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OVERVIEW

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BETTER POLICIES FOR BETTER LIVES

Executive summary

- *Main findings*
- *Key recommendations*

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Main findings

Estonia experienced strong growth of loan-financed domestic demand after EU accession in 2004, followed by the burst of the real estate bubble and the international financial crisis. The economy recovered quickly. Regulatory settings are generally favourable to sustain growth and the government is initiating further substantial structural reforms. The fiscal position is strong and macroprudential policies have been strengthened. However, in recent years economic growth has slowed, in part due to weak external demand. Real GDP per capita is still lower than in the boom peak of 2007. The productivity gap with respect to high-income countries is currently diminishing only slowly. Skill mismatches contribute to structural unemployment and emigration is reducing labour supply. At unchanged policies higher income growth will tend to raise greenhouse gas emissions, which are among the highest in the OECD in relation to GDP. Key challenges for Estonia are therefore to raise productivity growth, including by making the most of human capital, while containing greenhouse gas emissions.

Policies to raise productivity growth sustainably. Estonia boasts an innovative ICT services sector and strong business creation. Nonetheless, exports are concentrated in low and medium technological goods and FDI inflows in high value added activities have been small. While R&D spending has risen and reforms have improved the effectiveness of innovation policy, too few firms collaborate with research institutions. Transport infrastructure has been upgraded, but bottlenecks are still holding back private sector development. Corporate bankruptcy procedures are long, raising exit costs on entrepreneurs and uncertainty for creditors.

Reducing CO_2 emissions and energy consumption. Low energy efficiency contributes to high CO_2 emissions. Ambitious emission reduction targets are expected beyond 2020 in the context of targets set by the European Union and the economy is vulnerable to rising carbon prices in the European Union's emission trading system. Implicit tax rates per tonne of CO_2 are low on average and vary across energy sources and uses.

Making the most of human capital. Despite measures to lower income taxes and social security contributions, high labour taxation is holding back domestic labour utilisation. Important examples are the high contribution rates in the compulsory private pension scheme and generous special occupational early retirement schemes which have to be paid for with high taxes. While substantial reforms have improved the quality of vocational education, workplace-based upper secondary education is underdeveloped.

Using fiscal policy to raise sustained productivity growth. Government debt is very low and the government budget has been close to balance structurally in recent years. The government plans structurally balanced budgets or surpluses which will lead to the accumulation of financial assets. In a small and volatile economy like Estonia's a strong fiscal position is prudent. At the same time a catching-up economy like Estonia has high public spending needs to sustain productivity growth and ensure equity. There are gaps in the provision of active labour market policies and in infrastructure as well as in continued education and access to vocational education.

Key recommendations

Policies to raise productivity growth sustainably

- To strengthen knowledge transfers to domestic firms, promote applied research and improve collaboration with domestic and foreign institutions conducting applied research.
- Implement plans to expand access to European transport networks and energy supply facilities. Improve inter-modal transport connections.
- Shorten corporate insolvency procedures and improve their efficiency, for example by strengthening the use of expertise.

Reducing CO_2 emissions and energy consumption

- Gradually align and raise tax rates on energy sources according to their CO_2 emission content.
- Strengthen incentives for operators of heating networks to improve efficiency. Strengthen incentives to invest in energy efficiency of buildings.

Making the most of human capital

- Further reduce the taxation of labour earnings, in particular of low earnings. Raise more revenues from the taxation of real estate by removing exemptions and by evaluating property according to market values.
- In the compulsory private pension system, reduce costs born by workers, in particular marketing expenses. In the public pension system, phase out special occupational and sectoral pension regimes.
- Introduce a tax-free lower minimum wage for apprenticeships, improve financial support for students in vocational education and strengthen collaboration of businesses and schools at the local level.

Using fiscal policy to improve long-term growth prospects

- Create budgetary room to raise spending on active labour market policies, infrastructure and education, as well as to lower labour taxes. To this end, improve spending efficiency and prioritisation and phase out tax exemptions, notably the deductibility of mortgage interest payments. In the longer-term consider allowing a small deficit in the government budget rule.

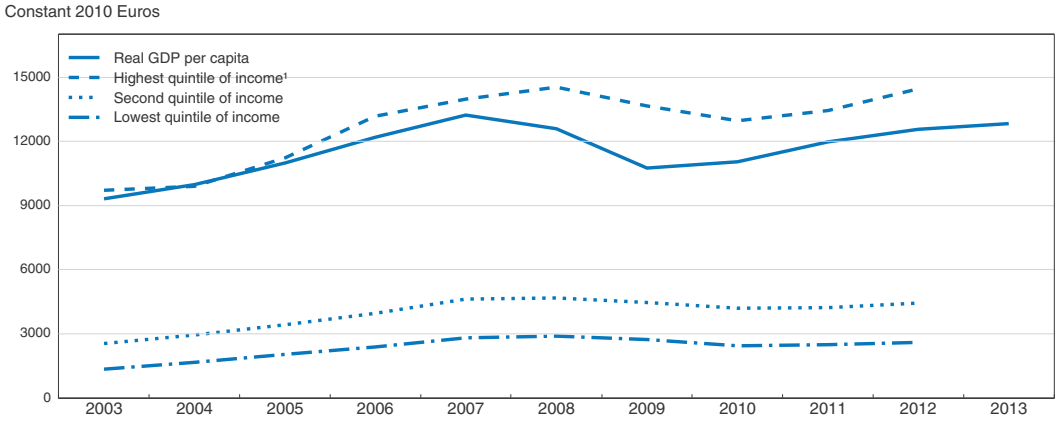
Assessment and recommendations

- *Domestic framework conditions are favourable but reforms are needed to accelerate convergence*
- *Weakening exports have detracted from economic growth*
- *Domestic financial risks are low*
- *The fiscal position is strong*
- *Raising productivity and benefitting more from openness*
- *Reducing CO_2 emissions and energy consumption*
- *Making the most of human capital*

Domestic framework conditions are favourable but reforms are needed to accelerate convergence

The Estonian economy experienced a sharp contraction of output in the context of the global financial crisis in 2008 and 2009, deepened by a domestic credit-based boom-bust cycle in the construction sector and reinforced by procyclical fiscal policy (Economic Surveys of Estonia 2011, 2012). Real GDP per capita and household incomes fell markedly (Figure 1). In the following years, the economy recovered quickly, led by exports. The banks, mostly owned by Scandinavian financial groups little affected by the global financial crisis, cleaned up their balance sheets rapidly which helped restore access to credit. Private sector indebtedness fell to sustainable levels. A very strong fiscal position also helped restore financial market confidence. However, economic growth started slowing in 2012 mainly due to weaker exports. Real per capita GDP and household incomes remain below the peak of the preceding boom. Moreover, poor households have barely benefited from the post-crisis recovery since 2010.

Figure 1. **GDP per capita and real household income[1] by income quintile**



1. Equalised disposable income. Deflated with harmonised consumer price index.
Source: Statistics Estonia, Eurostat and OECD MEI Database.

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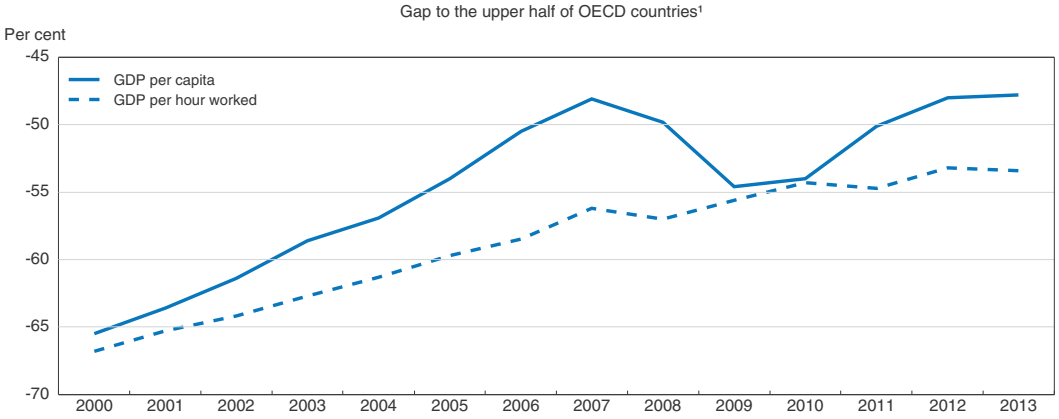
The gap in labour productivity compared with the top OECD economies is large and has narrowed only slowly (Figure 2), despite the downsizing of low-productivity construction activity. Energy efficiency of production is among the lowest and CO_2 emissions per capita among the highest in the OECD, which calls the sustainability of GDP growth into question. Unemployment has fallen, but skill mismatches keep structural unemployment high. Net emigration and cross-border work have reduced labour supply.

According to OECD wellbeing indicators, Estonia lags behind with respect to subjective life satisfaction as well as household disposable income and health indicators (Figure 3).

Figure 2. **Convergence in GDP per capita and productivity**



1. Percentage gap with respect to the simple average of the highest 17 OECD countries in terms of GDP per capita, GDP per hour worked (in constant 2005 PPPs).

Source: OECD National Accounts Database and OECD Productivity Databases.

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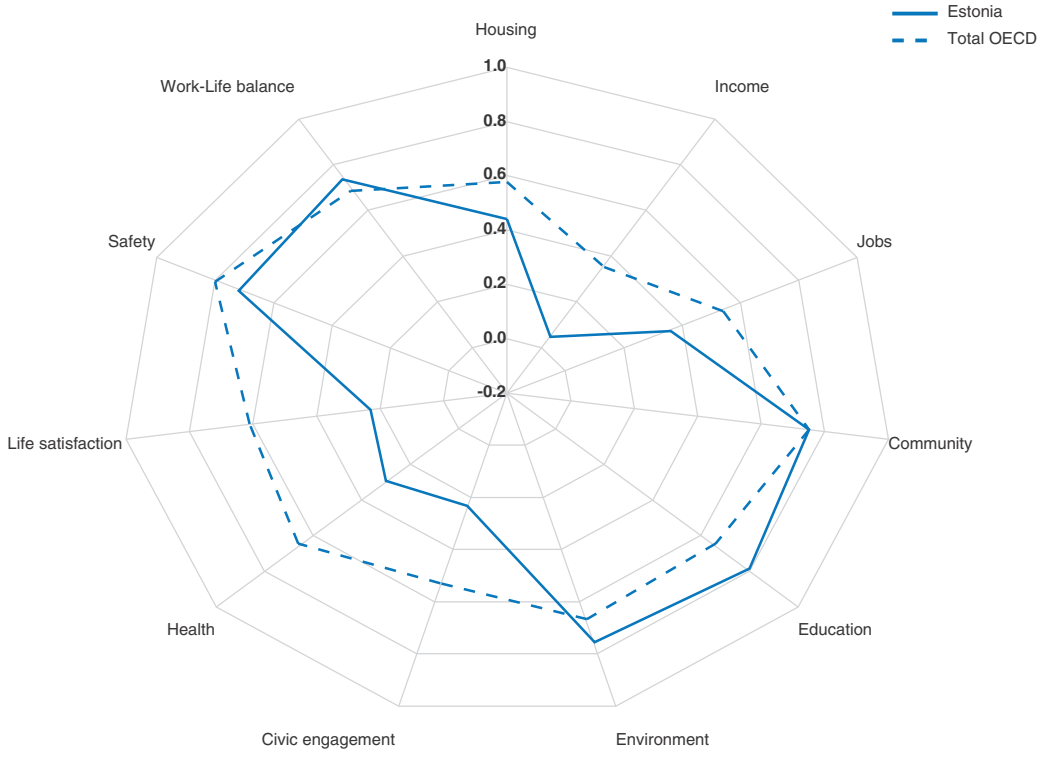
Figure 3. **Average well-being outcomes[1], 2014**



1. Each well-being dimension is measured by one to three indicators from the OECD Better life Indicator set. Indicators are normalised to range between 1 (best) and 0 according to the following formula: (indicator value-minimum value)/(maximum value/minimum value).

