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Estonia: Making the most of human capital

Andrés Fuentes Hutfilter

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By Andrés Fuentes Hufilter

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ABSTRACT/RÉSUMÉ**Estonia: Making the most of human capital**

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

This Working Paper relates to the *2015 OECD Economic Survey*
www.oecd.org/eco/surveys/economic-survey-estonia.htm

JEL Classification: J16, J22, J24, J26, J32.

Keywords: Estonia, labour supply, gender pay gap, part-time work, social security contributions, private pensions, public pensions, vocational education, access to education.

Estonie : utiliser au mieux le capital humain

L'utilisation de la main-d'oeuvre reste plus faible qu'avant la crise. Les inadéquations entre les compétences offertes et les compétences demandées contribuent au chômage structurel et l'émigration, notamment parmi les jeunes travailleurs salariés, réduit l'offre de main-d'oeuvre. Bien que le gouvernement ait diminué les impôts sur le travail et que de nouvelles réductions soient prévues, les recettes publiques dépendent encore fortement de cette forme de fiscalité. Le régime fiscal pourrait devenir plus favorable à l'emploi si une partie de la charge fiscale pesant sur le travail était reportée sur le secteur immobilier. Les coûts élevés de gestion des fonds de pension nuisent au rendement du système de retraite privé obligatoire, ce qui a pour effet d'accroître la charge fiscale pesant sur la main-d'oeuvre. Ces coûts pourraient être réduits. Dans le régime public de retraite, la suppression progressive des dispositifs de préretraite dont bénéficient certains secteurs ou professions libèrerait une marge de manœuvre pour abaisser les cotisations de sécurité sociale. L'écart de rémunération entre hommes et femmes est important et d'autres mesures pourraient être envisagées pour le combler. Les réformes destinées à améliorer les qualifications des travailleurs estoniens ont de fortes retombées positives face à une demande de travailleurs qualifiés en augmentation. Les initiatives engagées récemment par les autorités pour encourager l'apprentissage tout au long de la vie et accroître le soutien financier apporté aux étudiants du supérieur issus de familles à faible revenu sont bienvenues. L'apprentissage pourrait être encore amélioré, par exemple en encourageant la coopération entre les entreprises locales et les établissements scolaires locaux, ce qui contribuerait à réduire les inadéquations de compétences. Un soutien financier plus important devrait être fourni aux étudiants, surtout pour assurer l'accès des jeunes au deuxième cycle de l'enseignement secondaire professionnel.

Ce document de travail se rapporte à l'*Étude économique de l'OCDE 2013 sur l'Estonie*.
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Mots clefs: Estonie, offre de main d'oeuvre, écart de rémunération entre les sexes, travail à temps partiel, charges sociales, pensions privées, pensions publiques, formation professionnelle, accès à la formation.

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Estonia: Making the most of human capital

By Andrés Fuentes Hutfilter¹

Labour supply is declining and structural unemployment remains high

1. Labour utilisation in 2013 remained well below levels observed in 2008. The economic recovery since 2010 has only partly offset the fall in labour input during the crisis (Table 1). Lower average hours worked per worker have contributed to the fall in labour utilisation. In part, this trend reflects rising part-time employment and female employment. However, hours worked remain among the highest, and the share of part-time employment among the lowest, in the OECD. Unemployment fell, but not all the way to pre-crisis levels. The share of the population of working age has declined. Rising cross-border work has detracted about 1 percentage point from domestic labour utilisation since 2007. The effect of cross-border work is not included in Table 2.1, which covers the resident population. At present 4% of Estonian employees work abroad, mostly in Finland.

Table 1. Decomposition of labour utilisation growth

Per cent		
Growth rate	2007-13	2010-13
Labour utilisation ¹	-10.4	10.7
<i>Of which</i>		
Average hours worked per worker	-5.4	1.2
Employment rate ²	-4.3	9.6
Participation rate	2.7	2.5
Share of the working population in total population	-2.2	-1.7

1. Labour input (total hours worked) relative to total population.

2. Employment divided by labour force.

Source: OECD Productivity Database and OECD Annual Labour Force Statistics Database.

