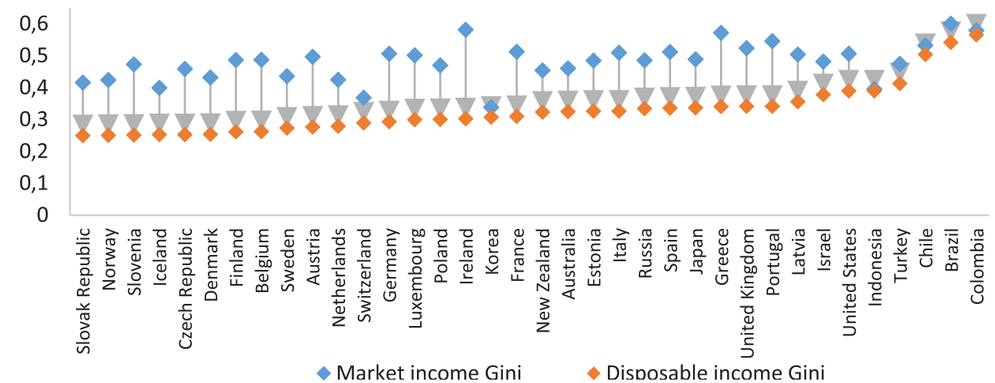
Figure 8. Equalized direct and indirect taxes, contributions and benefits, by quintiles of equalized disposable income, 2014



Notes: Quintiles ordered from poorest to richest in terms of disposable income.
Sources: Calculation with EU-SILC 2015 and HBS 2014 microdata. Benefits have been simulated using EUROMOD (i.e. assuming full take-up of benefits based on eligibility).

Fiscal policy has a lower impact on inequality in Latvia than in many EU and OECD countries (Figure 9). Market income inequality in Latvia is not particularly high, but the combined impact of direct taxes and government transfers is lower than in other EU countries. Benefits, especially means-tested benefits, play little role in reducing inequality, direct taxes have only a small impact and pensions play a lower role than on average in the EU (Figure 12). To achieve a higher reduction in inequality of disposable income, a broad mix of redistribution across benefits and taxes is important. However, various combinations can be used. Ireland for example, with a relatively low tax-to-GDP ratio, achieves a large reduction in inequality through substantial means-tested benefits targeted at low-income groups.

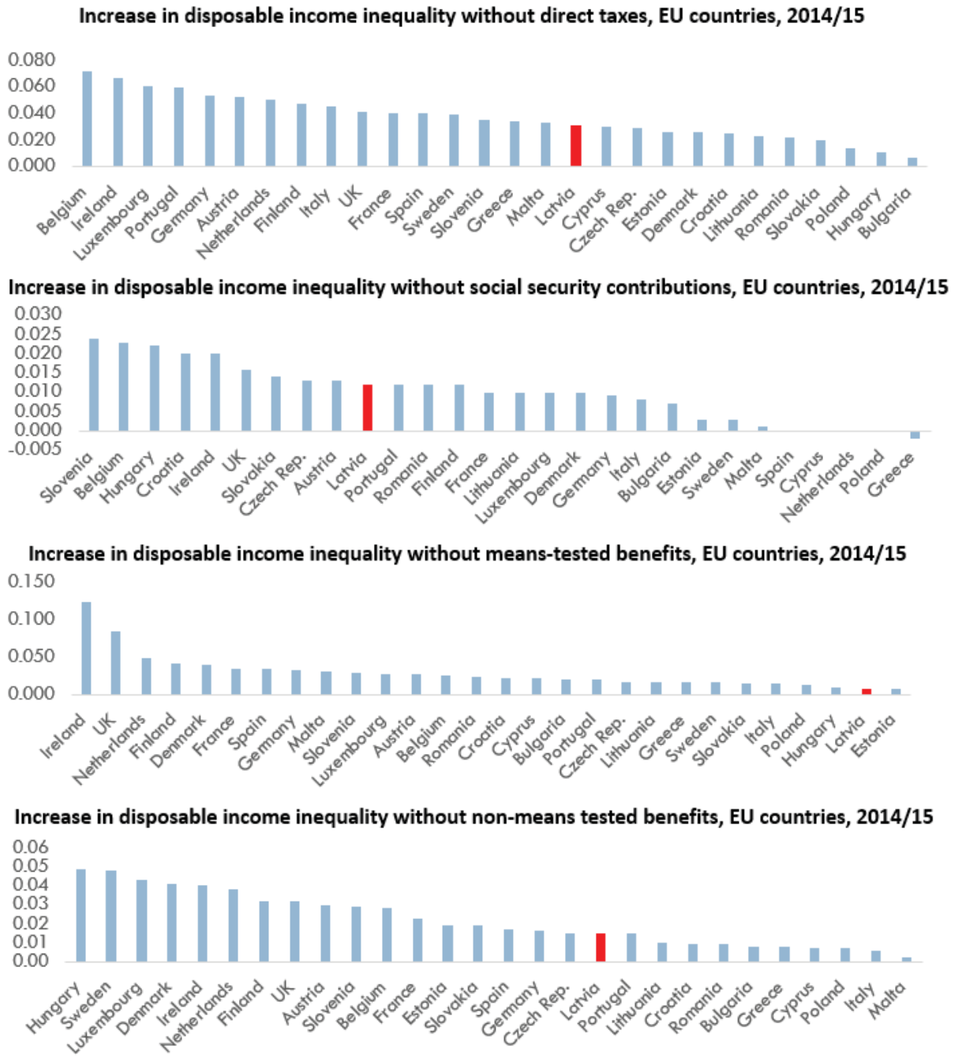
Figure 9. Gini Coefficient Before and After Taxes and Transfers, Selected Countries, 2014



Notes: The OECD assumes that pensions are a government transfer (and social insurance contributions are a tax). In-kind spending on education and health is not included in the calculations for OECD countries.

Sources: Gini before and after taxes and transfers are from OECD for all OECD countries and from the Commitment to Equity country papers for the remaining countries. Russia's data is for 2014. Government spending as a share of GDP is from the World Bank's World Development Indicators.

Figure 10. Role of Taxes and Benefits in Reducing Inequality, Percentage Point Reduction in Gini of Disposable Income, EU Countries

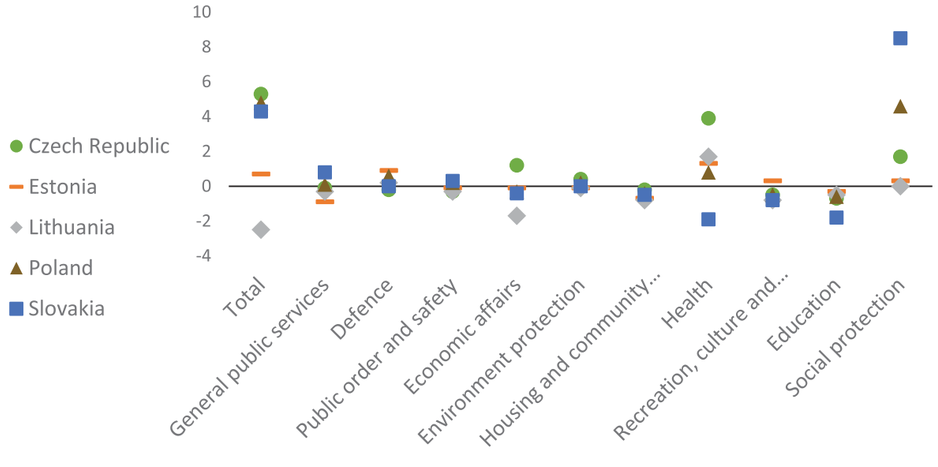


Source: Extracted from Table 4 in Leventi and Vujackov (2016).

Government spending is lower than on average in OECD and EU countries, but also compared to Latvia's peers. Latvia has a relatively strong fiscal position. The deficit is projected to improve to below 1 percent of GDP by 2017, and government debt was only around 40 percent of GDP in 2014, one of the lowest ratios in the OECD. However, spending pressures are emerging. The ratio of public expenditures to GDP in Latvia was 11 percentage points below the EU average and 9 percentage points below the OECD average in 2014. Situation has not change much since then. The spending level in Latvia is also lower than in all peer countries—Estonia, Slovakia, the Czech Republic, and Poland—except Lithuania (Figure 11). Spending on social protection and

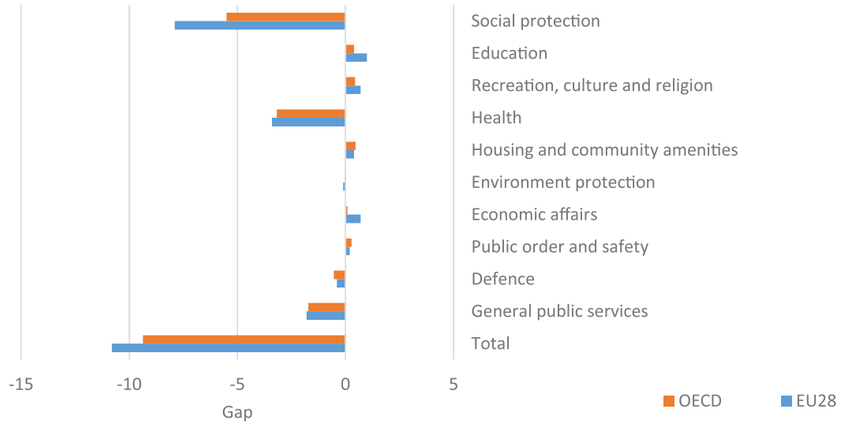
health in particular is lower than the EU or OECD average (Figure 12). Health outcomes lag behind not just the EU but also many middle-income countries, and there are large inequalities in access to health care (Levin and Sinnott, 2015).

Figure 11. Difference in spending with comparator countries, 2014



Source: OECD Stat database.

Figure 12. Difference in spending with the OECD and the EU28 average, in percent of GDP, 2014



1.4 Grey economy

Previous estimates of the grey economy

The shadow economy in Latvia is estimated at close to a quarter of the official GDP level, compared with an OECD average of 14.4 percent. The share of the informal sector has fallen over the past decade, but remains very large albeit similar to the size of the informal sector in the other Baltic States. According to surveys, the tolerance of tax evasion is more entrenched in Latvia than in Estonia or Lithuania, and firms are more dissatisfied with the tax system and the government, which is a factor behind high informality (Putnins and Sauka, 2015). It is more socially acceptable for firms and individuals to operate in the shadow economy in Latvia than in Estonia, Lithuania and on average in the EU (Williams and Horodnic, 2015).

Estimates of unreported activity are difficult to make and tend to vary depending on the source and the method used. According to estimates using cross-county macro data (calculated for 36 OECD countries, including 31 EU countries), Latvia, along with Lithuania and Estonia, are among the EU countries with the largest shadow economy (Figure 13), exceeding 25 percent of GDP in 2013 (Schneider, 2013). There is some concern that macro model estimates are too high; detailed national accounting imputation procedures are preferred and often yield much lower estimates of underground economy activity.[11] Similarly, a survey of company managers shows that informal activity accounted for 21.3 percent of GDP in Latvia in 2015. While the size of the shadow economy according to this survey decreased by 2.5 p.p. of GDP over last 2 years, it remains considerably higher than in neighboring Estonia and Lithuania (Putnins and Sauka, 2016). The survey data indicates that unreported business income, i.e. tax evasion, accounted for about 44 percent of the shadow economy in 2015. Unreported salaries remain the second largest item, although the share has been declining (Table 1). It should be noted that such survey responses may give an inaccurate representation of the size of the shadow economy, being subjective in nature. It is important to have national statistical agency and tax administration estimates using detailed national accounts or tax administration data as a check on these macro model or survey estimates.

Figure 13. Size of the shadow economy calculated using the estimation procedure, 2013, in percent of GDP

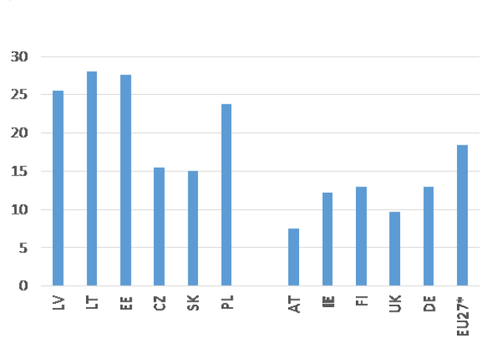
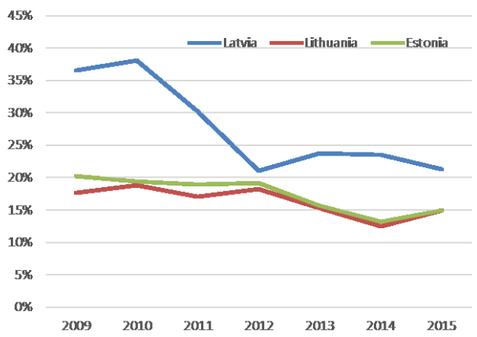


Figure 14. Size of the shadow economy according to the survey data (% of GDP), 2009-2015



* Simple average for 27 EU countries.
Note: The calculation of the size and development of the shadow economy with the MIMIC (Multiple Indicators and Multiple Courses) estimation procedure.

Source: Schneider (2013).
Source: Putnins and Sauka (2016).

[11] See http://www.oecd.org/ctp/administration/reducingopportunitiesfortaxnon-complianceintheundergroundeconomy.htm for a discussion.

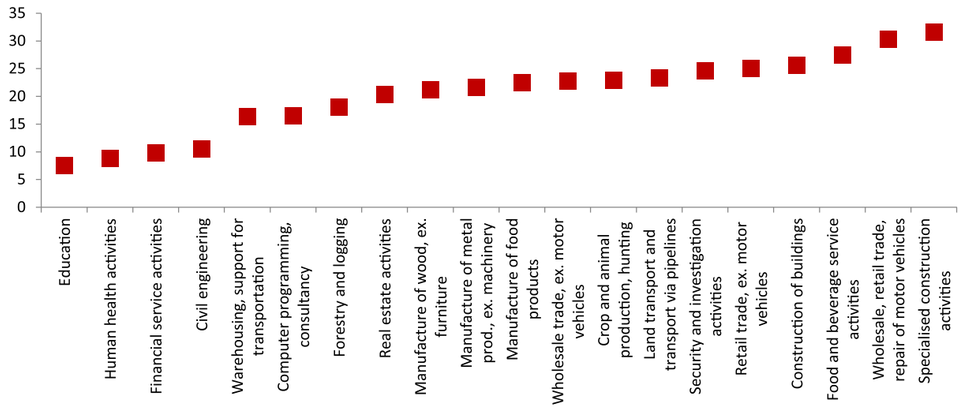
Table 1. Survey measure of the shadow economy

	Business profits	Number of employees	Salaries	Level of bribery
	(% of actual profits)	(% of actual employees)	(% of actual salaries)	(% of revenue spent on payments 'to get things done')
Estonia	6.7	7.6	13.6	3.4
Lithuania	9.4	5.4	12.2	9.8
Latvia	21.7	9.6	20.3	10.2

Source: Putnins and Sauka, 2015.

More recently, estimates of informal employment and envelope wages in Latvia have been provided by OECD(2016: p.83). Estimates of envelope wages presented below in this report are based on an approach similar to that used in OECD (2016) and Hazans et al (forthcoming), but the methodology of the analysis has been further developed (for details, see Annex B: MEASURING UNDECLARED EARNINGS WITH EU-SILC DATA), the EU-SILC datasets have been amended (for this Review) with additional indicators, and more recent data have been used.

Figure 15. Wage gap (in percent of total wage), 2014

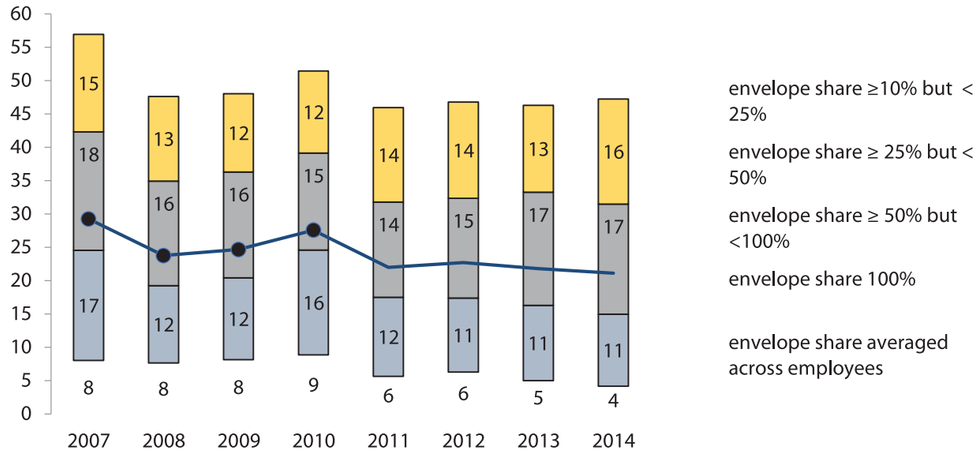


Source: Latvia's State Revenue Service.

Estimates of informality from the World Bank

The share of workers who receive their entire employee income in the form of envelope wages (complete informality) and the average (across workers) envelope share in earnings dropped in 2011 with the introduction of the microenterprise regime, based on EU-SILC microdata (see ANNEX B: MEASURING UNDECLARED EARNINGS WITH EU-SILC DATA)Since then, the share of complete informality among all employees has declined slowly, but the incidence of partial informality (envelope earnings account for a portion of wages), as well as the average share of envelope wages in total gross earnings has remained relatively stable (Figure 16).

Figure 16. Incidence of complete informality and envelope earnings (in percent of employees with positive earnings during the year), and average envelope wage share (in percent of total gross earnings), 2007-2014



Note: The sample includes individuals with positive earnings in respective year.

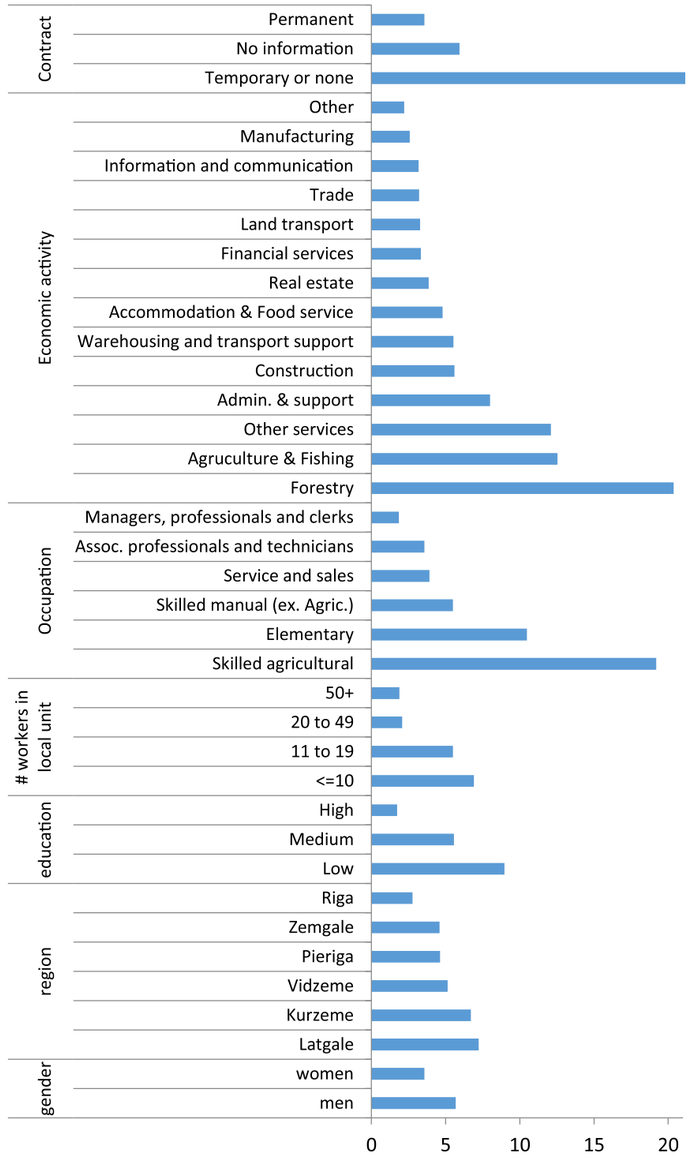
Source: Calculations based on national EU-SILC 2008-2015 and SRS data for 2007-2014.

As expected, the share of informality is high (23 percent) among workers with temporary contracts or without contracts. Figure 17 presents the incidence of complete informality among different categories of employees in 2013-2014. The highest incidence of informality is among skilled agricultural workers (19 percent) and individuals employed in elementary occupations (11 percent); informality is above average (5 to 6 percent) also among skilled non-agricultural manual workers. The share of informal employees is high in forestry (20 percent), agriculture and fishing (13 percent), and other services (12 percent), followed by administrative and support activities (8 percent), construction, warehousing and transport support (5 to 6 percent), and accommodation and food service (about 5 percent). In other sectors, the share of informal workers varies from 2 to 4 percent.

The level of informality falls with the size of the firm (from 7 percent in establishments with up to 10 employees to 2 percent in units with 20+ workers) and with educational attainment (from 9 percent among low-educated to less than 2 percent among tertiary-educated employees). However, informality is not restricted to only very small enterprises or only low-educated workers: establishments with 11 to 19 workers have an above-average level of informality (5.5 percent), as do workers with secondary education.

Informality differs by region and gender. Informality levels in Latgale and Kurzeme regions (about 7 percent of workers) are higher than in Zemgale, Pieriga and Vidzeme (about 5 percent), but among workers living in Riga less than 3 percent are informal. The share of male employees who are informal is 5.7 percent, compared to 3.6 percent for female employees (the difference is statistically significant).

Figure 17. Incidence of complete informality by category of workers



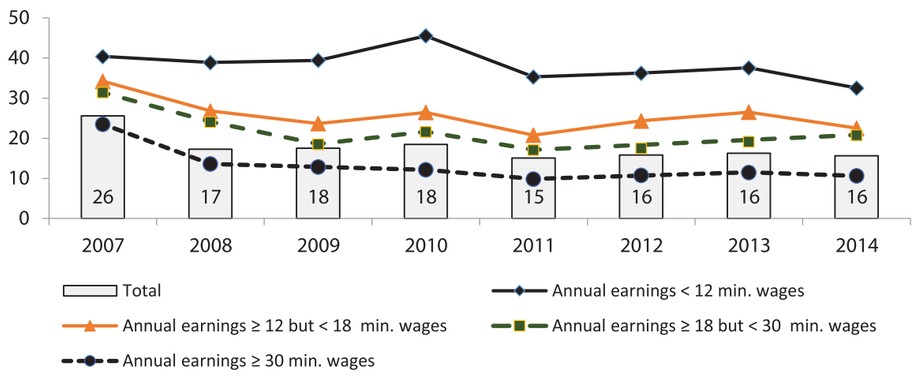
Note: The sample includes individuals with positive earnings in respective year.

Source: Calculations based on national EU-SILC 2014-2015 and SRS data for 2013–2014.

The share of envelope wages in the economy-wide wage bill is estimated at 15.7 percent in 2014 (Figure 18). Official data on average earnings and number of employees in the public and private sectors suggest that the official wage bill in the private sector was twice as big as in the public sector. Assuming that there are no envelope wages in the public sector, our estimate implies that envelope wages accounted to 21.8 percent of the private sector wage bill in 2014. This is close to the estimate by Putnins and Sauka (2015) (20.3 percent of the private sector wage bill), which was obtained by a very different methodology (opinion survey, see above).

The envelope share in the wage bill is higher for low-income workers, but the total amount of undeclared earnings is larger among high-income employees. Figure 18 compares the *envelope share in total earnings* (in the context of shadow economy a.k.a. *wage gap*) for four categories of workers, which roughly correspond to earnings quartiles:[12] low-income (annual gross earnings less than 12 minimum monthly wages), middle-low income (annual earnings between 12 and 18 minimum monthly wages), middle-high income (annual earnings between 18 and 30 minimum monthly wages) and high-income (annual gross earnings at least 30 minimum monthly wages). The envelope share in the wage bill falls with the level of earnings: since 2008, it was three to four times higher among low-income workers than among high-income ones. The difference between middle-low and middle-high income groups is smaller and disappears in the last year of observation (2014). The same relationship is found in classifying data in terms of full-time monthly earnings (rather than annual earnings, which depend not only on monthly earnings but also on the number of months spent in employment), which may be more useful from a policy perspective (Figure 19). A comparison of Figure 18 and Figure 19 suggests that envelope wages are somewhat more widespread among workers who work part-time or are employed for less than a full year, compared to full-time workers. Figure 20 compares the incidence of envelope wage shares of at least 25 percent and at least 50 percent across the same income groups as used in Figure 18. High envelope wage shares are more often found among low-income workers. Recently, however, these shares have increased among high-earners.

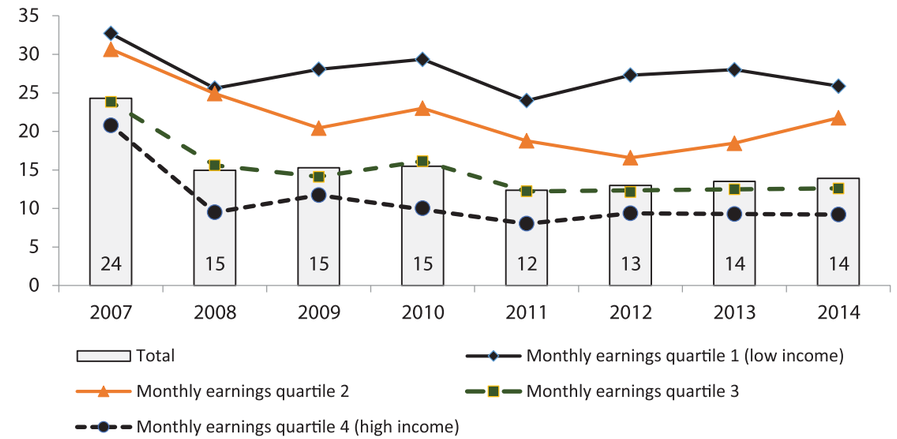
Figure 18. Estimated envelope share in aggregate earnings (in percent), by worker income



Note: The sample includes individuals with positive earnings in respective year.
Source: Calculations based on national EU-SILC 2008-2015 and SRS data for 2007-2014.

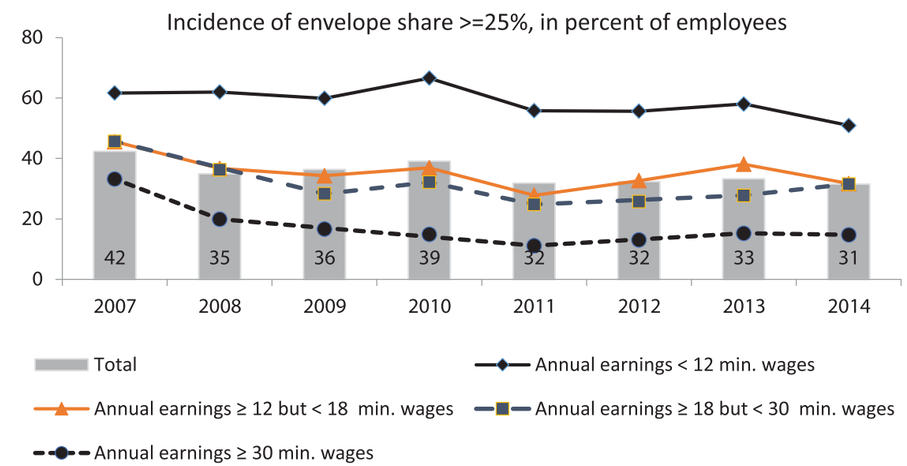
[12] Results for quartiles are similar.

Figure 19. Estimated envelope share in aggregate earnings (in percent), by quartile of gross monthly earnings of full-time employees



Note: The sample includes individuals with positive earnings who spent 12 months in full-time work in respective year.
Source: Calculations based on national EU-SILC 2008-2015 and SRS data for 2007-2014.

Figure 20. Incidence of high envelope share, by worker income
Top panel: envelope share ≥ 25%
Bottom panel: envelope share ≥ 50%



Note: The sample includes individuals with positive earnings in respective year.
Source: Calculations based on national EU-SILC 2008-2015 and SRS data for 2007–2014.

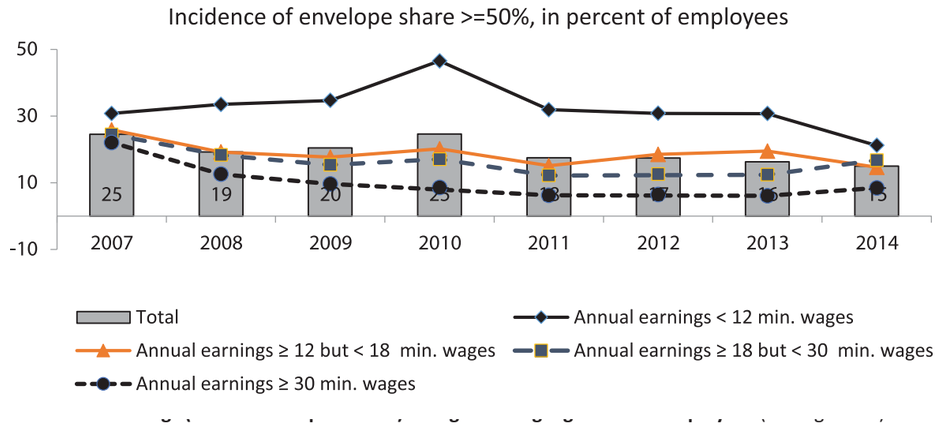


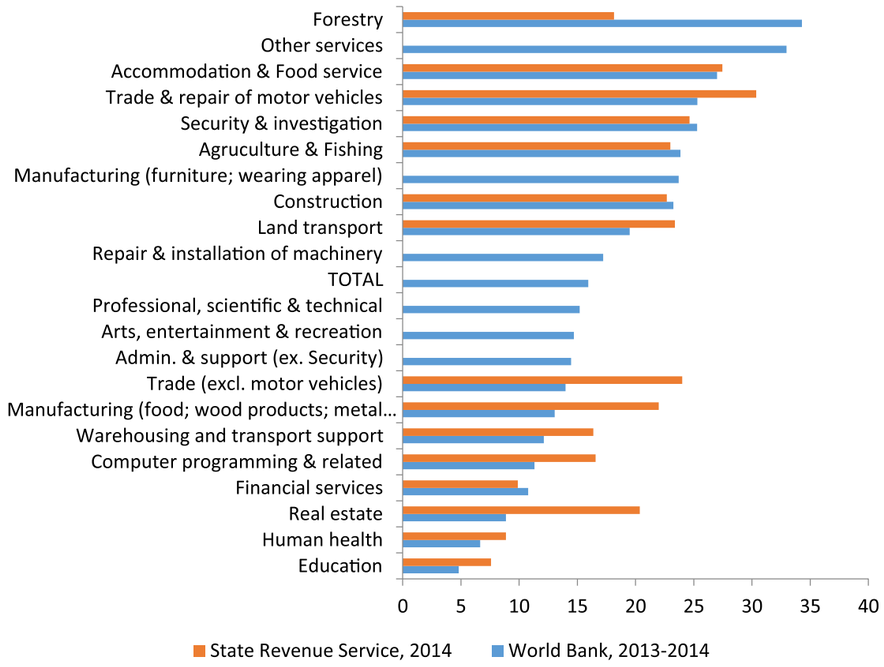
Figure 21. Estimated total envelope earnings, million EUR, by worker income

Source: Calculations based on national EU-SILC 2008-2015 and SRS data for 2007-2014

The total amount of envelope wages is estimated to be EUR 1.3 billion in 2014, of which 40.5 percent (EUR 528 million) went to those earning at least 30 minimum monthly wages per year, while the share of this group among all employees was just 30.4 percent. High- and middle-high income workers together (those earning at least 18 minimum monthly wages per year, or 55.8 percent of all workers) received 71.5 percent of envelope wages.

The envelope wage share differs across sectors, as shown in Figure 22. It stands very high (between 23 and 27 per cent of wage bill) in construction, manufacturing of furniture and wearing apparel, agriculture, security services, trade and repair of motor vehicles, and hotels and restaurants, and reaches one-third of the wage bill in other individual services and forestry. Our microdata-based estimates are generally well in line with those obtained by SRS using different (macro) methodology. In some sectors (trade; manufacturing of food, wood products and metal products; real estate), however, the SRS estimates are higher. Our estimate is higher for forestry; in addition we identify some high-risk sectors not covered by SRS estimates.

Figure 22. Wage gap (envelope share in percent of total wage bill) in selected sectors: World Bank estimates compared to SRS estimates



Note: The sample includes individuals with positive earnings in respective year.
Source: Calculations based on national EU-SILC 2014-2015 and SRS data for 2013-2014.

Latvia Tax Review

Equitable Growth, Finance, and Institutions
Europe and Central Asia Region

EWOLUTION OF TAX SYSTEM AND STRUCTURE

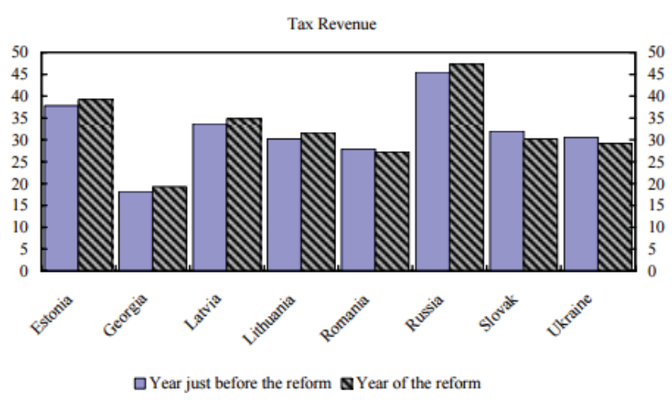
2. EVOLUTION OF TAX SYSTEM AND STRUCTURE

2.1 Tax system developments

Latvia needs to re-design the tax system to confront future challenges. The transformation of the world economy in recent decades through financial deregulation, the growth of multinational companies using global supply chains and increasing digitization have been very positive developments for Latvian economy, but they also pose challenges to the tax system, including by driving global tax avoidance activities. Likewise, with the opening of borders people become very mobile which impacts employment, human capital and social protection systems. The tax system needs to adapt to these challenges. Concerns about the regressive nature of the tax system and about tax compliance further underline the need for a review of the design of the tax system and the priorities for strengthening tax administration.

Tax revenues rose only slightly after the flat tax rate was introduced in 1997 (see Figure 23)**.** PIT revenues increased by a similar amount as in Estonia after introduction of a flat tax, as to be expected given that the marginal tax rates remained unchanged or increased, and CIT also increased. In a survey of the lessons to be learned on the impact of the latest wave of flat taxes, Varsano, Kim and Keen (2006) find that there is no evidence of Laffer-type behavioral responses due to tax cuts, and that the theoretical basis for the impact of flat taxes on compliance is ambiguous. Russia is the one country where revenues strongly increased following introduction of a flat tax regime (PIT revenues rose by almost a quarter after the flat tax reform in 2001), due mainly to improved tax compliance (Ivanova, Keen and Klemm, 2005).[13] The rise in revenues in Latvia may have been partially due to a series of reforms aimed at reducing tax avoidance and tax arrears. In gauging the impact, an assessment also should be made of the impact of the move toward a flat PIT tax in 1994, when the 25 percent tax rate was introduced with the 10 percent tax rate for high incomes.

Figure 23. Total tax revenue, years before and after reform, in percent of GDP



Source: Varsano, Kim and Keen (2006).

Latvia has scope to raise more revenue from taxes. Latvia's tax-to-GDP ratio was 29.3 percent in 2014 (and 29.5 in 2015), fourth lowest in the EU and far below the 40 percent EU average and the 34.2 percent OECD average. Controlling for the level of development, only small islands (like the Bahamas, Mauritius, and Antigua and Barbuda) or resource-rich economies have lower tax ratios than Latvia. The tax-to-GDP ratio in Latvia is below what Ireland, Denmark, Austria, and Finland had when they were at the same point in their development (Figure 25). Compared to Estonia, Lithuania, Poland, Slovakia, and the Czech Republic, only Lithuania has lower tax revenues.

[13] This may have been due to efforts to raise tax compliance, but also because of the reduction of incentives against incorporation at higher income levels following the removal of the 10 percent marginal tax rate on higher incomes.

Figure 24. Tax-to-GDP Ratios and GDP per capita, PPP, 2013

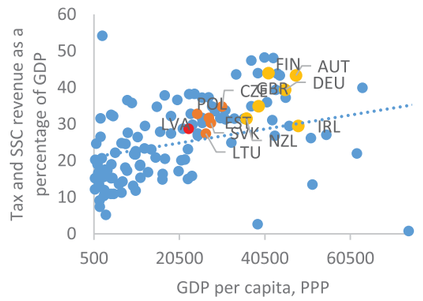
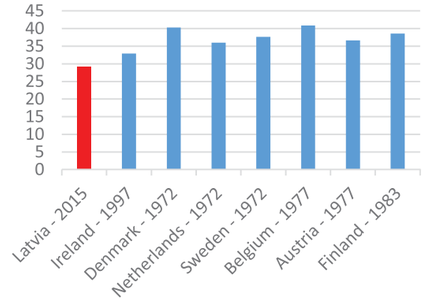


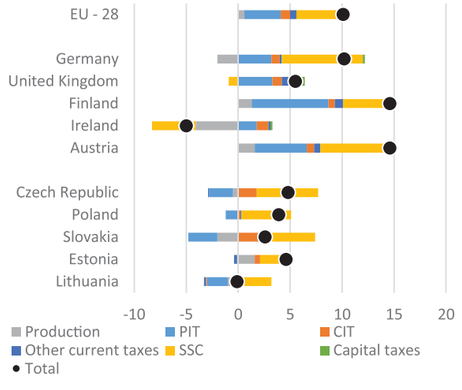
Figure 25. Tax revenues in Latvia and selected countries when they had similar GDP per capita



Source: World Bank's World Development Indicators and IMF.

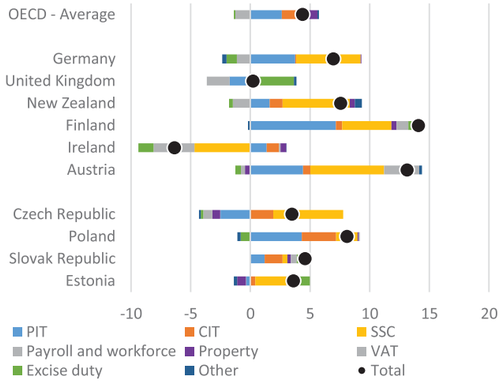
Latvia's ratio of consumption taxes (VAT) to output is slightly higher, but the ratio of PIT and CIT revenues lower, than the average of OECD countries (Figure 26 and Figure 27). Lower PIT revenues and social security contributions explain almost 80 percent of the difference with the EU average and about 72 percent of the difference with the OECD average. The sum of PIT revenues and social security contributions in Latvia is the lowest among regional peers (the Czech Republic, Estonia, Poland and Slovakia) except Slovakia, due to a lower standard rate for SSCs (Table 3), despite a high PIT rate and a small non-taxable personal allowance. Similarly, Latvia's revenues from CIT as a percentage of GDP are the lowest in the group. On the other hand, Latvia collects more VAT revenues as a percent of GDP than its regional peers, except for Estonia.

Figure 26. Difference between the level of tax-to-GDP in selected countries and Latvia, percentage points, 2015



Source: Eurostat.

Figure 27. Difference between the level of tax-to-GDP in selected countries and Latvia, percentage points, 2015



Source: OECD, SRS.

Table 2. Composition of taxation, 2015, in percent of total tax revenue

	Latvia	Estonia	Slovakia	Poland	Czech R.	OECD Average
Personal income tax	20.6	17.3	21.3	27.4	10.8	40.8
Corporate income tax	5.5	6.2	9.2	11.9	10.7	8.3
Social security contributions	28.9	33.5	26.2	27.4	43.5	23.7
Payroll taxes	0.0	0.0	0.0	0.0	0.0	0.0
Property taxes	3.4	0.8	3.8	2.9	1.1	10.4
General consumption taxes	27.1	27.4	24.9	21.5	22.0	7.7
Specific consumption taxes	12.0	13.5	11.9	7.3	10.2	6.7
Other taxes	2.4	1.3	1.8	1.6	1.7	2.4
Labor taxation	49.5	50.8	47.5	54.8	54.4	64.4
Capital taxation	9.0	7.1	13.0	14.8	11.8	18.7
Consumption taxation	41.6	42.2	38.6	30.4	33.8	16.8

Source: OECD, SRS.

Table 3. Tax system characteristics, Latvia and peers, 2016

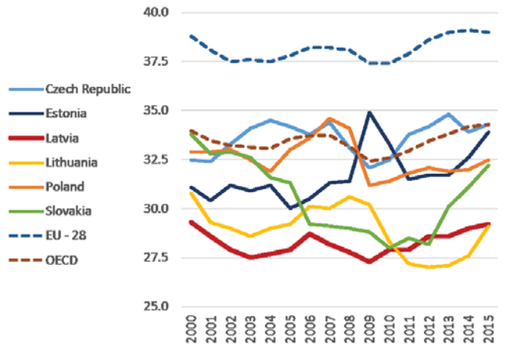
	Latvia	Estonia	Lithuania	Slovakia	Poland	Czech R.
Personal Income tax						
Top/bottom PIT rate	23% *	20%	15%	19%/25%	18%/32%	15% *)
Tax credit/basic allowance (% of Average Wage, AW)	13.7%	13.9%	31.6%	32.3%	7.2%	40.0%
Top PIT rate threshold (expressed as a multiple of AW)	0.1	0.1	0.3	3.9	2.4	0.4
Tax base (wage bill), per employed person, EUR	€11,141	€14,754	€10,995	€12,076	€9,687	€12,501
Tax base (% of GDP)	42%	46%	40%	38%	37%	40%
Corporate Income tax						
Top/bottom CIT rate	15%/9% (MET)	20%	15%/5% (MET)	22%/mini value (EUR 480)	19% (lump sum PIT)	19%
Tax base (operating surplus of firms), per firm, EUR	€114,447	- **)	€115,375	€100,366	€104,511	€81,694
Tax base (% of GDP)	47%	41%	50%	53%	51%	51%
Social Security Contributions						
Employee social security contribution rate	10.5%	2.0%	3.0%	9.4%	19.1%	8.5%/6.5%
Employer social security contribution rate	23.6%	34.0%	27.98%/29.6%	25.2%	21.0%	25.0%

Cap (percentage of AW)	694%	-	-	589.3%	250.0%	400.0%
Self-employed social security contribution rates	28.2%	33.0%	37.5%	47.2%	29.0%	21.4%
Employer health care contribution	-	-	6%	14%	9% ***)	9%
Employee health care contribution	-	-	3%	4%	-	4.5%
Self-employed health care contribution	-	-	9%	18%	9% ***)	13.5%
Taxes on good and services						
VAT standard rate	21%	20%	21%	20%	23%	21%
Tax base (consumption), per capita, EUR	€7,974	€8,754	€8,620	€9,230	€7,252	€8,737
Tax base (% of GDP)	67.7%	57.7%	69.6%	66.2%	67.1%	59.4%

Notes: *) additional solidarity taxes in Latvia (from 2016) and the Czech Republic since 2013; **) Operating surplus = 104284, but the tax base for Estonia is not based on corporate income but on corporate distributions ***) paid by employee, 86 percent (7.75 percent out of 9 percent) of health-care contribution is deductible from Personal Income tax, MET: microenterprise tax. Tax base is the theoretical amount on the basis of which tax liability should be calculated—it is equal to wage bill for personal income tax and social security contributions (as these taxes are, by definition, levied on wages), gross operating surplus for corporate tax and consumption for VAT (as VAT is, ideally, meant to act as consumption tax). Tax credit is the lump-sum amount that is deducted from the total tax liability paid by tax payer. Basic allowance is the income that is exempted from tax. In the table, tax credit was divided by the minimal tax rate such that tax credit and basic allowance are comparable between countries. *Sources:* OECD, KPMG.

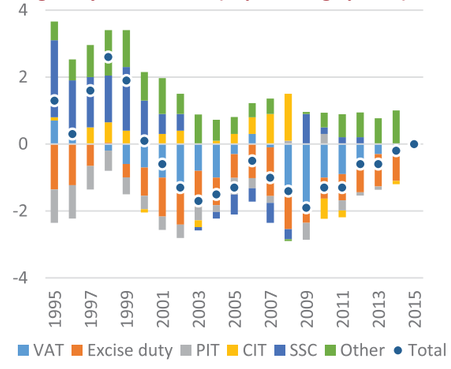
The ratio of tax revenues to GDP in Latvia has been relatively stable since 2000, fluctuating at around 29 percent of GDP, about 5 percentage points below the OECD average and 10 percentage points below the EU average. The tax-to-GDP ratio dropped from 31.8 percent of GDP in 1998 to 27.4 percent in 2003, as revenues from SSCs and VAT fell, but then reversed direction as revenues from CIT and consumption taxes went up (Figure 29). The economic and financial crisis caused Latvian tax revenues to fall again, to 27.2 percent, led by consumption taxation, followed by a gradual recovery to the levels registered in mid-2000. Similarly, the ratio in the OECD and the EU15 as a whole were relatively stable between 2000 and 2008 (Figure 28 and Figure 29). By 2013 almost all OECD and EU countries had managed to recover from the crisis-related drops in 2008 and 2009: the average tax-to-GDP ratio in OECD countries was 34.4 percent in 2015 compared with 34.2 percent in 2000.

Figure 28. Tax-to-GDP Ratio, Latvia and Benchmark Countries, 2000–2015



Source: Eurostat.

Figure 29. Difference between the tax-to-GDP ratio in given year and 2015 (in percentage points)



Source: Eurostat.

Despite some decline since 2000, the effective taxation on labor remains significantly higher than on consumption and capital (Figure 30). In Latvia, the implicit tax rate on labor dropped from 36.5 to 33 percent, compared to an average decline of about 2.5 percentage points in the neighboring countries and less than 1 percentage point in the EU. The decline in Latvia was driven by the reduction in PIT revenues, as SSCs increased. The effective tax rate on consumption in Latvia did not change much between 2000 and 2012 (similar to the EU average) despite an increase in VAT rates, perhaps due to changes in consumption patterns, introduction of a new system of VAT returns, and some VAT base erosion. By contrast, effective taxation of consumption for both Poland and Estonia surged in response to the rate increases (Figure 31). Finally, Latvia's implicit tax rate on capital is now one of the lowest in the EU, having declined by about 2 percentage points from 12.3 percent in 2000. The drop came because the reduction in the CIT rate for microenterprises during the crisis was not compensated for by the broadening of the tax base and the higher tax rates for dividends, interest income, and capital gains.

Figure 30. Effective (implicit) tax rates, 2012

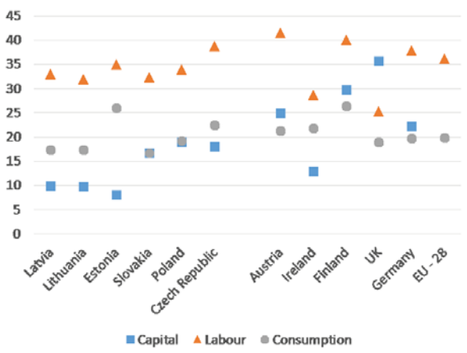
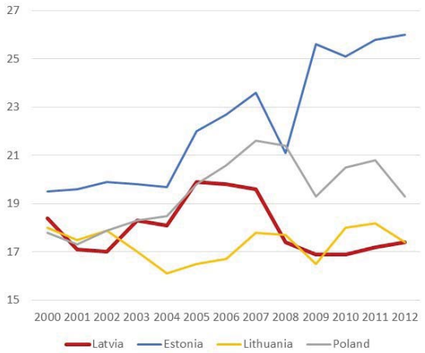


Figure 31. ITR on consumption, selected EU countries, 2012



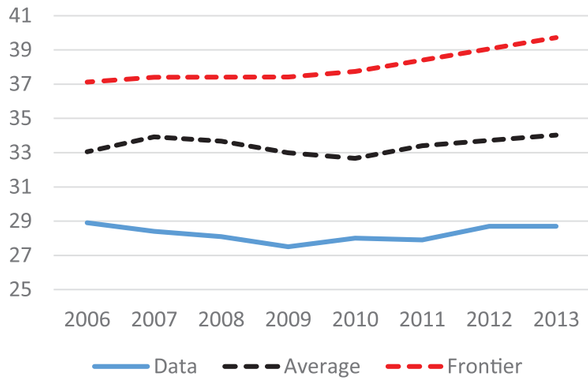
Source: Eurostat.

2.1 Potential areas for mobilizing revenue

A country's potential for raising additional revenue may be measured in terms of distance to its peers, taking into account a range of characteristics likely to affect revenue-raising capacity. The appropriate level of taxation depends on country characteristics—economic (level of development, openness to external partners, sectoral structure, size and structure of the firms), political (the choices and preferences of the society), institutional (the effectiveness of government, the efficiency of tax administration, labor market institutions and types of contracts), and even geographical (long and leaky borders, extent of territory, population density). That is why it is hard to derive an "optimal" size of government. It is useful, nonetheless, to have some sense of the potential for raising revenues. For this, two complementary approaches are adopted. The first compares Latvia's tax revenues with the average for its peers, controlling for a range of characteristics likely to affect revenue raising. The second compares a country's tax ratio with the maximum achieved by others with similar characteristics (see ANNEX B: MEASURING UNDECLARED EARNINGS WITH EU-SILC DATA). Both approaches are simply indicative; they need to be interpreted with caution. The calculations indicate how much more can be done but the decision about whether to do more is up to the authorities.

In Latvia, tax receipts are lower than predicted for its income level—not surprisingly, given that the tax-to-GDP ratio is low compared to peers. Latvia would increase its tax revenues by about 5 percentage points of GDP if it collected the same level of taxes as its average country peer (see the black-dotted line in Figure 32). The blue line shows the actual tax collected in Latvia. The red-dotted line in the figure below shows the maximum revenue generated by a country with the same level of institutional development as Latvia. These estimations are in line with previous results that found that tax revenues in Latvia were 6 to 10 percentage points of GDP below the predicted level based on income (Torres 2013, Minh Le, Moreno-Dodson, and Bayraktar 2012).

Figure 32. Revenue frontier, average revenue, and actual taxes collected in Latvia, 2006–13



Note: The end date for estimate is determined by the data availability for countries in global sample.
Source: World Bank staff calculations based on data from Eurostat, the IMF's Global Finance Statistics, and the World Bank's WDI, World Governance Indicators and Doing Business databases.

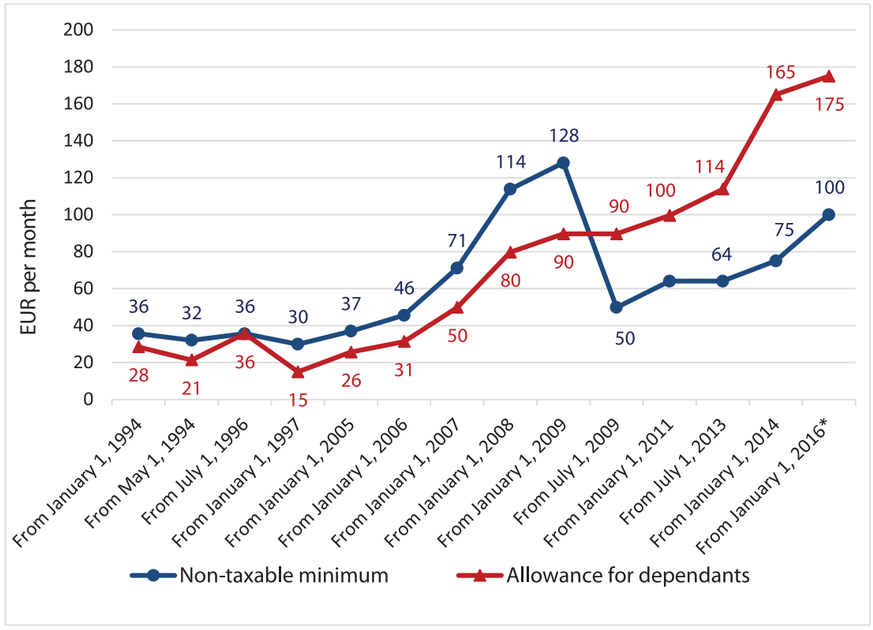
3. PERSONAL INCOME TAX AND SOCIAL SECURITY CONTRIBUTIONS

3.1 Labor income and social security contributions

Latvia's personal income tax (PIT) is imposed at a flat rate of 23 percent. In addition, there are flat-rate social-security contributions (SSCs). Employers pay a SSC rate of 23.59 percent of gross earnings and employees pay a SSC rate of 10.5 percent of gross earnings. Some degree of progressivity is nevertheless achieved, in several ways. First, incomes below a minimum threshold level are entirely exempt from the PIT. Second, there are allowances for dependents, persons with disabilities, politically repressed persons and participants of the national resistance movement, and expenses for education and medical services. These are all uniform; i.e., they are independent of earned income. As a result, they have a proportionately greater impact on the taxable income of lower-income taxpayers.

In recent years, the government has altered the PIT structure in ways that affected its progressivity. In 2009, it lowered the non-taxable minimum (the minimum level of income subject to the PIT) thus increasing the number of lower-income households subject to the tax. Since then, it has gradually increased the non-taxable minimum. It has also increased the amount of the allowance for dependents. As a result, the structure of the PIT has become slightly more progressive (Figure 33).

Figure 33. Changes in non-taxable minimum and allowances for dependents, 1994–2016



Source: Ministry of Finance, Latvia.

For policy-making purposes, the progressivity of the income tax should be analyzed in terms not only of the tax structure, but also the system of social benefits. Apart from through the tax structure, income distribution objectives are achieved in Latvia through two social assistance programs: housing assistance and a guaranteed minimum income (GMI). Both are means tested; benefits are dropped entirely when gross income crosses the relevant threshold.

Taxes on labor—personal income taxes and social security contributions—directly reduce labor demand by driving up labor costs for employers and reduce labor supply by lowering after-tax wages. As such labor taxes create a "tax wedge" between labor cost to the employer and the worker's take-home pay and thereby reduce both employment and economic growth (see ANNEX G: IMPACT OF LABOR TAXES ON EMPLOYMENT AND WAGES) on the impact of labor taxes on growth). The higher the marginal effective tax rate, the lower the incentives for the employee to look for work or to work additional hours. In the face of higher labor costs, due to their share of the payroll taxes, employers can reduce employment, reduce working time, reduce

the wages of employees, underreport the formal wage (e.g. only report the minimum wage), or go informal. The tax wedge between total labor costs to the employer and the corresponding net take-home pay for average single workers without children in EU28 countries varied between Belgium (49.9 percent) and Malta (18.8 percent) in 2015. Latvia is on the higher end with a tax wedge of 42.3 percent (Table 4). It should be noted that the tax wedge is a so-called synthetic measurement, meaning it is purely based on legislation and therefore measures what individuals are supposed to pay, not what they actually pay, in taxes and social security contributions. In the case of Latvia, the social contribution as a percent of GDP at 6.0 percent in Latvia is less than countries with a lower tax wedge (for example, compared to 11.1 percent of GDP in Estonia).[14] Social security tax collection depends on the wage bill, employment rates, exemptions and compliance and so the effective tax rate may diverge from the statutory rates set.

There is no consensus in the empirical literature on whether it is the employee or the employer who bears the burden of labor taxation. A range of results have been found using within-country variation, i.e. differences in tax and social contribution schedules for different individuals or firms in a country, to estimate the incidence of labor taxation. By contrast, estimates using cross-country or time series variation in the labor tax burden initially mostly found that the burden falls largely on workers, but more recent studies using updated estimation strategies have found more mixed evidence (Hofer et al 2015). High employer contributions to social security leads to high wage costs, especially for low-skilled workers and the youth, and reduces their job opportunities in the formal sector. In Latvia, a concern is that high employer contributions to social security leads to high wage costs, especially for low-skilled workers and the youth, and reduces their job opportunities in the formal sector.

Table 4. Tax rate indicators in 2014 in the EU countries, in percent

	Tax wedge on labor costs	Unemployment trap	Low wage trap—single person without children	Low wage trap - one earner couple with two children
EU28	34.9	73.8	47.3	61.8
Belgium	49.9	93.0	60.7	48.8
Bulgaria	33.6	81.6	30.1	40.8
Czech Republic	39.6	80.2	48.9	91.4
Denmark	34.1	90.0	77.3	89.5
Germany	45.1	73.0	56.2	89.5
Estonia	39.0	63.7	24.2	33.7
Ireland	22.0	73.2	46.5	72.6
Greece	35.8	50.3	21.9	19.0
Spain	37.3	81.7	30.3	14.8
France	45.1	77.4	51.8	83.8
Croatia	36.1	81.0	29.9	23.8
Italy	42.3	79.5	37.8	0.3
Cyprus*	11.9	61.5	6.3	114.5
Latvia	**42.3**	**88.7**	**32.0**	**50.7**
Lithuania	38.9	61.5	26.8	84.6
Luxembourg	30.5	86.7	57.9	107.7
Hungary	49.0	78.5	37.4	39.4
Malta	18.8	57.7	22.1	22.3
Netherlands	31.4	82.2	71.9	63.8
Austria	44.9	67.9	42.8	97.1

[14] Source: The IMF's World Revenue Longitudinal Data set 2015 (WoRLD). In: http://data.imf.org/?sk=77413F1D-1525-450A-A23A-47AEED40FE78

Poland	33.6	77.6	61.0	44.9
Portugal	34.9	79.9	27.7	24.3
Romania	41.0	50.6	31.1	34.7
Slovenia	38.6	89.7	48.5	58.2
Slovakia	38.7	44.5	26.2	51.4
Finland	38.2	81.5	55.8	100.0
Sweden	40.5	69.5	38.7	69.3
United Kingdom	26.2	62.4	48.1	80.5
Iceland	29.3	84.8	47.4	61.2
Norway	33.8	75.6	34.0	96.2
Switzerland	19.4	…	…	…
United States	29.5	69.7	28.5	70.7

*-2007

Source: Eurostat Statistics Explained (2016). Wages and labor costs. http://ec.europa.eu/eurostat/statistics-explained/index.php/Wages_and_labour_costs.

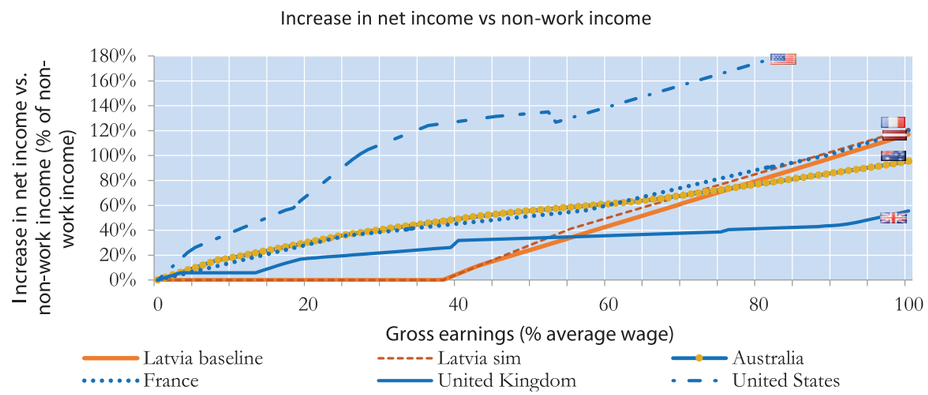
Low-income workers in Latvia can face a relatively high effective marginal tax rate (EMTR). The EMTR is the percentage of an additional euro of income that the individual loses due to personal income taxes, social security contributions, and a fall in social assistance and other benefits. The loss of unemployment and other social benefits coupled with labor taxes can create *unemployment traps*. These are situations where unemployed or informally employed people have a financial disincentive to seek formal sector employment since the level of social benefits they receive as registered unemployed are higher than their net earnings would be if employed formally and losing those benefits. In other words, when unemployed workers go back to work, they do lose unemployment benefits, all or some of the social assistance and other benefits paid to the family of the unemployed, while having to pay social security contributions and income taxes. In Latvia, low-income workers face extremely high EMTRs at the point at which their incomes cross the threshold for social assistance eligibility. Because benefits drop to zero at that point, earners face an EMTR of 100 percent. An unemployed worker who secures a job faces an EMTR (referred to as the "unemployment trap") of 88.7 percent, one of the highest in the EU (Table 1). Thus, unemployed workers have little incentive to return to the (formal) labor market. Latvia's employment services partially address this issue by encouraging the unemployed to look for work and to participate in training programs. More funding for these programs could improve their coverage and increase the intensity of case management (OECD, 2016).

Marginal tax rates on increases in earnings by employed, low-income workers (the "low wage trap") are more moderate than those faced by the unemployed. The share of gross earnings taxed away by the combined effect of the levied taxes, social contributions, and the withdrawal of social benefits, when an employee's gross earnings increase from a third to two-thirds of the average wage, was 32 percent in 2015. This is below the EU average of 47.3 percent (Table 1). These rates vary by household characteristics that are taken into account by the tax rules. For example, the low wage trap for one earner couple with two children was 50.7 percent in Latvia compared to the average of 61.8 percent in EU28.

In Latvia, additional earnings generate no increase in net income until they exceed 40 percent of the average wage (Figure 36). In the UK, additional earnings begin to generate significant additional net income when they surpass ten percent of the average wage. In France and Australia, additional earnings increase net incomes almost immediately, although at modest levels. In the United States, the earned income credit generates significant increases in net income immediately.

Figure 34. Increase in net income as work effort increases for one earner couple with 2 children, selected countries

Increase in net income vs non-work income



Note: In-Work Benefits: United Kingdom (Working Tax Credit), United States (Earned Income Tax Credit); Tapered withdrawal of Social Assistance in France, Australia. Latvia baseline is the situation in 2013 and Latvia sim represents a reform scenario simulated in 2013.
Source: Strokova and Damerau (2013) based on OECD tax-benefit model for 2013.

High marginal tax rates can have a substantial impact on employment. High statutory taxes on labor can reduce labor demand and reduce incentives for individuals to seek employment or work longer hours, thus reducing tax compliance, increasing informality and reducing economic growth (see ANNEX G: IMPACT OF LABOR TAXES ON EMPLOYMENT AND WAGES). Most studies from developing and transition countries estimate the relationship between a change in labor taxes and a change in employment in the -0.20 to -0.60 range, i.e., a 10 percent decrease in the cost of labor would cause employment to rise by between 2 and 6 percent (see ANNEX A: VAT CONTRIBUTION TO INEQUALITY). Thus, reductions in employer social security contributions can be effective in raising employment of low-skilled workers (Gill et al, 2013), particularly where the link with benefits is weak (e.g., for health expenditures). Austria, Belgium, France, the Netherlands, Spain, and the United Kingdom have cut social security contributions by low-paid workers by about 1.5 percentage points since 1997 (IMF, 2011). Encouraging labor force participation, in turn, can have wider social benefits, through increasing social cohesion (Kanbur et al. 2006).

While the statutory tax rates on labor are high in Latvia, the effective tax rate is low. The difference between total labor costs to employers and net take-home pay to workers is 42.3 percent in Latvia, compared to an average of 34.9 percent in the EU28 countries and 29.5 percent in the United States (Table 5). However, these high statutory tax rates have not succeeded in generating large revenues, due to exemptions and compliance issues. PIT and social security contribution tax collection as a share of GDP in Latvia is one of the lowest in the EU28 countries (Table 5).[15]

The current pattern of EMTRs in Latvia does not satisfy the criteria for an optimal tax system. A discussion of optimal tax theory and its insights for setting marginal tax rates is given in ANNEX C: METHODOLOGY OF ESTIMATING REVENUE GENERATION POTENTIAL FOR LATVIA. An optimal income tax system should feature marginal tax rates that start out high at the bottom, because income-dependent support (e.g. GMI) is phased out. Then, taxes should decline towards the mode of the earnings distribution, since distortions imposed by high marginal tax rates increase while distributional benefits decrease. After the mode, depending on the empirical distribution of earnings, the marginal tax rate may increase until it reaches the top rate. Currently, marginal tax rates at the bottom are too high (in some cases 100 percent) and tax rates are flat at 33.5 percent for all incomes above the minimum income. The Latvian government could consider adjusting the structure of EMTRs to a stronger U-shape by (i) making the tax system more progressive; (ii) reducing the welfare loss of the tax system; (iii) raising revenue, or by a combination of all three.

Efforts to reduce evasion of social security contributions can impose high taxes on low-income workers. Some countries

[15] The IMF's World Revenue Longitudinal Data set 2015 (WoRLD). In: http://data.imf.org/?sk=77413F1D-1525-450A-A23A-47AEED40FE78

impose a minimum level of social security contributions per worker, to improve compliance. Social contribution payments tend to accrue around the level of minimum contribution, suggesting that many firms report only wages that are close to the negotiated minimum contribution threshold. Hungary addressed this issue by setting the employer's social contribution base at twice the minimum wage, unless the employer declares that workers are indeed earning the minimum wage (which, in turn, raises the risks of a tax audit). In Latvia, the government decided not to impose a mandatory minimum state social insurance contribution based on the minimum wage, which had been due to come into effect on January 1, 2017.[16] The objective had been to reduce underreporting of income. The mandatory minimum social insurance contribution scheme could have reduced the employment prospects of low-wage, particularly part-time,[17] workers who would have had to pay disproportionally higher taxes on earned incomes. It also would have limited the capacity of employers to respond to economic conditions by reducing working hours.

Table 5. Personal income tax and social contributions as a percent of GDP in 2013, and social contribution rates paid by insured persons and employers in 2013/2014 in EU countries, in percent

	PIT as % of GDP	Social contribution as % of GDP	Contributors		
			Insured persons	Employers	Total
Austria	9.77	14.59	17.2	25.15	42.35
Belgium	12.73	14.16	13.07	24.8	37.87
Bulgaria	2.95*	7.02*	12.9	17.8	30.7
Croatia	2.99*	11.45*	20	15.2	35.2
Cyprus	3.64*	8.35*	7.8	7.8	15.6
Czech R.	3.66	14.76	11	34	45
Denmark	26.37	0.79	8	0	8
Estonia	5.50	11.09	4	34	38
Finland	12.91	12.73	8.41	22.19	30.6
France	8.35	16.75	13.2	37.5	50.7
Germany	9.55	13.98	20.175	20.575	40.75
Greece	6.95*	10.62	12.05	23.6	35.65
Hungary	5.05	12.86	16	27	43
Ireland	9.27	4.40	4	4.25	8.25
Italy	11.57	12.98	9.19	33.68	42.87
Latvia	3.95*	6.01*	10.5	23.59	34.09
Lithuania	12.02	…	9	31.17	40.17
Luxembourg	8.98	11.27	12.7	11.95	24.65
Malta	6.43*	6.98*	10	10	20
Netherlands	7.34*	14.95*	22.7	19.07	41.77
Poland	4.52*	12.11*	22.71	19.38	42.09
Portugal	7.68	8.93	11	23.75	34.75
Romania	3.57*	8.87*	16.5	28	44.5
Slovakia	2.55	13.29	13.4	33.2	46.6
Slovenia	5.32	14.75	22.1	16.63	38.73
Spain	7.32	11.28	6.25	31.13	37.38
Sweden	12.26	9.80	7	31.42	38.42
United Kingdom	9.16	6.22	11.1	13.8	24.9

*- 2012

Source: SSA and ISSA (2014); The IMF's World Revenue Longitudinal Data set 2015.

[16] In 2016, a minimum amount for voluntary contributions was not set for the employees of micro-enterprises, who could join the state social insurance voluntarily. Contributions were made from freely selected income that did not exceed 720 euro a month. http://www.vsaa.lv/en/services/employees/contributions. A change has been made whereby an employer, who has the status of a payer of the micro-enterprise tax, has to pay social insurance contributions based on the minimum wage for each employed. In 2017, a transition period is planned and the taxable amount is 75 percent from the minimum salary.

[17] From Eurostat data, in 2015, there were 63,000 part-time workers in Latvia, or 7.2 percent of the total employed population aged 15-64.

Establishing different social contribution rates can reduce the marginal tax rate faced by low-income households while minimizing the loss in social security contributions. Income taxes and social security contributions may be subject to a floor, a ceiling, tax brackets, tax exemptions, personal basic exemptions, and tax credits (see ANNEX G: IMPACT OF LABOR TAXES ON EMPLOYMENT AND WAGES) for a detailed list of experiences from European countries). Some countries set a lower minimum level of social contributions for certain categories of workers (e.g. self-employed workers or farmers, or differentiated by occupation and industrial branch, as in Bulgaria, or for youths, as in Switzerland, or for the disabled, as in Slovakia). Some countries have established lower contribution requirements for employers or workers if earnings are below a benchmark, or contribution rates generally vary according to the level of taxable earnings (e.g., U.K. and Austria). Lower contribution rates also have been provided for small enterprises (e.g. in France),[18] and differentiated rates have been assigned to activities that are associated with higher risk of accident or disease. Finally, some social insurance benefits can be financed by general tax revenues rather than taxes specific to labor.

Increasing the ceiling on income subject to social security contributions can raise resources without increasing the marginal tax rate facing low-income workers. Virtually all countries set a maximum to the base used to determine social security contributions, in part because without a ceiling contributions from the highest earnings brackets would be much greater than the eventual benefits. However, most countries introduce some progressivity in the tax system by setting higher personal income tax rates for higher income levels. Progressivity is limited in Latvia, where personal income is taxed at a flat rate, regardless of income. Moreover, ceilings introduce some discontinuity in the effective marginal tax rates as income rises, which is at odds with the goal of flatter and smoother schedules aimed for under flat tax regimes. On the other hand, ceilings can reduce incentives for tax avoidance among high earners, and may help reduce the incidence of high-income workers emigrating to reduce their tax burden. In Latvia starting in 2016, workers were required to pay contributions on income exceeding the former maximum of EUR 48,600 (the solidarity tax).