Source: OECD Better Life Index Database.

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Despite improvement in recent years, life expectancy remains lower than in most OECD countries and health spending is modest. Unhealthy life styles, in part reflecting high alcohol and tobacco consumption, contribute to low life expectancy (*Economic Survey* of Estonia 2012, OECD, 2012).

As pointed out in the 2012 *Economic Survey* of Estonia (OECD, 2012), framework conditions are in many ways conducive to sustained economic expansion. Product and labour market regulation are business-friendly and are backed up by an effective public administration, transparent governance and efficient law enforcement. Low and simple corporate taxation supports entrepreneurship; a solid banking sector and the strong fiscal position support growth. According to PISA results, literacy, numeracy and science competences among Estonian youth are among the strongest in the OECD. Numeracy and literacy skills of the adult population are also above average (OECD, 2013d).

Further reforms are needed to improve medium-term economic growth prospects, making the most of Estonia's position as a small, highly open economy:

- To raise productivity, innovation policies need to improve the transfer of knowledge to Estonian firms. Remaining barriers to entry in some services should be removed. Infrastructure gaps need to be closed and energy efficiency improved.
- To raise labour utilisation, the tax and contribution system needs to become more employment friendly. Further reforms of vocational education can help match skills better to labour market needs.

In most of these policy areas, the Estonian government has taken substantial steps in the right direction. These issues are discussed below.

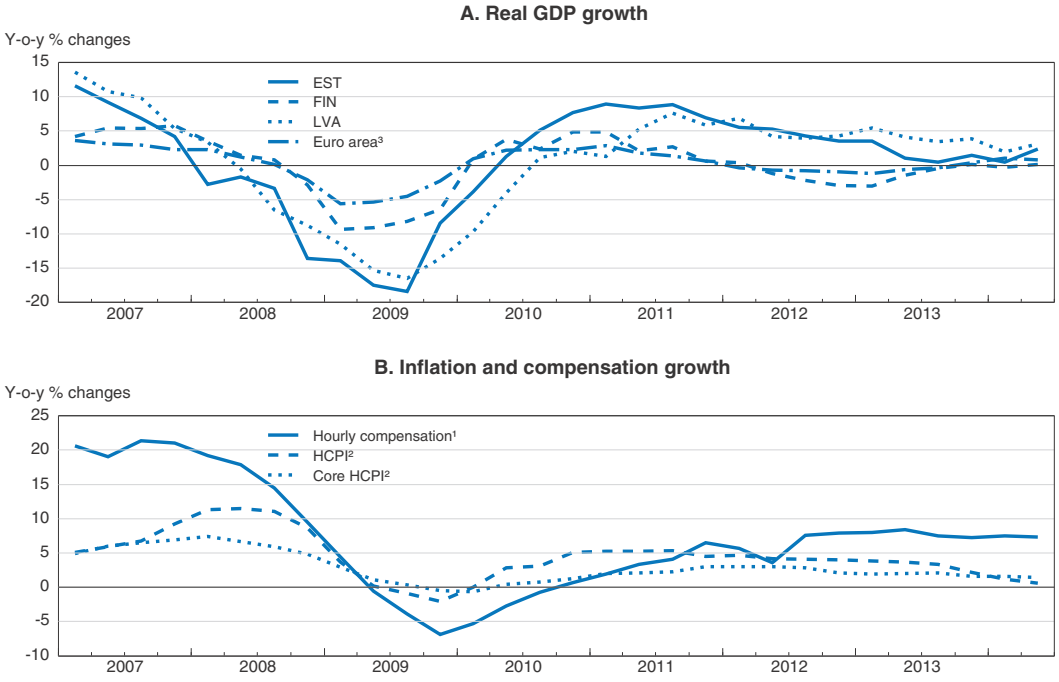
Weakening exports have detracted from economic growth

Real GDP growth slowed to 1.6% in 2013 as exports decelerated (Figure 4). Declining activity in Finland and Russia as well as the slow recovery in the euro area have contributed to weaker export demand. Public infrastructure investment also declined. However, private consumption growth was strong, fuelled by real wage gains, even though unemployment remained above 8% in 2013. GDP growth strengthened in the first half of 2014, and unemployment fell further, although export growth recovered little.

Skill shortages contribute to wage pressure, especially in skill-intensive sectors (Eesti Pank, 2014a, b). More than 10% of firms report skill shortages as the most relevant factor constraining output (Eesti Pank, 2014a). The most skilled workers have by far the lowest unemployment rates (Figure 5). Wage growth has been particularly strong in the innovative ICT services sector (Eesti Pank, 2014b), where vacancy rates are high and where Estonia has developed a marked comparative advantage. Emigration mostly of young, employed workers, has contributed substantially to falling labour supply (Figure 6), thereby also contributing to wage pressure.

Export market performance has evolved satisfactorily over the past 10 years (Figure 7). Market shares of Estonian gross exports appear to have grown broadly in line in central eastern European economies (Figure 7, Panel A). Moreover, the domestic value-added content of exports rose markedly between 2005 and 2009 (Figure 7, Panel B). However, strong wage and subdued productivity growth have pushed up unit labour costs markedly since 2011, weakening export competitiveness (Figure 7, Panel C). The share of firms reporting worsening competitiveness in business surveys has also been growing

Figure 4. **Output, labour costs and consumer prices**



1. Working-days adjusted nominal labour costs for the industry, construction and services except activities of households as employers and extra-territorial organisations and bodies.
2. Harmonised consumer price index (2005=100). Core HCPI excludes energy, food, alcohol and tobacco.
3. OECD euro area of fifteen.

Source: OECD Economic Outlook Database and Eurostat.

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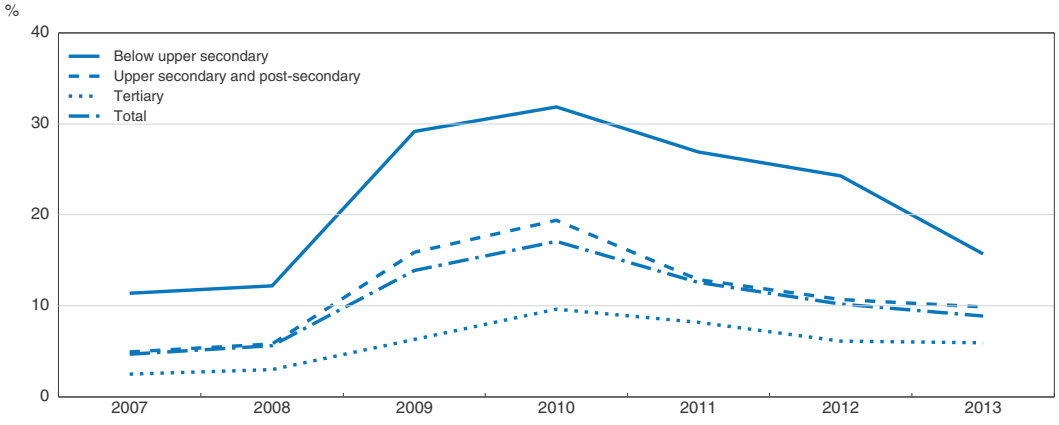
Figure 5. **Unemployment rates by educational level**



Source: Eurostat.

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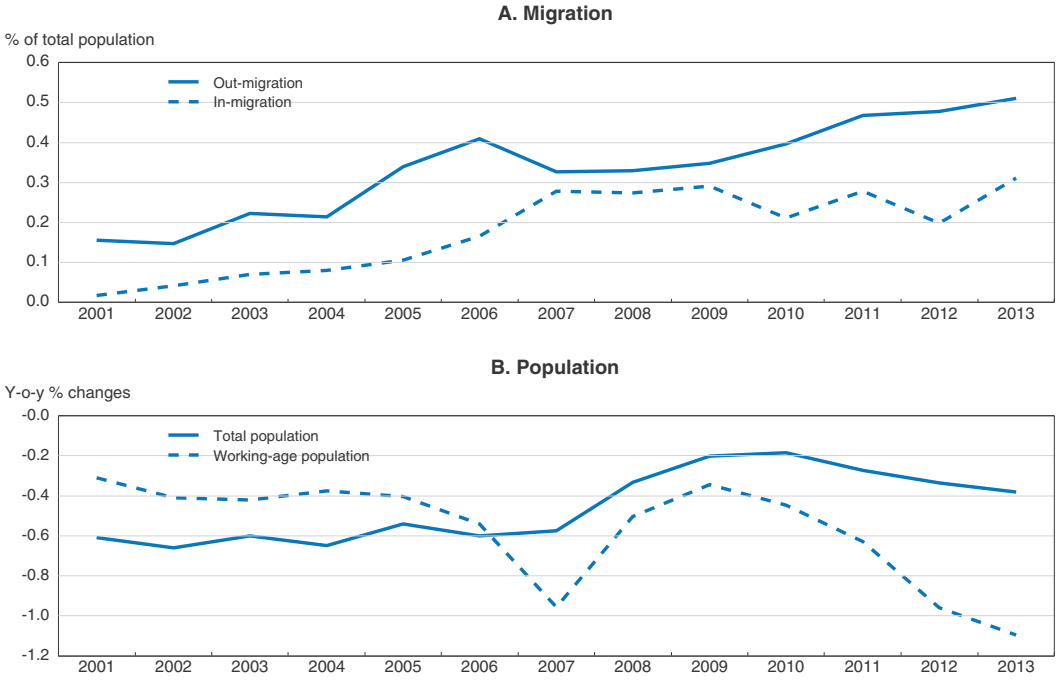
Figure 6. **Migration and population trends**



Source: Statistics Estonia.

