This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.
Summary

Notwithstanding the deep 2008/9 economic crisis, Estonia has achieved one of the highest medium-term growth rates in the OECD, accompanied by rapid income convergence. The strong recovery from the crisis has benefited from structural strengths of the economy: a flexible labour force, business friendly regulation, well capitalised financial institutions, a successful transition from the currency board to euro area membership, and sustained credibility of fiscal policy.

Nevertheless, the Estonian economy is exposed to considerable volatility, which could threaten growth and well-being and contribute to high long-term unemployment. While this volatility is attributable in part to a series of external shocks, domestic factors have also played a role, both in terms of amplifying external shocks but also in terms of swift reactions favoured by high flexibility of the economy.

Fiscal policy could be made more countercyclical. Automatic stabilisers should be allowed to operate fully and additional discretionary policy action might be needed in the event of another severe boom or bust cycle. Spending ceilings would contain increases in outlays in booms, but would also allow the automatic stabilisers to work, as these are mostly on the revenue side. An independent fiscal institution, which is to be established soon, would play a key role in assessing the fiscal position both over the business cycle and in terms of long-term sustainability. Experience suggests that such institutions work best when they have a clear mandate, are adequately funded and are independent.

While microprudential regulation of financial markets is well established, existing macroprudential instruments turned out to be insufficient during the build-up of the recent boom/bust cycle. Cross-border co-operation of financial sector regulation needs to be further strengthened and the tool-kit for macroprudential intervention needs to be widened. The possible tools should ensure effective and efficient achievement of macroprudential objectives in the integrated regional banking market.

Larger active labour market programmes would accelerate the re-employment of job-seekers, reducing the risk that they leave the job market permanently. Reducing the labour-tax wedge would increase employment opportunities for the low-skilled. Lifelong learning would strengthen employability. Vocational education should be further focused on equipping graduates with employable skills by intensifying co-operation with employers, and access to tertiary education should be widened further. The enterprise support framework should increasingly target innovation, thereby contributing to productivity-driven export growth.

Finally, there will always be a part of the population which will need support. All support programmes should be designed to maximise the prospects of re-integrating beneficiaries into employment. Social benefit recipients should therefore become regular clients of the unemployment insurance offices, and they should benefit from job search assistance and active labour market policies. Scarce resources should be more targeted to those in greatest need. Addressing the large inflows into the disability system is a priority.
### Key policy recommendations

**Reducing excessive macroeconomic volatility**

- 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.

- Mitigate credit cycles. Calibrate and prepare to implement macroprudential tools, starting with countercyclical capital buffers. With regard to cross-border cooperation, increase efforts to effectively implement a wider set of tools.

**Increasing economic resilience**

- Increase spending on active labour market policy, and better target spending, while ensuring stronger cooperation among local governments, education institutions and the Unemployment Insurance Fund.

- Increase the financial incentives of employers to invest in lifelong learning. Target public co-financing towards low educated and older workers, as well as towards employees in SMEs.

- 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.

- Further strengthen cooperation with employers and consider giving subsidies for apprenticeship places for youth in vocational education. Increase the permeability between different educational levels.

- 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.

**Reducing poverty through activation and better targeted support**

- Refocus the social protection system on activation and return to work, underpinned by stronger inter-agency cooperation. Swiftly conclude the analysis phase in preparation for internet-based e-services. All working age people with some capacity to work should become clients of unemployment insurance fund offices and be encouraged to participate in job search and activation.

- Benefits should be more targeted to provide sufficient help for those in greatest need.

- Strengthening health spending efficiency, promoting healthy lifestyles and improving access for disadvantaged groups should be priorities to improve health outcomes and reduce health outcome gaps.

- 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, like preferential VAT rates. Reductions in direct taxes should be tilted towards low-earners.
Assessment and recommendations

The strong recovery from the crisis has been attributable to structural strengths of the economy: a flexible labour force, business friendly regulation, well capitalised financial institutions, a successful transition from the currency board to euro area membership, and sustained credibility of fiscal policy. Nevertheless, the main macroeconomic aggregates, including output, the labour market, inflation and the current account have shown unusually large fluctuations in the last decade, mainly due to external shocks, which were amplified by domestic factors. Both the range and standard deviation of GDP growth rates were extremely high, even when compared to the smallest OECD economies (Figure 1). The output volatility was reflected in the labour market with large fluctuations in employment and unemployment, as well as large flows of workers both between different branches of the economy, and in and out of the country. These flows were linked to deep structural adjustments between tradable and non-tradable sectors, notably between construction and manufacturing, driven by the accumulation of large external (current account deficit) and internal (excessive loan growth) imbalances prior to the crisis. These imbalances were manifested in a distorted structure of activity and overheating together with high inflation.

Economic developments since the re-establishment of independence in 1991 should not be interpreted in isolation from the geopolitical environment with its far-reaching changes at different points in time:

- The collapse of central planning and the introduction of a market economy meant a complete change of the regulatory environment and a re-orientation of economic relations.
- The financial crisis of 1997-98 exposed Estonia to contagion from internal default of the Russian government, with grave consequences for some export segments and financial balance sheets.
- The accession to the European Union in 2004 brought a new wave of confidence, not least because of political reassurance.
- The collapse of Lehman Brothers in September 2008 triggered a huge shock to the global economy, including Estonia’s exporting sector, which led to a global reassessment of risks, which caused far-reaching private and public spending reductions.

International comparative studies tend to suggest that large business cycle volatility has a negative impact on average growth and total welfare (Jones, 1999; Mendoza, 2000; Epaulard and Pommeret, 2003). Even if a moderate level of volatility may be growth-enhancing, very high volatility is detrimental to growth (Garcia-Herrero and Vilarrubia, 2007), in particular via the negative impact on investment in physical and human capital (Ramey and Ramey, 1995). Econometric evidence suggests that volatility contributes directly to economic insecurity and lower well-being (Wolfers, 2003; Sjöberg, 2010, Chapter 2), even after controlling for income per capita (Figure 2), and might therefore lead Estonians to report being less satisfied with life. Nevertheless, the political system and voting patterns are characterised by a relatively large degree of stability and support for an overall market minded approach to economic policy, coupled with a high degree of self-responsibility.

Recent large changes in the global economic environment pose challenges for which traditional economic policy is not well equipped. This Survey examines how far domestic macroeconomic policies can be made cyclically neutral or countercyclical and to what extent structural policies can make the economy more resilient, returning to trend growth more quickly after an adverse external shock. Finally, the Survey explores ways, in which the most vulnerable parts of the population can be better protected.
Figure 1. The Estonian economy is volatile
Range (left scale) and standard deviation (right scale)

A. Real GDP growth
YoY%, sa, 2001Q1 to 2011Q4

B. Employment growth
YoY%, sa, 2001Q1 to 2011Q4

C. Inflation
YoY%, 2000Q1 to 2011Q4

D. Current account balance
% of GDP, 2000Q1 to 2011Q3

E. Share of industry in employment
%, sa, 2000Q1 to 2011Q4

F. Share of construction in employment
%, sa, 2000Q1 to 2011Q4

Note: Inflation is based on the EU HICP for EU countries and CPI for New Zealand, OECD. Latest date varies over countries for some variables.
Source: OECD Quarterly National Accounts database and OECD Main Economic Indicators database.
While the crisis was externally triggered, domestic factors played an important role

Estonia’s generally successful growth model is based on free market principles, external opening and factor flexibility (OECD, 2009a). Growth prospects were boosted by EU accession in 2004 and the prospect of moving from the currency board to euro adoption, greatly reducing borrowing costs in euro. However, in 2008-09, a loan-financed real estate bubble burst at the time of the global financial crisis. While the trigger of the crisis was external, domestic policy settings had allowed the accumulation of macroeconomic imbalances, which were at the heart of the boom and bust cycle (OECD, 2011a). Lending standards were clearly procyclical. Borrowing in euro became very cheap and rising house prices seemed to make every mortgage a safe bet. Since the crisis, banks have become more cautious and borrowing has hardly resumed. Before and during the crisis, fiscal policy was also procyclical. The fiscal stance, which in hindsight was somewhat loose in the boom, was tightened very sharply in the crisis to preserve confidence and comply with euro entry criteria.