Financing of social protection for the self-employed is a difficult issue, due to on the one hand the potential for evasion and on the other the desire to avoid imposing high labor taxes on poor workers. The number of self-employed in Latvia rose from 87,400 in 2008 to 100,500 in 2015 (11.6 percent of the total employment), of which 36,500 were self-employed persons with employees (employers), and 64,000 were self-employed persons without employees (own-account workers). Similar to many other EU countries (see ANNEX H. OPTIONS FOR DIFFERENTIATED SOCIAL CONTRIBUTION RATES), Latvia sets a minimum amount of earnings subject to contributions (EUR 4,440 per year in 2016). Self-employed persons are insured if their income exceeds the minimum amount of the base for compulsory contributions defined by the Cabinet of Ministers. Social insurance contribution rates differ among categories of self-employed, and were the following in 2016: (i) self-employed persons (also those with disabilities of group I or II) insured for risks of old-age, death, sickness, parental leave, maternity, and disability: 30.58 percent; (ii) self-employed persons over retirement age and persons who receive old-age pension (including pre-retirement pension) insured for risks of old-age, death, parental leave, maternity, and sickness: 28.21 percent; (iii) individuals carrying out management of real estate and registered as tax payers for income gained from economic activity who are insured for risks of old-age and disability: 26.19 percent. In Latvia, self-employed persons do not make social insurance contribution payments concerning insurance against occupational accidents and insurance against unemployment, as they employ themselves and bear responsibility for their working conditions and safety (some EU countries do require self-employed persons to contribute to unemployment insurance—see ANNEX A: VAT CONTRIBUTION TO INEQUALITY).

Some countries have used 'income disregards' or tax credits to improve progressivity and reduce the marginal tax rate faced by low-income workers. Under an income disregard, a certain percentage of income over the threshold is disregarded in calculating a worker's tax liability or eligibility for social assistance payments. Many OECD countries, for example, disregard a certain percentage of earned income for the purposes of calculating social assistance benefit eligibility or amounts. Under a tax credit, workers receive a matching grant for each additional unit of income, up to a ceiling. Under the U.S. Earned Income Credit (EIC), for example, the matching level starts at 21 percent (for a family with more than one child). In other words, the first

[18] There is no evidence that targeted tax relief for small firms is more effective in increasing aggregate employment than general tax relief for businesses. In fact, special relief may reduce employment by lowering incentives for firm growth. Also, small firms tend to pay lower wages, offer more modest benefits, and provide poorer working conditions than large firms do (Brown et al, 1990; IMF, 2012).

dollar of earned income is matched by a grant of 21 cents. The matching proportion increases gradually as income rises and then declines. Families with incomes over US$ 52,000 are ineligible for the EIC.

An income disregard could significantly increase the coverage of the GMI—at a very low additional cost. Based on 2013 calculations, assuming a 25 percent earned income disregard, GMI coverage would increase to 25 percent of the population, climbing to 63 percent for those at risk of poverty.[19] Despite such an increase in coverage, the total cost of the program would rise to just 0.6 percent of GDP (Strokova and Damerau 2013). Alternatively, an earned income tax credit could be introduced. It should be noted that either of these measures can be administratively costly. With this in view, Latvia might consider the recent reforms in the U.K., which consolidated its means-tested benefits and tax credits into one program administered through the tax system—the Universal Tax Credit (UTC).

There is a case for increasing the rate on higher incomes in Latvia. As noted above, the PIT rate is a flat 23 percent for all incomes above the minimum. Given that PIT accounted for about 20 percent of total tax revenues (see chapter 2) and the regressivity of other major tax instruments (e.g., the VAT),[20] there is a strong case for increasing the rate on higher incomes. Whether to introduce a separate top bracket, or increase its rate, fundamentally rests on political valuations regarding the social value of income for top-income earners (Box 1). Preliminary calculations suggest that an increase in the current top rate of 23 percent is feasible and would contribute to more income redistribution or public revenue. Such an increase carries risks, of course. A higher top rate could weaken incentives for work and entrepreneurship and increase avoidance and evasion. These behavioral responses can be taken into account by using quite conservative estimates for the elasticity of taxable income (ETI) of top-income earners[21] (see also ANNEX E ELASTICITY OF TAXABLE INCOME OF HIGH-EARNERS IN LATVIA.). Nevertheless, some increase in the rate on higher incomes should be considered.

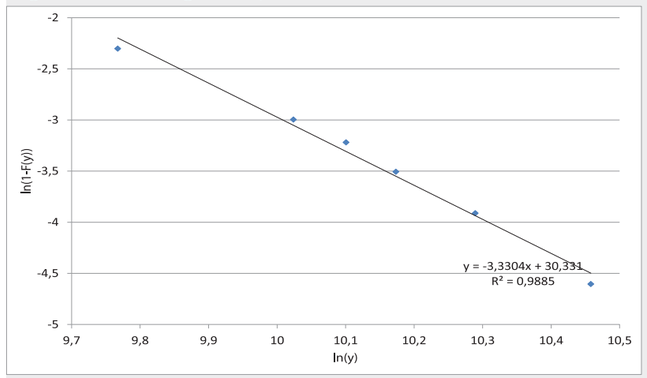
[19] At present, only three percent of the population receives GMI, due to the low ceiling on eligibility and its strict enforcement. (Gotcheva and Sinnott, 2013).
[20] As noted in Chapter 1, the VAT (which accounts for 27 percent of total tax revenue) is effectively regressive: the estimated share of the VAT in household gross income falls steadily from 14.1 percent in the first quintile to 6.8 percent in the top quintile.
[21] Behavioral economics has given a number of reasons why optimal marginal taxes could be useful to correct externalities or internalities. Optimal top rates can be increased to stop status or rat races when consumption is a status good, causes rivalry or induces keeping-up-with-the-Joneses' effects (Akerlof, 1976; Layard, 1980; Kanbur et al. 2006). However, also leisure can be a status good (Alesina et al., 2005) or high leisure consumption could erode work ethic (Lindbeck and Nyberg, 2006). In that case, optimal labor taxes should be lowered to internalize these externalities and internalities. The net effect of these behavioral-economic aspects is unclear and should be weighed by politicians.

Box 1. Calculating the optimal top rate for Latvia

Saez (2001) has shown that the welfare-optimal top tax rate can be calculated using only three statistics: the Pareto parameter for the top of the earnings distribution, the elasticity of taxable income (ETI), and the social welfare weight for top-income earners. The welfare-maximizing marginal top rate $T'(y)$ can be computed as $T'(y) = (1-g)/(1-g+\alpha\varepsilon)$, where g is the social welfare weight of top-income earners, α is the Pareto parameter, and ε is the ETI.[1] The revenue-maximizing or 'Laffer rate' is obtained by setting the welfare weight of top-income earners at zero ($g = 0$). Tax policy then only 'soaks the rich'. It is generally not desirable to set the top rate beyond the Laffer rate. If top tax rates are higher than the Laffer rate, reducing the top rate constitutes a Pareto improvement: it raises more revenue and imposes fewer distortions, while no one is worse off. The revenue-maximizing rate increases when the top tail of the earnings distribution is 'fatter', i.e., when the Pareto parameter α is lower. The revenue-maximizing top rate decreases when the ETI (ε) is higher. A higher top rate then causes more economic distortions, avoidance and evasion. The revenue-maximizing top rate is not equal to the welfare-optimal top rate, since it is impossible to calculate the optimal top rate without making an intrinsically political judgment regarding the social welfare weight of top-income earners. A Rawlsian government only cares for the poor, and thus attaches a zero welfare weight to the top-income earners ($g = 0$). Consequently, it sets the top rate at the revenue-maximizing rate. For any positive social welfare weight for the top-income earners ($g > 0$), optimal top rates are below the revenue-maximizing rate.

The top of the income distribution can be characterized well by a Pareto distribution in most countries in the world (Atkinson, Piketty and Saez, 2011). By using data on income percentiles from Eurostat we calculate a provisionary estimate of the Pareto-parameter for the top of the Latvian earnings distribution.[2] Let earnings be denoted by y. And let the cumulative distribution be Pareto and denoted by $F(y)$. When the income distribution is Pareto, there exists a linear relationship between $\ln(1-F(y))$ and $\ln(y)$.[3]In Figure 37, we plot this relationship for the 90-99 percentiles of the earnings distribution. Strikingly, the relationship is indeed nearly linear (R^2 = 99 percent), hence the Pareto distribution provides a good fit. The implied Pareto parameter equals 3.3, which is among the highest in the world (Atkinson et al., 2011)[4]. However, given that there is large income inequality according to the Gini coefficient, we expect the Pareto-parameter to be biased upwards considerably due to (possible) top coding in the tax data and tax evasion/avoidance, which result in underreporting of top incomes. We use a baseline value of 3.0 and values between 2.5 and 3.5 as robustness checks given that there is large uncertainty in this parameter. For our computations, we use a range of values of the ETI between 0.2 and 0.5, which is in line with our review of estimates and our own ETI estimate for high income tax payers. Based on our estimate (see ANNEX E ELASTICITY OF TAXABLE INCOME OF HIGH-EARNERS IN LATVIA.) the elasticity of high-income taxpayers to tax rates, estimated based on the introduction of the solidarity tax in 2016, is around 0.13 and 0.2 depending on the sample selection.

Figure 35. Estimating Pareto parameter in Latvia



Source: Calculations based on Eurostat data.

Table 6. Optimal top rates PIT Latvia

Table 6 gives the calculations for the optimal effective top rate for Latvia. The 'optimal effective top rate' includes both indirect taxes and SSCs, and corresponds to the optimal top rate according to the Saez-formula above. The row 'optimal top rate incl. SSC' corrects the optimal effective top rates for indirect taxes indicated at the bottom of the table. The 'optimal top rate PIT' excludes the SSCs from the 'optimal top rate incl. SSC'. Baseline values are indicated in bold. These calculations need to be interpreted with caution, given the high level of uncertainty regarding the parameters.

Pareto-parameter (α)	2.50	2.50	2.50	2.50	2.50	**2.50**	2.50	2.50	2.50
Welfare weight top incomes (g)	0.00	0.25	0.50	0.00	0.25	**0.50**	0.00	0.25	0.50
ETI (ε)	0.20	0.20	0.20	0.35	0.35	**0.35**	0.50	0.50	0.50
Optimal effective top rate	0.67	**0.60**	**0.50**	**0.53**	**0.46**	**0.36**	**0.44**	**0.38**	0.29
Optimal top rate incl. SSC	0.63	**0.56**	**0.45**	**0.48**	**0.40**	**0.29**	**0.38**	**0.31**	0.21
Optimal top rate PIT	0.53	**0.45**	**0.34**	**0.38**	**0.30**	**0.19**	**0.28**	**0.20**	0.10
Pareto-parameter (α)	3.00	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**	3.00
Welfare weight top incomes (g)	0.00	**0.25**	**0.50**	**0.00**	**0.25**	**0.50**	**0.00**	**0.25**	0.50
ETI (ε)	0.20	**0.20**	**0.20**	**0.35**	**0.35**	**0.35**	**0.50**	**0.50**	0.50
Optimal effective top rate	0.63	**0.56**	**0.45**	**0.49**	**0.42**	**0.32**	**0.40**	**0.33**	0.25
Optimal top rate incl. SSC	0.58	**0.51**	**0.39**	**0.43**	**0.35**	**0.25**	**0.33**	**0.26**	0.17
Optimal top rate PIT	0.48	**0.40**	**0.29**	**0.33**	**0.25**	**0.14**	**0.23**	**0.16**	0.06
Pareto-parameter (α)	3.50	**3.50**	**3.50**	**3.50**	**3.50**	**3.50**	**3.50**	**3.50**	3.50
Welfare weight top incomes (g)	0.00	**0.25**	**0.50**	**0.00**	**0.25**	**0.50**	**0.00**	**0.25**	0.50
ETI (ε)	0.20	**0.20**	**0.20**	**0.35**	**0.35**	**0.35**	**0.50**	**0.50**	0.50
Optimal effective top rate	0.59	**0.52**	**0.42**	**0.45**	**0.38**	**0.29**	**0.36**	**0.30**	0.22
Optimal top rate incl. SSC	0.54	**0.46**	**0.35**	**0.39**	**0.31**	**0.21**	**0.29**	**0.22**	0.14
Optimal top rate PIT	0.44	**0.36**	**0.25**	**0.28**	**0.21**	**0.11**	**0.19**	**0.12**	0.03
Current top rate	0.23								
Current top rate incl. SSC	0.34								
Indirect taxes	0.11								
Current effective top rate	0.40								
SSC-rate	0.105								

Our calculations suggest that an increase in the current top rate in the PIT of 23 percent seems feasible and would contribute to more income redistribution or public revenue. Introducing a separate top bracket for incomes potentially raises more revenue at baseline values for the ETI (0.35) and Pareto parameter (3.0). Top rates can be increased from 23 percent to about 33 percent. In this case the MTR including SSCs equals 43 percent (it equals 49 percent when we include indirect taxes of 11 percent).26 With greater inequality, and the Pareto-parameter of the earnings distribution assumed to be 2.5 rather than 3.0, the revenue-maximizing top rate in the PIT is 38 percent, or 15 percentage points higher than the current top PIT rate. However, the current top rate in the PIT of 23 percent would be revenue maximizing if we assume that the ETI is higher than in the baseline (0.50). Clearly, the ETI is a critical parameter to judge the desirability of raising the top rate in Latvia. Another critical element is the political valuation of the income of top-income earners. The table shows that with a low social welfare weight for top-income earners, optimal tax rates are higher than current ones. However, with a high social welfare weight for top-income earners, optimal tax rates are estimated to be lower than current ones. Indeed, current top rates of 23 percent in the PIT can be rationalized with a social welfare weight of the top-income earners around 0.3. Thus, a final proposal for the changes to PIT rates are dependent on two critical parameters: ETI and the welfare weight for top income earners.

Any such reforms will have fiscal and distributional impacts. A range of simulations were run, using data from 2014, to estimate the magnitude of these effects (The simulations are described in detail in ANNEX F SELECTED PIT REFORM SIMULATION RESULTS). The simulations examine three basic scenarios: (1) the introduction of a progressive rate structure (i.e., higher rates on higher incomes); (2) the introduction of an earned income tax credit (EITC); and (3) both together. As described in ANNEX F SELECTED PIT REFORM SIMULATION RESULTS, the results of the analysis depend on the precise parameters of each scenario.

Table 7. Fiscal and Distributional Impact of Alternative Policies: SimulationS		
Scenario	**Fiscal Impact (% of PIT)**	**Distributional impact (change in DDR)**
1. 3-tier progressive rates	+1.6%	-.316
2.1 Earned income credit	-5.0%	-.216
2.2. EIC limited to families	-1.4%	-.096
3. Combined 1+2.2	+0.2%	-.406

Scenario 1. Introducing a progressive PIT with three rates (19 percent, 23 percent and 29 percent) would increase PIT revenues by 1.6 percent and significantly reduce the gap between the rich and the poor: the decile dispersion ratio (DDR--the ratio of the average income of the top ten percent of the income distribution to the average income of the bottom ten percent) would fall by .316 percentage points, from 10.27 to 9.95. A more radical measure—raising the PIT rate to 33 percent on the top 20 percent of taxpayers—would increase PIT revenues by 16 percent and reduce the decile dispersion ratio to 9.54 (Table 7).

Scenario 2. Introducing a modest EITC (with a maximum benefit of €227 per year) in isolation would cost the government €73 million--equivalent to five percent of 2014 PIT revenues--and would have a somewhat smaller impact on the distribution of income. The decile dispersion ratio would fall by only .216 percentage points. Interestingly, the fiscal cost of this measure would fall substantially if the EITC were targeted only to families with dependent children. This variant (labeled 2.2 in Table above) would cost the government only €20 million, 1.4 percent of PIT revenues.

Scenario 3. The fiscal impact of a combined scenario would be essentially nil: the costs of the EITC would be offset by the increase in PIT revenues. The distributional impact would be substantial, with the DDR falling by 0.406 percentage points.

Box 2. The Case for 'Married, Filing Jointly'

The Government should consider introducing the joint taxation of married couples. There are a number of arguments for doing so. First, married couples typically have a common budget and are therefore single economic units. Second, the labor supply decisions of members of a couple are in fact joint decisions. Third, joint taxation is a family-friendly policy, which is particularly important in the Latvian demographic context. The theory of household production suggests that it is rational for a couple to reduce the labor supply of the partner whose marginal productivity in household production (e.g. in child care) is higher than in the market and to increase the labor supply of the other partner. Progressive taxation that does not treat couples jointly punishes such behavior if the income of the second partner exceeds the threshold for the top rate.

The shift could be costly for the Government, however. As described in ANNEX F SELECTED PIT REFORM SIMULATION RESULTS, permitting couples to file joint returns, assuming a simultaneous shift to a three tier (progressive) tax structure), would reduce PIT revenues by nearly €30 million over what they would otherwise have been.

Conclusions

- **The high EMTR on incomes at- or just above- the minimum threshold should be reduced, in order to increase (formal sector) labor force participation and encourage workers within the formal sector to pursue higher earnings.** This could be accomplished either through: (1) a system of earned income tax credits or (2) income disregards in the calculation of eligibility for the GMI and housing allowances. At the same time, the Government should consider raising the PIT rate on higher incomes, in order to improve the progressivity of the tax system as a whole and generate additional revenues. According to the simulations, both measures could be accomplished simultaneously at little net cost to the government. More radical increases in the PIT rate on higher incomes, or more parsimonious tax credits would, of course, increase the net revenue yields to the government. The additional revenues from the introduction of progressivity could be kept at the central government level (see Box 3).

- **The government should continue with the removal of the ceiling on social contributions.** Given the flat tax rate, the solidarity tax introduces a small element of redistribution in the system and in the absence of other changes to make labor taxes more progressive, it should be maintained.

- **Apart from tax-benefit policies, the policy agenda to support an increase in the number of higher productivity formal sector jobs is critical for reducing informality and increasing the adequacy of social protection contributions**. Tax policy is just one component of the policy agenda to combat informality.

Box 3. Who should reap the windfall from progressive tax rates?

At present, the majority of PIT revenues are transferred to local governments. The sharing percentage is adjusted in the annual budget law. Revenues are distributed among individual jurisdictions on the basis of origin, and are then subject to an equalization mechanism. If a progressive tax rate structure is adopted, this arrangement will have to be modified. It is the central, not the local, governments that should reap any increase in revenues arising from the introduction of progressive tax rates. One solution would be to have local governments continue to receive the amount they would have received under the flat rate, with the central government retaining the difference. From a technical and administrative standpoint, there appear to be no obstacles to doing so.

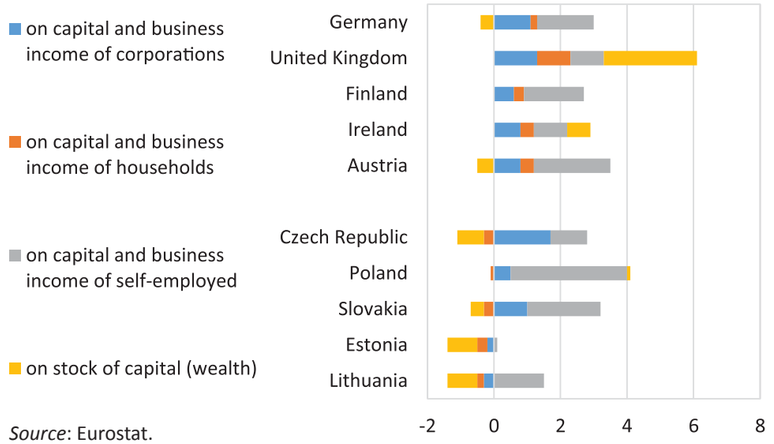
3.2 Capital income taxation

The aggregate burden of capital taxes in Latvia is low. Latvia has a low effective tax rate (Figure 36) and raises relatively little revenue from taxing capital income. In particular, the implicit tax rate on capital and business income of corporations and self-employed is below the level in nine of ten comparator countries, the exception being Estonia.

Taxing capital income at very low or zero rates is not socially desirable. Optimal tax theory points to good reasons for the taxation of capital income for both equity and efficiency reasons (Diamond and Banks, 2010; Diamond and Saez, 2011; Jacobs, 2013). It is optimal to tax capital income for redistributive reasons, since not all income inequality originates from differences in labor earnings. Individuals inherit different amounts of wealth (Piketty and Saez, 2013). Individuals with higher earnings capacities also have stronger preferences to save (Banks and Diamond, 2010; Diamond and Spinnewijn, 2011; Gordon and Kopczuk, 2014). And, individuals with high earnings ability not only earn more labor income, but also more capital income (Gerritsen, Jacobs, Rusu and Spiritus, 2016). It is also optimal to tax capital income for efficiency reasons. Taxation of capital income helps to alleviate the distortions of labor and consumption taxes in the labor market by boosting labor supply (Blundell and MaCurdy, 1999; Meghir and Phillips, 2010; Pirttilä and Suoniemi, 2014; Erosa and Gervais, 2002; Conesa et al. 2011), promoting later retirement (Gruber and Wise, 1999, 2002) and stimulating investments in human capital (Jacobs and Bovenberg, 2010). Moreover, capital taxes can alleviate the distortions from borrowing constraints (Hubbard and Judd, 1986; Aiyagari, 1994, 1995) and missing insurance markets (Diamond and Mirrlees, 1978, 1986; Golosov et al., 2003; Jacobs and Schindler, 2012). Taxing capital income is also desirable when capital income contains unearned income, i.e. capital income for which no economic sacrifice has been made in the form of postponing consumption or bearing risk, such as rents on land and housing or the profits from market power or location advantages. Finally, taxes on capital income are needed to combat tax avoidance and maintain the integrity of the PIT (Christiansen and Tuomala, 2007)**.** The separation between capital and labor income is the Achilles heel of any dual income tax system, such as the tax system in Latvia. Without taxation of capital income individuals would have a strong incentive to transform taxed labor income into untaxed capital income (Fuest and Weichenrieder, 2002; De Mooij and Nicodème, 2008).

The Latvian tax system is a dual tax system where labor incomes and capital incomes are taxed separately. From an optimal-tax perspective it is probably most desirable to have a dual-income tax system where labor incomes are taxed at progressive rates, and capital incomes are taxed at lower, flat rates (Jacobs, 2013). Most Scandinavian countries have a dual tax system. The consensus in the economics literature suggests that capital income should be taxed at lower rates than labor income, given the high international mobility of capital. However, while taxes on capital income are generally considered more distortionary, they could also yield larger distributional benefits in view of the skewed distribution of capital income and wealth holdings.

Figure 36. CIT difference between the level of the implicit tax rate on capital income in selected countries and Latvia (in percentage points), 2012



Source: Eurostat.

In Latvia, different forms of capital income are taxed at different rates (Table 8). Interest and dividends received by individuals are taxed at a rate of 10 percent. Capital gains received by individuals are taxed at a rate of 15 percent. Dividends and capital gains received by corporations, on the other hand, are entirely exempt from taxation.[22] Given that there is no correction of accrued interest in unrealized capital gains, a good case can be made for setting a somewhat higher tax on capital gains to avoid arbitrage by converting dividends into lower taxed capital gains using, for example, stock options (Auerbach, 1991a, 1991b). There is no taxation of imputed rent on home ownership, although income from renting out property is taxed. Such income can be reported as a private activity (subject to PIT) or as a business activity, liable to the corporate income tax (the CIT) or the microenterprise tax (MET). Capital gains on the sale of real estate are taxed at a rate of 15 percent, although important exemptions exist. In particular, capital gains on the sale of owner-occupied housing is not taxable, as long as the capital gain is reinvested into a new residence.[23] Corporate income is normally taxed at a rate of 15 percent.[24] There is a local property tax, ranging from 0.2-3 percent of the value of the property, depending on the jurisdiction. Immovable property is also subject to a stamp duty of 2 percent of the property value. There is no inheritance taxation.[25]

The pension system is subject to a variety of tax provisions, but differences between the tax treatment of ordinary savings, second-pillar pension savings and third-pillar pension savings are small. Pension benefits from first-pillar, PAYG state pensions are taxed at the 23 percent rate of the PIT, while they are funded from SSCs (EC, 2014). The second-pillar of pension savings—occupational pensions—is a funded system. Second-pillar pension benefits are taxed under the 23 percent rate of the PIT. Its tax treatment can be characterized as an ETT system (**E**xempt contributions, **T**axed accrual, **T**axed benefits). Contributions by employees for third-pillar, occupational pensions are tax deductible up to a maximum of 20 percent of gross earnings. However, contributions for employers to occupational pensions are not tax deductible. Accrual of pension wealth in occupational pension schemes is taxed at 10 percent, the rate at which dividends and interest income is taxed (Latvian Revenue Service, 2016). In addition, individuals can make voluntary pension savings in the third pillar via pension products with a favorable tax treatment. The tax treatment of the third pillar differs from the second pillar and can be characterized as an ETE system (**E**xempt contributions, **T**axed accrual, **E**xempt benefits). Premiums for life-insurance and pension contributions are deductible from the labor income tax up to a maximum of 20 percent of taxable income. Voluntary pension savings into private pension funds under licensed pension plans are not taxed when the employee contributes to the pension plan. However, when employers contribute to the pension plan of the employee, the tax advantage disappears since pension benefits are then taxed at the PIT rate of 23 percent (Latvian Revenue Service, 2016). Pension accrual in private pension savings in the third pillar are taxed at a rate of 10

[22] Corporate dividends are taxable if the corporation is located in a country listed in Latvia's list of low- tax or no-tax jurisdictions.

[23] Capital gains on houses are not taxed when home ownership before alienation lasted more than 60 months; it was the place of residence for at least 12 months or it was the only house for the last 60 months; it has been replaced with an owner-occupied house 12 months before or after the alienation; capital gains on the house have been divided in the case of a divorce provided that it was the residence of both spouses at least 12 months until the alienation; an alienation of the real estate is realized in accordance with the Law On Alienation of Immovable Property for the Public Needs, provided that ownership lasted more than 60 months or the capital gain is invested in a functionally similar property within 12 months after alienation.

[24] If a corporation is classified as a microenterprise, the rate is nine percent of turnover, plus ten percent on dividends.

[25] However, there is a provision for the taxation of inheritance of copyrights, which are taxed at 23 percent.

percent. Only about 25,000 people make use of the tax advantages for third-pillar private pension savings. The reasons are unclear; it may be due to inadequate income to contribute to third pillar savings or perhaps due to a preference for other forms of savings. Fees on third pillar savings also may act as implicit taxes on pension saving and ultimately soak up most of the explicit tax advantages. Consequently, there appears to be no substantial private gain from saving for pensions using these products compared to private savings or home ownership.

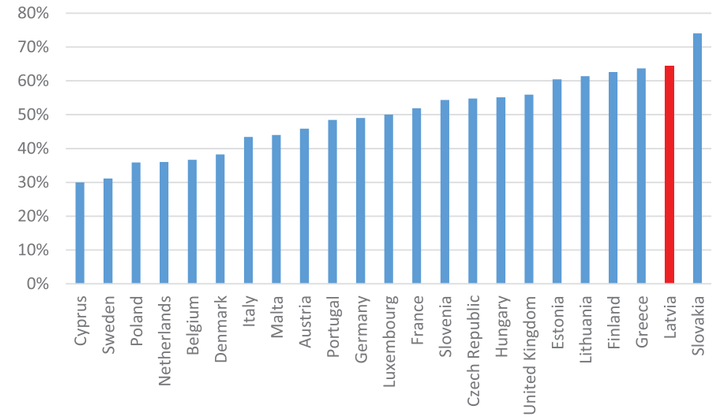
Table 8. Taxes on capital income and wealth in Latvia, 2016, in percent

	Rate		Rate
Personal capital income		**Corporations**	
Interest	10	Interest (effective)	15 (10)
Dividend	10	Dividend (effective)	0 (23.5)
Capital gains on assets	15	Capital gains (effective)	0 (27.75)
Housing		Microenterprises	
Imputed rental income	-	Interest (effective)	9 (9)
Realized rental income	10	Dividend (effective)	9 (18.1)
Deduction mortgage rent	-	Wealth taxes	
Capital gains housing	0, 15	Property	0.2-3
Occupational pensions (second pillar)		Stamp duty immovable property	2
Pension benefits	23	Inheritance	-
Deduction contributions employer/ employee	0/23		
Pension accrual	10		
Private pension saving (third pillar)			
Pension benefits	0/23		
Deduction contributions employer/ employee	0/23		
Pension accrual	10		

Non-uniform tax treatment of capital income is inefficient, generates inequities and provokes tax arbitrage. A uniform tax on capital income is needed to avoid tax arbitrage between people, across bases and over time. Capital income from one source can easily be transformed into capital income from another source. For example, dividends can be converted into capital gains, ordinary assets can be transformed into pension plans, and savings can be converted into equity of closely-held companies. Low or zero taxes on housing assets (see Table 8) provides strong incentives to save in the form of housing assets, since other forms of capital income are taxed at a higher rate. As a result, the share of housing wealth in total household wealth is higher in Latvia than in all EU countries (with adequate data), except Slovakia (see Figure 37). The microenterprise regime provides advantages in capital income taxation for some firms over the standard CIT-regime.[26] Thus, Latvians are able to lower their average and marginal tax rates on their assets to very low levels, possibly close to zero, by making suitable portfolio choices (save in the form of housing and microenterprises). Since large parts of capital income remain untaxed, taxes on labor income and consumption need to be higher than they otherwise would have to be, which severely distorts labor and other markets. Moreover, given that there is typically much larger inequality in wealth holdings, the tax system does not optimally address distributional concerns by largely exempting capital income and wealth holdings from taxation. For all these reasons, the Latvian tax system does not meet the criteria for an optimal tax treatment of capital income.

[26] The MET is beneficial to avoid CIT and SSC. However, no deduction for interest costs or intermediate goods is provided in the MET. Thus firms with high debt or intermediate goods use need not be better off.

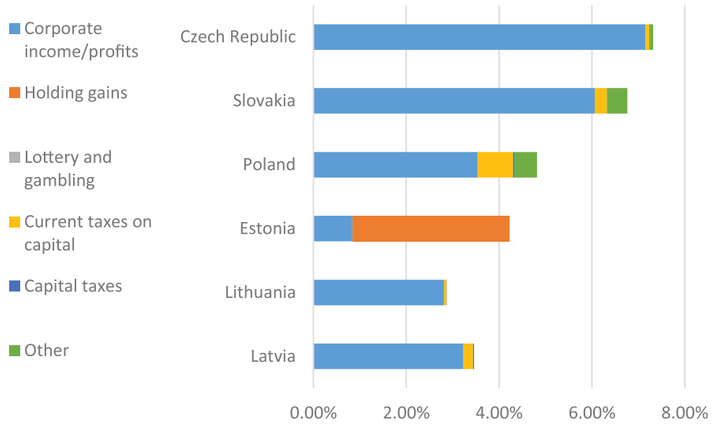
Figure 37. Housing wealth as a percentage of total household wealth in European Union in 2013



Source: Eurostat, ECB.

Latvia should raise the share of capital taxes in the tax mix. Revenues from capital income taxes in Latvia are low compared to income (see Figure 38) and account for a small share of total tax revenue. Thus, a good economic case can be made that Latvia should shift the aggregate tax burden from labor (i.e. consumption and taxes on labor earnings) towards capital income. Note that this is not a plea for raising the aggregate tax burden, only a shift in the mix of taxes from labor towards capital. Such a shift can help raise the efficiency or equity (or both) of the Latvian tax system. One obvious step is to tax imputed rental income from owner-occupied housing at the same rate as taxes on dividends from other assets, and to tax capital gains on housing assets at the same rate as capital gains on other assets. Another proposal is to tax inheritances. In principle, if incomes from the underlying assets are taxed, then there would be no justification for introducing a tax on inheritances. This is similar to the argument that a wealth tax is redundant if all capital incomes are taxed. However, as many forms of capital income are under-taxed, introducing an inheritance tax may be desirable.

Figure 38. Components of capital taxation as a percentage of operating surplus and mixed income, 2014



Source: Eurostat.

Main conclusions:

- The share of taxes on capital income in total tax revenue should be raised to create a more efficient and equitable balance between taxes on labor/consumption and taxes on capital.
- Tax rates on capital income should be made more uniform, particularly by increasing taxes on owner-occupied housing. The government should also consider taxing inheritances.

Latvia Tax Review

Equitable Growth, Finance, and Institutions
Europe and Central Asia Region

CORPORATE INCOME TAXATION

4. CORPORATE INCOME TAXATION

While Latvia's CIT regime contains many of the ingredients that are required for a well-functioning system of corporate income taxation, there are areas where the effectiveness of the regime could be enhanced and tax-related distortions reduced. As with all taxes, the design and determination of appropriate policies for corporate income taxation needs to be considered in the context of the well-established principles of neutrality (as respects various forms of business activities), efficiency (in minimizing compliance costs), certainty and simplicity (with tax rules that are clear and easy to understand), effectiveness and fairness (in the imposition and collection of tax) and flexibility (in adapting to changes in technology and economic activity). At the same time, countries around the world are having to frame their corporate income tax policies against a background of ever-increasing globalization and competition for mobile investment, and Latvia is no different in this regard. There is also widespread acceptance internationally of the need for effective measures to counter base erosion and profit shifting (BEPS) and a range of actions have been agreed at OECD and EU to deal with BEPS and limit the scope for international tax avoidance by multinational enterprises. Within this context, it is desirable that CIT policies are designed and developed to deliver a tax regime which:

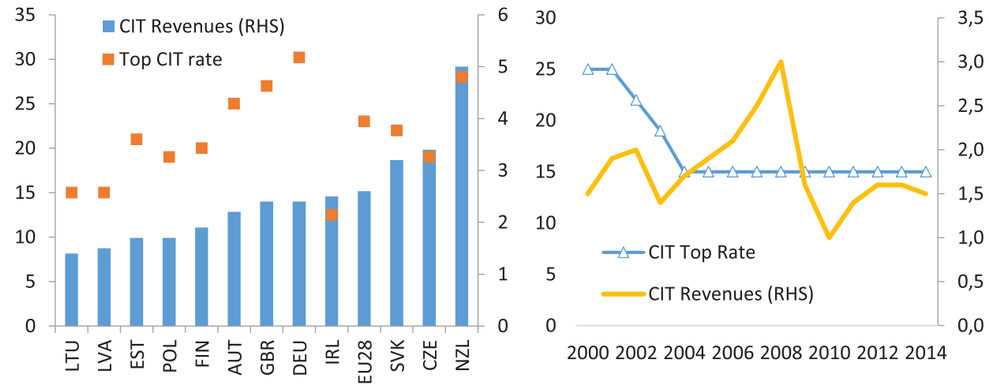
- facilitates enterprise and minimizes distortions in relation to location of economic activity, legal form of business entities, investment and investment financing,
- is stable and sustainable, with predictability and certainty for businesses making investment decisions—too many or too frequent changes in the regime does not provide confidence for investors,
- provides a broad tax base with targeted incentives, where appropriate, for investment in R&D and innovative enterprises,
- provides a sufficient revenue yield from the corporate sector on a year to year basis that contributes to equity and fairness of the overall tax system,
- is open and transparent in the operation and administration of the tax rules (e.g. in relation to eligibility for tax reliefs)—this also helps to enhance equity and fairness of the tax system, as well as public confidence and international acceptance,
- restricts, as far as possible, the opportunities for tax avoidance and aggressive tax planning (e.g. through measures to counter profit and manipulation of financial structures),
- promotes compliance and provides effective deterrents to counter evasion and limit the scope for operating in the shadow economy,
- is compliant with EU law and State Aid rules and aligned with tax policy principles agreed within EU (e.g. Code of Conduct on Business Taxation) and OECD (e.g. transfer pricing guidelines and policies to deal with BEPS), and
- is complemented by an efficient tax treaty network to eliminate double taxation while providing for effective taxation of corporate income.

While the Latvian CIT regime exhibits many of these features in varying degrees (e.g. it has a relatively low headline rate that has remained in place since it was introduced in 2002), there are areas where the effectiveness of the regime could be enhanced (e.g. broadening the tax base by re-focusing tax allowances), where distortions in investment financing could be removed or reduced (e.g. ensuring equal treatment of debt and equity costs) and where revenue leakage could be curtailed (e.g. through reform of micro-enterprise tax).

Corporate income tax revenue in Latvia is low by both EU and OECD standards. In 2014, Latvia's CIT revenue as a percent of GDP was about 1.5 percent, compared to the EU average of 2.6 percent and the OECD average of 2.8 percent. One reason for Latvia's CIT shortfall is the low tax rates, both statutory and effective (Figure 39). The low effective rates are caused by tax incentives for investments (the possibility to carry forward losses, accelerated depreciation of fixed assets, enhanced depreciation for new technological equipment for production, tax relief for R&D expenditure) and tax credits (for farmers), deductions and loopholes. As a result of these provisions, the productivity of CIT[27] in Latvia is below the EU average and also lags behind Slovakia, the Czech Republic, and Ireland. Although the CIT revenue-to-GDP ratio in Latvia has averaged about the same since 2000, it has been quite volatile. A rise in revenues to 3 percent of GDP in 2008 (caused by a surge in profits and the lowering of the statutory rate, see Figure 39, second panel) was followed by a rapid drop during the crisis and a slow recovery thereafter, which was limited by the introduction of the micro-enterprise regime (see Figure 39, second panel).

[27] Productivity is measured by CIT revenue as a percent of GDP divided by the CIT rate.

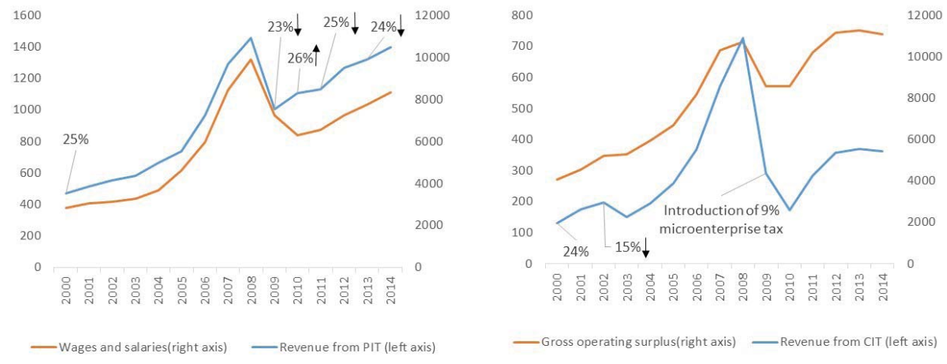
Figure 39. CIT: Top Statutory Rates (Percent) and Revenue (Percent of GDP)



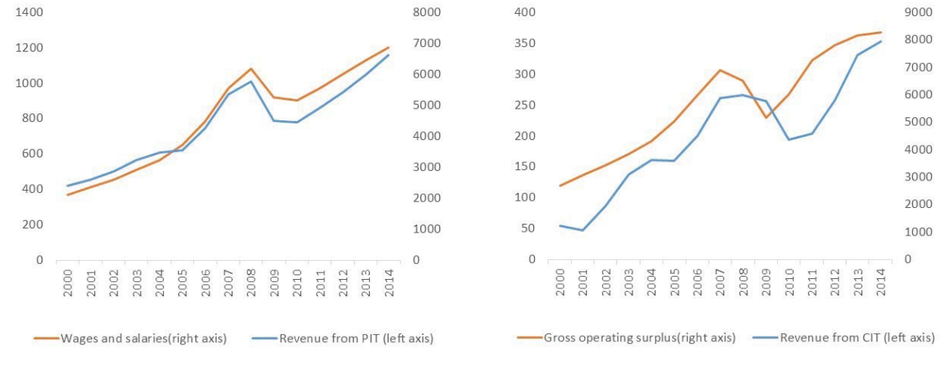
Sources: OECD, KPMG, Latvia MoF.

Figure 40. PIT and CIT and their Potential Tax Bases, Latvia, Estonia, and Slovakia 2000-2014, EUR Million

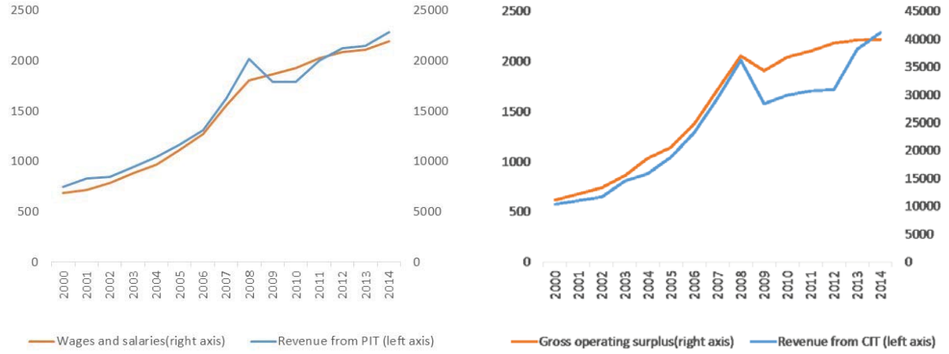
A. Latvia



B. Estonia



C. Slovakia



Source: Eurostat national accounts data, OECD data on income from taxes.

The crisis reduced the income tax base for both corporations and households, leading to lower income tax revenues. But unlike Estonia and Slovakia, personal and corporate income tax revenue in Latvia remained below the pre-crisis peak in 2014 (see Figure 40). CIT revenues stayed below the level corporate profits developments would have suggested, partly as a result of the introduction of a microenterprise tax, as well as other policy changes that also increased tax avoidance. PIT revenues in Latvia increased by more than the recovery in the wage bill implied, probably with the assistance of a broadening of the tax base in 2010 to cover capital income.

Low CIT revenues are due to a narrow and eroded tax base. The Ministry of Finance Report on tax expenditures for 2014 reveals that the CIT revenue foregone (tax expenditures) in 2014 as reported by the State Revenue Service was about 1.5 percent of GDP, with the promotion of investment accounting for about 80 percent of the total amount. Most of the incentives involve generous depreciation and loss-carry-forward schemes—which all conform to the rules set out in EU law on State Aid. Accelerated depreciation of fixed assets was used by 51,583 commercial operators at a total cost of EUR 52.7 million in 2014, while relief for losses incurred in current and previous tax periods were used by 16,661 commercial operators at a total cost of EUR 122 million in 2014. The Ministry of Finance Report notes that these two relief measures are related, which would suggest that claims for loss relief arise in part from losses created by expenditure qualifying for accelerated depreciation (i.e. as distinct from commercial losses). Less typical for the EU are Latvia's incentives for selected sectors (such as shipping, agriculture or financial sector). The main avoidance vehicles arise from the use of tax incentives by domestic firms, e.g. via micro-enterprise tax.

There may be some scope for broadening the CIT base by reducing tax expenditures that are not providing sufficient benefits relative to their cost in tax revenues foregone. At the same time, due account should be taken of the potential impact of any base broadening measures on economic activity and employment. A number of changes were made in 2014 based on an analysis of the effectiveness of CIT relief provisions in the Ministry of Finance Report on tax expenditures. The main changes included amendments to the relief for R&D (with effect from 1 July 2014), abolition of group relief for losses (from 1 January 2014) and abolition of the rebate for investment in fixed assets in territories of special support (for assets acquired after 2012). Still, there may be further scope for broadening the CIT base by reducing tax expenditures.

Depreciation

Section 13 of the Law on Enterprise Income Tax sets out the rules for depreciation. Assets are depreciated on a reducing balance basis (i.e. based on tax written down values) at specified rates depending on the category of asset. There are five asset categories and the rates of depreciation range from:

- 5 percent for buildings and structures,
- 10 percent for railway rolling stock and technological equipment, ships, power equipment,
- 35 percent for computer equipment and software
- 7.5 percent for oil exploration platforms and equipment
- 20 percent for other fixed assets.

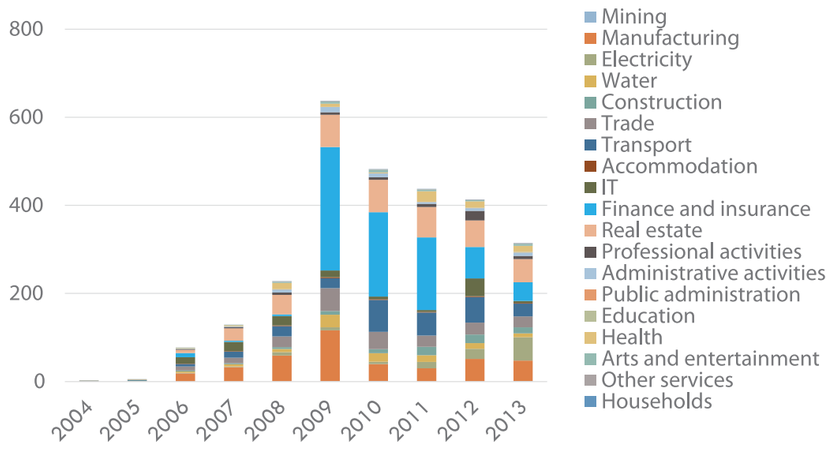
These rates are then doubled for the purposes of determining the amount of depreciation for tax purposes, so the effective rates of depreciation are twice those set out above (with the exception of certain vehicles, e.g. motor cars, where a multiple of 1.5 applies). Applying these effective rates on a reducing balance basis provides for relatively high levels of depreciation in the early years with depreciation levels gradually declining in later years.

Some adjustments to the depreciation regime may be appropriate, with a view to limiting accelerated depreciation and aligning tax depreciation more closely with economic depreciation. Given the wide range of assets with differing economic lifespans, it would be very difficult to achieve a precise alignment with economic depreciation for every case without having very complex and detailed rules, with lengthy lists of various asset categories and descriptions. Of course, tax depreciation could be allowed to follow accounting depreciation, leaving it up to each company to determine the appropriate depreciation for assets in use based on the application of generally accepted accounting principles. However, this would give a lot of discretion to companies, leading perhaps to significant differences in the amount of tax depreciation claimed by companies for similar assets; it is not an approach that would generally be favored by tax authorities. For practical purposes, some simplification is required in setting depreciation rules and certainly this has been the approach taken by most countries. The Government could consider various options, including a re-classification/ simplification of asset categories, a switch over to straight line depreciation for some or all assets (e.g. buildings and other long-life assets), a revision of rates for the different asset categories, and removing or reducing the multiple by which rates are doubled/increased.

Loss Relief

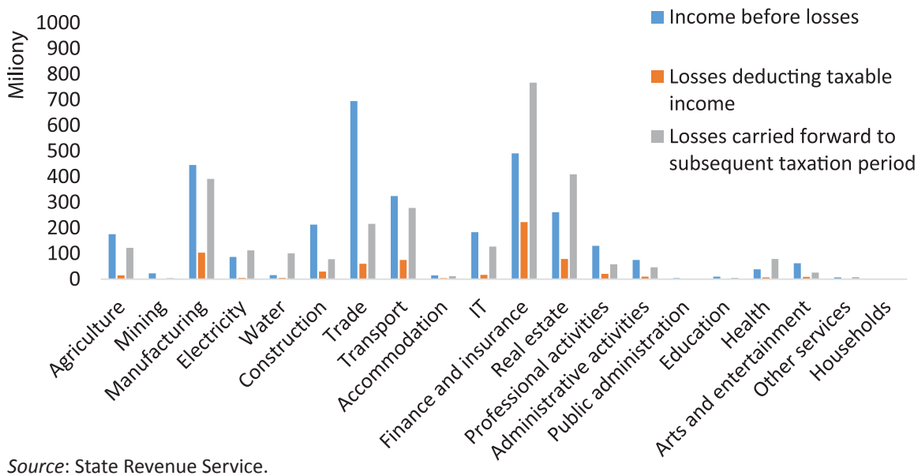
Tax expenditures associated with loss relief are high due to an accumulation of losses during the recent economic crisis, as well as excess depreciation allowances carried forward from previous years. The sectors that report the highest losses are those most affected by the crisis (see Figure 41). Tax expenditures are likely to stay high in the years to come, as these losses are large compared to companies' profitability and thus are absorbed only slowly (see Figure 42).

Figure 41. Losses carried forward to 2014 by year of generation and sector



Source: State Revenue Service.

Figure 42. Taxable profits before losses, losses deducted and losses transferred to the future, in EUR million, 2014



Source: State Revenue Service.

Loss relief is a standard feature of corporate tax systems in most countries, although the rules vary from country to country. Such rules may include time limits and anti-avoidance provisions (e.g. to prevent loss buying). As companies can make profits and incur losses in different tax periods over the business cycle, taxing profits while not allowing relief for losses would be unbalanced and unfair. Latvia used to apply an eight-year time limit on the carry forward of losses, but losses incurred from 2008 onwards are not subject to any time limit. On the other hand, Latvia has recently abolished group relief for losses, which is a significant change (the measure was introduced to offset the cost of a new provision for R&D).

Some further restriction of loss relief could be considered to limit the impact of losses on CIT revenues. For example, limiting the aggregate amount of deductions for losses carried forward in any tax period to a specified percentage (e.g. 80 percent) of net taxable profits (before such deductions) could ensure that a minimum percentage (e.g. 20 percent) of profits remain subject to tax. (Lithuania and France have a similar provision). The other option would be re-introduction of a time limit on the carry forward of losses. For example, in Poland, losses incurred by a taxpayer may be carried forward and set off against income over the five following tax years from the year the loss is incurred, but only up to 50 percent of the loss suffered in a given tax year may be deducted at once. A cap (e.g. 20%) on the amount of losses that can be carried forward in a tax period would spread the offset of losses over a longer period of time, while a time limit on the carry-forward of losses could result in the forfeiture of some losses due, for example, to insufficient profits to absorb all losses within the relevant time period. The former option may be preferable from the perspective of providing a tax revenue cash-flow benefit while allowing for all losses to be relieved in the longer term.

Other areas of tax expenditure

Other measures which might be reviewed in relation to their overall effectiveness and value for tax expenditures include the following:

- **Enhanced deduction for the acquisition of new technological equipment**. This measure, which provides for the amount of depreciation to be enhanced by a multiple of 1.5, is currently available for new technological equipment acquired in the period 2009-2020. Although withdrawing this relief now in the context of its intended application to 2020 might undermine confidence in the tax regime for investment in the technology sector, a review of the effectiveness of the measure may be appropriate.
- **Tax rebates on investment**. The tax rebate for investments in supported investment projects is 25 percent for amounts up to EUR 50m and 15 percent for amounts from EUR 50m to EUR 100m. Projects are given this support based on an assessment by the Ministry of Economics and approval by the Cabinet. To apply a tax rebate for amounts exceeding EUR 100m (the maximum tax rebate applied is 11.9 percent), approval from the Cabinet and European Commission is necessary. Again, the costs and benefits of this program are worth reviewing.

- **Holding company regime**. A holding company regime was introduced in 2013 and provides a tax exemption for dividend income and capital gains earned by a company in respect of shares held in subsidiaries and other companies. Many other countries provide such a regime and generally the objective is to encourage companies to locate their headquarter operations and related functions in the jurisdiction. There is no minimum shareholding requirement in the Latvian regime, so that dividend income and capital gains from small portfolio shareholdings (e.g. quoted shares) are exempt; there may not be a significant tax cost associated with this measure, but some limitations in the relief might be worth considering, e.g. to exclude shareholdings below 10 per cent.
- **Triple deduction for R&D expenditure**. This measure, which provides an enhanced deduction for qualifying R&D expenditure, was introduced in 2014 and could play an important role in the promotion of innovation and high-value enterprises with growth potential. There are good economic reasons to provide tax relief for investment in R&D, given the considerable risks associated with such investment and the large externalities arising from R&D. At the same time, it is desirable to ensure that the measure is focused on genuine R&D activities and that provision is made for effective oversight of the relief, including assessment and validation of R&D expenditure in specific cases, where appropriate (see Box 4 for the experience from Ireland).

Box 4. Validation of claims for R&D Tax Relief: Approach taken in Ireland

Many developed countries provide tax relief for companies engaged in R&D activities, as Latvia does through the enhanced deduction for R&D expenditure. Tax relief granted under these provisions can be substantial, so appropriate arrangements to evaluate claims, as well as requirements that companies maintain detailed documentary evidence in support of their claims, are important.

In Ireland, companies can claim on their annual tax return a credit of 25 percent of qualifying R&D expenditures made within the EU. The claim must satisfy two tests:

- The science test. Qualifying R&D activities involve basic research, applied research or experimental development which aims to achieve scientific or technological advancement and to resolve scientific or technological uncertainty.

- The accounting test. Detailed records should be maintained demonstrating that the correct amount of expenditure on qualifying R&D activities has been claimed. Claims are subject to audit.

Records required to satisfy the science test include: (i) a description of the goals and methods to be used, including the hypothesis advanced and how it is to be tested; (ii) a justification of the necessity for each major step and indicators used to determine whether goals are met; (iii) information on work progress and conclusions; and (iv) evidence that the research has not already been undertaken, perhaps including a comprehensive literature review.

The legislation provides that Revenue may enlist the help of experts with specialized knowledge to determine whether an activity qualifies for relief. Experts are required to sign a confidentiality agreement with Revenue, and Revenue has to notify claimant of the expert's identity and the information that will be disclosed. A company can object to an expert if it believes there is a conflict of interest, and has the right to appeal Revenue's decision. An expert may be required to give evidence before an appeals board or a law court if his or her opinion is disputed by the claimant.

Records required to meet the accounting test include details of the allocation of resources and associated costs for each stage of a project. Detailed targets and deliverables that are clearly related to the project goals should be directly associated with relevant accounting records. Records containing the following information, if relevant, are required:

- The dates of commencement and termination of the project. Costs incurred after the R&D phase is completed do not qualify for the relief;

- A project plan with appropriate milestones and deliverables for management of the project;

- Details of progress made against the project plan;

- Details of the personnel involved in the project, their qualifications and the amounts of their time allocated to the project;

- The location where the R&D activities took place and a breakdown of costs associated with the location (e.g. apportionment of light, heat etc.);
- Details of any amounts paid to institutions of higher education or non-academic subcontractors, and the qualifying R&D activity carried out by them on behalf of the company; and
- Details of the methods and bases of apportionment of all expenditure associated with the R&D.

The required records should generally be available within a company for its own internal purposes. Companies may consult with their local tax office or case manager if they are uncertain about the adequacy or suitability of their records.

The complexity of Latvia's taxation of business income creates distortions and inequalities. Like most countries, Latvia applies a single rate to all businesses subject to the corporate income tax regime. However, with the introduction of the microenterprise tax, the tax rate varies by firm size and income, leading to a proliferation of differing rates (Table 9; see the detailed discussion of microenterprise taxation below). There is also an option for a fixed tax (the "patent payment") for personal economic activity in particular professions, such as crafts, consumer services, floristry, photography, beauty services, private household services, home care services, and gathering of forest and meadow crops for trade. Both patent payments and the micro-enterprise tax comprise the mandatory social insurance payment and the PIT as well as the CIT. Finally, business income from an unincorporated small business could be taxed as PIT at the 23 percent tax rate, topped up by the SSC (the self-employed total SSC rate equals 30.58 percent of gross earnings). For the CIT or the micro-enterprise regime, distributed profits paid to resident individual shareholders are taxed at a 10 percent dividend tax. For the owner of the small business there are no special rules related to wages and dividends received by the owner, leaving scope for arbitrage between labor and capital income.

Tax treatment of owners of closely-held corporations and workers requires a solid split between labor and capital incomes. Taking into account double taxation, the effective tax rates on dividends and capital gains for owners of closely-held firms are, respectively, 23.5 percent and 27.75 percent. These rates are slightly above the rates of the PIT, but much below the rates of the PIT and SSC together. Given that the PIT is lower than the effective tax rates on capital incomes earned by individual shareholders of closely held companies, it may not be beneficial for an individual to set up a firm to avoid paying PIT on capital incomes. However, depending on how much entitlements individuals get in return for their SSCs, it could be beneficial to start a closely-held company to avoid paying SSCs. Also, earnings can be accumulated and retained within a close company to avoid tax on dividend income. Such forms of tax arbitrage can be avoided by securing a good split between labor and capital incomes. Like in some Scandinavian countries, it may be useful to introduce a fictitious return of, say, 10 percent on invested corporate equity. These dividends are taxed, first, at the corporate level at a rate of 15 percent, and, second, in the PIT at a rate of 10 percent. Any remaining corporate profits, after interest is deducted, is then considered labor income for the entrepreneur and taxed at the rate of the PIT of 23 percent PIT-rate plus the SSC-rate of 30.5 percent or 34.1 percent (self-employed or employee SSC-rate) (see also Sørensen, 1999). In framing specific measures to provide for an appropriate split between labor and capital income, it may be useful to draw from the experience with such measures in Scandinavian countries.

Table 9. Taxation of business income in Latvia, January 2016

Micro enterprise				Regular regime			Lump sum
Legal form	Small capital LTD	Individual merchant	Self employed	Small capital LTD	Self employed	Individual merchant	Purchase of a patent
Acronim	*sLTD*	*IM*	*SEP*	*sLTD*	*SEP*	*IM*	*PP*
Registration	Commercial Register SRS	Commercial Register	SRS	Commercial Register	SRS	Commercial Register	SRS

Micro enterprise				Regular regime			Lump sum
Legal form	Small capital LTD	Individual merchant	Self employed	Small capital LTD	Self employed	Individual merchant	Purchase of a patent
Criteria				Criteria			
Income	Annual turnover < EUR 100,000	Annual turnover < EUR 100,000	Annual turnover < EUR 100,000z	Turnover	Net income	Annual turnover < EUR 284,600	Certain economic activities
No of employees	<5 (all are natural person)	-	-	-	1	>5 person	-
Monthly gross wage	<EUR 720 per month	<EUR 720 per month	<EUR 720 per month	-	-		-
Personal income tax							
Personal income tax rate	-	-	-	23%	23%	23%	Monthly patent fee EUR 43 to EUR 100
Untaxed minimum	-	-	-	yess	yess	no	no
Tax exemptions	-	-	-	yess	yess	no	no
Micro enterprise tax	9%*)	9%*)	9%*)	-	-	-	-
Social Security Contributions							
Employee's SSC	-	-	-	23,59%	30,58% from min. annual taxable base	30,58% from min. annual taxable base	-
Employee's SSC	-	-	-	10,50%			-
Corporate income tax	-	-	-	15%	-	-	-
Divident	10%	-	-	10%	-	-	-

*) Micro-enterprise tax rate applied to the turnover of a micro-enterprise from EUR 7,000.01 to EUR 100,000 is 12 percent, starting from the fourth year of economic activities after the status of a micro-enterprise tax payer , if turnover of a micro-enterprise is above EUR 100,000 the rate of 20 percent is being applied to the surplus. If a micro-enterprise has not had any turnover within the taxation period (calendar year) or the amount of the calculated micro-enterprise tax does not exceed EUR 50, the micro-enterprise tax of EUR 50 applies.

International comparisons of average and marginal effective tax rates suggest that Latvia's CIT system imposes low investment distortions. Average and marginal effective corporate tax rates (EATRs and EMTRs), which take into account both the rates and the tax base, are particularly useful in analyzing how corporate taxation affects capital formation.[28] EMTRs and EATRs in Latvia are low by EU standards (see Figure 43) and much lower than high-income comparators except for Ireland. However, Latvia's EMTR is not low compared to neighboring countries. Lower EMTRs in Estonia and Lithuania lower the burden for a

[28] The AETR affects a company's decisions about where to invest, since investors will—other things equal—prefer to invest where the proportion of profit taken in tax is lowest. Once the location decision is made, the METR determines how much will be invested, since investors will invest more the lower the pre-tax rate of return they need to earn to pay the taxes due and still achieve the required after-tax return.

(small) additional investment. In Estonia, which does not have a conventional CIT, the EMTR is extremely low (below 4 percent) because investments financed through retained earnings and debt are not taxed (the costs of debt—interest—and the costs of equity via retained earnings are both de facto deductible from the CIT). Box 6 gives an overview of the Estonian CIT system.

Figure 43. Effective marginal and average corporate tax rate, 2014, in percent

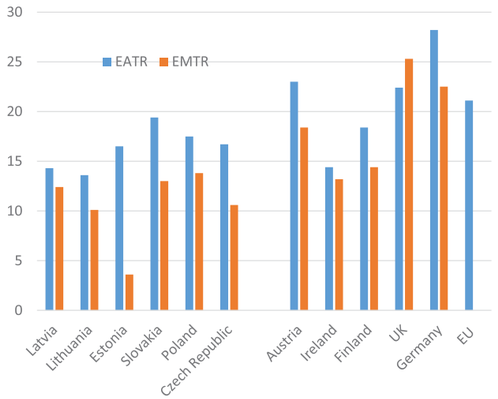
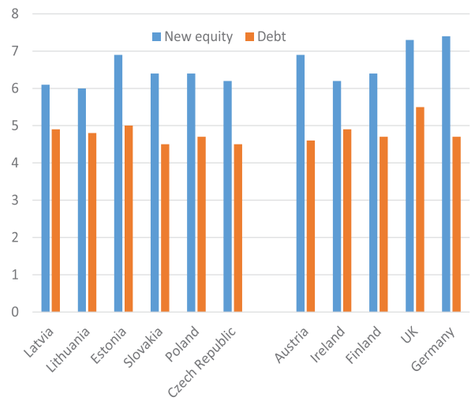


Figure 44. Cost of capital by financing method, 2014, in percent



Source: ZEW.

There are differences in the effective CIT rates for certain types of assets in Latvia, as is also true for all comparator countries except Estonia. In Latvia the lowest ATRs apply to investments in intangible assets and machinery (Table 10), as is true in other EU countries; the highest apply to investment in industrial building assets, unlike the EU generally, where financial assets bear the highest tax burden. These differences mainly reflect variations in depreciation allowances: in Latvia the tax allowance for depreciation for machinery and intangibles overcompensates the actual economic depreciation rate. Since Latvia's relatively low CIT EATR[29] for intangible assets may encourage overinvestment in intangibles at the expense of other types of assets, removing differential tax treatment of assets could improve the quality of investment by reducing tax-induced distortions. More generally, the current depreciation regime could be reviewed to enhance CIT yield by restricting accelerated depreciation and the tax rebate for new technology equipment and better aligning tax depreciation with economic depreciation. Also, the adequacy of systems to validate claims for the enhanced R&D deduction should be examined.

Table 10. Effective tax rates, Latvia and other EU Countries

			EATR							
	CIT	Overall mean	Industrial buildings	Intangibles	Machinery	Financial assets	Inventories	Retained earnings	New equity	Debt
Latvia	15	14.3	18.6	12.2	12	14.6	13.9	16.1	16.1	10.9
Lithuania	15	13.6	17.4	10.9	12	14.6	13.2	15.5	15.5	10.2
Estonia	21	16.5	16.5	16.5	16.5	16.5	16.5	15.8	23.1	15.8
Slovakia	22	19.4	19	17.9	18.2	21.5	20.4	22.1	22.1	14.4
Poland	19	17.5	18.4	15.5	18.4	18.5	16.7	19.8	19.8	13.2
Czech Republic	19	16.7	16	16	15.1	18.5	17.6	19	19	12.4
Austria	25	23	23	23.4	22.3	24.4	22	26	26	17.3
Ireland	12.5	14.4	12.8	11.7	11.5	24.4	11.6	16.2	16.2	11
Finland	20	18.4	19.6	18.7	14.4	19.5	19.5	20.7	20.7	13.9
UK	21	22.4	31.6	19.6	19.9	20.5	20.5	25	25	17.7
Germany	31	28.2	29.1	25.6	28	30.7	27.6	31.5	31.5	22.1
EU average	23.1	21.1	22.5	19.2	19.5	23.2	21.0	23.6	23.9	16.4

Source: ZEW.

The CIT system in Latvia may distort corporate financial decisions. The deductibility against the CIT of interest payments, but not in general payments on equity, may offer an incentive for corporations to use debt rather than equity financing. This potential distortion is illustrated by the difference in the cost of equity capital versus debt (see Figure 44). For Latvia, the difference in the cost of capital financed with equity and debt is similar to other countries in the EU and in the region. In principle, this distortion at the corporate level can be offset by taxes at the personal level, e.g., if the PIT on interest is higher than on dividends and capital gains. This is not the case in Latvia, where interest and dividends are taxed at 10 percent and capital gains at 15 percent. In 2009, Latvia introduced a notional-interest deduction, which was intended to reduce the tax distinction between debt and equity financing, but it was abolished in 2014.

The asymmetric tax treatment of debt and equity should be reviewed to reduce distortions in the financing of investment. In Latvia interest is taxed only once, since it is deductible at the corporate level. Hence, the effective tax rate on interest equals the 10 percent-rate of the PIT. However, dividends and capital gains are subject to higher effective marginal tax rates at, respectively, 23.5 percent and 27.75 percent. This asymmetric tax treatment of interest, dividends and capital gains implies that from a tax perspective debt financing is preferred over equity financing at the corporate level. It would be optimal to remove or mitigate the impact of any fiscal asymmetry between debt and equity. One possible approach would be to treat debt and equity in the same way at the corporate level by providing a deduction for an imputed cost of equity.

The distortion on the financing decisions of firms could be eliminated through an Allowance for Corporate Equity (ACE), a Comprehensive Business Income Tax (CBIT), or a combination of both where costs of equity and debt are both partially deductible for the CIT (see also De Mooij and Devereux 2011). In a pure ACE system, the costs of debt and equity are both deductible, where the costs of equity are based on an imputed rate of return. Under a CBIT neither the costs of debt nor the costs of equity are deductible. Both the ACE and CBIT systems eliminate the incentives for excessive leverage. The ACE removes all investment distortions as well. However, introducing an ACE requires a higher CIT-rate or an increase in other taxes, since the allowance reduces the corporate tax base. Hence, the marginal tax rate on the normal return becomes zero at the expense of a higher tax rate on above normal returns. The latter will strengthen the incentives for profit shifting and moving firms towards countries with lower taxes on above normal returns. The CBIT, on the contrary, raises the effective tax rate on the normal return on invested assets and thereby discourages investment. However, since the CIT-base is broadened it also allows for a lower tax rate. Hence, the tax rate on above normal returns is lowered at the expense of a higher tax on the normal return on invested assets. The latter will attract foreign firms and profits. Both distortions in location and profit allocation, as well as investment distortions, are important empirically, see De Mooij (2005), Griffith et al. (2010) and Auerbach et al. (2010).

If a tax reform is required to be revenue-neutral, then the government could introduce a *partial deduction* for the costs of both debt and equity, which is a combined ACE/CBIT. The Latvian government abolished the ACE in 2014 for revenue reasons (i.e., to finance deductions for R&D). However, the costs of both debt and equity could be made deductible up to, say, 50 percent of the total financing costs. The optimal fraction of costs of debt/equity that should be made deductible depends on the trade-off between investment distortions on the one hand (CBIT) and the profit shifting and location distortions (ACE) on the other hand. The partial deduction for the costs of equity is then financed by reducing the deduction for the costs of debt. Such a partial deduction for the costs of financing corporate investments would not remove the tax distortion on corporate investments.

One should be careful in implementing tax reforms where deductions for equity are introduced. For example, reforms that reduce the deductibility of interest costs and phase in the deductibility of equity costs should be implemented gradually.

[29] The effective tax rate (ETR) is measured as the ratio between the present value of taxes and the present value of pre-tax income expected by a company from alternative new investment projects that can be either marginal (effective marginal tax rate) or inframarginal (effective average tax rate) in their post-tax returns.

Immediate introduction of an (partial) ACE could provide a free lunch to existing shareholders who receive a (partial) exemption of taxes on their invested equity. Accordingly, it is desirable to ensure that an ACE is limited to new capital issues only. In addition, measures should be taken to avoid individuals from transforming old shares into new shares so as to benefit from the new CIT-regime. The introduction of an ACE, whether on a full or partial basis, will require robust anti-avoidance provisions to counter aggressive tax planning using intra-group financing arrangements and other structures to derive a tax advantage. The need for anti-avoidance provisions is acknowledged in the latest proposal from the European Commission on a Common Consolidated Corporate Tax Base (CCCTB). The Commission's proposal on CCCTB provides for an allowance for corporate equity (referred in the proposal to as an 'allowance for growth and investment') to reduce the existing debt bias in EU member States corporate tax systems, which would be accompanied by various anti-avoidance measures to deal with intra-group loans, cash contributions, transfer of participation, re-categorization of old capital as new equity, creation of subsidiaries and double dipping structures. Measures to provide for a partial deduction for both equity and debt costs would have to take into account new interest limitation rules included in the EU Council Directive to counter corporate tax avoidance (Council Directive (EU) 2016/1164 of 12 July 2016—OJ L193/1 of 19 July 2016)[30]. These rules are designed to reduce the scope for corporate groups to obtain tax advantages using debt finance and will limit the deductibility of net interest expenses to a fixed ratio of gross operating profit (i.e. up to 30 per cent of earnings before interest, tax, depreciation and amortization) or by reference to the overall net interest/ earnings ratio of the consolidated group. The rules are, however, focused on debt shifting within multinational groups rather than on addressing the inherent debt bias in many CIT systems, including Latvia's, that can lead to excessive third party debt for corporate groups as a whole as well as for single (i.e. standalone) enterprises. Also, the thin capitalization rules in Latvia, which restrict the deduction of certain interest payments made by a company to another entity, would also need to be modified or removed in the context of a partial deduction for equity and debt costs.