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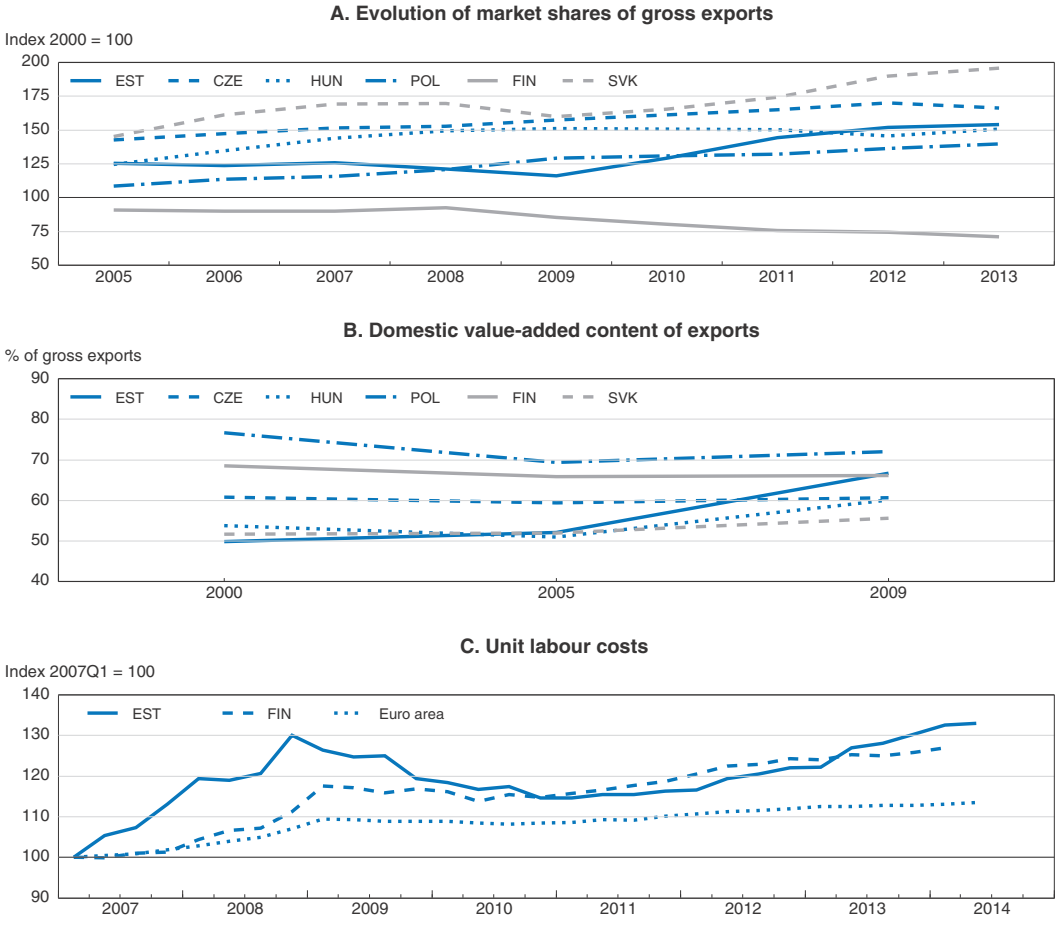
substantially recently, although a majority of firms still report improving competitiveness (Eesti Pank, 2014a).

Wage growth is expected to continue boosting private household consumption. Exports will be held back by continued weaknesses of some of Estonia's main trading partners, notably Finland and Russia, which, respectively, account for 16% and 11% of Estonia's exports. The current account balance is therefore expected to deteriorate slightly. Unemployment will continue to fall but employment gains are expected to be modest, as the population of working age is expected to continue declining.

Downward risks to the outlook remain. Economic activity may be weaker than projected in some of Estonia's main trading partners, with particular uncertainty attached to events in Ukraine. While the weight of exports to Russia seems to be modest in value-added terms, the economic slowdown in Russia and the geopolitical crisis could have marked effects on investor confidence. Weak growth in the euro area and other parts of the world would also affect the Estonian economy negatively. An ongoing decline of competitiveness of the Estonian economy could harm growth prospects. Outmigration of young Estonians risks undermining the supply side of the labour market, which could reduce the potential growth rate.

Figure 7. **Export performance and competitiveness**



Source: OECD Economic Outlook Database, OECD-WTO Trade in Value Added (TiVA) Database (May 2013) and OECD Unit Labour Costs Database.

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Domestic financial risks are low

The non-performing loan ratio has fallen to 1.5% and exposure of financial intermediaries to Russia and Ukraine is low (Eesti Pank, 2014c). High profitability has allowed banks, mostly branches and subsidiaries of Nordic banking groups, to build up strong capital buffers with tier I capital of 16% of total assets on average.

Despite low interest rates, lending to the private non-financial sector has been moderate. At the same time indebtedness of the corporate and household sectors have fallen to moderate levels (Figure 8). Lending to manufacturing and to the primary sector has expanded, but lending for commercial real estate, which is typically particularly risk-prone, has declined. Mortgage lending growth for housing purposes is low. Real house prices have recovered somewhat but are well below the pre-crisis peak and are now rising only modestly.

While no financial risks result from the housing market at present, persistently low long-term interest rates could result in the re-emergence of risks in the domestic housing market. In convergence economies within the euro area, like Estonia, higher inflation is

Table 1. **Macroeconomic indicators and projections**

Annual percentage change, volume (2010 prices)

	2011 Current prices (EUR billion)	2012	2013	2014	2015	2016
Gross domestic product (GDP)	16	4.7	1.6	2.0	2.4	3.4
Private consumption	8	5.1	3.8	3.7	3.8	4.2
Government consumption	3	3.3	2.8	0.4	1.2	1.7
Gross fixed capital formation	4	10.4	2.5	2.1	2.2	4.8
Housing	0.5	15.2	6.9	7.1	2.3	4.8
Final domestic demand	16	6.2	3.2	2.6	2.9	3.9
Stockbuilding[1]	0.2	-1.4	-2.3	1.5	0.2	0.0
Total domestic demand	16	5.2	1.3	4.1	3.1	3.9
Exports of goods and services	14	8.3	2.6	2.7	3.3	4.5
Imports of goods and services	14	12.2	3.1	1.8	3.4	5.1
Net exports[1]	1	-2.9	-0.5	0.8	0.0	-0.4
Other indicators (growth rates, unless specified)						
Potential GDP	..	2.3	2.4	2.5	2.7	3.1
Output gap[2]	..	-1.0	-1.8	-2.2	-2.5	-2.1
Employment	..	2.0	0.8	0.8	0.5	0.3
Unemployment rate[3]	..	10.0	8.6	7.4	7.0	6.6
GDP deflator	..	2.7	4.5	1.7	1.6	2.0
Harmonised index of consumer prices	..	4.2	3.2	0.5	0.9	1.7
Core harmonised index of consumer prices	..	2.8	1.9	1.4	1.4	2.0
Household saving ratio, net[4]	..	-1.1	-3.6	0.7	2.8	2.4
Current account balance[5]	..	-2.1	-1.4	0.1	0.0	-0.2
General government financial balance[5]	..	-0.3	-0.5	-0.3	-0.3	-0.2
Underlying government financial balance[2]	..	0.9	0.0	0.3	0.3	0.4
Underlying government primary balance[2]	..	0.8	0.0	0.2	0.2	0.3
Government gross debt (Maastricht)[5]	1	9.7	10.1	9.5	8.8	8.0
Government gross debt[5]	2	13.2	13.5	12.9	12.2	11.4
Government net assets[5]	6	32.7	32.2	30.7	29.2	27.5
Three-month money market rate, average	..	0.6	0.2	0.2	0.1	0.1

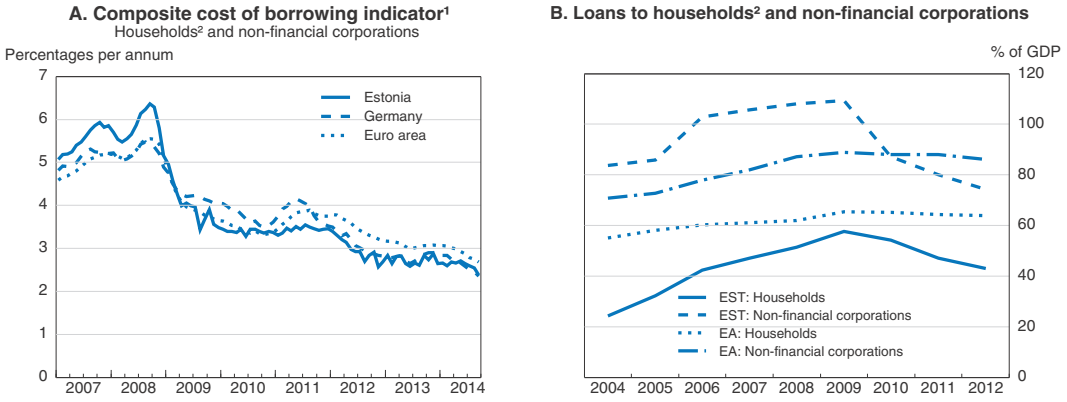
1. Contribution to changes in real GDP.
2. As a percentage of potential GDP.
3. As a percentage of the labour force.
4. As a percentage of household disposable income.
5. As a percentage of GDP.

Source: OECD Economic Outlook Database; OECD calculations; and secretariat projections.

likely to push real interest rates to particularly low levels when economic growth strengthens, which might contribute to a propitious environment for bubbles to develop. Since Estonia allows mortgage equity withdrawal for the purposes of private consumption, it is particularly important that the government end the favourable tax treatment of household borrowing for the acquisition of housing (see below).

A new macroprudential policy framework, established in 2014, is timely. It allows the Estonian central bank to take action, for example, if low interest rates result in excessive lending. The designation of the central bank as the macroprudential authority is appropriate, because it possesses both macroeconomic and financial competence (Goodhart, 2011). Eesti Pank has powers to impose additional macroprudential capital requirements, including time-variant capital buffers or limits to loan-to-income or loan-to-value ratios (IMF, 2014). It has already decided to limit housing loan values to 85% of the value of the collateral at the beginning of 2015. It has also decided to impose a systemic risk common equity capital buffer of 2% of risk-weighted assets on the large banks which

Figure 8. **Financial indicators**



1. Compiled using four categories of bank lending rates: short- and long-term lending rates to non-financial corporations and to households for house purchase, respectively.
2. Non-profit institutions serving households are included in the households sector.

Source: ECB and Eurostat.

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operate most of the lending business in Estonia. Larger capital buffers can help damp shocks, to which Estonia's small economy has been particularly vulnerable. Cross-border cooperation in banking supervision has also been strengthened, in part as a result of the introduction of common rules for the regulation of banks in the European Union as well as the euro area single supervisory mechanism.

The fiscal position is strong

The general government balance was in a small deficit in 2013. Government investment spending fell by 1% of GDP, reflecting the decline in spending of one-off revenues from the sale of Estonian CO_2 emission permits abroad, which have been earmarked to energy-saving public investment projects. This resulted in a procyclical impact. The fiscal policy stance is broadly neutral in 2014 and 2015. Tax cuts as well as higher spending on child and means-tested family cash benefits and on free school meals in 2015 are offset by some broadening of the VAT tax base as well as higher tobacco and alcohol taxes.

The sustainability of the government's financial position is strong. Its gross debt amounts to 13% of GDP and its net financial asset position to about 30% of GDP. The catch-up potential of the economy is likely to result in substantial nominal GDP growth in years to come, despite demographic ageing, further limiting the burden of outstanding government debt in the future. The impact of demographic ageing on projected social spending will be manageable as public spending on pensions is projected to remain stable at around 8% of GDP.