2. Skill mismatch appears to contribute to structural unemployment. Shortages of skilled workers have been one of the drivers of rising unit labour costs in 2013 (Eesti Pank, 2014b). The number of vacant jobs for highly skilled workers and for skilled non-manual workers has risen well above pre-crisis levels whereas it has fallen for unskilled and manual jobs (Figure 1). The number of vacancies is relatively large in the ICT industry, a sector in which Estonia has developed a strong comparative advantage. Nonetheless, in international comparison, unskilled workers have relatively low unemployment rates (Table 2). In part, this reflects low income support for the long-term unemployed, as well as flexible wage bargaining and a minimum wage which remains relatively modest (OECD, 2012a), despite recent increases. Upper secondary qualifications do not appear to reduce the risk of unemployment as much as in other European

1. Andrés Fuentes Hutfilter is a senior economist on the Estonia/Germany Desk in the Economics Department of the OECD. This paper was originally produced for the 2014 OECD Economic Survey of Estonia. It was published as chapter one of this Survey under the authority of the Economic and Development Review Committee (EDRC) in May 2014. The author would like to thank Asees Ahuja, Pablo Antolín, Andreas Kappeler, Robert Ford, Álvaro Pereira, Andreas Wörgötter, all at the OECD, as well as officials from the Estonian government for valuable comments on earlier drafts. Special thanks go to Seung-Hee Koh and Eun Jung Kim for their research and technical assistance and Heloise Wickramanayake for technical preparation.

OECD economies. By contrast young tertiary graduates have considerably lower unemployment rates than young upper secondary graduates and this difference is bigger in Estonia than in many countries.

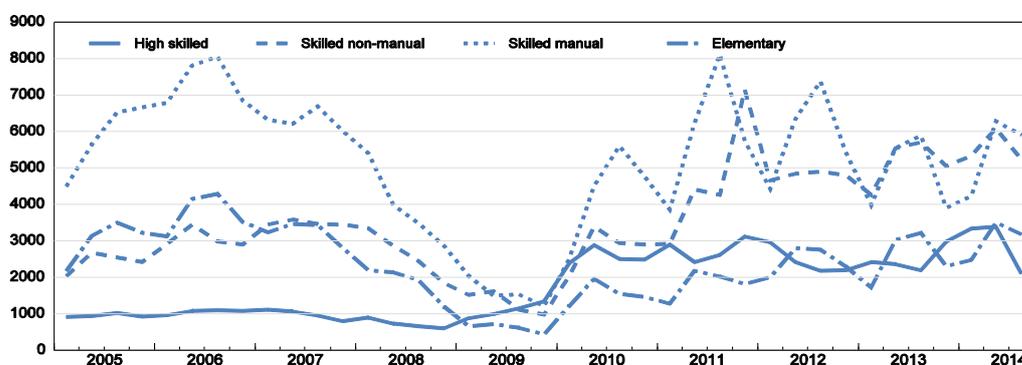
Policies encouraging equal pay between men and women have benefits for labour utilisation

3. While women's labour market participation rate is little lower than men's and unemployment rates are broadly similar, women earn on average 30% lower salaries than men. This gap is unusually large in comparison to other European economies. It is also considerably larger than in neighbouring Baltic and Nordic economies. Moreover, the difference does not diminish once differences in workers' characteristics, such as level of education, field of study and experience are taken into account. By contrast, the difference in the distribution of employment across occupations and sectors between men and women explains almost one third of the gap (Anspal and Rõõm, 2007). For example, women are more likely to take up certain jobs in the public sector, such as teaching, where pay may be relatively low, given educational requirements. Differences in pay between men and women are particularly large at the high end of the wage distribution. Women on managerial and senior jobs are paid much less than men and these differences cannot be explained by differences among the companies they work in (Anspal and Rõõm, 2007).

4. These findings suggest that policies encouraging equal pay between men and women could have substantial benefits for labour utilisation. Underutilisation of human capital in managerial jobs is particularly harmful to productivity performance. To reduce the gender pay gap, the Estonian Government launched an action plan 2012–15. The action plan includes steps to improve the implementation of gender equality legislation; improve reconciliation of work, family and private life; encourage gender mainstreaming, especially in education; reduce gender segregation in the labour market; and to review the organizational practices and pay systems in the public sector.