Box 5. Overview of the Estonian Model of CIT

Estonia has a unique system of corporate income taxation, under which company profits are not subject to CIT until they are distributed to shareholders. When profits are distributed, either by way of dividends or through other payments which are treated as implicit distributions (e.g. fringe benefits for shareholders, gifts, entertainment expenses and other expenses not related to business activities, share buybacks or transactions with related parties not at arm's length), they are subject to tax chargeable on the company at the flat income tax rate (currently 20 percent). The tax base is the net amount of profit distribution and payments/ benefits which are treated as a profit distribution. The corporate income tax is calculated by multiplying the tax base by 20 percent and dividing this by 80 percent (e.g. a dividend of EUR 100 would give rise to a tax charge of EUR 25).

In contrast, under traditional CIT systems profits are taxed at the company level as they are earned. Distributions out of company profits are generally subject to a reduced level of income tax in the hands of individual shareholders, taking account of corporate income tax already paid by the company, while provision is made for tax exemption or relief from double taxation in the case of profit distributions to corporate shareholders and shareholders resident in tax treaty counties.

It should be noted that, while CIT in Estonia arises on the payment of a dividend or other distribution, it is chargeable on the company rather than the shareholder and there is no further taxation of dividend income in the hands of the shareholder. Under the EU Parent Subsidiary Directive, Member States are required to exempt from withholding tax dividends and other profit distributions paid by a subsidiary in one Member State to its parent company in another Member State with a view to eliminating double taxation of such income in intra-group situations. However, as tax payable on profit distributions is treated as a tax on corporate income chargeable on the company rather a withholding tax on dividends, Estonia's CIT regime is considered to be compatible with the Directive. Similarly, CIT payable on the distribution of profits to a shareholder resident in a tax treaty country cannot be reduced by virtue of the relevant tax treaty. As profits are only taxed once in Estonia, i.e. upon distribution, there is no double taxation and hence no requirement for double taxation relief.

The Estonian system of CIT deferral was introduced in 2000 to facilitate investment and the development of enterprise. The system was put in place at a time when it was difficult for companies to access external financing due to undeveloped capital markets. With retained profits not subject to CIT, the deferral of tax on profits effectively provides companies with State financing on relatively favorable terms.

Estonia's CIT system has a number of potential advantages:

[30] See http://www.consilium.europa.eu/en/press/press-releases/2016/07/12-corporate-tax-avoidance/

- It encourages investment and enterprise by allowing companies to retain their profits for re-investment in the business. Tax only applies where profits are taken out of the company. Profits can be accumulated and retained indefinitely without any charge to CIT arising. The system is helpful to start-up companies with growth potential, which may have problems accessing finance at reasonable rates in their early years of development. The system is also attractive to FDI—while CIT is payable where a foreign-owned subsidiary in Estonia distributes profits to its non-resident parent company, payments of interest or royalties can be made without triggering a CIT charge as long as they are not regarded as actual or deemed dividends.

- The Estonian system is simple and easy to administer. Under traditional systems, to arrive at the amount of taxable profits, the company's profits are first calculated according to accounting rules and the accounting profit is then subject to various adjustments under tax law, e.g. certain expenses not related to the business are disallowed and tax depreciation rules apply instead of accounting depreciation. In Estonia, distributed profits reflect accounting profits and there is no need for tax depreciation (e.g. capital allowances) or other computational rules such as thin capitalization rules limiting interest deductions. Also, there is no need for special rules in regard to carry forward and offset of losses as under accounting rules profits can only be distributed net of any losses incurred in earlier years.

- Under the Estonian system, there is no double taxation of dividends since profits are only taxed once, i.e. upon distribution.

- The Estonia system appears to be compatible with EU law, including as mentioned above the Parent Subsidiary Directive, and it is not considered to be a harmful tax regime under the EU Code of Conduct on Business Taxation. All profits that are distributed are subject to CIT, whether the shareholders are resident or non-resident. There are no special 'ring-fencing' schemes to treat foreign investors more favorably than domestic investors.

- Estonia is not regarded as a zero tax jurisdiction since profits are chargeable to tax at the 20 percent rate of income tax, albeit on distribution only. Estonia does not appear to have a 'subject to tax' issue with tax treaties since profits are subject to the 20 percent statutory rate, although there may be an issue with the effective tax rate on company profits in particular cases.

How successful the Estonian CIT system has been in practice is open to debate. In terms of international competitiveness, it is considered to be the most competitive corporate tax system in the OECD. The country appears to have a very good record in facilitating start-up enterprises in the technology sector, although this has been due as much to non-taxation factors (e.g. education and skills development, regulatory framework) as it has been to the tax system.

There are a number of potential disadvantages/risks in adopting a CIT regime similar to that in Estonia:

- With CIT payments dependent not only on profitability but also on how much profits are distributed, the revenue yield is uncertain and unpredictable. The tax base would be narrower as companies do not normally distribute all of their profits. Also, under an Estonian type of regime, companies would be less inclined to distribute their profits than would otherwise be the case as it would result in a higher tax liability. The likelihood, therefore, is that there would be a significant drop in CIT revenues (at least in the short term) following a move from a traditional CIT system to one based on profit distributions.

- The non-taxation of retained earnings would provide an incentive for individuals to use a company structure to earn and accumulate income and avoid personal income tax on such accumulated earnings. However, this could perhaps be countered by a presumptive provision deeming a closely held company to have distributed a specified percentage of its profits and applying PIT on the deemed distribution. Alternatively, a surcharge on a percentage of earnings not distributed within a specified period of time could be applied, but this would seem to defeat the original purpose of the distribution-based taxation system.

- It is by no means clear that a tax exemption for retained earnings will result in productive investment or the most economically efficient use of such earnings. Companies that retain their profits and do not distribute will not necessarily be faster growing than those that distribute a portion of their profits (e.g. with a view to giving shareholders a return on their investment and enhancing the market price of their shares). Recent empirical studies (Hazak 2009) suggest that the change in the Estonian CIT regime in 2000 has meant that retained earnings are held in large part as liquid assets and not invested in productive assets. A CIT system which discourages profit distribution may not lead to the most efficient

investments and may reduce the proportion of investment decisions subject to allocation by the capital market.

- A changeover to an Estonian type regime would attract international attention, not all of which would be favorable in the current environment. To date the Estonian CIT regime, with a 20 percent tax rate, does not appear to have attracted much adverse attention and It is not clear if there have been situations where counter measures (e.g. CFC measures) have been invoked by other countries. Nonetheless, by not taxing profits that are withheld in the company, the Estonian regime has been described as providing a conglomerate bank for company profits, with MNEs using Estonian companies to finance other companies. Similarly, some countries consider that the Estonian regime allows intra-group restructuring that enables profits to leave Estonia without taxes being paid as they are transferred in the form of loans with low or no interest.

- The focus of recent EU and OECD debate on profit shifting and base erosion (BEPS) has been on aligning taxation with real economic activity and ensuring effective taxation of multinational enterprises carrying on activities across national borders. In this context, it is the effective tax rate on profits that counts (rather than the statutory rate) and a distribution-based CIT regime can result in low or no effective taxation of company profits. The yield from CIT in Estonia, estimated at approximately 5.4 per cent of GDP, is below average and, while there was a dramatic fall in CIT revenues in the early years following the introduction of the system in 2000, CIT revenues recovered in subsequent years

- There may be more targeted, cost-effective ways of facilitating start-up businesses and investment in SMEs without having to provide a blanket exemption for all retained earnings.

In effect, the Estonian system of CIT is a hybrid system that lies somewhere between a classical CIT system and an ACE (Allowance for Corporate Equity) system of CIT (see main text). When company equity is solely internal finance, the Estonian system becomes equivalent to an ACE system, whereas it is a classical system when all equity is external finance. Moving to an Estonian system would reduce the debt bias in the Latvian classical system and provide more favourable treatment of corporate equity derived from retained earnings. However, this also would narrow the tax base and reduce tax revenues in the absence of compensating measures, such as an increase in the CIT rate or an increase in other taxes (labour, consumption etc.). Higher CIT rates can potentially make up for the revenue shortfall, with the tax burden shifting from normal returns to above normal returns to corporate equity capital. This in turn may provoke firms to move location or profits (e.g. through manipulation of transfer pricing and debt/equity shifting in MNEs). On the other hand, higher taxes on labour or consumption would further distort labour and goods/ services markets, with potentially serious consequences in terms of greater inequality. It also goes against the policy objective of raising the relative tax burden for capital income in Latvia rather than lowering it. Clearly, therefore, the policy trade-offs are quite severe and significant.

While the Estonian CIT regime based on profit distributions may have worked for Estonia, it is not clear that such a model would be a sustainable policy option for Latvia in the current circumstances. If the objective of the Latvian Government is to maintain and increase the yield from CIT, then the Estonian model, which allows for indefinite deferral of CIT payments, may not be the way to go as the risks in terms of vulnerability and uncertainty of tax yield could be significant. Latvia already has a low-rate CIT regime which can be fine-tuned to limit inefficient tax expenditures and enhanced to provide more effective and targeted support for investment in innovative enterprises and new business start-ups.

With increased global economic integration and competition for resources, countries are seeking ways to compete for investment in regional and global markets. Countries may resort to granting tax incentives to boost rates of return on potential investment and address high risk premiums to alleviate internal market failures or minimal infrastructure, or to compensate for the lack of natural geographical or resource export potential. These incentives can exact significant costs in terms of revenue forgone; worse, as competitor countries issue their own increasingly generous incentives to remain competitive, the result may be a race to the bottom: by using the tax system to attract investment, countries make themselves worse off.

The United Nations estimates that about 60 percent of international trade happens within multinational enterprises (MNEs)—rather than between MNEs (UNCTAD).[31] Within the last decade the number of parent firms has tripled and the number of foreign affiliates has increased six-fold. When an MNE group establishes itself in a new market by incorporating or acquiring a local subsidiary or establishing a branch, the local affiliate will generally engage in transactions with other members of the MNE group. *Transfer pricing* describes the process through which these affiliated companies set prices for intra-firm

[31] http://www.africaneconomicoutlook.org/en/in-depth/public-resource-mobilisation-and-aid/challenges-for-african-policy-makers/tax-base-issues/

cross-border transactions, such as goods and services, capital, and intangibles. To avoid taxes and thus heighten profitability, it is common practice for MNEs to shift profits and losses between low- and high-tax jurisdictions. This can result in transfer *mis*-pricing, leading to large tax base losses for governments and large gains for companies. Although by nature, transfer pricing is not illegal or illicit, as evidenced in recent events[32] several MNE's use sophisticated transfer mispricing practices to avoid taxes. The revenue that may be lost can be high; adopting a transfer pricing framework that is transparent and viable can bring in more yield revenue.[33]

Both tax avoidance and CIT base erosion can be measured through tax expenditure analysis (incentives) and estimated through transfer pricing or audit adjustments as well as by monitoring the level of economic activity by related parties through tax returns to estimate possible mispricing.[34]

Main conclusions and directions for CIT reform:

The design of a CIT regime must strike a balance between several goals: generating a stable and adequate stream of revenues, limiting the scope for tax arbitrage, helping to promote enterprise and innovation, avoiding distortions and excessive administrative requirements that may impair investment, and promoting a more equitable income distribution. Latvia has a low rate CIT regime which could be considered to be competitive in the wider international arena. However, increasing global competition for investment is exerting downward pressure on CIT rates, while Latvia's close proximity to what may be regarded as the most competitive CIT regime in the OECD provides additional challenges. Various aspects of the existing CIT regime in Latvia contribute to a balanced and well-functioning tax system. However, there are several areas where the effectiveness of the regime could be enhanced.

- CIT revenue generated is relatively low by European standards, even controlling for the low statutory rates. Tax expenditure is about 1.5 a percent of GDP—not high relative to European averages, but nevertheless significant given the low CIT rate and narrowing of the tax base. Some curtailment and re-focusing of tax allowances may be required to broaden the tax base, including removal or restriction of certain investment incentives and possibly a limitation of loss relief.
- While tax relief for investment in R&D should continue to play an important role in assisting innovative enterprises, it is desirable to ensure that the measure is effective in encouraging real R&D and that there is an appropriate system for validating claims for the enhanced deduction for R&D expenditure.
- The bias in favor of debt finance in the Latvian tax system could be reduced in a revenue-neutral way by providing a *partial deduction* for the costs of both debt and equity, which would be a combined ACE/CBIT system. The optimal fraction of costs of debt/equity that should be made deductible depends on the trade-off between investment distortions on the one hand (CBIT) and the profit shifting and location distortions (ACE) on the other hand. This measure would need to be accompanied by robust provisions to prevent tax avoidance through intra-group financing arrangements and other contrived structures that result in double non-taxation. In addition, account would need to be taken of new rules to be implemented under EU Council Directive 2016/1164 of 12 July 2016 (OJ L193/1 of 19 July 2016) aimed at limiting the scope for debt shifting within corporate groups.
- The current depreciation regime should be modified to remove elements of accelerated depreciation and to ensure that tax depreciation is more closely aligned with economic depreciation. This could include updating and simplifying the range of asset categories and, if appropriate, introducing depreciation on a straight line basis for specific asset categories (e.g. buildings and other long-life assets). A review of the enhanced depreciation for new technological equipment should determine if it merits continuation or withdrawal on a phased basis.
- Introduction of an overall limit on the offset of losses carried forward and the effectiveness of provisions to prevent avoidance/abuse should be considered. The effect of withdrawing group relief should be evaluated and the re-introduction of group relief on a modified basis explored—many countries provide group relief to a greater or lesser extent, e.g. group relief could be allowed for current year losses only, but not for losses brought forward.
- Taxation of the owners of closely-held corporations could be made more effective by mandating a clear split between labor and capital income**.** For example, a fictitious return on equity of 10 percent could be assumed for proprietors of closely-held companies who work in their own firm, and taxed at 10 percent. Any remaining income could be considered

[32] A December 2012 article discussed the tax practices of Starbucks, Amazon, and Google, criticizing their policy of using lower-tax jurisdictions within Europe, like Ireland, Luxembourg and Switzerland, to record much of the revenue they generate in higher-tax countries like Britain, France, and Germany. http://www.nytimes.com/2012/12/04/business/global/british-lawmakers-accuse-mulitnationals-of-immorally-avoiding-taxes.html.

[33] For instance, (1) in 2010 China collected **¥10.272bn** (about US$1.5bn) as a result of its approach toward transfer pricing issues(PwC); (2) unofficial reports indicate that India is estimated to have collected about US$9,500m in additional taxes as a result of transfer pricing adjustments between 2002 and 2008 (Deloitte); and (3) the UK)has reported transfer pricing yields of **£519m** in 2007/8; £1,595m in 2008/9; £1,039 in 2009/10; and **£436m** in 2010/11.

[34] The usual suspects for related party tax avoidance are transfer mispricing especially of services, interest rate deductions, and deductions for use of intellectual property by parent companies.

- wages that are taxed under the PIT and SSC. The experience in Scandinavian countries could provide useful information for establishing this system.
- Measures should be taken to reduce base erosion and profit shifting in the context of internationally agreed actions to counter BEPS and reduce the scope for international tax avoidance by multinational enterprises. This should include effective implementation of the EU Council Directive on corporate tax avoidance and other anti-BEPS measures adopted by the EU and OECD.

Latvia Tax Review

Equitable Growth, Finance, and Institutions
Europe and Central Asia Region

MICROENTERPRISE TAXATION

5. MICROENTERPRISE TAXATION

Latvia's microenterprise tax (MET) regime was introduced in 2010 to boost employment during the recession. The simplified tax reporting regime and reduction in tax rates was intended to help unemployed workers start new businesses, expand employment in small enterprises, and reduce incentives for informality. The MET also aims at simplifying tax administration, as the number of tax payments were reduced to one every three months compared to seven payments a year for medium-size enterprises on average.[35] To qualify for the MET regime, enterprises need to fulfill three criteria: (i) the sales volume (turnover) does not exceed EUR 100,000 in the calendar year; (ii) the number of employees (including the enterprise owner) with positive earnings does not exceed five in any month; and (iii) the monthly income of any employee or the owner of the microenterprise does not exceed EUR 720, excluding the dividends calculated from the profit of a microenterprise.

1**Firms can significantly lower their tax burden by participating in the MET.** MET participants pay a flat rate of 9 percent on sales volume (turnover), while participants in the general tax regime pay: (a) the personal income tax (PIT) rate of 23 percent; (b) the mandatory state social insurance contributions (MSSIC) of 34.09 percent for employees (23.59 percent for the employer and 10.5 percent for the employee) or 30.58 percent for self-employed individuals; and (c) the corporate income tax (CIT) of 15 percent (Table 11).[36] While MET participants are not entitled to the deductions and allowances available under the general tax regime, the 9 percent rate under the MET is well below the 36 percent average rate faced by a self-employed worker earning the maximum gross income allowed under the MET regime (Table 12).[37] Thus, few employed workers with incomes below this level have an incentive to file their taxes as regular self-employed. Just 123 individuals left the MET regime for self-employment in 2015 (Table 58), while flows from self-employment to the MET regime were much larger (Figure 45).

Table 11. Tax rates MET-regime vs other legal forms, in percent

	MET self employed	MET company	Self-employed	Closely-held company	Worker
PIT	-	-	23	23	23
SSC (employee)	-	-	30.58	10.50	10.50
SSC (employer)	-	-		23.59	23.59
Allowances / untaxed minimum	No	No	Yes	Yes	Yes
CIT	-	-	-	15	-
MET	9	9	-	-	-
Dividend	-	10	10	10	10
Capital gains	-	-	15	15	15

Table 12. Comparison self-employed and microenterprise

Gross income 720 euro per month, eligible for exemption for dependents

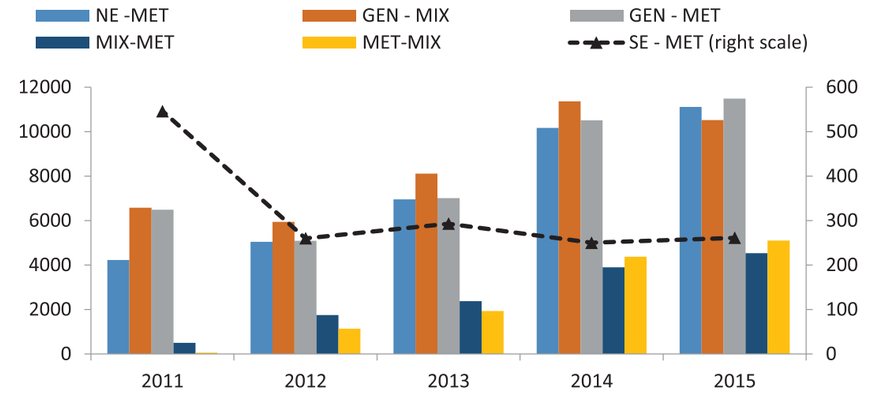
	Self employed	Microenterprise
Gross earnings	8640	8640
Tax rate	23%	9%
SSC	30.58%	0%
General tax exemption	900	0
Exemption for dependents	1980	0
Total tax	3082	778
Net income	5558	7862
Average tax rate	36%	9%

[35] World Bank's *Doing Business 2016.*

[36] Closely-held microenterprises do pay a tax of 10 percent on paid-out dividends, which is equal to the dividend tax on the personal level.

[37] The example assumes that turnover equals wage payments and the only costs of are labor costs, which biases the example in favor of the MET.

Figure 45. Main inflows into microenterprise regime in 2011-2015, by tax regime in the previous year
(restricted to workers with positive microenterprise earnings in 2014 or 2015)

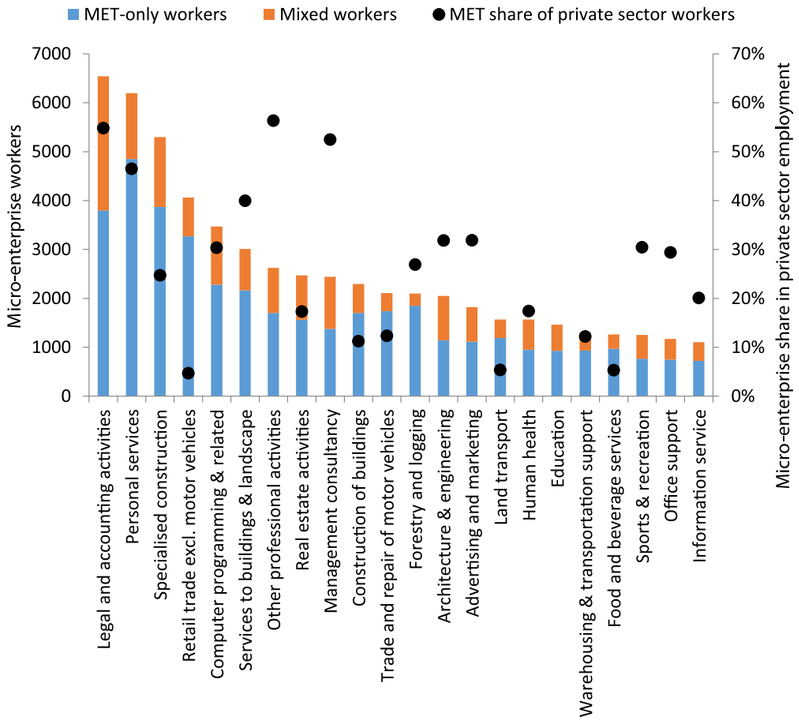


Notes: The figure is based on individual records and covers 123.3 thousand individuals with positive microenterprise earnings in 2014 or 2015 (or both). Legend: NE - "No legal earnings in Latvia"; GEN - "Only or mainly general regime earnings" (excl. those with only self-employment income); MIX - "General regime earnings for at least 6 months of the year, as well as some microenterprise earnings"; MET - "Only or mainly microenterprise earnings"; SE - "Only self-employment income".
Source: Calculations based on State Revenue Service data.

The reduction in tax rates has particularly benefited sectors where labor costs are high. The lower taxes on labor under the MET regime make it more attractive for firms where labor represents a high share of total costs than for firms with high shares of material and technical costs. Most sectors with a high share of microenterprise employment are in services that require a highly-qualified workforce (forestry, specialized construction activities, and repair and installation of machinery and equipment are among the exceptions—Figure 46).[38] Two-thirds of the average monthly number of microenterprise employees with positive earnings in 2015 (47 thousand workers) are concentrated in 20 sectors which feature the highest MET shares in private employment (but account for just 27 percent of all private sector employees).

[38] Similar results are found whether total employment or just private sector employment is considered.

Figure 46. Microenterprise (MET) workers by economic activities (2015, annual average)
Sectors with > 1000 (top panel) and up to 1000 (bottom panel) MET workers



Notes: The Figure reports annual average number of workers with positive microenterprise earnings. For Arts & entertainment, this number exceeds total number of employees with main job in the private sector, and MET share of private sector workers (144%) is not shown. *Source*: Latvia's State Revenue Service data, CSB data and staff calculation.

The availability of the MET regime may have reduced revenues. In 2015 the MET regime generated only 0.8 percent of total tax revenues. It is estimated that the MET regime resulted in 60 million euros in taxes foregone in both 2014 and 2015. This tax loss largely reflects firms switching to the MET regime to lower their tax burden. Econometric evidence shows that the share of MET payers is higher in sectors where the burden of labor taxes and profit taxes (each measured as a share of turnover in 2010) was higher prior to inauguration of the MET (ANNEX J. **MICROENTERPRISE TAXATION: FURTHER EVIDNECE ON ITS IMPACT**, Table 60). Also, sectors with larger shares of MET-only workers in 2014 experienced larger cuts (or smaller increases) in the burden of main taxes (labor taxes, profit taxes, VAT, and MET) between 2010 and 2014 (ANNEX J. **MICROENTERPRISE TAXATION: FURTHER EVIDNECE ON ITS IMPACT**, Table 56). On the other hand, the MET may have encouraged some firms to report wages formerly provided in cash. Other things equal, the share of microenterprise workers is higher in sectors where the share of employees earning no wages in 2010 was higher (ANNEX J. **MICROENTERPRISE TAXATION: FURTHER EVIDNECE ON ITS IMPACT**, Table 55).

Manipulation of wage reporting under the MET regime may have contributed to a reduction in revenues. A large share of firms participating in the MET regime report workers who earn just below the maximum of EUR 720 per month, providing strong evidence of wage manipulation. About one-quarter of monthly earnings records of MET-only workers (one-third of mixed workers) show exactly EUR 720, while the narrow band from EUR 700 to EUR 720 contains about 38 percent of MET-only (50 percent of mixed) records (Figure 47).[39] By contrast, general regime earnings of mixed workers fall in the interval from EUR 700

[39] This is based on monthly earnings records of 123 thousand individuals with positive microenterprise earnings in 2014 or 2015. For each of the two tax

to EUR 720 (inclusive) in about 2 percent of cases. Note that the distribution of earnings differs little between general regime and MET regime workers *below* 700 euros, underlining the likelihood that the dramatic difference between the two regimes in the share of workers with earnings just below the maximum threshold for MET participation represents wage manipulation.

Figure 47. Firms appear to be manipulating wage reports to qualify for the MET

Notes: Min. wage refers to minimum monthly wage (€320 in 2014 and €360 in 2015).
Source: Calculations based on State Revenue Service data (monthly records).

The MET regime may also create long-term challenges for the social security system. While 65 percent of MET proceeds goes to mandatory state social insurance contributions (planned to be increased to 74.5 percent from 2017), workers who rely mainly on microenterprises for wages pay lower social security contributions, and hence, accrue lower entitlements for pensions as well as other social insurance benefits such as unemployment insurance. This may undermine the sustainability of the social security system by lowering benefit coverage and adequacy.[40]

Employment under the MET regime has increased substantially (Figure 11 and additionally for more detail, see ANNEX J. MICROENTERPRISE TAXATION: FURTHER EVIDNECE ON ITS IMPACT**,** Table 52)**.** The number of registered taxpayers using the MET regime increased from around 7 thousand in January 2011 to around 47 thousand in January 2016, while the number of employees at microenterprises rose from around 14 thousand in January 2011 (5 percent of private sector employees) to around 85 thousand (14 percent of private sector employees) in December 2015.[41] In total, almost 104 thousand workers had positive microenterprise earnings in 2015. As a result, earnings under the MET regime have become an increasingly important source of personal income (Figure 48). And the MET regime accounted for most of the rise in [registered] employment in Latvia from 2011 to 2015. The increase in the number of workers employed only under the general tax regime accounts for much less than a half of the total increase in employment in 2011-2013, less than a quarter in 2014, and becomes negative in 2015 (see ANNEX J. MICROENTERPRISE TAXATION: FURTHER EVIDNECE ON ITS IMPACT, Table 52).).[42]

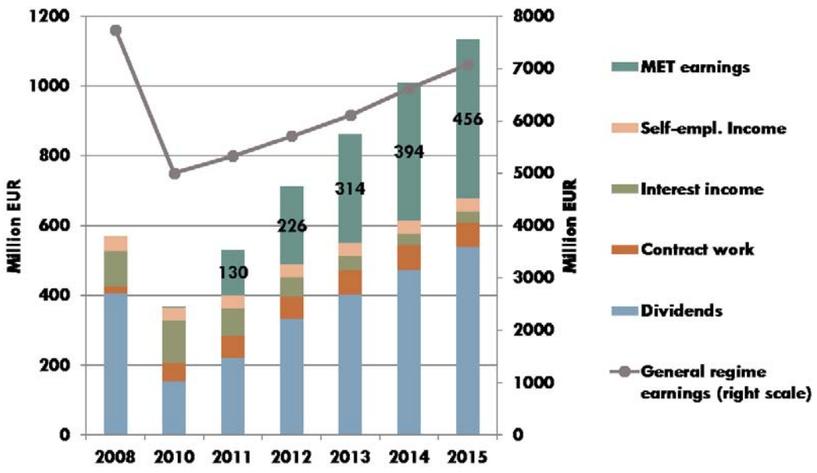
regimes, only the job with the largest pay packet in the given month is considered.
[40] The stark reduction in social security contributions separates the Latvian regime from other small business regimes across the OECD (OECD, 2015).
[41] State Social Insurance Agency data prepared on request.
[42] This is true whether total employees or employees with positive earnings are considered.

Table 13. Participants in the microenterprise tax regime, 2009–2015

	2009	2010	2011	2012	2013	2014	2015
Number of microenterprise taxpayers [a]	-	7,194	17,820	25,164	31,978	40,007	47,169
Number of taxpayers under general regime	241,772	257,334	279,924	304,861	330,395	345,255	350,924
Number of microenterprise employees [b]	-		25,530	45,288	60,784	74,239	83,063
Share of total employment			3.3%	5.6w%	7.4%	8.8%	9.8%
Microenterprise tax revenue (millions of euros)	-	0.04	13.01	26.16	40.53	51.07	58.85

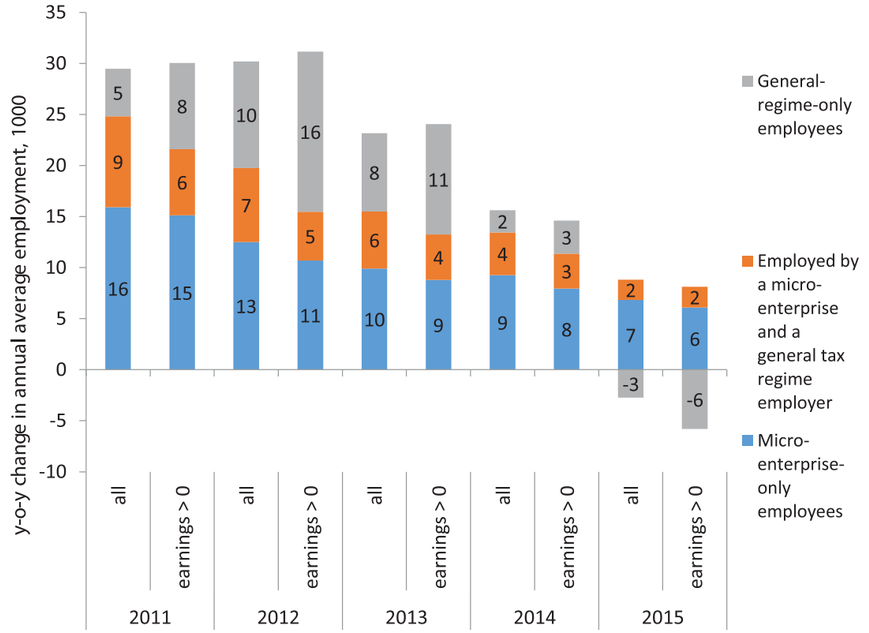
Note: [a] Number of taxpayers is for the first day of the calendar year. [b] Includes self-employed, i.e. microenterprise owners.
Source: Latvia's State Revenue Service and State Social Insurance Agency data and staff calculation.

Figure 48. MET earnings have become an important source of personal income
(Business, labor and interest income of physical persons by source, 2008 and 2010-2015)



Source: Calculations based on State Revenue Service and State Social Insurance Agency data.

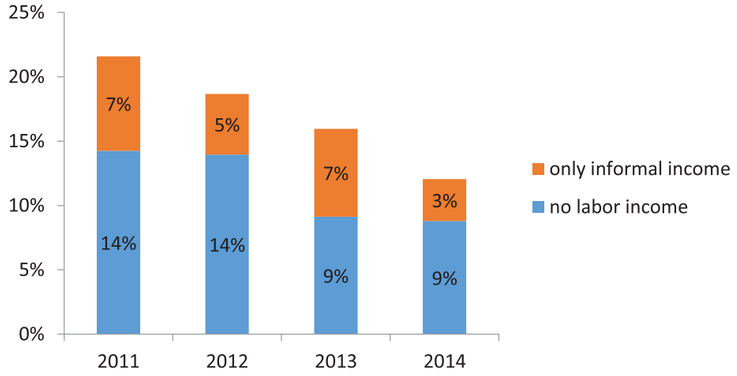
Figure 49. Growth in registered employment by tax regime, 2011–2015



Source: Calculations based on State Revenue Service and State Social Insurance Agency data.

The rise in employment under the MET regime mostly reflects shifts from the general tax regime rather than a reduction in unemployment. In 2015, 22 thousand workers switched from working in firms under the general tax regime to working at least part of their time in firms under the MET regime, accounting for about half of the increase in microenterprise workers with positive earnings (Figure 45). Nevertheless, the inflows from non-employment and informal employment were significant (Figure 50): 14 percent of microenterprise workers in 2011 did not have any labor income in 2010, and 7 percent had only informal (undeclared) labor income. By 2014, these shares fell to 9 and 3 percent, respectively. In absolute numbers, however, inflows of non-employed and informally employed individuals to the MET regime rose from 7.2 thousand in 2011 to 11.4 thousand in 2014.

Figure 50. Estimated shares of microenterprise workers without declared labor income during the previous year

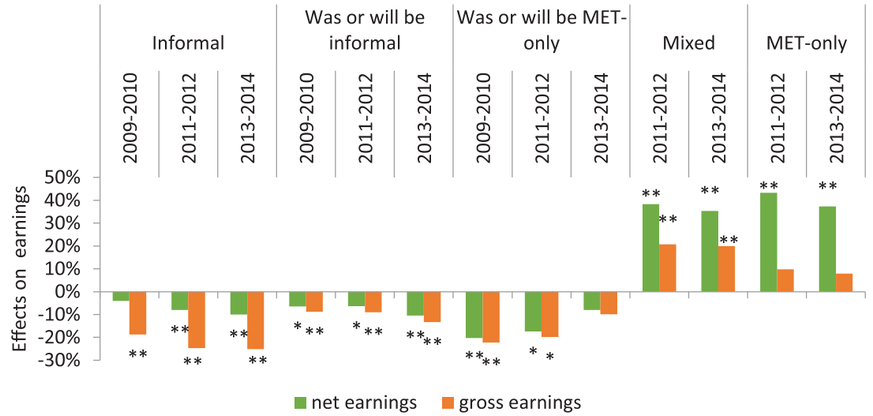


Notes: Administrative (SRS) data do not distinguish informal workers from non-employed. Estimates presented in the figure are based on EU-SILC 2012-2015 panel microdata, which contain 1484 observations of microenterprise workers, including 1002 observations for which were observed also in the previous year. For 2014, the estimated number of MET workers without declared labor income during the previous year differs from exact number available from SRS data by just 1.4 percent. *Source:* Calculations based on microdata of EU-SILC and SRS data.

The MET regime may impair productivity. Controlling for other determinants of earnings, workers who only worked in microenterprises from 2011–14 earned 20 percent less from 2009–10 (before the MET era) than workers without microenterprise (or informal employment) experience in the earlier period (Figure 51).[43] This suggests that MET-only workers are, on average, significantly less productive than others (note that under the general regime gross earnings are proportional to labor costs and hence to productivity). This productivity gap (which persists also in 2011–12) is larger than in the case of informal employees. However, MET-only workers' net earnings exceeded that of otherwise similar general regime employees by about 40 percent from 2011–14, while labor costs to microenterprise employers were lower.[44] In other words, MET-only workers, despite objectively being less productive (based on their earnings before the MET era) than general regime workers, are now paid more. Similarly, the net earnings of mixed workers are 30 to 40 above that of otherwise similar general regime employees without microenterprise experience. Thus mixed workers are overpaid as well.[45] In short, lower taxes on labor have enabled less-productive firms to raise wages and attract workers from more-productive firms, perhaps reducing overall productivity.

[43] See notes to Figure 53 for the list of control variables. Models that do not control for any job attributes give qualitatively similar results with smaller effects.
[44] Annex J, Figure 79 reports MET-only workers' gross earnings being by 10 percent above those of general regime employees, but labor costs under the general regime include also employer SSC of 23.59 percent.
[45] Plausibly, in the case of mixed workers part of this overpayment is due to working more hours. However, models similar to those presented in Annex J, Figure 79 but controlling also for hours worked (the sample being restricted to full-year, full-time employees for which information on hours worked during the income reference year is available) suggest that mixed workers are still overpaid by 19 percent.

Figure 51. Annual earnings of MET-only and mixed workers vs. those of formal employees without microenterprise experience, 2009-2014: Evidence from EU-SILC microdata

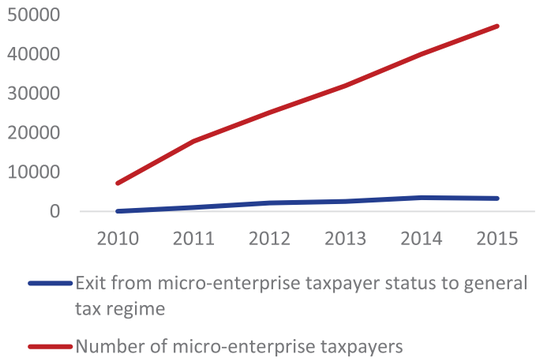


Notes: The figure reports the results from (log) annual earnings regressions controlling for the year; gender; education; total work experience; age; living with a partner; presence of children below age of 15; ethnicity and citizenship; limitations in daily activities; region and level of urbanization; number of months worked full-time and part-time; presence of self-employment income; tax regime as employee during the income reference year (only general, mixed, only MET or informal); being informal, MET-only or mixed employee in another year; size (7 categories) and economic activity (23 categories) of local unit the main job; contract type; occupation (2-digit ISCO code); supervisory responsibilities; and job change since the previous year[46]. For each year, the sample consists of all individuals whose gross annuals earnings were no less than one monthly minimum wage, excluding those who received part of the income reference year earnings abroad. The number of observations for each of the 3 estimated models is between 12 and 13 thousand, while the R-squared varies from 0.65 to 0.68. ** and *** refer to coefficients significant at 5% and 1% level, respectively. *Source:* Calculations with microdata of national rotating panel versions of cross-sectional EU-SILC 2008-2015 amended with a number of additional indicators (including microenterprise earnings if any); these data have been provided by CSB. Data for 2012-2015 include 1484 observations on microenterprise workers, while data for 2008-2015 include more than 1000 observations on persons who had microenterprise earnings in a year different from the survey year (but not in the survey year).

The MET regime may not be fulfilling one of its goals of increasing innovation. The amount of innovation in firms is difficult to measure. However, as innovation is inherently risky, many innovative firms tend to fail, while others expand rapidly. By contrast, there is little evidence of a significant number of firms leaving the MET regime to enter the general tax regime (Figure 52). Instead, there has been a steady and large inflow over time of tax payers from the general regime into the MET regime.

[46] Together with the panel structure, the job change indicator has been used to address time mismatch between earnings and job attributes data.

Figure 52. Number of taxpayers in the microenterprise regime and exiting the regime, 2010-2015



Source: Calculations based on State Revenue Service data.

In summary, the MET regime may have impaired government finances and productivity. Introduction of the MET regime has resulted in significant foregone tax revenues, due to the lower tax rates imposed on firms that genuinely qualify, and the manipulation of wage reports by firms who otherwise might not qualify. The attraction of workers to less-productive firms and the incentive to avoid expansion (and thus capture economies of scale) may have reduced overall productivity. Lower social security contributions implies reduced pension benefits in the future for MET regime employees, perhaps undermining the sustainability of Latvia's social protection system. The regime does not appear to be encouraging the expansion of start-ups. Introduction of the MET may have led to some expansion of employment and reduced informality, although most of the growth of employment under the MET regime has reflected inflows from the general tax regime.

A recent amendment to the MET regime, effective January 2017, is designed to address some of these concerns.[47] In 2017, microenterprises that have a sales volume below EUR 7000 will pay a 12 percent tax, and microenterprises with sales volume between EUR 7000 and EUR 100000 will pay 15 percent. Starting from 2018, all microenterprises with sales volume up to EUR 100000 will pay 15 percent of their sales volume as the microenterprise tax. Employees of microenterprises will have to pay MSSIC contributions on incomes up to 75 percent of the minimum wage in 2017, and on incomes up to the full minimum wage starting from 2018.[48] Services sectors, as well as forestry and logging (the sectors with most microenterprises), are likely to be explicitly excluded from the regime.[49] Finally, if any employee is employed for over three years the enterprise is excluded from the MET regime. While these amendments do not address all of the concerns raised by the MET, it will be important to monitor the impact of these changes on participants before moving forward with a more thorough reform of the MET.

Once the impact of the recent changes are more fully understood, consideration should be given to phasing out the MET regime. A more efficient tax regime for microenterprises would minimize distortions in the tax regime while addressing the market failures facing microenterprises. This approach would ensure that workers and firms with the same earnings faced the same tax rates, unless there is a compelling public purpose to do otherwise. One possible market failure is that business start-ups cannot secure the financing required to exploit innovative, potentially profitable ideas. This may occur because financiers cannot reliably predict the profitability of new ideas, so must secure their loans through collateral requirements that many small businesses cannot meet. The government could support such innovators through narrowly-targeted tax relief, provided only to companies/sole traders commencing a new business/trade not previously carried out by anyone.

Tax relief could be provided in various forms, and subject to strict conditions (see ANNEX M: SUMMARY OF TAX PROVISIONS FOR SMALL -AND MEDIUM-SIZED ENTERPRISES IN THE EU). For a discussion of tax relief for small- and medium-sized enterprises in the EU)**.** Businesses carrying on new activities might be provided a credit for their corporate income taxes or their SSC contributions, subject to maximums per employee and per enterprise. Individuals starting their own businesses (and working full-time in the business) could be given relief from personal income taxes on income up to a specified level (e.g. amount of capital invested) or for a limited number of years (a similar measure could be considered for returned emigrants). Rebates could be given on taxes paid in a specified number of prior years, up the amount of capital invested, for workers who leave employment to establish a new business. Finally, an exemption on a portion of capital gains taxes could be given full-time entrepreneurs

[47] See state revenue service (2016) for more details.
[48] Those employed by more than one microenterprise would have to pay such MSSIC from each microenterprise they work for. Unlike for the general regime employees, these payments will not be cumulative.
[49] For more detail see company taxes (2015).

who sell the business after a specified period, perhaps with a requirement that proceeds from the sale be invested in another business. Several conditions on the granting of tax relief would be necessary:

- The tax relief would be available for only a limited period of time (e.g. the first three years of operation). However, if the tax relief is not used during this period (for example, because the firm had limited profits or losses in the first three years, which is not uncommon among start-ups), then the relief could be carried forward.
- The amount of tax relief should be focused on micro/small enterprises, with relief declining as enterprises exceed specified levels of income or profits.
- A timeframe for commencing the new business could be set to enhance the short-term impact, e.g. relief could be available for new business start-ups commenced within a three to five-year period, with provision for extension if necessary.
- If appropriate, tax relief to facilitate/encourage risk investment by individual investors in new start-up businesses could be included as an additional incentive, e.g. through PIT or capital gains tax relief for the amounts invested.
- Restrictions, supported by monitoring, should ensure that the tax relief is focused on genuine new business start-ups and does not apply to any existing business that may be restructured or reconstituted as a qualifying new business. In the case of tax relief for equity investment in SMEs by individual investors, relief should only be available for the investment of risk capital (i.e. ordinary shares) which is used for the purposes of the business. The tax relief should be withdrawn if the moneys invested are subsequently repaid to the investor by way of a loan, debt repayment, transfer of asset or provision of any other benefit.
- Relief should be generally available and be State Aid compliant. There should be no preferential treatment or selective advantage provided to particular undertakings or sectors; it may be desirable to ensure that relief is provided within *de minimis* State Aid limits.
- Terms and conditions should be clear, easy to understand and apply, and should not leave any room for ambiguity. The same rules should apply for all enterprises, regardless of sector or business type (e.g. high tech/ high growth vis-à-vis life-style businesses).
- Relief could be made subject to a claim/application being made to the tax authority, with relevant information to be provided by the claimant/ applicant. Such a claim could be included in the annual tax return, which also would facilitate evaluations of the program.

The phasing out of the MET regime should take into account the vulnerability of the microenterprise workers, whose income levels are quite diverse. Some microenterprise workers are very poor. The share of microenterprises reporting zero earnings averaged 15 percent per month in 2015, perhaps due to leave during the reporting period or sales being close to zero. By comparison, the monthly average incidence of zero earnings among general regime employees in 2015 was just 6 percent.[50] While a large share of microenterprise workers had some other source of income (about a third were also employed by a firm in the general tax regime), microenterprise earnings still accounted for three-fourths of the labor income of workers in microenterprises (Figure 12). Together with low mandatory social security contributions (and thus reduced future benefits), the high incidence of zero earnings makes many microenterprise workers without other income sources vulnerable to economic shocks. On the other hand, more than 50 percent of microenterprise employees work in highly skilled non-manual occupations (Figure 53), implying that many higher-paid individuals are covered by the MET regime. This is consistent with the fact that high shares of microenterprise workers are found in service sectors with a highly-qualified workforce (see ANNEX J. *MICROENTERPRISE TAXATION: FURTHER EVIDNECE ON ITS IMPACT*Table 53).

[50] State Revenue Service data.

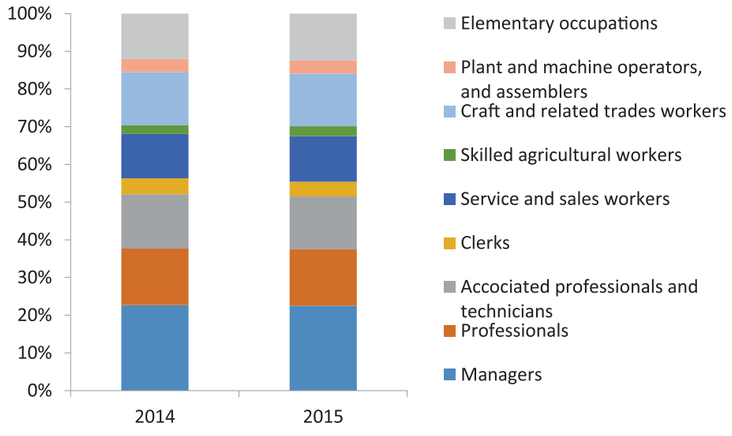
Table 14. Microenterprise share in labor income and incidence of self-employment (2008-2015) among individuals who worked in microenterprises in 2015

	2008	2009	2010	2011	2012	2013	2014	2015
Average microenterprise share in gross labor income, %	0.0	0.0	1.2	19.5	31.6	44.2	59.5	74.9
Average self-employment share in gross labor income, %	2.4	2.4	2.7	1.5	1.2	0.8	0.5	0.2
Proportion of persons with self-employment income:								
- among those with some labor income, %	3.9	3.7	3.9	2.3	2.0	1.5	1.2	0.6
- among all group members aged 15+, %	2.7	2.3	2.3	1.5	1.4	1.2	1.0	0.6
N obs with labor income, 1000	70.5	63.5	61.1	68.1	75.2	82.4	91.4	103.8

Notes: For 2008-2014, average microenterprise share in labor income (shown in the Table) differs very little from microenterprise share in aggregate labor income of the group; in 2015, however, the latter is substantially smaller (just 64 percent), indicating that MET share tends to be lower for high-income earners.

Source: Calculations based on State Revenue Service data.

Figure 53. Individuals who worked in microenterprises in 2014-2015, by occupation in "main" microenterprise



Notes: The figure covers only individuals with positive microenterprise earnings in respective year. The results should be treated with care, as information on occupation was not available for 37% of observations in 2014 and for 30 percent of observations in 2015. These observations are excluded. N = 75,548 for 2014 and 86,469 for 2015.

Source: Calculations based on State Revenue Service data

Workers likely to suffer the most from a phasing out of the MET regime are those most dependent on microenterprises for their incomes. Workers who worked only for microenterprises (MET-only in Table 15) or who had substantial income from microenterprises but their sources of income varied sharply over time (Unstable in Table 15) accounted for 78 percent of the 103.8 thousand individuals with positive microenterprise earnings in 2015 (Table 15). Most workers in these two groups (55 and 65 percent, respectively) are concentrated in sectors dominated by manual work (Table 57 and ANNEX J. MICROENTERPRISE TAXATION: FURTHER EVIDNECE ON ITS IMPACTTable 62) and have significantly lower average earnings (ANNEX J. MICROENTERPRISE TAXATION: FURTHER EVIDNECE ON ITS IMPACTFigure 81 and Figure 82) and education (Figure 55) than workers who received most of their income from firms in the general tax regime (Mainly general in Table 15). Moreover,

substantial shares of MET-only and unstable workers recently stayed outside formal employment for extended periods (ANNEX J. *MICROENTERPRISE TAXATION: FURTHER EVIDNECE ON ITS IMPACT*, Figure 85 provides details), which is likely to make it difficult to find stable jobs under the general regime. Mainly general workers, or whose income sources were roughly equal between the two regimes (Mixed in Table 15) are likely to be less affected, in part because a very low share of workers in these two groups had more than one year of microenterprise work experience (Table 16). ANNEX J. *MICROENTERPRISE TAXATION: FURTHER EVIDNECE ON ITS IMPACT*provides a more detailed analysis identifying the workers most vulnerable to a phasing out of the MET regime.

Table 15. Average microenterprise share in gross and net labor income among individuals with positive microenterprise earnings in 2015, by tax regime group

Percent

	MET-only		Mixed		Mainly General		Unstable		Total	
	Gross	Net	Gross	Net	Gross	Net	Gross	Net	Gross	Net
2015	98.1	98.4	46.7	51.8	29.0	33.5	71.7	74.3	74.9	77.2
N obs.	53,247		28,107		8,634		13,799		103,787	

Source: Calculations based on State Revenue Service data.

Table 16. Individuals with positive microenterprise earnings in 2015, by tax regime group and total microenterprise work experience

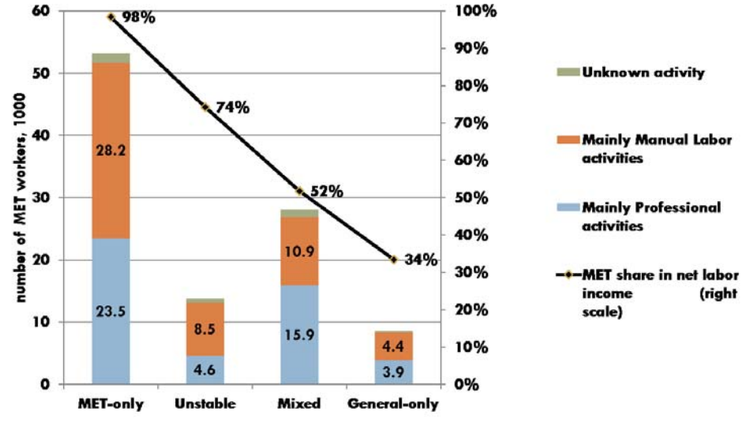
Percent

	MET-only	Mixed	Mainly General	Unstable	Total
1 -12 months	30.7	21.9	94.7	84.1	40.7
13-36 months	44.0	45.1	5.0	12.5	36.9
> 36 months	25.3	33.0	0.3	3.3	22.4
Total	100	100	100	100	100

Notes: Experience as of the end of 2015.

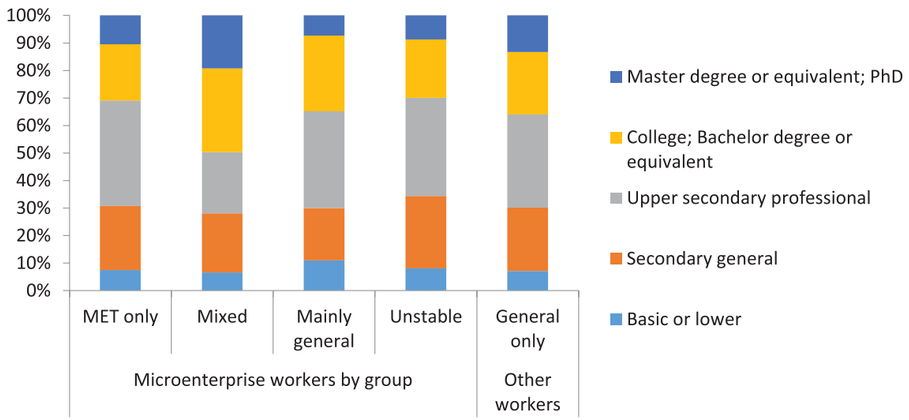
Source: Calculations based on State Revenue Service data.

Figure 54. Most microenterprise workers in the two most vulnerable groups have low-paying, manual jobs



Source: Calculations based on State Revenue Service data.

Figure 55. Educational profile of employees by tax regime, 2014-2015



Notes: Definition of groups is consistent with Table 29. LFS data contain 1984 observations on employees with positive microenterprise earnings in 2014 or 2015. To have enough observations in *Mainly general* group, workers without microenterprise earnings in 2015 are not excluded (this does not affect results for other groups).
Source: Calculations based on State Revenue Service and LFS microdata.

Main conclusions

- **The MET regime has many defects.** A substantial number of enterprises and self-employed individuals have switched from the general tax regime to the MET regime, leading to a significant loss of tax revenues. Basing the tax on turnover rather than profits, designed to reduce bookkeeping costs for small enterprises, is particularly attractive to sectors with high labor costs (e.g. professional service companies) rather than retail or manufacturing, where materials represent a higher share of costs. Thus, companies with similar levels of profitability are subject to different levels of taxation. One implication is that less-productive firms may be able to pay wages that attract workers from more-productive firms, thus reducing average productivity in the economy. Safeguards are not adequate to prevent abuse, for example the manipulation of wage reporting to maintain eligibility or participation in the MET by several enterprises controlled by connected individuals (to evade the eligibility limits on the size of participating firms). The reduced employee contributions to the social security system under the MET regime may undermine the social protection system by lowering current social security receipts and reducing the future protection of workers once they reach retirement age. And finally, the MET regime has had little role in encouraging innovation and growth, as few firms report achieving the expansion that would require shifting to the general tax regime. Indeed, the MET may inhibit growth, as firms remain small to maintain eligibility.[51]
- **Alternative tax provisions could achieve some of the objectives of the MET while limiting the impact on the poor of eliminating the regime.** Alternative tax regimes for small firms are used in many OECD countries to encourage innovative start-ups and boost the employment of low-income workers. It would be advisable to redefine criteria for firms participating in Latvia's MET regime, for instance by lowering the maximum turnover allowed for participating firms (to EUR 20,0000), limiting the number of employees and excluding certain professions. This would focus the MET on supporting small, life style companies that have low potential to grow, in order to provide opportunities for low-skilled workers who find it difficult to secure employment in firms participating in the general tax regime due to the high taxes on labor. At the same time, the professional services firms where salaries are high could be moved to the general tax regime. Independent from the life style regime, the government may consider introducing time-limited tax relief focused on start-ups involved in new businesses, with stringent monitoring to prevent abuse and ensure exit, to encourage innovation while limiting foregone tax revenues.

[51] However, the vast majority of enterprises registered for the MET regime report turnover levels of EUR 40,000, which is well below the maximum turnover (EUR 100,000) level eligible for the 9 percent tax rate.

Latvia Tax Review

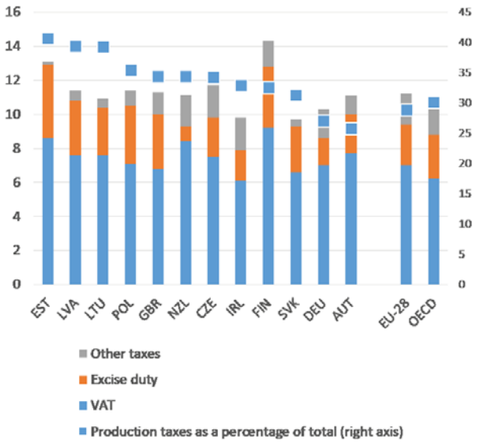
Equitable Growth, Finance, and Institutions
Europe and Central Asia Region

VAT

6. VAT

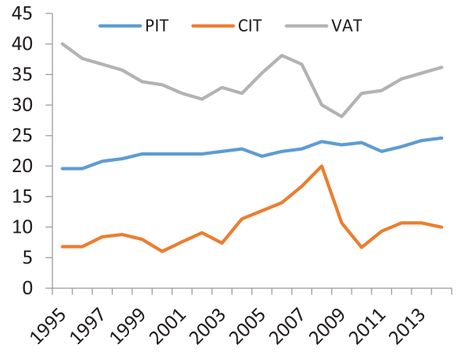
A large share—about 39 percent—of total tax revenue in Latvia comes from taxes on goods and services, far above the OECD and EU15 average (see Figure 56). Of these, the value-added tax (VAT) brings in more than 60 percent: VAT is more efficient than some other taxes in Latvia (Figure 57) as it has a much broader base. During the global crisis EU countries on average experienced a decline in VAT efficiency of about 3 percentage points, but the drop was much steeper in Latvia, as it was in Ireland, the Netherlands, and the U.K. This is probably due mainly to a shift in consumption patterns, as often happens during recessions when both incomes and expectations worsen and tax compliance slackens. The efficiency of Latvia's VAT has recently returned to the pre-crisis level, though it is still below its peak of 0.45 in 1995. Although Latvia's VAT revenue efficiency is now close to the EU average, it is still far below its efficiency in Estonia or the Czech Republic, perhaps because Latvia has a higher VAT threshold that exempts SMEs from VAT payments, and also due to tax compliance and enforcement issues.

Figure 56. Production taxes, in percent of total tax revenue, 2015



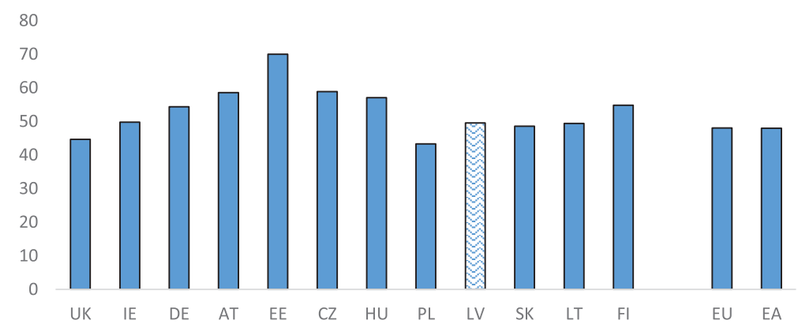
Source: Eurostat, OECD (for New Zealand)

Figure 57. Revenue efficiency, Latvia, in percent



Note: Efficiency is calculated for each tax as the ratio of tax revenue to the product of the standard rate and the tax base (consumption).
Source: World Bank staff calculations.

Figure 58. Ratio of VAT revenue to total tax revenue



Source: OECD.Stat database.

Latvia's VAT is fairly broad-based with a standard and reduced rate, though relatively few goods and services are taxed at the lower rate. The standard rate of 21 percent is close to the EU average (21.6 percent) and somewhat above the OECD average (19.1 percent). The relatively high reduced rate (12 percent; see Table 18) applies to medical supplies and equipment, books, newspapers and periodicals, baby food products, firewood, central heating, thermal energy, hotel accommodation, and public passenger transport. However, some of these products are neither essential nor are considered socially desirable. Goods and services that are zero rated include items common for all EU countries, such as exports of goods and related services, intra-Community supply of goods, and international transport, but the category also includes tourism services provided outside Latvia (which is more difficult to defend). During the crisis, the government raised the top VAT rate from 18 to 22 percent and the reduced rate from 5 to 10 percent—at that point still one of the lowest rates in the EU. The reduction of the gap between the top and the reduced rate was regressive, although it also diminished the incentive for businesses to lobby for reclassification of their products and increased VAT efficiency.

Some portion of consumption is excluded from the VAT, as is true for most EU and OECD economies. In Latvia the relatively short list of exemptions is limited to such basic items as health, education, social, cultural, postal, and financial services. Less standard exemptions are those that apply to gambling, sale of real estate, and rental housing, which are potential candidates for moving from the exempt to the standard VAT category. Reduced VAT rate regimes cost 0.65 percent of GDP in Latvia in 2014 in terms of revenue foregone (see Table 17 for a decomposition of cost by category of good and service). The standard VAT exemptions are often justified on practical grounds, e.g., output is hard to define and tax, such as financial and insurance services or gambling, or has distributional objectives, such as basic health and education. Postal services are public services, which are non-taxed or exempt in most EU countries.

Table 17. Revenue loss due to reduced VAT regime, 2014

Cost of reduced VAT rate	thsd. EUR	in percent of GDP
Total cost	152,638	0.65
of which:		
Pharmaceuticals	103,168	0.44
Medical devices	2,744	0.01
Specialized food for infants	719	0.00
Regular inland passenger transport and carriage of passenger luggage	10,422	0.04
Text books and original literature	3,164	0.01
Newspapers, magazines, bulletins and other periodicals*	3,745	0.02
Tourist accommodation services	9,642	0.04
Residential heat supply	18,985	0.08
Supply of firewood to residents	51	0.00

Source: Latvian Ministry of Finance.

Latvia offers a relatively generous VAT exemption for small firms: those grossing less than EUR 50,000 in the preceding 12 months are not required to charge and collect the tax. Such thresholds vary significantly in EU and OECD countries; Latvia's is higher than in all benchmark countries except the U.K. (Table 18). It is triple Estonia's. Though the objective of the high threshold is to help ease administration, it can also discourage firms from participating in the formal economy. It promotes tax avoidance among existing firms by creating an incentive for them to split up and start a new company to benefit from the 12-month VAT exemption. Moreover, it creates a very uneven playing field between new and existing firms: new firms can sell goods at much lower VAT-exempt prices.

Table 18. Selected OECD VAT indicators

	VAT Rates (in percent)								Threshold (EUR), 2015
	2005				2015				
	Standard	Other			Standard	Other			
Latvia	18	5	0		21	12	0		50,000
Lithuania	18	9	5	0	21	9	5	0	45,000
Estonia	18	5	0		20	9	0		16,000
Slovakia	19	0			20	10	0		49,790
Poland	22	7	3	0	23	8	5	0	ca 35,000
Czech Republic	19	5	0		21	15	10	0	ca 37,000
Austria	20	16	12	10	20	12	10	0	30,000
Ireland	21	13.5	4.8	0	23	13.5	9	4.8	75,000 (37,500 for services)
Finland	22	17	8	0	24	14	10	0	8,500
New Zealand	12.5	0			15	0			ca 36,000
UK	17.5	5	0		20	5	0		ca 104,000
Germany	16	7	-		19	7			None

Source: EC 2015, Ernst 2015.

Optimal tax theory holds that differentiated VAT rates should be used only to reduce labor-market distortions or improve income distribution. Taxing goods and services that are complementary to leisure (e.g. travel and tourism) at higher VAT rates can raise labor supply, desirable because labor supply is reduced by the income tax (Jacobs and Boadway, 2014). Conversely, goods that are complementary to work (e.g. work-related cost of travel, child-care facilities, or goods that are close substitutes for home production) should be taxed less. When the demand for goods and services does not vary with labor supply, the famous Atkinson-Stiglitz (1976) theorem indicates the VAT should be uniform. The welfare losses from differentiated VAT-rates in goods markets need to be traded off against the potential welfare gains in labor markets.

There is not much empirical evidence estimating the degree of complementarity of various commodities with labor supply. Available research does not provide particularly strong evidence in favor of differentiated VAT rates to reduce labor-market distortions. Crawford et al. (2010) find that for the UK, food, energy, tobacco and public transport are complementary to leisure, whereas restaurant dinners, alcohol, and fuel are complementary to work. Pirttilä and Suoniemi (2010) show that in Finland capital income and expenditures on housing are complementary to leisure, whereas child-care facilities are complementary to labor. Most expenditure categories in both studies, however, show no significant association with labor supply.

Whether VAT rates should be used to improve income redistribution depends on whether a differentiated VAT-structure can redistribute more income over and above that which can be achieved through a progressive tax on income. That is, when all differences in the demand for goods and services are perfectly predictable by labor incomes alone, then a differentiated VAT-structure cannot redistribute any more income than the government can achieve through the income tax, but it in addition distorts commodity demand. Consequently, differentiated VAT-rates are not desirable even if the poor spend a larger fraction of their income on certain commodities. Differentiated VAT-rates are only desirable for income redistribution when, conditional on observing (and taxing) labor earnings, demand for goods and services still vary with earnings (Mirrlees, 1976; Saez, 2002). In this case, the trade-off between equity and efficiency can be improved through differentiated VAT-rates. For example, Gordon and Kopczuk (2010) present empirical evidence that home-ownership (and capital income) strongly correlates with earnings ability.

Differentiated VAT rates are not an effective means of reducing poverty or redistributing income in Latvia. Survey data do not indicate a concentration of expenditures by lower-income households on goods and services subject to reduced VAT rates. Thus, moving some of the 12-percent or 0-percent VAT commodities to the 21-percent group, while offsetting any distributional consequences through income tax adjustments, could reduce distortions in goods markets, as well as administrative and compliance costs, without worsening income distribution.

Some differentiated VAT rates have particularly poor economic justification in Latvia. For instance, Latvia introduced the reduced VAT rate for hotel accommodation in 2010 to help the sector recover from the crisis. Since then, the economic situation of the hotel sector has improved and the argument for the reduced rate for this sector has weakened. In addition, a lower VAT rate on hotel accommodation benefits visitors and richer residents (see Figure 59 and Figure 60) but does not necessarily drive

competitiveness. Estonia with a lower VAT rate of 9 percent on hotels is less competitive than Latvia (12 percent) on hotel pricing, while Lithuania with a 21 percent VAT rate on hotel accommodation in 2014 was more competitive (see Figure 61).[52] Another example is that central heating, thermal and wood fuel supply are subject to a low VAT rate, while gas and electricity used for heating are subject to the standard rate. In general, goods or services that are close substitutes (for instance all of the above commodities) should be uniformly taxed.

Figure 59. Share of household consumption (cash) by VAT rate category, 2014

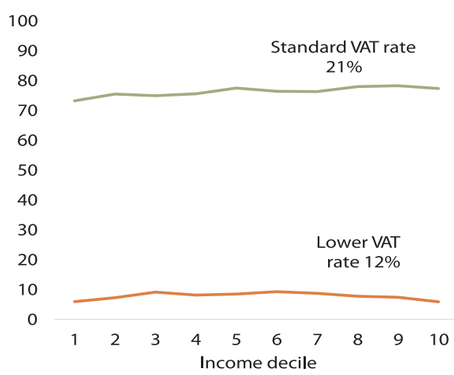
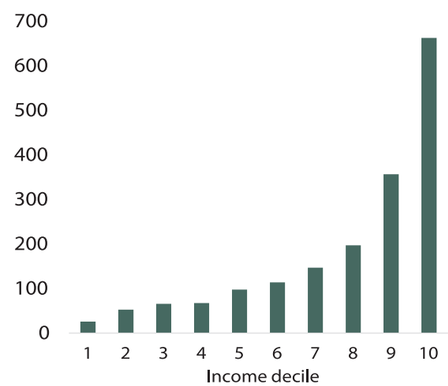
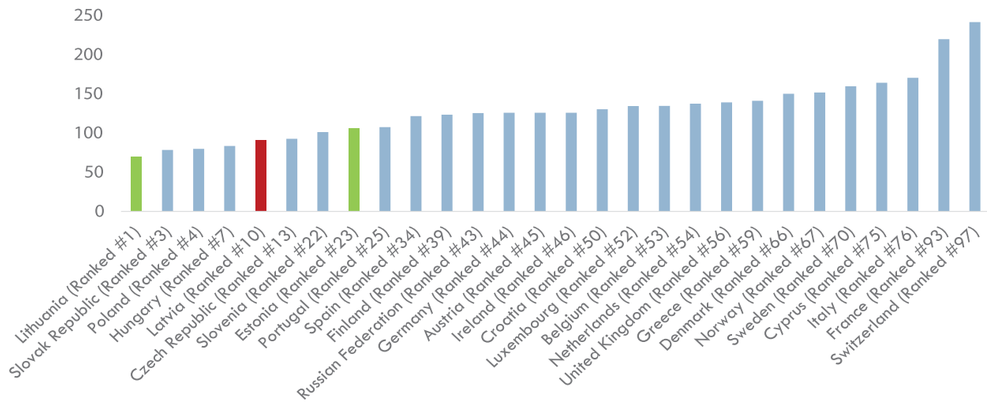


Figure 60. Hotel/Restaurant consumption per capita by income decile, in euros, 2014



Source: World Bank calculations based on Household Budget Survey, 2014.

Figure 61. Global hotel price index and country global ranking, 2014



Source: The Travel and Tourism Competitiveness Index Dataset © 2015 World Economic Forum.

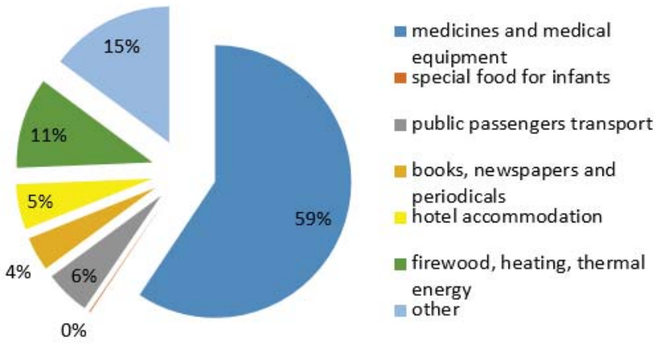
In general, VAT rules that apply to Latvia's public sector, unlike in many other EU countries, do not undermine VAT neutrality. The VAT rules that exempt such public services as health, education, and cultural services also apply to the private sector. The only exception is specific postal services that are only VAT-exempt for the public sector.

The reduced rates and exemptions in VAT are costly in terms of public revenue. The VAT expenditures in 2014 amounted

[52] As of January 1, 2015, Lithuania has reduced the VAT rate of Hotel Accommodation Services to 9 percent. But the competitive calculations were done prior to that change—for the 2015 Travel & Tourism Competitiveness Report. Estonia plans from January 2017 to increase the VAT rate for hotel accommodation services from 9 percent to 14 percent.

to EUR 945 million, or 3.9 percent of GDP and 52 percent of VAT revenues. In Latvia, the VAT exemptions are responsible for the bulk of the VAT expenditures (about 3.2 percent of GDPThe budgetary cost of reduced tax rates is estimated at 0.65 percent of GDP, of which about 60 percent results from the reduced VAT rate for medicines and medical equipment (see Figure 62). The cost of reduced VAT rates for heating, public transport and hotel accommodation is also non-negligible.