A new rule requires the central government to maintain a balanced budget in structural terms. It could help reduce the marked procyclical fiscal stance observed in the past, when governments targeted budget surpluses in headline terms, as noted in past Economic Surveys of Estonia (OECD, 2011b, 2012). The government aims to go beyond the rule and targets a structural surplus in order to create some margin with respect to the rule for the medium term. Local governments and public enterprises may run a deficit of at most 30% of their operating revenues, but only if they have liquid financial assets to finance such a deficit.

Maintaining budget surpluses would eventually result in the elimination of all government debt and a continuous increase in government assets. This could be costly, in that so far the central government's financial assets have earned little real return (National Audit Office of Estonia, 2013a). For instance, according to OECD long-term economic projections, maintaining a budget surplus of 0.5% of GDP would result in all government debt disappearing by 2030. The government asset position would converge to about 10% of GDP and continue growing in line with nominal GDP. Viewing the same issue differently, a budget deficit of 0.5% a year would free up funds for needed spending and result in the debt converging to only 12.5% of GDP, assuming trend nominal GDP growth of 4% a year.

Several medium-term spending priorities need to be met, a task that will be made more difficult as EU transfers, now 4% of GDP, diminish as expected after 2020. Increasing spending on well-targeted active labour market policies, which is low in international comparison, was a key recommendation of the 2012 *Economic Survey* of Estonia (OECD, 2012). The Survey also concluded that public funding is needed to improve financial incentives of employers to invest in lifelong learning, especially among low-educated and older workers and employees in small businesses. Improving life-long learning also is a priority for the government, which has taken steps to improve framework conditions. There are also spending needs to support students in vocational education as well as to address remaining bottlenecks in infrastructure (see below). The World Health Organisation (2008) noted a lack of human resources in health care. The government has already taken steps to improve the supply of ambulatory care and has stepped up efforts to promote prevention of health risks. Child poverty could be alleviated more effectively. Families need to apply for income-tested child benefits every three months and only 19% of entitled families did so before the recent increase, reflecting cumbersome application procedures. Government funding is also needed to encourage steps to move to a low carbon-emission economy. Lowering the labour tax wedge would also help boost economic growth (see below).

Improving spending efficiency and prioritisation as well as eliminating exemptions in personal income taxation would create some room for raising priority spending and for lowering the labour tax wedge. The deductibility of mortgage payments from personal income tax, in particular, lowers revenues, harms economic efficiency and mostly benefits high-income households. It has a budgetary cost of 0.1% of GDP. In the longer term budgetary rules could make room for a somewhat easier medium-term fiscal stance. It should be used to finance spending which has a higher rate of return than the interest rate the central government earns on its financial assets or the interest rate it pays on government debt. This is likely to be the case for the spending priorities noted above. A somewhat less stringent target for the budget balance would also be consistent with fiscal policy requirements in the European Union.

Recommendations on fiscal policy

- Create budgetary room to raise spending on active labour market policies, infrastructure and education, as well as to lower labour taxes. To this end, improve spending efficiency and prioritisation and phase out tax exemptions, notably the deductibility of mortgage interest payments. In the longer-term consider allowing a small deficit in the government budget rule.

Raising productivity and benefitting more from openness

Estonia is more open than most other countries, with exports and imports each amounting to roughly 90% of GDP. Estonia can do more to revitalise productivity growth and reap more benefits from its openness. A considerable potential for transfer of knowledge lies in foreign direct investment (OECD, 2008), especially for a small economy with a large productivity gap, such as Estonia. Inward foreign direct investment in manufacturing has been low in the last ten years. Manufacturing is concentrated on low-value added production (OECD, 2012; Masso et al., 2010). Collaboration between domestic and foreign firms seems to produce limited effects in terms of transfer of knowledge to Estonia and economic growth (European Research Area Committee, 2012; National Audit Office of Estonia, 2013a). Collaboration of firms with research institutions is low, further limiting transfer of knowledge (European Commission, 2014; European Commission, 2013a; European Research Area Committee, 2012). Continued reform efforts are needed to make innovation policies more effective; remove remaining barriers to entrepreneurship; and upgrade infrastructure, as discussed below.

Reaping more benefits from innovation

R&D spending in Estonia has increased considerably in recent years, reaching 2.2% of GDP in 2012. This increase may well result in improved productivity and competitiveness in the future (Andrews and Westmore, 2014). However, the economic impact of the Estonian R&D system has so far been limited (European Commission, 2013a; National Audit Office of Estonia, 2013a), which has prompted reforms by the government. For example, exports of medium and high-tech products; license and patent revenues from selling technologies; and sales of new products are still low (European Commission, 2014).

Important steps have been recently taken to improve the effectiveness of public innovation support. Estonia has developed a smart specialisation strategy which can be a useful policy framework for innovation-driven growth. It combines industrial, educational and innovation policies and rests on an interactive bottom-up approach involving all stakeholders (MER/MEAC, 2014). Moreover, responsibilities for R&D policies have been clarified and coordination across ministries has been strengthened. Considerable efforts have been made in recent years to improve evaluation of innovation policies (OECD, 2013a). Their effective design and implementation requires constant experimentation, monitoring and adaptation (OECD/WB, 2014). Therefore, evaluation should already be incorporated at the design stage. Pilot projects have proven particularly useful (Andrews and Criscuolo, 2013).

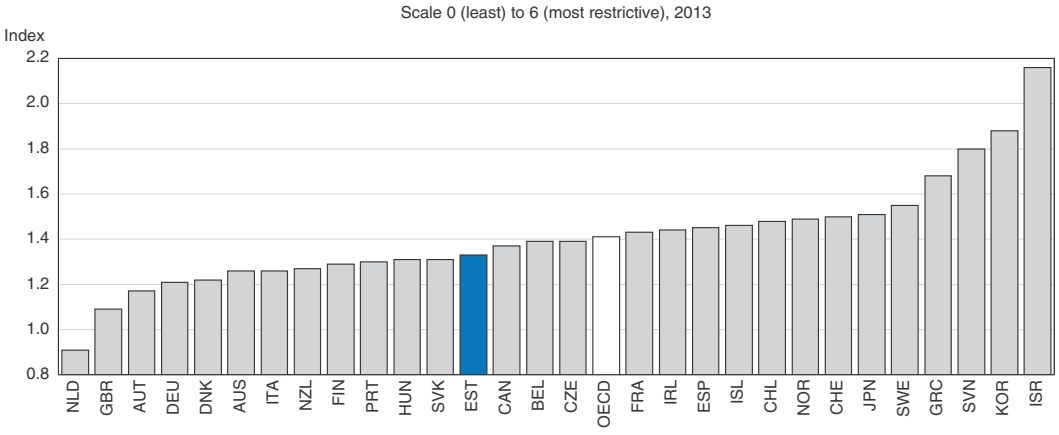
The number of firms collaborating with research institutions is low, especially among SMEs (OECD, 2013b; European Commission, 2014). There is scope to focus university research more on applied research and strengthen the collaboration of universities with domestic firms. Keeping a balance between basic and applied research is crucial for innovation and for new growth areas to emerge in the future. Further efforts are also needed to promote collaboration of firms and universities with applied research institutes, including from abroad.

Improving product market regulation

Competition-friendly product market regulation stimulates innovation, trade and investment, speeding up convergence and growth (Johansson and Olaberria, 2014).

Regulation in Estonia overall appears more competition-friendly than in many OECD countries (Figure 9). However, there is scope to further reduce entry barriers in some services. Identifying and removing these barriers would strengthen productivity growth throughout the economy because of these services' role as intermediate inputs (Bourlès et al., 2013; Barone and Cingano, 2011). Professional services in Estonia benefit from a number of exclusive rights, according to the OECD PMR indicator 2013. This is true for engineers, architects, accountants and lawyers. For instance, engineers have exclusive rights to conduct environmental assessments and monitoring of engineering projects. Unlike in many other countries, a range of audits can only be conducted by accountants. Also, some entry barriers for foreign service providers continue to exist. For instance, entry barriers are comparatively high in maritime transport services: nationality and residency conditions are imposed on registering ships and on equity and members of the board of directors for firms registered in Estonia (OECD, 2014a). Continued efforts are needed to identify and remove entry barriers that hold back competition and growth in services.

Figure 9. **Product market regulation**



Note: OECD refers to the simple average.
Source: OECD (2013), *Product Market Regulation Indicators*.

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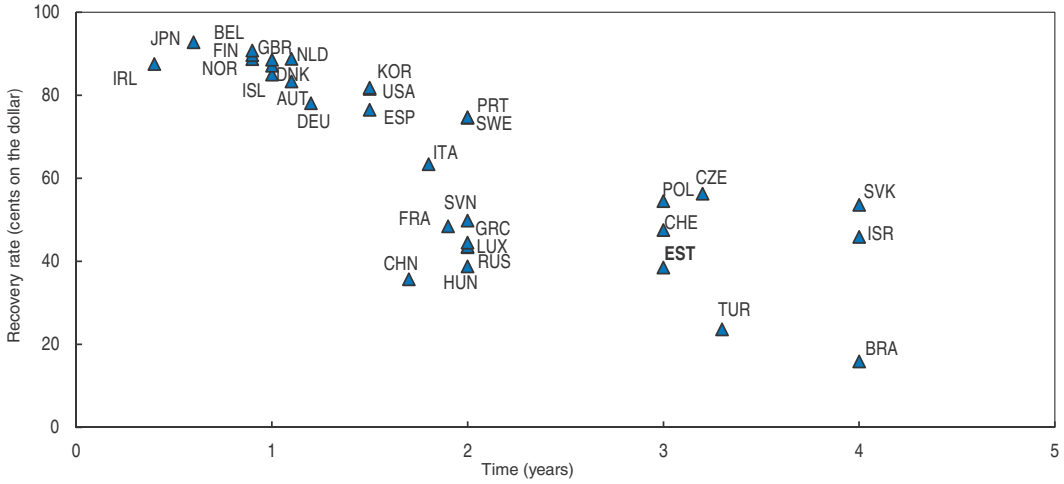
Continuing to review corporate bankruptcy procedures

Corporate bankruptcy laws which impose excessively high exit costs on entrepreneurs, including through long procedures, hold back efficient reallocation of resources, entrepreneurship and innovation. At the same time, insufficient safeguards for creditors may reduce the supply of credit (Andrews and Criscuolo, 2013; OECD, 2014b). In Estonia, corporate insolvency cases are not always resolved in a manner that contributes to an efficient allocation of resources (*Economic Survey of Estonia*, 2011). Insolvency procedures are long and recovery of creditor claims is relatively weak (Figure 10), despite progress made in the reform of bankruptcy legislation in 2011. Also, out-of-court expertise is almost never used because insolvent debtors must pay for experts but rarely have the funds to do so. Judges may not be able to draw on the necessary expertise to deal with complex cases (European Commission, 2013b; European Research Area Committee, 2012). Courts should be given the power to require the creditor to pay for experts, particularly in

Figure 10. **Bankruptcy procedures: recovery rates and duration**



Source: OECD (2013), *Entrepreneurship at a Glance*.

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more intricate corporate cases. A specialised bankruptcy court could improve judicial expertise, as suggested in previous Surveys.