5. Participation of men in providing childcare within the family, a task mostly carried out by women, could be encouraged. Parental leave entitlements are long in Estonia, to the point of creating risks for labour market prospects for the parent taking the leave, as previous *Economic Surveys* have pointed out. It is almost only taken up by women (Turk et al, 2010). In this context, low availability of childcare facilities for children below 1½ years old and for children between 1½ and 3 years old in some municipalities also limits women's career prospects. One option is to require both parents to take up parental leave in order for parents to qualify for the full leave entitlement. Barriers to female entrepreneurship could also be identified and addressed. Another option, suggested by Turk et al (2010), is to require firms to identify and address pay inequalities between men and women.

Figure 1. Vacancies by skill level



Source: Estonian Unemployment Insurance Fund (Eesti Töötukassa).

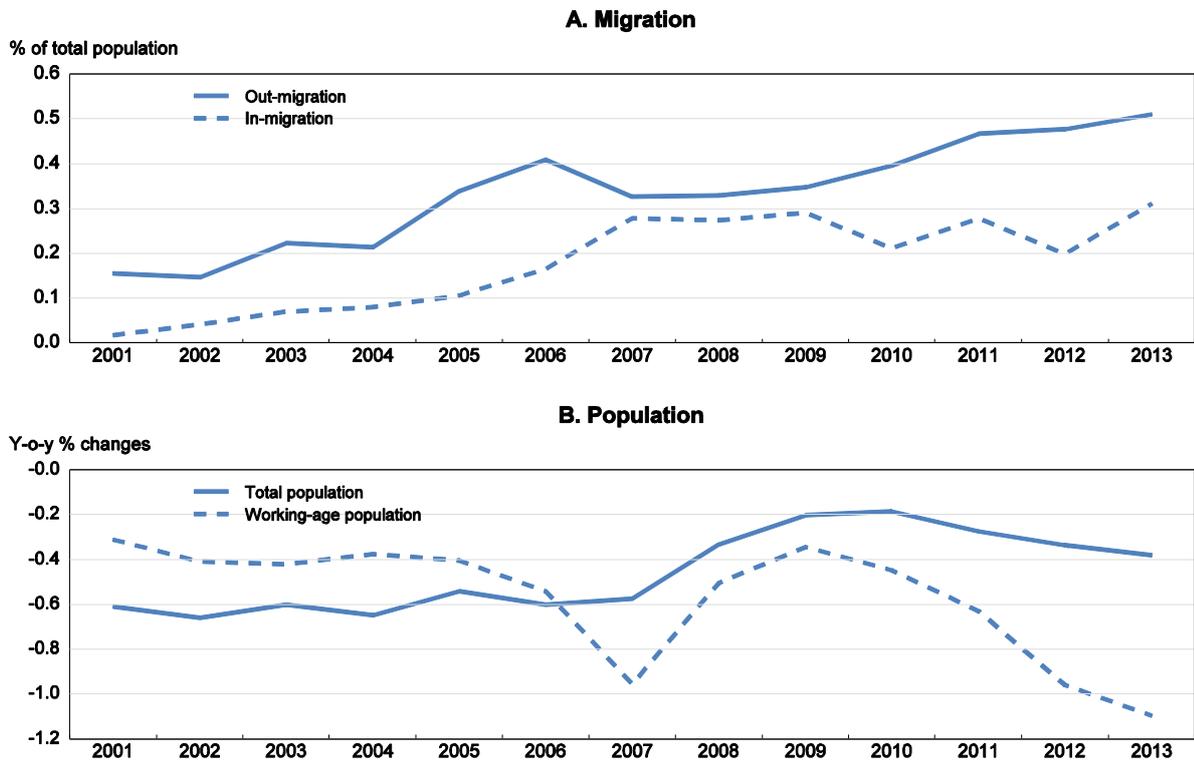
Table 2. Unemployment rates by age group and education level, 2013