Figure 62. Distribution of cost of reduced VAT rates in 2014



Source: Ministry of Finance.

The bank levy Latvia introduced in 2011 is a first step to addressing the undertaxation of the financial sector caused by the VAT exemption. Exempting the financial sector from VAT can distort both consumer and business decisions. On the other hand, applying the VAT to financial services is difficult, largely because defining the price for financial operations is challenging.[53] As a result, most financial and insurance services are exempted in the EU. Therefore, while the financial sector does not charge VAT on most of its output, it cannot deduct the VAT charged on its inputs (the "irrecoverable VAT" problem). This creates cascading tax effects, since the irrecoverable VAT embedded in the charges that banks make to their business customers will be carried through to final prices for domestic consumption (OECD 2014). As a result, the price of financial services for business users is higher than what it would be with a deductible output VAT, while the price of financial services for final individual users is lower than if VAT were applied. The exemption also distorts competition between domestic services (exempt with no right of deduction/inputs taxed) and services imported from a VAT country (where export of such services is free of VAT) or from a non-VAT country (e.g., the USA). Given these problems, Latvia in 2011 introduced a "stability fee" of 0.036 percent on the adjusted liabilities of banks, which is economically equivalent to a VAT. This is similar to the bank levy imposed by Sweden and the UK.

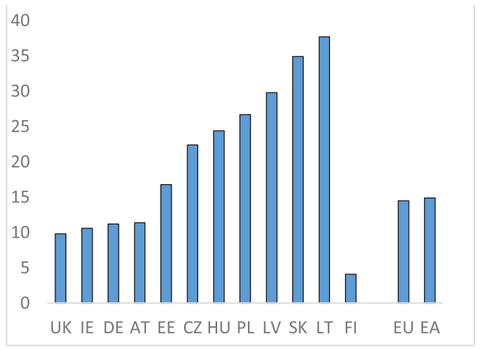
A significant amount of VAT revenue is lost due to tax evasion and avoidance. Evidence of entrenched tax evasion can also be found in the high VAT compliance gap[54]. Latvia has close to EU average VAT revenue ratios (VRR) but a very high VAT gap (see Figure 63).[55] An independent study by the European Commission (2014b) found that the VAT gap in Latvia had grown from 15 percent of potential liabilities in 2005 to 30 percent in 2013. Failure to comply explains a major part of this gap. Although the State Revenue Service estimated a smaller gap than the EC (Figure 64) and found a gradual but persistent decline in the gap since the crisis, closing the gap could still increase VAT revenues significantly—there is room to adopt more efficient tax administration methods to tackle tax fraud, evasion of VAT arrears, underreporting, and the shadow economy. Because the gap may have a variety of sources, knowledge of VAT gap structure could make it easier to design efficient methods to tackle it. For instance, analysis for Poland (Poniatowski 2016) found that the shadow economy, tax evasion, and VAT fraud (in particular missing trader intra community) are responsible for more than 50 percent of the gap (see Table 19). The size of the gap in Latvia suggests that it would be advisable to adopt methods to tackle tax fraud, evasion of collection of past debts, underreporting, and the shadow economy.

[53] Actually, the main difficulty in taxing financial services does not lie in the VAT per se but in the application of the invoice-credit system to services priced on the basis of margin spreads rather than explicit fees (Zee 2013).

[54] VAT gap is the difference between potential collections and actual collections. Incorporates the impact on collections of both compliance issues and the policy structure. Compliance gap is difference between potential collections and actual collections given the current policy framework. Policy gap is difference between the potential collections given the current policy framework and some normative policy framework (i.e. single rate, broad base) given the current composition of GDP.

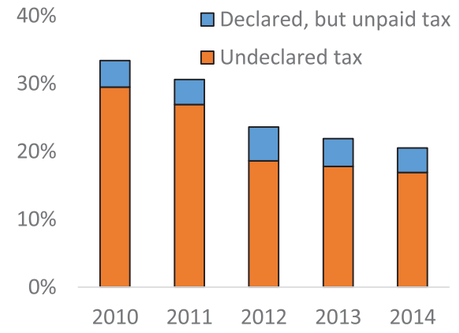
[55] The VAT gap arises not only from fraud or tax evasion but also from errors, failure to take reasonable care, and nonpayment due to bankruptcy or insolvency.

Figure 63. VAT gap, in percent of VAT liability, 2013



Source: CASE 2015.

Figure 64. Compliance problems, percent of total liability, 2010-2014



Source: Latvia SRS.

Table 19. Sources of VAT GAP in Poland and the U.K., in percent

	U.K. (2013-14)	Poland (2013)
Missing trader intra community	3.8-7.6	10.8
Shadow economy	18	above 6.3
Tax evasion	14	above 35
Mistakes	8	7.7

Source: Poniatowski (2016).

Main conclusions:

- **Authorities could broaden the VAT base to eliminate unnecessary exemptions or raise reduced rates that no longer achieve policy aims in the most efficient way** (taxation of energy or hotel accommodation). This decision needs to be based on a careful review of the efficiency and distributional impact of preferential VAT rates on goods and services.
- **VAT thresholds should be evaluated**. Gains from reducing tax administration and compliance costs need to be carefully assessed against the competitive distortions stemming from the difference in treatment among taxpayers on both sides of the VAT threshold.
- **Efforts should be made to reduce the VAT gap.** An analysis of the causes of the gap should be used to target tax administration measures on major areas of noncompliance.

Latvia Tax Review

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EXCISE TAXATION

7. EXCISE TAXATION

Excise duties make a significant and stable contribution to Latvia government revenues. In 2013–2015, the duties levied on fuel, tobacco, soft drinks, coffee, and alcohol[56] raised 7.2 percent of total tax receipts—3.2 percent of GDP (Table 20). However, despite increases in excise rates (to the EU required minimum) over the past decade, excise revenues have not increased compared to GDP. For example, the rate on alcoholic beverages has almost doubled since 2004, and the increase on cigarettes[57] has been even higher. On the other hand, the duty for petrol is now about 25–80 percent of its 2004 level and for diesel 60–130 percent, depending on its content. Diesel that is 100 percent bio is not taxed and the tax on that used in agriculture is very low.

Table 20. Excise Duties and Consumption Taxes, Representative EU Countries, Percent of GDP

GEO/TIME	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Belgium	2.1	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8
Czech Republic	2.6	2.6	2.8	2.4	2.5	2.5	2.7	2.7	2.8	2.3	2.5
Germany	2.2	2.2	2.0	2.0	2.0	1.9	1.8	1.7	1.6	1.6	1.5
Estonia	3.7	3.4	3.6	3.3	5.0	4.2	4.3	4.4	4.2	4.3	4.3
Ireland	0.8	0.7	0.7	0.7	0.7	0.6	0.5	0.5	0.5	0.4	0.3
Latvia	3.4	3.1	2.7	3.0	3.6	3.6	3.4	3.2	3.2	3.2	3.3
Lithuania	2.9	2.9	2.8	3.0	3.4	3.1	2.9	2.8	2.8	2.8	3.1
Austria	2.6	2.4	2.4	2.3	2.3	2.3	2.4	2.4	2.3	2.3	2.3
Poland	3.9	3.8	3.9	4.1	3.5	4.1	3.9	3.8	3.7	3.5	3.5
Slovakia	3.6	2.8	3.4	2.6	2.8	2.9	2.8	2.7	2.7	2.7	2.7
Finland	3.6	3.5	3.2	3.2	3.3	3.4	3.7	3.8	3.7	3.6	3.7
United Kingdom	3.1	3.0	3.0	3.0	3.2	3.3	3.3	3.3	3.2	3.2	3.1

Source: Eurostat 2016.

Latvia has much higher excise rates than its regional peers, especially when corrected for purchasing power. In 2014, its alcohol duties, though still below the EU average, were among the highest in the region. Moreover, it had the highest duty in the EU for spirits and wine, and the sixth-highest (behind Malta, Croatia, Bulgaria, Portugal, and Slovenia) rate on beer, in PPP-adjusted terms. Latvia also had the second-highest PPP-adjusted duty on tobacco in the EU, though it was still below the EU average in euro terms.[58] Finally, Latvia has one of the lowest retail fuel prices in the EU, but when adjusted for PPP it has the fourth-highest duty on all types of fuel[59] (see ANNEX K: AN ECONOMIC ANALYSIS OF THE MICROENTERPRISE TAX).

Differences in prices, resulting from higher excise rates in Latvia than in neighbouring Lithuania, Belarus and Russia, encourage tax avoidance and evasion. The higher the duties, the larger the incentive for consumers to avoid the tax by cross-border shopping or evade it by purchasing in an illegal segment of the market where tax is not levied. Prices of spirits, wine, fuel of all types, and cigarettes are much higher in Latvia than in Belarus and Russia (see Table 21), which encourages cross-border shopping and smuggling despite exchange rate risk, border control and visa requirements to cross the border. The scale of tax avoidance in the tobacco and fuel markets appears to be a matter of high concern. Latvia is one of the countries with the highest consumption of smuggled cigarettes (more than 20 percent of total cigarette consumption is illegal) in the European Union (KPMG 2013). Legal and illegal import of fuel has a significant impact on the fuel market in Latvia, too.

[56] In accordance with the law, the excise tax is applied to alcoholic beverages, tobacco products, oil and natural gas, soft drinks, and coffee. The tax on oil is applied to transport fuel and heating oil (despite several reliefs and reduced rates such as the rate for diesel used in agriculture).

[57] The tax rate on cigarettes has gone up significantly, from EUR 11.95 per 1,000 cigarettes + ad valorem 19.2 percent on January 1, 2007, to EUR 39.84 + ad valorem 33.5 percent on January 1, 2014.

[58] In Latvia cigarette taxation has both a specific (€60 for 1,000 cigarettes in 2016) and an ad-valorem component (25 percent of the retail pack price).

[59] In 2014 the cost of 60 liters of petrol (average daily per capita consumption) constituted 12.76 percent of a worker's average net salary (EU average: 7.88 percent), and expenditure on 60 liters of diesel 11.81 percent of the average net salary (EU average: 7.25 percent).

Table 21. Prices of Dutiable Products, Latvia, Russia, and Belarus, 2016

	Alcoholic Beverages, Eur/1 liter			Cigarettes, EUR /20 cig	Fuel, Eur/1 liter		
Geo	Beer	Wine	Spirits		Petrol	Diesel	LPG
Latvia	1.70	11.50	28.30	2.60	1.03	0.91	0.48
Russia	2.10	4.40	11.70	1.31	0.47	0.45	0.22
Belarus	1.20	3.20	9.60	0.64	0.51	0.53	0.26

Source: Euromonitor, Globalpetrolprices, 2016.

The high excise tax in Latvia that burdens domestic consumers and attracts illegal trade makes it harder to increase taxes. There might be a case, however, for changing the application of excise duties to different products. When designing the excise tax system the government should seek to minimize the distorting effects of the tax on consumer behavior, use it to correct socially costly behavior, or both. Consumption of certain goods can impose costs on others ("externalities") or costs on consumers in the future ("internalities") that they may not fully take into account when making consumption decisions. In these circumstances, taxation can discourage the excessive consumption that would occur without it. There is some evidence that in Latvia the excise duties could better target the externalities and internalities associated with smoking, driving, and drinking.

The current structure of alcohol duties could be improved to better target potentially harmful consumption. Alcohol consumption not only imposes costs directly on people who drink but also on others, such as victims of accidents, property damage, and violence. Moreover, the social harm from alcohol consumption is likely to be nonlinear: consuming a bottle of wine in an evening is likely to cause much more harm than the first glass. Finally, for a given level of consumption, the magnitude of harm is likely to vary across people. This creates challenges in quantifying both the marginal external or internal costs of alcohol consumption and the appropriate tax level. Nevertheless, many countries design excise taxes on alcohol consumption by taxing the unit of alcohol regardless of the form of the drink. The Latvian excise tax burden on spirits is already significantly higher than on beer, even without taking into account the planned rate increases for the former[60]. Excise tax burden on strong alcohol beverages is already significantly higher than on beer, more than 4-5 times, based on beverage impact on human health (alcohol does). Given that consumption of beer dominates in total consumption of alcoholic beverages in Latvia, it might be desirable to suspend the planned increase in the excise duty on strong alcohol and raise duties on beer and wine (see table in the ANNEX N: EXCISE TAX RATES: CURRENT STATUS AND RECOMMENDATIONS).

Changing the balance between the specific and ad valorem components of the tax on cigarettes will better target public health and may lead to higher revenues. Increases in Latvia's excise tax rates were necessary to meet EU requirements, and had the effect of reducing the difference in price between the cheapest and most expensive cigarettes. Still, each EU member state has flexibility in determining the balance between the specific and ad valorem excise components. Lowering the ad valorem rate and raising the specific rate, combined with an increase in the minimal excise tax, could increase revenue from tobacco excise by up to EUR 3 million. It would also help to improve public health: (1) it would likely raise prices, causing price-sensitive consumers to reduce their consumption; and (2) it would reduce incentives for consumers to substitute higher-priced for lower-priced brands, especially when consumers find it difficult to reduce consumption after a tax increase. This would have a greater impact on reducing smoking by individuals who are poor or young. This change would need to be combined with CPI adjustments to keep pace with inflation, but since inflation is low in Latvia, that will not be immediately necessary.

Changes to the excise taxation on fuel require much thought. Current fuel prices in Latvia already attract cross-border trade and smuggling from Russia and Belarus. When PPP is taken into account, the excise also imposes a high tax burden on Latvian consumers. Nevertheless, fuel excises could be restructured to more effectively tax driving externalities (e.g., CO2 emissions, congestion). For instance, the fuel excise could be redesigned to take into account the harmful impact of transport fuel on the environment (Brizga, Juruss 2016). One way to do this would be to base the tax rate on the unit of CO2 emission, because emissions are directly proportional to fuel use. For Latvia that would imply reducing the rate on gasoline but raising it on diesel and other products. Even this change, however, would need to be designed carefully so as not to harm competitiveness and the development of infrastructure. For instance, commercial use of diesel may need special treatment such as a rate reduction (through reimbursement of the tax difference) to encourage transport companies to purchase fuel legally in Latvia rather than in neighbouring countries. Revenues from a higher excise tax on diesel could be also earmarked to support the railway system,

[60] EUR 1,450 per 100 liters as of January 3, 2017, EUR 1,500 as of January 3, 2018.

which is much more environmental friendly than road transport.[61] Finally, total or partial exemptions or tax reduction for energy products used for the carriage of goods and passenger by rail can be considered. Several EU countries allow for partial or total excise tax exemption for diesel used in rail transport (see Table 22). In Latvia, the excise tax on fuel used by railway transport is paid in full despite for the importance of the transit and logistics sector.[62]

Table 22. Tax on diesel used in rail transport

Country	EUR/1000 l
Belgium	0
Denmark	60.99
France	128.3
Estonia	110.95
Italy	185.22
Ireland	108.28
Luxemburg	0
Portugal	90.11
Slovenia	253.66
Finland	214
Spain	0
Hungary	0
Sweden	0

Source: TAXUD 2016.

Impact on Tax Revenue

The proposed changes in excise taxes (see for details) would raise between EUR 100 and 400 million (up to 1.8 percent of GDP, see Table 23) in the next two years. The upper bound estimate assumes that improvements in tax administration reduce tax fraud and evasion. The additional revenues will come from:

- *Alcoholic beverages*. The changes in the tax burden would raise taxes on beer and wine but not on spirits.

- *Cigarettes*. The proposal to increase the specific excise component of excise while reducing the ad valorem part will result in additional revenues if the government intensifies the fight against smuggling. However, without a more determined attack on smuggling, the revenue effect could be zero or even negative.

- *Fuel.* It is proposed to increase excise tax rate on fuel (see ANNEX N: EXCISE TAX RATES: CURRENT STATUS AND RECOMMENDATIONS), in particular the tax rate on diesel used for private purposes, mainly for environmental reasons. The revenue impact of proposed changes is dependent on tax policy changes in other Baltic States (harmonization of excise policy), introduction of tax relief for commercial diesel fuel and the effectiveness of tax administration.

Table 23. Total excise tax revenue (upper bound estimate), EUR million

	2018–19
Alcoholic beverages	90
Cigarettes	100
Fuel	220

Note: The table indicates upper end of estimates.

[61] This is also in line with one of the EU transport policy priorities spelled out in *Europe 2020*– making make rail freight more competitive than road transport.
[62] Carriage of goods by rail is more developed in Latvia than in other countries. Transit and the logistic sector had a significant impact on economic development in Latvia, now generating about 12 percent of GDP. The railway industry pays at least EUR 100 million in taxes each year, and transport and logistics employ than 70,000 people.

Conclusions

- The main economic justification for excise taxes is to correct behavior that has social costs that individuals do not taken into account when deciding what and how much to consume. These costs may be borne by others, the society at large, or the consumer in the future. There is considerable evidence that consumption of tobacco, fuel, and alcohol generates such costs, although their extent can vary in complex ways related to the amount consumed and the consumer. Such social costs are a rationale for levying excise duties on these goods. However, it is important that any tax is designed to target effectively externalities or internalities associated with consumption.

- There is a clear case for reform in how driving and alcohol are taxed. Fuel and alcohol excise duties do not target the primary externality, CO_2 emissions, associated with driving. The government should consider basing the tax on fuel on CO_2 emissions. Taxation of fuel needs to be carefully redesigned so as not to harm the transport sector and Latvia's competitiveness. Reform of alcohol taxation should target alcohol products systematically, because society consumes disproportionately more of the low-tax products.

- The main goal of levying excise duties is to correct socially costly behavior, not to generate revenue. Indeed, reducing consumption of tobacco, fuel and alcohol could improve their net contribution to the public purse if it leads to sufficiently large falls in the health, environmental, and public safety costs associated with their consumption.

- Future excise policy might consider levying taxes on other forms of consumption that generate externalities and internalities.

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RESIDENTIAL PROPERTY TAXATION

8. RESIDENTIAL PROPERTY TAXATION

There have been frequent calls for increasing property taxes to generate additional revenues in Latvia. The Latvian Government is currently considering a reform of its property tax system. Generating support for increased property taxation is likely to be challenging. For example, attempts to make the system of residential tax assessment more uniform have met with considerable political resistance, because it would imply a large tax increase on certain categories of residential property.

Box 6. Local Government Finance in Latvia

Local governments account for about 27 percent of general government spending in Latvia, slightly above the average for the EU28.* The largest source of local government revenues is the personal income tax, which generated 52 percent of local government revenues in 2015. One third of local revenues were derived from transfers, and only nine percent from property taxes. Of this amount, about half was generated from taxes on land and the remainder from taxes on buildings. The majority of taxes on buildings, in turn, were derived from industrial and commercial properties. As shown in the table below, taxes on residential buildings generated only EUR 24.2 million in 2015; twelve percent of total property taxes and only one percent of total local revenues. User charges and other non-tax revenues accounted for the remaining 6 percent of total revenue.

Table 24. Local Government Revenues, 2015

	EUR million	In percent of total
Taxes	1362.8	60
PIT	1148.1	51
Property	197.1	9
Of which:		
- Land	100.4	4
- Buildings	96.6	4
-- Residential	24.2	1
Transfers	738.3	32
Fees, other	172.3	8
TOTAL	2273.4	100

*General government includes social security. Data is for 2015. EU 28 average is 24 percent.

Source: Eurostat.

Background: the residential property tax in Latvia

The property tax is exclusively assigned to local governments in Latvia. However, property tax receipts equal only 9 percent of total local government revenues (Box 6). The legal framework for property taxation is set out in the Law on Immovable Property (as amended through April 2014) and a series of cabinet resolutions. According to the current property tax law, the property tax is imposed on land and buildings (including residential buildings owned by local governments which are rented out, in which case tax is imposed on the tenant). The tax is assessed on the basis of the property's cadastral value on January 1 of each year. According to the law, that value is to be determined by the State Land Service in compliance with the requirements of the Immovable Property State Cadaster Law, using data from the Immovable Property State Cadaster Information System and other sources, as required.

Assessment Methodology. Cadastral values are, in most cases, determined through mass appraisal. Under this approach, data on recent property sales is analyzed to determine the contribution of various property characteristics (including the use, location, and size of the land parcel, and the square footage and other characteristics of the building) to the sales price of each property. This yields a formula assigning a value to each parameter (e.g., a value per square meter of floor area for residential buildings in a particular zone) which is then applied to all properties on the tax rolls.[63]

[63] See Land Service website http://kadastralavertiba.lv/vienkarsi-par-kadastralo-vertibu/

Table 25. Existing and proposed ratios of assessed value to market value adopted in 2015

	Existing tax rate, percent	Proposed tax rate, percent
New residential apartments	38	81
Old residential apartments	72	86
Single family homes	65	79

Table 26. Standard tax rate on residential buildings

Value of Building, EUR	Property tax rate, percent
Up to €56,915	0.20
€56,915 -106,715;	0.40
Over €106,715	0.60

Latvia's system of mass appraisal is quite sophisticated. In the case of multi-family residential properties, for example, separate calculations are made for the building and the land under it (this is conventional practice). The calculation of the land component takes into account not only the location and size of the parcel, but also its environmental status (whether it is considered polluted), cultural significance, and any liens or other encumbrances on title. If a parcel is located within the Baltic Sea and the Gulf of Riga coastal protection zone, for example, its value is reduced by 20 percent. The calculation of the building component takes into account the square footage of the structure and its use (e.g., whether the building is used for residential, commercial or industrial purposes). In the case of residential property, further distinctions are made among types of buildings (e.g., single family homes, small multi-family buildings, large multi-family buildings, etc.) along with the condition of the structure and its access to utilities.[64]

As in many countries, the resulting estimate of market value is then reduced by a fixed percentage to yield an 'assessed value'; i.e., the value to which the tax rate will be applied. In Latvia, these vary among various types of residential property. As shown in Table 25, new apartments are currently assessed at only 38 percent of their market value, while old apartments are assessed at 72 percent of their market value. For single family homes, the ratio is 65 percent.[65] As discussed below, the Government and Parliament are considering an increase in the assessment ratio. In August 2015, the Cabinet adopted a regulation[66] raising the assessment average ratio to 85 percent, effective in 2017 (the ratio would continue to distinguish among types of residential property, but with far less variation than at present—Table 2). In May, 2016, however, Parliament adopted amendments to the National Real Estate Cadaster Law postponing the change to 2018. As shown in Table 2, the ratio would continue to distinguish among types of residential property, but with far less variation than at present.

Rates. Prior to 2013, the central government fixed the rate of the property tax. Since that date, local governments have been permitted to set the rate within a range of 0.2 to 3.0 percent. However, the rate may only exceed 1.5 percent if the property is 'not maintained in accordance with the procedures laid down in laws and regulations'. If a local government declines to set its own rate, a standard rate schedule is applied. This standard rate is 1.5 per cent of the assessed value of the land and building, except in the case of residential buildings, where the rate is ranges from 0.2 percent to 0.6 percent (see Table 26).

Exemptions and Abatements. The property tax law sets out several exemptions and abatements that local government are required to observe. These include a 90 percent tax reduction for 'deprived and low income persons' as determined by state information system and a 50 percent reduction for residential property if the taxpayer has 3 or more children under 18 years of age or qualifies as politically repressed (and has owned the property for at least five years). The law also permits local governments to provide additional abatements of 25-90 percent at their own discretion, provided the abatements apply uniformly to objectively defined groups. A local council, for example, may provide for a deferment of property tax liabilities for taxpayers meeting certain socio-economic criteria. The deferred amount is then due when the property is sold. At the same time, the law allows local government to provide abatements to support 'the competitiveness of local entrepreneurs' consistent with the principle of social responsibility, particularly to take into account the impact of the tax on 'the groups of socially disadvantaged and poor inhabitants'. ANNEX N: EXCISE TAX RATES: CURRENT STATUS AND RECOMMENDATIONSdiscusses the

[64] Whether the system in fact succeeds in predicting the future sales price of properties is not known.

[65] D.Reizniece-Ozola, Ministry of Finance, *Information Report: On exempting the only property owned from immovable property tax (IPT)*. 2016.

[66] Resolution No 456, amending Cabinet Resolution No 305 of April 18, 2006 "Regulations regarding Cadastral Evaluation"

experience with property tax relief in four OECD countries.

The Cabinet's decision to increase average assessment ratios to 85 percent set off a political firestorm. As shown in Table 25, above, this reform would substantially increase the property tax burden on residential properties, particularly on new residential apartment buildings. In response, the government is examining ways to ameliorate the impact of these increases. The remainder of this note evaluates a variety of options, based on international experience (see ANNEX O: INTERNATIONAL EXPERIENCE WITH PROPERTY TAX RATES AND EXEMPTION POLICIES) for a discussion of practices in four comparator countries).

Property tax policy options for Latvia

First principles. In evaluating the options for Latvia, it is useful to begin with first principles. In theory, the burden of the property tax should be distributed on the basis of ability to pay. This is true of all taxes (except so-called sin taxes, whose objective is to discourage the behavior that is taxed). The problem, in the case of the property tax, is that property values do not reflect a taxpayer's ability to pay *out of current income.* At best, property values reflect a taxpayer's wealth, which may only be realized (i.e., turned into cash) when the property is sold.[67]

This fundamental disconnect between the value of a property and its owner's ability to pay out of current income is a common source of problems in developed countries with aging populations. There, older people on fixed incomes are confronted with rising tax bills arising from rapidly increasing property values. A similar problem exists in countries of the former Soviet realm, due to the manner in which the housing stock was privatized. Under the former regime, housing units were typically allocated by state enterprises--without regard to the occupants' income. At transition, these residential units were transferred to the persons occupying them at the time. As a result, low wage workers could find themselves the owners of high value units and vice versa. The economic disruption that accompanied the transition worsened the problem, as even formerly high income workers in high value properties could find themselves unemployed and unable to afford the taxes on their units. Rising property values have compounded the problem, as tax bills that might have been affordable at the time of transition became less so.

Nevertheless, the first-best option for Latvia would be to proceed with the adjustment in assessment ratios as planned, with no compensating changes in tax rates or exemption policies. Under the ability-to-pay principle, assessment ratios should be the same for all residential properties. This ensures that individual property tax liabilities are uniformly associated with the value of the property owned or occupied by the taxpayer.[68] The fact that proposed assessment ratios would rise most rapidly on new apartment buildings represents a step forward, as it can be assumed that the people who purchase or rent units in new buildings are relatively well off. More broadly, there is considerable uncertainty as to whether property taxes are progressive or regressive, which depends on the ultimate incidence of the tax (Box 8).

Box 7. Is the Property Tax Progressive? Regressive? Or Neither?

Analysts disagree on the property tax's progressivity—or lack of it. The dispute centers on the question of where the ultimate incidence of the property tax falls. Some analysts believe that the incidence of taxes on residential property ultimately falls on occupants: owners, in the case of owner-occupied housing and tenants in the case of property that is rented out. On this basis they conclude that residential property taxes are inherently *regressive*, since housing usually constitutes a larger share of the spending of poor people. Others see the property tax as essentially a tax on capital and conclude that it is inherently *progressive*, since income from capital constitutes a relatively higher share of income for richer people. Then, there are those who view the property tax as essentially a charge for local public services. To them, the issue of incidence does not arise at all. They see no more sense in asking if the 'price' of local public services is regressive than in asking if the price charged for anything else is. See Enid Slack and Richard Bird*, The Political Economy of Property Tax Reform*. 2014.

Should Latvia provide additional relief to certain taxpayers? In principle, further reductions could be justified as a means of assisting the poor. But if that is the justification, then the best approach would be to base the reduction not on the value (or other characteristics) of the property, but rather on the income of the taxpayer. Latvia, of course, already has a mandatory 90% tax abatement for low income households. Eligibility could be extended to households with slightly higher incomes, perhaps with a reduced percentage of relief. If the problem is liquidity—e.g., retired couples living on modest means in substantial homes acquired when they were working, local councils have the option of adopting the tax *deferral* program authorized by the current law.

[67] Even then, property value may be a poor indicator of ability to pay. There are two reasons. First, property assessments do not typically consider the value of mortgages or other liens against the property. If a property is heavily mortgaged, the wealth of its owner may be considerably less than the assessment would indicate. Second, and more broadly, property is not a primary source of income in modern economies. In the pre-industrial world, property values (particularly the value of agricultural land) were reasonably good indicators of ability to pay. This is no longer the case.

[68] Assuming, of course, that owners of multi-family residential buildings will pass any increase in property tax burden onto their tenants

There are of, course, other ways of targeting the poor through the property tax. All of them have serious drawbacks, however. One approach is to impose lower assessment ratios or lower tax rates on lower value property. In theory, this would lower the tax on people living in modest dwellings. Latvia already uses this approach in setting the rates on residential buildings. As noted earlier, that rate range from 0.2 to 0.6 percent. The Ministry of Finance is considering a proposal to increase the number of households benefitting from the lower rates by raising the thresholds: the 0.2 percent rate would apply to properties with values of up to EUR 150,000 (or EUR 100,000) rather than EUR 56,915 as at present. In principle, it might make sense to increase the threshold still further or lower the rate on the lowest bracket.

There are a number of drawbacks to this approach, however. To begin with, it would not necessarily benefit low income renters. At present, the progressive rate on buildings applies to entire structures, rather than the individual housing units within them. Thus a large structure would be considered high value (and therefore subject to the maximum tax rate) even if the units within it were very modest. As landlords can be assumed to pass the burden of property taxes onto their tenants in the form of higher rents, tenants would ultimately pay the higher rate. It should be noted that this is not as important an issue in Latvia as it would be in New York City, for example. The most recent published census data (from the 2011 census) shows that only that 14 percent of private households in Latvia occupy rental units.[69] (Even in Riga, the proportion is only 15 percent.) But if no provision is made to reduce the tax rate on low value rental units, this 14 percent would be excluded from the benefit of progressive tax rates.

Another option—one that is much discussed in Latvia--would be to reduce the tax rate on housing units that are occupied by their owners. (Such abatements typically apply only to the owner's primary residence, ensuring that second homes are taxed at normal rates.) According to the Minister of Finance (see D.Reizniece-Ozola, op.cit.) there is presently a public initiative to either exempt owner-occupied residential property entirely or reduce the rate on owner-occupied housing to 0.1 percent. But again, owner occupancy is no indicator of ability to pay. If anything, there is a negative correlation between income and tenure: richer people are more likely to own; poorer people are more likely to rent. As a result, an exemption for owner-occupied properties would be grossly inequitable: the owner of a mansion worth several million euros would qualify for the exemption while a low-income renter would not. [70]

Given the difficulties of targeting property tax reductions on those less able to pay, one has to wonder if it is worth the effort. The fact is that the burden of residential property taxes in Latvia is not very great. As shown earlier in Table 1, the tax on residential buildings generated only EUR 24 million in 2015. The level of revenue generated by taxes on residential *land* cannot be determined from the sources at hand. But even assuming that it is twice the level of the tax on buildings, the average tax burden in Latvia works out to only EUR 84 per household, or 0.6 percent of median household income. Even the most carefully targeted property tax exemption would not have any impact on the distribution of income in Latvia.

Box 8. The Political Economy of Property Taxation

Throughout the world, the property tax—particularly the tax on residential property—arouses political opposition that is disproportionate to the revenues it generates. Much of the popular resistance to the property tax appears to arise from its visibility. Unlike the income tax, the property tax is not withheld at source. Unlike the VAT, it is not paid in small amounts with each daily purchase (or, in fact, hidden in the price of the good itself). Instead, the property tax generally is paid directly by taxpayers in lump sum payments. As a result, it tends to raise hackles among taxpayers, particularly those (such as owner occupants) who do not associate the tax with a flow of revenues. In consequence, governments tend to avoid it. Of the 75 major countries tracked by the IMF Government Finance Statistics data base, only four generate more than 2.6 percent of GDP from property taxes. The average yield of property taxes (including taxes on agricultural land and ta on the sale of property) among the 75 counties is only one percent of GDP.

Opposition to the proposed increase in assessment ratios presumably arises from the high visibility of the property tax. As discussed in Box 4, throughout the world, the residential property tax arouses political opposition that is disproportionate to the revenues it generates. It is reasonable to assume that most of the abatements and exemptions that accompany the property tax in the places reviewed for this note were not intended to achieve some desirable social result. Instead, they were intended to mollify certain constituencies who were incensed. Unless and until Latvia raises the level of residential property tax to (for example) French levels, the country would be better off confining the proposed reform to the adoption of uniform assessment ratios, and minimizing any expansion of exemptions and abatements.

[69] This may understate the number of household who rent. Although 67 percent of household are classified as 'owner-occupiers', the remaining 18 percent are classified, without further explanation, as 'other'.

[70] The MOF article also argues that confining the exemption to an owner's primary residence would generate insuperable administrative problems. Its author predicts that owners with several homes would evade the tax by transferring title of each one to other family members. This does not appear to have been a major problem in places reviewed for this report, perhaps because transferring title to family members has downside risks of its own.

Conclusions

- **The Government should keep to the schedule for raising the assessment average ratio to 85 percent in 2018**, with no compensating changes in tax rates or exemption policies.
- **The property tax system is a poor vehicle for improving income distribution.** It may be desirable to extend the 90% tax abatement for low-income households to households with slightly higher incomes, perhaps with a reduced percentage of relief. However, proposals to impose lower assessment ratios or lower tax rates on lower value property, or to raise the maximum property value subject to a lower assessment ratio, would not necessarily benefit low income renters. Moreover, even a generous estimate of the burden of property taxes equals only 0.6 percent of median household income. In general, it is preferable to address income distribution through the income tax system.

Latvia Tax Review

Equitable Growth, Finance, and Institutions
Europe and Central Asia Region

TAX COMPLIANCE

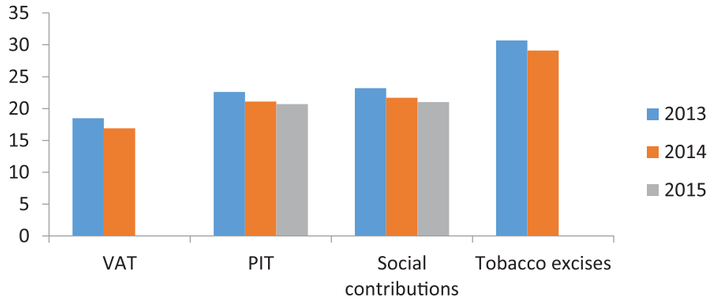
9. TAX COMPLIANCE

This section of the report provides a number of proposals for strengthening compliance management. The State Revenue Service (SRS) has made considerable efforts in recent years to introduce a proactive compliance management program, to strengthen compliance enforcement in key risk areas, and to improve its analytical capacity to determine compliance gaps and trends. The SRS should be commended for these initiatives, which generally reflect modern compliance management trends and correspond with international good practice. Nevertheless, a high level of underground economy activities remains a challenge for revenue management, and compliance remains below target in core areas such as VAT and correct declaration of salaries for income tax purposes.

Analyzing compliance levels

Reducing the tax compliance gap and counteracting tax evasion resulting from underground economy activities is a major focus of revenue mobilization in Latvia, but the capacity to deepen the analysis of compliance gaps and risk remains limited. The SRS has successfully started to build tax compliance gap analysis capacity. A regular monitoring process has been launched in particular for VAT, personal income tax, social contributions and excises on tobacco, petroleum products and alcohol (see, for example, Figure 65). In line with international practice, the VAT gap analysis is based on a macro-analysis approach, while for PIT and social contributions a combination of a micro- and a macro-analysis approach is adopted. Tax gap analysis still is in the process of development, and the lack of resources in SRS headquarters unfortunately slows down the analysis process. The SRS continues its efforts to recruit qualified analytical experts, but with limited success so far. Should the efforts to build additional analytical capacity in-house not succeed, consideration will have to be given to outsourcing part of the gap modelling work, as advancing and deepening the gap analysis work is of crucial importance for strategic planning and compliance management.

Figure 65. Trends in the tax gap development analyzed by the SRS



Source: SRS annual reports. VAT gap data for 2015 are not yet available.

A comprehensive compliance gap analysis has not been done yet, but there is evidence that the VAT gap is high and there are large tax evasion losses from underreporting of business activity and envelope wages. Latvia was part of the EU-wide comparative VAT gap analysis study carried out in 2013. The study found that as a percentage of GDP Latvia (similar to Lithuania) has one of the highest gaps in VAT revenue collection in the EU. Although VAT policy contributes a substantial part to the shortfall in VAT revenue collection, the administrative gap (VAT gap) remains high in an EU-wide comparison and is, different from the situation in most EU countries, higher than the gap resulting from preferential treatment and exemptions in VAT policy. The analysis initiated by the EU Commission does not attempt to disaggregate the compliance gap, however. A more detailed analysis of the tax gap has been attempted by some studies. Putnins and Sauka (2015) estimate the level of underreporting of business income and salaries: their findings suggest that unreported business income (45.5 percent) comprises the largest share of unreported activity; envelope wages come second (36.1 percent), and unreported employees constitute the remaining share (18.4 percent). The SRS is aware of the situation and has put in place a number of measures to confront such tax evasion.

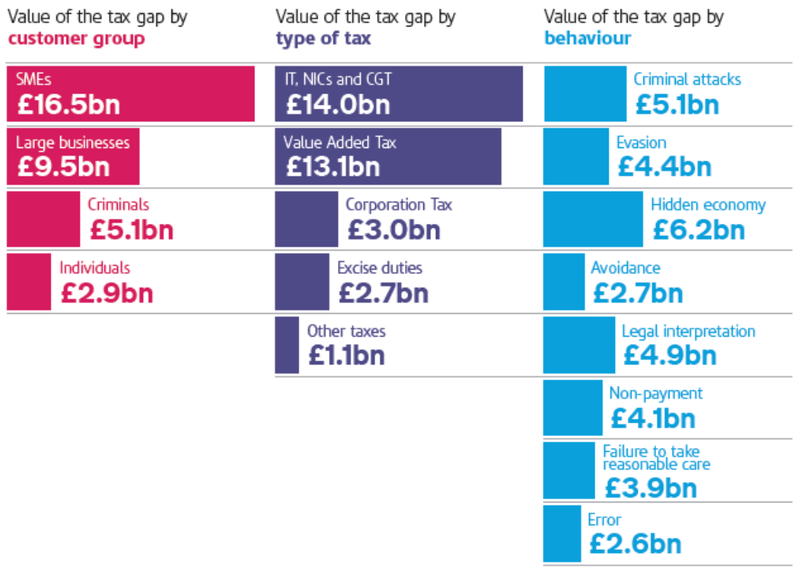
Building the capacity to regularly monitor the tax gap not only on an overall basis, but separately by tax type and by gap category should be a key priority for further developing the compliance management strategy. The overall gap monitoring process introduced by the SRS provides important initial information on general compliance trends and the overall soundness of the revenue management system. However, the analysis is not detailed enough to provide a direct input into compliance management; in order to ensure the maximum benefits from the gap analysis process the development of a more detailed picture of compliance levels and trends will be needed. This requires an in-depth analysis of the level of the tax gap by tax-

type and by business / taxpayer segment, as well as research on the reasons for low or non-compliance. Key questions are: which business types or taxpayer segments are less compliant than others? What are the main areas of non-compliance (fraud, evasion, avoidance, errors)? What are the reasons for non-compliant behavior? What measures could increase the level of voluntary tax compliance? The overall benchmark of a well-developed gap analysis system is the ability to calculate the tax gap by tax regime, taxpayer segment, taxpayer group and behavioral approach. However, this is a long-term process, which requires significant resources and data availability. Countries such as Australia, Canada, the U.K., Denmark, Sweden and the United States are examples of a well-developed gap analysis process. Denmark is a typical example of such a gradual refinement of the gap analysis approach. Following the first step of an overall analysis of the tax gap by tax type, the tax administration has now embarked on a decomposition of the gap estimates into 22 more specific components (Figure 66). The tax administration has yet to determine the methods that will be used to measure each of these segments, but it is clear that a number of different methods will have to be developed to address the various analytical challenges. The gap analysis practiced in the U.K. by HMRC is an example of a more precise estimation of the extent of the tax gap by customer group and behavior in addition to a mere tax-type analysis (see Figure 67). This then becomes a basis for the development of targeted compliance improvement measures.

Figure 66. Twenty-two components of the tax gap analysis in Denmark

Source: IMF country report 16/59: Denmark: The Value-Added Tax Gap (2015).

Figure 67. Overall results of the tax gap analysis by customer group, tax type and behavior: the U.K. HMRC example



Introducing a limited random audit program and a regular taxpayer compliance perception survey could help deepen the understanding of the areas and drivers of non-compliance. Two additional data collection initiatives would complement the existing gap analysis work. First, a more systematic analysis of audit data is needed to determine types of non-compliance. Ideally this would include introducing a random audit approach and conducting a certain (small) percentage of tax audits as random audits instead of risk-based targeted audits (see also below the section on risk analysis). Such random audits would be less thorough and in-depth than risk-based audits, but would have a wider scope and assess all kinds of errors and behavioral aspects. As a recent IMF research highlights "random audits can be costly, but provide direct intelligence on the nature of noncompliance" (IMF, 2015). The SRS tax gap analysis work currently is not even at a stage where findings from regular audits are used as an input into closer examination of the factors contributing to the tax gap. SRS management will have to elaborate an approach for strengthening both the capacity and the scope of tax gap analysis. Second, the data analysis should be supplemented by an analysis of the reasons for non-compliance, the perception of taxpayers with regard to complying with tax obligations, and the effectiveness of the tax administration in enforcing compliance. Such additional perception analysis provides extremely useful information for the strengthening of the compliance management strategy. Input into tax gap analysis work through taxpayer perception surveys was first introduced in Australia by the Australian Taxation Office (ATO) in the 1990s; it has now become standard practice in many OECD countries. Perception surveys include questions about attitudes towards tax cheating, things that might encourage taxpayers to pay their full share of taxes, and more general questions about the attitude of taxpayers towards risk-taking, law-abiding behavior, and importance or reputation (see, for example Box 10 on the U.S. experience and Box 11 on that of Canada).

Box 9. Examples of a taxpayer feedback survey: the U.S. IRS taxpayer attitude survey

Question 1: How much, if any, do you think it is an acceptable amount to cheat on your income taxes: (i) a little here and there; (ii) as much as possible; (iii) Not at all.

Question 2: Do you completely agree, mostly agree, mostly disagree, or completely disagree with the following statements: (i) it is every America's civic duty to pay their fair share of taxes; (ii) Everyone who cheats on their taxes should be held accountable; (iii) it is everyone's personal responsibility to report anyone who cheats on their taxes; (iv) taxpayers should just have to pay what they consider is a fair amount; (v) the more information and guidance the IRS provides, the more likely people are to correctly file their returns; (vi) I trust the IRS to help me understand my tax obligation; (vii) I trust the IRS to fairly enforce the tax laws.

Question 3: How important is it to you, as a taxpayer, that the IRS does each of the following to ensure that all taxpayers honestly pay what they owe: (i) ensure that low income taxpayers are reporting and paying their taxes honestly; (ii) ensure that small businesses are reporting and paying their taxes honestly; (iii) ensure that high income taxpayers are reporting and paying their taxes honestly; (iv) ensure that corporations are reporting and paying their taxes honestly.

Question 4: How much influence does each of the following factors have on whether you report and pay your taxes honestly: (i) fear of an audit; (ii) belief that your neighbors are reporting and paying honestly; (iii) third party reporting to the IRS; (iv) your personal integrity; (v) belief that your friends and associates are reporting and paying their taxes correctly.

The SRS is already conducting taxpayer perception surveys in order to collect information on client satisfaction with the SRS services and performance. Such survey work should be supplemented by specific questions on tax compliance attitudes and views. However, feedback surveys only provide reliable and objective results if the anonymity of respondents is guaranteed. Therefore, they are generally contracted out and carried out by a university or research institute or by a survey company. To a certain extent, the data collected through the SSE Riga shadow economy index for the Baltic countries can also be used as input into the compliance attitude analysis. However, the survey was targeted at only a small number of entrepreneurs and the questions covered only a few aspects of tax compliance (such as the perception about the probability of getting caught for underreporting of business profits), so it is not a substitute for a real compliance attitude analysis.

Box 10. Compliance survey analysis in Canada

The Canadian Revenue Agency (CRA) contracts private firms to conduct taxpayer attitudinal research. The CRA uses a representative survey to periodically investigate attitudes toward tax compliance (names the CROP 3SC Monitor Survey). The usefulness of the survey is that it gives information on how the attitudes of taxpayers to tax compliance vary by socio-economic characteristics, trends and underlying values. It helps the CRA to monitor shifts in expectations/attitudes and behavior, and allows a more detailed profiling of tax payers than simple division into those that evade and those who do not. For example, recent cluster analysis showed: 31 percent of the taxpayer population is fully compliant (risk averse and opposed to tax evasion), 18 percent are altruistic compliers (strongly opposed to tax cheating), 15 percent are over-taxed opportunists (higher-income taxpayer who view it acceptable to cheat, and state that they have done so when given the opportunity), 12 percent are rationalizers, 12 percent are underground economists, while 13 percent are outlaws (admit to tax evasion openly). The CRA uses research findings to help develop communications and marketing initiatives to improve voluntary compliance, including the development of a strategy to target different subgroups.

Developing a segment-specific approach for compliance management

The grey economy generally is not equally distributed between business segments. Based on the analysis of tax audit results and economic data, many OECD country tax administrations have developed a compliance heat map, prioritizing compliance management in business segments with a presumed high level of undeclared income and transactions. Studies on the composition of the shadow economy show that major sectoral differences also exist in Latvia.

The SRS has also embarked on a sector-specific approach to investigating tax evasion, commencing with an in-depth analysis of business compliance in the car maintenance and repair sector in 2014, followed by the dentistry industry and the beauty care sector. Such an approach is a useful and welcome initiative in principle. The SRS initiative is well designed insofar

as it combines targeted enforcement measures with steps to encourage a voluntary move to higher compliance levels. Also, the active outreach to and cooperation with business associations by SRS reflects best international practice. In 2015, a total of 2,135 new taxpayers were registered in the three sectors and the declared income in the sectors increased by around EUR10.5 million. The overall impact of the initiative can only be evaluated once the longer-term compliance trend in the targeted sectors is known. Putting these sectors under constant closer supervision would consume considerable resources and probably not be cost-efficient. General practice in other countries therefore has been to focus on one specific sector for a limited period of time, generally one year. This time period is used to build better voluntary compliance and collect data and information to improve risk management in the sector and develop specific risk analysis tools to permanently achieve a higher level of sector-specific compliance monitoring capacity (see Table 27 for examples of sectors of focus of selected OECD economies). This should also be the approach followed by SRS.

Table 27. Identification of high-risk industry segments in selected OECD countries

Australia	Belgium	Canada	Sweden	USA
Construction	Construction	Construction	Construction	Car sales
Transport	Gambling	Hospitality	Restaurants	Construction
Restaurants	Transport	Agriculture	Hairdressers	Healthcare
Hairdressing/beauty salons	Car sales	Real-estate agents	Taxi companies	Medical professions
Cleaning services	Diamond industry	Taxis	Scrap metals	Restaurants
Clothing and textiles	Dentists	Hair Stylists	E-commerce	Real-estate agents
Motor vehicle retailers	E-commerce		Labor agents	
Art and antique dealing	Heating-oil distributors			

In sectors with a high risk of informal activities and a widespread practice to delegate tasks to sub-contractors, the introduction of withholding taxes on payments to such sub-contractors could be an effective instrument to reduce tax evasion. Sub-contracting is widespread in the construction industry, with more than 6,000 businesses registered in Latvia**.** Tax compliance of the small number of principal contractors is easier to monitor and enforce than managing tax compliance of a large number of sub-contractors, which generally are smaller businesses and may have a rather short activity period on a construction site. Requiring the principal contractor to withhold income tax on the payments to such sub-contractors reduces evasion possibilities and contributes to higher compliance levels in the industry. The level of tax withholding can even be influenced by the compliance level of the sub-contractor, as the example of the Irish Relevant Contract Tax shows (see Box 12).

A withholding tax scheme can also be applied to other industry segments in which a high level of sub-contracting takes place. An alternative approach is to require principal contractors in all business segments to withhold income tax on all payments made to other businesses which do not present a valid tax registration number. An example of this type of withholding tax is s12-190 of the 1st Schedule to the Taxation Administration Act 1953 in Australia (see Box 13). The Australian approach has proven to be relatively successful. Taxes withheld in its first year amounted to US$ 16.1 million, in the second year US$ 32.2 million, and in the third year US$ 54.8 million. Ultimately, more than 40 percent of the businesses that had tax withheld as a result of not presenting their registration number initiated business registration. The withholding tax approach on the income tax side can be combined with the operation of a reverse charge mechanism on the VAT side.

Box 11. The relevant contract tax in Ireland

All payments made by a principal contractor in the construction industry to a sub-contractor are subject to tax withholding (the Relevant Contract Tax or RCT). Principals must notify the tax administration of all payments made on relevant contracts through an online information system. The sub-contractor is also required to register for RCT, and sub-contractors which are not in the RCT database already will be registered automatically after the first contract notification by a principal contractor. The principal has to enter each payment to a sub-contractor in the online information system before the payment is made, and has to deduct withholding tax in accordance with the deduction authorization issued by the tax administration. There are three RCT rates (0 percent, 20 percent and 35 percent), and the applicable rate depends on the compliance records of the sub-contractor, with the zero rate applying to sub-contractors that were fully tax compliant for the last three years, the 20 percent rate applying to sub-contractors with a record of substantial tax compliance, and the 35 percent rate applying to all other sub-contractors. In addition, if the tax administration forms the opinion that deductions from relevant payments at the standard 20 percent rate of tax for the year of assessment will be insufficient to fully satisfy the income tax liability of the sub-contractor for that year, the 35 percent rate may be applied. This provision can be used, for example, where there is a risk of the enterprise going out of business before its tax debt has been cleared.

Box 12. Tax withholding obligations in Australia

A business dealing with another business that does not quote its identification number must withhold taxes from any payment made at the rate of 48.5 percent. The high rate means the revenue is not at risk in relation to those transactions, since the withholding rate equals the maximum amount of income tax and social levy payable by an individual. The paying business must also complete a payment summary at the time of the withholding giving full details of the payee and the transaction and send an annual withholding report to the Tax Office detailing the transactions. This information enables the Tax Office to conduct income-matching checks on businesses that have not quoted an identification number.

For businesses operating in sectors dominated by cash transactions, the obligation to use certified cash registers for recording their sales can be a useful support tool to improve reporting of turnover and income. **But a special cash register control program will have to be designed.** Latvia is currently strengthening its cash register system by introducing a direct electronic link between the register and the SRS database. The obligation to use cash registers is not respected automatically, however, as can be seen from the cases of cash register manipulation detected in many countries, including in Latvia. A close monitoring of the proper use and correct functioning of the registers is essential, particularly in the initial phase of register introduction. Countries with a positive experience in the operation of cash registers, such as Sweden (Table 28), have invested considerable resources in such supervisory work.

Table 28. Sweden: Supervision, inspection visits and audits within the cash trading operation in the first three years of compulsory cash register use

	2010	2011	2012	Total
Supervisory visits	50,353	20,782	10,308	81,443
Inspection visits	3,100	7,198	11,900	22,198
Audits	319	257	306	882

Source: Skatteverket, Impact evaluation: Requirements of cash registers (2013).

Supervision of the proper use and functioning of cash registers needs to continue after the introductory phase with a special cash register control program. Introducing this program in Latvia will be essential to achieve the maximum impact of the registers on compliance. The Irish program of unannounced control visits to cash businesses is a model for such an initiative (see Box 14).

Box 13. Surprise visits to cash businesses in Ireland

Behavior in respect of trades under-declaring income can be detected more successfully through real-time, unannounced interventions or "cold calls" than through retroactive reviews of books and records. Accordingly, a strategy was put in place involving unannounced visits to all cash businesses in a town, street, market or at an event (e.g. concerts, trade shows etc.) to check on the controls and procedures in effect for handling cash transactions. The methodology employed in investigating cash businesses can include the following:

- Surveillance (including covert) and use of intelligence;
- Test purchases;
- Examination of cash registers and electronic point of sale systems;
- Ensuring all equipment is connected as appropriate;
- Examination of books and records;
- Interviews with proprietors, managers and employees;
- Ensuring all employees are on the books;
- Stock checks; and
- Follow-up visits.

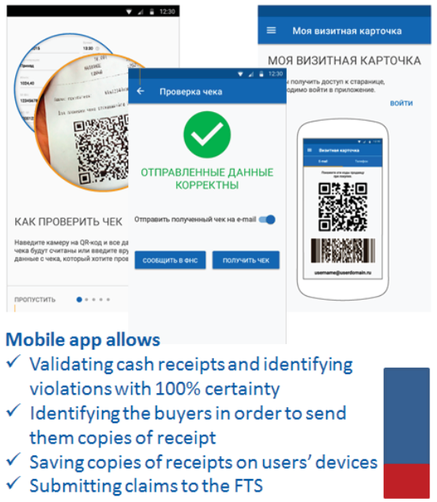
Streetscape operations have proven to very successful –not only have compliance issues in the cash business been identified and addressed but the profile of Revenue has been raised in the towns concerned. Follow-up actions have confirmed that the majority of businesses who had issues with their books and records have corrected the situation.

Source: OECD (2012).

Control of cash register use only is effective, however, if violations of the obligation to record a business transactions or—even more severe—systematic manipulations of a cash register result in severe penalties and fines. A sufficiently high monetary penalty is required for not issuing a cash receipt for a transaction; an example is the new legislation in Austria, where the obligation to operate cash registers has been introduced from 2017, and which imposes a fine up to EUR 5,000 for not using the cash register. More severe penalties are required for cash register manipulation, including imprisonment of the offender in case of systematic installation of electronic sales suppression tools.

The usefulness of the tax lottery scheme to promote the issuance of tax invoices should be reviewed. While tax lotteries are becoming increasingly popular in the region (less so in OECD countries overall), this does not necessarily mean that they are an effective tool to support tax compliance in the cash economy sector. Indeed, some countries, such as Georgia or Korea, have discontinued their lottery schemes. The risk of the lottery scheme is reduced in Latvia because no lottery prizes are awarded, so the costs of the scheme are limited. Nevertheless, administration of the scheme consumes SRS resources, which may be better invested in other compliance management activities. In any case, the tax receipt control mechanism should be facilitated as much as possible. An app-based control mechanism, such as recently introduced in the Russian Federation (see Figure 68), is a typical example of a customer invoice checking mechanism based on modern technology and avoiding interaction with the tax administration by sending copies of paper invoices.

Figure 68. The cash receipt check app in Russia



Dealing with envelop wages

Ensuring accurate reporting of wages remains difficult. However, taxpayer surveys seem to indicate that the level of underreporting of salaries continues to decrease and is now not very different from the level in Estonia and Lithuania. This may be due to better compliance enforcement, or the increase in the minimum wage level may have reduced the prevalence of envelop wages.[71] The SRS has made considerable efforts to collect information on the actual level of salary payments, including through an active cooperation with business associations. This enabled the SRS to develop partial data on average salary levels in industry segments, as benchmarks for selecting cases with major deviations from the averages for closer examination. The development of risk indicators for audit selection, typically being the difference between the salary levels declared by the employer and the average salary level in the business segments, or the difference of the turnover/salary payment ratio from the industry average, generally is the main tool to identify cases which require an audit. Efforts also could be increased to promote voluntary compliance, in particular with social contribution payments, by highlighting the reduction in social benefits resulting from the non-payment of MSSIC contributions. However, a voluntary compliance campaign in this area is likely to achieve only limited results, as taxpayers seem to prefer a reduction in their current tax burden to a higher level of future social benefits. So the major emphasis of an initiative to reduce the level of envelop wages will have to remain on the enforcement side. One issue is if, similar to the practice in a number of OECD countries, a special audit focus should be built on auditing wage withholding tax compliance. In addition, assuming that a substantial portion of envelop wage payments are made in cash, the current efforts of SRS to better monitor business income received in cash should facilitate the control of cash spending and the detection of regular cash payments to employees.

Managing VAT compliance

VAT compliance could be strengthened by improving the control of the VAT chain and taking measures to reduce the risk of fake companies entering the VAT net. Latvia is one of the best performers in the area of business registration, according to the World Bank's Doing Business indicators. The entire business registration process takes only 5.5 days, compared to an average of 10 days in the Europe and Central Asia region and 8.3 days in high-income OECD countries. This impressive result is not without risks for VAT compliance management, however. Avoiding the VAT registration of bogus companies is a high priority for enforcing VAT compliance. This requires an initial existence and sustainability check as a precondition for accepting a business into the VAT net. The fact that a business gets a business registration number should not automatically imply that it also should be VAT registered without 'business reality scrutinizing' by SRS. Reducing the risk of VAT registration by a fly-by-night company may require a site visit to check if the business actually exists and has installations, such as office space, employees, and machinery, which indicate a more permanent conduct of business activities. Such initial existence checks could in practice be combined with advisory services to the newly registered businesses, to inform the business manager of the services SRS can provide and

[71] European Commission, Country report Latvia 2015, COM(2015) 85 final

check if the books and records are maintained in a satisfactory way and if the business operator is aware of the tax filing and payment obligations. Such routine visits to business start-ups are regularly provided by OECD country tax administrations and appear effective, as business operators know that they are on the tax administration radar screen and the tax administration can proactively identify weaknesses in the organization of tax compliance work in the business ('Right-from-the-start'–approach).

The initial business reliability and sustainability check should include a cross-checking of names and addresses of business owners and managers. Firms where the owners or managers had been involved in the operation of a fake or non-compliant business should be selected for further investigation. The current practice of preventing the enforcement of tax debt collection by setting up companies with managing directors resident in countries that do not provide administrative assistance in debt collection, such as Uzbekistan or Afghanistan, could at least partly be addressed by requiring by law the nomination of an EU-country resident company director. The Irish example can serve as a model for such an approach (see Box 15).

The introduction of an e-invoicing system could facilitate the operation of a real-time VAT cross-checking mechanism. The SRS requires VAT-registered businesses to attach a list of invoices issued to their monthly VAT return. This list is then used for cross-checking the seller and buyer data in the VAT returns. This is a useful approach to detect inconsistencies in VAT returns. However, the cross-checking can only be launched after a VAT return has been filed, and the approach implies both administrative and compliance costs for the preparation and processing of the VAT invoice list. A more efficient approach, which would facilitate a better, real-time monitoring of VAT-registered businesses, would be to introduce an obligation for issuing e-invoices for B2B transactions. This approach is now used increasingly in OECD as well as in developing countries to detect irregularities in business behavior, such as businesses stopping transactions or businesses with major input invoices but not issuing any output invoices. An early warning system can be introduced, which initiates same-day follow-up actions in case the system detects irregularities. Technically the e-invoicing system requires the business to install required software and a data connection with the respective tax administration server. With the direct connection to the tax administration server the tax invoice of the seller is registered and gets an automated invoice number before it is even received by the buyer. The tax administration therefore has constant real-time access to the transaction level and behavior of all VAT registered businesses.

Box 14. Requirement for Irish incorporated companies to have a director resident in an EEA state

Under Irish company law, every company incorporated in Ireland is required to have at least one director who is resident in a member state of the European Economic Area (EEA)—i.e. resident in an EU member state or one of the three non-EU countries which are part of the EEA (Norway, Iceland and Liechtenstein). This requirement is subject to two exceptions as follows:

- It does not apply where the company provides a bond to the value of EUR 25,000 which may be called upon to discharge liability of the company in respect of any fine that may be imposed under the Companies Act 2014 as well as certain fines or penalties under specific provisions of the Taxes Consolidation Act 1997. A period of two years is prescribed as the minimum period of validity of the bond, commencing no earlier than the event giving rise to the requirement for the bond. For newly incorporated companies, the bond must be effective from the date of incorporation. The surety under the bond must be a bank, building society or credit institution.

- The requirement does not apply where a company applies for and is granted a certificate from the Registrar of Companies that the company has a real and continuous link with one or more economic activities carried on in Ireland. Such a link is considered to be established where one of more of the following conditions are satisfied:

(i) the affairs of the company are managed from a place of business in Ireland by a person or persons authorized by the company to act for the company,

(ii) the company carries on a trade in Ireland, or

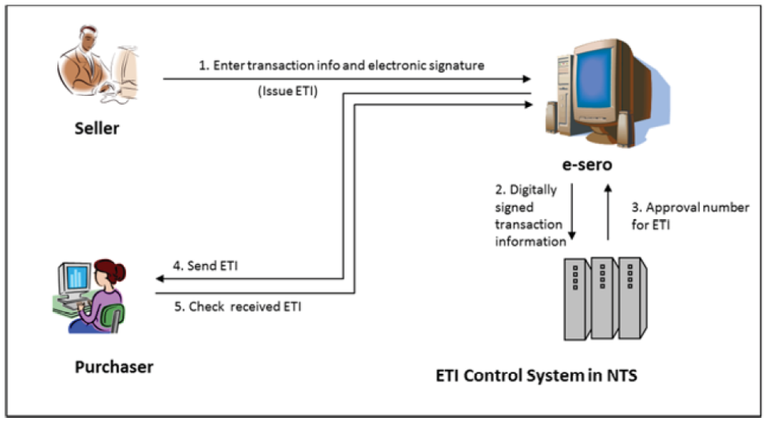
(iii) the company is related to a company which satisfies the conditions in subparagraphs i or ii.

Application for a certificate is made to the Registrar on a prescribed form and the Registrar shall not grant a certificate unless the company concerned provides proof that it has such a link. To ensure the necessary proof is provided, the Registrar generally requires any company applying for a certificate to obtain a statement from the Irish Revenue authorities, made within two months of the date of application, which Revenue has reasonable grounds to believe that the company has a real and continuous link with one or more activities in Ireland. A certificate issued to a company will be revoked where the Registrar forms the opinion that the company has ceased to have a real and continuous link with any economic activity carried on in Ireland or is advised of this by the Revenue authorities.

The relevant legislation also provides that, where a person who is resident in an EEA state ceases to be a director of a company and to the best of his or her knowledge no other director of the company is so resident at the time of such cessation, the person is required to notify the Registrar of Companies to that effect. A person who fails to provide such notification will be jointly and severally liable with the company for any fine imposed under company law following cessation as a director.

The above-mentioned provisions are part of a range of measures under Irish company law aimed at ensuring that companies incorporating in Ireland have a real and demonstrable business presence in the country and an identifiable person authorized to act on the company's behalf.

Figure 69. Issuing e-invoices: the Korean example



Source: Lee, Can electronic tax invoicing improve tax compliance, World Bank 2015.

The downside of an e-invoicing initiative is the expected resistance from the business community. This resistance is due to the potential costs of software and data connection and the extended control possibilities of the tax administration. A phased introduction of e-invoicing, starting with certain priority segments, might therefore be appropriate. Mandatory e-invoicing has in many countries started for specific business segments or transactions. A first area of mandatory e-invoicing has often been business to government (B2G) transactions, mandating suppliers to send invoices electronically to public sector clients (e.g. in Denmark, Norway, Finland, Italy, Austria, Singapore), while some countries made e-invoicing compulsory for specific business sectors (e.g. financial institutions and exporters in Ecuador, the telecom sector in Turkey, and large businesses in Chile and Uruguay). Comprehensive mandatory e-invoicing still is an exception; it is applied e.g. in Korea since 2011 (see Figure 69), in Guatemala since 2013, in Indonesia from 2016, and in Chile from 2017. In addition, certain incentives such as advantageous depreciation possibilities for investments in e-invoice installation, could be offered to businesses. Moreover, the reduction in overall VAT compliance costs through e-invoicing could be highlighted, as the monthly preparation of VAT returns is made much easier.

SRS, in cooperation with the private sector, has also started to implement an online documentation system for the transportation of goods. Several meetings have taken place between the Revenue Service and the private sector to discuss development of a single electronic data standard for invoice and delivery documentation. This system is expected to improve control of the actual delivery of goods and the detection of fake transactions.

Providing access to financial sector data

Access to credit and debit card data could greatly facilitate the checking of income tax data. The SRS already has access to a large volume of data from various government and non-government sources. According to information received from SRS the matching of these data is managed without problems, as issues of attributing data to specific taxpayers do not occur, and the data matching capacity is adequate. The major gap in the scope of access to third-party information is in the area of financial data, in particular bank account data and information on credit or debit card use. SRS has information on the number of bank accounts held by incorporated businesses (and possibly in the future also on bank accounts held by non-incorporated businesses), but no information on the amount of funds deposited in such accounts or the transactions made is available, except for cases of a tax audit. While this is not a major deviation from standard international practice, as access to banking data continues to be rather limited in many countries, some countries nevertheless have managed to require banks to provide financial data about their customers to the tax administration on a routine basis. In India, annual information reports to be prepared by financial institutions include information on cash deposits, bank account numbers as well as credit card transactions. Norway has one of the most extensive reporting requirements for banks in Europe; The Tax Assessment Act S. 6-4 requires "all financial institutions, including banks, insurance companies and securities firms, to report, unsolicited, to the tax authorities details of their clients' economic standing, for example the amount of debit and credit balances for each account, capital invested, debt incurred and interest accrued". Similarly, Denmark and the Netherlands require banks to report to the tax administration the account balance for each account at the end of each year or at the date the account was closed. More frequent is the introduction of reporting requirements for credit and debit card issuing companies. A model example here is section 6050W of the US

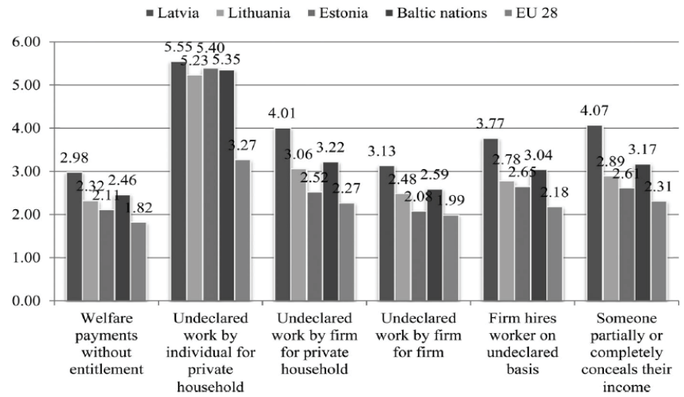
Internal Revenue Code. The provision requires issuing companies to file information returns to the tax administration and report payment card transactions, including debit, credit and gift cards. All such transactions have to be captured on a gross basis and accumulated monthly for each payee. Given that non-recorded cash income will be deposited and spent somehow and some time, the information on the volume of deposits and spending of a taxpayer allows the verification of his income declaration. The monitoring of credit and debit card spending therefore should also be introduced in Latvia.

Developing a proactive compliance management approach

A key challenge for compliance management is to address the high tolerance level for informal activities. Such a tolerance exists in Latvia in particular with regard to undeclared work for private households and partial concealment of income (see Figure 70 for an estimate of attitudes to different types of benefit fraud/tax evasion across the Baltics).

SRS has implemented a number of initiatives to promote voluntary tax compliance, including lectures to school children on the importance of paying taxes. However, tax morale remains a challenge and far below expectations. In such an environment efforts to convince taxpayers of the importance of tax compliance need to continue.

Figure 70. Acceptability of different types of shadow work, average scores, Baltic States and EU8



Source: Williams and Horodnic, Explaining and tackling the shadow economy in Estonia, Latvia and Lithuania: A tax morale approach (2015).

One approach to improving compliance in household services is the design of special and well-targeted tax incentives. There are various ways countries have tried to improve voluntary compliance for this segment (see Table 29 and 30). One widely-used tax policy approach is to offer targeted tax incentives for business to consumer transactions in service segments that are known for a high level of cash transactions and tax evasion. This is generally done by allowing an expense deduction for at least part of the costs of such services if the expenses are properly documented through a tax invoice.

While such incentives schemes may contribute to a higher degree of formalization of activities in the segments targeted, they come at high cost. The additional tax revenue collected from the service provider has to be balanced against the tax reduction on the consumer side due to the incentive. The German Ministry of Finance, for example, estimated reduced income tax collection on the consumer side of EUR 410 million (US$ 435 million) in 2014. Practical experience with the application of incentive schemes therefore has been mixed. In France, the Ministry of Employment has estimated the number of legally provided hours to have increased from 530 million hours in 1998 to 800 million in 2008; according to the National Institute of Statistics around two thirds of these hours legally paid on the market result from a "whitening" of previous undeclared activities.[72] Survey evidence in Sweden indicates a positive impact of housework deduction on tax formalization (see Box 16). In Germany, the incentive system caused considerable loss of revenue from personal income taxation, and the Federal Court of Auditors estimates that in only 30 percent of claims for tax credits for household services would the services have been cash-based and not declared for tax purposes without the incentive scheme; 70 percent of credits are claimed for payments made by bank transfer before the incentive scheme was introduced. The Court of Auditors therefore has recommended that the scheme be abolished. Experience in Italy[73] has shown that the majority of claims for bonus payments came from Northern Italy, which

[72] ORSEU (2013).

[73] Marchese, A Chinese Recipe for Curbing the Evasion of Commodity Taxes, in CESifo DICE Report 3/2007, p. 38, referring to a study by Di Lorenzo et al.

is expected to have a lower level of tax evasion than the southern regions of the country. This shows that the costs and benefits of such incentive schemes must be carefully monitored.