Closing infrastructure gaps

Transport, communication and energy networks are key factors for internationalisation and economic growth. Estonia has made considerable progress in upgrading its infrastructure (World Economic Forum, 2013). EU transfers are high, amounting to 4% of GDP in 2012, and have mostly been spent on infrastructure projects (Eesti Pank, 2013).

There is scope to further develop infrastructure connections across borders. For instance, considerable benefits would result from implementing the planned connection to the European high-speed railway network without further delays (AECOM, 2011). The integration in European gas and, to some extent, electricity networks is still weak (IEA, 2013). Two electricity transmission links with Finland already operate. The government has developed further plans to expand connections to Nordic and Central European gas and electricity transmission infrastructure, which requires cooperation with EU countries in the region. Better integration of electricity and gas networks with the EU will enhance the diversity and security of supply, which is of increasing importance as the share of renewable energies rises and use of domestic oil shale in electricity generation needs to be scaled down in order to reduce CO_2 emissions (see below).

Some domestic infrastructure bottlenecks also remain, holding back private sector development and constraining mobility (National Audit Office of Estonia, 2013b). Funding has been primarily directed to large infrastructure projects, which can be financed with EU funds, leaving fewer funds for smaller rural projects (European Commission, 2012). There is evidence that some EU-funded projects have been designed too large (National Audit Office of Estonia, 2013a). This suggests that monitoring and decision making on how infrastructure projects are selected can be improved. There is also scope to improve intermodal connections, which would facilitate trade (European Commission, 2012).

Recommendations to raise productivity

- To strengthen knowledge transfers to domestic firms, promote applied research and improve collaboration with domestic and foreign institutions conducting applied research.
- Implement plans to expand access to European transport networks and energy supply facilities. Improve inter-modal connections.
- Shorten corporate insolvency procedures and improve their efficiency, for example by strengthening the use of expertise.

Reducing CO_2 emissions and energy consumption

Estonia has a target for greenhouse gas emissions in sectors outside the European emissions trading system (ETS) for 2020, which limits their growth to 11% from the level in 2005. While the government expects to meet this target on current policies, considerably more ambitious emission targets are expected beyond 2020 in the context of targets set by the European Union. Moreover, the economy is vulnerable to rising carbon prices in the European Union's emission trading system, as these prices are likely to rise when economic activity strengthens in Europe and stricter CO_2 emissions targets are applied.

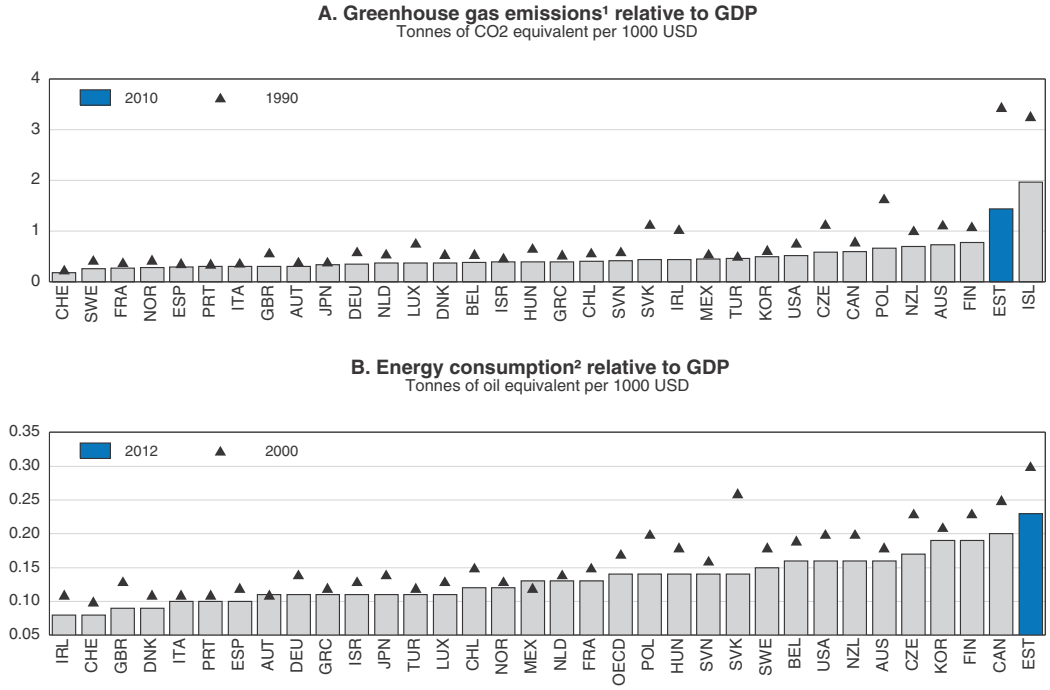
The efficient use of energy can help to raise competitiveness by reducing the economic costs of environmental damage and bolstering innovation (OECD, 2011a). Greenhouse gas emissions per unit of GDP are less than half the 1990 level but remain among the highest in the OECD (Figure 11). High emissions are largely due to the use of oil shale, which covers 70% of Estonian energy demand. Exploiting these reserves has contributed to meeting energy security objectives. However, the CO_2 intensity of oil shale combustion and energy consumption are high.

Taxation of the various energy sources should be harmonised according to their CO_2 emission content to provide effective price signals. Implicit tax rates per tonne of CO_2 are low on average in Estonia, and vary considerably across energy sources and uses. While taxes on natural gas and fuel oil have been raised, tax rates on fossil fuel use in heat and electricity generation, which are mostly based on oil shale, are much lower than on transport and this difference is larger than in many other OECD countries (OECD, 2013c). Moreover, oil shale used for heat production and electricity generation is taxed at lower rates than other fossil fuels (IEA, 2013; OECD, 2014c). The harmonisation of tax rates can be a gradual process, provided a firm commitment to future increases is made. Income support for low income households should take into account the impact of higher energy costs on poverty risks.

Processing oil shale into lighter oil products would reduce CO_2 emissions by two-thirds (IEA, 2013). Continued R&D investment is required to lower the carbon intensity of the Estonian economy, including by the private sector. Moreover, all environmental costs of oil shale use need to be internalised, in particular those due to the considerable waste amounts. It is welcome that the government is planning to revise taxes on oil-shale related activities which damage the local environment.

Estonia can reduce emissions by improving energy efficiency in district heating (European Commission, 2013b). Losses in heat networks, to which 70% of the population are connected, amount to 22% (IEA, 2013). Moreover, regulation of heat networks could

Figure 11. **Greenhouse gas emissions and energy consumption**



1. Data refer to gross direct emissions including emissions from land-use, land-use change and forestry (LULUCF). Removals/sequestration of greenhouse gas through LULUCF are deducted.
2. It refers to total primary energy supply and equals production plus net trade minus international bunkers plus or minus stock changes.

Source: OECD/IEA (2013), Emissions of CO_2, CH4, N2O, HFCs, PFCs and SF6, IEA CO_2 Emissions from Fuel Combustion Statistics Database and *OECD Economic Outlook*; and IEA (2013), *Energy Balances of OECD Countries*.

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provide stronger incentives to improve efficiency, for example by penalizing operators which fail to attain ambitious efficiency benchmarks. The government is planning to introduce regulation which will provide networks with incentives to reduce losses to 15% by 2017, which is welcome. The government has also proposed draft regulation that encourages the use of renewable biomass in district heating. However, customers with obligatory connections to district heating systems continue to be prevented from investing in economically justified high-efficiency alternatives. There is scope to raise incentives of households and building owners to invest in energy efficiency of buildings. For example, many district heating systems have inadequate or no metering. More steps need to be taken to improve energy efficiency in housing of low income households.

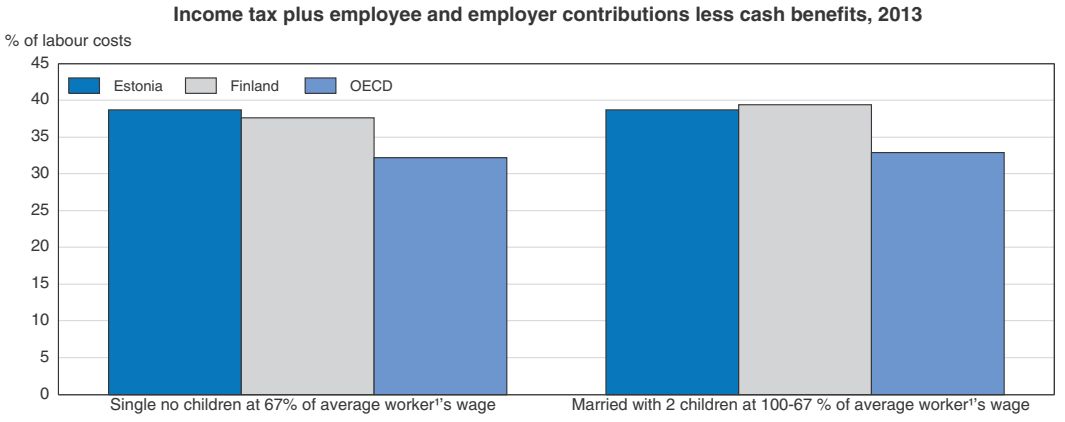
Recommendations to lower CO_2 emissions and energy consumption

- Gradually align and raise tax rates on energy sources according to their CO_2 emission content.
- Strengthen incentives for operators of heating networks to improve efficiency. Strengthen incentives to invest in energy efficiency of buildings.

Making the most of human capital

Estonia can strengthen labour utilisation by shifting the tax burden away from labour and by reducing the burden on workers in the pension system. Lowering the tax burden can raise labour utilisation and boost competitiveness, especially in the Estonian economy, where it can also influence decisions of emigrants and cross-border workers where to supply labour. Recent reductions in the labour tax wedge are welcome. However, the tax wedge on labour remains high in international comparison, especially for workers on low earnings (Figure 12), and is expected to remain so after the planned reductions in income tax and social security contributions and the increase of child benefits in 2015. The earnings gap between Estonia and Finland, where many Estonian emigrants and cross-border workers work, remains large. In 2013 take-home pay of a worker on average earnings in Estonia was less than a third of take-home pay in Finland.

Figure 12. **Labour tax wedges**



1. Working at full-time and receiving the average gross earnings.
Source: OECD (2014), *Taxing Wages 2014*.

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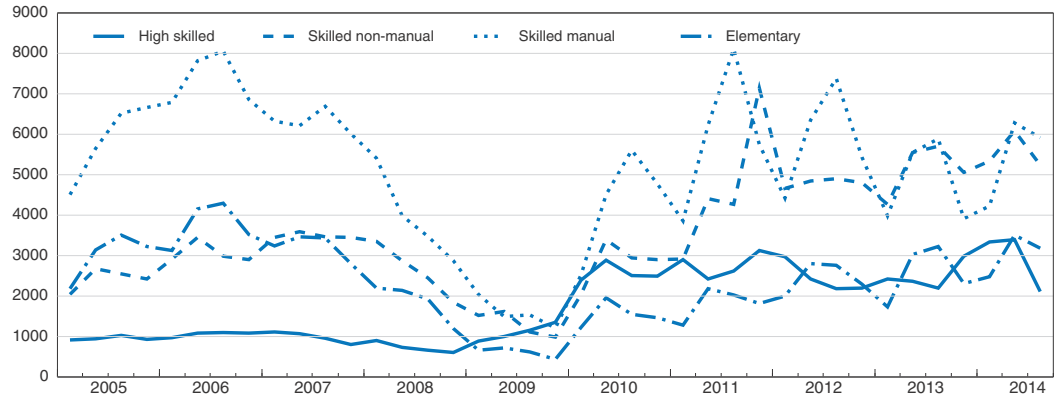
Measures to make the supply of skills more relevant for the labour market and make better use of workers' skills would also help raise labour utilisation, reducing skill mismatch and improving competitiveness. Moreover, better opportunities for young people to obtain qualifications demanded in the labour market could also make Estonia more attractive as a place to work for young people. Indeed, workers with good professional qualifications are less likely to seek employment abroad (Pungas et al., 2012) and are in high demand in Estonia. The number of vacant jobs for highly skilled workers and for skilled non-manual workers has risen well above pre-crisis levels (Figure 13). Women face barriers to make full use of their potential to contribute to output and well-being as they earn on average 30% less per hour than men.