	All	Lower secondary and lower	Upper secondary and post-secondary non-tertiary	Tertiary
PANEL A: 15 – 39 years				
Euro area (13 countries)	15.7	27.0	13.8	10.4
Czech Republic	8.8	32.4	8.7	3.9
Denmark	9.4	14.4	8.2	6.2
Estonia	10.9	16.8	12.5	6.8
Latvia	13.5	27.4	14.5	6.4
Poland	12.9	27.7	15.0	7.4
Slovakia	17.5	53.1	17.4	9.7
Finland	10.8	25.5	10.6	5.3
Sweden	11.9	30.9	10.7	5.4
United Kingdom	10.6	23.0	11.8	4.8
Norway	5.4	10.7	4.2	2.9
PANEL B: 40 – 64 years				
Euro area (13 countries)	9.1	16.5	7.2	4.9
Czech Republic	5.5	20.4	5.4	1.7
Denmark	5.2	7.9	4.9	3.6
Estonia	7.2	13.4	7.9	5.3
Latvia	10.9	22.0	12.4	5.7
Poland	7.9	16.4	8.4	2.8
Slovakia	11.0	33.7	10.8	3.9
Finland	6.2	11.0	7.1	4.0
Sweden	5.0	10.0	4.4	3.5
United Kingdom	4.9	8.6	4.8	3.2
Norway	1.8	3.8	1.7	1.2

Source: Eurostat.

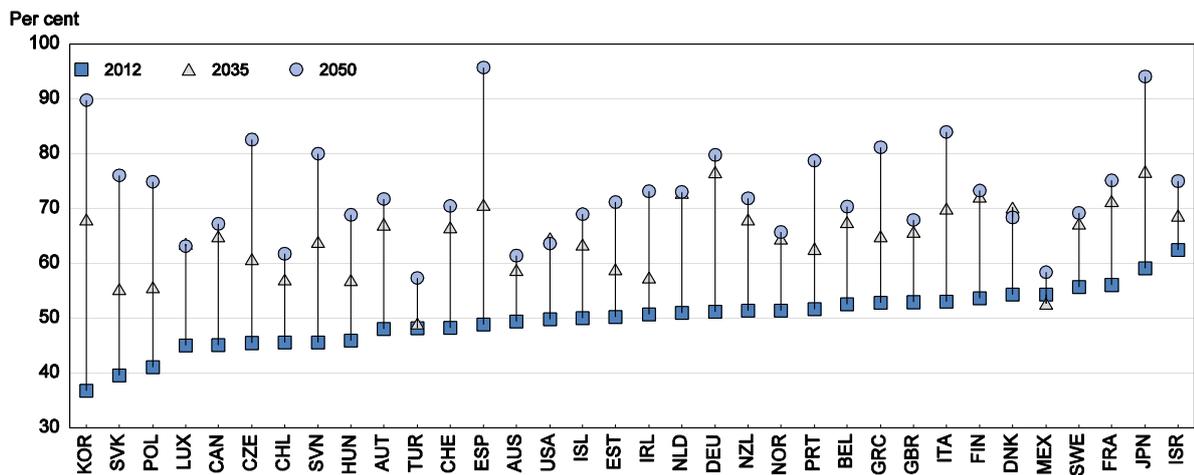
6. A substantial share of the recent decline in the working-age population reflects net emigration, which amounted to 0.2% of the population in 2012 (Figure 2) according to official statistics, which may underestimate emigration. Finland has been the preferred destination of Estonian migrants and cross border workers because it is geographically close, a similar language is spoken and wages are considerably higher. In 2013 take-home pay of a worker on average earnings in Estonia was less than a third of take-home pay in Finland. Most Estonians emigrants in recent years were young, were employed and possessed low skills before leaving (Box 1). In the longer term ageing is also expected to reduce labour supply relative to the total population, particularly after 2030 (Figure 3). Emigration of young people may also reinforce the longer-term consequences of ageing on labour supply beyond what is projected, in part through reduced fertility (Eesti Pank, 2014b).

Figure 2. Migration and population trends



Source: Statistics Estonia.

Figure 3. Projections of total dependency ratio



Source: OECD Population Statistics Database.