Table 29. Incentive schemes, selected European Union member countries

Country	Incentive Scheme
Belgium	Tax reductions are linked to the use of vouchers used to hire household services. Two types of vouchers, the cheque L'Agence locale pour l'emploi (ALE) and the Titre-services, are eligible for tax deduction, the former program at 30 percent, the latter at 30 to 40 percent. The ceiling of tax deduction for vouchers is EUR 2,400 (the sum of both vouchers).
Denmark	In 1994 Denmark became was the first country to offer a subsidy, 50 percent of the cost, for such household services as garden work, snow clearance, shopping for daily goods, cooking, cleaning, laundry, and window cleaning. However, the benefit was reduced in 2004 and is now available only to people aged 65 or more. In 2011 a tax credit was allowed to all private persons. While briefly abolished in 2014 the scheme was reintroduced with some modifications in 2015.
Finland	A tax deduction was introduced in 1997 for household services within the taxpayer's own home or the homes of elder relatives. If the deduction is larger than the amount of central government income tax, local government taxes can also be reduced. Since 2009 eligible services have been household work, caregiving and day-care work at home, repair work, a leisure house, and IT services. The deduction is 40 percent of the expenses paid to a company, small entrepreneur, or nonprofit organization (60 percent up to 2011) and 15 percent of the wages paid an employee. When an individual is employed, the employer is exempt from the social contribution.
France	France allows a tax deduction of 50 percent of expenses for cleaning, ironing, IT assistance, or private lessons. The deduction is given to households that either directly employ an individual service supplier at home or hire a service company. The deduction ceiling is EUR 12,000 a year, but it can be increased depending on the number of children, people 64 and older, and disabled persons. Since 2007, if the eligible tax deduction surpasses the income tax, the difference is reimbursed to help low-income households.
Germany	A tax credit is allowed up to 20 percent of the costs for household-related services, such as gardening, cleaning, laundry services, or childcare. Another 20 percent of the wage costs for craft services, such as repairs and refurbishing, can be used to offset income tax.
Italy	Tax incentives are linked to the purchase of vouchers. However, the scope of work covered is very inclusive: maintenance of buildings, seasonal and agricultural activities, organization of sporting events, etc.
Luxembourg	Tax is reduced by the expense of housework services, care for dependent persons or childcare. The maximum tax rebate is EUR 3,600 a year or EUR 300 a month.
Portugal	Invoices issued in certain hard-to-tax sectors (restaurants, hotels, car repair, hairdressers) entitle the customer to a 15% refund of the VAT charged against his PIT tax liability. The refund amount is deducted from the PIT liability in the following year. A ceiling of 250 Euros applies.
Sweden	The tax reduction system in Sweden has two components; RUT (cleaning, maintenance, servicing) and ROT (home renovation services). A tax credit is allowed for 50 percent of the labor costs (including VAT) of household services. The sum of the tax credit for RUT and ROT must not exceed about EUR 5,500 per person per year.

Table 30. Personal and household services (PHS) as related to public policy instruments

	BE	DE	DK	FI	FR	HU	IT	NL	SE	SP	UK
Main Public Scheme	Services	Mini Jobs	Financial Incentive Service-	Tax Deduction	Tax Deduction	Act XC	Buoni Lavoro	Regulation on Home Services	Tax Dedication (RIT, ROT)	-	-
Cleaning	X	X	X	X	X	X	X	X	X	No precise definition	
Gardening	X	X	X	X	X	X	X	X	X		
Cooking, meal preparation	X	X	X	X	X	X	X	X	X		
Domiciliary private tuition					X	X	X				
IT support				X	X						
Small repairs		X			X			X	X		
Renovation services				X	X				X		

Source: ORSEU, Developing Personal and Household Services in the EU, 2013.
Note: BE: Belgium; DE: Germany; DK: Denmark; FI: Finland; FR: France; HU: Hungary; IT: Italy; NL: Netherlands; SE: Sweden; SP: Spain; UK: United Kingdom.

Box 15. Sweden: Impact of housework deduction on tax formalization

In an interview survey from 2011, the Swedish Tax Agency investigated how the housework deductions have affected undeclared work. The result is compared with an interview survey conducted in the previous mentioned report 'Purchasing and performing undeclared work in Sweden' from 2006 (data collected in 2005).The result shows that the occurrence of undeclared work decreased by about 10 percent between 2005 and 2011, within the categories of jobs covered by the ROT and RUT deduction. Moreover, 6 percent of the buyers of ROT indicated that the work would not have been performed unless they had access to the deduction. This corresponds to 44,000 jobs, or 2.6 million working hours (Swedish Tax Agency, 2011). The general level of acceptance within the society of buying undeclared domestic services also has decreased, according to the report. Nine out of 10 respondents indicated that it is wrong to buy repair, maintenance and cleaning services undeclared. This result is similar to a survey among the general public by the Employer and Trade Organization for the Swedish Service Sector (Almega) (2009) which shows a decline in individuals' perception that undeclared household services are legitimate (Swedish Tax Agency, 2011). In the autumn of 2011, the Swedish Federation of Business Owners (Företagarna) conducted a survey among 2,447 member companies in the construction sector. Nearly 90 percent of the surveyed companies felt that the ROT-deduction had a positive impact on reducing undeclared work in the sector, compared to 78 percent in 2009 (Swedish Federation of Business Owners, 2011).
Source: European Monitoring Center on Change (EMCC), 2013.

The introduction of an incentive scheme for the voluntary declaration of personal service payments is no substitute for the implementation of a more general voluntary compliance promotion plan, which should also increase the awareness on the negative consequences of informal sector activities. Feedback the mission received from various private sector representatives demonstrates that the perception that tax money is not well spent and risks being wasted is an important reason for non-compliant behavior. The SRS already operates a well-developed taxpayer information and outreach program. Taxpayers can ask questions electronically, access client service centers and contact the call center to get answers to questions. The SRS also is actively using social media such as Facebook and Draugiem.lv. to communicate with taxpayers. Key areas for improving the outreach and communication strategy would be to carry out a deeper analysis of taxpayer service and information demands and the preferred channels for the delivery of such services, the design of a communications program to improve the public perception of the SRS, and the use of outreach and communication to promote voluntary compliance in high-risk areas. While SRS has done some initial work on collecting taxpayer feedback, and is monitoring the satisfaction of taxpayers with certain services offered, a broader and more systematic survey of service expectations and preferences could help increase the efficiency and effectiveness of taxpayer services. Changing the public perception of SRS, improving the trust of taxpayers in the fairness of revenue collection, and promoting an image of SRS as a client- and service-oriented institution instead of a mere enforcement body will be crucial for improving voluntary tax compliance. This will require developing a special outreach program, including exploring opportunities to improve the dialogue with special segments of the taxpayer community, such as tax consultants or large businesses. Also, innovative approaches to promote both the SRS and voluntary compliance should be considered, such as, e.g., the design of web-based presentations distributed via YouTube, or tax-related TV spots. If designed well, such instruments can become highly popular. A particular focus on explaining the use of tax revenues and the completion of projects with taxpayer money would be another component of a refined outreach and communication program. There are

many examples from OECD and other countries on the design of such an approach, with a very successful and prominent example being the Cash Economy Task Force in Australia (see also the OECD Source Book on Taxpayer Education: Building Tax Culture, Compliance and Citizenship"--OECD 2014). Further analysis would be required to determine the appropriate approach and tools for such an initiative in Latvia.

Rewarding compliant taxpayers and stigmatizing major evaders may be good incentives for increasing voluntary compliance. The SRS is already operating a program of honoring the most compliant and biggest taxpayers in the country. The program is limited to larger businesses with annual tax payments higher than EUR 100,000. Demand for participation in this white list program has also been expressed by medium and smaller businesses. There may be scope for broadening the program, although it is acknowledged that this would impose a burden on SRS to ensure that the taxpayers selected really are fully tax-compliant. Korea has introduced an exemplary taxpayer award. In addition to a three-year exemption from tax audits (as in Latvia), awarded taxpayers receive VIP status at financial institutions and at airports, and taxpayers who declare a remarkably higher tax liability than other taxpayers in a similar situation and environment are specially awarded. Such an approach might be considered as an additional instrument to promote the declaration of correct wages instead of envelop wages.

But the threat of penalties in case of non-compliance must also exist. Voluntary compliance can be increased both by commending the best taxpayers in the country and by disseminating information on the penalties imposed on major tax evaders. This is particularly helpful where penalties were imposed on well-known personalities. For example, public awareness of the risks of tax evasion was raised substantially in Germany when the father of tennis idol Steffi Graf was sent to jail for three years and nine months because of evading 6.5 million euros tax, or when the former CEO of the 'Deutsche Post' was sentenced for tax evasion to a monetary penalty of one million euros plus a two-year jail sentence on probation. Such court sentences spread the message that even rich and well-connected people face a risk of being imprisoned if they do not pay their taxes properly. This demonstrates the fairness of tax collection and provides incentives for risk-averse taxpayers to comply. But it requires cooperation of the judiciary and the willingness of judges to consider tax evasion as a serious crime. In Latvia, however, it appears that tax evasion is considered a rather harmless offence that does not really deserve severe punishment, and in particular is not a reason for imprisonment of the offender. Such an attitude of the judiciary makes compliance management more difficult for the SRS. Other countries with a similar problem have organized meetings and awareness building events for judges to explain why tax evasion in certain cases should be considered a serious crime. This has helped in some cases, while in others the interest of the judiciary in such awareness building events was rather limited. It is uncertain whether such efforts would be productive in Latvia. It would be worthwhile, however, to brainstorm further how an effective criminal prosecution of major tax evasion cases can be ensured.

Risk analysis

The SRS is steadily improving its risk analysis for audit selection. The system is IT-based, and all taxpayers selected for an audit have been identified through the risk system. This has enabled SRS to reduce its field audit activities, without reducing the level of additional taxes assessed through the audit process. However, regular desk audits complement the field audit process. With the use of the ESKORT system the SRS has selected a reliable and well-known software system to support the risk analysis process.

The most important initiative for assessing the reliability and the appropriate targeting of the risk analysis is the cross-checking of results from system-selected audits with results from check audits. The risk analysis system is currently evaluated only by monitoring trends in the audit yield from field audit activities. Additional audit assessments are impressive and show an upward trend in recent years. In addition, an indirect impact of the audit selection process, not even reflected in the audit yield statistics, is the possibility for taxpayers to voluntarily correct their tax declaration before the commencement of the audit, which was used by 61 taxpayers in 2015. However, as the difference between the audit results in 2011 and the results from the subsequent years clearly demonstrate (see Table 31), the size of additional assessments can vary substantially across years if in a specific year a few major audit adjustments from big companies increase the total.

Table 31. Latvia: Tax audit results

Year	2011	2012	2013	2014	2015
Total number of audits conducted	1,396	1,355	1,445	1,318	1,243
Total amount of additional tax (in millions of Euros)	293.07	183.25	189.93	190.36	232.43
Additional assessment per audit (in thousands of Euros)	209.9	135.2	131.4	144.4	187.0

Source: SRS annual reports.

Box 16. The use of random audits for improving risk analysis in Denmark

SKAT in Denmark operates a rather extensive random audit program. SKAT justifies the costs of this program by its extensive use not only as an input into tax gap analysis, but also to support tax administration and compliance decision making. Random audit data are used in particular to test risk profiles, as the random audit program provides very detailed risk profiles for taxpayer compliance behavior. SKAT has used the program to test the efficiency of about 200 risk profiles. Risk profiles are used to stratify random audit samples. The risk profiles are categorized into high and medium risks, and those taxpayers not meeting any of the risk profiles are classified as low risk. This has allowed SKAT to over-sample high and medium risk populations and under-sample low risk populations. This design has the benefit of (a) increasing the efficiency of the sample; (b) reducing opportunity costs of the survey; and (c) improving the motivation of auditors to undertake the random audits.

Source: IMF country report 16/59: Denmark: The Value-Added Tax Gap (2015).

Therefore, the audit yield does not by itself provide an accurate evaluation of the reliability of the risk analysis system. The audit yield does not indicate whether the risk analysis system captures the full range of compliance risks or identifies the cases with the highest risk for revenue collection. Such an analysis would require the comparison of risk-based audit results with non-risk-based audit findings. This can be done by: (i) comparing findings and results from risk-based audits with random audit findings, and (ii) selecting a small number of audits based on the risk evaluation by experienced tax auditors and comparing the results from both audit approaches. Box 17 gives the example of the use of random audits to test risk profiles in Denmark.

Tax audit and control capacity and approach

The SRS has a below average audit capacity, measured as the share of tax auditors in tax administration staff. A general rule of thumb is that more than 30 percent of tax administration should work on tax audits; the OECD average according to the latest OECD tax administration comparative information series (2015) is 36.2 percent (see Table 32). In the SRS the audit staff is 25.9 percent of total staff, although the fact that SRS is a combined tax and customs administration may reduce the value of this comparison.

Table 32. Verification and audit staff as a percentage of total tax administration staff in selected countries

Country	Percentage
OECD average	36.2
Latvia	25.9
Estonia	67.0
Finland	38.9
Sweden	32.5
Norway	41.6
Denmark	40.7
Russia	47.1
UK	42.7

Source: OECD, Tax Administration 2015.

Nevertheless, the limited availability of audit staff results in audit coverage of only 3.5 percent of the incorporated taxpayer population. Given the various challenges and additional tasks for improving compliance management, which require audit and verification resources in order to be implemented properly, the plan to reduce the staffing in this section by 90 positions seems questionable and not helpful for strengthening compliance management. While the overall SRS staff reduction plan is not questioned here, the current approach to have an equal percentage reduction across all SRS functions and units may result in weakening functions that are urgently needed.

A further specialization of auditors should be established to increase the quality and impact of the audit process. In particular, the specialization of auditors by taxpayer segment (separation between small and medium businesses versus large businesses) and by industry for the largest businesses would enable auditors to improve their detection of unusual behavior and evasion techniques. OECD country tax administrations have separated the audit teams in their large taxpayer units according to major business segments. Frequently such sectors are (i) the financial sector; (ii) natural resource companies, (iii) the telecom sector; and (iv)manufacturing. Private sector consultants, such as former managers of an insurance company or a manufacturing business, are hired to train tax administration staff in understanding the particulars of the business sector. Although the SRS does not have a dedicated large taxpayer office, a similar specialization effort of the audit teams dealing with such industry sectors should be launched.

A separate program to ensure compliance from high-net-wealth individuals (HNWI) could be developed. Experience shows that rich individuals with potentially high tax liability are using special tax avoidance and evasion techniques to reduce their tax liabilities. This often includes sophisticated and non-transparent tax reduction schemes. While some countries have set up dedicated HNWI units with highly-skilled officers undertaking special risk analysis, audit and debt collection (e.g. Australia, Canada, France, Ireland, Japan, South Africa, the U.K. and the United States), at a minimum a program for HNWI compliance management could be developed in Latvia. This would have to go beyond just audits and risk reviews and could also include some measures encouraging voluntary compliance.

Human resource capacity challenges

Providing a sufficiently attractive compensation package and attractive working conditions could improve SRS efficiency. The problems mentioned earlier in this section with regard to building analytical and compliance analysis capacity are just a core example of the broader challenges SRS faces in hiring and retaining qualified expert staff, particularly in fields of specialization that are also in high demand in the private sector, such as experienced lawyers or tax accountants. While few tax administrations worldwide can offer salaries comparable to the private sector salary levels (but the Singapore Inland Revenue Service is an example showing that it is not impossible), working conditions such as flexibility in working hours or possibility for part-time work, job security, and in-kind benefits like kindergarten facilities may improve competitiveness with private sector agencies. Initiatives to build an esprit de corps, making staff proud of working for the Revenue Service, also can compensate for differences in salary levels and should be developed further.

Salary costs equaled 68.6 percent of total tax administration expenditure in 2013, compared to an OECD country average of 71.2 percent.[74] The SRS has developed plans to increase the compensation package without increasing overall salary costs, through savings achieved from staff cuts. While staff reductions are expected to be evenly distributed across all SRS functions, this plan may need to be reviewed to ensure that it does not impair the efficiency of core analytical and operational functions. SRS could consider introducing special compensation levels or bonus systems for selected expert positions. A typical area for such special schemes is the group of specialized large taxpayer auditors, which has built capacity to deal with the most complicated audit cases.

Conclusions:

- A variety of options exist to reduce the gaps in tax compliance and develop a higher level of voluntary compliance. These options are not only on the administrative side, but encompass important support measures that can be introduced on the tax policy side. Key elements on the tax policy side are the introduction of withholding taxes for payments to subcontractors in certain high risk areas, expanded access to financial data, in particular certain debit and credit card use information, and the introduction of additional requirements for VAT registration of a company.
- While the SRS efforts to measure the size of the tax gap have made substantial progress, an additional level of analysis is required to decompose the overall tax gap by taxpayer segment and by compliance attitude and behavior. Only such a second level of analysis would provide valuable input into strategic management of SRS. But this requires a strengthening of the division responsible for gap analysis in SRS and the implementation of additional instruments and tools, such as the analysis of risk based as well as random audit data for gap analysis purposes and the identification of compliance attitudes through targeted surveys.
- While the overall approach to risk analysis in SRS seems sound, an ongoing monitoring of the RASA (RASA Natural Persons Risk Analysis System) efficiency and reliability is important. In addition to analyzing trends in audit yields and the review of the automated selection results by experienced auditors, a small number (not more than 5% of total audits) of random audits could be undertaken and the results compared with results from audit cases selected by the RASA. Such an approach could also help to identify new risks which have not yet been incorporated into the RASA system.
- Moving to a real-time control system of the VAT chain and introducing an early warning system in case of irregularities could improve VAT compliance. This could be achieved by a (maybe gradual) introduction of an e-invoicing system for B2B transactions.
- Effective early engagement with newly established businesses can have a long-term impact on compliance behavior. In addition to the existing practice of sending welcome letters and providing information for start-ups on the SRS website, SRS could further develop the 'right from the start' approach through a combined service and supervision approach for new businesses. This will also serve as an additional tool to combat VAT fraud.
- Recent efforts to strengthen the cash register system are a step in the right direction, but should be complemented by developing and implementing a cash register use control system. The operation of a tax lottery may be a weak and unreliable tool to achieve a better level of invoice issuance.
- The voluntary compliance promotion program could by strengthened by moving from a predominantly retroactive to a more proactive, outbound compliance management approach, with an increased use of social media. Communication campaigns should increase their emphasis on how tax revenues are spent and on the various public services and social benefits that derive from taxation.
- The current plan to reduce the staffing of the tax audit function in SRS could greatly impair the ability of SRS to improve the effectiveness of compliance management. The management of audit resources could be improved by introducing a better industry and taxpayer segment specialization of auditors.
- Investing in critical staff expertise is crucial, for example for analytical functions and in areas such as large taxpayer audits.

[74] OECD Tax administration comparative information series, 2015.

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CONCLUSIONS

10. CONCLUSIONS

Taxation changes inevitably involve trade-offs between equity and growth objectives, both in the short and the long term. Moreover, any increase in tax rates needs to be assessed in relation to the likely growth and equity impact of the spending that higher taxes are intended to finance. Table 33 provides an overview of the growth and equity effects, taken from a recent review of the evidence, of different expenditure and revenue policies. Judging the trade-offs also requires taking into account Latvia's economic challenges, such as above-average inequality and good prospects for short-term growth, but high historical growth volatility. Given the objective to reduce inequality, efforts to raise revenue could involve higher rates on PIT (or through taxes on capital) and CIT. Bringing in more revenues through social security contributions seems less suitable from either the equity or the growth perspective, and could reduce employment. However, the microenterprise regime has reduced the social contributions from a large share of the workforce, and ensuring that adequate provision is being made for further pension and other social protection needs is important. To limit growth volatility, Latvia should ensure fiscal and financial sector stability and facilitate rebalancing of economic growth towards more stable structure, including through enhanced productivity and export diversification. Proposed tax reform could be helpful in this regard—higher tax revenues would help in building-up fiscal buffers over time (allowing for counter-cyclical response in bad times) while the redesign MET, PIT and shift towards taxation of consumption would support higher productivity and encourage workforce participation.

A balance of tax instruments that are designed in light of the sources of growth and the underlying income distribution is useful in ensuring the resilience of revenues across the economic cycle.

Table 33. Trade-offs between instruments for raising revenue

	Growth		Equity	
	Short-term	Long -term	Short-term	Long-term
Expenditure increases				
Education	++	++	+	++
Health	++	+	+	+
Public investment	++	++		
Revenue increases				
Personal income taxes	-	--		
Social security contributions	-	--		
Corporate income taxes	-	--	+	+
Environmental-related taxes	-	+	-	
Consumption taxes (other than environment-related taxes)	-	-	-	
Recurrent taxes on immovable property	-			
Other property taxes (mainly inheritance, gift, and wealth taxes)	-		++	+
Sales of goods and services (mainly user charges)	-	+	-	+

Note: The + sign reflects positive welfare effects and the - side negative welfare effects. The longer term impact on output, when narrowly defined as GDP, may be ambiguous.
Source: Cournède et al. 2013, Table 2.

There is scope for Latvia to raise more tax revenues. If Latvia increases its tax revenues by about 4 percentage points of GDP, it could reach the average of its peers. A larger increase could bring Latvia to the maximum tax revenue level that countries with similar characteristics have achieved. Table 34 provides a list of tax measures that would increase revenue to GDP by three percentage points of GDP, assuming no behavioral responses.

The following are the main recommendations for Latvia's tax system:

- **The microenterprise tax regime should be phased out.** The MET may have resulted in increased tax avoidance and evasion and has reduced social security contributions. A new scheme could be established for small (e.g. turnover less than EUR 20,000 per year), lifestyle companies to provide opportunities for low-skilled workers who find it difficult to secure employment in firms participating in the general tax regime due to the high taxes on labor. Tax subsidies that are limited in time and closely supervised also could be used to promote innovative start-ups. Efforts to strengthen tax administration are critical to reduce the risk of many microenterprises entering the informal sector.
- **Broadening the tax base, particularly in the CIT and VAT, could generate significantly more revenues.** Reduced- and zero-rate VAT provisions should be reviewed for potential sources of increased revenues. While less costly than in many EU countries, the tax expenditures related to VAT are still substantial. In addition, there is room to reduce the threshold for firms participating in the VAT.
- **Tax structure could be changed**. Tax revenues could be increased and equity improved by raising more revenues from capital income taxation through a uniform treatment of different types of capital income (particularly to reduce the bias for investing in real estate and issuing debt rather than equity), introducing a progressive personal income tax, and taxing inheritances. Over time, the role of property/wealth taxes and excises, including environment-related taxes, should grow. Latvia has an appropriate value-based property tax system but needs gradually to bring the assessment ratio for tax purposes closer the market value of the property.
- **Latvia's high level of inequality (in the EU context) could be reduced** by spending more on means-tested benefits, setting withdrawal rates for minimum-income guarantees and housing at less than 100 percent, and removing the ceiling on social contributions**.** In-work benefits, such as earned income tax credits, offer advantages in targeting assistance to low-income workers, increasing incentives for labor supply and supporting families. Generally, policy should seek to shift taxes away from labor, particularly to reduce the high participation tax for low-income workers.
- **The corporate sector faces low statutory and effective tax rates in Latvia compared to most EU economies.** Given the low revenue base, the costs and benefits of tax allowances/exemptions should be assessed. There is some room to rebalance tax treatment across enterprises, which depending on their production mix face different possibilities for tax allowances/exemptions. Further analysis of possible profit shifting via related party/ multinational enterprises through use of cost attribution would be useful.
- **Reduction in tax evasion/avoidance is a priority**. While the high share of low-income workers that under-declare incomes is a cause of concern, richer taxpayers account for the largest share of losses. From the point of view of lost revenues, the challenge is to increase tax compliance across the income distribution. Nevertheless, the gains from improved compliance, while potentially substantial, are uncertain. Thus, planned increases in revenues should rely on tax design measures aimed at broadening the tax base or raising tax rates.

Table 34. Estimates of revenue impact of tax measures

Measures	Revenue impact (% of GDP)
1. Personal income tax (wages)	0.09-0.3
1.1. Non-linear tax schedule, lower tax for low-income workers*	
3-rates PIT (19%/23%/33%)	0.31
3-rates PIT (19%/23%/29%)	0.10
3-rates PIT (19%/23%/29%) + EITC	0.00
1.2. 19% PIT rate for self-employed	-0.01
2. Personal income tax (capital)	0.11
2.1. Uniform tax rate (15%) on capital income	0.11
3. Corporate income tax	0.06-0.68
3.1. Changes to tax depreciation	
Remove accelerated depreciation of fixed assets	0.22
Remove enhanced depreciation for new technological equipment	0.29
3.2. Limit on the offset of losses carried forward	

Limit loss relies to 80% of profit before taxation	0.06
Limit loss relies up to 5 years	0.17
4. Microenterprise tax regime	0.21
5. VAT	0.13
5.1 Eliminating reduced VAT rates	
Standard rate for accommodation services in tourism	0.04
Standard rate for district heat supply and firewood	0.08
5.2 Reduce VAT threshold	0.01
6. Excise tax	0.37-1.0
Alcoholic beverages	0.30
Cigarettes	0.20
Fuel	0.50
7. Property tax*	0.10
8. Compliance	0.56
VAT gap (20%)	0.24
Underreporting of wages (20%)	0.32
TOTAL MAX	3.09

Note: * Denotes that local government would benefit from the proposed tax change.
Source: World Bank staff estimates.

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ANNEX A: VAT CONTRIBUTION TO INEQUALITY

To quantify the contribution of VAT to inequality, we use the Latvian Household Budget Survey (HBS), which is the only source for Latvia on consumption data by category and group of households. The most recent survey available is HBS 2014. However, the CSB does not recommend using the HBS as a survey representative in terms of income, because the sample size is substantially reduced in comparison with that of the previous year and there was a rather high rate of non-responses.[75] Furthermore, HBS does not provide as detailed information on taxes and benefits as EU-SILC. Therefore we use EU-SILC 2015 microdata as the main source, and assign annual VAT spending to each EU-SILC household using information imputed from HBS 2014 as described below.[76]

(i) For each of the 3713 households in the HBS sample, information on consumption expenditures in cash by category X_j is matched with the respective VAT rates t_j (21, 12 or zero percent, see ANNEX O **[Annex indicates only one reduced rate of 12% in 2014**) and total VAT paid is estimated as . Due to data limitations, it is not possible to identify at the household level two categories of expenditures which should have been excluded: purchases abroad, as well as purchases in non-regulated markets and from sellers which are not VAT payers. According to CSB estimates, on average purchases abroad account for 1.3% of total expenditures in the HBS 2014 sample, but this share is likely larger for wealthy households and smaller for low-income ones.

[75] Average equalized household disposable income of HBS 2014 respondents is by 18.4% lower than that of EU-SILC 2015 respondents (both surveys refer to income of 2014).

[76] Conceptually similar but operationally different methodology to impute information on spending for durable and non-durable commodities into EU-SILC data and simulate indirect taxes is being developed by the EUROMOD team at the University of Essex, see https://www.iser.essex.ac.uk/research/projects/euromod-extension-to-indirect-taxation.

Not excluding purchases abroad from VAT estimates results therefore in a slight overestimate of the VAT share in expenditures for the higher quintiles. But the opposite effect due to under-representation of the richest households in the HBS is likely to be stronger. On the other hand, "unofficial" purchases happen across the whole income distribution. Plausibly, their share in total consumption expenditures is higher among low-income households. If this is the case, the VAT share in expenditures of low-income households will be somewhat overestimated.

(ii) For the purpose of matching EU-SILC households with HBS households featuring similar consumption patterns, OECD-scaled size (*Eq_size*) is calculated for each household as the sum of member's "weights" assigned as follows: the oldest person is assigned 1, other adults 0.5, and children 0.3. Equivalized household disposable income (*Eq_dinc*) is derived as the household disposable income (available in both surveys) divided by *Eq_size*. Three main variables used in the 5 rounds of matching are: *Eq_dinc/100* (rounded to the closest integer); *Eq_size* (6 categories); and education level of the main earner *Edu_main* (3 categories). In the first round, 77.4 percent of 6113 EU-SILC households have been matched with HBS households. After each round, EU-SILC households with missing VAT values (initially this is the case for all households) are assigned the average of VAT spending over matched HBS households. In the second round, only *Eq_dinc/100* and *Eq_size* are used for matching. Only 13.9 percent of the EU-SILC households remain unmatched. In the third round, *Edu_main* is restored but *Eq_size* is replaced with the number of children *N_child* (0, 1, 2 or 3+); only 7.7 percent of households remain unmatched. In the fourth round, only *Eq_dinc/100* and *Edu_main* are used (5.1 percent of households, all from the top quintile, still unmatched). Finally, in the fifth round, matching is performed on *Eq_dinc/500* , *N_child* and *Edu_main*, leaving just 3.1 percent of households unmatched. These remaining households are assigned the average VAT of the top quintile.

ANNEX B: MEASURING UNDECLARED EARNINGS WITH EU-SILC DATA

In order to quantify the incidence of complete and partial informality, data from surveys and administrative sources are combined. Here we focus on informal employees, leaving aside informal self-employment. Our main data source is the national version of the European Union Statistics on Income and Living Conditions (EU-SILC) for 2008–2015. This provides estimates of actual annual gross and net earnings in 2007–2014, thus covering pre-crisis, crisis and post-crisis periods. Table 35 outlines the process of obtaining these estimates, without taking into account unimportant details and differences between Latvia and Estonia (e.g. whether the survey question concern annual or monthly earnings) or relatively rare deviations from the "mainstream" procedures. Note that we focus on cash (or near-cash) employee income, ignoring in-kind income and employee benefits (health insurance, company car, etc.).

In Latvia, earnings recorded in EU-SILC come from two sources: survey and administrative (SRS and SSIA) data. If respondent's earnings (from all jobs) according to SRS records (E2) are higher than those reported in the survey (E1), SRS-based earnings are recorded in EU-SILC; this is the case also when E2 is between 0.95*E1 and E1 (allowing for respondent's error within 5 percent), as well as in the case of non-response; otherwise survey-based earnings E1 are kept. Statistical imputation is used when both E1 and E2 are missing for respondents who reported that they had some earnings (note that SRS data would be missing if during the income reference period the respondent was an informal employee, or worked only abroad or for employers who were not taxpayers in Latvia).

Table 35. Estimation of employee earnings (in all jobs) during the last calendar year in the Latvian and Estonian national EU-SILC data, 2008-2013

Data collection method or EU-SILC variable	Data content and/or calculation formula
Survey item	*E1*: Net earnings
Administrative (SRS) data	*E2*: Net earnings
Statistical imputation	*E3*, only when *E1* is missing (non-response) and *E2* is missing as well (no earnings are recorded in SRS database)
SILC, net earnings PY010n	*E1* if *E2* is missing; *E1* if *E2* ≤ 0.95**E1*; *E2* if *E2* > 0.95**E1*; *E2* if *E1* is missing (non-response); *E3* if both *E1* and *E2* are missing
Administrative (SRS) data (2)	MSSC1: Employee MSSC; PIT: personal income tax paid from earnings

SILC, gross earnings PY010g	*PY010n* + MSSC1 + PIT
Survey-based gross earnings ***G1***	*E1*+ MSSC1 + PIT
SILC, PY031g (2007-2012: survey; since 2013: administrative (SRS))	Employer optional SSC
Administrative (SSIA) data	MSSC (employer + employee)
SILC, Employer social security contributions PY030g	Mandatory + optional: MSSC - MSSC1 + *PY031g*

Abbreviations: SRS: State Revenue Service; SSIA: State Social Insurance Agency; SSC: social security contributions; MSSC - Mandatory SSC.

Completely informal employees (referred to simply as *informal employees* hereafter) now can be identified in the EU-SILC data as employees with positive earnings for whom no mandatory social security contributions (MSSC hereafter) have been paid by employers during the income reference period (i.e. the previous calendar year). Table 36 specifies this definition in terms of EU-SILC variables and additional data collected by Statistics Latvia. A few issues which complicate identification have been addressed using details of the data collection process, and additional survey and administrative data added to EU-SILC datasets on our request.[77] First, some observations feature zero employer social contributions, but a positive difference between gross and net earnings (hence, some payroll taxes paid); those are obviously not informal employees.[78] Second, starting from year 2012 (income reference period 2011) some employees receive earnings from *microenterprises,* which are subject to special taxation regime: the only tax they pay is the microenterprise tax. Although part of this tax is afterwards transferred to social security, Latvian EU-SILC data before 2015 in most such cases recorded zero employer social security contribution. These employees are, however, not informal because earnings from microenterprises are registered in SRS. Third, about 2 percent of EU-SILC respondents with non-negligible earnings in the income reference period report in the survey that some of these earnings were gained abroad. Earnings gained abroad in most cases are not recorded in SRS data, hence respondents who worked only abroad would appear as informal based on zero mandatory social security contributions. We exclude these respondents from the analysis of informality and envelope wages.

Table 36. Identification of informal employees in the Latvian national EU-SILC data, 2008–2015

EU-SILC variables used	PY010g, PY010n, PY030g, PY031g
Additional survey items used	IQ38: Did the respondent during the income reference period gain some earnings abroad?
Additional SRS data received on request	Employee earnings from microenterprises (M_E) and share of these earnings in total declared earnings (M_E_sh).
Definition of informal employee	PY010g > 0 & PY010n=PY010g and (PY030g - PY031g = 0) & ME=0. Respondents with earnings abroad (IQ38=1) are excluded from analysis.

The next step toward measuring envelope wages is to estimate, for every respondent, annual gross earnings *G* reported for tax purposes (referred to as *declared earnings* hereafter), as well as undeclared earnings. Technical details are found in Tables 37 and 38. For informal employees (identified as described above), *G* = 0. For other employees *G* is available (and received by Statistics Latvia) from administrative data. In cases of survey non-response *G* is available directly from the data (as variable PY010g, see Table 37).

When both survey-based and declared (administrative) gross earnings (say, *G1* and *G*) *are available*, income flags variables available in EU-SILC data make it possible to identify *G1* and *G* separately (due to the fact that *Statistics Latvia* treats earnings from administrative data as imputed rather than collected), except for when earnings recorded in EU-SILC equal survey-based earnings. After excluding informal employees, such cases (which account for about one-third of all observations, see **[provide source]**) are dealt with as follows:

[77] We thank Viktors Veretjanovs from Statistics Latvia for his advice.
[78] The apparent contradiction is due to a conflict between the two sources of administrative data.

Declared gross earnings = (Employer MSSC)/(Employer MSSC rate) (1a)

Employer MSSC are directly available from EU-SILC as (PY030g - PY031g) (see Table 1 **[which table is this?]**). In the "general" case, the employer MSSC rate in Latvia was 24.09 percent throughout the 2007-2013 period. Individuals that reached retirement age benefited from reduced employer social contributions rates that vary by year from 19.9 percent to 20.8 percent.[79] As mentioned above, data on employer MSSC in EU-SILC are less reliable for microenterprise workers. However, in these cases total declared gross earnings can be found using SRS-based additional variables ME, ME_sh provided by Statistics Latvia for this project as follows:

Declared gross earnings of microenterprise employees = ME/ ME_sh =

(Earnings in microenterprises)/(Share of these earnings in total declared earnings) (1b)

Finally, for employees which are neither informal nor microenterprise workers but feature zero employer MSSC due to data imperfections, declared gross earnings are derived from the difference between gross and net earnings (see Table 37 for details).

In estimating *undeclared (envelope) earnings* we again distinguish several cases (which are numbered from [1] to [6] in Table 37). In case [1], EU-SILC variable *PY010g* estimates total gross earnings, and declared gross earnings *G* are also available (as described above). The difference between the two, when positive (which is almost always the case), is our estimate of undeclared earnings *B,* otherwise estimated to be zero. The share of undeclared earnings β is calculated as B/*G*. Cases [2] and [4] refer to informal employees, when *B = PY010g*, and β = 1. Cases [1], [2] and [4] together cover about 40 percent of observations. Case [5], when self-reported earnings are below the declared ones (by about 18 percent on average) also covers about 40 percent of observations. In this case *B* (and therefore also β) is assumed to be zero (hence our estimates of undeclared earnings should be seen as lower bounds). In case [6] (less than 5 percent of observations), self-reported earnings *G1* slightly (within 5 percent) exceed the declared ones *G*. *Statistics Latvia* ignores this difference and reports in such cases the SRS data, but for our purposes it makes sense to assume that the difference is due to undeclared earnings, so we estimate *B = G1- G* and β = *B/G1.*

The remaining case [3] corresponds to survey non-response (between 15 percent and 20 percent of respondents depending on the year), when only declared gross earnings *G = PY010g* are available. There is no reason to assume that respondents who have not answered the survey question on earnings do not receive envelope wages. On the other hand, excluding this (rather sizable) group could result in selection bias. We use imputation procedure to estimate the share of undeclared earnings, given our estimates for cases [1], [2], [4], [5] and [6]. A proxy equal to the average share of undeclared earnings in the same year across employees with respondent's education level, gender and sector of economic activity (21 sectors) has been imputed in most cases; when the economic sector is unknown, ethnicity and citizenship (3 categories) have been taken into account as well. We have also used the rotating annual panel structure of the data: when the shares of undeclared earnings in the previous and in the next year for the same respondent are available, their average has been imputed instead of the above-mentioned proxy. When only one of these respondent-specific values is available, the average of it and the above-mentioned proxy has been imputed.

Table 37. Estimation of declared and undeclared gross earnings in the Latvian national EU-SILC data, 2008-2015

Source of net earnings data (identifiable from data using flags)	Percentage of observations (by period)		Declared gross earnings, G	Undeclared ("envelope") earnings	
	2008-2011	2012-2015		**Amount, *B***	**Share in total earnings, β**
[1] Survey (≥ SRS earnings)	35.1	31.5	See Table 38	*PY010g* - *G* if positive; 0 otherwise	B/ PY010g
[2] Survey (no SRS earnings) [a]	7.4	4.7	G = 0	*PY010g*	1
[3] SRS (survey non-response) [b]	15.5	18.6	*G = PY010g*	β*G/*(1 - β)	imputed
[4] Statistical imputation (no SRS earnings; survey non-response) [a]	0.7	0.5	G = 0	*PY010g*	1
[5] SRS (> survey earnings) [c]	38.3	39.9	G = PY010g	0 (assumed)	0 (assumed)

[79] There are several other groups with employer MSSC rate different from the general case, but these groups are relatively small and cannot be identified in the standard EU-SILC data.

[6] SRS (between 95% and 100% of survey earnings)	3.0	4.8	*G = PY010g*	*G1- G*	B/ G1

Notes: [a] Cases [2] and [4] refer to informal employees (see Table 38).

[b] In case [3], a proxy equal to the average share of undeclared earnings in the same year across employees with respondent's education level, gender and sector of economic activity (21 sectors) has been imputed in most cases; when the economic sector was unknown, ethnicity and citizenship (3 categories) have been taken into account as well. In cases when the shares of undeclared earnings in the previous and in the next year for the same respondent were available, their average was imputed instead, and when only one of these respondent-specific values was available, the average of it and the above-mentioned proxy was imputed.

[c] In case [5], survey-based gross earnings are, on average, by 17.6 percent higher than administrative data.

[d] Respondents with some earnings abroad during the income reference year are excluded from analysis.

Table 38. Estimation of declared earnings in the Latvian national EU-SILC data when survey-based earnings are recorded, 2008-2015

Declared gross earnings *G*	
General case	*G* = (Employer MSSC)/(Employer MSSC rate). Employer MSSC = *PY030g - PY031g*
Informal workers	*G* = 0
Microenterprise workers	*G* = M_E/ M_E_sh = (Gross earnings in microenterprises)/(Share of these earnings in total declared earnings)
Other workers with zero employer MSSC in EU-SILC data	*G = A* = ((PY010g) - (PY010n) + *tNM*)/(*s+t*(1-*s*)) if *A*(1-*s*) > *NM*, where *t* is income tax rate applied to earnings, *N* is monthly non-taxable minimum, *M* is number of months worked as employee, *s* is employee MSSC rate; *G* =((*PY010g*) - (*PY010n*))/s if *A*(1-*s*) ≤ *NM*

Notes: PY010g, PY010n, PY030g, PY031g are EU-SILC variables (see Tables 2, 3). MSSC stands for "mandatory social security contributions".

Table 39 summarizes various indicators of under-reporting earnings that are used in the analysis.

Table 39. Indicators of under-reported earnings

Description	**Level of measurement**	**Definition**
Share of undeclared earnings	Individual	*b* = (Estimated undeclared earnings)/(Estimated total gross earnings)
Share of undeclared earnings averaged across employees	Economy, sector of economic activity, or a certain category of employees	Average value of *b* across all (or a group of) employees
Envelope share in aggregate earnings		Ratio of total undeclared earnings to total gross earnings (for the economy, sector, etc.)
Incidence of envelope share above certain level (10%, 25%, 50%)		Proportion of employees with *b* ≥ 10% (respectively, *b* ≥ 25%, *b* ≥ 50%) among all (or a category of) employees
Incidence of complete informality		Proportion of informal employees among all (or a category of) employees

Notes: In our analysis we have used only employees with positive earnings as the base. Alternatively, the analysis could be restricted only to employees with earnings above some threshold, e.g. one minimum monthly wage per year. Respondents with some earnings abroad during the income reference year are excluded from analysis.

ANNEX C: METHODOLOGY OF ESTIMATING REVENUE GENERATION POTENTIAL FOR LATVIA

To assess the tax revenue potential of the Latvian economy, we apply two approaches, which gives complementary perspectives on the scope to raise more taxes. The first approach, so-called peer analysis, is the most traditional. It models tax revenue as a function of observable economic and institutional characteristics of a country (such as income per capita, with a very wide range of other variables explored in the literature, see Table 40 for a review of the literature). The "potential" for additional tax revenue is then the fitted residual, which, by construction, averages to zero over the sample. The second approach relies on "stochastic frontier analysis" that compares a country's tax ratio not with the average, but with the maximum that others with similar characteristics have achieved. Stochastic frontier analysis models revenue potential explicitly, taking revenue to be a function of maximum revenue, dependent on economic and institutional characteristics of a country, and "effort," which is to at least some degree a choice variable, depending among other factors on wider social preferences. To simplify, peer analysis aims to determine the best fit to the observations, whereas stochastic frontier analysis aims to put a frontier around them.

It should be emphasized that the results of the proposed empirical strategies need to be treated cautiously. The main difficulty in empirical work is to capture "tax effort" or willingness to tax more. Even for countries with a high taxing potential there might be good reasons (political or social) to tax below potential that could be reflected in low tax effort. For instance, government may believe that high taxes are harmful for GDP growth, or the society as a whole may have a stronger preference for efficiency than for equity.

The selection of variables for our empirical work follows the empirical literature. Explanatory variables try to capture level of development, structure and important characteristics of the labor force, inequalities, structure of economy as well some institutional variables representing the efficiency of administration and business friendliness. We use several data sources. First of all, the data on tax revenue to GDP ratios were taken from IMF's Government Finance Statistics and Eurostat. Secondly, we use the World Bank WDI database for some general indicators such as labor force participation, age and old-age dependency ratios, population density or percentage of population living in urban areas, import and export to GDP ratios (indicating openness of the economy), GDP growth, and GDP per capita level (in PPP), Gini coefficient, natural resource rents (as a percentage of GDP), external debt to GDP, structure of the economy and other variables (such as life expectancy, infant mortality, spending on education or enrolment in tertiary education). Thirdly, the *Doing Business* database by the World Bank was used to extract indicators on the ease of doing business. We tested a few sub-indicators, as some dimensions may be more important for tax collections that others. Fourthly, the World Governance Indicators database was used to assess the quality of governance. Although we tested some transformations of independent variables, such as logs or summing export and import to GDP ratios to derive an indicator of openness, the simple indicators in most cases proved to be most efficient. Moreover, we added two dummy variables: one for Scandinavian countries and the second for Baltic States. In total, in our sample consists of 148 countries between 2000 and 2015.

Table 40. Selected studies aimed at assessing tax effort

Publication	**Method**	**Macroeconomic variables tested**	**Institutional variables tested**
Torres (2013)	Cross-country regression	GNI per capita, Growth gap, Old-age dependency ratio, Annual population growth, Net oil and gas exports, Imports, Pop. density, gross debt, grants, gross min. annual wage.	Political participation (democracy index), Expected years of schooling, DB ranking, Dummy for countries.
Fenochietto, Pessino (2013)	Panel stochastic frontier analysis	GDP pc, squared GDP pc, trade (imports + exports as % of GDP), value added of agriculture as a % of GDP, % change of CPI	Public expenditure on education (% of GDP), Gini coefficient, Corruption perception index
Khwaja, Iyer (2014)	Panel regressions	GDP pc, share of services in GDP, share of services in GDP, share of trade in GDP, age dependency ratio, , post 2008 dummy	control of corruption, CIT, CIT square, VAT, VAT square

Baunsgaard and Keen (2010),	Panel regressions	GDP pc, openness (sum of the shares of imports and exports in GDP); inflation; aid in percent of gross national income, share of agriculture in GDP (AGR)	-
Davodi, Grigorian (2007)	Cross-country regression	GDP pc; rate of consumer price inflation; share of agriculture in GDP; ratio of exports plus imports to GDP; dummy variable for fuel exporters; share of the urban population in a country's total population; indicator of shadow economic activity	measure of institutional quality;
Castro, Camarillo (2014)	Cross-country regressions, panel regressions	GDP pc, openness (sum of exports and imports of goods and services as a % of GDP, FDI as a % of GFCF, industry value added as a % of GDP, gross tertiary school enrolment, life expectancy, child mortality rate.	political rights, civil liberties indicator (Freedom House)
Gupta (2007)	Panel regression	GDP pc, share of agriculture in GDP, share of manufacturing in GDP, share of imports in GDP, ratio of debt and aid to GDP, Trade Restrictiveness Index	Highest marginal tax rates (CIT, PIT), political stability, economic stability, corruption, law and order and government stability.

Two methods adopted for the estimations require different analytical strategies. For the peer analysis, we ran standard random-effect GLS regression with robust standard errors to choose independent variables and see how robust they are in explaining revenues tax revenues. This regression served as a starting point for the stochastic frontier analysis (SFA). The SFA is based on the notion that several inputs are used to "produce" one output. Contrary to the firm-level approach, where the error term clearly captures "inefficiency", in this case the apparent "inefficiency" may be a deliberate policy choice.

Mathematically, the stochastic frontier panel model may be written as follows:

Where:

—represents tax revenues for given tax in country *i* at time *t*,

- is the matrix of independent variables, affecting tax revenues;

—is the "inefficiency" term, capturing the gap between the actual tax collection and maximum revenue potential. It is a non-negative random variable associated with country-specific factors that affect the collection of given taxes at the time *t*.

—is error term, reflecting measurement error that can be either positive or negative.

As the and terms are independent, and the first one can be positive, it is possible that the country that has a very small inefficiency term may lay above stochastic frontier. In our models, we adopt the estimation method proposed in (Battese & Coelli, 1995), the maximum likelihood random-effects time-varying inefficiency effects model.

Table 41. Regression results for the general model (dep. variable: total tax to GDP ratio)

Variable	**Standard**	**Stochastic frontier**
log(GDP)	3.54**	1.7***
	(1.80)	(0.34)
Government effectiveness (WGI)	-1.5	1.59***
	(1.42)	(0.36)
Share of agriculture in GDP	-0.27***	-
	-0.08	
Scandinavian dummy	13.3***	8.17***
	(2.80)	(1.29)
Old-age dependency ratio	0.55***	1.02***
	(0.12)	(0.03)
Life expectancy at birth	-0.27**	-0.32***
	(0.12)	(0.04)
Constant	5.06	15.38***
	(12.43)	(2.92)
R-sq	51%	
Number of obs	1660	1660

Tax level potential depends on GDP growth, government effectiveness, demography, and also geography (which may reflect cultural, historical values). The results of the regressions are presented in Table 401. Surprisingly, government effectiveness (measured by WB government effectiveness indicator) is not statistically significant in the peer model, but it is in the stochastic frontier. This implies that countries that achieve the maximum collection of tax revenues given their economic structures are characterized by a more efficient process of tax collection. If the level of income (GDP) and institutional variables are included together, income loses its significance because the institutional quality variables already capture the impact of income. A higher old-age dependency ratio requires more transfers and redistribution which translate into higher taxes. The Scandinavian dummy is also statistically significant, which may reflect cultural, historical or societal similarities, although it comprises only 3 out of 148 countries. These variables alone explain 51 percent of the variability of tax-to-GDP ratios in our sample, so they are quite strong determinants of the tax level.

The tax revenue gap for Latvia is calculated based on both models. In the case of the first model it reflects what would be expected on the basis of the characteristics being controlled for, minus actual revenues (comparing Latvia's tax receipts with the average of its peers). The second model compares Latvia's tax ratio with the maximum that others with similar characteristics have achieved.

ANNEX D: OPTIMAL TAX THEORY AND MARGINAL INCOME TAX RATES

Both the flat rate structure in the PIT and the uniform allowances in the PIT are sub-optimal from an optimal-tax perspective. Optimal EMTRs should follow a U-shape with income as long as the social valuation of a euro declines with income: a euro is worth more to a poor than a rich person. This has been derived in the Nobel-prize-winning analysis on the optimal income tax of Mirrlees (1971), which was clarified and extended later by Diamond (1998) and Saez (2001).[80] For the same reason allowances should generally be income-dependent. An example of optimal EMTRs is drawn in Figure 71 panel (a). The other graphs in Figure 71 explain why an optimal EMTR is U-shaped. It is important for policy makers to understand the economics behind the U-shape of EMTR's.

Increasing the marginal tax rate above a certain income level y may make the system more progressive and increase revenues, but also generates costs in terms of reduced welfare. First, increasing the tax burden reduces welfare for affected tax payers. These welfare losses need to be subtracted from the revenue gains to obtain the total distributional effect of a higher tax rate. Second, increasing taxes can distort the economic behavior of the affected workers. Workers with income y have weaker incentives to work longer, invest in human capital or exert entrepreneurial efforts when the marginal tax increases. Moreover, incentives for tax avoidance and tax evasion are also stronger.[81] The behavioral response can be summarized by the elasticity of taxable income (ETI). The ETI measures the reduction in taxable income y when the tax rate increases. For the moment we assume that the ETI is a sufficient statistic to summarize the welfare losses of the tax rate.[82] How should the government then optimize effective marginal tax rates? This ultimately depends on the behavior of both the distributional and the substitution effects with income.

The distributional effect of a marginal tax rate is continuously declining with income. This is shown in Figure 71, panel (b). Intuitively, if the marginal tax rate is raised at a low income level, the redistributional effects are large, since many people will pay more tax. However, when the marginal tax rate is raised at a higher income level, the distributional benefit is mechanically

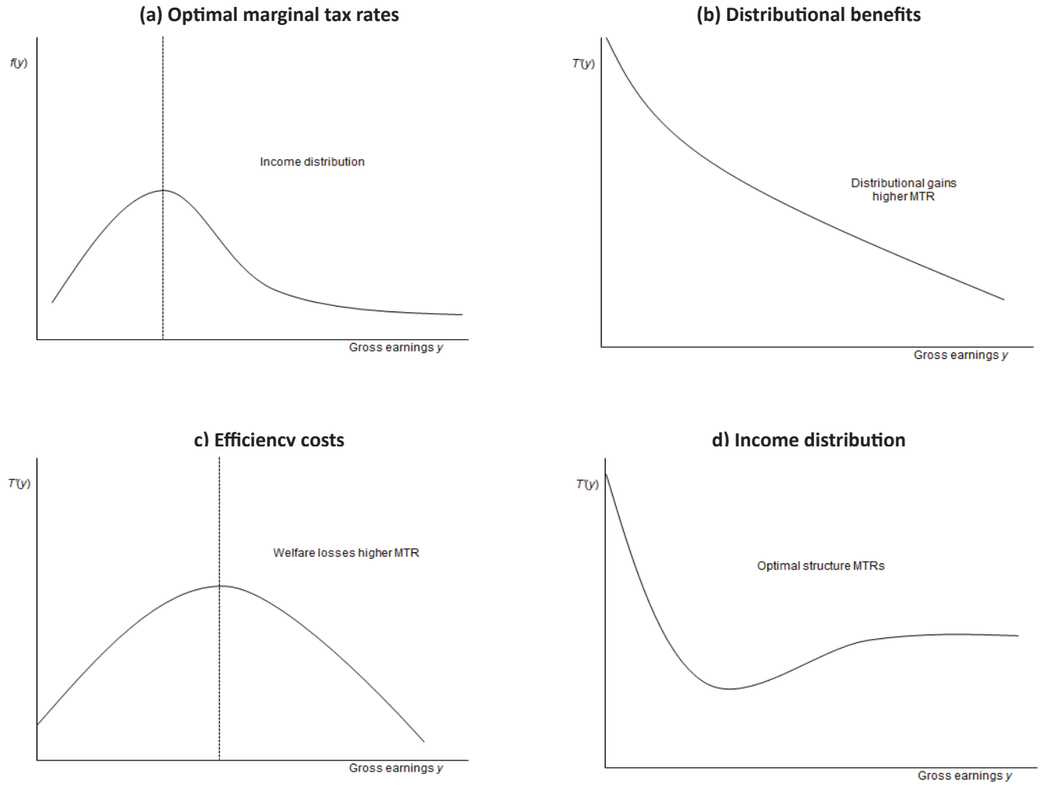
[80] The U-shape is preserved when the analysis is extended with extensive labor-supply responses in Jacquet et al. (2013) and Zoutman et al. (2015).

[81] This discussion ignores income and participation effects, since these are generally not very important for the design of optimal tax systems (Zoutman et al., 2015).

[82] Chetty (2009) shows that when marginal tax rates cause tax shifting to other people, other tax bases and other periods of taxation, then the ETI is no longer a sufficient statistic to measure the welfare losses of taxation. Intuitively, the revenue reduction on the taxed base is partially offset by larger revenues from taxing other people, other bases or other periods.

lower, since fewer people pay more tax. Consequently, the distributional benefit of setting a higher marginal tax rate is always declining with the income level at which the tax rate is increased. The valuation of the welfare losses imposed on tax payers also determines the total distributional benefits of the marginal tax, and this valuation is intrinsically political. For example, when the government cares more for middle-class tax payers, the distributional benefits of raising marginal taxes at middle-class incomes are reduced; imposing taxes on them is then seen as socially costly. Similarly, when the government cares less for the top-income tax payers, the distributional gains increase. Imposing higher taxes on top-income earners then generates smaller distributional losses.

Figure 71. Optimal U-shape of EMTRs and the reasons for it



The welfare loss of a marginal tax rate first increase and then decrease with income. Figure 71, panel (c) shows the behavior of the welfare loss with income. The welfare losses from marginal taxes are primarily driven by the shape of the income distribution (see also Figure 71, panel (d)). When incomes are low, raising the marginal tax rate generates few distortions, since only few people are affected and incomes are relatively low. However, raising the marginal tax rates in the densely populated middle-income groups generates a lot of distortions; not only are there more people in the middle-income groups, also their incomes are higher. What happens after the mode of income is an empirical question. Typically, the welfare costs of taxes decline again. On the one hand, there are fewer people with a higher income. But on the other hand their incomes are higher. For most empirical income distributions the density of people declines faster than their income, hence the distortions of marginal tax rates fall after the mode.

An optimal tax-transfer system balances the distortions of EMTRs and distributional benefits, which results in a U-shaped

pattern for optimal EMTRs. Intuitively, starting from the lowest income, up to the mode, distributional benefits of marginal taxes always decrease and welfare losses of marginal tax rates increase. This follows from Figure 71, panels (b) and (c). Hence, optimal marginal tax rates should decrease before the mode of the income distribution. After the mode, however, the distributional benefits of marginal taxes still decrease, but welfare losses of marginal tax rates typically decrease faster for most empirical income distributions, see again Figure 71 panels (b) and (c). Hence, optimal marginal tax rates increase somewhat after the mode. As a result, the optimal marginal tax schedule is U-shaped in income.

The U-shape is not determined by political judgments regarding the value of income redistribution. The U-shape in EMTRs is obtained both for very redistributive 'left-wing' and much less redistributive 'right-wing' social preferences for income distribution. The U-shape of optimal taxes is primarily determined by the shape of the earnings distribution. In the middle-income groups there are simply larger distortions of marginal taxes than at the lower or higher income levels. Consequently, marginal tax rates should be lowest in the middle. This remains true irrespective of the government's preferences for income redistribution.

The U-shape can be less pronounced if tax avoidance and evasion take place especially at the top and bottom of the income distribution. Tax avoidance and evasion increase the ETI. When the ETI is higher at the top, the optimal top rate should decline—see also below. The survey in Saez et al. (2011) suggests that ETI's are typically higher for the rich. Similarly, when the ETI is higher at the bottom due to avoidance and evasion, the optimal tax rates should decrease at the bottom. There may be more potential to avoid or evade taxes at the bottom of the earnings distribution due to the informal sector or the black economy. No robust evidence is available to verify whether this conjecture is correct. In any case, a higher ETI at the top or the bottom makes the U-shape of optimal EMTRs less pronounced.

An optimal tax-transfer system does not have flat rates. The reason is that neither the distributional benefits nor the efficiency costs can be expected to be constant in income, as shown in Figure 71. A tax system with a flat tax rate and a uniform minimum-income tax exemption requires much higher marginal tax rates to reach the same level of net income for the working poor, because all tax payers—also the middle-income and high-income tax payers—benefit from the minimum-income tax exemption. The tax base erodes so much when the general tax exemption is provided to everyone that much higher marginal tax rates need to be used to balance the government budget. In an optimized non-linear system, the average marginal tax burden can be reduced—compared to an optimal flat tax—by targeting the minimum-income exemption to the poor and phasing it out with income. By phasing out the minimum-income exemption with income, EMTR's become non-linear. The government then broadens the tax base so that—on average—much lower marginal tax rates can be used, while at the same time protecting the net incomes of the poor. Although on average marginal tax rates are lower, they typically increase at the bottom of the income scale, and then decrease quickly towards the middle-income groups. Consequently, a non-linear tax schedule can generate the same net income for the poor with much lower welfare losses. Equivalently, by setting a non-linear tax schedule, the government can make the tax system much more redistributive, while incurring the same welfare costs.

An optimal tax-transfer system does not have uniform exemptions. For the same reason as above, the an optimal tax-transfer system targets income support to those that are most in need of public income support, i.e. the non-working and working poor. Uniform allowances, that are independent from income, are a suboptimal tax policy. By targeting income support, much lower marginal tax rates can be used, and hence welfare losses of taxation can be reduced, while still protecting the poor. Or, equivalently, tax progression of the tax-transfer system can be strengthened, while welfare losses of the tax system can remain the same.

It is never optimal to have EMTRs at or above 100 percent. The function of the marginal tax rate at income y is to redistribute income from people with income above y to people with income below y, or to the government. When the EMTR is raised to 100 percent (or higher) at income y, no one will earn income y. Individuals can then enjoy a higher net income by working less, both of which raise their welfare. Consequently, EMTRs above 100 percent should be avoided as much as possible, as they will only reduce revenue, erode tax progression and result in severe economic losses.[83]

It can be optimal to subsidize labor participation of low-income workers. People do not only respond on the intensive (e.g. hours or effort) margin in their labor supply. They also decide whether or not to work at all. Similarly, people decide whether to work in the formal sector rather than in the informal sector (household production, care activities) or in the black labor market. The participation decision, or extensive-margin labor-supply decision, is determined by the participation tax rate. The participation tax

[83] Zoutman and Jacobs (2016) show that strict monitoring and conditionality of income transfers on work effort could result in optimal marginal tax rates that are above 100 percent, because monitoring acts as an implicit subsidy on work. Labor wedges, however, still remain below 100 percent in the presence of monitoring and conditionality of transfers.

equals total taxes paid T(y) when working (in the formal sector) and earning income y plus the non-employment benefits b that a worker foregoes when working. These non-employment benefits include for example social assistance (GMI) and housing assistance. The participation tax rate is the total participation tax as a fraction of gross earnings: (T(y) + b)/y. The higher is the participation tax, the fewer people will stop working (in the formal sector). Diamond (1980) and Saez (2002) have shown that it can be optimal to subsidize participation at the lowest end of the labor market when the government sufficiently values redistribution towards the working poor. When participation is subsidized the participation tax is negative: -T(y) > b. That is: workers receive larger tax rebates than non-workers get in benefits. Such a program can be interpreted as an earned-income tax credit (EITC). Policy makers often also have non-welfarist motives to promote labor participation, which is seen as something that is intrinsically good so as to raise inclusion and social cohesion in societies. Such concerns typically strengthen the case for EITC-like programs (Kanbur et al. 2006).

The extensive labor-supply margin (participation decision) lowers marginal tax rates, especially at the bottom. Recall that the function of a higher marginal tax rate at income y is to redistribute income from individuals above y to individuals below y or to the government. As a result, the average tax burden for everyone above y increases. When individuals also make labor-supply decisions on the extensive margin, i.e., they decide whether to work or not (in the formal sector), a higher marginal tax burden induces some individuals to drop out of the labor market in response to higher levels of income taxation. Since participation is generally taxed on a net basis, lower participation rates reduce the distributional benefits of a higher marginal tax rate (Jacquet et al., 2013). In Figure 74 panel (b), an endogenous participation choice would shift the line of distributional benefits of a higher marginal tax rate downwards. The participation elasticity is typically higher for the working poor and secondary earners (with and without children). Consequently, the distributional benefits of a higher marginal tax rate are reduced more at the bottom of the earnings distribution. Hence, marginal tax rates should be lowered especially at low-income levels. The optimal marginal tax rate does not shift down so much at the higher income levels, since high-income earners typically respond less elastically on the participation margin (Zoutman et al., 2015).

ANNEX E ELASTICITY OF TAXABLE INCOME OF HIGH-EARNERS IN LATVIA.

What happened after imposition of the solidarity tax?

The elasticity of high-income taxpayers to tax rates is estimated based on the introduction of the solidarity tax in 2016. Based on this reform, the estimated elasticity is around 0.13 and 0.2 depending on the sample selection. These estimates are around the average of the range of elasticity estimates in European countries.

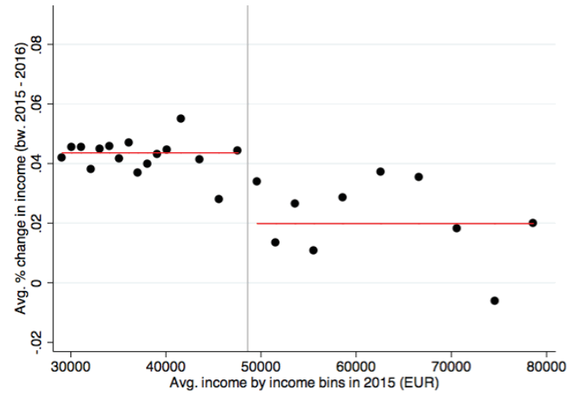
Reform episode for identification of the elasticity of taxable income of high-earners in Latvia

A solidarity tax was introduced for income above 48,600 EUR yearly income from January 1, 2016. This reform significantly increased the marginal tax rate (MTR) for income above the threshold. The MTR below the 48,600 EUR threshold remained 31.1 percent, while above it increased from 23.0 to 31.1 percent.[84] Based on comparing income changes below and above the threshold, we estimate the elasticity response of high income individuals.

Figure 70 plots the percentage changes in income from 2015 to 2016 for individuals with income below and above the solidarity tax threshold in 2015. The graph clearly suggests that individuals above the threshold on average decreased their income more compared to those below. The red line represents the average income change in the two regions.

[84] MTR is calculated as $SSC_{employee}$ +(1- $SSC_{employee}$)*PIT+solidarity tax. After the introduction of the solidarity tax employers also have to pay solidarity tax on income above the threshold, which could reduce labor demand. We do not include either employer social security contribution, nor the employer solidarity tax in the MTR as usual in the literature.

Figure 72. Income threshold and change in reported income, 2015-2016



Methodology

$$\Delta \log y_i = \beta \Delta \log(1 - METR_i) + Xi'\alpha + \gamma y_{i0} + u_i$$

The following relationship between income growth and tax rates can be derived from optimizing the theoretical framework based on Gruber-Saez (2002): where y is taxable income, METR is the marginal effective tax rate (effective tax rate because social security contributions on the employee's side are also taken into account). The variable (1−METR) is the marginal net-of-tax rate. It measures what share of additional taxable income the taxpayer can keep. This is the central variable that the taxable income literature concentrates on. The coefficient of this variable measures the extent to which taxpayers respond to marginal incentives; it shows to what extent on average they generate less taxable income when facing a higher marginal tax rate.

In practice this is a difference-in-difference (DID) model, where the reaction of the average individual affected by the solidarity tax reform (the treatment group) is estimated compared to an individual not affected (the control group). **The control group** includes individuals with income below the threshold before the reform in 2015 (this income is exogenous to the reform), and the **treatment group** includes individuals with income above the threshold before the reform in 2015. Both control and treatment groups include individuals in a range around the threshold as individuals very far away from the threshold might have a different reaction to the tax rate change (elasticity of tax revenue to tax rate changes).

There are two problems when estimating the relationship between taxable income and tax rates. First, the income distribution might change for reasons independent of the tax changes. For example, as a result of skill-biased technological change the wage dispersion might increase, or due to the phenomenon of "regression to the mean" some individuals with very high income might be experiencing a lucky year, most likely to be followed by a decrease in income. To deal with these problems usually (log) initial income (i.e., taxable income in the period before the tax change) is included as a control variable. In the regression we include initial income (y0) and also demographic variables (X') such as age, gender, region, settlement to control for individual heterogeneity of taxable income growth.

The second econometric challenge is inverse causality between the dependent variable and the marginal tax rate. If taxable income of an individual grows above average for reasons independent of taxation, then in a progressive tax system this will increase his tax rate. This way a simple OLS regression might indicate that a tax increase caused the taxable income to grow faster. In the literature, this problem is solved by using instrumental variable estimation. However, in this reform episode endogeneity is not a problem, as in practice a flat tax was introduced by substituting the capped SSC with the solidarity tax.

Table 42. Changes in marginal tax rates (including PIT, SSC and solidarity tax)

	before reform	after reform	MTR before reform (2015)	MTR after reform (2016)	change in log(1-MTR)
A	below threshold	below threshold	0,311	0,311	0,00
B	below threshold	above threshold	0,311	0,311	0,00
C	above threshold	above threshold	0,230	0,311	-0,11
D	above threshold	below threshold	0,230	0,311	-0,11

During the implementation of the 2016 solidarity tax reform, income might have increased or decreased independently from the reform, but this did not additionally change the taxpayer's MTR because of the flat tax rate after the reform. As can be seen in Table 41 above, the change in the MTR based on income in 2015 is exactly the same for all taxpayers in the control group and also for all taxpayers in the treatment group. Taxpayer A and B are in the control group (with income below the threshold at which the solidarity tax is imposed). If A remains below the threshold then the change in his log(1-MTR) is 0. If B goes above the threshold (his income increases a lot due to exogenous reasons) then the change in his log(1-MTR) will be 0 similarly (instead of the social security contribution, now he pays the solidarity tax). So the change in the log(1-MTR) is 0 for both A and B because of the flat tax rate after the reform. The exogenous increase in the income of B did not additionally change his marginal tax rate.

The situation is similar for C and D who have income above the threshold before the reform, so they are in the treatment group. C remains above the threshold, so he is affected by the solidarity tax and his log(1-MTR) will be decreased by 0.11. D moves below the threshold because of a decrease in his income independent of the reform, so his log(1-MTR) also decreases by 0.11. So independently of whether there is an exogenous decrease in the income of people in the control group or not, their log(1-MTR) will change exactly the same because of the flat tax after the reform (log(1-MTR) is not endogenous to changes in income). Without the endogeneity problem the regression can be thought as a simple difference-in-difference regression or a regression discontinuity design (RDD) estimation.

Data

The database contains yearly administrative panel data for 2010-2014, and monthly panel data for 2015 and for the first 6 months of 2016 from the State Revenue Service. As only the January - June income data is available for 2016, to have comparable yearly income we analyze changes in reported income between the first six months of 2016 and the first six months of 2015. If individuals respond to the reform by changes in their second half-year income or in their year-end bonuses, then it is not captured in the available data and hence the elasticity estimate may be underestimated.

The assumption underlying the DID is that the treatment and control groups were "reasonably alike", hence in the absence of the reform they would have changed their income similarly. That is why we include individuals in a range around the EUR 48,600 threshold. We limit the sample for individuals with income between EUR 30,000 to 80,000. We also exclude individuals with the largest and smallest income changes—in the top and bottom 1 percent—to ensure that outliers do not drive the elasticity estimations. Table 42 shows the comparison of control and treatment groups for both the 30-80 and 30-100 thousand euro income groups. The income change was on average smaller in the treatment group, suggesting individuals reacted to the solidarity tax by reducing their income. The fourth row reports that changes in income before the reform were similar in both the control and treatment groups before the reform. The bottom panel suggests that the two groups are reasonably alike, so the comparison is useful.

Table 43. Comparison of control and treatment groups

	control	treatment	control	treatment
avg % change in wage income (bw 2015-2016)	0.0427	0.0240	0.0454	0.0261
avg wage before reform (2015)	36795	59193	36784	59240
change in actual (1-MTR) (bw 2015-2016)	0	-0.111	0	-0.111
avg % change in wage income before reform (2013-2014)	0.202	0.200	0.202	0.198
average age	42.11	42.64	42.12	42.64
% if females	0.375	0.297	0.375	0.297
% has dependents	0.459	0.505	0.460	0.507
% has tax base modifying items in 2014	0.553	0.575	0.555	0.578
Number	11170	3112	10940	3049
Settlement				
Riga	5909	1679	5793	1646
other main cities	1386	388	1361	380
Small towns	1364	288	1329	285
Rural	2509	757	2456	738
NA	2	0	1	0
Region				
Riga+Pieriga	9041	2651	8857	2596
Vidzeme	440	65	422	62
Kurzeme	653	172	639	170
Zemgale	712	167	701	166
Latgale	322	57	320	55
NA	2	0	1	0

Regression results

The coefficient of interest is the coefficient of the dlog(1-MTR) variable, which measures the response of taxpayers to marginal incentives. Table 43 contains regressions including individuals around the EUR 48,600 threshold, with yearly income between EUR 30,000 and 80,000 in 2015. Individuals older than 62 years in 2015 were excluded, as they the face a smaller social security contribution rate. The second three columns contain regressions including individuals who worked during all 12 months in 2015. As only the first half-year income is available for 2016, this way we try to exclude individuals presumably not working during the total 2016 year also.