Obviously, a small size and large degree of openness can result in higher sensitivity to external shocks, although theoretical arguments are not conclusive and Estonia sticks out even among small economies (Figure 3). Small open economies tend to be characterised by greater volatility of annual growth rates due to higher exposure to global and sectoral shocks, even though openness has a positive net payoff for growth (Easterly and Kraay, 2000; Jansen, 2004; Furceri and Karras, 2007) and both trade and FDI openness can mitigate the impact of domestic shocks (Ahrend et al., 2011). The Keynesian multiplier - an indicator of how much domestic or external demand shocks are propagated throughout the economy - falls with increasing openness, measured by the marginal propensity to import. An empirical investigation decomposing GDP variation comes to the conclusion that the volatility of Estonian economy appears to be mainly explained by shocks specific to the country but common to all sectors of the economy, rather than specialization of the economy in highly volatile sectors (Koren and Tenreyro, 2007, 2010).
The economic recovery is strong and more balanced

The recovery itself is proceeding well but remains volatile. Following the very deep recession that started in the last quarter of 2007 and ended in the first half of 2010, the economy started to grow more rapidly (Figure 4) on the back of external demand and regained competitiveness, achieved by productivity enhancing adjustment and a swift wage response. However, quarterly growth stalled around the end of 2011, but then rebounded in the first quarter of 2012. The sources of growth were also evolving. The slowdown at the end of 2011 was primarily explained by weaker exports, as the global environment deteriorated, but it was also affected by large temporary factors, notably production shifts in one large electronics manufacturing company. When growth resumed in the first quarter of 2012, its structure shifted towards construction and retail activities, relying again on domestic sources of demand. This partly reflects an important stimulus provided by public investment, financed from Kyoto emission permit sales and EU structural funds. The strong recovery has been accompanied by improved external and internal macro balances and domestic financing conditions.

The unemployment rate increased sharply in the crisis, but had fallen to 10.2% in the second quarter of 2012, underpinned by very strong growth in employment, which increased above its pre-boom level. However, employment gains and unemployment reduction have been slowing. Although long-term unemployment rate is decreasing and reached 5.3% in the second quarter of 2012, it remains at relatively high level and labour market mismatches persist. Following the episode of annual deflation in the beginning of 2010, core inflation has been increasing moderately, and reached the annual rate of 2.6% in the first quarter of 2012. Commodity price shocks pushed up headline inflation to more than 5%, and the subsequent disinflation process has been slow.
Figure 4. The rapid recovery is uneven

A. GDP growth
QoQ%

B. Industrial production, employment and retail sales
QoQ%

C. Inflationary pressures are persistent
YoY%

D. Unemployment is stabilising
% of labour force

E. Capacity utilisation and confidence
% of balance, sa

F. Credit to households and corporations
billion EUR

Note: Capacity and business refer to manufacturing. Credit is stock at end of period. Core refers to the headline harmonised index of consumer prices (HICP) excluding food, energy, alcohol and tobacco.

Source: Bank of Estonia; EC DG Economic and Financial Affairs; Eurostat; OECD National Accounts database; Statistics Estonia; OECD Economic Outlook database.
The economy has been slowing through 2012 due to deteriorating external conditions, notwithstanding an ambitious public investment programme and a recovery in private consumption. Growth will pick up more strongly in the second half of 2012, when external conditions are projected to improve (Table 1). Moreover, while the economy has regained competitiveness in the aftermath of the crisis, there are important downside risks linked to the external environment. Further intensification of the euro area sovereign debt crisis combined with a slowdown in Nordic countries could push the economy into recession, mainly by weakening export demand, but also through precautionary saving and a declining propensity to invest in an uncertain environment. A deterioration of funding conditions for foreign parent banks could potentially lead to tightened credit standards, dampening further domestic demand growth. Higher oil prices would push up inflation and undermine both consumption and competitiveness, considering the high energy intensity of the economy.

Table 1. Demand, output and prices

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<td>GDP</td>
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<td>-14.1</td>
<td>3.3</td>
<td>8.3</td>
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<td>3.6</td>
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<tr>
<td>Private consumption</td>
<td>8.9</td>
<td>-14.8</td>
<td>-2.3</td>
<td>3.5</td>
<td>3.0</td>
<td>2.9</td>
</tr>
<tr>
<td>Government consumption</td>
<td>3.1</td>
<td>-1.9</td>
<td>-0.6</td>
<td>1.4</td>
<td>2.4</td>
<td>1.9</td>
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<tr>
<td>Gross fixed capital formation</td>
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<td>-38.3</td>
<td>-7.4</td>
<td>25.7</td>
<td>15.9</td>
<td>4.9</td>
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<tr>
<td>Final domestic demand</td>
<td>16.9</td>
<td>-19.1</td>
<td>-2.9</td>
<td>7.7</td>
<td>5.9</td>
<td>3.2</td>
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<tr>
<td>Stockbuilding¹</td>
<td>0.0</td>
<td>2.1</td>
<td>4.0</td>
<td>2.1</td>
<td>-1.5</td>
<td>0.1</td>
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<tr>
<td>Total domestic demand</td>
<td>16.9</td>
<td>-21.3</td>
<td>1.3</td>
<td>9.4</td>
<td>4.2</td>
<td>3.2</td>
</tr>
<tr>
<td>Exports of goods and services</td>
<td>11.5</td>
<td>-20.6</td>
<td>22.9</td>
<td>23.4</td>
<td>3.8</td>
<td>7.7</td>
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<td>Imports of goods and services</td>
<td>12.2</td>
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<td>21.0</td>
<td>25.0</td>
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<td>7.4</td>
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<td>Net exports¹</td>
<td>-0.7</td>
<td>-9.4</td>
<td>2.5</td>
<td>0.4</td>
<td>0.1</td>
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<td>Private consumption</td>
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<td>Government consumption</td>
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<td>Stockbuilding¹</td>
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<td>Total domestic demand</td>
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**Memorandum items**

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<td>Harmonised index of consumer prices</td>
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<td>Unemployment rate</td>
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<td>General government financial balance²</td>
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<td>General government debt, Maastricht definition²</td>
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<td>Current account balance²</td>
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Note: National accounts are based on official chain-linked data. This introduces a discrepancy in the identity between real demand components and GDP. For further details see OECD Economic Outlook Sources and Methods, available at [www.oecd.org/eco/sources-and-methods](http://www.oecd.org/eco/sources-and-methods).

1. Contributions to changes in real GDP (percentage of real GDP in previous year), actual amount in the first column.
2. As a percentage of GDP.

Source: Statistics Estonia and OECD Economic Outlook 91 database.

Reducing imbalances by changes in fiscal policy design and financial market regulation

Volatility can be mitigated by avoiding the return of macroeconomic imbalances that led to the boom and bust. The small size of the economy implies that relatively minor policy mistakes can be magnified by cross-border capital flows. Even a relatively modest increase in asset allocation in a larger economy can dramatically increase the size of resources flowing into a small one, potentially fuelling speculative bubbles (Barnes et al.,
Indeed, the availability of international financing allowed domestic borrowing in Estonia to triple in the years prior to the crisis (OECD, 2009a). Decisive policy adjustment will be needed to keep imbalances in check when confidence in the euro area financial markets improves and Estonia, with its euro membership, very low level of public debt and high potential growth rates, is seen as an attractive investment destination. Two of the most important areas where more can be done in the future to prevent the accumulation of large imbalances include fiscal policy and supervision of the financial services. The appropriate response requires developing an effective warning system. The European Commission’s EU Alert Mechanism Report, first published in February 2012, is an important step forward that needs to be complemented by stepping-up in-depth country-specific analysis linked to the characteristics of the Estonian economy: its small size, sectoral structure, large migration flows, cross-border work, dependence of the local banking system on foreign sources of funding, and the prevalence of variable interest rate lending. A more integrated and comprehensive approach to the analysis of both economic and financial sector developments need to cover the national, Nordic-Baltic and European levels. In doing so, pooling of available competencies and resources across government agencies will be important.

Making fiscal policy less procyclical

Prior to the crisis, fiscal policy in Estonia followed an implicit “balanced budget or better” rule underpinned by strong political commitment to low or zero government debt. As a result, total public gross debt is very low and government net assets are positive (Figure 5). However, it is clear in hindsight that fiscal policy was not restrictive enough prior to the crisis, contributing to the overheating of the economy and requiring procyclical tightening in the crisis (OECD, 2011a). Making fiscal policy less procyclical is challenging, given difficulties in identifying cyclical revenues and fiscal windfalls in a rapidly growing catching-up economy, and given the small size of automatic stabilisers and fiscal multipliers. However, the lesson from the boom period in Estonia is that the price of not tightening enough in a long-lasting boom period can be very high.