7. Emigration and cross border workers have important benefits for the workers concerned, including wage gains as well as valuable experience and training abroad. Moreover, while the income Estonian cross-border workers earn abroad does not contribute to GDP, it contributes to income of Estonian households. Migrants' remittances also boost Estonian household incomes. According to balance

of payment statistics, income of cross border workers amounts to about 2% of GDP while private current transfers from abroad, mostly emigrants' remittances, amount to about 1.5% of GDP. However, since most emigrants are young employed workers, the share of the economically active in total population shrinks, weighing on per-capita potential income growth and reducing the revenue base to pay for government-provided services. The significant number of cross-border workers who pay labour tax in Finland but use public services in Estonia reinforce this point. Remittances from emigrants who do not return may also decline over time.

Box 1. Migration and cross-border work in Estonia

Emigration

The most frequent destination of Estonian emigrants is Finland, followed by the United Kingdom, Sweden and Norway. 45% of surveyed people intending to work abroad claim that the main reason for leaving is higher wages. Personal development and better working conditions have also been important motivating factors. Open labour markets within the European Economic Area have been a driving force (Puur et al, 2013; Tarum, 2014). More than half of emigrants are less than 30 years old. More recently, families with young children have migrated in larger numbers (Anniste et al, 2012). Survey evidence suggests that the unskilled are most likely to emigrate, whereas highly skilled workers are underrepresented among emigrants, in contrast to emigrants in many Eastern European countries (OECD, 2013a). However, recently, highly skilled health care workers have also been leaving Estonia. Generally, Estonian low skill workers can expect a bigger wage gain than highly skilled workers if they migrate to Finland (OECD, 2013c). Some young people appear to emigrate from Estonia before they have completed their education. Many emigrants appear more motivated to improve their education level after emigration (OECD, 2013a). Most emigrants work in the construction sector but this share has fallen and the professional background of Estonian residents considering working abroad has become more diverse. The intention to work abroad has increased among people working in the sectors of education, accommodation and catering, wholesale and retail, and healthcare and social welfare. The emigrants' unemployment rate is broadly aligned with the national average.

Immigration

In 2012, 58% of those who moved to Estonia were return migrants with Estonian citizenship. Return intentions increase with the age of emigration. According to the trend of the past years, 30–40% of Estonian citizens having emigrated from Estonia return. According to Pungas et al (2012) individuals who moved primarily for better earnings and are employed in their country of destination possess a relatively high willingness to return. Individuals who do not identify themselves as ethnic Estonians are less willing to move back (Pungas et al, 2012). Those who are living with a host country partner are also less interested in returning. Emigrants with tertiary-level education are relatively likely to return to Estonia.

Cross-border work

In 2013, 3.7% of the total employed population worked across the border, mostly in Finland. Most are men, in the age group 25-49 and possess a secondary education degree. 41% of cross-border workers are employed in construction and most are manual workers. About 20% of cross-border workers have tertiary education, less than the national average. The number of cross-border workers rose steadily until 2010 but fell in 2013, as labour market conditions improved in Estonia and deteriorated in Finland.

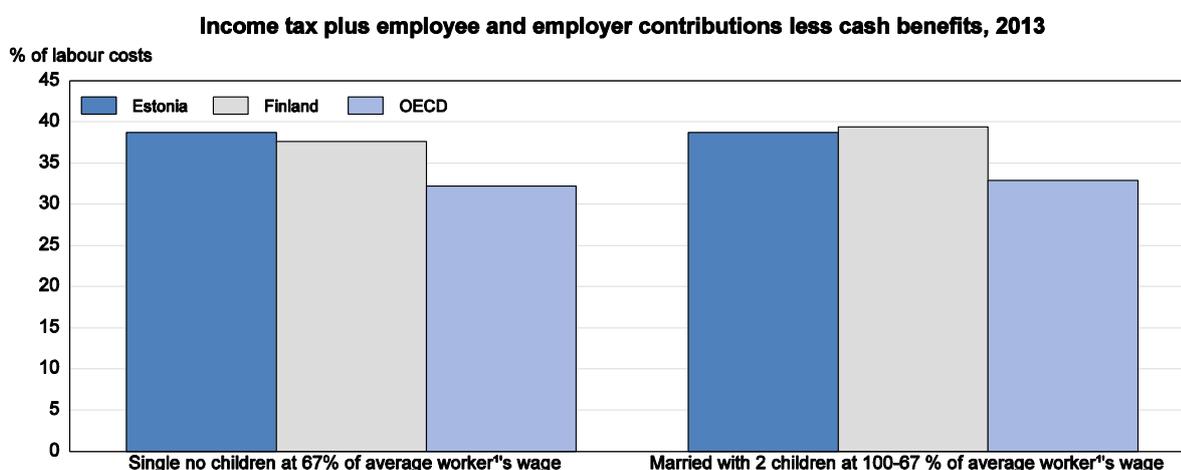
Making the tax system more employment-friendly