Models (1) - (3): The elasticity is significant at 0.2, and it decreases to 0.13 when demographic controls are also included in the regression. The negative coefficient on the age variable suggests that the income of older people increased less, but the magnitude is small. The negative coefficient of Region2 suggests that the income of people with reported address in Vidzeme increased less, but again the magnitude is small. Models (4) - (6): The elasticity estimate is larger and varies between 0.15 and 0.21.

Table 44. Estimation results

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable	dlog(wage)	dlog(wage)	dlog(wage)	dlog(wage)	dlog(wage)	dlog(wage)
dlog(1-MTR)	**0.204*** **	**0.092** **	**0.131*** **	**0.209*** **	**0.100** **	**0.150*** **
	(0.037)	**(0.043)**	**(0.043)**	**(0.035)**	**(0.040)**	**(0.040)**
$log(wage)_{2012}$		-0.004	0.003		-0.007**	0.000
		(0.003)	(0.003)		(0.003)	(0.003)
$log(wage)_{2013}$		0.019***	0.020***		0.018***	0.019***
		(0.005)	(0.005)		(0.004)	(0.004)
$log(wage)_{2014}$		-0.042***	-0.043***		-0.038***	-0.039***
		(0.006)	(0.006)		(0.006)	(0.006)
Age			-0.002***			-0.002***
			(0.000)			(0.000)
Female			0.000			-0.002
			(0.004)			(0.003)
settl2			0.007			0.006
			(0.006)			(0.006)
settl3			0.001			-0.001
			(0.006)			(0.005)
settl4			0.007			0.005
			(0.005)			(0.004)
Region2			-0.011**			-0.007*
			(0.005)			(0.005)
Region3			-0.001			-0.002
			(0.003)			(0.003)
Region4			0.001			0.000
			(0.002)			(0.002)
Region5			-0.000			-0.000
			(0.002)			(0.002)
has dependent			-0.002			-0.003
			(0.003)			(0.003)
has tax base			0.006			0.004
modifying item			(0.004)			(0.003)
Constant	-0.022***	0.264***	0.253***	-0.017***	0.265***	0.272***
	(0.002)	(0.055)	(0.059)	(0.002)	(0.053)	(0.057)
Observations	14,282	14,282	14,282	13,989	13,989	13,989
R-squared	0.002	0.005	0.034	0.003	0.006	0.036

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

All results are OLS estimations with robust standard errors. Robust p values in parentheses. Asterisks mark estimated parameters that are significantly different from zero at the 1 % (***), 5 % (**), or 10 % (*) level. Two digit industry are also included among the control variables. The baseline regression contains individuals residing in the Riga and Pieriga region. The sample consists taxpayers with income between 30,000 and 80,000 euros in 2015. The last three columns include individuals working in all 12 months in 2015.

One might also assume that taxpayers do not consider social security contribution as a tax, but instead more like a present contribution to future pension benefits. In this second specification we exclude the social security contribution rate from changes in the MTR and re-estimate the regressions.[85] When excluding the social security contribution, the tax rate scheme is not flat but progressive in 2016. This might create inverse causality between the dependent variable and the marginal tax rate. That is, if taxable income of an individual grows above average for reasons independent of taxation, then in a progressive tax system this will increase his tax rate. The literature uses instrumental variable estimation to deal with the endogeneity problem of marginal tax rates. The instruments for the actual (endogenous) tax rates are the "synthetic tax rates." These are calculated by applying the 2016 tax rules to the 2015 (indexed) taxable income of each individual. The index is the average income growth in the sample for individuals with income between 30,000 and 80,000 EUR (1.8%). The synthetic tax rate is based on before-reform individual information only; hence it is exogenous to the after-reform income. (See Gruber-Saez 2002 for a detailed description of the estimation). To check whether the instrument is relevant we report the p-value of the Kleibergen–Paap underidentification test. The null hypothesis is that the equation is underidentified. The test statistics are favorable; both the exogeneity and underidentification tests are rejected as reported at the bottom of Table 5. The F-statistics for the first stage regressions shows that the instrument is not weak.

[85] MTR is calculated as (1- SSCemployee)*PIT+solidarity tax.

The actual tax rate changes for individuals are presented in Table 44. The control group includes individuals with income below the threshold, and the treatment individuals with income above in 2015. In contrast to Table 1 (where social security was included in the MTR), here the change in log(1-MTR) for person A and B or for person C and D are different. So if income increased or decreased independently from the reform, this additionally changed the taxpayer's MTR creating endogeneity problems.

Table 45. Changes in marginal tax rates (including PIT, and solidarity tax)

	before reform	after reform	MTR before reform (2015)	MTR after reform (2016)	change in log(1-MTR)
A	below threshold	below threshold	0,206	0,206	0,00
B	below threshold	above threshold	0,206	0,311	-0,14
C	above threshold	above threshold	0,230	0,311	-0,11
D	above threshold	below threshold	0,230	0,206	0,03

Regression results with the IV estimation are presented in Table 5. Models (1) - (3): The elasticity is significant at 0.27 and it decreases to 0.16 when demographic controls are also included in the regression. The negative coefficient of Region2 suggests that the income of people with reported address in Vidzeme increased less, but similarly to Table 3) the magnitude is small. Models (4) - (6): The elasticity estimate is larger and varies between 0.28 and 0.2.

The elasticity estimates are similar, in a range between 0.15 and 0.28 (see Table 43 and Table 45), whether social security is considered as a tax and is included in the MTR or it is excluded.

Table 46. Estimation results

Dependent variable	(1) dlog(wage)	(2) dlog(wage)	(3) dlog(wage)	(4) dlog(wage)	(5) dlog(wage)	(6) dlog(wage)
dlog(1-MTR)	**0.269*** **	**0.095**	**0.161***	**0.278*** **	**0.115**	**0.202** **
	(0.062)	**(0.085)**	**(0.088)**	**(0.058)**	**(0.082)**	**(0.085)**
$log(wage)_{2012}$		-0.004	0.003		-0.007*	0.001
		(0.004)	(0.004)		(0.003)	(0.004)
$log(wage)_{2013}$		0.019***	0.020***		0.018***	0.020***
		(0.006)	(0.006)		(0.006)	(0.006)
$log(wage)_{2014}$		-0.043***	-0.043***		-0.038***	-0.038***
		(0.009)	(0.009)		(0.009)	(0.009)
Age			-0.002***			-0.002***
			(0.000)			(0.000)
Female			0.001			-0.002
			(0.004)			(0.004)
settl2			0.007			0.006
			(0.007)			(0.006)
settl3			0.001			-0.001
			(0.006)			(0.005)
settl4			0.007			0.006
			(0.005)			(0.004)
Region2			-0.011*			-0.008
			(0.006)			(0.005)
Region3			-0.001			-0.002
			(0.003)			(0.003)
Region4			0.001			-0.000
			(0.002)			(0.002)
Region5			-0.000			-0.001
			(0.002)			(0.002)
has dependent			-0.002			-0.003
			(0.003)			(0.003)
has tax base			0.006			0.004
modifying item			(0.004)			(0.004)
Constant	0.007***	0.297***	0.275***	0.013***	0.291***	0.283***
	(0.002)	(0.081)	(0.087)	(0.002)	(0.082)	(0.087)
Observations	14,282	14,282	14,282	13,989	13,989	13,989
exogeneity of tax rate variables (p value)	0	0	0	0	0	0
Kleibergen-Paap underid. Test (p value)	0	0	0	0	0	0
F-stat-first-stage reg. For (1 - METR)	4311	1966	1839	4386	1899	1762

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

All results are IV estimations with robust standard errors. Robust p values in parentheses. Asterisks mark estimated parameters that are significantly different from zero at the 1 % (***), 5 % (**), or 10 % (*) level. Industrial sectors defined at the two digit level are also included among the control variables. The baseline regression contains individuals residing in the Riga and Pieriga region. The sample consists of taxpayers with income between 30,000 and 80,000 euros in 2015. The last three columns include individuals working in all 12 months in 2015.

All in all, we can conclude that taxpayers did react to the introduction of the solidarity tax. However, the policy implications of the main elasticity estimate results should be considered with caution, as we have only analyzed the behavior of a very high-income and small target group. Results of a similar analysis could differ for the introduction of a broader based PIT affecting a larger share of Latvian households.

ANNEX F SELECTED PIT REFORM SIMULATION RESULTS

Methodology. Reform simulations have been conducted using the European Union tax-benefit micro-simulation mode EUROMOD[86] and the latest available EUROMOD-adapted EU-SILC dataset for Latvia (Latvian EU-SILC 2012) updated to the tax-benefit system as of June 30, 2015.

We present the number of persons affected, the fiscal effect (positive or negative), the change in equalized disposable income by decile, the change in equalized taxes and mandatory social contributions by decile, the change in selected inequality indicators (Gini , S80/S20 ratio, and decile dispersion ratio) and selected poverty measures. Additional (more specific) indicators will be added at a later stage of the project. **It is important to note that simulation results do not take into account possible side effects of the reforms (such as increase in tax evasion by some of the affected groups).**

Reforms simulated. Four types of reforms have been simulated:

***(A) Raising the top PIT rate for top X percent of earners* (X= 5, 10, 15, 20 have been considered). Labor income threshold Y* is determined such as, say, 15% of earners earn > Y*.** Earnings not exceeding Y* for everybody are taxed, as before, at 23 percent, while earnings above Y* are taxed at 33 percent. **For the given threshold, the fiscal effect** of raising the top rate by 1 percentage point equals one tenth of the estimated effect of raising it from 23 percent to 33 percent (however, a lower top rate is likely to generate a smaller side effect in terms of tax evasion).

(B) *Introducing earned income tax credit (EITC).* EITC is effectively a tax subsidy (tax return) for (eligible) low-earners.[87] The parameters of EITC are defined and results reported on an annual basis, but the implementation also could be quarterly. In principle, the typical design of EITC (see e.g. Nichols & Rothstein 2015) looks as follows (rates are hypothetical; they are significantly higher in most countries which apply EITC or similar in-work tax credits):

For earnings *Y < Y1* EITC rate is *c* (we have used 7 percent in simulations). Between *Y1* and *Y2*, EITC amount stays constant at *C =cY1* (this amount is known as the maximum subsidy), so that the marginal EITC rate is zero, while the average effective EITC rate falls from *c* to *b = C/Y2 < c* at *Y2*. Between *Y2* and the EITC eligibility threshold, *Y3*, the EITC amount falls linearly according to formula EITC= ***C - h(Y-Y2)*, where *h* is benefit withdrawal rate (*h= C/(Y3 - Y2)*; in** this (phasing-out) range, the marginal **EITC rate is -*h*, while the average effective EITC rate falls from *b* to zero.**

Both EITC rates and earnings thresholds (including the eligibility threshold) might depend on the number of dependent children. This is the case in the United States, the UK, France, Ireland, and Slovakia (see Table 3 in Nichols and Rothstein, 2015). Below we present results of simulations using the 2015 monthly minimum wage of EUR 360 in the following thresholds:

***Y1*=9*MinWage =€ 3240,**
***Y2*=12*MinWage = =€ 4320 ;**
***Y3*=21*MinWage = € 7560 = 77% of 12 *(Average gross monthly wage)**

A scenario with EITC granted only to one of the parents of dependent children aged below 15 (or below 19 if the child studies in a general or professional secondary education institution, does not receive a scholarship and is not married) has been also simulated.

(C) Mixed reform: *Raising the top PIT rate to 29 percent for top 10-15 percent of earners, lowering PIT rate to 19 percent for income below the minimum wage, and introducing EITC targeted only to one of the parents of dependent children*. The 15 percent threshold earnings threshold (according to 2015 data), would be between EUR 1000 and 1200 per month for full-year workers, while the 10 percent threshold would be below EUR 1400 and EUR 1500 per month. We have chosen EUR 1300 per month for the simulations. The results show that simulated revenues from raising the top rate are more than sufficient to finance both lowering the PIT rate for low-earners and introducing an EITC, so that the total fiscal effect is positive (above EUR 3 million per annum).

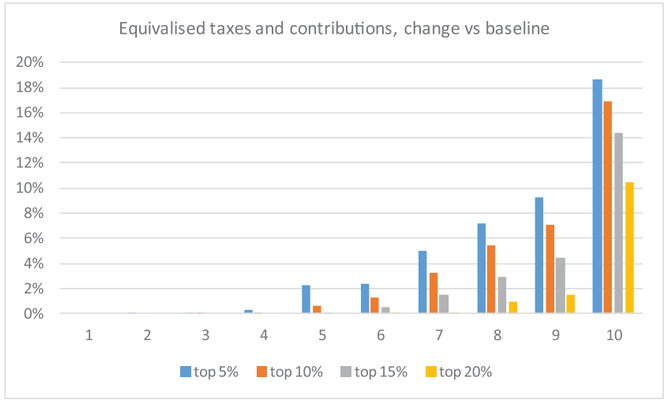
(D) Lowering the withdrawal rates of GMI from 100 percent to 50 percent or 75 percent. This reform changes the formula for calculating GMI from MAX_GMI - FAMILY_INCOME to MAX_GMI - 0.5*FAMILY_INCOME or MAX_GMI - 0.75*FAMILY_INCOME, thus widening the eligible population.

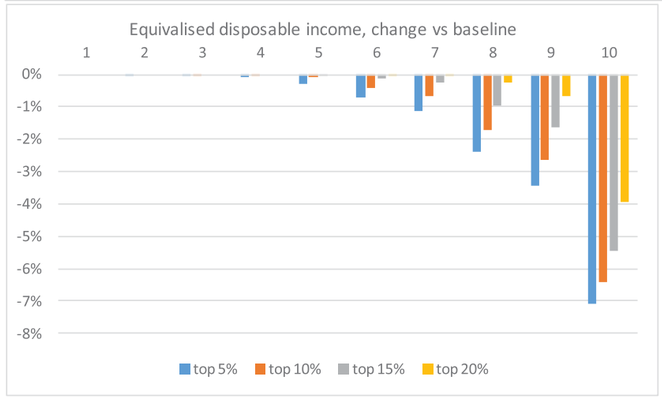
Results. As shown in Figure 73, raising the top PIT rate for the top 5 percent to 20 percent of earners reduces disposable income of the top decile by 7 percent to 4 percent and that of the 9th decile by 3.4 percent to 0.7 percent, while for the 7th and lower deciles the effect is almost negligible. The estimated fiscal effect ranges between EUR 88 and 222 million per annum (Table 44). Income inequality goes down: the quintile ratio S80/S20 falls from 6.27 to 5.91-6.10 and the decile dispersion ratio D10/D1 from 10.27 to 9.54-9.86, while the Gini falls by 0.7 to 1.3 percentage points (Table 44).

[86] EUROMOD has been developed by the Institute for Social & Economic Research (ISER, University of Essex) in co-operation with national teams and is supported by PROGRESS funding from EC DG-EMPL.
EUROMOD aims to simulate as much as possible of the tax and benefit components of household disposable income. The following instruments are simulated: income tax, social contributions (paid by the employees, self-employed and employers), unemployment benefit, family benefits, housing benefit, and guaranteed minimum income benefit (EUROMOD, 2016).

[87] The empirical evidence indicates that in the United States and other countries, EITC and similar in-work tax credits help to promote work, reduce poverty, and support children's development (Marr et al. 2015; Hoynes 2014; Nichols and Rothstein 2015).

Figure 73. Simulated effect of raising the top PIT rate, by household income deciles
Top panel: taxes and contributions. Bottom panel: Household equalized disposable income





Source: EU-SILC microdata and staff calculations.

Table 47. Raising top PIT rate to 33%, simulation results

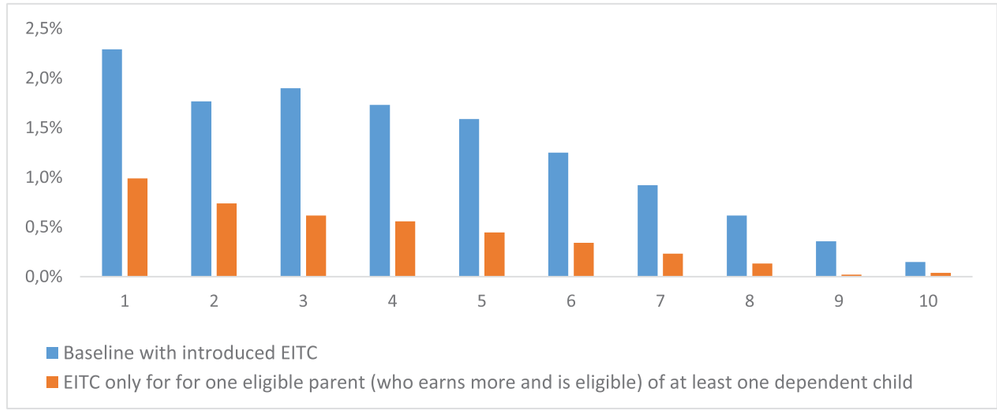
% earners	Baseline 2015	Top 20%	Top 15%	Top 10%	Top 5%
Tax revenue from PIT, change (%)		15.9	13.3	10.1	6.3
Revenue from PIT in 2014, million EUR	1397				
Fiscal impact, million EUR		222.5	185.7	141.3	88.2
Quintile ratio S80/S20	6.274	5.909	5.953	6.015	6.101
Decile dispersion ratio D10/D1	10.266	9.538	9.606	9.707	9.863
Gini	0.361	0.348	0.349	0.351	0.354

Source: Eurostat (baseline revenue), EU-SILC microdata and staff calculations.

The simulation of a modest EITC regime (with a maximum tax credit subsidy of EUR 226.80 per annum) reveals small, but not negligible, income effects for the 1st decile. The impact extends to (although of a smaller magnitude) deciles 2 to 6 (Figure 77). The fiscal cost of this "general" EITC scenario is about EUR 73 million per annum, but it falls to just EUR 19 million if the EITC is only targeted to families with dependent children (where just one parent is eligible). This suggests that providing a significantly

more generous EITC for families with children is a feasible policy option. As is evident from Table 45, this version of the EITC is also better targeted to those with lower household incomes, as the impact for deciles 3 to 6 is much smaller than for decile 1 compared to the "general" EITC simulation. The EITC has potential to shrink the gap between the rich and the poor: the decile dispersion ratio falls from 10.27 to 10.05 for the "general" EITC and to 10.17 for the child-oriented EITC version (Table 45).

Figure 74. Simulated effect of introducing EITC, by household income deciles



Note: The figure shows the change in equalized disposable income.
Source: EU-SILC microdata and staff calculations.

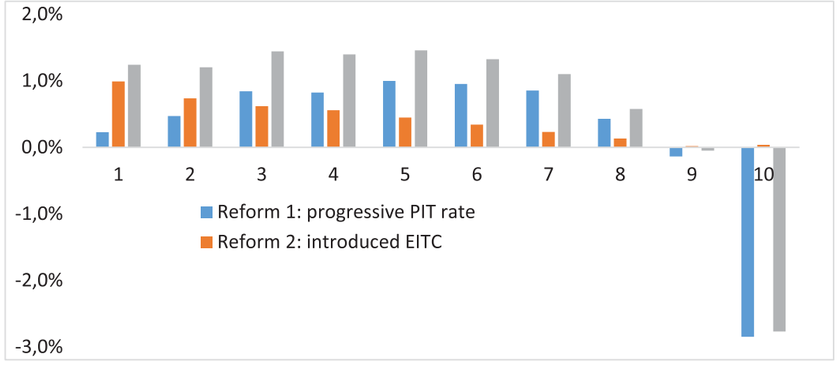
Table 48. Introducing universal EITC and EITC targeted to families with children, simulation results

	Baseline 2015	Universal EITC	EITC for parent of dependent child
Fiscal impact, million EUR	-	-73.294	-19.583
S80/S20	6.274	6.158	6.219
Decile dispersion ratio	10.266	10.051	10.169
Gini	0.361	0.357	0.360

Notes: Universal EITC simulation is an EITC of 7 percent of annual gross earnings below EUR 3240; EUR 226.80 for annual earnings between EUR 3240 and EUR 4320; EUR 226.80 less 0.07 multiplied by (income minus 4320) for annual earnings between EUR 4320 and EUR 7560; and 0 for annual earnings above EUR 7560. The alternate EITC simulated is given only to one eligible parent (the parent who earns more and is eligible) of at least one dependent child. A negative number under the fiscal impact means that the program has a fiscal cost.
Source: EU-SILC microdata and staff calculations.

Introducing a progressive PIT with three rates 19 percent/23 percent/29 percent) generates a positive fiscal effect of almost EUR 23 million, raises household income in all but the top 2 deciles (Figure 78) and substantially reduces the gap between the rich and the poor: the quintile ratio goes down from 6.27 to 6.13, while the decile dispersion ratio falls from 10.27 to 9.95 (Table 45). When the PIT reform is combined with the EITC targeted to households with dependent children, the fiscal effect is still positive at EUR 3 million per annum, disposable income in middle- and, especially, low-income households increases further (Figure 75), and the quintile ratio and the decile dispersion ratio decline further to 6.08 and 9.86, respectively (Table 46).

Figure 75. Impact of introducing a progressive income tax and a targeted EITC: Simulated effect, change in percent of income, by household income deciles



Note: The figure shows the percentage change in equalized disposable income due to each simulation.

The "Reform 1" scenario shows the impact of introducing three PIT bands: a low rate of 19 percent (for annual earnings below 12 minimum monthly wages, i.e. EUR 4320 (12*360); a 23 percent rate for annual earnings between EUR 4320 and EUR 15600; and a top rate of 29 percent annual earnings above EUR 15600 (12*1300). The "reform 2" scenario shows the impact of introducing an EITC targeted to one eligible parent (the parent who earns more and is eligible) of at least one dependent child.

Source: EU-SILC microdata and staff calculations.

Table 49. Introducing progressive PIT and progressive PIT combined with EITC targeted to families with children, simulation results

Scenario	Baseline 2015	Three PIT tax bands	Three PIT tax bands + EITC for parent of dependent child
Fiscal impact, million EUR		22.820	3.234
S80/S20	6.274	6.131	6.082
Decile dispersion ratio	10.266	9.951	9.860
Gini	0.361	0.355	0.354

Note: The first scenario shows the impact of the introduction of three PIT bands: a low rate of 19 percent (for annual earnings below 12 minimum monthly wages, i.e. EUR 4320 (12*360); a 23 percent rate for annual earnings between EUR 4320 and EUR 15600; and a top rate of 29 percent annual earnings above EUR 15600 (12*1300). The second shows the impact of the introduction of three PIT tax bands together with an EITC targeted to one eligible parent (the parent who earns more and is eligible) of at least one dependent child.

Source: EU-SILC microdata and staff calculation.

Simulations of progressive PIT without and with joint taxation of married couples

These simulations compare the effect of four progressive PIT systems versus the baseline as of 2015 (the most recent fully available for EUROMOD simulations):

(i) ***Progressive "A"*: Tax system 2015 + progressive PIT** (19 percent up to income EUR 360, 23 percent for income above 360 and up to EUR1300, 29 percent for income above EUR1300 per month), applied to the sum of income from employment and self-employment.

(ii) ***Progressive "A", joint*: Same as *Progressive "A"* for all taxpayers but married couples.** For married couples: (i) Tax allowance for non-working spouse (EUR 165 per month added to nontaxable income) [88] does not apply (except for disabled spouses). (ii) Nontaxable income for the couple is EUR 150 per month. (iii) PIT rates 19 percent, 23 percent, and 29 percent apply, respectively, for joint labor income up to EUR 720, above EUR 720 up to EUR 2600, and above EUR 2600.

[88] This was a part of the tax system in 2015, but not in 2016.

(iii) ***Progressive "B"*: Tax system 2015 + progressive PIT** (19 percent up to income EUR 360, 23 percent for income above 360 and up to EUR1300, 29 percent for income above EUR1300 per month), applied to the sum of income from dependent employment. All self-employment income is taxed at the rate of 19 percent.

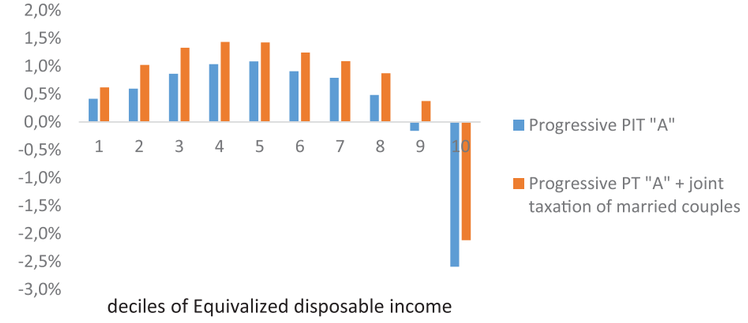
(iv) **Progressive *"B", joint*: Same as *Progressive "B"* for all taxpayers but married couples.** For married couples: (i) Tax allowance for non-working spouse (EUR 165 per month added to nontaxable income) does not apply (except for disabled spouses); (ii) Nontaxable income for the couple is EUR 150 per month; (iii) PIT rates 19 percent, 23 percent, and 29 percent apply, respectively, for joint employee income up to EUR 720, above EUR 720 up to EUR 2600, and above EUR 2600; and (iv) All self-employment income is taxed at the rate of 19 percent.

Simulations have been performed based on EU-SILC microdata for 2015 (adapted for EUROMOD by the team). The nontaxable minimum is not differentiated as it has been conceptually agreed that if progressive PIT is introduced, there will be no need for a differentiated minimum.

Although assumed threshold for the top rate is EUR 1300 for a single earner and EUR 2600 for a couple, due to lowering the PIT rate to 19 percent for incomes up to EUR 360/720, the *net effect of introduction of the progressive PIT (in comparison with the flat rate of 23 percent) on employee net earnings will be negative only for singles earning above EUR 1660 and couples earning above EUR 3320* (in the latter case we leave aside removing the allowance for non-working spouse, which has already happened).

Introduction of progressivity coupled with joint taxation increases the income of households across the income distribution. Figure 76 show that introduction of joint taxation slightly (by less than 0.5 percent) improves household income across the income distribution (results for the Progressive "B" version are qualitatively very similar and not shown), the fiscal cost of the measure is EUR 27 to 29 million, and the effect on inequality is negligible.

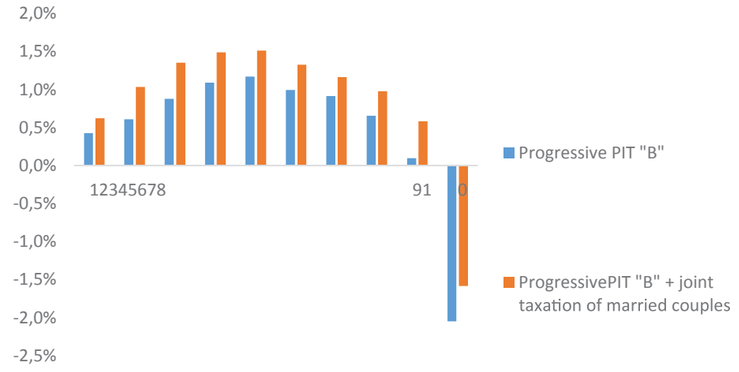
Figure 76. Scenario Progressive A: Effect of introduction of progressive PIT and joint taxation of married couples on the equalized disposable income, change vs baseline



Notes: [a] Baseline, as well as Progressive PIT "A" include tax allowance for non-working spouse (EUR 165 per month), while the joint versions of Progressive PIT "A" does not.

Source: EU-SILC microdata and staff calculations using EUROMOD

Figure 77. Scenario Progressive B: Effect of introduction of progressive PIT and joint taxation of married couples on the equalized disposable income, change vs baseline



Notes: [a]Baseline, as well as Progressive PIT "A" include tax allowance for non-working spouse (EUR 165 per month), while the joint versions of Progressive PIT "A" does not.
Source: EU-SILC microdata and staff calculations using EUROMOD

Table 50. Progressive PIT with and without joint taxation of married couples: Impact on tax revenues and inequality

	Baseline 2015 [a]	*Progressive A*		*Progressive B*	
		Not joint	Joint	Not joint	Joint
Tax revenue from PIT, change (%)		1.0%	-1.0%	-0.2%	-2.1%
Revenue from PIT in 2014, million EUR	1444.6				
Fiscal impact, million EUR		14.3	-15.1	-3.3	-30.4
Quintile ratio S80/S20	6.162	6.026	6.036	6.053	6.057
Decile dispersion ratio D10/D1	10.312	10.004	10.032	10.058	10.086
Gini	0.348	0.343	0.343	0.344	0.344

Notes: [a]Baseline, as well as not joint versions of progressive taxation include tax allowance for non-working spouse (EUR 165 per month), while Joint versions do not.
Source: Eurostat (baseline revenue), EU-SILC microdata and staff calculations using EUROMOD.

ANNEX G: IMPACT OF LABOR TAXES ON EMPLOYMENT AND WAGES

There is a sizable body of empirical research into the employment and wage effects of payroll taxes.[89] Overall, a number of studies have found that high labor taxes have a negative impact on employment, and tend to increase unemployment rates[90], although other studies are less conclusive.[91] Empirical studies have shown the existence of a positive relationship between the tax wedge on labor income and unemployment.[92] However, as noted by Bell et al. (2002), "One problem the studies face is that it is very difficult to isolate the causal effect of tax changes on wages and employment because other factors are changing at the same time. Nonetheless, the findings suggest that, in the long run, wages absorb the changes in payroll taxes."

Impact on employment and unemployment. Although labor tax cuts and employment subsidies have been implemented in many countries at different times, the quantitative evidence of their impacts on employment is limited. The existing literature offers some guidance on the plausible range of labor demand elasticity estimates, although most of the studies are based on data from industrialized countries. The international evidence suggests that the likely range is between -0.30 and -0.50 (i.e., a 10 percent decrease in the cost of labor would cause employment to rise from between 3 and 5 percent). Recently, there have been a growing number of studies from developing and transition countries, with most of the (long run) elasticities estimates in the -0.20 to -0.60 range.[93]

On the basis of cross-country regressions for Eastern European and Central Asian countries (ECA), Rutkowski (2007) estimates that a one percentage point change in the tax wedge results in a 0.3-0.6 percent change in the employment rate. In ECA, the tax wedge is expected to have a stronger negative impact on employment in more rigid labor markets, where wages are slow to adjust to downward shifts in labor demand because of, for example, strict employment protection or a high minimum wage.

A study by Bassanini and Duval (2006) using pooled cross-section/time series data for OECD countries over the period 1982–2003 found that a 10 percentage point reduction in the tax wedge would be associated with a drop in the unemployment rate of 2.8 percentage points. The unemployment effects of high tax wedges are found to be largest in those countries where binding minimum wage floors prevent tax shifting to workers.

For a summary of studies focusing on employment impacts of changes in payroll taxes, see Table 47.

Table 51. Employment and wage effects of changes in payroll taxes

Author(s); year	Countries	Impact
Bassanini and Duval, 2006	OECD countries	On average, it is estimated that a 10 percentage point reduction in the tax wedge, a 10 percentage point reduction of unemployment benefits and/or a decline in product market regulation by two standard deviations would be associated with a drop in the unemployment rate by about 2.8, 1.2 and 0.7 percentage points, respectively.
Bell et al., 2002	UK, the 1999 reform in National Insurance Contributions (NIC)	The reform shifted the tax burden from low-wage to high-wage earners. A 1 percentage point rise in the NICs share is predicted to reduce nominal pay growth by around 1.4 percentage points after a year, while producer prices in the manufacturing sector rise by around 1.3 percentage points. Also, it leads to a rise in employment growth of 0.5 percentage points, but the employment effect is statistically insignificant.
Daveri and Tabellini, 2000	EU countries	The observed rise of 14 percentage points in labor tax rates between 1965 and 1995 in the EU could account for a rise in EU unemployment of roughly 4 percentage points, a reduction of the investment share of output of about 3 percentage points, and a growth slowdown of about 0.4 percentage points a year. No effects are found for a subsample of Anglo-Saxon and Nordic countries.
Góra et al., 2006	A sample of 27 OECD countries for two years (1997 and 2003)	The tax wedge has a statistically significant and strong negative effect on the employment rate of unskilled prime-age male workers, but no effect on skilled workers.

[89] For a summary of the literature see, for example, Nickell and Layard (1999), Vroman and Brusentsev (2005), World Bank (2009), Melguizo and González-Páramo (2012), Antón, 2014.
[90] Belot and van Ours, 2004; Nickell, 1997
[91] Scarpetta, 1996; Nunziata, 2002; Macculloch and DiTella, 2002
[92] Nickell and Layard (1999), Daveri and Tabellini (2000), Nickell et al. (2005), Ohanian et al., 2006.
[93] Vroman and Brusentsev, 2005; Rutkowski, 2007

Author(s); year	Countries	Impact
Katz, 1998	USA	A 15 percent reduction in labor costs because of the Targeted Jobs Tax Credit yielded a net employment effect of 7.7 percent; under the assumption of an infinitely elastic labor supply, this implies an elasticity of labor demand of -0.5.
Nickell and Layard, 1999	Advanced countries	A one percentage increase in real labor costs in response to a one percentage point rise in the tax wedge increases unemployment **[correct?]** by between 0 percent in Austria and New Zealand to 1.6 percent in Belgium, and 1.4 percent in Ireland and Switzerland. No important differential tax effects on unemployment were found, but there is evidence that overall labor tax rates do influence labor costs in the long run and hence raise unemployment.
Rutkowski, 2007	ECA countries	A one percentage point change in the tax wedge results in a 0.3-0.6 percent change in the employment rate.
World Bank, 2005	EU8 countries	For a given GDP growth rate, each percentage point difference in the tax wedge is associated with a decrease in employment growth by 0.5 - 0.8 percentage points.

A study by Katz (1998) for the United States finds that "wage subsidies to employers to hire disadvantaged workers appear to modestly raise the demand for labor for those workers. Stand-alone wage subsidies (or employment tax credits) that are highly targeted on very specific groups (such as welfare recipients) appear to have low utilization rates and may (in some cases) stigmatize the targeted group. But new evidence based on an examination of changes in eligibility rules for the Targeted Jobs Tax Credit (TJTC), the major U.S. wage subsidy program for the economically disadvantaged from 1979 to 1994, suggests modest positive employment effects of the TJTC on economically disadvantaged young adults. Policies combining wage subsidies with job development, training, and job search assistance efforts appear to have been somewhat successful in improving the employment and earnings of specific targeted disadvantaged groups." Estimates by Katz (1998) indicate that the TJTC program increased employment for disadvantaged 23- to 24-year-olds by 3.4 percentage points.

Past studies have shown that the employment of less skilled workers appears to be more sensitive to changes in the tax wedge than that of more skilled workers. Góra et al. (2006), using panel regressions for a sample of 27 OECD countries (including EU-8 countries) for two years (1997 and 2003), finds that the tax wedge has a statistically significant and strong negative effect on the employment rate of unskilled prime-age male workers, but no effect on that of skilled workers.

Impact on wage levels. Another important gap in the literature is the effect of tax cuts and subsidies on wages, e.g., the extent to which labor taxes are shifted on to employees (the "pass through" effect). Studies in middle-income countries provide a wide range of estimates which indicate that, in some cases, the pass through can be quite large.[94] For example, research in Latin America suggests that anywhere from 20 to 70 percent of the employer's social security contributions are passed on to the worker, and in some cases close to 100 percent.[95] This means that a large part of changes in payroll taxes is transferred to workers by adjusting wages, so that the effect on employment is marginal. Melguizo and González-Páramo (2012) base their meta-analysis work on 52 empirical studies, and conclude that "in the long run, workers bear between two thirds of the tax burden (on labor) in Continental and Anglo-Saxon economies, and nearly 90 percent in the Nordic economies." Higher values also are found by Gruber (1997), who in the case of Chile finds an almost total shift, and by Cruces et. al. (2010), who calculate a *"pass-through"* effect between 40 and 90 percent in Argentina. However, Prasad (2008) finds no effect of personal income tax rates on wage rates. This could be because his study focuses on manufacturing wages, and this sector is highly capital intensive, and as suggested by other authors (Davis et al., 2004), unresponsive to tax rates.

Impact on work hours. The effect of personal income taxes on work activity has also been studied in the literature, although the evidence is scarce. In particular, cross-country comparisons in the mid-1990s conducted by Davis and Henrekson (2004) indicate that a tax hike of 12.8 percentage points (one standard deviation) leads to 122 fewer hours of market work per adult per year and a 4.9 percentage point drop in the employment-to-population ratio. It also increases the size of the shadow economy by 3.8 percent of official GDP. The evidence suggests that tax rate differences among rich countries are a major reason for large international differences in market work time and in the industry mix of market activity. Changes in hours of work in 21 OECD countries between 1956 and 2004 were studied by Ohanian et al (2008). The key finding of their paper is that differences in taxes across countries are a very important piece of the explanation for the vastly different levels of hours of market work.

Impact on informality. Labor taxes heavily contribute to informal employment. In the words of Giles and Tedds (2002), "Perhaps the single most commonly cited 'driving force' of the underground economy is the actual, or perceived, tax burden." [96] Governments are sometimes motivated to decrease taxes, particularly payroll taxes, to promote labor formality and thus provide social insurance services for a larger share of the population. However, many factors besides tax rates, including cultural factors, corruption, and enforcement capacity, affect the level of informality. Economic development has historically involved a gradual shift from informal to formal employment, as well as an increase in the size of government coupled with increasing tax rates. Thus, many high-income OECD countries combine high tax rates with a relatively low incidence of undeclared work.[97] In a sample of 69 developing and developed countries, Friedman et al. (2000) finds that higher tax rates are associated with lower—not higher—unofficial activity as a percentage of GDP, and argues that this is possible (at least in the richer countries) where a higher tax burden is matched by better provision of public goods. Thus, the cost of a higher tax burden is outweighed by the advantages of better public services, thereby reducing any incentive for the tax payers to move into informality.[98]

Finally, there is evidence that higher labor taxes are associated with larger shadow economies for countries at similar levels of per capita income. Regressions on a rich country sample (14 countries) in the mid-1990s indicated that a unit standard deviation tax difference of 12.8 percentage points is associated with, among other things, a rise in the shadow economy of 3.8 percent of GDP, which corresponds to a 24 percent increase in the size of the shadow economy evaluated at the mean.[99]

Informality entails a loss in budget revenues due to lower taxes and social security contributions paid, and therefore a lower availability of funds to provide public goods and services. A large informal sector also invariably leads to a high tax burden on registered labor and firms because of the narrow tax base. A high level of informality also can undermine the rule of law and governance. This situation means that a significant share of the population does not have access to formal instruments to protect themselves against economic risk.

Overall, empirical evidence from different countries and regions confirms that the impact of labor taxes on employment, wages, work hours and on informality can be rather substantial. In particular, most studies from developing and transition countries estimate the (long run) elasticities in the -0.20 to -0.60 range, i.e., a 10 percent decrease in the cost of labor would cause employment to rise from between 2 and 6 percent.

ANNEX H. OPTIONS FOR DIFFERENTIATED SOCIAL CONTRIBUTION RATES

Income taxes and social security contributions may be subject to a floor, a ceiling, tax brackets, tax exemptions, personal basic exemptions, and tax credits. Examples from some of the countries in Europe are listed below and are summarized as follows:

- In many countries the tax legislation sets up a **social contribution floor**, often by categories of workers, which is different from the minimum wages. For example, in Bulgaria, the minimum amount of contributions varies according to occupation and industrial branch, and is negotiated annually between the social partners. Lower floors are often established for self-employed, farmers, or voluntarily insured. In some countries (e.g., Switzerland, the Czech Republic, Bulgaria), persons who are not engaged in paid employment or are not insured on any other ground, are still obliged to pay minimum contributions at their own expense.

- In many countries, **a ceiling on contributions on insurable earnings** has been established as a fixed amount (e.g., Austria, Spain, Croatia, Cyprus, Bulgaria), or as a multiple of average wages (e.g., Slovakia, Slovenia, Romania, the Czech Republic), the minimum gross wages (e.g., Romania for sickness and maternity benefit contributions), or some other benchmark. In Latvia, the maximum taxable amount had been established at EUR 48,600 a year, but starting from January 1, 2016 mandatory contributions of the statutory social insurance have to be made also from income exceeding this threshold (the solidarity tax).

[94] World Bank, 2009
[95] Azemar and Desbordes, 2010; World Bank, 2009; Heckman and Pagés 2004; Oghe et al., 2003
[96] http://www.imf.org/external/pubs/ft/survey/so/2007/car0726a.htm
[97] OECD, 2006
[98] Rei and Bhattacharya, 2008
[99] Davis and Henrekson, 2004

- **Discounts in contributions** have been established for certain categories of workers, or employees' contributions are omitted or reduced in case of low incomes. In Austria, there is no employee unemployment insurance contribution to be paid on incomes up to EUR 1,311. In Slovakia, contributions as a percentage of the assessment base for the disabled is half of that for regular workers, and former long-term unemployed with low wages are exempted from insurance contributions. In Germany, the employer pays a reduced contribution for low-earners (on mini-jobs). In France, contribution for family allowances is paid by the employer at the rate of 5.25 percent, or 3.45 percent on wages lower than 1.6 times the minimum wage. In Switzerland, lower premiums have been established for youths. In some countries, contribution rates vary depending on the level of taxable earnings (e.g., U.K. and Austria).

- In some countries, there are **discounts for small enterprises**. For example, in France, for general health insurance schemes for employees, and for accidents at work and occupational diseases, a flat-rate deduction of employers' contributions of EUR 1.50 per hour has been established for companies with less than 20 employees. However, there is no evidence that targeted tax relief for small firms is more effective in increasing aggregate employment than general tax relief for businesses. In fact, special relief may hurt economic growth by creating a small-business trap, encouraging small firms to avoid growing larger and thus lose their special tax treatment. Jobs created by small firms are also generally of lower quality than jobs created by large firms, with the former paying lower wages, offering more modest health insurance and pension plans, and providing poorer working conditions (Brown et al, 1990; IMF, 2012).

- Many countries have established **differentiated contribution rates depending on working conditions** to cover the risks associated with accidents at work and occupational diseases.

- Alternatively, **contributions for certain benefits or categories of individuals** can be paid from the state budget. For example, financing of sickness and maternity benefits in kind is tax-based in Cyprus, Denmark, Italy, Portugal, and Spain. In Bulgaria, contribution for sickness and maternity leave benefits is covered from general tax revenues on behalf of civil servants, soldiers, and other military personnel; the judiciary, including judges, prosecutors, investigators, and bailiffs; uninsured persons under 18 years of age and for students up to the age of 26; socially vulnerable persons with a right to social assistance or accommodated in social care centers; persons under arrest or imprisoned; war veterans and war invalids; and some other categories of individuals. A portion of the employer's contributions is paid from the state budget for people with disabilities. Also, Bulgaria began to finance active labor market policies from the general budget rather than the contribution-financed Employment Fund (EC, 2014).

- **Minimum floor.** As the minimum wage sets a floor to the gross wage, especially in high income countries, the combination of the minimum wage and high employer contributions to social security leads to high wage costs for low-skilled workers and reduces their job opportunities in the formal sector. With binding wage floors in place, taxes paid by the employer cannot be passed on to minimum wage workers by lowering their pay. Employers may nevertheless be able to shift taxes paid for minimum wage workers to higher-paid workers by lowering their wages. Social contribution payments tend to accrue around the level of minimum contribution, suggesting that many firms report only wages that are close to the negotiated minimum contribution threshold. This under-reporting, combined with the sizeable informal sector, means that the tax base is not as wide as it could be, and that tax rates on those who pay them are higher than they otherwise might be. Hungary has tried to address this problem through the introduction of a double minimum wage contribution base with opt-out possibilities. Presuming widespread tax evasion through undeclared earnings, Hungary has established the employer's social contribution base at twice the minimum wage, unless the employer declares that workers are indeed earning the minimum wage (which, in turn, raises the risks of a tax audit). A minimum contribution floor increases the tax burden considerably for those in low-paying, part-time jobs. As a result, the total tax burden on employment income is very high for low income earners.

- **Differentiated minimum wages.** Another approach is to introduce multiple minimum wages to differentiate among workers with different productivity levels. Some countries have put in place differentiated minimum wages (or contribution bases) to reflect presumed variations in the productivity level of workers with different characteristics. However, these can increase administrative complexity, create enforcement challenges, and lead to wage discrimination (Kuddo et al, 2015).

Minimum wages that are set higher for categories of workers with higher productivity (and expected wages) can be a potentially effective way to reduce undeclared earnings, by shifting some portion of wages from cash to taxable income. Another option is to differentiate the minimum wage according to sector and occupation. Yet another alternative is to set different minimum wage levels by region, given the substantial differences in regional wages in some countries. Whatever model is implemented, it is critical to maintain a low minimum wage for unskilled workers so that they are not priced out of the formal labor market.

- **Tax credits** can be a useful tool to mitigate the tax burden on vulnerable groups. This program provides tax credits to the labor income of families whose annual earnings remain below a certain threshold, often gradually phased out as income rises. These in-work tax credits reduce the net tax liability—or turn it negative in some cases for low-wage earners—and increase the net income gain from accepting a job relative to the alternative of being out of work. For example, policies such as the EITC (Earned Income Tax Credit) in the United States or the WFTC (Working Families Tax Credit) in the U.K. have been shown to improve transitions from unemployment to employment by reducing the tax burden of some disadvantaged groups (e.g. employed single parents) (Lehmann et al, 2014). Currently, at least 14 advanced economies apply in-work tax credits, and experience has shown that low-skilled employment is relatively responsive to such financial incentives (IMF, 2011).

- **The presumptive approach.** In order to expand the tax base, some countries impose taxes on bases that are administratively determined rather than self-assessed by taxpayers. Presumptive systems may, for example, calculate taxable income based on key factors that are presumably associated with income generation such as sales, turnover, number of employees, size of firm, assets of the taxpayer, and so forth (Rutkowski, 2007). The estimated tax base typically is calculated based on coefficients for different factors applied to specific taxpayers or specific types of taxpayers (such as certain sized enterprises in particular industries). The idea is to use data available to officials to capture at least some minimum level of tax from those taxpayers who are considered to be unreliable sources of information on their own activities.

  Such presumptive taxation can be found, for example, in Greece, where individuals may be taxed according to imputed income, when imputed income is higher than actual income declared and the taxpayer cannot substantiate the difference. Imputed income is calculated based on criteria such as rent of second home, operating expenses of vehicles, costs of domestic servants, assets (e.g., cars, boats, ships), enterprise share-holdings, purchase or construction of immovable property, and loans to personal enterprises, partnerships, and limited liability companies (Wallace, 2002).

- **Reduced taxes on low income earners, older workers and women/secondary earners.** Section 3.1 of the main text illustrates how households in the lowest income quartile face a much higher marginal effective tax rate than those in higher income groups. An increase in labor taxes will have the strongest effect on the employment of workers for whom labor demand is most elastic. These include low-skilled workers, youths, older workers, and women. The negative employment effect will be amplified if the elasticity of labor supply of those groups is high. The current social protection financing structures in many countries discriminate against low wage earners. Most countries charge similar rates of payroll taxes and employer social contributions for minimum-wage labor as for higher-earning employees. Moreover, a minimum contribution floor at such a low wage increases the tax burden considerably for those in low-paying, part-time jobs.

  A high labor tax wedge on low income earners may reduce their probability of being formally employed. Reductions in employer social security contributions then can be effective in raising employment if targeted to low-wage earners (e.g., decreasing the labor tax wedge at lower wage levels) and where the link with benefits is weak (e.g., for health expenditures). In particular, targeted cuts in employer social security contributions can have a sizable impact on the employment prospects of low-skilled workers, particularly given their relatively high elasticity of labor demand (Gill et al, 2013). The low-skilled are more likely to be unemployed, informal or inactive. They are also expected to work more in temporary or part-time contracts rather than regular contracts. Austria, Belgium, France, the Netherlands, Spain, and the United Kingdom have cut social security contributions by low-paid workers by about 1.5 percentage points since 1997 (IMF, 2011).

For example, France introduced payroll tax subsidies in 1993, and the system is still in place in a modified form. The program provides payroll tax exemptions for low-wage workers according to a sliding scale up to a threshold of 1.33 times the minimum wage, when the subsidy is stopped. The maximum exemption is 18.2 percentage points in employer's payroll tax for minimum wage workers. Crépon and Desplatz (2002) estimate that each reduction in labor cost of 1 percentage point led to a rise in employment of 1.6 percent in manufacturing and 1.8 percent in nonmanufacturing, and the unskilled labor content increased substantially. These changes in employment were due to two effects: substitution between factors of production—as less skilled labor was substituted for more skilled labor and capital—and expanded profitability and output (because reduced labor costs enabled firms to lower prices and thus boost demand).

The estimated employment effect, however, has varied. In Belgium, for example, the tax cut seems to have had a significant impact on registered employment, but not in the Netherlands (World Bank, 2009). However, increasing the progressivity of taxation may also have efficiency costs, notably in terms of tax avoidance and reduced incentives to improve skills and productivity for low-income earners.

Older workers are found to be more sensitive to financial incentives than younger workers. Lower labor tax rates for older workers can increase incentives for them to remain in the labor force—although this also raises equity issues, as high-income workers generally work longer. Australia, Denmark, the Netherlands, and Sweden, for example, have introduced specific earnings tax credits for older workers, aimed at stimulating labor-market participation (IMF, 2011).

Female labor supply is more responsive to taxes than male labor supply. Hence, tax relief for women would likely elicit a positive net supply response, even when financed by higher taxes on men. Where legal constraints prevent a gender distinction in the tax burden, special tax relief can be targeted to single parents (single mothers generally have the highest elasticities) or to secondary earners in couples. Another way to reduce the tax burden for secondary earners is by replacing family taxation with individual taxation. Family taxation, or family-related tax elements, such as mandatory joint filing, dependent spouse allowances, or credits conditional on family income, is still widespread. However, many OECD countries have moved toward individual taxation over the past decades. Family tax systems result in high tax wedges for secondary earners in couples, especially when rates rise rapidly with family income (IMF, 2012).

Also, the negative employment effect of payroll taxes will be stronger if labor market regulations (such as minimum wage or unemployment benefits) or strong trade unions limit the downward wage adjustment so that the tax cannot be absorbed by a commensurate fall in wages.

These reforms would need to be implemented in a budget neutral manner. While lowering the tax wedge might partly finance itself through increased revenues due to higher employment and output, these are likely to be insufficient to fully compensate for the lower contribution or tax rates. It also seems that some transition countries (e.g., Armenia, Bulgaria, Estonia, Kazakhstan, Slovakia, and Russia) have experienced increases in tax revenues when taxes have been cut. The larger is the share of informal business activity before reform, the higher is the revenue growth after.

Table 52. Insured and employer contribution rates, by country and program type in selected EU28 countries, in percent, 2014

	Old-age, disability, and survivors	Sickness and maternity	Work injury	Unemployment	Family benefits	Total, all programs
Estonia						
Insured person	2	0	0	2	0	4
Employer	20	13	a)	1	0	34
Total	22	13	0	3	0	38
Finland						
Insured person	5.55	2.16	0	0.7	0	8.41
Employer	17.75	2.14	0.1	2.2	0	22.19
Total	23.30	4.30	0.1	2.9	0	30.60
France						
Insured person	10.05	0.75	0	2.4	0	13.2
Employer	14.70	13.10	b)	4.3	5.4	37.5
Total	24.75	13.85	0	6.7	5.4	50.7
Germany						
Insured person	9.45	9.225	0	1.5	0	20.175
Employer	9.45	8.325	1.3	1.5	0	20.575
Total	18.90	17.550	1.3	3.0	0	40.750
Latvia						
Insured person	10.50	a)	0	a)	0	10.50
Employer	23.59	a)	a)	a)	0	23.59
Total	34.09	a)	0	a)	0	34.09
Lithuania						
Insured person	3.0	6.0	0	0	0	9.00
Employer	23.3	6.4	0.37	1.1	0	31.17
Total	26.3	12.4	0.37	1.1	0	40.17
Poland						
Insured person	11.26	11.45	0	0	0	22.71
Employer	16.26	0	0.67	2.45	0	19.38
Total	27.52	11.45	0.67	2.45	0	42.09
Sweden						
Insured person	7.00	0	0	0	0	7.00
Employer	15.73	12.48	0.3	2.91	0	31.42
Total	22.73	12.48	0.3	2.91	0	38.42
United Kingdom						
Insured person	9.05	2.05	a)	a)	0	11.1
Employer	11.90	1.90	a)	a)	0	13.8
Total	20.95	3.95	a)	a)	0	24.9

a) All or certain benefits are financed under another program.
Source: SSA and ISSA, 2014.

Table 53. Social security contribution arrangements in some of the EU28 and EFTA countries in 2016

	Country, type of insurance	**Contribution levels**
Minimum contribution floor (including other than minimum wage)	Bulgaria, sickness and maternity: cash benefits and benefits in kind	Minimum amount of the contributory income per month varies according to occupation and industrial branch - between BGN 420 (EUR 215) and BGN 550 (EUR 281) per month; self-employed: 8% of the contributory income.
	Estonia, overall contributions	Employers and self-employed are both obliged to pay social tax not less than the amount calculated from the rate established by the State - EUR 390 per month.
	Latvia, overall contributions	Minimum annual amount for self-employed and voluntarily insured persons is twelve times the amount of minimum monthly wage—EUR 4,440 a year (12 x EUR 370)

	Country, type of insurance	Contribution levels
	Czech R., sickness and maternity: benefits in kind	Employees: minimum assessment base - minimum monthly wage (CZK 9,900 (EUR 366)). Self-employed: 13.5% of the assessment base (which is 50% of the annual income from business and from other independent gainful activity minus costs incurred to achieve, secure and maintain such an income).
	Slovakia, sickness and maternity: cash benefits and benefits in kind	Minimum amount (for self-employed): 50% of the national average wage.
	Slovenia, old age benefit contributions	Minimum: for self-employed and farmers - minimum wage; for executives and business partners - minimum Pension Rating Basis
	Croatia, unemployment benefit contributions	Assessment base: minimum HRK 2,812.95 (EUR 368)
	Serbia, overall benefit contributions	Minimum base for contributions: indexed every three months and represents 35% of the national average gross wage over the previous quarter. Minimum base is 21,718 RSD (2015).
Ceiling on contributions on insurable earnings	Cyprus, overall contributions	Ceiling on insurable earnings: EUR 1,046 per week or EUR 4,533 per month.
	Slovakia, sickness, maternity and old-age benefit contributions	Maximum EUR 4,290 per month (5 times the average monthly wage in 2014).
	Poland, invalidity and old-age insurance contributions	Ceiling: 30 times the projected national average wage as set out in the budget law; this ceiling applies to the combined contribution of the employer and insured person.
	Romania, sickness and maternity, and old age benefit contributions	Ceiling: benefits in kind: 5 times the average gross earnings; total gross earnings; ceiling: five times the Average Gross, i.e. RON13,405 (EUR 2,959); cash benefits: 12 times minimum gross wage for each employee**. [this is unclear]**
	Austria, sickness and maternity, old-age and unemployment benefit contributions	Ceiling: principally EUR 4,860 monthly, for 13th and 14th month salary EUR 9,720 per year.
	Latvia, overall contributions	The maximum taxable amount is EUR 48,600 a year.
	Bulgaria, sickness and maternity, old-age, and unemployment benefit contributions	Ceiling: BGN 2,600 (EUR 1,329) per month.
	Spain, overall contributions	Ceiling: EUR 3,642 per month.
	Czech R., sickness and maternity cash benefits, old-age and unemployment benefits contributions	Ceiling: 48 multiplied by monthly average wage (CZK 1,296,288 (EUR 47,959) per annum).
	Lithuania, sickness and maternity: cash benefits	Ceiling: 48 average insured incomes per year.

	Country, type of insurance	Contribution levels
	Croatia, sickness and maternity cash benefit, old-age and unemployment benefit contributions	Ceiling: HRK 48,222.00 (EUR 6,314).
	Poland, invalidity and old age benefit contributions	Ceiling: 30 times the projected national average wage as laid down in the budget law, this ceiling applies to the combined contribution of employer and insured person.
	Slovenia, old age contributions	Maximum: 3.5 times the average wage.
Reduction of contributions	France, contribution for family allowances	Employers pay 5.25%, or 3.45% on wages lower than 1.6 times the minimum wage
	Germany, sickness and maternity: benefits in kind, and old-age benefit contributions	For low-earners (up to EUR 450 per month) the employer pays a contribution of 13%, and for low-earners employed in the private household sector a contribution of 5%. These blanket contributions are only payable if the employee is already insured in the statutory sickness insurance.
Mandatory minimum contribution base	Bulgaria, sickness and maternity: benefits in kind	Persons not covered by the health insurance system on any other grounds are obliged to pay contributions amounting to at least 8% of the minimum contributory income for the self-employed (BGN 420 (EUR 215) per month) at their own expense.
	Czech R., sickness and maternity: benefits in kind	Minimum assessment base: minimum monthly wage (CZK 9,900 (EUR 366)), applies also to those without taxable income.
	Switzerland, sickness, maternity, invalidity and old age benefits	Sickness and maternity cash benefits: people not engaged in paid employment pay a contribution between CHF21 (EUR 19) and CHF1,050 (EUR 971) per year, according to their social conditions. Invalidity: people not engaged in paid employment pay a contribution between CHF65 (EUR 60) and CHF3,250 (EUR 3,005) per year, according to their social conditions. Old age: people not engaged in paid employment pay a contribution between CHF392 (EUR 362) and CHF19,600 (EUR 18,125) per year, according to their social conditions.
Contributions omitted	Slovakia, sickness and maternity benefit: benefits in kind	Low wages up to EUR 570 per month are exempted from tax.
	Austria, unemployment benefit contributions	No employers' or employees' contributions for women and men who have reached the age of 58 before June 2011. Employees' contributions are omitted or reduced in case of low incomes. There is no employee contribution to be paid up to EUR 1,311. For an income between EUR 1,311 and EUR 1,430 the contribution payable by the employee is 1%, and for an income between EUR 1,430 and EUR 1,609 it is 2%.
	Slovakia, unemployment benefit contribution	No employee and employer contributions if the employee receives old-age pension, early pension, or full invalidity pension or is a former long-term unemployed person on low wages.
Contributions vary with the level of earnings	UK, overall contributions	Employees pay 12% (10.6% if member of approved occupational pension scheme) on weekly earnings between GBP 155 (EUR 210) and GBP 815 (EUR 1,104) and 2% of earnings over GBP 815 (EUR 1,104). No contribution paid after State Pension age. Employer pays 13.8% on all weekly earnings above GBP 156 (EUR 211). Employers get 3.4% rebate for employees in approved salary-related schemes.

	Country, type of insurance	Contribution levels
Discounts for youth, small firms, and low paid workers	Switzerland, sickness, maternity, invalidity and old age benefit contributions	Lower premiums for insured persons under the age of 18 (children). The insurer may set a lower premium for insured persons under the age of 25 (young adults).
	Germany, sickness and maternity, and old age benefit contributions	For low-earners (up to EUR 450 per month) the employer pays a contribution of 15%, and for low-earners employed in the private household sector a contribution of 5%. If the employee cannot be exempted from mandatory pension contributions, he pays the difference between the general contribution percentage (18.7%) and the employer's contribution level (15% or 5%).
	France, sickness and maternity: benefits in kind, family allowances, and old-age benefit contributions	On overtime: flat-rate deduction of employers' contributions of EUR 1.50 per hour for companies with less than 20 employees.
Contribution rate varies with the working conditions	Accidents at work and occupational diseases	Belgium, Bulgaria, Czech R. (insurance contribution varies according to risk (between 0.2% and 1.2% of gross earnings) paid by the employer); Denmark, Finland, France, Germany, Italy, Lithuania (rate varies between 0.18% and 1.8%); Poland (rate varies between 0.67% - 3.86% of gross wage), Portugal, Romania, Spain, Switzerland.

Source: MISSOC, 2016. http://www.missoc.org/MISSOC/INFORMATIONBASE/COMPARATIVETABLES/MISSOCDATABASE/comparativeTablesSearchResultTree.jsp

Table 54. Financing arrangements of social protection benefits in the EU28 countries in 2016

Country	Financing arrangement for social protection benefits
Austria	Austria used to have a comprehensive special scheme both for farmers and for craftsmen and retailers until 31 December 2004. As of 1st January 2005 all pension systems were harmonized for those persons who had not yet completed the age of 50 by 1st January 2005. In agriculture, the protection schemes for invalidity, old age and survivors are nearly one third financed from contributions; the rest are predominantly financed from government funds. The rate of contribution is 15.5% of the insurable value of landed property that does not exceed the upper limit of assessment (€5,670 per month). In crafts and commerce, health care is financed predominantly by contributions. The contribution rate amounts to 9.1% of revenues liable to income tax up to the upper limit of assessment of €5,670.00 per month. Cash benefits in case of sickness (voluntary supplementary insurance): the amount is 4.25% of revenues liable to income tax up to the upper limit of assessment of €5,670.00 per month. 66.9% of the protection offered by the invalidity, old age and survivors schemes is financed from contributions, 32.1% from government funds, and 1% is derived from other sources. Contributions are 17.5% of revenues liable to income tax up to the upper limit of assessment of EUR 5,670.00 per month. Self-employed persons who employ no or less than 25 employees receive, from the 43rd day of work incapacity due to sickness, a daily support benefit of EUR 29.23 for up to 20 weeks. In case of sickness, self-employed persons covered for more than six months by voluntary supplementary insurance receive a cash benefit from the fourth day of sickness for a maximum of 26 weeks. Unemployment insurance is voluntary.
Belgium	A special system covers all self-employed persons against all traditional risks, with the exception of accidents at work, occupational diseases and unemployment, and also provides for national insurance in case of bankruptcy. This system is financed at 65.2% by contributions, at 34.7% by taxes and at 0.1% by other sources.

Country	Financing arrangement for social protection benefits
Bulgaria	Self-employed persons according to the Bulgarian legislation are defined as: (i) Persons registered as free-lance professionals and/ or craftsmen; (ii) sole entrepreneurs, proprietors and co-proprietors of companies; or (iii) registered farmers and tobacco planters. The minimum monthly amount of the insurable income for self-employed persons is differentiated according to the amount of their annual taxable income for 2013: (i) up to BGN 5,400 (EUR 2,761): BGN 420 (EUR 215); (ii) from BGN 5,401 (EUR 2,762) to BGN 6,500 (EUR 3,323): BGN 450 (EUR 230); (iii) from BGN 6,501 (EUR 3,324) to BGN 7,500 (EUR 3,835): BGN 500 (EUR 256); (iv) above BGN 7,500 (EUR 3,835): BGN 550 (EUR 281). The minimum insurable income for self-employed persons who did not carry out an economic activity in 2014 and for self-employed persons who started an economic activity in 2015 and in 2016 is BGN 420 (EUR 215). The minimum insurance income for farmers and tobacco producers is BGN 300 (EUR 153). The maximum amount of the insurable income for all categories of insured persons, including self-employed, is BGN 2,600 (EUR 1,329). No difference to the standard schemes exists in relation to benefits, including the non-contributory provisions.
Croatia	Croatia does not operate a separate system for the self-employed. They are covered by the general compulsory social security system.
Cyprus	There is a General Social Insurance Scheme which covers every person gainfully occupied either as an employed or a self-employed person. The rate of contribution of self-employed persons is 19.2% of the insurable income, from which 14.6% is paid by the self-employed and 4.6% by the state. For the determination of the insurable income, each self-employed person is classified in the respective occupational category according to his/her occupation and for each category a compulsory minimum insurable income is prescribed. However, the individual self-employed person has the right to opt for a higher income up to the maximum insurable earnings of EUR 1,046 per week. If a self-employed person proves that his actual income is lower than the minimum insurable income of his occupational category, he is allowed to pay contributions based on his actual income.
Czech R.	The Czech social security system is in principle uniform for employees and the self-employed. The Basic Pension Insurance for old-age, survivor's and invalidity pensions is compulsory. The self-employed are also protected in case of unemployment. The contribution rates of the self-employed amount to: 13.5% for health care; 2.3% for sickness cash benefits (optional insurance); 28% for pensions (invalidity, old-age and survivors) and 1.2% for unemployment (State Employment Policy), of the applicable assessment base. For the health care insurance premium, the assessment base is 50% of their income from business and from other independent gainful activity minus costs incurred in order to achieve, secure and maintain such income. The minimum premium base is 12 multiplied by 50% of the monthly average salary (since 1 January 2016 the minimum premium base is CZK 13,503 (EUR 500) monthly, so the minimum premium is CZK 1,823 (EUR 67) per month). If such established minimum assessment base for "full time" self-employed is less than 50% of half of average wage, the minimum assessment base in 2016 is CZK 6,752 (EUR 250) monthly. The minimum assessment base for "part time" self-employed is 10% of the average wage (in 2016 CZK 2,701 (EUR 100) monthly). The maximum premium base is 48 multi-plied by the monthly average wage (CZK 1,296,288 (EUR 47,959)) per annum. Family benefits are tax financed.
Denmark	The social protection system is based on the principle of national insurance. Persons covered are not defined according to their social situation and the general system does not distinguish between the employed and the self-employed. Consequently, self-employed persons receive the social protection of the general system. Financing is carried out according to the regulations of the general system.

Country	Financing arrangement for social protection benefits
Estonia	Self-employed persons are covered by the general schemes of health insurance (benefits in kind and in cash in case of sickness and maternity) and pension insurance (invalidity, old-age, and survivors) on compulsory base, but they are not covered by the unemployment insurance scheme (neither on compulsory basis nor may they join the scheme voluntarily). In respect of unemployment, the self-employed are however covered by the non-contributory State unemployment allowance scheme. The amount of social tax to be paid by the self-employed per working-able insured person cannot be smaller than the amount of tax calculated from the rate established by the State in the annual State budget, and shall not be higher than the amount of tax calculated on the basis of 15 times this rate. In 2015, the monthly rate established in the State budget was EUR 390. Accordingly, the minimum amount of social tax to be paid by the self-employed is EUR 128.7 (0.33 x 390) per month, while the ceiling is EUR 1,930.5 (0.33 x 15 x 390) per month. In the case of being simultaneously employed and self-employed, the minimum amount is applied on the total of wage income and income from the self-employment.
Finland	The self-employed are covered by the same social security schemes based on residence as employed persons and any other person residing permanently in Finland. The self-employed are insured by the basic unemployment insurance. The self-employed can join the earnings-related unemployment insurance scheme voluntarily and qualify for the earnings-related unemployment allowance as members of special unemployment funds
Germany	There are, on the one hand, special provisions for certain groups of self-employed (notably craftsmen), who are compulsorily insured with the statutory pension insurance and, on the other, independent social security systems for farmers (including assisting family members), self-employed artists and publicists and the special schemes for the members of the professions, which have the right to form associations. ***Agriculture:*** The benefits granted to the pensioners or retired farmers are funded from tax revenues, if they are not covered by their contributions and solidarity supplement included in the contribution of the working farmers. Health insurance of working farmers is almost totally financed from contributions, with contributions assessed on the basis of surface values and laid down in 20 contribution categories. ***Crafts and commerce:*** Insurance against invalidity, old age and survivors is financed from contributions and from tax revenues (federal level). The protection scheme accidents at work and occupational diseases is financed by means of contributions, and the amount of contributions is determined in relation to the risk. Family benefits and basic security benefits for job-seekers are covered by tax revenues.

Country	Financing arrangement for social protection benefits
France	Social protection for the self-employed is subject to separate regulations. Farmers come under the agricultural system *(MSA)*. Craftsmen, retailers and manufacturers fall within the scope of the Social Protection Scheme for the Self-employed *(RSI)* while members of the liberal professions are covered by separate schemes *(CNAVPL)*. Farmers: **Financing:** The farmer's contributions are calculated according to professional income. Rates applied: AMEXA (sickness, invalidity, maternity): 10.84%; flat-rate contribution for sickness (cash benefits): EUR 200; capped old-age insurance for farmers (AVA): 11.47% old-age insurance for farmers (AVA) without a ceiling: 2.04%, individual old-age insurance (AVI): 3.30% of the professional income within the limit of the ceiling, compulsory supplementary retirement (RCO): between 2.15% and 5.25% depending on professional income; family benefits: 5.25% on professional income (digressive reduction according to the income. Amount of the social security ceiling as of 1 January 2015: EUR 3,218 per month, EUR 38,616 per year. ***Crafts, Commerce and Manufacturing, Liberal Professions*** **Financing** *Sickness and maternity insurance:* Benefits in kind: 6.5% of the total professional income. Sickness benefits in cash (daily allowances) for craftsmen, retailers and manufacturers: 0.7% within the limit of EUR 193,080. *Old-age insurance:* Basic system for crafts, commerce and manufacturing: 17.65% of the professional income within the annual limit of the social security ceiling (EUR 38,616) and 0.50% for income exceeding this ceiling. Compulsory supplementary scheme: 7% of professional income within the limit of EUR 37,546 and 8% between EUR 37,546 and EUR 154.464 for craftsmen, retailers and manufacturers. Old-age pensions: except for the liberal professions which are under a specific scheme, the rules applied in the systems of craftsmen, retailers and manufacturers are identical to those of the general system. No unemployment insurance system exists for craftsmen.