The current medium-term fiscal strategy foresees maintaining a budget surplus and therefore gradually reducing debt from 2014 on. Starting in 2015, the government plans to replenish budgetary reserves to maintain the flexibility to react to possible adverse shocks, while at the same time reducing the tax burden to the pre-crisis level. The size of debt and the budgetary reserve to be ultimately targeted should be chosen with a view about expected future volatility, but should also take into account the low return on government financial assets in comparison with the possibly large social returns of growth-enhancing public spending in a catching-up economy (IMF, 2011a).

A well designed fiscal rule could, in principle, help to avoid procyclical policy by letting automatic stabilisers work fully and providing a framework for additional discretionary action. The authorities are currently preparing a concept paper for the strengthening of the fiscal framework required under the EU Fiscal Compact, to be adopted by the end of 2012. The fiscal rule will most likely take the form of a structural budgetary balance requirement in the State Budget Act. Structural budgetary balance constitutes a better measure for assessing the underlying orientation of fiscal policy than the headline deficit. Such a rule is therefore likely to reduce procyclicality. However, its practical implementation will be challenging due to difficulties in identifying the cycle, limiting the effectiveness of the structural balance as a target for guiding fiscal policy (Larch and Turrini, 2009).

Nevertheless, multi-year expenditure ceilings should be implemented, as these are particularly effective in containing spending growth in boom years and maintaining public sector efficiency (OECD, 2011a). Moreover, most automatic stabilisers, weak as they are in Estonia, work through the revenue side. The requirement for keeping expenditure increases in line with potential output growth, agreed at the EU level as part of the strengthening of the preventive arm of the Stability and Growth Pact, is a good starting point. Further tightening borrowing limits on municipalities is also needed. It should follow on the recent law that requires municipalities to prepare medium-term financial planning and to keep
primary expenditure in line with primary revenues, imposed limits on net debt and rules for investing liquid assets, accompanied by the possibility of sanctions.

A structural balance rule, coupled with multi-year spending ceilings, allows automatic stabilisers to work fully in both directions. Beyond this, discretionary tightening could be warranted in the years ahead were another substantial boom to materialise. However, experience in Estonia and elsewhere (see for instance OECD, 2010a) has shown that it is difficult to sustain surpluses in good times, as pressure for (procyclical) tax cuts or spending increases mounts. The government has the possibility to undertake some discretionary tightening by increasing contributions into the second pillar pension funds to restore losses incurred in the recession, as recommended in the 2011 Economic Survey of Estonia.

Figure 5. Fiscal policy should have been less procyclical

An independent fiscal institution would act as a watchdog for the assessment of the cyclical position of the economy and hence facilitate the implementation of the structural balance rule, and, if adopted, a spending ceiling. It could also be charged with the task of making recommendations about discretionary countercyclical policy actions. In this respect, the institution’s analysis would help to overcome public resistance to sustained surpluses in boom years, through transparent communication of long-term fiscal challenges and short-term risks. This can be particularly important when estimates of

Source: OECD Economic Outlook 91 database.

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cyclical and underlying position are difficult to pin down. To limit the cost of creating new institutions in a small economy, ways should be sought to use existing resources and competencies for such a mandate. However, the evidence suggests a positive relationship between the perceived impact on fiscal performance and formal guarantees of independence from political influence (Debrun and Kumar, 2008). Such independence requires adequate firewalls, both concerning staffing decisions and its funding (Hagemann, 2010).

**Mitigating credit cycles through macroprudential policies and cross-border supervision**

From a low starting point, the level of credit financing to the economy has increased more rapidly than elsewhere to become the highest among new EU members (Herzberg, 2010). Nevertheless, there is scope for further deepening of financial markets. Against this backdrop, macroprudential policy can play an important role in stabilising the banking sector. This is especially important, as banking turmoil tends to be associated with the longest and most severe economic crises (Reinhart and Rogoff, 2010). Foreign ownership of the banking sector by well capitalised Nordic banks contributed to its resilience, but the extraordinary credit cycle fuelled by foreign financing pushed loans to a level almost twice as high as the domestic deposit base (Figure 6), amplifying the business cycle. Since the crisis, bank loans have declined about 17% over a three-year period. Recent data show that overall deleveraging is bottoming out. Estonia is likely to remain exposed to the risk of excessive credit cycles in the future (OECD, 2011a). Although the dependence on foreign funding is falling and credit demand will remain sluggish in the short run, low interest rates and easy financing conditions in the euro area might fuel another spending boom.

Estonia should be prepared to act more decisively if another credit boom materialises. International experience of using macroprudential tools is relatively scarce; only limited number of tools has been used in the EU countries. Figure 7 provides a list of possible tools mentioned by regulators in a survey (Lim et al., 2011). Since the Estonian banking sector is dominated by foreign banks, it is important to work out and implement the tools that ensure effective achievement of macroprudential objectives in such an environment. These instruments can be applied at the aggregate or sectoral (such as housing mortgages) level. They can also be combined. For example, capital surcharges could apply to high LTV lending.

The right calibration will be a major challenge in applying countercyclical financial sector regulation, as the methodology outlined under Basel III guidelines is not well suited for a catching-up country with further scope for financial deepening (Frait et al., 2011). Given the bank ownership by Nordic parents and large cross-border financial flows, prudential policy requires close cross-border supervisory cooperation, notably by ensuring that macroprudential measures are binding for all lending banks, irrespective of their country of residence, through the principle of jurisdictional reciprocity. Joint cross-border stress tests and crisis management exercises in the Nordic-Baltic Stability Group would also help to identify risk in a highly integrated regional financial sector (OECD, 2011a).

At the same time, enhancing financial literacy would mitigate the risk that individuals who cannot evaluate their financial operations find themselves in trouble. They might overestimate the borrowing they could afford, especially under the current low interest rate environment. Estonia has relatively low scores in terms of financial literacy, and those with less education, and lower and unstable incomes are particularly vulnerable (Atkinson, A. and F. Messy, 2012). It is therefore positive that Estonia has begun designing a national strategy for financial education and is an active member of the OECD International Network on Financial Education (Grifoni and Messy, 2012). Estonia is also in the process of incorporating financial education into the school curricula. In addition, in the aftermath of the crisis several municipalities and non-government organisations launched debt counselling, notably to advise on loan refinancing and restructuring. These efforts should be supported by the central authorities, in particular in terms of providing relevant information and capacity building.
The Debt Restructuring and Debt Protection Act, which came into force in April 2011, enables debtors to restructure debt more flexibly, notably allowing reducing payment obligations, extended deadlines, repayment by instalments and protection from excessive interest or penalties for late payment. Simultaneously, an amendment to the Bankruptcy Act shortened the minimum period after which the court may, under specific conditions, partially relieve a person of remaining obligations. In order to make the restructuring process more efficient and less costly, the authorities should explore whether increasing the role of out-of-court restructuring mechanisms is possible (OECD, 2011a).

Figure 6. Credit growth has been excessive

A. Credit growth and loan to deposit ratios

B. Completed dwelling and housing prices

C. Credit to economy as % of GDP

D. Share of foreign owned banking assets, %, 2007

Note: Loans and deposits refer to stock for residents in December of each year. Credit to the economy is credit to the private sector that establishes a claim for repayment. For some countries these claims include credit to public enterprises.

Figure 7. Macropudential policy tools are gaining importance

Number of EU countries supporting each measure
(based on responses from national financial sector regulators)

<table>
<thead>
<tr>
<th>Measure</th>
<th>Number of Countries</th>
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<td>Caps on loan-to-value ratios</td>
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<td>Restrictions on profit distribution</td>
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<td>Dynamic provisioning</td>
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<td>Countercyclical capital requirement</td>
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<td>Capital surcharge</td>
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<td>Caps on debt-loan-to-income ratios</td>
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<td>Limits on maturity mismatch</td>
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<td>Limits on exposures or concentration</td>
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<td>Haircut or margin on collateral</td>
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<td>Core funding ratio</td>
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<td>Limits on net open currency positions/currency mismatch</td>
<td>15</td>
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<td>Sector specific taxes</td>
<td>15</td>
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<td>Time varying liquidity coverage ratio</td>
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<td>Reserve requirement</td>
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<td>Ceiling on credit or credit growth, incl by sector</td>
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<td>Caps on foreign currency lending</td>
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<td>Size dependent leverage limit</td>
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<td>CCP for derivatives</td>
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<tr>
<td>Levy on wholesale funding</td>
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Note: 15 countries included in the Survey: Austria, Belgium, Finland, France, Greece, Italy, Netherlands, Portugal, Spain, Sweden, Norway, Poland, Hungary, Bulgaria and Romania.