8. Evidence across OECD countries shows that shifting the tax burden from labour to less distortive taxes raises labour utilisation and GDP growth (Johansson, et al 2008). The benefits are likely to be especially large in Estonia, as such a shift can make domestic employment more attractive relative to employment abroad. It is therefore welcome that some steps have been taken to lower taxation of labour and personal income in recent years. The unemployment insurance contribution rate was lowered by 1.2 percentage points in 2012 and the basic income tax allowance was raised from EUR 145 to EUR 154 in 2014. A further reduction of unemployment insurance contributions by 0.6 percentage points, to 2.4%, is

planned in 2015. The labour tax wedge remained high in international comparison in 2013 especially for workers on low earnings (Figure 4) and this is will not change markedly as a result of the planned tax reductions and the increase of child benefits in 2015. The most effective way to reduce the labour tax wedge on low wage earners is to reduce their social security contributions, as these account for most of their tax wedge. Reducing the tax wedge for low wage earners could strengthen employment as well as encourage some young workers on low pay to stay in Estonia and reduce poverty risks.

9. Unlike personal income taxes the burden of social security contributions falls fully on income earned on domestic employment, including self-employment. By contrast, personal income taxes are also paid on all capital income of households, including from foreign sources. Since no social security contributions are paid on such income, it is taxed lower. Nonetheless, increasing the basic income tax allowance also is a possibility to increase the attractiveness of Estonia as a location for earning income.

Figure 4. Labour tax wedges



1. Working full-time and receiving average gross earnings.

Source: OECD (2014), Taxing Wages 2014.

10. Social security contributions, which are levied on wage and self-employment income, make up a large share of total tax revenue, although this share is now somewhat smaller than indicated in Table 3. The contribution of personal income taxation to government revenues is smaller than in many OECD economies, reflecting the flat tax rate of 21%. Taken together, social security contributions and personal income taxes make up a somewhat bigger share than in OECD countries on average. By contrast, the taxation of real estate contributes relatively little to revenues, as only land (but not buildings) is taxed and the valuation of land does not reflect market values (OECD, 2012). Moreover, as past *Economic Surveys of Estonia* (e.g. OECD, 2012) have pointed out, the assessment of land for taxation purposes does not reflect market values. Houses and apartments are not taxed and taxation of the land underneath detached houses was abolished in 2013. Shifting the tax burden to real estate is likely to be particularly effective in encouraging employment as the incidence of real estate taxes is likely to fall mostly on real estate owners, owing to the fixed supply of land.

Table 3. Tax revenue composition, 2011

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

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

Source: OECD Tax Revenue Statistics.

11. The social security benefit system, which covers health, unemployment and old-age insurance, funds some redistributive benefit entitlements which are not linked to workers' labour earnings records, so could be more appropriately funded from general tax revenue. In the pension system, for example, redistributive spending across individuals within the same age cohort includes survivors' pensions, pension entitlements for people who have raised children and minimum pensions. Funding such spending from general tax revenue could help reduce the labour tax wedge.