Country	Financing arrangement for social protection benefits
Greece	There exists a contributory basic system for farmers, called Agricultural Insurance Organization. Self-employed persons (craftsmen, retailers, professional motorists, hotel owners and others) are insured with the Social Security Organization for the Self-Employed. Members of the liberal professions (medical personnel, doctors, pharmacists, engineers, lawyers, notaries etc.) are insured with the Insurance Fund for Independent Professionals. Financing of the system is based on the insured persons' contributions and, for those affiliated to the system after 1 January 1993, on participation of the State as well. Conditions for old-age pensions for farmers: 67 years of age and insurance record of 15 years, or 62 years of age and insurance record of 40 years. Sickness benefits are not part of the system for farmers. However, a flat maternity allowance of EUR 436.98 is provided. Unemployment risk is not covered in the farmers' system.
Hungary	In principle all self-employed persons are covered for all the branches of social security in the general system, consisting of health and sickness schemes (covering health care, sickness, maternity and the specific treatment of work incapacity related to an accident at work or a professional disease), the social insurance pension scheme (covering old-age and survivorship), benefits prior to retirement age (social benefits), benefits for persons with changed working capacity and a mandatory unemployment insurance. The family support scheme is of a universal type, which covers every Hungarian citizen, regardless of their employment status. Consequently, every self-employed is covered by the family support scheme. The same principle is applied for the universal means tested social assistance schemes. **Financing** Unlike employees, self-employed persons pay the contribution him/herself on the basis of the self-employed income which she/he declares, but at least on the basis of the national minimum wage (pension contribution on the basis of 100% of the minimum wage; health insurance and labor market contributions on the basis of 150% of the minimum wage; and the social contribution tax on the basis of 112.5% of the minimum wage). Self-employed persons pay contributions on a monthly basis. For health, pension and unemployment insurance, the self-employed pay both employer and employee contributions as follows: (i) as an employee: 4% for benefits in kind and 3% for cash benefits, 1.5% as labor market contribution and 10% for pension insurance; (ii) as an employer: 27% for social contribution tax. Self-employed persons who perform activities in a complementary way: a flat-rate contribution of HUF7,050 (EUR 23) per month for the entitlement to insurance against accidents at work, the occupational disease scheme and for in-kind health.
Ireland	The protection of the self-employed is achieved within the general system through social insurance or social assistance payments. **Financing** The self-employed Social Insurance Contribution provides cover for survivors, maternity/adoptive and guardians and old age. There are no specific contributions for unemployment and sickness. For old age, maternity and survivors, the self-employed pay contributions at the rate of 4% of all income, subject to a minimum payment of EUR 500 per annum. There is no annual income ceiling. Family benefits are tax financed and available to all.

Country	Financing arrangement for social protection benefits
Italy	***Agriculture, Crafts and Commerce*** **Basic principles** The self-employed receive health and maternity care, as well as benefits for accidents at work and occupational diseases, according to the specific qualifying conditions provided for within their special scheme. The general system is also in force, but with special regulations, in relation to cash benefits for maternity. For the disability, old-age, survivors and family benefits branch, a special system exists comparable to the general system. **Financing** ***Farmers*** pay a percentage - based on four values - which varies according to the type of land cultivated, age, number of workdays and a reference income. The daily conventional income of EUR 55.05 is updated by Ministerial Decree in May every year. ***Craftsmen*** pay 23.10% on company income up to EUR 46,123 or 24.10% on company income between EUR 46,123 and EUR 76,872. ***Tradespeople*** pay 23.19% on company income up to EUR 46,123 or 24.19% on company income between EUR 46,123 and EUR 76,872. The minimum pensionable income for craftsmen and trades people is EUR 15,548. The maximum pensionable income is EUR 76,872 for craftsmen and tradespeople registered before January 1996 and EUR 100,324 for those whose work insurance commenced after 1 January 1996.
Latvia	All socially insured self-employed persons are subject to the social security system. Self-employed persons are only considered as socially insured if their contributions have actually been made. Self-employed persons are subject to compulsory social insurance as provided by the law "On State Social Insurance" *(Likums "Par valsts sociālo apdrošināšanu")*. The Cabinet of Ministers sets the minimum amount of the contribution basis. The minimum amount of earnings subject to contributions was EUR 4,440 per year in 2016. The social insurance contribution rates differ amongst the categories of self-employed persons. They were the following in 2016: (i) self-employed persons (also those with disabilities of group I or II) insured for the risks of old-age, death, sickness, parental leave, maternity and disability: 30.58%; (ii) self-employed persons over retirement age and persons who receive old-age pension (including pre-retirement pension) insured for the risks of old-age, death, parental leave, maternity and sickness: 28.21%; (iii) individuals managing real estate and registered as tax payers for income gained from economic activity who are insured for the risks of old-age and disability: 26.19%. Self-employed persons do not make social insurance contribution payments for insurance against occupational accidents or unemployment as they employ themselves and bear the responsibility for their working conditions and safety.
Lithuania	Self-employed persons, if they declare their income as wages, are covered by pension insurance. The general contribution rate for these persons is 26.3%: • Owners of personal enterprises contribute based on income declared as wages; when they do not have state social insurance guarantees, they contribute based on the minimum monthly wage; • Farmers and their partners pay contributions based on 12 minimum monthly wages per year, except if their income is equal to or higher than 4 Economic Size Units and they do not pay income tax.

Country	Financing arrangement for social protection benefits
Luxembourg	Social protection of the self-employed is regulated under the general system, but with certain particular features which take account of the specific situation of the self-employed. Social protection covers all risks; this includes unemployment for the self-employed who had to cease their occupation and who are looking for a salaried job. For farmers, the premium method is set inclusively based on vegetable and animal production of the farm during the year preceding the year of contributions.
Netherlands	The general protection system applies as a rule to all residents; therefore, there are only a few special regulations for self-employed persons.
Malta	The social protection system in Malta is a general scheme that covers both employed and self-employed persons. Self-employed contributions are paid by persons who are not gainfully occupied but have a net annual income that exceeds EUR 1,005. Persons who are gainfully occupied and whose annual net earnings exceed EUR 910 pay self-occupied contributions. The self-occupied contribution for a person born in 1961 or before is EUR 28.73 per week if the annual net earnings of the preceding year are less than EUR 9,060. For a person born in 1961 or before, if the annual net earnings exceed EUR 17,933, the contribution due is EUR 51.73 per week. For a person born in 1962 or after if the annual net earnings exceed EUR 22,139, the contribution due is EUR 63.86 per week. The self-employed contribution for a person born in 1961 or before is EUR 24.52 per week if the annual net income exceeds EUR 1,005 but does not exceed EUR 8,500. If the annual net income exceeds EUR 8,500, the rates are the same as in the self-occupied category.
Poland	From 1 January 1999 onwards, self-employed persons who perform non-agricultural activities and their co-operating persons are part of the general social insurance system. They are insured in the pension scheme on a mandatory basis (covering old-age, survivorship and invalidity) and in the employment injuries and occupational diseases scheme. Participation in health insurance by such persons is voluntary. The scheme on employment and prevention of unemployment is also applicable to self-employed persons (not to farmers). In the social security schemes there are in principle no specific rules for self-employed persons. Self-employed persons have the right to the same benefits as employees.
Portugal	All self-employed persons (including, among others, helping spouses and farmers) are compulsorily covered by the social protection system (general system of social security for self-employed persons). However, membership is voluntary for persons whose annual reference income for self-employed work is equal to or less than six times the indexing reference of social support. The amount of the contribution is calculated by applying the relevant rate to a flat-rate remuneration based on the actual total income (gross earnings) resulting from the self-employed activity and fixed according to one of the 11 levels indexed to the indexing reference of social support (IAS), the first corresponding to one times this reference and the last to 12 times this reference. If the annual reference income of the self-employed work is equal to or less than 12 times the IAS, the contribution base can be decreased for a maximum period of 36 months from the start of the activity, the limit being 50% of the said indexing reference. Benefits are granted according to the regulations of the general system for the employed. However, some exceptions exist.
Romania	Self-employed are the incorporated in the existing universal or general social protection schemes. Unemployment insurance is voluntary.

Country	Financing arrangement for social protection benefits
Slovakia	The protection of the self-employed in the areas of benefits-in-kind for sickness and maternity, as well as benefits-in-cash for sickness, maternity, invalidity, old-age, survivors, unemployment and family benefits, is achieved within the general system. **Financing** There are specific rates of contributions in the general system for self-employed persons. The Assessment Base of self-employed persons for health insurance and for other types of insurance is 1/1.486 (ca. 67.3%) of average monthly taxable income in 2014 (for voluntary insured the sum assigned by him/her). There are upper and lower ceilings for the Assessment Base. The maximum monthly Assessment Base ranges from half to 5 times the national average wage. Rates of contributions of self-employed persons as a percentage of the Assessment Base for: • Old-Age and Survivors is 18% (if appropriate, 14% for the 1st and 4% for the 2nd pillar), • Invalidity and Survivors is 6% (but no contribution if the person is entitled to old-age benefit or pre-retirement bene-fit), • Sickness and Maternity (Health care) is 14% (but only 7% if disabled), • Sickness and Maternity (Cash benefits) is 4.4%, • Unemployment is 2% (only voluntary insurance), • The Reserve Solidarity Fund is 4.75%. Self-employed persons with a yearly income less than EUR 5,148 (50% of the national average wage in 2014) are exempted from compulsory sickness and maternity insurance (cash benefits) as well as from compulsory invalidity, old-age and survivors as well as from unemployment insurance.
Slovenia	Self-employed persons are covered by the compulsory insurance based system. The contribution rate for all health insurance rights (benefits in kind, cash benefits) for self-employed is 12.92% (plus 0,53% for accidents at work and occupational diseases) of the basis for pension and invalidity insurance, but not less than 60% of the last known average of the annual salary of employees. The contribution rate for old-age, survivors and invalidity pensions for the self-employed is 24.35% of insurance basis (15.50% as employees and 8.85% as employers). Self-employed persons are also covered by compulsory unemployment insurance. The contribution rate for unemployment for the self-employed is 0.20% of the gross wage (0.14% as employees and 0.06% as employers).

Country	Financing arrangement for social protection benefits
Spain	Spain has a special scheme (R.E.T.A.) for the self-employed in crafts and commerce. The special scheme for maritime workers comprises also self-employed workers. ***Agriculture (Special System)*** **Financing** Benefits in the event of sickness and maternity, invalidity, old-age and survivorship are funded from contributions, with an overall rate of 18.75% of a certain contribution basis. Coverage for permanent incapacity and survivors' pensions as a result of occupational contingencies is compulsory. The contribution basis varies between a minimum of EUR 893.10 and a maximum of EUR 3,642.00 (per month), with certain exceptions. For accidents at work and occupational diseases, rates are fixed by government decree according to the different risk levels of activities, industries and jobs. ***Crafts, Commerce and Others*** **Financing** An overall rate of 29.80% of a certain contribution basis is paid for benefits in the event of sickness and maternity, for invalidity insurance, old-age provision and provision for survivors. The contribution basis varies between a minimum of EUR 893.10 and a maximum of EUR 3,642.00 (per month), chosen by the beneficiary within certain limits. Farmers: **Old-age** The compulsory old-age insurance of the Special System corresponds essentially to that of the General Scheme. **Unemployment** Unemployed workers are entitled to the out-of-work benefit if they opted for the coverage of occupational contingencies.
Sweden	The social protection system is based on the principle of national insurance. The people protected are thus not defined according to social status, and no distinction is made between employees and the self-employed. Self-employed persons thus enjoy the social protection of the general system. The regulations of the general system apply for financing.
United Kingdom	The general protection system basically includes the self-employed. For individual regulations, special requirements apply for the self-employed but there are no further distinctions made within the group of self-employed persons. **Financing** National Insurance contributions are graduated for the self-employed (in contrast with those for employees) according to three income classes: Self-employed persons with annual profits less than GBP 5,965 (EUR 8,419) can apply to be expected from paying compulsory contributions. Those with annual profits GBP 5,965 (EUR 8,419) or more pay a flat-rate contribution of GBP 2.80 (EUR 3.95) per week. In addition, those self-employed people with annual profits between GBP 8,060 (EUR 11,376) and GBP 42,385 (EUR 59,823) pay an earnings-related contribution of 9%, and 2% above GBP 42,385 (EUR 59,823).

Table 55. Part-time employment as percentage of the total employment, involuntary part-time employment as percentage of the total part-time employment, and temporary employees as percentage of the total number of employees in 2015 in the EU28 countries, in percent

	Part-time employment			Involuntary part-time employment			Temporary employees		
	Aged 15-64	Aged 15-24	Aged 55-64	Aged 15-64	Aged 15-24	Aged 55-64	Aged 15-64	Aged 15-24	Aged 55-64
EU28	19.6	32.2	22.1	29.1	28.0	22.3	14.1	43.3	6.5
Belgium	24.3	27.4	33.6	10.0	23.5	4.4	9.0	36.6	3.3
Bulgaria	2.2	5.7	2.8	60.6	50.8**	55.3	4.4	11.7	3.5
Czech R.	5.3	10.8	7.6	16.4	12.5	10.2	10.0	31.0	7.1
Denmark	24.7	67.0	20.0	15.7	8.2	16.4	8.7	22.7	3.2
Germany	26.8	23.6	30.2	13.8	10.1	15.4	13.2	53.6	3.6
Estonia	9.5	22.8	9.7	13.3	:	16.1	3.4	11.4	1.6
Ireland	22.2	44.5	25.9	37.8	30.4	34.1	8.7	32.7	5.2
Greece	9.4	23.1	8.0	72.6	63.9	54.6	11.9	33.3	9.3
Spain	15.6	37.9	12.4	63.2	54.3	53.4	25.2	70.4	10.3
France	18.4	24.8	22.4	43.7	55.8	37.0	16.0	58.0	8.4
Croatia	5.9	12.2	8.8	26.7	23.6	8.0	20.3	60.9	8.3
Italy	18.3	29.5	13.7	65.6	83.7	57.3	14.1	57.1	5.7
Cyprus	13.0	25.8	16.9	68.9	69.4	62.8	18.4	29.1	8.3
Latvia	7.2	12.3	9.3	32.7	19.8*	35.1	3.8	10.9	4.2
Lithuania	7.6	11.4	11.1	31.9	:	36.6	2.1	6.5	:
Luxembourg	18.5	29.1	25.7	14.8	13.2	11.9	10.2	47.1	4.7
Hungary	5.7	6.9	10.3	36.9	45.4	18.0	11.4	24.1	10.8
Malta	14.5	23.0	14.5	15.4	18.6	16.6	7.4	16.8	6.2
Netherlands	50.0	80.0	49.2	9.9	9.6	8.6	20.0	53.3	6.1
Austria	27.3	22.7	29.0	12.4	15.5	11.2	9.1	35.8	3.0
Poland	6.8	14.1	10.4	30.5	25.6	16.0	28.0	72.7	16.6
Portugal	9.8	22.6	16.5	50.1	49.3	31.7	22.0	67.5	10.9
Romania	8.8	19.2	15.1	59.0	74.1	26.8	1.4	5.4	:
Slovenia	10.1	41.3	13.4	13.0	7.4	5.8*	17.8	75.5	9.0
Slovakia	5.8	11.9	7.3	29.9	28.6	20.3	10.5	29.1	7.5
Finland	14.1	41.7	15.3	31.4	24.9	23.5	15.1	41.8	7.1
Sweden	24.3	49.1	24.6	29.4	41.8	19.1	16.6	55.7	7.1
U.K.	25.2	37.9	31.0	17.9	23.9	12.5	6.1	15.0	4.8

*-2014.

**-2013.

ANNEX I. SOCIAL PROTECTION OF THE SELF-EMPLOYED AND SOCIAL CONTRIBUTIONS

Self-employment may be seen as either a survival strategy for those who cannot find any other means of earning an income, or as evidence of entrepreneurship and a desire to be one's own boss.[100] The Europe 2020 strategy recognizes entrepreneurship and self-employment as key for achieving smart, sustainable and inclusive growth; however, at the same time, it urges countries not to promote involuntary or precarious self-employment. Self-employment makes a considerable contribution to the EU economy in terms of entrepreneurship and job creation. It accounted for 14.1 percent of total employment in the Union in 2015 (or 30.5 million self-employed). Moreover, European level data indicate that the self-employment sector has shown a degree of resilience to the economic crisis, as the employment decline has been more moderate in comparison with that of employees. In Latvia, the number of self-employed increased from 87,400 in 2008 to 100,500 in 2015 (11.6 percent of the total employment), of which 36,500 were self-employed persons with employees (employers), and 64,000 were self-employed persons without employees (own-account workers).

I**n some countries, the self-employed seem to be more 'at risk', i.e. they do not have the same social protection as employees if they are short of work, ill, or disabled**. The self-employed also fare worse in terms of pensions and entitlements to paid holidays, and are more vulnerable in the event of unemployment. In some countries, the self-employed opt to make lower contributions to social insurance programs and, therefore, have lower levels of protection, than do employees.

Coverage. Most countries in the EU28 do not operate a separate social protection system for the self-employed. In Cyprus, Croatia, Denmark, Estonia, Finland, Hungary, Ireland, Malta, the Netherlands, Poland, Romania, Slovakia, Slovenia, Sweden, and the United Kingdom, the self-employed are covered by the general compulsory social security system. On some occasions, for individual regulations, special requirements apply for the self-employed (Annex H, Table 50).

In some other countries, a special system covers self-employed persons against all traditional risks, with few exceptions (for example, Belgium, France, Germany, Greece, Italy). For example, in France, social protection for the self-employed is subject to separate regulations. Farmers come under the agricultural system *(MSA).* Craftsmen, retailers, and manufacturers fall within the scope of the Social Protection Scheme for the Self-employed *(RSI)*, while members of the liberal professions are covered by separate schemes *(CNAVPL)*. In Greece, there exists a contributory basic system for farmers, called the Agricultural Insurance Organization. Self-employed persons (craftsmen, retailers, professional motorists, hotel owners and others) are insured with the Social Security Organization for the Self-Employed. Members of liberal professions (medical personnel, doctors, pharmacists, engineers, lawyers, notaries etc.) are insured with the Insurance Fund for Independent Professionals. In Germany there are, on the one hand, special provisions for certain groups of self-employed (notably craftsmen), who are compulsorily insured with statutory pension insurance and, on the other, independent social security systems for farmers (including assisting family members), self-employed artists and publicists, and special schemes for members of the professions, who have the right to form associations.

Financing of social protection for the self-employed. In Latvia, the Cabinet of Ministers sets the minimum contribution basis. The minimum amount of earnings subject to contributions was EUR 4,440 per year in 2016. Self-employed persons are insured if their income exceeds the minimum amount of the base for compulsory contributions defined by the Cabinet of Ministers. Social insurance contribution rates differ among categories of self-employed, and were the following in 2016: (i) self-employed persons (also those with disabilities of group I or II) insured for risks of old-age, death, sickness, parental leave, maternity, and disability: 30.58 percent; (ii) self-employed persons over retirement age and persons who receive an old-age pension (including pre-retirement pension) insured for risks of old-age, death, parental leave, maternity, and sickness: 28.21 percent; (iii) individuals managing real estate and registered as tax payers for income gained from economic activity who are insured for risks of old-age and disability: 26.19 percent. In Latvia, self-employed persons do not make social insurance contribution payments concerning insurance against occupational accidents and insurance against unemployment, as they employ themselves and bear responsibility for their working conditions and safety.

EU countries use different benchmarks, floors, and ceilings to tax the self-employed. A few examples follow.

i. In Bulgaria, the minimum insurable income for self-employed persons who have started an economic activity in 2015 and in 2016 is a fixed amount of BGN 420 (EUR 215) established in the annual budget. The minimum insurance income for farmers and tobacco producers is BGN 300 (EUR 153).
ii. In the Czech Republic, the minimum premium base is 12 multiplied by 50 percent of the monthly average salary (since 1 January 2016 the minimum premium base is CZK 13,503 (EUR 500) monthly), so the minimum premium is CZK 1,823 (€ 67) per month). If such established minimum assessment base for "full time" self-employed is less than one-quarter of the average wage, the minimum assessment base in 2016 is CZK 6,752 (EUR 250) monthly.
iii. In Austria, the rate of contribution is 15.5 percent of the insurable value of landed property that does not exceed the upper limit of assessment of monthly EUR 5,670.
iv. In Estonia, the Social Tax Act stipulates a minimum amount of social tax and a ceiling on the social tax, which is to be paid by the self-employed (the same minimum also applies to social tax paid by employers on behalf of their employees, but there is no ceiling on social tax paid by employers). The amount of social tax to be paid by self-employed per working-able, insured person cannot be smaller than the amount of tax calculated from the rate established by the State in the annual State budget, and shall not be higher than the amount of tax calculated on the basis of 15 times this rate. In 2015, the monthly rate established in the State budget was EUR 390. Accordingly, the minimum amount of social tax to be paid by the self-employed was EUR 128.7 (0.33 x 390) per month, while the ceiling was EUR 1,930.5 (0.33 x 15 x 390) per month. In the case of being simultaneously employed and self-employed, the minimum amount is applied on the total of wage income and income from self-employment
v. In Hungary, minimum contributions are linked to the national minimum wage: for pension contributions on the basis of 100 percent of the minimum wage; for health insurance and labor market contribution on the basis of 150 percent of the minimum wage; and for social contribution tax on the basis of 112.5 percent of the minimum wage. For health, pension, and unemployment insurance, the self-employed pay both employer and employee contributions as follows: (i) as an employee, 4 percent for benefits in kind and 3 percent for cash benefits, 1.5 percent as labor market contribution, and 10 percent for pension insurance; (ii) as an employer: 27 percent for social contribution tax.
vi. In Ireland, self-employed Social Insurance Contribution provides coverage for survivors, maternity/adoptive and guardians, and old age. There are no specific contributions for unemployment and sickness. For old age, maternity, and survivors, the self-employed pay contributions at the rate of 4 percent of all income, subject to a minimum payment of EUR 500 per annum. There is no annual income ceiling.
vii. In Lithuania, the general contribution rate for self-employed persons is 26.3 percent. Owners of personal enterprises contribute based on income declared as wages. In some cases, when they do not have state social insurance guarantees, they contribute based on the minimum monthly wage. Farmers pay contributions from 12 minimum monthly wages per year, but only in cases where their income is equal to or higher than 4 Economic Size Units.
viii. In Slovakia, there are upper and lower ceilings for the Assessment Base. The minimum monthly Assessment Base is 50 percent of the national average wage. Self-employed persons with a yearly income less than EUR 5,148 (50 percent of the national average wage in 2014) are exempted from compulsory sickness and maternity insurance (cash benefits); compulsory invalidity, old-age, and survivors; as well as unemployment insurance. The maximum monthly Assessment Base is 5 times the national average wage.
ix. Several other countries have established floors and ceilings for contributions. In particular, in Spain, the contribution basis varies between a minimum of EUR 893.10 and a maximum of EUR 3,642.00 (per month), chosen by the beneficiary within certain limits. In the Czech Republic, the maximum premium base is 48 multiplied by the monthly average wage (CZK 1,296,288 (EUR 47,959)) per annum. In Bulgaria, the maximum amount of insurable income for all categories of insured persons, including self-employed, is BGN 2,600 (EUR 1,329).
x. In the United Kingdom, National Insurance contributions are graduated for the self-employed (in contrast with those for employees) according to three income classes. Self-employed persons with annual profits less than GBP 5,965 (EUR 8,419) can apply to be exempt from paying compulsory contributions. Those with annual profits GBP 5,965 (EUR 8,419) or more pay a flat-rate contribution of GBP 2.80 (EUR 3.95) per week. Finally, those self-employed with annual profits between GBP 8,060 (EUR 11,376) and GBP 42,385 (EUR 59,823) also pay an earnings related contribution of 9 percent, and 2 percent for income above GBP 42,385 (EUR 59,823).

Eligibility for benefits. Access to benefits for the self-employed differs compared to the wage-based employed population across EU countries. As far as cash benefits for sickness and maternity are concerned, in Austria, Italy, and Germany, for farmers, no relevant statutory protection system has been set up. In Belgium, the right to benefits is applied after a qualifying period of six months. In addition, for sickness benefits, a 1-month waiting period exists. In Poland, sickness insurance is to be taken on a voluntary basis for self-employed persons. The same is true for maternity benefits. In Italy, insured persons receive maternity benefits of 80 percent of conventional earnings, for two months before the expected date of birth and until three months after delivery.

In the EU, membership of statutory pension insurance is compulsory for the self-employed, and as a rule, old-age benefits are granted according to the provisions of the general rules. Often the qualifying period has been established. For example, in Germany it is five years for craftsmen and retailers having a home-based business. Membership in old-age insurance is also compulsory for farmers. Before the beneficiary is able to receive benefits, he/she should have reached the legal retirement age and the agricultural undertaking must be given up. The qualifying period for farmers is 15 years. In Greece, full pension for

100 Self-employment is defined as the employment of employers, workers who work for themselves, members of producers' co-operatives, and unpaid family workers. The latter are unpaid in the sense that they lack a formal contract to receive a fixed amount of income at regular intervals, but they share income generated by the enterprise. Some countries also make the distinction between self-employed status and 'dependent self-employed' (e.g. Spain, Italy), where the self-employed person works for only one client. Others distinguish self-employment which is carried out in addition to paid employment (e.g. Belgium).

self-employed becomes available at 67 years of age and an insurance record of 15 years; or 62 years of age and an insurance record of 40 years. In Poland, self-employed persons generally do not have the right to an early retirement pension. In Finland, a self-employed person is obliged to take out pension insurance when the activity concerned has lasted for at least four months and the estimated earned income is above a certain amount. Earnings-related pension insurance for self-employed persons in agriculture, i.e., farmers, fishermen, and reindeer herders, is compulsory when the farm contains more than 5 ha of arable land and income is above a certain amount.

Insurance against invalidity is compulsory for the self-employed in Belgium, Spain, and Slovenia. For example, in Spain, after a minimum contribution period, which depends on the age of the beneficiary when invalidity occurred, the beneficiary is entitled to an invalidity pension under the same conditions as in the General Scheme. Insurance against accidents at work and occupational diseases is compulsory in Slovenia, but there is no special protection system against risk of accidents at work and occupational diseases in the Netherlands, Germany (for craftsmen and retailers in the statutory system), the Czech Republic, and Bulgaria. In Finland and Romania, self-employed persons may take out voluntary insurance against accidents at work and occupational diseases. For self-employed farmers, the insurance is compulsory.

In the EU28, family benefits are tax financed (universal non-contributory scheme) in most countries, except Austria, Belgium, France and Italy, and the self-employed are entitled to the same benefits.

Practices differ with regard to protection against unemployment. In Slovenia, self-employed persons are also covered by compulsory unemployment insurance. They are therefore entitled to unemployment benefits, payment of social security contributions, and payment of contributions for pension and invalidity insurance one year prior to fulfilment of the minimum conditions for old-age pension. Unemployment insurance for the self-employed is available also in Finland and Poland. In Estonia, the self-employed are not covered by the unemployment insurance scheme (neither on compulsory base nor voluntarily); the self-employed are, however, covered by the non-contributory State unemployment allowance scheme. On the other hand, there is no compulsory unemployment insurance for self-employed farmers in Germany. If there is no sufficient income and no disposable assets, self-employed farmers are in principle entitled to the standard allowance granted to jobseekers, Arbeitslosengeld II, which is a universal allowance granted to the gainfully employed to secure their subsistence. There is no compulsory unemployment insurance for self-employed craftsmen and retailers. Also, in Greece, unemployment risk is not covered in the farmers' system. For all self-employed in the Netherlands, the corresponding law applies only to employees. In Romania, the self-employed can apply for voluntary insurance against unemployment.

In summary, the financing of social protection benefits for self-employed varies by country. Many countries have established the minimum level of income for which social contributions apply (minimum floor of taxation). However, if the "reference" wage (determining a minimum social contribution) is not adjusted for hours worked, social contributions become disproportionately high for part-time workers and self-employed with low incomes, making working part-time too costly. Some countries have also established a ceiling for taxable incomes, thus creating incentives for high productive employment. As far as benefits are concerned, depending on the country, a combination of mandatory insurance (especially for pensions), voluntary insurance, and lack of insurance for certain benefits applies.

ANNEX J. MICROENTERPRISE TAXATION: FURTHER EVIDNECE ON ITS IMPACT

Table 56. Number of tax payers, employees and revenue by tax type, 2009-2015

	2009	2010	2011	2012	2013	2014	2015
Number of microenterprise taxpayers, by type of business activity							
Individual entrepreneur	-	517	1,015	1,284	1,491	1,623	1,726
Individual enterprise, farming or fishing enterprise	-	186	247	254	254	273	265
Limited liability company	-	4,424	11,902	17,080	21,693	25,201	27,521
Performer of commercial activity registered at the SRS	-	2,067	4,656	6,546	8,540	12,910	17,657
Total	-	7,194	17,820	25,164	31,978	40,007	47,169
Number of taxpayers under general regime, by type of business activity [a]							
Natural entities	86,342	95,439	102,261	112,926	124,587	129,124	129,197
Limited liability company	155,430	161,895	177,663	191,935	205,808	216,131	221,727
Total	241,772	257,334	279,924	304,861	330,395	345,255	350,924
Annual average number of microenterprise employees (including self-employed [b])							
Total	-		25,530	45,288	60,784	74,239	83,063
Employed only in microenterprises [c]	-		16,328	28,833	38,750	48,016	54,841
Employed by a microenterprise and a general tax regime employer [c]	-		9,202	16,455	22,034	26,223	28,222
(Microenterprise employees)/(all employees)			3.3%	5.6%	7.4%	8.8%	9.8%
With positive microenterprise earnings		548	22,164	37,647	50,892	62,246	70,372
...in only 1 microenterprise	-	322	15,187	25,427	33,654	40,928	46,403
...in more than 1 microenterprise (but not in a general tax regime enterprise)	-	4	256	706	1,268	1,941	2,567
... in a microenterprise and a general tax regime enterprise [c]	-	222	6,721	11,514	15,970	19,377	21,402
(Microenterprise employees)/(all employees)		0.08%	3.1%	5.0%	6.6%	7.9%	8.9%
(Microenterprise employees)/(private sector employees)			4.7%	7.5%	9.7%	11.5%	13.0%
Total number of persons with positive microenterprise earnings in the given year							
						94,437	103,787
...in no more than 1 microenterprise in any month [d]						54,017	59,739
... in more than 1 microenterprise (but no general regime earnings) in at least 1 month						3,329	4,267
... with positive microenterprise earnings and general regime earnings [c] in at least 1 month						37,091	39,781
Microenterprise regime (millions of Euros)							
Turnover	-	6.26	218.58	355.25	489.34	603.28	663.36
Total microenterprise tax revenue	-	0.04	13.01	26.16	40.53	51.07	58.85
Total social security contributions for microenterprise regime	-	0.02	8.46	18.31	26.34	33.2	40.84

Note: [a] Number of taxpayers is for the first day of the calendar year. [b] "Self-employed" here refer to microenterprise owners. [cc] Irrespective of number of employers. [d] in both 2014 and 2015, about 11 thousand of these workers had also general regime earnings, but not in the same months as microenterprise earnings.
Source: Latvia's State Revenue Service and State Social Insurance Agency data and staff calculation.

Table 57. Top 20 sectors with the largest shares of microenterprise workers in private employment, 2015

NACE code	Economic activity	Number of microenterprise (MET) workers	MET share in private sector employment, %
90	Arts and entertainment	766	144.4
85	Education	1,465	77.9
74	Other professional, scientific & technical activities	2,622	56.3
69	Legal and accounting activities	6,541	54.8
70	Head offices and management consultancy	2,445	52.5
96	Other personal service activities	6,196	46.5

81	Services to buildings and landscape	3,010	39.9
95	Repair of computers and household goods	661	39.5
59	Cinema & video programs & music publishing	327	38.5
73	Advertising and market research	1,824	31.9
71	Architecture and engineering	2,051	31.9
93	Sports, amusement and recreation	1,252	30.4
62	Computer programming, consultancy and related	3,471	30.3
82	Office administrative and support	1,172	29.4
02	Forestry and logging	2,100	26.9
43	Specialized construction activities	5,300	24.7
33	Repair & installation of machinery & equipment	856	22.1
63	Information service	1,106	20.1
86	Human health	1,567	17.4
68	Real estate activities	2,473	17.3
	All of the above	47,205	33.6

Notes: The Table reports annual average number of workers with positive microenterprise earnings. In *Arts and entertainment*, main jobs of most of employees are in public sector, hence number of MET workers exceeds private employment. Four sectors with high MET share in private employment but small (<200) number of MET workers in each are excluded. *Source:* Calculations based on State Revenue Service and CSB data.

Table 58. Proportion of microenterprise workers in sector's private employment (2015), by labor taxes - turnover ratio in 2010, Percent

	p25	p50	p75	mean	# sectors
(Labor taxes)/Turnover in 2010					
< 0.05	1.7	4.7	13.6	9.5	19
0.05 to < 0.075	2.4	5.6	17.3	13.1	23
0.075 to < 0.10	1.1	8.3	17.8	13.4	16
0.10 to < 0.15	6.2	11.3	31.9	18.5	7
0.15 to 0.25	14.2	20.3	67.4	40.3	10
Total	2.4	8.7	22.1	16.4	75

Notes: Non-weighted means and percentiles. The sample includes all two-digit NACE Rev. 2 divisions with at least 100 private sector wage earners in 2015, excl. "Gambling and betting".

Source: Calculations based on State Revenue Service data.

Table 59. Determinants of microenterprise share in sector's private employment, 2015

	Descriptives		Estimated effects (robust s.e. in *italic*)					
	(non-weighted)		Weighted [a]				Non-weighted	
	mean	s.d.	[1]		[2]		[3]	
Taxes on labor, 2010 [b]	0.084	0.049	0.764	**	0.543	**	0.597	***
			0.291		0.263		0.214	
Taxes on profit, 2010 [b]	0.012	0.010	6.641	***	6.537	***	5.154	***

			1.082		0.974		0.991	
Share of zero-earnings employees, 2010	0.103	0.046	1.613	***	1.648	***	1.879	***
			0.288		0.293		0.268	
Sectoral dummies								
Education and social work (NACE 85 & 88)	0.026	0.159	X		0.514	***	0.497	***
					0.033		0.048	
Arts & entertainment	0.013	0.113	X		1.240	***	1.236	***
(NACE 90)					0.042		0.032	
Constant			-0.166	***	-0.157	***	-0.170	***
			0.029		0.030		0.027	
R-squared			0.699		0.805		0.872	
Root MSE [c]			0.083		0.068		0.084	
N obs.	75		75		75		75	

Notes: Linear regressions with robust standard errors (sample as described in Notes to Table 55). Explanatory variables refer to employers working under the general tax regime in 2010, thus characterizing the situation immediately before introduction of the MET (MET was launched in September 2010, but the general tax regime accounted for 99.9% of annual average number of wage earners in 2010). [a] Models [1]-[2] weight sectors by the number of private sector wage earners. [b] Taxes are measured as a share of turnover in 2010. [c] Root MSE measures precision of the estimates. ****** (*******) - estimates significant at 5% (1%) level.
Source: Calculations based on State Revenue Service data.

Table 60. Determinants of change in the burden of main taxes in sectors of Latvian economy between 2010 and 2014

	Descriptives		Estimated coefficients (robust s.e. below in *italic*)					
	mean [1] s.d. [1]	mean [2] s.d. [2]	[1] all sectors		[2] MET share[c] ≥ 0.01		[3] MET share[c] < 0.01	
Dependent variable: Change in tax burden [a] *(2010-2014), as a share of 2010 turnover*	0.007	0.005						
	0.031	0.029						
Explanatory variables								
Share of MET-only workers, 2014 [b]	0.058	0.071	-0.220	***	-0.255	***	X	
	0.072	0.075	0.072		0.073			
Share of mixed workers, 2014 [c]	0.028	0.035	0.474	***	0.468	***	X	
	0.040	0.042	0.130		0.135			
Share of all MET workers, 2014 [d]	0.086	0.106	X		X		-4.549	***
	0.110	0.114					1.428	
VAT returned, 2010 (as a share of turnover)	0.024	0.021	0.760	***	0.622	**	0.773	***
	0.021	0.017	0.178		0.245		0.196	
Average firm size (# workers/1000), 2010	0.021	0.015	X		-0.388	***	X	
	0.029	0.019			0.076			

Sectoral dummies								
Manufacturing - electronic & optical	0.013	0.016	-0.009	***	-0.012	***	X	
	0.113	0.126	0.003		0.004			
Arts & entertainment	0.013	0.016	-0.046	***	-0.048	***	X	
	0.113	0.126	0.003		0.004			
Constant			-0.011	*	0.001		0.017	
			0.006		0.007		0.011	
R-squared			0.3550		0.3107		0.7219	
Root MSE [e]			0.0255		0.0254		0.0207	
N obs.	79	63	79		63		16	

Notes: Non-weighted linear regressions with robust standard errors. The sample includes all two-digit NACE Rev. 2 divisions with annual average number of wage earners in 2014 was at least 50 (but excludes "Gambling and betting" which is subject to special regulation). [a] Tax burden is measured as a share of turnover in respective year. [b, c, d] Proportions of MET-only workers, workers with earnings in both MET and general regime, and all microenterprise workers among all workers with positive earnings in 2014, based on annual average of monthly data. [e] Root MSE measures precision of the model-based predictions. *,**, *** - estimates significant at 10%, 5%, 1% level, respectively.
Source: Calculations based on State Revenue Service data.

Table 61. Microenterprise workers' impact on growth of labor cost and labor productivity in sectors of Latvian economy, 2010-2014

		Dependent variables: **Growth between 2010 and 2014**							
		Labor cost per				Labor productivity measured as			
		Full-time equivalent (FTE)		1 euro of output		Value added [a] per FTE		Value added [a] per employed	
	mean	0.148		0.162		0.008		0.070	
	s.d.	0.138		0.210		0.522		0.530	
Explanatory variables		Estimated coefficients (robust s.e. in *italic* below)							
Share of all MET workers, 2014 [b]	0.098	-0.251	***	1.092	***	-0.804	***	-0.579	**
	0.116	*0.081*		0.244		0.247		0.233	
Labor cost per full-time worker, 2010 (1000 euros), log	2.207	-0.229	***	X		-0.149	**	X	
	0.386	*0.037*				0.063			
Sectoral dummy									
Manufacturing of basic metals	0.018	-0.439	***	X		-3.743	***	-3.801	***
	0.132	*0.017*				0.041		0.041	
Constant		0.686	***	0.055	**	0.402	***	0.113	**
		0.079		0.026		0.133		0.043	
R-squared		0.6581		0.3606		0.8650		0.8283	

Root MSE [b]		0.0831	0.1698	0.2042	0.2324
N obs.		57	57	57	57

Notes: Non-weighted linear regressions with robust standard errors. The sample includes all two-digit NACE Rev. 2 divisions for which Entrepreneurship indicators of enterprises are available. [a] Value added measured in constant prices of 2010. [b] Root MSE measures precision of the model-based predictions. **, *** - estimates significant at 5%, 1% level, respectively.
Source: Calculations based on State Revenue Service data and CSB data.

Table 62. Outflows from microenterprise regime, 2014-2015

Tax regime, 2014	Tax regime, 2015		
	No legal earnings	Only self-employment (general regime)	Only or mainly general regime as employee
Mixed (N = 32389)	790 (2.4%)	6 (0.02%)	9035 (28.2%)
Mainly microenterprise (N = 14046)	1264 (9.0%)	19 (0.14%)	4162 (31.7%)
Only microenterprise (N = 46067)	6193 (13.4%)	98 (0.24%)	3443 (8.3%)
MET regime total (N = 92691)	8247(8.9%)	123 (0.14%)	16640 (19.2%)

Source: Calculations based on State Revenue Service data.

Table 63. Change in annual average registered employment, 2010-2015 by sector, firm size and tax regime

Type of sector		ΔE 2010-2014, by firm size (64 sectors)			ΔE 2010-2015, by tax regime (77 sectors)			
		<10	***10+***	***Total***	***MET-only workers***	***General (incl. mixed)***	***Total***	***MET: Net effect***
1	pattern	up	up	up	up	up	up	up
	thous.	32.0	39.3	71.3	39.0	47.8	90.1	42.3
Description. 30 sectors where both MET and the general regime employment increased, and MET impact on employment growth was big: MET-only workers account for ≥ 30% of total ΔE (23 sectors) or for ≥ 134% of employment change in enterprises with less than 10 workers (4 sectors) or number of all MET workers in the sector exceeds 1000 (remaining 4 sectors, as well as 15 other sectors). *List of sectors:* Forestry and logging; Manufacturing of wood products; Manufacturing of furniture; Printing and reproduction; Repair & installation of machinery & equipment; Construction of buildings; Specialized construction activities; Wholesale and retail trade (incl. that of motor vehicles); Land transport; Warehousing and transport support; Food service activities; Computer programming; Information service; Head offices and management consultancy; Finance and insurance supporting activities; Legal and accounting activities; Architecture and engineering; Advertising and market research; Veterinary activities; Renting and leasing; Travel agencies; Security and investigation; Services to buildings and landscape; Office administrative and support; Human health; Arts and entertainment; Sports, amusement and recreation; Other personal service activities.								
2	pattern	up	down	up	up	down	up	up
	thous.	5.3	-3.5	1.8	6.0	-4.0	2.0	5.9

Description: 9 sectors where MET employment increased at the expense of general regime employment; moreover, MET-only workers account for more than a half (in some cases even more than 100%) of total ΔE, and (in 7 out of nine cases) for most of employment growth in enterprises with less than 10 workers. *List of sectors:* Manufacturing of food products; Manufacturing of wearing apparel; Manufacturing n.e.c.; Cinema & video programs & music publishing; Telecommunications; Real estate activities; Other professional, scientific and technical activities; Education; Repair of computers and personal and household goods.								
3	pattern	up	up	up	up	up	up	up
	thous.	2.2	7.3	9.5	1.9	22.2	23.3	1.2
Description: 8 sectors (not belonging to type 1) where both MET and the general regime employment increased and number of MET-only workers exceeds 100, but accounts for less than 21% of total change in employment. *List of sectors:* Agriculture; Manufacture of textiles; Manufacture of glass products; Manufacture of metal products; Civil engineering; Accommodation; Employment services; Social work.								
4	pattern	-			-			
	thous.	1.1	-0.4	0.7	1.0	29.3	27.4	-1.9
Description: 41 sectors with number of MET-only workers in 2015 in each ≤50 (in 5 cases zero, in 9 cases <10, but in 2 cases ≤ 150) and is small compared to either employment or its over 2010-2015 in this sector.								

Source: Calculations based on State Revenue Service data and CSB data.

Table 64. Determinants of the share of MET payers among employers by sector, 2015

	Descriptives		Estimated effects (robust s.e. in *italic*)					
	(non-weighted)		Non-weighted				Weighted [a]	
	mean	s.d.	[1]		[2]		[3]	
Taxes on labor, 2010 [b]	0.084	0.049	1.574	***	1.347	***	1.264	**
			0.347		0.348		0.520	
Taxes on profit, 2010 [b]	0.012	0.010	6.550	***	7.041	***	6.444	***
			1.404		1.425		1.652	
Share of zero-earnings employees, 2010	0.103	0.046	1.676	***	2.049	***	2.064	***
			0.271		0.322		0.431	
Average firm size (# workers/1000), 2010	0.018	0.021	X		2.062	***	2.407	
					0.939		1.579	
Sectoral dummies								
High-tech	0.026	0.159	-0.167	***	-0.226	***	-0.166	**
(NACE 21 & 26)			0.038		0.077		0.063	
Arts & entertainment	0.013	0.113	0.106	**	0.149	***	0.163	**
(NACE 90)			0.051		0.052		0.076	
Membership organizations (NACE 94)	0.013	0.113	-0.537	***	-0.492	***	-0.476	***
			0.058		0.060		0.088	
Constant			-0.097	***	-0.159	***	-0.153	**
			0.037		0.046		0.066	
R-squared			0.6394		0.6765		0.7485	

Root MSE [c]			0.1128		0.1077		0.0944	
N obs.	75		75		75		75	

Notes: Linear regressions with robust standard errors (sample as described in Notes to Table 58). Explanatory variables refer to employers working under the general tax regime in 2010, thus characterizing the situation immediately before introduction of the MET. [a] Model [3] weights sectors by the number of general regime employers in 2015. [b] Taxes are measured as a share of turnover in 2010. [c] Root MSE measures precision of the model-based predictions. *,**, *** - estimates significant at 10%, 5%, 1% level, respectively.
Source: Calculations based on State Revenue Service data.

Table 65. Distribution of monthly earnings in the main microenterprise job and in the main general regime job for individuals with positive microenterprise earnings in 2014 or 2015

	Microenterprise earnings				General regime earnings			
	MET-only workers		Mixed workers		Mixed workers		General-only workers	
	2014	2015	2014	2015	2014	2015	2014	2015
Less than Min. wage	28.2	30.6	23.3	25.7	36.2	36.0	36.7	31.9
Min. wage	4.1	4.7	2.0	2.1	10.1	9.7	7.3	6.5
Min. wage + €0.01 to (Min. wage+ €10)	1.1	1.0	0.6	0.5	2.5	2.4	2.6	2.5
Min. wage + €10.01 to €699.99	28.8	24.5	23.9	20.0	29.1	27.1	33.0	31.3
€700 to €719.99	13.7	11.2	18.0	14.9	1.3	1.5	1.5	1.9
€720	23.6	27.5	31.7	36.3	0.2	0.2	0.1	0.2
€720.01 to €999.99	0.3	0.3	0.3	0.3	7.9	9.0	8.7	11.6
≥€1000	0.2	0.2	0.2	0.2	12.7	14.2	10.0	14.1
Total	100	100	100	100	100	100	100	100

Notes: Min. wage refers to minimum monthly wage (€320 in 2014 and €360 in 2015).
Source: Calculations based on State Revenue Service data (monthly records).

Table 66. Individuals with positive microenterprise earnings in 2014 or 2015, by tax regime group and economic activity of the microenterprise

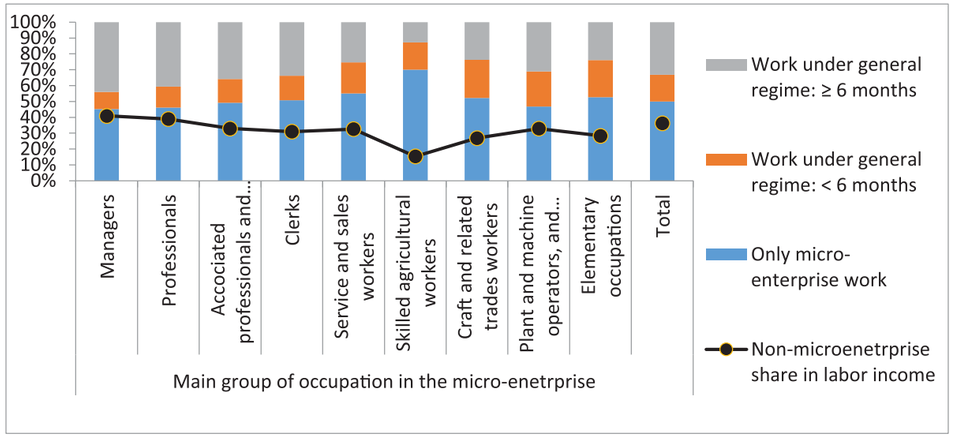
Percent

	With microenterprise earnings in 2015					No microenterprise earnings in 2015 [a]		
Economic activities	MET-only	Mixed	Mainly General	Unstable	Total	Mainly General	Unstable	Total
Agriculture & Fishing	0.9	0.5	0.6	0.6	0.7	0.7	0.7	0.7
Forestry & Logging	4.5	1.3	1.9	3.5	3.3	1.5	3.3	2.2
Manufacturing & Other Industry	6.8	5.2	6.4	6.7	6.3	6.6	6.6	6.6
Construction	12.6	11.6	15.1	20.6	13.6	14.2	17.5	15.6
Trade & Repair of Motor Vehicles	3.2	1.8	2.8	3.8	2.9	2.3	2.7	2.5
Trade excl. motor vehicles	7.3	5.3	7.4	8.1	6.9	8.3	8.3	8.3
Transportation & Storage	4.2	4.1	5.3	4.7	4.3	4.8	4.2	4.5

Accommodation & Food service	2.2	2.1	3.7	3.8	2.5	3.6	3.7	3.6
Other Personal Service & Household activities	11.2	7.1	8.3	10.0	9.7	5.7	6.7	6.1
Mainly manual labor activities	53.0	38.9	51.4	61.8	50.2	47.6	53.7	50.2
Information & Communication	7.3	8.1	5.7	4.5	7.0	5.4	4.6	5.0
Finance, Insurance & Real Estate	3.7	4.3	3.5	2.4	3.7	2.8	2.7	2.8
Professional, Scientific & Technical	18.2	27.4	16.9	12.2	19.8	16.1	13.4	15.0
Administrative & Support Service	7.9	8.6	10.4	8.8	8.4	8.2	6.9	7.7
Education, Health & Social Work	4.1	5.0	4.7	3.0	4.2	3.2	2.9	3.1
Arts, Entertainment &Recreation	2.8	3.3	3.7	2.9	3.1	2.3	2.4	2.3
Mainly professional activities	44.1	56.7	44.8	33.6	46.1	37.9	32.9	35.8
NA	2.9	4.4	3.8	4.6	3.6	14.4	13.5	14.0
Total	100	100	100	100	100	100	100	100
After excluding NA:								
Mainly manual labor activities	54.6	40.7	53.4	64.8	52.1	55.7	62.0	58.4
Mainly professional activities	45.4	59.3	46.6	35.2	47.9	44.3	38.0	41.6
N obs., 1000	53.2	28.1	8.6	13.8	104	11.2	8.3	19.5

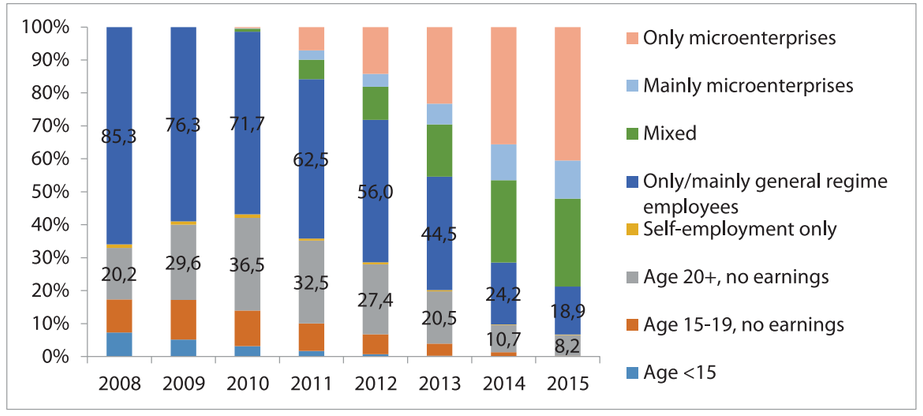
Notes: [a] Economic activities as of 2014. *Source:* Calculations based on State Revenue Service data.

Figure 78. Individuals who worked in microenterprises in 2015: Distribution of work and labor income across tax regimes, by occupation



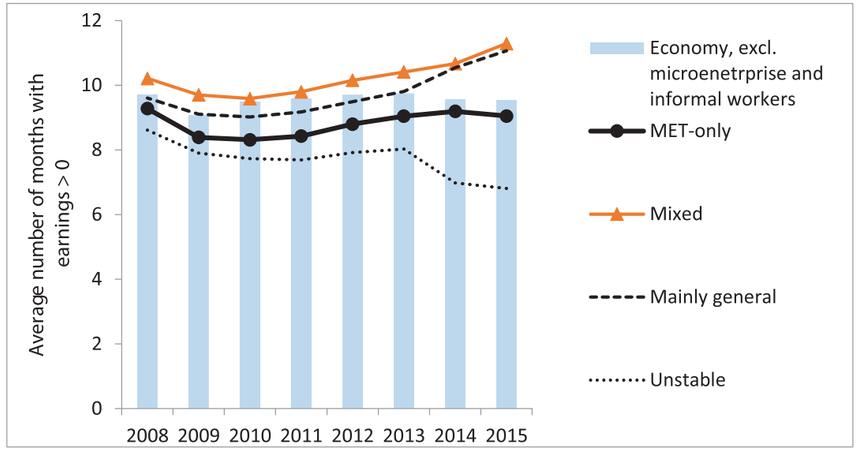
Notes: The Figure covers only individuals with positive microenterprise earnings in 2015. Non-microenterprise share has been calculated in the aggregated labor income of each group (rather than average across workers). *Source*: Calculations based on State Revenue Service data.

Figure 79. Microenterprise workers in 2014-2015, by source of earnings in Latvia, 2008-2015



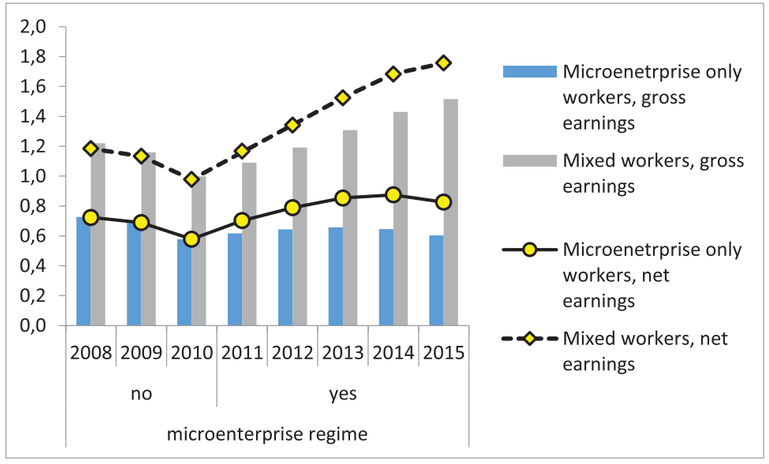
Notes: The Figure is based on individual records (rather than annual average data) and covers 129.4 thousand individuals with positive microenterprise earnings in 2014 or 2015 (or both). For each of the years, the Figure presents percent distribution of all these persons by source of earnings. The Figure does not cover persons who had positive earnings under the MET regime in 2010-2013 but did not have such earnings in 2014-2015. Labels show absolute numbers (in thousands).
Source: Calculations based on State Revenue Service data.

Figure 80. Average number of months with positive employee income, 2008-2015. Individuals with positive microenterprise earnings in 2014 or 2015, by tax regime group
(individuals with zero earnings in respective years are excluded)



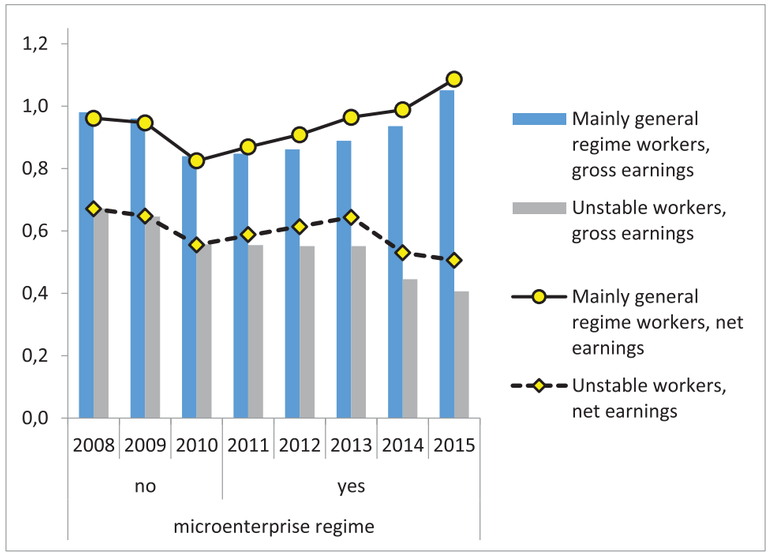
Source: Calculations based on State Revenue Service data

Figure 81. Average declared annual earnings of "MET-only" and "Mixed" workers as proportion of economy-wide average annual earnings of general regime employees, 2008-2015
(individuals with zero earnings in respective years are excluded)



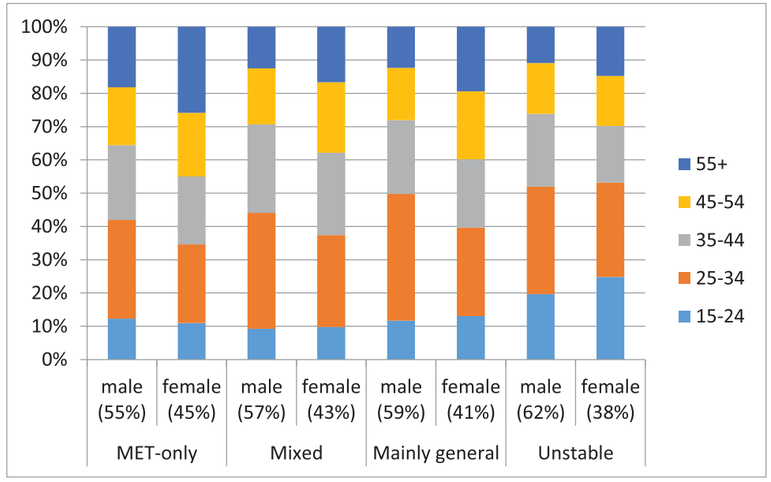
Source: Calculations based on State Revenue Service data.

Figure 82. Average declared annual earnings of "Unstable" and "Mainly General" workers as proportion of economy-wide average annual earnings of general regime employees, 2008-2015
(individuals with zero earnings in respective years are excluded)



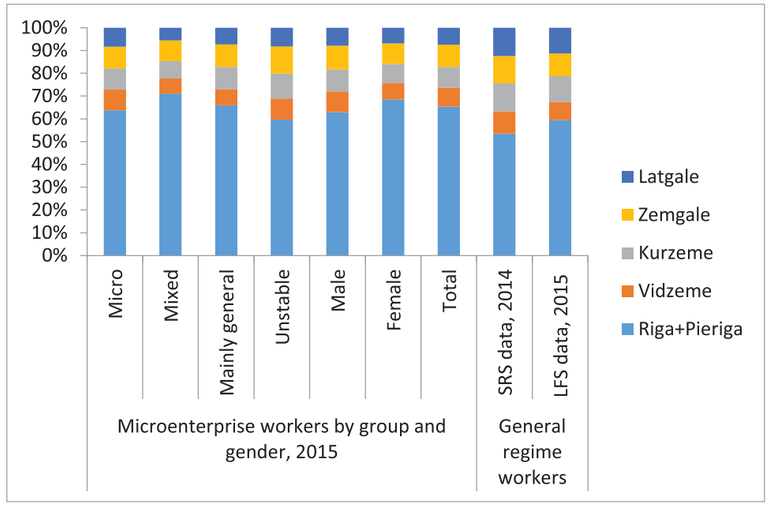
Source: Calculations based on State Revenue Service data

Figure 83. Individuals with positive microenterprise earnings in 2015 by tax regime group, gender and age group



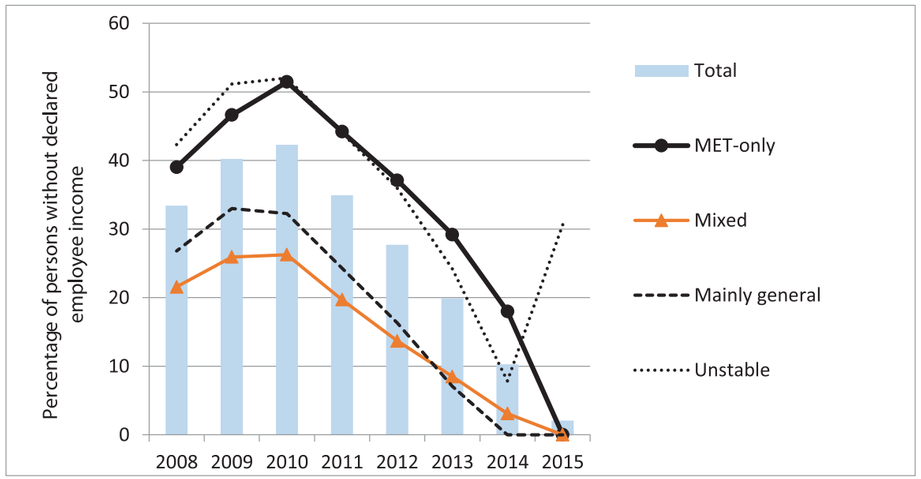
Source: Calculations based on State Revenue Service data.

Figure 84. Regional distribution of individuals with positive microenterprise earnings in 2015, in comparison with general regime employees



Notes: SRS data for 2014 cover all general regime employees with positive earnings. LFS data for 2015 (which have been merged with SRS data to identify microenterprise workers) cover employees with positive earnings under general regime and no microenterprise earnings.
Source: Calculations based on State Revenue Service data and LFS data.

Figure 85. Absence of declared earnings in 2008-2015 among individuals with positive microenterprise earnings in 2014 or 2015, by tax regime group



ANNEX K: AN ECONOMIC ANALYSIS OF THE MICROENTERPRISE TAX

This appendix asks two questions. First, what is the nature of the tax advantages of the MET regime compared to the standard CIT regime? It is shown that - provided that firm debt is not too high - the current MET regime allows firms to avoid both CIT and SSC. Consequently, the MET regime is likely to generate tax avoidance, especially for firms that use little debt finance or intermediate goods, and that rely mainly on equity finance. When the MET regime is adjusted, by raising the SSC and lowering the rate, the advantages of the MET to avoid SSCs are eliminated, but the advantages of the MET regime to avoid CIT are strengthened. **And, second, what are the welfare effects of the MET-regime? It is shown that firms get incentives to invest more, increase labor demand, use less debt financing and use less intermediate goods.** Higher investment and labor demand are socially desirable, since these are distorted downwards by the CIT and SSCs. Less debt financing is also desirable if the CIT promotes too much debt financing via the deductibility of interest. However, the MET distorts intermediate-goods use in production, which is not socially desirable.

To formalize these ideas, we develop a theoretical model of firm behavior. Let firm profits be Π. Firms have sales (turnover) equal to *Y*. Total firm assets equal $K = D + E$, where *D* is debt and *E* is equity. The cost debt is equal to r^d and the cost of equity is equal to r^e. Labor demand is denoted by *L* and the wage rate is *w*. Demand for intermediate goods equals *X* and the price of intermediate goods is denoted by *p*. We assume throughout that dividends and interest are taxed in the same way in the PIT under the standard CIT-regime and the MET-regime. We might under-estimate the advantages of the MET-regime because capital gains are not taxed in the MET-regime, while they are in the CIT-regime.

Under the standard CIT-regime firms face the CIT-rate τ_{cit} and they have to pay employer SSCs at rate τ_{ssc}. Cost of debt is deductible from the CIT, whereas the cost of equity is not. Profits in the normal CIT-regime are thus equal to:

(1) $\Pi_n \equiv (1-\tau_{cit})Y - (1-\tau_{cit})r^d D - (1-\tau_{cit})(1+\tau_{ssc})wL - (1-\tau_{cit})pX - r^e E.$

When the firm is a MET, then the firm pays a tax rate τ_{me} on sales *Y* (turnover). It neither pays CIT ($\tau_{cit} = 0$), nor SSC ($\tau_{ssc} = 0$). Hence, profits in for the MET-firm are equal to:

(2) $\Pi_{me} \equiv (1-\tau_{me})Y - r^d D - wL - pX - r^e E.$

Now, we gain insights into the drivers of tax evasion by subtracting profits in the MET regime from the profits in the standard CIT regime (and dividing by sales *Y*):

(3 $\frac{\Pi_{me} - \Pi_n}{Y} = (\tau_{cit} - \tau_{me}) + (\tau_{ssc} - \tau_{cit}(1+\tau_{ssc}))\frac{wL}{Y} - \tau_{cit}\frac{pX}{Y} - \tau_{cit}\frac{r^d D}{Y}.$

From the difference in profit levels, we can already derive the following conclusions:

- The MET regime is more attractive the higher is τ_{cit} relative to τ_{me} (first term in (3))
- The MET regime is more attractive the higher is τ_{ssc} relative to τ_{cit} (second term in (3)).
- The MET regime is less attractive the higher is the use of intermediate goods *X* (third term in (3)).
- The MET-regime is less attractive the higher is debt *D* (fourth term in (3)).

In the Latvian case we estimate that $\tau_{cit} = 15$ percent $> \tau_{me} = 9$ percent. Moreover, we have $\tau_{ssc} = 23.6$ percent $> \tau_{cit}(1 + \tau_{ssc}) = 18.54$ percent. Intuitively, in Latvia the MET regime is attractive because the MET rate is lower than the CIT rate. Hence, by filing as a MET firm one can avoid paying the CIT. Moreover, the MET regime is attractive because MET firms don't pay SSCs. This advantage more than compensates for the lack of deductibility of wage costs from the CIT if the SSC rate is roughly higher than the CIT rate. As a result, the MET regime can be used to avoid paying SSCs. The advantage of not paying SSC increases when the SSC rate is higher than the CIT rate. Finally, the disadvantage of the MET regime is that neither the costs of intermediate goods nor the costs of debt are deductible, whereas they are under the standard regime. Hence, firms with substantial use of intermediate goods or high amounts of debt will not find it desirable opt for the MET regime. However, when the firm spends little on intermediate goods, and all investments are financed with equity, there is no advantage of the tax-deductibility of intermediate goods and debt under the standard CIT, and the MET regime is then preferred over the standard regime.

What are the welfare consequences of the microenterprise tax regime? The CIT distorts the leverage of firms, as too much debt finance is chosen because debt is deductible. In addition, investment is distorted downwards. Consequently, capital use is below the socially desirable level if not all investments can be financed with debt. SSCs reduce labor demand below socially optimal levels. Since all costs of intermediate goods are deductible, firms make efficient investments in terms of intermediate goods use. The standard CIT thus distorts investment of firms, gives excessive leverage and distorts labor demand. The MET regime also distorts investments downwards, since none of the financing costs are deductible. However, the distortion on investment is typically smaller since the CIT rate is higher than the MET rate: $\tau_{cit} = 15$ percent $> \tau_{me} = 9$ percent. This lower distortion is associated with the first term in (4). Moreover, since the tax treatment of debt and equity is the same, the MET regime does not provide an excessive incentive for debt finance. This lower distortion is associated with the last term in (4). The MET distorts labor demand, just as the CIT. However, distortions in labor demand are typically less under the MET, since the effective tax rate on labor demand is lower: $\tau_{ssc} = 23.6$ percent $> \tau_{me} = 9$ percent. This lower distortion is associated with the second term in (4). The MET regime introduces distortions in intermediate goods use, since their costs are not deductible under the MET, whereas they are under the CIT, see the third term in (4). The MET regime thus reduces economic distortions in investment, financing and labor demand, while it increases distortions in intermediate-goods use. The net effect is not clear, but one may expect that the MET regime reduces overall distortions from corporate taxes by lowering effective tax rates on business activities, especially if intermediate-goods use is small.

ANNEX L. ESTIMATES OF WORKERS MOST VULNARABLE TO PHASING OUT OF THE MET

Here we develop estimates of the workers likely to be most vulnerable to a phasing out of the MET regime. We begin by placing the 129.4 thousand individuals with positive microenterprise earnings in 2014 or 2015 into four broad groups depending on the share of their earnings from microenterprises versus firms working under the general tax regime: MET-only, mainly general, mixed, or unstable (see Table 63 for definitions and Table 69 for profiles of these four groups). Note that the terms MET-only workers and mixed workers, which in the main text were year-specific, refer to earnings history over the two-year period 2014–2015.

Table 67. Profiling of individuals with positive microenterprise earnings in 2014 or 2015 by tax regime, 2014-2015

Group by tax regime	Description
Group MET (***MET-only***)	Group MET = MET1 + MET2 consists of 53.2 thousand individuals, each of whom as employee had only microenterprise earnings either in 2014 (33.8 thousand) or in 2015 (49.7 thousand) or in both years (30.3 thousand). Exact definition: Group MET1 (N=49,687): Had only microenterprise earnings in 2015, while in 2014 either had some microenterprise earnings or as employee under the general regime worked less than 6 months (or did not work at all). Group MET2 (N=3,560): Had only microenterprise earnings in 2014, while in 2015 had mainly microenterprise earnings, as well as for 1 to 5 months had earnings as employee under the general regime.