Making the tax system more employment-friendly

While the contribution of personal income taxation to government revenues is low, reflecting the flat tax rate of 21%, social security contributions make up a large share (Table 2). Unlike personal income taxes, the burden of these contributions falls fully on labour income. By contrast, the taxation of real estate contributes relatively little to revenues, as only land (but not buildings) is taxed and the valuation of land does not reflect market

Figure 13. **Vacancies by skill level**



Source: Estonian Unemployment Insurance Fund (Eesti Töötukassa).

StatLink http://dx.doi.org/10.1787/888933180129

Table 2. **Tax revenue composition, 2011**

Per cent

	Taxes on corporate income	Taxes on personal income	Social security and payroll	Property	Goods and services
Austria[1]	5.2	22.4	41.3	1.2	27.8
Belgium	6.6	28.3	32.2	7.3	24.7
Czech Republic	9.7	10.7	44.1	1.5	33.4
Denmark[1]	5.8	50.7	2.6	4.1	32.0
Estonia	**3.8**	**16.2**	**37.0**	**1.0**	**41.5**
Finland	6.3	29.3	28.9	2.6	32.6
France[1]	5.7	17.0	41.0	8.5	24.8
Germany	4.7	24.8	38.5	2.4	29.1
Ireland	8.9	32.1	17.4	6.8	34.3
Korea	15.5	14.8	23.8	11.4	31.4
Luxembourg	13.6	22.4	29.6	7.1	27.0
Netherlands	5.4	21.4	38.4	3.3	30.0
Norway	25.2	23.2	22.3	2.9	26.5
Poland	6.4	13.8	36.1	3.7	39.2
Portugal	9.8	18.6	28.2	3.2	39.2
Slovak Republic	8.4	8.8	42.7	1.4	37.2
Slovenia	4.6	15.4	40.6	1.6	37.4
Sweden	7.3	27.7	32.9	2.4	29.3
United Kingdom	8.6	28.2	18.7	11.6	32.3
United States	9.4	37.1	22.8	12.4	18.3
OECD-Total	**8.7**	**24.1**	**27.3**	**5.4**	**32.9**

1. The total tax revenue has been reduced by the amount of any capital transfer that represents uncollected taxes. The capital transfer has been allocated between tax headings in proportion to the reported tax revenue, except for Austria where it has been allocated to the social security contributions heading.

Source: *OECD Tax Revenue Statistics*.

values (OECD, 2012). Shifting some of the tax burden on labour to real estate tends to be supportive of GDP growth (Johansson et al., 2008). It could also help broaden the government's revenue base. Indeed, cross-border workers pay labour tax in Finland but mostly use public services in Estonia. The most effective way to reduce the labour tax wedge on low wage earners is to reduce their social security contributions, as these account for most of their tax wedge. Steps need to be taken to protect low-income owner occupiers, such

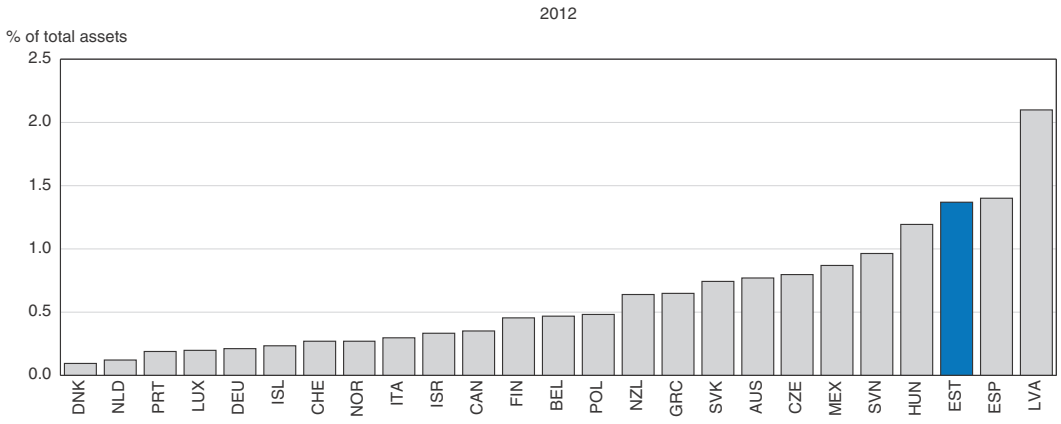
as pensioner households, who would not benefit from lower labour taxes. A basic allowance in residential real estate tax or means-tested income support would provide relief.

Employers generally have to pay a minimum lump-sum social security contribution for their workers' public pension and health insurance, although many exemptions apply. It is binding for workers on low earnings, discouraging part-time work. Indeed, Estonia has one of the lowest shares of part time work in the OECD, although this also reflects lower income levels. Evidence across OECD countries shows that removing barriers to part-time employment improves wellbeing, as part-timers benefit from better health and safety outcomes because of the improved control over working hours. Part-time work can also be a viable alternative to unemployment or inactivity (OECD, 2010). To avoid disincentives for part-time work, it would be preferable to eliminate the minimum lump-sum social security contribution.

Low returns in the second pillar pension system reduce the attractiveness of employment in Estonia

High fund managers' operating costs reduce returns in the compulsory private funded defined-contribution pension system. Costs in the pension funds born by workers are high in international comparison (Figure 14), which significantly reduces the capital workers accumulate in the fund. Since 2002, all young workers taking up employment in Estonia have been enrolled in the compulsory, private second pillar pension system, which complements the public defined-benefit system. Six per cent of workers' salaries flow into a fund chosen by each worker, of which 4 percentage points via employers' social security contributions. With lower costs, workers could pay lower contributions to attain the same pension level.

Figure 14. **Pension funds' operating expenses as a share of assets under management**



Source: OECD Global Pension Statistics and Finance Ministry of Estonia.

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To reduce costs and fees the government has taken regulatory action in recent years. To increase competition among funds, it has allowed workers to switch fund more often and has abolished issuance fees, although redemption fees, which are also paid when switching funds, are still allowed. To help workers make more informed choices, it has required the comprehensive disclosure of profits and costs and has introduced a

programme promoting financial literacy. However, there still is a need to ensure that information is disclosed in a standardized manner. The government intends to take the necessary steps. The government also plans to tighten caps on fees in the largest pension funds. It expects that these measures will lower the management fees paid by contributors to below 1% of assets by 2019.

Marketing expenditure accounts for half of pension funds' operating costs in Estonia. The government is concerned that marketing expenses cross-subsidise other activities of financial groups supplying pension funds. Empirical evidence suggests that marketing activities of fund managers with the purpose of attracting contributors to their funds has no benefit for workers. Such activities raise costs as well as suppliers' market power because they attach workers to pension funds for reasons unrelated to performance, especially low-wage contributors (Hastings et al., 2013). Contributors are likely to bear marketing costs even if such costs are not directly included in fees they pay, as market demand is perfectly inelastic.

Australia and Sweden have introduced a low-cost default-choice fund, in which contributors invest unless they take a deliberate decision to invest elsewhere. Costs in these funds can be kept low with passive investment strategies, which follow the composition of security indices, as well as by avoiding marketing expenses. Such a fund could also serve as a benchmark, helping to drive down costs in other funds. In Chile, all labour market entrants contribute to a low cost fund in their first five years. This fund is attributed in a tendering process to the supplier offering the lowest costs. The introduction of a centralised clearing house for purchases and sales of pension funds, such as in Sweden, also appears to have helped reduce costs. The Swedish authorities allow all pension fund suppliers operating outside the compulsory system to supply their funds in the compulsory system as well, provided they accept substantial rebates on the fees they charge within the compulsory system (Tapia and Yermo, 2008). This has allowed the compulsory private pension system to lower marketing costs as well as to operate without redemption fees, raising net returns to contributors substantially. If the government's efforts do not lower costs close to the levels observed in best-performing countries over the next few years, it should undertake a more fundamental reform of the compulsory private pension system, for example, along the lines of the Swedish system, including the introduction of a low-cost default fund.

In view of the evidence suggesting that competition among pension funds in compulsory systems is not effective enough, corporate governance practices in pension fund management should also have a role to play in ensuring they act in contributors' interests. Board members must represent the interest of their shareholders which can be to the detriment of contributors. There is scope to improve representation of contributors' interests in pension funds' corporate governance. Estonia has required by law that the pension fund management companies must act in the interest of contributors. In addition, introducing a position for a board member who is independent of owners' interests could strengthen representation of contributors' interests. It is welcome that the Estonian government is considering steps in this regard. Some countries, such as Australia, have gone further and have required all board members to represent contributors' interests and to be independent of shareholders.

Containing spending in public pensions can help limit social security contributions

The public pension system, which is mostly funded from social security contributions, includes early pension schemes. About 40% of men and 30% of women receive public

pensions before they attain the legal retirement age (Praxis Center for Policy Studies, 2011). The bulk are disability pensions as well as special early pension schemes for workers in specific occupations or sectors. The government plans to reform these early pension schemes. In some of the occupational and sectoral early pension schemes workers are deemed to be subject to higher health risks. However, in most cases, health risks appear not to be higher (National Audit Office, 2014). The impact on labour market participation of these early pension schemes has been limited because pension receipt is compatible with work. However, disability pensions and early occupational pensions account for about a quarter of public pension spending, which is mostly funded by social security contributions (National Audit Office of Estonia, 2014). Moreover, as the 2012 *Economic Survey* (OECD, 2012) has pointed out, disability benefit recipients do not have access to activation measures, lowering their employability when they can return to work.

Parliament is considering a reform of disability benefits to increase access to activation measures and strengthen the assessment of the capacity to work (National Audit Office, 2014). The planned reform is welcome and should be implemented. The disability pension regime has, despite its shortcomings, provided substantial poverty relief in the past. It is therefore also important that reforms limiting access to disability pensions are accompanied by steps to raise means-tested minimum income support for the unemployed, as pointed out in the 2012 *Economic Survey*. In addition, phasing out the occupational and sectoral early pension regimes would lower pension spending, allowing social security contributions to be reduced.