Box 1. Recommendations on reducing excessive macroeconomic volatility

Key policy recommendations

- 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.

- Mitigate credit cycles. Calibrate and prepare to implement macroprudential tools, starting from countercyclical capital buffers. In regard with cross-border cooperation increase efforts to effectively implement a wider set of tools.

Other policy recommendations

- Prepare a framework for accumulating reserves in social security funds. Task the new independent fiscal institution with assessing the cyclical indicators; monitoring the budget outcomes, and, when appropriate, recommending discretionary policy measures.

- Further enhance cross-border supervisory cooperation, 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.
Improving resilience by further labour market, education and innovation policy reforms

The labour market has been highly volatile. From 2000 until the beginning of the recession, unemployment fell and in 2007 and 2008 it was around 5%, and lower than the OECD average. The boom allowed vulnerable categories of jobless workers to be brought back into the labour market, such as the low qualified, non-Estonian speakers and older workers. During the boom most of the new jobs were created in the construction sector (OECD, 2011a). The period of job-intensive growth was followed in 2008 by a job-intensive bust: the ratio between the decline of employment and the decline of output was 71% in 2009 compared with 43% in the old EU members (Masso and Krillo, 2011; Merikull, 2011). As a result, the unemployment rate rose dramatically from 4.7% in 2007 to 16.8% in 2010 before falling again to 12.5% in 2011. The number of Estonian migrant and cross-border workers also increased markedly during the crisis.

The occurrence of high unemployment episodes and the concomitant high risk of structural unemployment require a broad range of measures that improve the resilience of the labour market, such as a lower tax wedge, further reforms of regulation in labour and product markets, and strong activation policies (Blanchard and Wolfers, 2000; Gianella et al., 2008; Duval et al., 2007; OECD, 2009b). The reform of employment protection legislation in mid-2009, and the extension of the activation policies from only 0.05% in 2007 to 0.24% of GDP in 2009 go in the right direction. However, spending needs to be increased further, given the high share of long term unemployed and growing complaints about skill mismatch. Programmes need to be better targeted on the groups facing obstacles to employment, and the results from the built-in monitoring and evaluation efforts should be used to adjust the design and volume of individual programmes to increase spending efficiency.

Increasing the initial levels of education and continuing vocational training would also increase employment performance (OECD, 2004) and more generally growth (Vandenbussche et al., 2006). Education policy needs to be balanced between professional and academic goals, avoid skill mismatches in the labour market, early drop-outs from education and inequality of access to education. Improving job-to-job and school-to-job transitions requires an education system which provides formal education and training that fit in with labour market needs. Experience in other OECD countries shows that vocational training is more effective if carried out in co-operation with employers.

Improving labour market resilience by strengthening activation programmes

The crisis deeply hurt some groups of workers, in particular youth, ethnic non-Estonian and poorly qualified workers, whose unemployment rates reached, respectively, 22%, 18% and 26% in 2011 (Figure 8). Unemployment increased in all regions during the last crisis, but reached the highest rate of 25% in the north-eastern part of the country (Merikull, 2011). Vulnerable groups face a higher risk of being excluded from employment and hence require greater support through participation in active labour market programmes (ALMPs).
The efficiency of ALMP spending can be increased by ensuring stronger cooperation and clearer division of tasks among local governments, education institutions and the Unemployment Insurance Fund, as well as better targeting; otherwise there is a risk of spreading resources too thinly (Figure 9). Currently, participation in programmes is not targeted to specific at-risk groups, except for hiring subsidies which are reserved to long term unemployed and - with softened conditions - for youth. Specific needs of each unemployed are identified by the Public Employment Service during the Individual Action Plan, and participation in identified programmes then becomes compulsory for the unemployed. Even if the long-term unemployed tend to participate more in some programmes, there still exists some scope for targeting to better capture the disadvantaged. For instance, participation in training is biased towards the relatively well educated and prime-aged unemployed (Centar, 2012). Efficiency gains could be increased by better targeting programmes to at-risk categories, i.e. youth, older workers, low educated, non-Estonian speakers and long term unemployed.

1. Data for specific occupations refers to year 2011. These are based on the major occupation groups in the International Standard Classification of Occupations (ISCO-08), of which we have shortened the titles for display purposes. “Skilled agricultural” in the present study thus stands for the original major group “Skilled agricultural, forestry and fishery workers” in the ISCO; “Technicians” stands for “Technicians and associate professionals”; “Clerical” stands for “Clerical support workers”; “Services” stands for “Service and sales workers”; “Plant and machine operators” stands for “Plant and machine operators, and assemblers”; and “Craft” stands for “Craft and related trades workers”.

Source: Statistics Estonia.
Figure 9. Active labour market policies need to be reinforced

A. Active labour market policies per unemployed, % of GDP per capita, 2010¹

B. Spending by active labour market programme, Estonia, % of total expenses, 2011

1. 2007 for Switzerland and Norway; 2009 for United Kingdom; 2011 for Estonia.
2. Others include: Counselling; Substitute care-giving; Other measures; Special aids and equipment; Adaptation of premises and equipments; Communication support at interviews.


Estonia-specific studies and international experience suggest that spending in Estonia on wage subsidies, training and work-practice programmes improves labour market outcomes, even if training programmes show only modest effects in the short run (Martin and Grubb, 2001; Card et al., 2010; Kluve, 2010; OECD, 2004, 2005a, 2006 and 2007a). The main strengths and weaknesses of the programmes include:

- Training schemes have increased the employment of participants and contributed to stable and higher quality jobs (Lauringson et al, 2011; Centar, 2012). However, the quality of training courses is an area of concern (Centar, 2012). The quality of training courses cannot be observed in advance and the only consequences of a negative outcome of ex post monitoring and evaluation is the threat of discontinuing procurement. However, continuous procurement relations with one provider are difficult to establish within current procurement regulations.

- Work practice (internships) schemes, in which firms train future employees according to their needs, have been found to be effective in increasing the employability. In 2010, 49% of participants got a job after participating in the programme (Leetma and Nurmela, 2010). However, these schemes are not popular and are often considered by firms as an opportunity to obtain temporary cheap labour (Jurgenson et al., 2010).
• Preliminary results of a study on wage subsidies confirm that those schemes significantly improve the probability of stable employment (Centar, 2012). Wage subsidy schemes provide immediate feedback about the placement of a programme participant, but hiring could have occurred even without the subsidy or could have crowded out other jobs. Targeting subsidies at groups facing difficulties would minimize such risks.

Effectiveness of training programmes could be increased by rebalancing spending and increasing the quality of individual programs. The recent increase in training vouchers (from EUR 950 to EUR 2,500) goes in the right direction by offering greater prospects of acquiring formal qualifications. The UIF should be granted more flexibility to procure training courses by allowing it to choose providers based on course quality, in addition to price. Post-training employment performance evaluation could be used as a tool to judge course quality. The choice of training courses should also directly involve employers, for example through chambers of commerce and employer surveys and, where appropriate, contacts with individual firms. As the situation in the labour market improves, wage subsidy schemes should be increasingly targeted on problem groups (Orszag and Snower, 2003) and linked to net hiring by firms (OECD, 2010b). The attractiveness of work practice schemes in general and apprenticeships in particular, will increase with the quality of training offered by employers, leading to recognizable and certified skills.

Reducing skill mismatches and improving job-to-job transition through lifelong learning

Increasing lifelong learning has been a crucial challenge for Estonia, where 32% of the workforce has no professional (vocational or tertiary) education and the share of under-skilled and under-qualified is one of the highest among OECD countries (OECD, 2012). In the last decade the government managed to increase lifelong learning participation to 12% in 2011, which is above the EU average (Figure 10). This probably helped the workforce to adapt to the rapid structural changes in the economy, consistent with international evidence on positive outcomes of lifelong learning, as reflected in a wage premium or improved employability at every level of education (Ok and Tergeist, 2003; Bassanini, 2004; Bassanini et al., 2005).

Against this backdrop, lifelong learning spells in Estonia are short and do not result in certification (NAO, 2010b, Figure 10). To enhance the quality of lifelong learning, conditions for increasing resources for training need to be created. A recent reform, excluding employers’ spending on employees’ work-related studies from the fringe benefit tax, is likely to stimulate spending. The authorities should also use the current review of funding schemes for adult education to consider extending the training voucher scheme towards employees, financing them mainly through employers and employees’ contributions given the private return associated lifelong learning. Regulatory actions, such as promotion of pay-back clauses, could be another way to improve incentives by reducing the risk of free-riding among firms (OECD, 2005b). On the other hand, incentives for trainees could be increased by developing certification and providing information about the return from different training programmes (OECD, 2010c).