Group by tax regime	Description
Group GEN (***Mainly General***)	Group GEN = GEN1 + GEN2 includes 19.8 thousand individuals. Group GEN1 (N = 8,634): Had positive general regime earnings for at least 6 months in both 2014 and 2015, and no microenterprise earnings in 2014. Group GEN2 (N = 11,153): Had positive general regime earnings for at least 1 month in 2014 and for at least 6 months in 2015, and no microenterprise earnings in 2015.
Group MIX (***Mixed***)	Group MIX consists of 28.1 thousand individuals who satisfy the following conditions: (i) do not belong to Group MET; (ii) do not belong to Group GEN; (iii) either in 2014 or in 2015 had positive microenterprise earnings for at least 1 month and positive general regime earnings for at least 6 months (iv) in 2015 had positive microenterprise earnings for at least 1 month or positive general regime earnings for at least 6 months
Group UNS (***Unstable***)	Group UNS = UNS1 + UNS2 + UNS3 + UNS4 + UNS5 + UNS6 + UNS7 consists of 28.2 thousand individuals which do not belong to any of groups MET, GEN, and MIX. UNS1 (N=10,207): in 2015, had only or mainly microenterprise employee earnings, but in 2014 had only or mainly general regime earnings or no earnings at all. UNS2 (N= 5,992): In 2015, had only or mainly general regime employee earnings, but in 2014 were either in the mixed regime, or had mainly or only microenterprise earnings, or did not have any earnings. UNS3 (N=1,776): Both in 2014 and in 2015, had 4 to 12 months of positive microenterprise earnings and 1 to 5 months of positive general regime earnings. UNS4 (N=282): Both in 2014 and in 2015, had 1 to 3 months of positive microenterprise earnings and 1 to 3 months of positive general regime earnings. UNS5 (N=279): In 2014, had 1 to 3 months of positive microenterprise earnings and 4 to 5 months of positive general regime earnings, and in 2015 had only 1 to 5 months of positive general regime earnings. UNS6 (N=1,054): in 2014 had only (or almost only) general regime earnings, and in 2015 had 1 to 3 months of positive microenterprise earnings and 4 to 5 months of positive general regime earnings. UNS7 (N=8,649): In 2014, had positive microenterprise earnings, and in 2015 had either no declared labor income (N=8,524) or had only self-employment income (N=125).

Source: Elaboration on State Revenue Service data.

What is the income loss risk for microenterprise workers assuming the MET regime is abolished? We start by defining *MET workers with low risk of income loss* as those who satisfy *one of the following conditions*: (i) the microenterprise share in net earnings in 2015 did not exceed 15 percent; (ii) annual gross labor income (AGLI) was above 12 minimum monthly wages and, in addition, microenterprise earnings accounted for no more than 30 percent of the difference between AGLI and 12 minimum monthly wages. Note that some individuals satisfying (i) might have average gross monthly general regime earnings (over months worked) below the minimum wage; they face the risk to be fired because of the minimum social contribution requirement. These persons are excluded from the low-risk category unless they had positive self-employment income in 2015. Table 645 presents the incidence of low income risk by group of MET workers. Overall, there are 7391 such workers, mostly in the *Mixed* and *Mainly General* groups. They are excluded from further profiling, leaving us with 96 thousand workers.

Table 68. Incidence of low risk of income loss among individuals with positive microenterprise earnings in 2015, by tax regime group

	MET-only	Mixed	Mainly General	Unstable	Total
Number of workers	93	5127	2964	581	8765
Percent	0.2	18.2	34.3	4.2	8.4

Notes: Experience as of the end of 2015. *Source:* Calculations based on State Revenue Service data.

Out of the remaining 53 thousand *MET-only* workers, nearly 50 thousand have no general regime earnings in 2015, and the same is true for 3 thousand *Unstable* workers (out of 13.5 thousand), see Table 65 What will happen to these 53 thousand individuals if the MET regime is abolished? For some of them (see estimates in Table 68 below) the new version of the small-scale business regime, the patent fee regime, or self-employment are feasible options. But others will have to find a general regime job to replace their microenterprise earnings. This might be difficult for workers in these two groups, given their (average) low productivity, as the new law on minimum social contribution and the gradual increase in the minimum wage level will depress the demand for workers with low productivity.

Table 69. MET-*only* and *Unstable* workers (ex. those with low risk of income loss) by gross general regime earnings and MET share in net labor income, 2015

MET share in net labor income, percent	gross annual employee earnings, general regime			
	No income	>0 but < 12*minwage	>=12*minwage	Total
	MET-only			
Up to 15	0	35	0	35
15+ to 33	13	126	7	146
33+ to 50	19	199	17	241
50+ to 75	81	695	58	838
75+ to 99	222	2144	4	51929
99+ to 100	49338	221	0	49559
Total	49673	3420	86	53189
	Unstable			
Up to 15	0	258	0	258
15+ to 33	0	956	41	1000
33+ to 50	2	1100	52	1157
50+ to 75	5	2685	64	2755
75+ to 99	13	5287	3	8306
99+ to 100	2651	352	0	3003
Total	2671	10638	160	13476

Notes: Labor income includes microenterprise and general regime employee earnings, as well as self-employment income.
Source: Calculations based on State Revenue Service data.

On the other hand, over 3 thousand *MET-only* workers and over 10 thousand *Unstable* workers would need to supplement their general regime earnings (by increasing work hours or taking on a secondary job) to put their annual labor income above the 12 minimum wages threshold (Table 68). *Mixed* and *Mainly General* workers will most likely stick to their general regime jobs when the MET regime is abolished. However, 12 thousand of them can lose up to half of their labor income, and about 18 thousand—more than a half (see Table 66 for details) if their activities carried out under the MET regime are not continued in a different legal form.

Table 70. *Mixed* and *Mainly General* workers (ex. those with low risk of income loss) by gross general regime earnings and MET share in net labor income, 2015

MET share in net labor income, percent	gross annual employee earnings, general regime				
	>0 but < 12 min. wages	12+ to 18 min. wages	18+ to 30 min. wages	> 30 min. wages	Total
	Mixed				
Up to 15	650	0	0	0	650

15+ to 33	1364	715	490	150	2719
33+ to 50	1464	835	952	1589	4840
50+ to 75	3559	3050	2005	477	9091
75+ to 100	5853	364	95	18	6330
Total	12890	4964	3542	2234	23630
	Mainly General				
Up to 15	431	0	0	0	431
15+ to 33	853	482	294	51	1680
33+ to 50	868	388	323	173	1752
50+ to 75	1126	449	174	18	1767
75+ to 100	463	6	2	0	471
Total	3741	1325	793	242	6101

Notes: Labor income includes microenterprise and general regime employee earnings, as well as self-employment income.
Source: Calculations based on State Revenue Service data.

How should the number of MET workers from each group that plausibly can switch to self-employment, the patent regime or the new scheme for small (subsistence) businesses be estimated? One approach is to assume that these options are realistic for microenterprises which either have turnover up to EUR 20 thousand or are not incorporated. Table 67 presents the distribution of MET workers (ex. those with low risk of income loss) in each of the four groups by turnover and legal form of the microenterprise. Shaded cells in Table 67 refer to incorporated (e.g. operating as legal rather than natural persons) microenterprises with turnover above EUR 20 thousand, i.e. workers for whom self-employment or the patent regime do not appear as straightforward options and who will likely find it difficult to obtain a general regime job to replace their microenterprise earnings. As follows from Table 68, this is the case for 38 thousand *MET-only* workers, almost 19 thousand *Mixed* workers, about 5 thousand *Mainly General* workers and nearly 10 thousand *Unstable* workers, which adds up to 71 thousand. It appears that the most realistic way out from this situation is to make sure that most of incorporated microenterprises switch to the general regime. Even so, the resulting rise in labor costs will mean lower earnings, or at least temporary unemployment, for many employees.

Table 71. Microenterprise workers (ex. those with low risk of income loss) by group, turnover and legal form of the main microenterprise, 2015

Annual turnover of the main microenterprise, EUR	Legal form of the main microenterprise		
	Legal person	Natural person	Total
MET-only			
Up to 4000	600	853	1453
>4000 but <=20000	3268	3707	6975
>20000 but <=70000	12186	3605	15791
> 70000	23223	2549	25772
NA	2441	757	3198
Total	41718	11471	53189
MIxed			
Up to 4000	193	162	355
>4000 but <=20000	1329	913	2242
>20000 but <=70000	5719	1245	6964
> 70000	11763	835	12598
NA	1227	244	1471

Total	20231	3399	23630
Mainly General			
Up to 4 000	57	45	102
>4 000 but <=20 000	319	325	644
>20 000 but <=70 000	1270	310	1580
> 70 000	3135	235	3370
NA	329	76	405
Total	5110	991	6101
Unstable			
Up to 4 000	99	219	318
>4 000 but <=20 000	648	914	1,562
>20 000 but <=70 000	2,829	808	3,637
> 70 000	5,927	658	6,585
NA	1,047	327	1,374
Total	10550	2926	13476

Source: Calculations based on State Revenue Service data.

Table 72. Profiling of MET workers by characteristics

Groups	Description	MET share of labor income, 2015 (percent)	Number of MET workers, 2015	Av. number of months worked in 2015	Likely to become self-employed or enter some "small business" scheme (e.g. patent fee)	Likely to need a fulltime job as a general regime employee
MET-only	Below average wages and productivity. Gained pay under MET regime. Proportion of highly-educated slightly lower than among general regime employees. More than a half work in sectors employing mainly manual labor. Higher than in other groups (but similar to general regime employees) share of workers aged 55+ (22 percent).	98.1	53247	9.1	Up to 35 thousand	At least 18 thousand

Groups	Description	MET share of labor income, 2015 (percent)	Number of MET workers, 2015	Av. number of months worked in 2015	Likely to become self-employed or enter some "small business" scheme (e.g. patent fee)	Likely to need a fulltime job as a general regime employee
Unstable (switching between regimes)	Low productivity and remain low paid/vulnerable under MET regime. Share of secondary-educated is larger but share of tertiary-educated smaller than among general-regime-only employees. Almost two-thirds work in sectors employing mainly manual labor. Half of the members of this group are younger than 35, and more than 20 percent are younger than 25.	71.7	13799	6.8	Up to 7.5 thousand	At least 6 thousand
Mainly general tax regime	Above average workload and earnings. Younger than other general regime employees (45 percent below age of 35). Features more low-educated individuals and less of those with Master degrees than general-regime-only employees.	29.0	8634	11.1	Up to 3.6 thousand	At least 2 thousand
Mixed	Works more than average worker, main winner of the MET regime in terms of earnings. Half of group members are tertiary-educated, and three-fifths work in sectors employing mainly professionals. 70% are concentrated in Riga and Pieriga	46.7	28107	11.3	Up to 16 thousand	At least 6 thousand

Source: Calculations based on SRS data.

Another approach to looking at the prospects for MET workers is based on the economic activity of the microenterprise. Activities classified as *Mainly professional* in Table 63, as well as *Other Personal Service and Household activities*, are likely to be suitable for self-employment or small family businesses[101] (in other activities self-employment might or might not be suitable depending on circumstances). Combining this criterion with the one based on turnover and legal form, one arrives at the estimates presented in Table 72.

Table 73. Projected optimal outflows from MET by group, 1000 of workers

	MET-only	Mixed	Mainly General	Unstable	Total
(1) MET workers, 2015	53.2	28.1	8.6	13.8	103.8
(2) Low risk of income loss	0.06	4.5	2.5	0.3	7.4
	Self-employment or some "small business" scheme				
(3) Microenterprises - natural persons, ex. (2)	11.5	3.4	1.0	2.9	18.9
(4) Microenterprises - legal persons with turnover ≤ 20000 EUR, ex. (2)	3.9	1.5	0.4	0.7	6.5
(5) Activities suitable for self-employment or small family business, ex. (2), (3), (4)	19.5	11.4	2.2	3.8	36.9
(6) Total: (3) + (4) + (5)	34.8	16.3	3.6	7.5	62.2
	To avoid or reduce income loss, need to increase work hours or to find a second job as a general regime employee (ex. (2) and (6))				
(7)	0.01	1.3	0.5	0.02	1.8
	Likely need to find a full time job as a general regime employee				
(8) = (1) - (2) - (6) - (7)	18.3	6.0	2.0	6.0	32.4

Source: Calculated based on State Revenue Service data.

The estimates in Table 73 are optimistic as they assume maximal plausible outflow to self-employment. A range of policy measures would be necessary to make it happen (even on a smaller scale). Such measures might include decreasing the PIT rate for self-employment income from 23 to 19 percent, or providing mentoring and consulting services free of charge, as well as marketing and accounting services at low cost, for the newly self-employed. Smaller-than-projected outflows to self-employment or some "small business" scheme (especially from *MET-only* and *Unstable* groups) would mean a larger need for general regime employee vacancies, as well as some increase in unemployment and informal employment.

ANNEX M: SUMMARY OF TAX PROVISIONS FOR SMALL -AND MEDIUM-SIZED ENTERPRISES IN THE EU

There are considerable differences in the tax regimes for SMEs across the EU, with some member states (e.g. Belgium, France, Poland, Spain) providing a wide range of incentives in the form of special tax rates, tax credits or tax deductions, while other member states (e.g. Austria, Italy, Sweden) do not provide any special incentives for SMEs. Some member states (e.g. Luxembourg, Netherlands, Portugal, and the U.K.) have general tax measures (e.g. progressive tax rate structure, tax relief for investment and R&D) that tend to favor SMEs more than larger companies.

Some member states (e.g. Finland, France, Ireland, Italy, and Sweden) provide incentives to encourage risk capital investment in SMEs through the provision of income tax and capital gains tax relief for investors. Special incentives for start-up businesses are provided in a number of member states, including Belgium, France, Ireland, Italy, Netherlands and Poland. Several member states (Austria, France, Italy, Poland, Portugal, Slovenia, and Spain) provide the option of a presumptive basis for calculating tax payable for microenterprises and sole proprietorships with low turnover levels.

Most SME tax incentives are targeted at small and microenterprises, while medium-sized enterprises benefit only from R&D incentives. Under the EU definition, SMEs are categorized as follows:

- Medium: < 250 employees < EUR 50m turnover < EUR 43m balance sheet
- Small: < 50 employees < EUR 10m turnover < EUR 10m balance sheet
- Micro: < 10 employees < EUR 2m turnover < EUR 2m balance sheet

An EU Commission study in 2015 of SME taxation in the EU recommended that tax incentives should not be explicitly connected to the size of companies or inhibit their growth, but rather should be designed to encourage desirable outcomes

[101] This is clear when the activities in question are carried out in a microenterprise. For *Administrative and Support Service activities* (Section N of NACE Rev.2) this is not so straightforward due to a very diverse scope of activities; in this case we assume suitability for self-employment or small family business for 50% of microenterprise workers.

such as innovation, investment and employment creation. In this regard, it noted that member states generally place more emphasis on the provision of tax relief for R&D than relief specifically for SMEs and that R&D incentives tend to be relatively more advantageous for SMEs. The report recommends that all tax incentives for SMEs should fulfil the basic requirements of transparency, effectiveness and neutrality. It considers that special tax rates for SMEs have unfavorable features compared to other forms of relief and that tax credits based on a proportion of investment costs, subject to a maximum amount, is a more appropriate instrument to support SMEs.

A similar 2015 OECD report on SME taxation noted that: "While many of these special SME tax rules are designed to support the growth and profitability of SMEs, their design and introduction can have distortive impacts by giving businesses an incentive to remain small or to split up into different businesses to continue benefiting from the preferential tax treatment." The OECD report concluded that there may be a special case for providing support measures for new and younger SMEs which face particular difficulties in relation to finance and cash flow and are likely to have more potential for innovation and growth than older SMEs.

Table 71 provides a brief outline of tax measures for SMEs in various EU member states.

Table 74. SME incentives and assistance measures, EU countries

Country	Incentives and other measures to assist SMEs
Austria	Austria has no special tax incentives for SMEs. All companies, including SMEs, are subject to the standard 25% rate of CIT. There is, however, an adjusted minimum tax for newly established companies of EUR 1,092 that applies to low income companies. There is also capital gains tax relief on the disposal of SME assets on the closing down of a business, with gains reduced by EUR 7,300 or spread and taxed over 3 years. Small businesses with annual revenue less than EUR 220,000 can pay tax on a presumptive basis, with taxable income calculated as 88% of annual revenues and normal tax rates applying.
Belgium	Belgium has numerous incentives for SMEs. For Belgian tax purposes, SMEs must meet two of the following criteria: - not more than 50 employees, turnover not exceeding EUR 7.3m, balance sheet not exceeding EUR 3.65m. While the standard rate of CIT is 33.99% (inclusive of 3% austerity surcharge), SMEs can benefit from a progressive CIT rate structure as follows: 24.9% on income up to EUR 25,000 31.9% on income between EUR 25,000 and EUR 90,000 35.5% on income between EUR 90,000 and EUR 322,500, and 33.99% on income in excess of EUR 322,500 Certain conditions apply for an SME to qualify for the reduced rates. The company must not be a financial institution. Fifty percent or more of the shares must not be held by one or more other companies. The company must not distribute dividends for an amount exceeding 13% of the issued share capital of the income year. The company pays a salary of at least EUR 36,000 to at least one of its managers. And the company must not be part of a group which owns a coordination center. SMEs employing not more than 20 employees can benefit from an investment deduction of 11.5% of asset depreciation, with unused amounts carried forward subject to a maximum carry-forward of EUR 933,350. There is also a temporary allowance of 4% for ordinary investments that do not benefit from the special investment deduction. The accelerated depreciation for SMEs, whereby companies could avail of twice the normal depreciation rate in the first three years, has been curtailed since 2011 and the standard depreciation rates now apply. The tax credit on R&D investments is adjusted for companies with taxable incomes below EUR 322,500 according to a progressive schedule. **Start-up innovative companies** can benefit from a 65% exemption for wage withholding tax on the remuneration of researchers and research managers. SMEs are entitled to an extra 0.5% deduction on top of the notional interest deduction of 3% of qualifying equity available to all resident companies in Belgium. There is also provision for SMEs to include income of up to 50% of retained earnings, or at most EUR 37,500, in a tax-exempt reserve which must be re-invested within three years.

Country	Incentives and other measures to assist SMEs
Bulgaria	Bulgaria, which has a standard CIT rate of 10%, has no special tax incentives for SMEs. Small companies are subject to administrative concessions, whereby enterprises with net sales below BGR300,000 (about EUR 150,000) in the previous year do not have to make advance payments, while those with net sales between BGR300,000 and BGR3m (about EUR 1.5m) only have to make quarterly advance payments.
Croatia	Croatia, which has a standard CIT rate of 20%, provides significant incentives for new investments, which reduce the CIT rate on income from investment and which vary according to the size of the investment and new employment: 100% reduction for investment of at least EUR 3m and 15 new employees, 75% reduction for investment of EUR 1m-3m and 10 new employees, 50% reduction for investment of less than EUR 1m and 5 new employees. For micro companies, there is a reduction of 50% (i.e. tax rate of 10%) for income from investments of at least EUR 50,000 which create at least 3 new jobs. Croatia also provides allowances for eligible costs of education and training which are enhanced for SMEs (defined according to EU guidelines).
Estonia	Estonia does not have special tax incentives for SMEs, having regard to its corporate tax system which only taxes profits on distribution.
Finland	Finland has a special incentive for SMEs in less developed regions which provides 150% of depreciation rates in the first 3 years for investment production facilities or tourism enterprises. SMEs are defined according to EU definition. Finland also provides a tax relief for business angels, which provides for a deduction for income tax purposes of 50% of investment in SMEs with less than 50 employees and turnover less than EUR 10m. There are limits on the amount of investment—maximum of EUR 150,000 per person and overall limit of EUR 2.5m investments per company in any year.

Country	Incentives and other measures to assist SMEs
France	France offers a wide range of incentives for SMEs, including special tax rates, tax credits and exemptions for certain kinds of income. For SMEs with a turnover below EUR 7.63m, income up to EUR 38,120 is taxed at 15% instead of the normal 33.33% rate. The surcharge of 3.33% does not apply for SMEs within this turnover threshold. Microenterprises can elect for special tax rates of 13% on income up to EUR 81,500 from the sale of goods and 23% on income up to EUR 32,600 from services. To qualify as a microenterprise, a company must meet two of the following conditions: - turnover not more than EUR 534,000, balance sheet total not more than EUR 267,000, and not more than 10 employees. Various tax credits are available for SMEs: A tax credit of 20% is granted on expenditure up to EUR 400,000 on innovative activities. A formula based tax credit is also available for SMEs with at least 20 employees where the number of employees increased by at least 15% in each of the two previous years. The credit is calculated taking income tax payable in the current year multiplied by a percentage rate up to 100% (the rate is linked to employment increase - with 100% rate applying where employment increased by at least 15%) less income tax payable in the previous period. A tax credit of 50% of qualifying expenses in hiring an additional employee to develop export business is available to SMEs, subject to a maximum credit of EUR 40,000 over two years. For SMEs based in Corsica, there is a special tax credit of 20% of qualifying investment for SMEs based in Corsica with employment and turnover levels not exceeding 250 and EUR 40m respectively. France also provides certain exemptions to assist start-up SMEs (defined according to EU definition). An exemption of 100% of income is provided for innovative SMEs in the first year of activity, with a 50% exemption in the second year (up to 2011 the relief was available over the first 5 years of the business activity, but this has since been reduced to two years). To qualify, R&D activities must account for at least 15% of expenses incurred. There is also a special tax exemption on profits of companies creating a new industrial or commercial business in a regional aid (AFR) area, equal to 100% exemption for the first 2 years. The exemption is gradually reduced to 75%, 50%, 25% for the following 3 years. The tax-exempt amount may not exceed EUR 225,000 over 3 years. Exemption from local taxes for the first two years of a new business is provided at the decision of the relevant local authority. There is a capital gains tax exemption on the sale by a company of a branch activity, with 100% exemption applying where the value of the branch does not exceed EUR 300,000 and 50% exemption where the value is between EUR 300,000 and EUR 500,000. In addition to the above tax relief, SMEs benefit from the following provisions for investors in SMEs: Small enterprises with turnover less than EUR 15m are not subject to any minimum tax. Investments in SMEs are eligible for PIT relief and CGT relief, with 18% of amounts invested in a qualifying SME deductible from taxable income up to a maximum of EUR 50,000 and capital gains of SME directors selling their shares on retirement exempt from tax. 50% of investments in qualifying SME are deductible for wealth tax purposes, subject to a maximum of EUR 45,000. Finally, microenterprises with annual revenue not exceeding EUR 82,200 for sales of goods and EUR 32,900 for provision of services can use a presumptive basis for calculating tax payable. For microenterprises selling goods, taxable income is set at 29% of annual revenue with normal tax rates applying. For microenterprises providing services, taxable income is set at 50% of annual revenue with normal tax rates applying.
Germany	While Germany does not have a special tax rate for SMEs, it provides accelerated depreciation for SME business assets costing less than EUR 235,000. It also has two tax incentives that specifically target small companies. To qualify as a small company, net assets must be less than EUR 235,000 if the company applies the net worth method to determine taxable income and less than EUR 100,000 if the company applies the net income method. (The thresholds were reduced from EUR 335,000 and EUR 200,000 respectively in 2011). The relevant assets must be used in a domestic permanent establishment of the company for at least a year. The incentives are (i) an additional depreciation of 20% of acquisition or manufacturing costs of new movable assets over a 5-year period and (ii) recognition of an investment reserve up to 40% of future acquisition or production costs of depreciable assets, subject to a maximum EUR 200,000, with income in the reserve not subject to tax until respective assets start to be depreciated.

Country	Incentives and other measures to assist SMEs
Greece	Greece does not provide any tax incentives specifically for SMEs. However, a scheme allowing for establishing a tax-free reserve amounting to between 15-40% of investment in qualifying undertakings provides more favorable treatment for smaller enterprises which can qualify for a higher relief of 25-45% of the investment.
Hungary	A small business tax rate of 10% (instead of basic CIT rate of 19%) applies for income up to a threshold of EUR 1.6m. SMEs can avail of accelerated depreciation in the form of immediate expensing of payments for fixed tangible and intangible assets put into use for the business. Hungary also provides two simplified tax regimes for small businesses: The first, KIVA, is a cash-flow based tax which replaces corporate income tax, social contribution taxes and vocational training contributions. This tax applies at a rate of 16% of the tax base, which is based on the taxpayer's cash-flow profit and is increased by staff costs. The tax is available to entities with less than 25 employees and where the revenue and balance sheet for the previous tax year were less than HUF 500 million (about EUR 1.6m). A second simplified regime, KATA, is a lump-sum tax for the self-employed. Under this regime, full-time entrepreneurs registered as small business taxpayers pay tax of HUF 50,000 per month. Taxpayers may elect to pay HUF 75,000 per month in return for higher social security service eligibility. Part-time entrepreneurs pay HUF 25,000. The lump sum tax is payable separately for each person registered as a small business taxpayer. This applies up to a revenue limit of HUF 6 million (about EUR 19,350). Once revenues exceed this amount, tax is payable at 40% on the part of the revenue exceeding HUF 6 million. Payment of KATA releases the taxpayer from corporate income tax, personal income tax, social contributions tax, and healthcare, pension, employment and vocational contributions. It does not, however, provide an exemption from VAT obligations.
Ireland	Ireland provides specific incentives aimed at promoting investment in SMEs and new business start-ups. The Employment and Investment Incentive scheme allows an individual investor to obtain personal income tax relief on equity investments in unquoted trading companies of up to EUR 150,000 per annum in the period to 2020. The income tax relief available is up to 30% but a further 10% is available (11% for investments made before 2015) where it has been demonstrated that employment levels have increased within 3 years of the investment or where the investment was used for expenditure on R&D. The company in which the equity investment is made must be an SME (defined according to EU definition) and the sum invested must be used for the purposes of the trading activities carried on by the company. There are limits (EUR 10m in total and EUR 2.5m in any year) on the aggregate amount that may be invested in a company by all investors under the scheme. Ireland also provides a number of **tax relief provisions to assist new business start-ups**. A corporate tax relief is available for start-up companies for the first 3 years of trading following the commencement of a new trade. The qualifying trade must not have been previously carried on by another person and the activities of the trade must not have been previously carried on as part of another person's trade. The relief provides a tax credit based on the amount of employers' social security contributions subject to a maximum of EUR 5,000 per employee in any year and an overall limit of EUR 40,000 per annum. Unused credits, which cannot be availed of in the first 3 years because of losses or insufficient profits, may be carried forward and offset against tax in subsequent years, subject to the EUR 5,000 and EUR 40,000 limits for any year. There is also a Start Your Own Business scheme which provides income tax relief for individuals who set up their own business, having been unemployed for a period of at least 12 months prior to starting the business. The relief is capped at EUR 40,000 per annum for a period of two years. Finally, an income tax refund scheme is available for individuals starting their own company under which qualifying share investments in the company can be offset against taxable income at the marginal income tax rate (40/41%) over the previous six years prior to the investment, thereby generating a refund of tax. The company must be an SME (by the EU definition) and be carrying on a new trade, and the individual must be employed in the company as a full-time employee/director for at least 1 year after the investment is made.

Country	Incentives and other measures to assist SMEs
Italy	Italy does not provide corporate tax incentives specifically for SMEs. However, it does provide a **tax incentive to encourage investment in new start-up companies** that focus on research, development and innovation. Under this incentive, personal taxpayers can obtain a tax allowance of 19% of the amount invested in the start-up company up to a maximum of EUR 500,000, while corporate tax payers can obtain a tax allowance of 20% of the amount invested up to a limit of EUR 1.8m. The investor must maintain their investment in the company for at least 2 years. The relief has been extended to innovative SMEs (EU definition) subject to the following qualifying conditions: 3% of sales or costs must be attributable to R&D activities, one third of employees must have a degree and the company must own a patent. Italy also provides a presumptive method for calculating income tax payable by natural persons operating a business with annual revenue less than EUR 40,000 (the threshold varies by sector). Taxable income is calculated by applying a ratio to annual revenue, and a flat tax rate of 15% applies.
Latvia	The main incentive for small business in Latvia is the microenterprise tax (MET), which was introduced in 2010 to promote the development of new businesses, reduce the administrative burden for small/ microenterprises and facilitate transition from the informal to formal economy. An enterprise can qualify for the MET if its turnover does not exceed EUR 100,000 in a tax year, there are no more than 5 employees, the monthly income of any employee/director does not exceed EUR 720 (excluding dividends) and, for limited liability companies, the owners/ members are natural persons and only employees can be board members. The MET operates as a tax on turnover, with turnover up to EUR 100,000 taxable at a 9% rate for the first three years and 12% from the fourth year. A 20% rate applies for turnover in excess of EUR 100,000. Under the MET, a single tax payment replaces CIT, PIT and social security contributions. Proposed changes from 2017 will mean that employees of microenterprises will be subject to mandatory social insurance contributions, while the rate of turnover tax for turnover up to EUR 100,000 will decline to 5% for the first 3 years and 8% for subsequent years.
Lithuania	Lithuania has two main incentives for microenterprises - (i) Companies with not more than 10 employees and taxable income not more than LTL1m (EUR 290,000) benefit from a reduced tax rate of 5% (instead of basic CIT rate of 15%). To qualify, the company must not be more than 50% owned by a person or group of persons who also own a sole proprietorship or have more than 50% ownership in other companies. (ii) A micro company meeting these criteria is also entitled to free depreciation of fixed assets other than buildings. In addition to these incentives, companies with taxable income of not more than LTL100,000 (EUR 29,000) are allowed to determine their income on the basis of cash-accounting.
Luxembourg	A reduced tax rate of 20% (instead of the CIT rate of 22.47%, inclusive of surtax) applies to all companies with an income below EUR 15,000, while the first EUR 17,500 of income is exempt from municipal business tax. Enterprises meeting two of the following criteria—their total balance sheet should not exceed than EUR 4.4m, and turnover not more than EUR 8.8m, and there should not be more than 50 employees—are not subject to compulsory audit controls. A tax credit on investments in qualifying depreciable tangible assets is 7% for amounts up to EUR 150,000 and 2% for amounts in excess of this.
Netherlands	While the Netherlands does not have incentives specifically for SMEs, it has a progressive CIT rate structure which favors SMEs, under which income up to EUR 200,000 is taxed at 20% and income in excess of this is taxed at 25%. A progressive structure benefiting SMEs also applies to the general investment deduction for small scale investments in certain business assets, where a deduction of 28% applies for investments between EUR 2,300 and EUR 55,248, a flat deduction of EUR 15,470 applies for investments between EUR 55,248 and EUR 102,311, a deduction of EUR 15,470 less 7.56% of amount in excess of EUR 102,311 applies for investments between 102,311 and EUR 306,931, and there is no deduction for amounts in excess of EUR 306,931. The Netherlands also provides an **accelerated depreciation regime for start-up companies** which are able to depreciate all their assets without limitation in the first three years of the business operation. In addition, start-ups undertaking R&D activities can benefit from a wage tax credit that provides higher deduction rates for the first EUR 200,000 of the business' wages.

Country	Incentives and other measures to assist SMEs
Poland	Poland provides several incentives for SMEs. Firstly, SMEs benefit from a higher rate allowance for investment in new technologies, with a deduction of 70% for small enterprises and 60% for medium sized enterprises, compared to the general rate of 50%. In addition, SMEs can receive a credit of up to 70% of eligible costs, subject to a maximum credit of PLN4m (about EUR 950,000), for investment in new and innovative technologies. The definition of SMEs corresponds to the EU definition. For micro companies with a turnover of less than EUR 1.2m, immediate depreciation of expenditure on certain fixed assets up to EUR 50,000 is provided. Micro companies can also opt for quarterly advance tax payments, rather than monthly payments. **Small and micro start-up companies** are entitled to receive a credit of 100% of tax due in the first year of operation, which must be repaid within 5 years. Poland also allows a presumptive method for calculating tax payable for (i) natural persons or partnerships with business revenue in the previous year of less than EUR 150,000 - with a flat amount of tax payable as determined by the tax authority—and (ii) microenterprises employing less than five employees—with tax payable according to the activity, scope and number of employees.
Portugal	Portugal provides a progressive tax structure for federal and local business taxes which favors SMEs - 18.5% for income up to EUR 15,000, 24.5% up to EUR 1.5m, 27.5% up to EUR 7.5m, 29.5% up to EUR 35m and 31.5% thereafter. SMEs can also qualify for a higher tax credit for R&D expenditure with a deduction of 47.5%, compared to 32.5% for companies generally. Portugal also allows for tax to be calculated on a presumptive basis for enterprises with an annual revenue of less than EUR 200,000 or net assets less than EUR 500,000. Taxable income is calculated by applying a coefficient for each type of income to annual revenue.
Romania	Romania provides a turnover tax regime for microenterprises, under which privately owned companies with income below EUR 65,000 pay tax at 3% of turnover (instead of the CIT rate of 16%). The regime does not apply to banking, gambling, consultancy or management sectors.
Slovenia	Slovenia does not provide tax incentives specifically for SMEs under the general tax regime. However, SMEs are granted favorable tax treatment in designated economic areas where the maximum aid in the form of tax concessions is 50% for small enterprises and 40% for medium sized enterprises. There are reduced penalties for micro, small and medium-sized enterprises in the case of late or insufficient payments. Slovenia also allows a presumptive basis for calculating income tax payable for businesses with annual revenue of not more than EUR 50,000 in the previous year (or less than EUR 100,000 where the taxpayer employs one full-time person for at least 5 months). Under this basis, taxable income is calculated at 80% of annual revenue.
Spain	Spain provides a wide range of incentives for SMEs. For small companies with net revenue of less than EUR 5m and less than 25 employees, a reduced tax rate of 20% applies on the first EUR 300,000 of income, with a rate of 25% on income in excess of EUR 300,000. SMEs with turnover below EUR 10m that do not meet these criteria are subject to a 25% rate on the first EUR 300,000, while the normal 30% rate applies to income above this amount. SMEs can avail of accelerated deprecation which provides for depreciation at twice the ordinary rate for all tangible assets and three times the rate if the assets were acquired as a reinvestment of a capital gain. Immediate expensing of tangible assets was allowed in 2013 and 2014 in companies that at least maintained employment levels. SMEs can also qualify for a tax credit of 10% of expenditure on new tangible assets for renewable energy. For SMEs employing less than 50 workers, tax credits are available for hiring employees under 30 years of age (EUR 3,000 per employee) and for hiring persons who have been unemployed for at least three months (50% of outstanding unemployment payments). SMEs with turnover of less than EUR 10m can establish a special provision for bad debt amounting to 1% of debt balance at year end. A capital gains exemption of 99% is provided for venture capital investments in SMEs operating in the area of technological innovation. Spain also allows for income to be calculated on a presumptive basis for unincorporated enterprises engaged in certain business activities with annual revenue less than EUR 450,000. Taxable income is calculated on the basis of certain coefficients (based on employees, size of business premises etc.) applied to annual revenue, with normal tax rates applying.

Country	Incentives and other measures to assist SMEs
Sweden	While Sweden does not provide incentives specifically targeted at SMEs, a special deduction is available for investors in small companies (defined according to the EU definition). A tax deduction is provided to individual investors of up to 50% of the investment cost of shares in eligible companies, subject to a maximum deduction of SEK650,000 (about EUR 100,000) and a maximum level of investment of SEK20m per company.
UK	UK had a special reduced 20% CIT rate for SMEs, but this no longer applies now that the general CIT rate has been reduced to 20% for all companies. SMEs benefit from increased allowances for R&D investment—while large companies are allowed to deduct an additional 30% of their R&D expenditure, SMEs are allowed to deduct 125%, subject to maximum relief of £7.5m (EUR 8.78m). The relief is available to a wider range of SMEs—i.e. companies with up to 500 employees, £100m turnover and £86m balance sheet total. An annual investment allowance allows businesses to deduct the full value of capital expenditure on fixed assets (excluding motor vehicles) in the year of purchase up to £200,000.

ANNEX N: EXCISE TAX RATES: CURRENT STATUS AND RECOMMENDATIONS

Alcoholic beverages			
Product	Rate Basis	EU Minimum Rates	2018-19
Beer	€ per hectolitre per degree alcohol	1.87	up to 5
Wine	€ per hectolitre	0	up to 86
Spirits	€ per hectolitre of pure alcohol	550	up to 1,400
Cigarettes			
Specific component	€ per 1,000 cigarettes	7.5 percent till 76.5 percent of the total tax	77.9
Ad valorem component	percent of max. retail price ppriselling price	percent of the maximum retail selling price	15
Minimum excise tax	€ per 1,000 cigarettes	90	up to 102.65
Minimum excise tax	Percent of the weighted average retail selling price	60	61
Fuel			
Leaded gasoline	€ per 1,000 litres	421	up to 455
Unleaded	€ per 1,000 litres	359	up to 411
Gas oil	€ per 1,000 litres	330	up to 382
Gas oil, commercial	€ per 1,000 liters	330	up to 330
LPG	€ per 1,000 kilograms	125	up to 231

ANNEX O: INTERNATIONAL EXPERIENCE WITH PROPERTY TAX RATES AND EXEMPTION POLICIES

The analysis that follows draws primarily on practices in the three countries that generate significant revenues from property taxes compared to GDP: France (4.1 percent); Canada (3.7 percent) and the United States (2.8 percent). It is presumably in these countries that the pressure for targeted tax relief is most acute. The analysis also covers current practices in nearby Poland.

Targeted property tax relief can take four basic forms:

- Reductions based on the value of the property. This includes so called progressive tax rates, which impose higher rates (as a percent of assessed value) on higher value properties. It also includes progressive assessment ratios, which impose higher ratios on properties with higher market values, and outright exemptions or lump-sum credits for properties below a certain assessed value.

- Reductions based on other property characteristics. This include higher (or lower) rates or assessment ratios for properties on the basis of their use. Industrial and commercial properties, for example, may be taxed at a higher rate than residential properties. Within the residential category, single family homes may be taxed at a lower rate than apartment buildings and owner-occupied properties may be taxed at a lower rate than properties that are rented out. Older buildings may be taxed at a lower rate than new buildings (or vice versa). Religious, educational or cultural properties as well as properties owned by central and local government are typically exempt altogether.

- Reductions based on characteristics of the taxpayer. These typically take the form of exemptions or reductions for households with incomes below a certain threshold, but reductions may also be based on the age of the taxpayer or whether the taxpayer is disabled, a veteran, or eligible for welfare payments.

- Ceilings on year-to-year increases. These are typically limits on the percentage increase in tax liabilities from one year to the next.

In the countries reviewed for this note, these reductions are often imposed in combination. For example, taxpayers over age 65 may be eligible for a reduction only if the value of their property falls below a given threshold.

i. ***France*** has two main taxes on residential property.[102] The first, the *impot fonciere* (property tax) is paid by property owners. The second, the *taxe d'habitation* (residence tax) is imposed on the occupant of the property—i.e., in the case of rental property, the tenant. In both cases, assessments are intended to reflect the rent that the property would be expected to receive in the open market, having regard to the condition, size and location of the property. Assessments on older properties have not been updated in decades, however, and are therefore out of date.

The *impot fonciere* is subject to a number of exemptions and abatements—the most important of which are means-tested. Persons residing in their own homes who are over 60 years of age or receiving welfare payments are entirely exempt from the tax, provided their income falls below a threshold level. [103] Other property owners are entitled to a tax reduction, depending on their income.[104] French law also mandates a reduction in the *taxe d'habitation* for owner occupied residential property (applicable only to the principal residence) based on the number of children residing there. For each child, the tax is reduced by 10-15 percent. In addition, local governments have the authority to grant additional rebates of up to 15 percent to households with incomes below a threshold amount, provided the assessed

[102] In addition, income derived from rental property of any kind is subject to the income tax. France also imposes a professional tax (*taxe professionelle*) payable on business premises based on a percent of the taxpayer's income, and a tax on wealth.
[103] For a one-person household, the threshold for 2016 was EUR 10, 697. For a household of three, it was EUR 22,121. Persons subject to the wealth tax are not eligible for this exemption regardless of their income.
[104] To qualify, a one-person household must have an income of less than EUR 25,155. The threshold is higher for larger households.

value of the property is not more than 30 percent higher than the average for the area in which the property is located.

ii. ***Canada***. Property taxation in Canada is governed by provincial legislation, which varies from one province to another. Specific regulations, as well as tax rates, also vary among local governments within a given province.

In Toronto (as elsewhere in Canada) property is assessed on the basis of its market (sales) value. Properties are re-assessed every four years. Between reassessments, increases are phased in. Thus one-quarter of the increase in assessments that occurred between 2012 and 2016 will be reflected in the tax bills for 2017; another 25 percent in the tax bills for 2018, and so on until the 2016 assessment are fully phased in in 2020. Increases are also capped at five percent per year.

The rate of the property tax (as a percent of assessed value) varies considerably depending on the use of the property. As of 2016, the rate on single family homes was 0.69 percent.[105] The rate on multi-family residential properties, in contrast, was 1.64[106] percent. Commercial properties were taxed at a rate of 2.64 percent and industrial properties at 2.7 percent.

In addition, the city of Toronto offers a range of exemptions, reductions and deferrals of property tax liabilities. In the case of owner occupied residential properties, persons over age 65 are entirely exempt from the property tax provided their combined household income is less than C$38,571 *and* the assessed value of their residence is less than C$ 715,001. (Persons receiving disability benefits and persons receiving old-age welfare benefits are also eligible for this exemption.) Toronto also offers a tax-*deferral* program for persons over age 65, provided their combined household income is less than C$50,001. The deferral applies regardless of the value of the property. The deferred amount, however, must be repaid once the property is sold. A forty percent reduction in tax liabilities is granted to properties that are used for charitable purposes.

iii. ***United States***. As in Canada, property taxation in the United States is governed by individual state legislation. Specific regulations, as well as tax rates, vary among local governments within a given state. In New York City, different rates and assessment ratios apply to different classes of property. The market value of 'class 1' properties--single family homes, condominiums, and multi-family residential buildings with three or fewer units-- is calculated on the basis of comparable sales. The assessment ratio on these properties is six percent, and the tax rate is 19.5 percent. As a result, the tax on a single family home with a market value of US$ 500,000 is US$ 5,850, or 1.2 percent of its market value. The value of larger multi-family properties (as well as other forms of property) is calculated on the basis of actual rental income, net of allowable expenses. The assessment ratio is 45 percent. Tax rates range from 12.9 percent (for buildings with 4-10 units) down to 10.65 percent (for buildings with more than ten units.) Thus the tax on a twelve unit building generating US$ 500,000 in net revenue per year would be about US$ 24,000, or five percent of net revenue.

New York City offers a variety of exemptions and reductions on the property tax. Property belonging to persons age 65 or older is eligible for a tax reduction, provided the property is the taxpayer's primary residence and the taxpayer's income is less than US$ 37,399.[107] Condominiums and units in cooperatives in buildings with over three units are eligible for a separate reductions of 17.5 percent to 28.1 percent (regardless of the taxpayer's age) provided they are the occupant's primary residence. (Unlike a reduction for the elderly, the amount of the reduction is based on the assessed value of the property, not the income of the taxpayer.)[108]

[105] This reflects the combined rates of the city tax (0.497 percent); the education tax (0.188 percent); and the transit tax (.003 percent).

[106] Except in the case of 'new' multi-family residential properties, which were taxed at the same rate as single family homes.

[107] The amount of the reduction varies according to the taxpayer's income. For incomes between US$ 36,500 and US$ 37,399, the reduction is only five percent. For incomes less than US$ 29,000, the reduction is 50 percent.

[108] Properties assess at US$ 50,000 or less are eligible for a 28 percent reduction. For properties valued at over US$ 60,000 the reduction is 17.5 percent.

Box 17. California: A Cautionary Tale

The state of California grants an immense de facto tax reduction to long-time property owners. Under California's proposition 13 (enacted 1978), values on residential property were rolled back to 1976 levels. Increases in assessed value from that date are capped at two percent per year or the rate of inflation, whichever is less. The maximum tax rate is capped at one percent. Proposition 13 does allow properties to be reassessed when they are sold--the new assessment is based on the actual sales price. But thereafter, such properties are subject to the same restrictions on annual increases and tax rates as all other residential properties.

In fiscal terms, the results have been catastrophic. In 1977, property taxes accounted for X percent of local government revenues. By 2015, that proportion had shrunk to Y percent.[need to insert values for X and Y] Proposition 13 has also introduced gross inequities in the distribution of the property tax burden, as similar properties are taxed at very different levels, depending on when they were sold.

iv. ***Poland.*** In Poland, as in the other three case studies, the property tax is assigned to local government. The administration of the property tax is nevertheless governed by national legislation: specifically, the 1991 law on local taxes and fees, as amended. This law sets out the definition of the base and the methodology to be used in determining the value of individual properties, as well as the list of mandatory exemptions and abatements. Individual local governments have the authority to set the level of the tax, subject to ceilings set in national legislation.

Under the law on local taxes and fees, the real estate tax is imposed on land and buildings, other than those used for agricultural and forestry purposes (these are subject to a separate tax.) [109] Assessment practices vary by property type. Land, regardless of use, is assessed on the basis of a fixed amount, expressed in zlotys, per square meter. The amounts are fixed by local councils, subject to ceilings in national legislation. These are adjusted annually and vary by land use. In Warsaw, for example, the 2017 rate on land used for business purposes is PLN 0.89 per square meter. [110] The rate on other land (including land used for residential purposes) is only half that: PLN 0.46 per square meter. [111]

Residential buildings, similarly, are assessed on the basis of a fixed amount, expressed in zlotys, per square meter.[112] In Warsaw, the fixed amount for 2017 is PLN 0.74 per square meter. Buildings used for commercial/business purposes are assessed on the basis of book value, at a flat rate of two percent. Where book value is unknown (e.g., in the case of unincorporated businesses) the taxing authorities are authorized to determine it at the owners' expense.

As a result of these practices, the effective rates of the property tax in Poland are extremely low, particularly in the case of residential property. The tax on a fairly substantial single family home in Warsaw (a 100 square meter home on 200 square meters of land) would be only PLN 194 (€ 45) at the 2017 rates. The effective rate on commercial property is somewhat higher. Nevertheless, because assessments are based on book value, valuations for tax purposes lag far behind actual market values. Since 1994, the Polish authorities have been considering a shift to market values as the basis for property taxation. To date, these efforts have been successfully resisted.

National law exempts property used for educational, charitable and certain other purposes: e.g., land owned by museums. With one exception, it does not authorize exemptions or abatements based on the characteristics of the property owner.[113] The law also permits local governments to concede additional abatements. Because the effective rate on residential property is so low, such abatements would seem to be superfluous.

ANNEX P: HISTORY OF CHANGES IN LATVIAN TAX SYSTEM

1. Personal Income Tax and Social Security Contributions

[109] http://www.finanse.mf.gov.pl/pl/podatki-i-oplaty-lokalne/podatki-od-nieruchomosci

[110] http://www.um.warszawa.pl/zalatw-sprawe-w-urzedzie/artykuly-sprawy-urzedowe/podatek-od-nieruchomosci

[111] Land in designated redevelopment areas is assessed at a much higher rate: PLN 2.98 per square meter.

[112] Although the law permits municipal councils to differentiate the assessments on residential buildings to take into account the location, type of construction, condition and age of buildings, it is not clear that these provisions are used..

[113] The exemption applies to private plots owned by members of agricultural cooperatives who have reached retirement age, are disabled, or are otherwise unable to work on a farm or live independently.

		1994	1995	1996	1997	1998	1999	2000	2001	2002
Personal Income Tax										
Wage	**Tax rate**									
	low rate	25%	25%	25%	25%	25%	25%	25%	25%	25%
	top rate	10%	10%	10%	-	-	-	-	-	-
	income threshold for the second rate	5 691	5 122	85 372	-	-	-	-	-	-
Self employed			25%	25%	25%	25%	25%	25%	25%	25%
Social Security Contributions										
Wage		38.0%	38.0%	38.0%	37.0%	37.09%	37.09%	36.09%	35.09%	35.09%
	Employer's	37.0%	37.0%	37.0%33%	*28.0%*	*28.09%*	*28.09%*	*27.09%*	*26.09%*	*26.09%*
	Employee's	1.0%	1.0%	1.0%	*9.0%*	*9.0%*	9.0%	9.0%	9.0%	9.0%
	Cap (maximum celling)	-	-	-	17 074	17 074	19 920	21 343	22 766	24 616
Self employed						33.90%	33.82%	32.59%	32.10%	32.27%
	Minimum SSC income (annual)					717	768	768	683	683
	Minimum SSC income (monthly)					60	64	64	57	57

		2003	2004	2005	2006	2007	2008	2009	2010	2011
Personal Income Tax										
Wage	**Tax rate**									
	low rate	25%	25%	25%	25%	25%	25%	23%	26%	25%
	top rate	-	-	-	-	-	-	-	-	-
	income threshold for the second rate	-	-	-	-	-	-	-	-	-
Self employed		25%	25%	25%	25%	25%	15%	15%	26%	25%
Social Security Contributions										
Wage		33.09%	33.09%	33.09%	33.09%	33.09%	33.09%	33.09%	33.09%	35.09%
	Employer's	*24.09%*	*24.09%*	*24.09%*	*24.09%*	*24.09%*	*24.09%*	*24.09%*	*24.09%*	*24.09%*
	Employee's	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	11.0%
	Cap (maximum celling)	26 181	28 315	28 315	29 453	33 864	42 117	-	-	-
Self employed		30.27%	30.27%	30.50%	30.20%	29.95%	30.44%	30.48%	28.17%	31.52%
	Minimum SSC income (annual)	768	1 878	1 878	1 878	2 561	2 561	3 073	3 073	3 415
	Minimum SSC income (monthly)	64	157	157	157	213	213	256	256	285

		2012	2013	2014	2015	2016
Personal Income Tax						
Wage	**Tax rate**					
	low rate	25%	24%	24%	23%	23%
	top rate	-	-	-	-	
	income threshold for the second rate	-	-	-	-	
Self employed		25%	24%	24%	23%	23%
Social Security Contributions						
Wage		35.09%	35.09%	34.09%	34.09%	34.09%
	Employer's	*24.09%*	*24.09%*	*23.59%*	***23.59%***	***23.59%***
	Employee's	11.0%	11.0%	10.50%	10.50%	10.50%
	Cap (maximum celling)	-	-	46 400	48 600	48 600
Self employed		32.46%	32.17%	31.06%	30.58%	30.58%
	Minimum SSC income (annual)	3 415	3 415	3 840	4 320	4 440
	Minimum SSC income (monthly)	285	285	320	360	370

1. Non-taxable minimums, *euro per month*	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
1.1. Non-taxable minimum	36/ 32	32	32/ 36	30	30	30	30	30	30	30	30
1.2. Non-taxable minimum for pensioners	-	-	-	142	142	142	142	142	142	142	142
2. PIT allowances, *euro per month*											
2.1. Allowance for dependents	28/21	21	16/18	15	15	15	15	15	15	15	15
2.2. Tax relief for persons with disabilities:											
- Group I and II	28/21	21	32/ 36	36	36	36	36	36	36	36	36
- Group III	19/14	14	21/ 24	28	28	28	28	28	28	28	28
2.3. Tax relief for politically repressed persons and participants of the national resistance movement											
- if granted a pension	-	-	32/ 36	36	36	36	36	36	36	36	36
- if a pension not granted	-	-		65	65	65	65	65	65	65	65
3.1. Eligible expenses											
3.1. For education, *euro per year*	128	128	128	128	128	128	128	213	213	213	213
For medical services, *euro per year*	85	85	85	85	85	85	85				
3.2. Donations and gifts, *% of the annual taxable income***	100%	100%	20%	20%	20%	20%	20%	20%	20%	20%	20%
3.3. Contributions made, *% of the annual taxable income*											
- in private pension funds	-	-	-	100%	100%	100%	10%	10%	10%	10%	10%
- insurance premium payments in conformity with life insurance agreement (with accumulation of funds)	-	-	-	-	-	-	-	-	10%	10%	10%
- costs for purchase of investment certificates of the investment funds, if these certificates have been in the ownership of the taxpayer for at least 60 months	-	-	-	-	-	-	-	-	-	-	-

1. Non-taxable minimums, *euro per month*	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
1.1. Non-taxable minimum	37	46	71	114	128/50	50	64	64	64	75	75	Min 75, Max 100
1.2. Non-taxable minimum for pensioners	142	157/235	235	235	235	235	235	235	235	235	235	235
2. PIT allowances, *euro per month*												
2.1. Allowance for dependents	26	31	50	80	90	90	100	100	100/114	165	165	175
2.2. Tax relief for persons with disabilities:												
- Group I and II	36	54	85	137	154	154	154	154	154	154	154	154
- Group III	28	43	67	107	120	120	120	120	120	120	120	120
2.3. Tax relief for politically repressed persons and participants of the national resistance movement												
- if granted a pension	36	54	85	137	154	154	154	154	154	154	154	154
- if a pension not granted	65	100	157	250								
3.1. Eligible expenses												
3.1. For education, *euro per year*	213	213	213	213	427	213	213	213	213	213	213	215
For medical services, *euro per year*												
3.2. Donations and gifts, *% of the annual taxable income***	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
3.3. Contributions made, *% of the annual taxable income*												
- in private pension funds	10%	10%	20%	20%	20%	10%	10%	10%	10%	10%	10%	10%
- insurance premium payments in conformity with life insurance agreement (with accumulation of funds)	10%	10%	20%	20%	20%	10%	10%	10%	10%	10%	10%	10%
- costs for purchase of investment certificates of the investment funds, if these certificates have been in the ownership of the taxpayer for at least 60 months	-	-	20%	20%	20%	-	-	-	-	-	-	-

2. Value Added Tax

	2002	2003	2004	2005	2006	2007	2008	2009	2010
Value added tax	18%	18%	18%	18%	18%	18%	18%	21%	21%
Non-registered taxable persons VAT value (12 months)	14 231	14 231	14 231	14 231	14 231	14 231	14 231	14 231	14 231
Reduced rate, including:		9%	5%	5%	5%	5%	5%	10%	10%
1) Medical and pharmaceutical products			5%	5%	5%	5%	5%	10%	10%
2) Specialty products for infants		9%	5%	5%	5%	5%	5%	10%	10%
3) Educational and original literature								10%	10%
4) Periodical			5%	5%	5%	5%	5%	10%	10%
5) Transport of passengers				5%	5%	5%	5%	10%	10%
6) Heating for population					5%	5%	5%	10%	10%
7) Woodfuels for population						5%	5%	10%	10%
8) Hotel accommodation		9%	5%	5%	5%	5%	5%		10%
9) Books			5%	5%	5%	5%	5%		
10) veterinary medicines		9%	5%	5%	5%	5%	5%		
11) mass media		9%	5%	5%	5%	5%	5%		
12) water, sewage and waste disposal		9%	5%	5%	5%	5%	5%		
13) funeral services			5%	5%	5%	5%	5%		
14) film and sports event tickets			5%	5%	5%	5%	5%		
15) natural gas supply population					5%	5%	5%	10%	10%
16) electricity supply population					5%	5%	5%	10%	10%
17) renovation services for citizens						5%	5%		
18) hairdressing					5%	5%	5%		

	2011	2012	2013	2014	2015	2016
Value added tax	22%	22%/21%	21%	21%	21%	21%
Non-registered taxable persons VAT value (12 months)	49 801	49 801	49 801	50 000	50 000	50 000
Reduced rate, including:	12%	12%	12%	12%	12%	12%
1) Medical and pharmaceutical products	12%	12%	12%	12%	12%	12%
2) Specialty products for infants	12%	12%	12%	12%	12%	12%
3) Educational and original literature	12%	12%	12%	12%	12%	12%
4) Periodical	12%	12%	12%	12%	12%	12%
5) Transport of passengers	12%	12%	12%	12%	12%	12%
6) Heating for population	12%	12%	12%	12%	12%	12%
7) Woodfuels for population	12%	12%	12%	12%	12%	12%
8) Hotel accommodation	12%	12%	12%	12%	12%	12%
9) Books						
10) veterinary medicines						
11) mass media						
12) water, sewage and waste disposal						
13) funeral services						
14) film and sports event tickets						
15) natural gas supply population						
16) electricity supply population						
17) renovation services for citizens						
18) hairdressing						

3. Electricity tax and subsidized

	2007	2008	2009	2010	2011	2012
Electricity tax, EUR for MWh	0.50	0.64	0.78	1.01	1.01	1.01
Subsidized Electricity tax						
Electricity in the production of which fossil energy resources were used	-	-	-	-	-	-
Electricity in the production of which renewable energy resources were used	-	-	-	-	-	-
Stations that provide a centralized heat system and the subsidized electricity tax rate has a direct impact on the final heat tariff users	-	-	-	-	-	-

	2013	2014	2015	2016
Electricity tax, EUR for MWh	1.01	1.01	1.01	1.01
Subsidized Electricity tax				
Electricity in the production of which fossil energy resources were used	-	15%	15%	15%
Electricity in the production of which renewable energy resources were used	-	10%	10%	10%
Stations that provide a centralized heat system and the subsidized electricity tax rate has a direct impact on the final heat tariff users	-	5%	5%	5%

4. Real estate tax

	2007	2008	2009	2010	2011	2012	2013
Immovable Property Tax	1.5%	1.0%	1.0%	1.5%	1.5%	1.5%	0,2-3%
For land and buildings				1.5%	1.5%	1.5%	1.5%
Untidy property							>1,5%
Residential houses if cadastral value does not exceed EUR 56,915	-	-	-	0.1%	0.2%	0.2%	0.2%
Residential houses with cadastral value between EUR 56,915 and EUR 106,715	-	-	-	0.2%	0.4%	0.4%	0.4%
Residential houses with cadastral value above EUR 106,715	-	-	-	0.3%	0.6%	0.6%	0.6%

	2014	2015	2016
Immovable Property Tax	0,2-3%	0,2-3%	0,2-3%
For land and buildings	1.5%	1.5%	1.5%
Untidy property	>1,5%	>1,5%	>1,5%
Residential houses if cadastral value does not exceed EUR 56,915	0.2%	0.2%	0.2%
Residential houses with cadastral value between EUR 56,915 and EUR 106,715	0.4%	0.4%	0.4%
Residential houses with cadastral value above EUR 106,715	0.6%	0.6%	0.6%

5. Lottery and gambling tax

Lottery and gambling state duty										
Roulette, per year for each year	13 660	13 660	13 660	13 660	15 026	17 279	17 279	17 279	17 279	18 000
Cards and dice games, per year for each year	13 660	13 660	13 660	13 660	15 025	17 279	17 279	17 279	17 279	18 000
Slot machines, per year for each games machine site	2 390,42 / 3 244,15	3 390,42 / 3 244,15	2 390	2 390	2 732	3 142	3 142	3 142	3 142	3 204
The success of the game on the phone, % of income from the organization	10%	10%	15%	15%	15%	15%	15%	15%	15%	15%
Totalizator and betting, % of income from the organization	42686,15 +10%	42,686 +10%	15%	15%	15%	15%	15%	15%	15%	15%
Bingo, % of income from the organization	17 074,46— 51 233,39	17 074,46 - 51 223,39	10%	10%	10%	10%	10%	10%	10%	10%
Gambling using telecommunications, % of income from the organization	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Tax on lotteries and instant lotteries, % of ticket sales	8%	8%	10%	10%	10%	10%	10%	10%	10%	10%

6. Company car tax and vehicle exploitation tax

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Company Car Tax										
until 2000 cm^3	-	-	-	-	-	-	-	-	-	27.03
between 2001 cm^3 and 2500 cm^3	-	-	-	-	-	-	-	-	-	42.69
above 2500 cm^3	-	-	-	-	-	-	-	-	-	56.91
Electric Vehicle	-	-	-	-	-	-	-	-	-	42.69
Other company car	-	-	-	-	-	-	-	-	-	42.69
Vehicle exploitation tax (of gross weight per year for each year)										
For passenger car, if the car is not in Table1										
until 1500 kg	17.07	17.07	17.07	17.07	17.07	17.07	17.07	17.07	34.15	35.57
1501-1800 kg	34.15	34.15	34.15	34.15	34.15	34.15	34.15	34.15	68.3	75.41
1801-2100 kg	64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03	106.72	128.06
2101-2600 kg	76.84	76.84	76.84	76.84	76.84	76.84	76.84	76.84	135.17	162.21
2601-3000 kg	102.45	102.45	102.45	102.45	102.45	102.45	102.45	102.45	163.63	196.36
3001-3500 kg	102.45	102.45	102.45	102.45	102.45	102.45	102.45	102.45	163.63	226.24
above 3500 kg	110.98	110.98	110.98	110.98	110.98	110.98	110.98	110.98	213.43	256.12

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
For heavy goods vehicles										
until 1500 kg	17.07	17.07	17.07	17.07	17.07	17.07	17.07	17.07	17.07	17.07
1501-1800 kg	34.15	34.15	34.15	34.15	34.15	34.15	34.15	34.15	34.15	34.15
1801-2100 kg	64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03
2101-2600 kg	76.84	76.84	76.84	76.84	76.84	76.84	76.84	76.84	76..84	76.84
2601-3500 kg	102.45	102.45	102.45	102.45	102.45	102.45	102.45	102.45	102.45	102.45
3501-12000 kg	110.98	110.98	110.98	110.98	110.98	110.98	110.98	110.98	110.98	145.13

	2012				
Company Car Tax					
until 2000 cm^3	27.03	27.03	27.03	27.03	29.0
between 2001 cm^3 and 2500 cm^3	42.69	42.69	42.69	42.69	46.0
above 2500 cm^3	56.91	56.91	56.91	56.91	62.0
Electric Vehicle	42.69	42.69	42.69	42.69	10.0
Other company car	42.69	42.69	42.69	42.69	46.0
Vehicle exploitation tax (of gross weight per year for each year)					
For passenger car, if the car is not in Table1					
until 1500 kg	35.57	35.57	35.57	35.57	35.57
1501-1800 kg	75.41	75.41	75.41	75.41	75.41
1801-2100 kg	128.06	128.06	128.06	128.06	128.06
2101-2600 kg	162.21	162.21	162.21	162.21	162.21
2601-3000 kg	196.36	196.36	196.36	196.36	196.36
3001-3500 kg	226.24	226.24	226.24	226.24	226.24
above 3500 kg	256.12	256.12	256.12	256.12	256.12
For heavy goods vehicles					
until 1500 kg	17.07	17.07	17.07	17.07	36
1501-1800 kg	34.15	34.15	34.15	34.15	72
1801-2100 kg	64.03	64.03	64.03	64.03	138
2101-2600 kg	76.84	76.84	76.84	76.84	165
2601-3500 kg	102.45	102.45	102.45	102.45	219
3501-12000 kg	145.13	145.13	145.13	145.13	156

7. EXCISE DUTY

1. Energy products

	Petrol, *EUR per 1000 litres*				Gas Oil, *EUR per 1000 litres*				
	Unleaded			Leaded petrol					
Year	**without bio**	**+bio 5%[1]**	**+bio 85%[2]**		**without bio**	**+bio 5%-30%[3]**	**+bio at least 30%[4]**	**100% bio[5]**	**Used for agriculture**
2004 (From May-1)	247.58	234.77	-	362.83	210.59	200.62	147.98	0	-
2005	273.19	258.96	-	399.83	233.35	220.55	162.21	0	-
2006	273.19	258.96	-	399.83	233.35	220.55	162.21	0	-
2007	297.38	283.15	44.82 From Jul-1	418.32	253.27	241.89	177.86	0	-
2008	324.41	308.76	16,22-97,32	422.59	274.61	261.81	193.51	0	-
2009 (From Feb-1)	382.75	364.26	19,14-114,83	426.86	332.95	317.3	233.35	0	-
2010	382.75	364.26	114.83	426.86	332.95	317.3	233.35	0	-
2011	411.21 From Jun-1	382.75 411.21 From Jun-1	123.36 From Jun-1	455.32 From Jun-1	332.95	332.95	233.35	0	-
2012	411.21	411.21	123.36	455.32	332.95	332.95	233.35	0	-
2013	411.21	411.21	123.36	455.32	332.95	332.95	233.35	0	-
2014	411.21	411.21	123.36	455.32	332.95	332.95	233.35	0	-
2015	411.21	411.21	123.36	455.32	332.95	332.95	332.95	0	50 From Jul-1
2016	436	436	131	455.32	341	341	341	0	50

Year	Kerosene and light fuel oil[6], *EUR per 1000 litres*	Heavy fuel oil[7], *EUR per 1000 kilogram*	Liquefied petroleum gas (LPG)[8], *EUR per 1000 kilogram*	Labelled fuel[9], *EUR per 1000 litres*	
				without bio	+bio 5[10]
2004 (From May-1)	210.59	12.81	108.14	18.5	-
2005	233.35	14.23	118.1	19.92	-
2006	233.35	14.23	118.1	19.92	-
2007	253.27	15.65	123.79	21.34	-
2008	274.61	15.65	123.79	21.34	-
2009 (From Feb-1)	332.95	15.65	128.06	21.34	-
2010	332.95	15.65	128.06	56.91	21.34
				From Jul-1	From Jul-1
2011	332.95	15.65	128.06	56.91	21.34
2012	332.95	15.65	128.06	56.91	21.34
2013	332.95	15.65	128.06	56.91	21.34
2014	332.95	15.65	161	56.91	21.34
2015	332.95	15.65	161	56.91	21.34
2016	341	15.65	206	56.91	21.34

2. Alcoholic beverages

Date	Wine	Other still fermented beverages, >6% vol.	Other still fermented beverages, ≤ 6% vol.	Intermediate products, till 15 %	Intermediate products, > 15 till 22 % vol.	Other alcoholic beverages	Beer[1]
	EUR per 100 litres					per hectolitre	EUR per hl/degree of alcohol
From May-1, 2004	42.69	42.69		59.76	99.6	782.58	1.742
from Jan-1, 2006	42.69	43.69		59.76	99.6	896.41	1.852
From Feb-1, 2009	56.91	56.91		59.76	99.6	1173.87	2.063
From Jul-1, 2009	56.91	56.91		59.76	99.6	1266.36	3.1
From Feb-1, 2010	64.03	64.03		64.03	99.6	1266.36	3.1
From, Jun-1, 2011	64.03	64.03		64.03	99.6	1337.5	3.1
From Jan-1, 2014	64.03	64.03		64.03	99.6	1337.5	3.1

from Aug-1, 2015	70	70	64	70	110	1360	3.8
From Mar-1, 2016	74	74	64	74	120	1400	4.2
From Mar-1, 2017	78	78	64	78	130	1450	4.5
From Mar-1, 2018	82	82	64	82	135	1500	4.8

3. Tabacco

Year	Cigarettes		Cigars and Cigarillos, *EUR per 1000 pieces*	Fine Cut Smoking Tobacco, *EUR per 1000 grams*	
	Specific excise, *EUR per 1000 cigarettes*	*Ad valorem* excise, *as % of TIRSP*		Finely sliced	Other
2004	9.0	10.0%	15.7	23.6	16.2
				27 (From May-1)	18.5(From May-1)
				29.9(From Jul-1)	
2005	9.8	10.5%	15.7	29.9	18.5
2006	10.8	14.8%	15.7	29.9	19.9
2007	12	19.2%	15.7	32.7	19.9
	(From Jan-1)	(From Jan-1)			
	14.2	25.0%			
	(From Jul-1)	(From Jul-1)			
2008	25.3	32.2%	15.7	32.7	19.9
2009	32	34.5%	15.7	32.7	19.9
				32,7 (From Feb-1)	
2010	32	34.5%	15.7	32.7	
	but not less than 68.30 EUR per 1000 cigarettes				
2011	35.6	34%	34.1 (From Jan-1)	41.3 (From Jan-1)	
	but not less than 73.99 EUR per 1000 cigarettes		37 (From Jul-1)	48.4 (From Jul-1)	
2012	35.6	34%	37	48.4	
2013	35.6	34%	37	48.4	
2014	39.8	33.5%	39.8	55.5	
	but not less than 79.68 EUR per 1000 cigarettes (From Jan-1)				
	51.8	25.0%			
	but not less than 85,6 EUR per 1000 cigarettes (From Jul-1)				
2015	54.2	25.0%	39.8	55.5 (*including tobacco leaves)*	
	but not less than 89.80 EUR per 1000 cigarettes (From Jul-1)				

Year	Cigarettes		Cigars and Cigarillos, *EUR per 1000 pieces*	Fine Cut Smoking Tobacco, *EUR per 1000 grams*	
	Specific excise, *EUR per 1000 cigarettes*	*Ad valorem* excise, *as % of TIRSP*		Finely sliced	Other
2016	56.2	25.0%	42.7	58 (*including tobacco leaves)*	
	but not less than 93.7 EUR per 1000 cigarettes (From Jul-1)				
2017	58.2	25.0%	42.7	60 (*including tobacco leaves)*	
	but not less than 97 EUR per 1000 cigarettes (From Jul-1)				
2018	60	25.0%	45	62 (*including tobacco leaves)*	
	but not less than 100 EUR per 1000 cigarettes (From Jul-1)				

4. Natural gas

Usage	From Jul-1, 2010 till August 31, 2010	From Sep-1, 2010 till Jun-30, 2011	From Jul-1, 2011	From Jan-1, 2014
As a fuel, *EUR per 1000 m³*	99.6	-	99.6	99.6
As a heating fuel, *EUR per 1000 m³*	22.2	-	17.07	17.07
As a fuel for industrial production and processing of agricultural raw materials processes, *EUR per 1000 m³*	-	-	-	5.65

5. Coffee and sweet drinks

Products	From May-1, 2004 till Jan 31, 2009	From Feb-1, 2009 till Dec-31, 2010	From Jan-1, 2011
Coffee, *EUR per 100 kg*	71.14	142.29	142.29
Sweet soft drinks, *EUR per 100 litres*	2.85	5.69	7.4

(Footnotes)

1 We ignore income effects for top income earners here, since these are generally considered small and have not often been estimated (Saez et al., 2012).

2 This estimate should be interpreted with caution and can be revised when micro-data become available.

3 The Pareto distribution is characterized by $1 - F(y) = \eta\alpha^{y-\alpha}$. Taking logs from both sides yields $\ln(1 - F(y)) = \alpha\ln(\eta) - \alpha\ln(y)$. Consequently, the Pareto parameter α is (minus) the slope of a regression of $\ln(y)$ on $\ln(1 - F(y))$.

4 When we estimate the Pareto parameter using the P80-P99 percentile ratios, the Pareto parameter drops to 3.1.

5 Indirect taxes should be added to the EMTR since also indirect taxes lower the price of leisure or non-work activities in terms of consumption. The EMTR including indirect taxes is calculated as: EMTR = (direct tax + indirect tax)/(1 + indirect tax).