Another welcome development, the government is considering introducing work accident and occupational sickness insurance. Such insurance, coupled with experience-rated employer contributions, is key for employers to have adequate incentives to prevent deterioration of health outcomes at work. As the 2012 *Economic Survey* (OECD, 2012) has pointed out, work-related accidents and diseases constitute an important health risk, particularly for those in low-skill occupations.

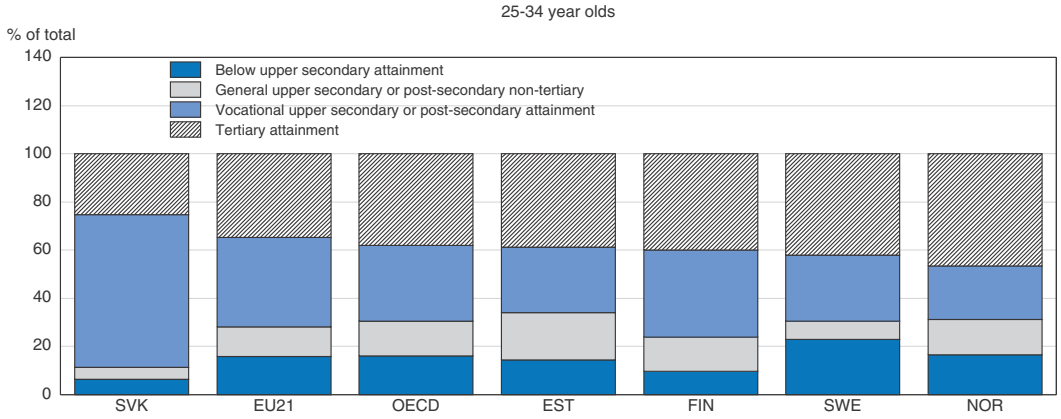
Strengthening the supply of marketable skills

The pay gap between men and women is unusually large in comparison to other European economies. The difference does not diminish if wages of men and women with a similar level of education, field of study and experience are compared (Anspal and Rõõm, 2007). Differences in gender-specific choice of occupation and sector of activity explain one third of the gap. Women's career prospects compare particularly unfavourably in managerial posts. Low availability of childcare facilities for children aged up to 1½ years, and in some municipalities for children aged up to 3 years, as well as low participation of men in providing childcare within the family contribute to inequality. Parental leave entitlements are generous in Estonia, to the point of creating risks for labour market prospects for the parent taking the leave. It is almost only taken up by women. To reduce the gender pay gap, the Estonian Government launched an action plan 2012-2015. The action plan includes steps to improve the implementation of gender equality legislation; improve reconciliation of work, family and private life; encourage gender mainstreaming, especially in education; reduce gender segregation in the labour market; and to review the organizational practices and pay systems in the public sector.

The share of youth leaving the education system without an upper secondary degree has declined from 14% in 2009 to 10% in 2013. Youth who have not been in education and employment for 4 months receive an education, training or employment offer from the

government. Nonetheless, many young people do not have qualifications which prepare for labour market entry. This includes youth who obtain academic upper secondary degrees but do not proceed to tertiary academic education (Figure 15). Indeed, evidence across European economies shows that youth leaving the labour market at the level of upper secondary education obtain better labour market outcomes if they follow vocational education courses (ECDVT, 2013) in terms of employment rates, stability of employment, initial salaries and an improved match of the supply and demand of skills.

Figure 15. **Highest educational attainment of young adults**



Source: OECD (2013), *Education at a Glance 2013*.

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Labour market outcomes of vocational graduates compare less favourably than elsewhere in Europe (ECDVT, 2013). Hence, overall, employment rates of youth who have graduated from upper secondary degrees are relatively weak whereas they are strong for tertiary graduates (Table 3). This indicates that the labour market relevance of vocational education needs to improve. Evidence across European OECD economies shows that labour market outcomes of vocational graduates improve if substantial work-based training is built into programmes (ECDVT, 2013). The Estonian government has taken substantial measures to make vocational education more relevant for the labour market. It has set up a task force to anticipate future skills demand. The task force is also required to propose institutional reforms to improve cooperation of stakeholders for the monitoring of employment needs. The government has supported upgrading the technical equipment of vocational schools. It has also adopted a life-long learning strategy. However, workplace-based education remains modest. Most students in vocational education only complete a 4-6 months internship. Only 2% enrol in an apprenticeship. Apprenticeships help reduce skill mismatch (OECD, 2014d).

A constraint to the development of apprenticeships appears to be the small size of many firms. To overcome this, Norway has developed a system in which firms share apprenticeship places and which helps to inform schools and their pupils about local firms' training needs (Kuczera et al., 2008). Local links between firms and schools can also be fostered by allowing practitioners to teach part-time in schools. Indeed, local partnerships between training providers and employers encourage training provision which is sensitive to labour market needs (OECD, 2014d and references therein). Local

Table 3. **Employment rates of young people up to 3 years after graduation by educational attainment level**

Per cent, 15-34 year olds, 2013

	Upper secondary and post-secondary non-tertiary education (levels 3 and 4)	First and second stage of tertiary education (levels 5 and 6)
Euro area (13 countries)	66.7	79.0
Czech Republic	73.9	85.6
Denmark	78.6	84.3
Estonia	**65.8**	**85.4**
Latvia	70.1	84.1
Poland	61.7	81.3
Slovenia	62.0	79.3
Slovakia	61.4	76.7
Finland	75.2	85.7
Sweden	78.1	89.8
United Kingdom	72.3	87.6

Source: Eurostat.

flexibility in curricula provides a powerful support for local provider-employer partnerships. For example, in Germany each individual vocational school has some flexibility in its curriculum to adapt it to local needs.

A barrier to the development of apprenticeships is the requirement to pay the national minimum wage to trainees. At 40% of the median wage, the minimum wage is likely to be too high for training purposes in many cases. However, since trainees may not be able to cover living expenses if they are paid substantially less than the minimum wage, government financial support is needed. However, as the previous *Economic Survey* of Estonia has pointed out, there also is a need to monitor the quality of work practice schemes and to develop quality assurance for apprenticeships as well as to ensure time for school-based instruction of apprentices is sufficient (OECD, 2012).

Recommendations to make the most of human capital

- Further reduce the taxation of labour earnings, in particular of low earnings. Raise more revenues from the taxation of real estate by removing exemptions and by evaluating property according to market values.
- In the compulsory private pension system, reduce costs born by workers, in particular marketing expenses. Improve representation of contributors' interests in pension fund governance.
- In the public pension system, phase out special occupational and sectoral pension regimes. Reform disability pensions as planned, while expanding the safety net for unemployed workers.
- Encourage equal pay between women and men. Require both parents to take up parental leave in order for parents to qualify for the full leave entitlement. Identify and address barriers to female entrepreneurship. Consider requiring firms to identify and address pay inequalities between men and women.
- Introduce a tax-free lower minimum wage for apprenticeships, improve financial support for students in vocational education and strengthen collaboration of businesses and schools at the local level.

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ANNEX

Progress in main structural reforms

This annex reviews action taken on recommendations from previous Surveys. They cover the following areas: fiscal policy, labour market policies, education policies, health policies, public sector efficiency, globalisation, financial sector and green growth. Each recommendation is followed by a note of actions taken since the October 2012 Survey. Recommendations that are new in this Survey are listed in the relevant chapters.

Improve the fiscal framework

Recommendations from previous surveys	Action taken since October 2012 survey
Avoid procyclical fiscal policy. Introduce multi-year expenditure ceilings, covering also tax expenditure and local level spending. Be prepared to implement discretionary fiscal policy measures to address long-lasting booms associated with accumulation of imbalances that threaten macroeconomic stability. Ensure sufficient independence of the newly established fiscal institution, while leveraging the analytical capacity of existing institutions.	The new budget law requires the general government budget to be in structural balance or in surplus. The rule is consistent with EU rules, including the fiscal compact of the Treaty on Stability, Coordination and Governance in the Economic and Monetary Union.
Augment the work on estimates of the structural balance. Publish more detailed information about the business cycle and the underlying fiscal position, reflecting associated uncertainties.	No action taken.
Task the new independent fiscal institution with assessing the cyclical indicators; monitoring the budget outcomes, and, when appropriate, recommending discretionary policy measures.	An independent fiscal council was implemented in 2014.
The high labour tax wedge should be reduced by increasing the share of less distortionary taxes, such as property and environmental taxes and excise duties and reducing tax expenditures. Reductions in direct taxes should be tilted towards low-earners.	The government increased the income tax-free allowance from EUR 145 to EUR 154 in 2014 and plans to lower the income tax rate from 21% to 20% in 2015. The unemployment insurance contribution rate will be lowered from 3.2% to 2.4% in 2015. However, taxation of the land underneath detached houses was abolished in 2013.
Phase out exemptions and preferential rates and further strengthen VAT administration. Apply the standard rate to all goods and services.	Measures are planned to reduce VAT fraud.
Consider introducing a tax on the use and the registration of motor vehicles differentiated by air pollution and energy consumption characteristics.	No action taken.
Align the tax assessment of land value more closely with the market value by regularly updating assessments and enlarging the tax base to include buildings.	No action taken.
Consider phasing out the tax deductibility of mortgages in the medium term to avoid further amplifying the cycles in the housing markets. Consider phasing out the loan guarantee programme to reduce distortions in housing investment.	No action taken.
Refocus the social protection system on activation and return to work, underpinned with stronger inter-agency co-operation. Swiftly conclude the analysis phase of preparing internet-based e-services. All working-age people with some capacity to work should become clients of local unemployment insurance fund offices and be encouraged to participate in job search and activation activities.	The parliament is considering a reform of disability benefits to increase access to activation measures and strengthen the assessment of the capacity to work. The planned reform also foresees to tie the receipt of benefits to the obligation to use activation services.
Continue the reform of the disability pension system by giving employers a stronger role in prevention and rehabilitation.	The planned reform of disability benefits foresees provision of rehabilitation services as early as possible.
The role of subsistence benefits should be reduced and municipalities should focus on addressing other problems such as social exclusion. Unemployment assistance should become the main source of basic income support and be subject to tight job search and training conditionality.	No action taken.
Family support should be more oriented towards better reconciling the obligations from parenthood and labour force participation, including through better provision of childcare services.	The government is planning to address local gaps in the provision of formal childcare with structural funds from the European Union.