Participation in lifelong learning is currently biased toward highly skilled persons. In 2011 only 2.6% of the 25-74 year olds with only lower upper secondary education participated in lifelong learning, among the lowest in Europe (Figure 10). While beneficiaries should in principle cover the cost of training, several market failures lead to underinvestment. Firms have lower incentives to pay for basic knowledge of low educated workers (which is highly transferable between firms) or for training to upskill older workers (who are close to retirement). Small and micro firms, whose number is particularly high in Estonia, face more obstacles when investing in training, including lack of time and resources. As a result, 60% of small firms (10-49 employees) engage workers in continuous vocational training, relative to almost 100% of large firms (Statistics Estonia, 2011). In 2010, spending for on-the-job training has increased, but a significant size-related gap remains. In this context, public funding should be targeted to low educated, older workers and workers in SMEs.
Competence in the Estonian language is important to be able to fully benefit from employment opportunities. Providing Estonian language competencies should therefore continue to be a high priority. In addition to further measures to make sure that all young labour market entrants do not suffer from a lack of Estonian language competency (see below), it should be carefully monitored whether the current intensity of language training in active labour market measures is sufficient.

**Figure 10. Reducing skill mismatches requires expanding lifelong learning**

A. Under-qualified and under-skilled

% of employed

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B. Lifelong learners are more highly educated

% of 25-74 year-olds with a specific educational attainment participating in lifelong learning, 2011

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<tr>
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<th>Below upper secondary</th>
<th>Upper secondary and post-secondary non-tertiary education</th>
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C. Participation in lifelong learning has increased

% of 25-74 year-olds participating in lifelong learning

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D. Hours¹ spent by participant on education and training are low

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Note: Upper secondary is ISCED 3&4, tertiary is ISCED 5&6. Under-qualified workers are those whose qualifications are lower than required by their occupation. Under-skilled are those who reported a need for further training to cope well with their duties.

1. Number of instruction hours in formal or non-formal education and training per participant during 12 months, population aged 25-74, 2007.

Source: OECD (2011), Employment Outlook, Figure 4.1 and European Survey of Working Conditions (2010); Eurostat.
**Improving school-to-job transition**

The number of young people who are not in education, employment or training (NEET) has led to increasing concerns about school-to-job transition in Estonia (Figure 11). Much of NEET is related to the high drop-out rate from vocational education which reached 19.5% or almost 6100 students during 2010/2011 despite efforts to reduce it and was even higher during the boom at 20%. Measures have been taken to raise the professional background of youth, including the KUTSE programme aiming at bringing back to vocational education 400 pupils who dropped out during the 2000s or are without job or formal qualification. Such a programme goes in the right direction but it is undersized. At the same time some free capacity seems to be available in vocational schools.

Estonia should consider moving towards a model similar to those implemented in the United Kingdom, the Netherlands, Austria and Finland, which require the employment office to offer formal education or apprenticeships to youth not in employment, education or training, at least until the age of 18. Such measures could be combined with financial incentives given to employers for developing apprenticeship places which has proven to be efficient in Denmark (Westergaard-Nielsen and Rasmussen, 1999).

**Figure 11. Improving school-to-job transition is priority**

A. Attractiveness of vocational education could be improved

Number of dropouts from vocational education

B. Share of young who are neither employed, in education or in training remains high

% of 15-24 year-olds not in education, employment and training, 2011Q1

C. The share of students in tertiary education who work is high and that of students with low education background is low

% of students

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1. Students whose parents have obtained at most a lower secondary level of education (ISCED 0-2).

*Note:* Tertiary student data refers to ISCED 5A level in 2008-10 depending on the country. The Estonian sample includes students enrolled in professional higher education programmes at ISCED level 5B. The Danish sample includes only ordinary full-time students that do not pay fees.

Vocational education suffers from a high number of drop outs and low popularity among good students. This reflects a quality problem. International experience suggests that vocational education should build on the foundation of certified and transferable knowledge and should provide an appropriate balance between practical and academic skills, allowing students to get a start as qualified worker and to continue with post-secondary education at later stages of their employment career (OECD, 2010c). It is therefore important that the proposal to restructure the curriculum of vocational education, by putting more emphasis on professional learning, is coupled with the introduction of the possibility for an extra year of general studies for graduates who want to go to university. This reform is a welcome step to further increase the permeability between the two systems, with 11.6% of vocational education graduates continuing with studies in higher education in 2011. The quality of the professional learning part of vocational studies is also a challenge and the current proposal to require all teachers to have two months of industry experience during the last five years goes in the right direction, although it is far less than in countries with more successful vocational training systems. One way of fostering co-operation with employers is to offer part-time teaching positions, as many vocational education institutions in Estonia do, for practitioners, if possible in middle management positions not too far away from the work floor.

A lower level of spending in vocational education is likely to harm its quality, which apparently results in high drop-out rate and lower employment perspectives. Spending by student in vocational education currently amounts to 80% of that observed in general upper secondary education and the number of students per teacher is 17 in vocational education, well above the 12 students in general education. Estonia could take the opportunity of declining demographic trends and the resulting reduced educational spending needs to increase the currently relatively low per student spending for vocational training.

To reduce early academic failure related to the lack of proficiency in the Estonian language the authorities should strengthen their efforts to improve the integration of resident non-Estonians. Specific policy measures targeted at this group and aiming at improving their language skills would also improve their opportunities in the labour market. Further widening Estonian language immersion programmes, at least from the first year of primary school and optimally in the kindergarten, should be considered.

**Improving access to tertiary education and reforming its funding**

The enrolment of students with low socio-economic backgrounds in tertiary studies is particularly low (Figure 11), although a recent reform of the higher education system implements the right to study for free to all students entering tertiary education. It also introduces a system of means-tested income support, which aims at helping students bear the cost of living. This reform goes in the right direction. However, some features of the new system might make cash-constrained students worse off. Full time study is still required to qualify for tuition-free study, as reflected in the requirement to complete the curricula in a given time, but the proposed value of EUR 135 per month for the mean-tested grant is likely to require students without parental support to work to support themselves while studying.

Moreover, the new system raises efficiency issues. High private return from tertiary education justify some cost-sharing (tuition fees), which would free scarce resources for other purposes. While, stronger support for students from weaker socio-economic backgrounds is crucial, cost constraints facing such students would be better addressed through a system of state guaranteed student loans with income contingent payback schemes.

The public funding system of higher education in Estonia has been reformed. Planning of student places in the so-called state-commissioned system has been so far determined at the central level according to the past number of graduates. The distribution of funds among different fields of education was based on a complex and rigid system of 34 coefficients (OECD, 2007b). This funding system has distorted students’ choice by reducing the weight of labour market signals (e.g. expected future wage). The reform introduced by the government should increase the flexibility of higher education. Funding
for higher education will mostly depend on a set of performance indicators (taking into account the volume, the quality and the efficiency of study programmes) approved by parliament and agreed on a three-year basis between the government and the tertiary education institutions. This leaves more room for the institutions to organize the distribution of study places by field of education.

**Improving the enterprise support framework to further develop the export base**

A small economy needs to devote a lot of attention to find an appropriate place in the international division of labour (OECD, 2011a). A better allocation of the work force, more efficient school to work transition, higher human capital accumulation and more participation in tertiary studies would foster the technological catching-up of Estonian firms by increasing their ability to absorb new technology and to innovate (Cohen and Levinthal, 1989). Estonian firms remain mainly specialized in low technology products that are easy to imitate and are most often unprotected by patents. Only limited progress has been realized during the last decade in this area (Figure 12, Panel A). Firms have been found to export relatively low quality products in a small number of varieties (Benkovskis and Rimgailaite, 2011) and to fewer destinations (Figure 12, Panel B). Low technological sophistication interacts with the role of Estonian firms in the global value chain: the domestic value-added content of exports is among the lowest in OECD countries and this share declined during the 2000s (OECD, 2011a).

**Figure 12. Estonian firms export low and medium technological goods to a small number of partners**

A. Revealed Comparative Advantage (RCA) by Technology Intensity

![Diagram showing RCA by Technology Intensity](image)

B. Export values according to the number of partners, 2009

![Diagram showing export values by number of partners](image)

*Note:* The revealed comparative advantage (RCA) measures the intensity of trade specialisation of a country within a region or the world (here: within the OECD for trade of goods). If the RCA takes a value less than 1 this implies that the country is not specialised in exports of this industry. The share of this industry within the total exports of goods of this country is less than the corresponding OECD share. Similarly if the index exceeds 1 this implies that the country is specialised in this industry’s exports. The export market share by industry measures the degree of importance of a country’s industry within the total merchandise exports of the OECD. The indicator is calculated by dividing the exports of goods of the respective industry of the country by OECDs total merchandise exports of this industry (expressed as percentage in the database).

*Source: OECD Trade by Enterprise Characteristics database, OECD STAN Bilateral Trade database by Industry and End-Use Category database, and OECD Micro Trade Indicators database.*
Estonian firms, which are predominantly small (large firms account for only 25% of global value added, against 42% on average in the EU) are facing barriers to develop products and services that could be offered on export markets. Small companies usually spend less on innovation, are less engaged in international operations and have higher financing restrictions, in particular when having to rely on a predominantly foreign owned financial sector (Havrylychyk, 2012).

Improving the performance of Estonian firms in terms of technological content would have a positive impact on productivity and export performance (Altomonte, 2012; Krugman, 1989; OECD, 2011a). International studies argue that exporting is a self selected activity: once firms are productive enough they decide whether to export (Stöllinger and Foster, 2012). There is less evidence that increasing exports stimulates innovation. In fact, few exporting firms in Estonia are engaged in innovative activities. Supporting innovation activities and stimulating the differentiation of goods and processes, even in low and middle technology industries, could give Estonian firms a competitive edge in the international division of labour. Innovation support tends to be more efficient than another forms of enterprise support, given the evidence of strong positive externalities (Mohnen, 1996; Griliches, 1992) and it would also have a positive impact on the ability to export (Stöllinger and Foster, 2012). At the same time it is necessary to make sure that small firms have a cost-efficient access to services which are necessary for exporting.

Some progress was realized in Estonia regarding the overall level of R&D spending which rose from 0.6% of GDP in 2000 to 1.63% in 2010 (Figure 13), mainly due to a strong increase in private funding. Nevertheless, the share of private funding is still well below OECD average (44% against 60% in 2010) which might be worrying because public funding is heavily dependent on temporary EU funds (64% of public funding in 2011). Furthermore, the current grant-based scheme could be less effective in allocating high amounts of public funding. Efficiency gains could be expected from streamlining current research and innovation policy, increasing cooperation between ministries and better monitoring and evaluating support schemes (ERAC, 2012).

Figure 13. Private sector expenditure in R&D remains low

![Figure 13. Private sector expenditure in R&D remains low](chart)

1. 2009 for OECD.

Source. OECD Main Science and Technology Indicators database.
Export capacity and growth more broadly would be strengthened by increased foreign investment. As discussed in the 2009 Economic Survey of Estonia (OECD, 2009a) Estonia has a favourable business tax and regulatory environment. Nevertheless there appears to be further room for improvement of the general business environment, in particular concerning public monopolies, procurement regulation and expanding regulatory impact analysis to existing regulation. As discussed in the 2011 Economic Survey of Estonia (OECD, 2011a), the challenges of globalisation and the lack of economies of scale in the small Estonian economy might require employing a broader set of policy instruments, including support for clusters and technology transfer. Policies to attract technologically advanced FDIs would be especially welcome given the low transfer of foreign technology associated to current inflows, mainly dominated by the financial intermediation industry and low-value added manufacturing goods (Masso et al., 2010). Pilot projects based on the smart specialization methodology could test the practical feasibility of targeting support towards specific industries in the future and help avoiding the risks of the government trying to pick winners.

Decoupling economic growth from energy consumption and emissions

The high energy intensity of the economy (Figure 14) increases the vulnerability to commodity price shocks and might undermine competitiveness. It has also an important environmental dimension, as per capita CO₂ emissions from electricity and heat production were more than twice higher than the OECD average in 2009, even after it had been reduced by 60% since 1990. Energy consumption fell dramatically after the collapse of the Soviet Union, but increases in energy efficiency have slowed since 2000 and practically stopped since 2005 (Odyssee, 2011). Energy consumption per unit of gross domestic product was still three times larger in Estonia than in the EU on average in 2008 (EEA, 2011). The potential for energy savings have been estimated at 30% for heat and 10% for electricity generation, but even larger savings could be achieved by improving the efficiency of buildings and the transport sector (government of Estonia, 2012).

So far, policy directed at improving energy efficiency and reducing the environmental impact of economic activity had limited scale, is fragmented among different programmes, financed from different sources, and there were no clearly established and measurable saving objectives (NAO, 2009). In particular, current investments in transport aimed at energy efficiency, including recent purchases of electrical cars and more efficient busses and trams, are not sufficient to reduce the growth of emissions due to the continued shift of freight from rail to road, and personal transport from public transport to private cars, which are among the least fuel-efficient in the EU (European Commission, 2012). For example, the number of trips by public transport has fallen by more than 10% in recent years against an increase targeted in the Transport Development Plan for 2005-13. This may complicate meeting Estonia’s 2020 emission reduction targets (EEA, 2011).

Instruments promoting energy efficiency therefore need to be strengthened, but they should also be more rigorously evaluated and better coordinated. Apart from investment in transport infrastructure, targeted support for energy conservation in building and the adoption of low-energy technologies in industry, it would be essential to provide the right price incentives in sectors outside the EU Emission Trading System. Tax rates on all energy sources, including diesel, should therefore be harmonized according to the externalities they generate, increasing the aggregate revenues from environmental taxation and creating room to reduce more distorting taxation (OECD, 2011a).

More positively, while still highly dependent on shale oil as a main energy source, Estonia seems to be on track for meeting its target on the 25% share of renewable energy sources, with 24% share achieved already in 2010, although further gains could be achieved by improving grid capacity to absorb increasing wind electricity generation (European Commission, 2012).
Figure 14. Energy and emission intensities are high

1. GDP in 2005 constant prices at purchasing power parity.
**Box 2. Recommendations on improving resilience**

**Key recommendations**

- Increase spending on active labour market policy, and better target spending, while ensuring stronger cooperation among local governments, education institutions and the Unemployment Insurance Fund.
- Increase the financial incentives of employers to invest in lifelong learning. Target public co-financing towards low educated and older workers, as well as towards employees in SMEs.
- 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.
- Further strengthen cooperation with employers and consider giving subsidies for apprenticeship places for youth in vocational education. Increase the permeability between different educational levels.
- 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.

**Other recommendations**

- 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.
- Make lifelong learning more attractive for adults by insureing that training leads to the acquisition of qualification and by providing information about the return from different programmes.
- 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.
- Strengthen policies to reduce energy and resource intensiveness through appropriate pricing and setting better incentives for energy saving programmes.

**Reducing poverty through activation and better targeted support**

In the crisis, the poor were hit particularly hard (Figure 15). The fall in disposable incomes of the lowest quintile was large in absolute terms and relative to higher income quintiles. The share of population living below the absolute poverty line, i.e. with expenditures below the subsistence minimum increased from 6.5% in 2007 to 11.7% in 2010, and among children it increased from 9.4% to 18.1%. Those who lost employment were most badly affected, as households without work are at a very high risk of poverty. In contrast, pensioners, who were protected from the turbulence in the labour market, were less hard hit in the crisis. Negative changes in incomes were reflected in subjective assessments of well-being, with large losses in life satisfaction concentrated at the bottom of the income distribution.
Figure 15. Economic crisis had a strong negative impact on the poor

A. Incomes at the bottom have been hit hardest

Household disposable income, real change %, 2008-2010

B. Absolute poverty increased sharply

Share of household members under absolute poverty line

C. Lower income households report the biggest hit on life satisfaction

D. Poverty among those without work is very high

% of persons with a household disposable income lower than the at-risk-of-poverty threshold

1. Absolute poverty line is calculated by Statistics Estonia on the basis of three components of expenses: food, housing and non-food needed to maintain the minimum level of welfare. Data for 2010 is not directly comparable to the previous data due to the methodological change in 2010.

2. The at-risk-of-poverty threshold is 60% of the median disposable income adjusted for household size.

3. Work intensity in a household is the number of months spent by working age household members (aged 16–64) in employment or self-employment divided by the maximum number of months which could have been worked.