Improve labour market performance

Recommendations from previous surveys	Action taken since October 2012 survey
Continue to increase spending on active labour market policy, and better target spending. Ensure stronger co-operation among local governments, education institutions and the Unemployment Insurance Fund.	Spending on ALMPs has increased significantly in recent years. New measures targeted at long-term unemployed have been introduced, including for job counselling and training. The government is planning to raise spending in the public employment service further until 2020, introducing new measures co-funded by the European Union. Support targeted at youth will include wage-subsidies and training
Increase the effectiveness of activation programmes by allowing public procurement to take greater account of the quality of training courses, encouraging greater involvement of employers, and by targeting hiring subsidies to firms committed to net hiring.	The programmes are monitored and qualification criteria set for service providers. Qualification criteria are defined for each public procurement process individually. Information and training events as well as meetings with employers are regularly organised.
Develop electronic registration of the initial action plan in the first month of unemployment. Delay the face-to-face part of the Individual Action Plan to after 3 months for most newly unemployed. Meanwhile devote more resources to at-risk groups from the first month.	Online application (for registration, benefit claims and making appointments with employment advisors) has been available since June 2014.
Monitor the quality of work practice (internship) schemes and increase employers' compensation for the cost of the supervision and instruction. Measures to promote workplace training, such as subsidies, should be more targeted.	The quality of work practice is reviewed in regular meetings with employers. Cooperation agreements have been initiated with larger employers covering also on-the job-training offers for PES clients.
Ensure that the PES internet portal is used by employers to regularly notify current vacancies and skills shortages. To this end, provide PES consultant assistance to employers.	Individual employers are contacted and meetings are organised with employers at regional and local level by the European Union Integration Fund (EUIF). The EUIF has also identified priority areas for training in economic sectors with growth potential. Task forces have been created to determine training needs, diagnose quality issues and identify other training policy issues.
Prioritise training funds for language training for ethnic non-Estonians.	Funds from the European Union are used to improve opportunities to learn and practice Estonian.

Make the education system more efficient

Recommendations from previous surveys	Action taken since October 2012 survey
Ensure that the new means-tested support to tertiary education students is sufficient, and expand the student loan scheme so that students with weaker socio-economic background can stop working during study.	The new support scheme, launched in 2013, will be regularly evaluated. Tuition fees for higher education have been abolished between 2013 and 2014.
Strengthen student counselling by providing high quality information about labour market needs on every educational level.	The government's Life-Long Learning Strategy 2014-2020 envisages improving information and counselling services especially for students in the final stage of basic education.
Consider establishing an obligation to offer learning opportunities through formal education, workplace training or apprenticeships until the age of 18 for youth neither in education, employment or training.	The EU youth guarantee scheme has been implemented. Youth who have not been in education and employment for 4 months receive an education, training or employment offer from the government.
Further strengthen co-operation with employers and consider giving subsidies for offering apprenticeship places for youth in vocational education. Increase the permeability between different educational levels.	The government plans to substantially increase funding of apprenticeships.
Develop quality assurance for apprenticeship places and ensure that the time for instruction is sufficient relative to productive work.	No action taken.
Increase the financial incentives of employers to invest in lifelong learning. Target public co-financing toward low educated and older workers, as well as toward employees in SMEs.	No action taken.
Make lifelong learning more attractive for adults by ensuring that training leads to the acquisition of qualification and by providing information about the return from different programmes.	No action taken.

Make health care more efficient

Recommendations from previous surveys	Action taken since October 2012 survey
An update of the hospital network plan for active treatment should reflect changing healthcare consumption patterns of the population.	The government approved the National Health Plan until 2020 in 2014. It strengthens collaboration between regional and county hospitals.
Ensure quality of care and consider developing a wider system of quality indicators, also through international collaboration on establishing benchmarks and specialised care.	The National Health Plan until 2020 focuses on results and quality of health care institutions. Indicators for comparing the results of different hospitals and doctors will be established. 97% of general practitioners have joined the general practitioners quality system.
Increase the role and importance of primary care by boosting the responsibilities of family doctors.	The National Health Plan until 2020 will provide additional financing for family doctors who have two nurses in their team. This will strengthen the gate-keeping role of family doctors. The plan also envisages a quality bonus system.
Improve health outcomes and reduce health outcome gaps by strengthening health spending efficiency, promoting healthy lifestyles and improving access for disadvantaged groups.	The National Health Plan until 2020 sets targets for raising the average age to which citizens are living in good health as well as average life expectancy.
Introduce a means tested cap on out-of-pocket payments to improve the situation of low income households and protect the chronically ill. Alternatively, this issue could be addressed through existing benefits such as the subsistence minimum. Ensure adequate accessibility of healthcare, in particular dental care, for financially distressed households.	From January 2015 onwards, the Estonian Health Insurance Fund reimburses 50% of patients' expenditure on reimbursable medicines exceeding 300 euros per year, and 90% for patients whose expenditure exceeds 500 euros per year.
Continue with the promotion of generics and least expensive drugs both among patients as well as doctors: monitor prescribing and dispensing patterns and investigate and sanction those that deviate excessively from norms.	Doctors are obliged to prescribe, in general, medicines by generic name and pharmacists are obliged to offer patients the cheapest option. Doctors and pharmacists compliance is controlled by an electronic prescription database.

Enhance public sector efficiency

Recommendations from previous surveys	Action taken since October 2012 survey
Reform local governments either by merging or requiring greater co-operation, also over a broad territorial area. Consider imposing minimum population requirements.	The government initiated a local government reform in 2014, including funding and the assignment of responsibilities. An evaluation of the funding and implementation of spending responsibilities (through inter-municipal cooperation, municipal associations, State government offices) is underway. Local governments have established formal cooperation in public transport, waste management, water and sewage for example. These initiatives have generally been supported with central government funding.
Develop further indicators and monitor quality standards of public service provision to help to build up an argument for consolidation of local government, especially for those municipalities that would be underperforming.	The planned government reform will facilitate the establishment of joint-authorities for implementing local government tasks.
Strengthen the revenue raising possibilities of local municipalities by giving them more autonomy over setting the land tax. One possibility for enlarging revenues from this tax is to enlarge the tax base to include buildings.	No action taken.
Consider tightening the equalisation scheme, for example by looking at real and normative costs set uniformly by the central government. Consider reviewing the existing earmarking and block grants to evade overlaps.	Ministry of Finance is measuring the local governments` real costs of providing public services. The results will be used to further develop the equalisation scheme.

Make the most of globalisation

Recommendations from previous surveys	Action taken since October 2012 survey
Contain the threats to competition emanating from public monopolies and local authority sectors.	No action taken.
Do not adhere to numerical targets for R&D spending; projects should be pursued according to their intrinsic worth.	A set of qualitative and quantitative indicators has been developed to measure the effectiveness of policies aimed at R&D, including measuring behavioural changes of actors.
Consider introducing tax incentives for R&D.	No action taken.
Rebalance public resources for innovation support to prepare Estonian firms to export and make sure the necessary services for small exporting firms are available at reasonable costs.	Increasing exports is one of the main pillars of the new "Entrepreneurial Growth Strategy 2020". Export advice is offered by Enterprise Estonia at a reasonable price.
Switch resources to the promotion of non-high tech areas which can benefit from high-tech inputs.	The "Entrepreneurial Growth Strategy 2020" places a strong focus on increasing the added-value of non-high tech areas through a new policy instrument – "tailor-made support for enterprises". The policy instrument aims at companies with significant growth potential. One of the smart specialisation growth areas is "ICT supporting other sectors", which targets growth in non-high tech sectors with the help of ICT.

Stability of the financial sector

Recommendations from previous surveys	Action taken since October 2012 survey
Mitigate credit cycles. Calibrate and prepare to implement macroprudential tools, starting from countercyclical capital buffers. In regard with cross-border co-operation increase efforts to effectively implement a wider set of tools.	The amendments to the credit institutions act that transposed CRD IV requirements into the Estonian legislation came into force in May 2014. A systemic risk common equity capital buffer of 2% of risk-weighted assets on large banks is effective as of August 2014. Eesti Pank also started to develop an analytical framework to assess countercyclical capital buffer requirements. It also plans to introduce in 2015 three new macro-prudential instruments targeted to borrowers of housing loans: Caps on loan-to-value and debt service-to-income ratios as well as a maximum maturity for loans.
Further enhance cross-border supervisory co-operation, notably by developing joint stress tests and crisis management exercises in the Nordic-Baltic Stability Group. Widen the scope for the role of out-of-court restructuring. Actively promote financial literacy, including awareness about risks of variable interest borrowing.	The Debt Restructuring and Debt Protection Act has been amended in January 2014. The Financial Supervision Authority Act was amended in July 2013. The aim was to promote the population's awareness of the financial services and financial products. Several multilateral meetings between the representatives of Scandinavian and Baltic supervisory authorities were held in 2013 and 2014.
Introduce a specialist bankruptcy court to improve the expertise applied to debt restructuring and bankruptcy proceedings; ensure that the court has the capacity to determine whether company directors have met their obligations to petition for bankruptcy. Develop as a stop-gap measure quantitative indicators to determine whether these obligations have been met.	No action taken.
Give the existing court the power to require the creditor to pay for experts, particularly in more intricate corporate cases.	No action taken.
Develop a more detailed set of economic and financial principles for judges to take account of when deciding whether a debt restructuring plan for individuals should be approved or not.	No action taken.

Climate change mitigation and green growth

Recommendations from previous surveys	Action taken since October 2012 survey
Strengthen policies to reduce energy and resource intensiveness through appropriate pricing and setting better incentives for energy saving programmes.	A New Energy Sector Development Plan as well as an Oil Shale Development Plan are currently being developed. The government is also planning to introduce regulation in district heating, which will provide networks with incentives to reduce losses from 22% currently to 15% by 2017.
Continue with ecological tax reform pursuing both environmental and revenue-raising objectives.	A stepwise increase in the excise duty payable on oil shale used for the production of heat is envisaged over the next five years.

Chapter summaries

Chapter 1. Raising productivity and benefitting more from openness

Estonia can revitalise productivity growth and reap more benefits from its openness. Productivity is relatively low in manufacturing and in large firms, as the manufacturing sector focuses on low-technology goods exports to only a small number of destinations. The economic impact of the Estonian R&D system still appears to be limited, also because of a lack of knowledge transfer. Building on Estonia's favourable business environment, productivity growth could be raised by promoting smart specialisation and innovation; removing remaining barriers to entrepreneurship and competition; ensuring access to finance for SMEs; upgrading infrastructure; and improving energy efficiency.

Chapter 2. Making the most of human capital

Labour input in Estonia remains lower than before the crisis. Skill mismatches between workers and jobs contribute to structural unemployment. Emigration, notably among young, employed workers, has reduced labour supply. Although the government has lowered labour taxes and further reductions are planned, government revenues still rely heavily on taxing employment. Shifting some of the tax burden on labour to real estate would make the tax system more employment friendly. High costs reduce the returns workers earn on the assets in the compulsory private pension system, effectively raising the tax burden on labour. There is scope to reduce costs. In the public pension system, phasing out early retirement schemes for workers in specific sectors or professions would make room for lower social security contributions. They pay gap between men and women is substantial and further steps could be envisaged to reduce it. Reforms to improve the skills of Estonian workers have a high pay-off in view of increased demand for skilled workers. The recent initiatives of the government to foster life-long learning and improve financial support for students from low-income families in tertiary education are welcome. There is scope to promote apprenticeships, for example by fostering cooperation between local firms and local schools. This would help reduce skill mismatch. More financial support is needed for students, especially to ensure youth have access to upper secondary vocational education.

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Further information

For further information regarding this overview, please contact:

Andreas Wörgötter, e-mail: andreas.woergoetter@oecd.org; tel.: +33 1 45 24 87 20;
Andrés Fuentes Hutfilter, e-mail: andres.fuentes@oecd.org; tel.: +33 1 45 24 89 29 or
Andreas Kappeler, e-mail: andreas.kappeler@oecd.org; tel.: +33 1 45 24 74 69.

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