While volatility-induced employment insecurity feeds into poverty risk, Estonia stands out both in terms of low social spending and the low proportion of means-tested transfers (Figure 16). Limited income support contains short-term fiscal costs and is in line with the social policy stance that emphasizes self-responsibility and work incentives rather than redistribution. However, low income earners have little opportunity to insure themselves against shocks through savings (Ahrend et al., 2011). The current policy set-up contributes also to the outflows of individuals to subsistence benefit and disability systems (Praxis, 2011), which do not provide sufficient activation and skill-enhancement opportunities, generating longer-term dependence. Hence, changes in social policies should reflect the following considerations:
• Striking a better balance between short and medium term costs of social policies, by reducing inflows and increasing outflows.

• Targeting benefits and public services to better use scarce resources to help those in greatest need, rather than spreading scarce resources widely but thinly, and generating high deadweight losses.

• Moving towards a more integrated approach to activation and social policies, including overcoming the current problem of segmentation among several institutions - unemployment insurance fund, social insurance fund, health insurance fund, municipalities and educational establishments - operating without sufficient policy coordination.

Figure 16. Transfers (other than pensions) are small and untargeted with limited impact on inequality

A. Public cash transfers (other than old-age pensions) to household, % of GDP, 2007

B. Public social expenditure on income-tested programmes, % of GDP, 2007

C. Impact of taxes and transfers (other than old-age pensions) on income inequality, percentage point reduction of Gini coefficient, 2007

Reforming the disability support system

Reforming the disability support system is of the highest priority for the government. Estonia had the largest increase in disability-related benefit entitlements among all OECD countries in recent years, and almost 10% of the labour force is receiving some sort of disability-related benefit (Figure 17). Inflows into the disability system were particularly high during the slump in the labour market, primarily among those with a higher capacity to work (Statistics Estonia, 2011).

Figure 17. The number of permanent incapacity to work benefit recipients increased rapidly in the crisis

This suggests that in the crisis the disability system was used as the income support system of last resort, reflecting very tight entitlements for other working age benefits (OECD, 2010d). The underlying, structural problems include (NAO, 2010a; Praxis, 2011):

- Spending on prevention is insufficient. There is no accident and occupational sickness insurance scheme. Entitlements for incapacity of work and other disability benefits are only based on a medical assessment and there is no involvement of occupational specialists.

- The system does not promote activation policies, rehabilitation measures are insufficient and none of the institutions involved is responsible for promoting return to work. Employers are not involved (Figure 18).

- Those who are truly incapable of working may not receive benefits that are sufficient for preventing them from falling into poverty, as resources are spread thinly.

- The current disability system is fragmented among different institutions and schemes, which partly overlap.

The planned reform intends to integrate different schemes, tighten entry and periodic assessments so as to limit inflows into and increase outflows out of the system, while putting the focus on rehabilitation and activation, and strengthening the role of employers. Much closer cooperation with the unemployment insurance offices would be needed and participation in activation programmes should be encouraged. Finally, strengthening of well targeted and activation-oriented short-term income support schemes should complement the reform.

Figure 18. The disability system provides few integration measures

Integration policy dimension: country scores (0-5), around 2007¹

1. 2012 for Estonia.

Source: OECD (2010), Sickness, Disability and Work, Table 3.A2.1B and Estonian authorities.

**Strengthening short-term targeted income support programmes that involve activation**

The unemployment assistance benefit should be increased and play a more prominent role in the social protection system (Box 3). Currently the size of unemployment assistance is only about one third of the absolute poverty line, so it is too small to prevent poverty among those who lost jobs but did not qualify for or have exhausted their unemployment insurance benefit (Figure 19). The planned increase in the unemployment assistance agreed in 2009, but suspended until 2013, would have an impact on poverty at a relatively low cost due to its strict targeting (OECD, 2010d). Eligibility conditions and duration are also relatively tight and should be expanded so that long-term unemployed are also provided some basic income protection and access to effective job search support and training coupled with a strict job search requirement (OECD, 2011b). Scarce resources should be targeted at those with the highest risk of poverty. Unemployment assistance should be means-tested, using existing IT capacities that allow checking across different databases to overcome practical barriers to implementation. At the same time, an opportunity to combine benefits and work should be allowed to promote part-time low-paid jobs as an activation tool (Vork, 2009; Praxis, 2011).

In contrast, the role of unemployment insurance in mitigating the poverty impact of shocks is likely to stay limited, given the high budgetary costs of easing eligibility criteria due to the relatively generous replacement rates and the lack of means testing. To free resources and enhance work search incentives, the relatively high caps on unemployment insurance benefits could be lowered and the duration of unemployment insurance benefits could be reduced in the upswing when job opportunities are more widely available and disincentive effects are most important (Landais et al., 2010; Lauringson, 2010 and 2011; Praxis, 2011).
Box 3. Short-term income support in Estonia

The short-term income support system in Estonia involves a two-tier unemployment protection scheme; unemployment insurance benefit and unemployment assistance, as well as subsistence benefit scheme that provides targeted social assistance:

- Unemployment insurance provides contribution-financed and earnings-related benefits, under relatively tight eligibility criteria, with the initial replacement rate of 50% and maximum duration of 360 days.
- Unemployment assistance is a flat rate benefit that is financed from the state budget. It is addressed to those unemployed who are not eligible to insurance benefit or exhausted their unemployment insurance entitlement, but only if their other sources of income are lower than the size of the benefit, which is fixed annually in the state budget, and it is currently EUR 64 per month. The maximum duration is 270 days.
- The subsistence benefit is a means-tested benefit paid to needy persons by a local municipality and financed from the state budget. It aims to bring incomes excluding housing costs to the minimum guaranteed level established by the parliament each year, currently at EUR 77 for the first household member and EUR 61 for other household members.

Figure 19. The size of unemployment assistance benefit should be increased

A. Unemployment benefits coverage is low
Change in the number of unemployment benefit recipients as a percentage of the change in the number of unemployed persons¹

B. Size of unemployment assistance benefit is very low
Maximum benefit relative to average wage², 2010

1. During first year since the onset of the crisis. Total unemployment benefits including extended benefits and unemployment assistance.
2. For a 40-year-old single worker without children, with a 22-year employment record. For Germany, as of 1st January 2005, unemployment assistance and social assistance for persons who are able to work were combined into one benefit, the basic jobseekers allowance (unemployment benefit II). Available for persons who are able to work and whose income is not sufficient to secure their own and their family’s livelihood.

Source: OECD (2011), Employment Outlook, Figure 1.17B and www.oecd.org/els/social/workincentives.
The primary challenge is to activate those who did not find a job but lost their entitlement to unemployment insurance and assistance benefits. Many become recipients of subsistence benefits administered by municipalities. Activating them would require more job-search and activation programme participation and stronger cooperation between unemployment insurance offices and local municipalities (OECD, 2010d). Current pilot projects supporting such cooperation provide valuable lessons, but, ultimately, all benefit recipients with some remaining work capacity should become clients of employment offices, an arrangement that was successfully implemented in Germany (OECD, 2010e). In turn, municipalities should focus deeper on other problems, such as social exclusion and pathologies.

One area where income support is relatively generous, is the parental benefit. It offers a high replacement rate for an extensive period of time, indeed one of the most generous in the OECD (OECD, 2011c). There are questions about its efficiency, given its very high fiscal cost: family benefits account for almost half of all social transfers other than old-age pensions. While Estonia succeeded in raising the fertility rate above the European Union average and has relatively high female employment rates, several countries with less generous entitlements, notably the Nordic neighbours, have achieved a much better outcome on both the fertility rate and female employment. The fact that poverty among children remains high also should not be ignored. International evidence suggests also that financial transfers - temporary or permanent - seem to accelerate the timing of births but their effect on completed family size is limited at best (Adsera, 2004). The availability of formal childcare solutions appears to be a more important factor in explaining cross-national differences in fertility. The countries with the highest female employment rates have also high fertility rates and policies which support the reconciliation of work and care responsibilities have proven to have a positive effect on fertility patterns (OECD, 2011c). Simultaneously, promoting labour participation of the second household member (usually a woman) is a very effective insurance against household poverty (Ahrend et al., 2011).

Relatively more resources could therefore be channelled to childcare provision with income-related childcare copayment fees to ensure the maximum impact, while family spending in Estonia seem to be biased towards cash benefits (Figure 20). In contrast, a planned state-financed pension contribution for child-caring periods up to three years is a rather costly and inefficient way of promoting fertility given international evidence (OECD, 2011c). Also, a better way to address old-age poverty among females is to improve childcare, thereby helping mothers to reconcile work and family life and contribute to the pension system.

**Figure 20. Family benefits are high relative to the spending on childcare services**

<table>
<thead>
<tr>
<th>Share of family oriented expenditure, 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cash benefits</strong></td>
</tr>
</tbody>
</table>

Note: Expenditure in Estonia includes child payments and allowances, parental leave benefit and child support. No data on tax breaks for Chile, Estonia, Greece, Hungary, Israel, and Slovenia. Tax breaks are not used in Denmark, Finland, Iceland, Italy, Luxembourg, Mexico and Sweden.

*Source: OECD (2011), Doing Better for Families, Figure 2.1B.*
Improving access to public services, especially for health care

The impact of volatility and related job and income losses on poverty and well-being can be mitigated by good access to essential public services. Among those, access to healthcare services is probably the most important. Unfortunately, health outcomes in Estonia are relatively poor (Figure 21, OECD, 2011d). Moreover, health status is strongly correlated with education, employment and incomes (Hernandez-Quevedo et al., 2010). Estonia also has the highest gap in life expectancy between men and women. In this respect, the following reform priorities would be essential (OECD, 2011a):

- While the fiscal space for increasing health expenditure above its current, very low level, is limited, there are opportunities for spending efficiency improvements, notably through enhancing primary care to eliminate avoidable hospitalization and allow further rationalization of the hospital network.

- Relatively high out-of-pocket payments for healthcare, especially for pharmaceuticals and dental care, risk excluding low-income households from appropriate healthcare. The introduction of a means tested cap on out-of-pocket payments on prescribed pharmaceuticals and more effective promotion of generic drugs could improve the situation.

- Health insurance is currently an important motivation for registering as an unemployed at the unemployment insurance office, and the loss of insurance has therefore become a sanctioning instrument against non-compliance with associated job-search requirements. However, the loss of insurance might lead to the frequent use of state-funded emergency care, the accumulation of health problems and, ultimately an exit from the labour force.

Figure 21. Health outcomes are weak

A. Life expectancy at birth, 2010¹

B. Unmet need for medical examination for the bottom income quintile, 2009

1. 2008 for Canada; 2009 for Italy.

Source: OECD Health database, OECD (2011), Health at a Glance, Figure 6.1.1.
• The poor health status among groups with lower social-economic background, and primarily males from these groups, is accompanied by unhealthy living habits. Smoking, alcohol abuse, lack of physical activity, bad diet, and drunk driving are all widespread among disadvantaged groups and contribute to bad health outcomes. Comprehensive programmes promoting healthy lifestyles, in particular for high-risk groups, are therefore needed.

Better provision of social protection and many other essential public services are dependent on increasing capabilities of municipalities. While all municipalities are in principle expected to provide the same basic services, municipalities vary greatly in population size and wealth (OECD, 2011e). Many have very limited fiscal, administrative and service delivery capacity, and the poorest municipalities tend to face the highest social protection needs. This results in very large differences in municipal expenditure per capita and raises equity concerns about access and the quality of public services. Sub-national administrative reform, including municipal consolidation, is often politically difficult to implement. This highlights the importance of creating incentives that encourage municipal co-operation for efficient service provision (OECD, 2011e). The framework for monitoring and ensuring the quality of services needs to be strengthened, including through establishment of national service provision standards, and should be underpinned by some adjustments to the equalisation grant and block grant system (OECD, 2011a).

Reducing the labour tax wedge for low wage earners

The labour tax wedge is high driven mainly by social contributions. It is an important barrier for employment among low-wage earners who face an average tax wedge well above the OECD average (Figure 22). Yet planned reforms of social security contributions and personal taxation are not tilted towards the low-wage earners. Social insurance contributions are to be capped in 2014, which provides tax relief to those who are relatively well-off, and whose labour supply is less elastic, making the expected labour market impact rather limited (Hamermesh, 1993). Partial subsidisation of social contributions for low-wage earners would be more effective, as evidenced by the generally successful programme run in 2009-10. Similarly, a planned reduction of the personal income tax rate from 21 to 20% in 2015 should be reconsidered in favour of increasing the personal income tax exemption, which is currently low by international comparison.

Figure 22. Low-earners face high labour tax wedge that discourages employment

Average tax wedge on labour¹ at 67% of average worker earnings, single person without children, % of total labour compensation, 2010

1. Measured as the difference between total labour compensation paid by the employer and the net take-home pay of employees, as a ratio of total labour compensation. It therefore includes both employer and employee social security contributions.

Source: OECD (2012), Going for Growth, Figure 3.3A.
The high dependence on labour taxation to finance the social protection system could be reduced by using alternative, less distorting sources. Increases in excise taxes that are planned in 2012 and 2013 are welcome, both as an important revenue source and also as a disincentive to alcohol and tobacco consumption. Phasing out remaining exemptions and reduced VAT tax rates could yield substantial fiscal revenues, while the efficiency of such tax expenditures is low, as they are not targeted at those in greatest need. While increased in the crisis, standard VAT tax rate is still lower than in most OECD countries, and Nordic countries in particular, so there is scope for further increase. Other sources were discussed in the previous Economic Survey (OECD, 2011a).

Property taxation is the least distortionary taxation source (Johansson et al., 2008), and yet its level in Estonia is currently the lowest in the OECD. Tapping its potential would require aligning the tax assessment of land more closely with its market value. Taxing houses and apartments would also substantially expand the property tax base and allow a reduction in more distorting taxation.

Another opportunity for rebalancing the tax structure is linked to the taxation of environmental externalities. Despite high emissions and low energy efficiency, which are among important structural problems of the Estonian economy (government of Estonia, 2012), the share of environmental taxation and the implicit tax rate on energy is well below the EU average. Ensuring that the costs of all negative externalities are fully internalised by taxes on petrol, diesel and other fossil fuels will provide more room to make the tax structure better balanced in favour of employment-rich and sustainable growth.

### Box 4. Recommendations on social protection

**Key recommendations**

- Refocus the social protection system on activation and return to work, underpinned by stronger inter-agency cooperation. Swiftly conclude the analysis phase in preparation for internet-based e-services. All working age people with some capacity to work should become clients of unemployment insurance fund offices and be encouraged to participate in job search and activation.

- Benefits should be more targeted to help those in greatest need.

- Strengthening health spending efficiency, promoting healthy lifestyles and improving access for disadvantaged groups should be priorities to improve health outcomes and reduce health outcome gaps.

- 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, like preferential VAT rates. Reductions in direct taxes should be tilted towards low-earners.

**Other recommendations**

- Start preparing the reform of the disability pension system by opening activation measures to disability benefit recipients and strengthen the role of employers in prevention and rehabilitation measures.

- The role of subsistence benefits should be reduced and municipalities should focus on addressing other problems such as social exclusion, while unemployment assistance should become the main source of basic income support and be subject to tight job-search and training conditionality by unemployment insurance offices.

- Family support should be more oriented to better reconciling the obligations from parenthood and labour force participation, including through better provision of childcare services.

- Public sector delivery capacities of municipalities should be strengthened, including through incentives for service provision cooperation, including over a broad territorial area, and setting national service quality standards.
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Chapter summaries

Chapter 1. Matching skills and jobs

The labour market in Estonia is volatile, increasing the risk that groups with some obstacles to enter the labour market (youth, non-Estonian speakers and workers with no upper secondary graduation certificate) may become long-term unemployed, due to the aggravating skills mismatch in the wake of structural change. Avoiding a permanent exit from the labour force makes a multi-pronged strategy necessary, including strengthening activation policies, a better school-to-job transition, improving the co-operation with employers to improve vocational training programmes, stepping up targeting life-long learning support, and improving the access of tertiary studies for students from weak social backgrounds.

Chapter 2. Reducing poverty through activation and better targeting

The crisis revealed the need for a strategic review of the existing social protection system. Extreme income fluctuations on one side and low social benefits on the other side exposed fragile groups in the population to a significant poverty risk. The government has recently commissioned several studies to prepare a systematic reform of the system. The spectrum of options is wide and includes increased generosity, further efficiency gains, strengthening incentives, better access to services and, in particular, more ambitious activation.
This Survey is published on the responsibility of the Economic and Development Review Committee of the OECD, which is charged with the examination of the economic situation of member countries.

The economic situation and policies of Estonia were reviewed by the Committee on 4 September 2012. The draft report was then revised in the light of the discussions and given final approval as the agreed report of the whole Committee on 14 September 2012.

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