Minimum social security payments discourage part-time employment

12. Public pension and health insurance contributions are subject to a lump-sum minimum "social tax" payment which is binding for workers on low earnings. It amounts to 33% of full-time earnings for workers who are paid the minimum wage. The minimum social tax is binding for most workers who work half-time and who earn less than the median wage. Its payment is generally required for adults to have access to health insurance benefits, although students, pensioners and parents of children less than 3 years old are exempt from the requirement. Workers with several jobs can also combine the contributions from different employers in order to fulfil the minimum requirement. In addition, adults not in employment are exempt if they register as unemployed. The minimum lump-sum payment pushes up the effective tax rate for part-time workers, reducing incentives to take up part-time work. At 7½ per cent, Estonia has one of

the lowest shares of part time employment in the OECD. The small number of part-time workers is however also likely to reflect relatively low income levels in Estonia compared to most OECD countries. Higher income levels tend to reduce the number of hours workers supply to the labour market. The minimum social tax also raises poverty risks in households in which part-time employment is the main source of income.

13. Evidence across OECD countries shows that appropriate incentives for part-time work help create more job opportunities for people out of work (OECD, 2010a). Removing barriers to part-time employment also improves wellbeing, as it allows workers to adapt working hours to their needs. Part-time workers often benefit from better health and safety outcomes. Part-time employment opportunities also make it easier to take up continued and vocational education (OECD, 2010b). Raising participation in such education is a key policy priority for Estonia (see the 2012 Economic Survey and further below).

14. Since some individuals out of work fail to register as unemployed, the current system results in health insurance coverage gaps. Around 7% of the population are not covered. Lack of coverage results in health and wealth risks for affected individuals. In addition, it harms efficiency in the provision of health care services, as individuals without health insurance may seek emergency hospital care which is available to all but is often relatively expensive. The current system is also likely to result in higher administrative burdens for the public employment service. Some individuals are likely to register as unemployed to be exempt from the minimum contribution even though they may not genuinely be looking for employment.

15. To avoid disincentives for part-time work, it would be preferable to eliminate the lump sum minimum social tax, at least with respect to the pension insurance contribution. Instead, this contribution could be levied at the standard proportional rate for all workers. With respect to health insurance, an alternative could be to transform the minimum payment obligation into a lump-sum capitation fee for adults subject to a means test on household income. Such a system could be integrated in the taxation of household income and could automatically exempt all low-income households from the contribution, such as for example in Switzerland. It would require high-income households with non-working spouses to make a bigger contribution to the funding of health insurance. Reforms along these lines would reduce disincentives to take up part-time employment, reduce poverty risks, raise health insurance coverage and help the public employment service reduce administrative costs. They could also broaden the revenue base for health insurance, including to all types of household income.

Broadening tax bases would make some room for reductions of taxes on labour income

16. Some exemptions in personal income taxation lower revenues. Eliminating them would create some room for a lower labour tax wedge. Moreover, some exemptions benefit mostly high-income households and may harm economic efficiency. The tax deductibility of mortgage payments risks encouraging excessive mortgage borrowing. The tax subsidy also favours owner-occupied over rented housing, which tends to reduce labour mobility of workers and can thereby contribute to mismatch of workers and vacancies (OECD, 2006), a key concern in Estonia. It tends to favour middle and high-income households, in part because mortgage tax deductibility raises house prices, crowding out low-income households with low borrowing capacity from home ownership (Andrews et al, 2011). By contrast, in the taxation of rental income, deduction of maintenance costs from owners' taxable income should be allowed. Voluntary contributions to private pension funds are heavily subsidized. Contributions can be deducted in full (up to a ceiling) from personal income tax and social security contributions. Resulting pension payments are also tax free, provided they are made in the form of regular payments in retirement age. Reduced tax rates apply to other forms of pay-outs.

The pension system creates unnecessary burdens on workers

17. Public pension spending is expected to remain stable at about 8% of GDP until 2060 (European Commission, 2013) despite demographic ageing. In part this is because public pensions entitlements will rise less than wages, as public pensions are revalued over time according to an index determined by social security contribution revenues and price inflation. Public pension entitlements will hence also be damped as demographic ageing reduces social security contribution revenue growth. A mandatory, private funded pension system was introduced to supplement public pensions. Nevertheless, overall average pension benefit replacement rates are expected to fall from 45% to below 40% after 2030.

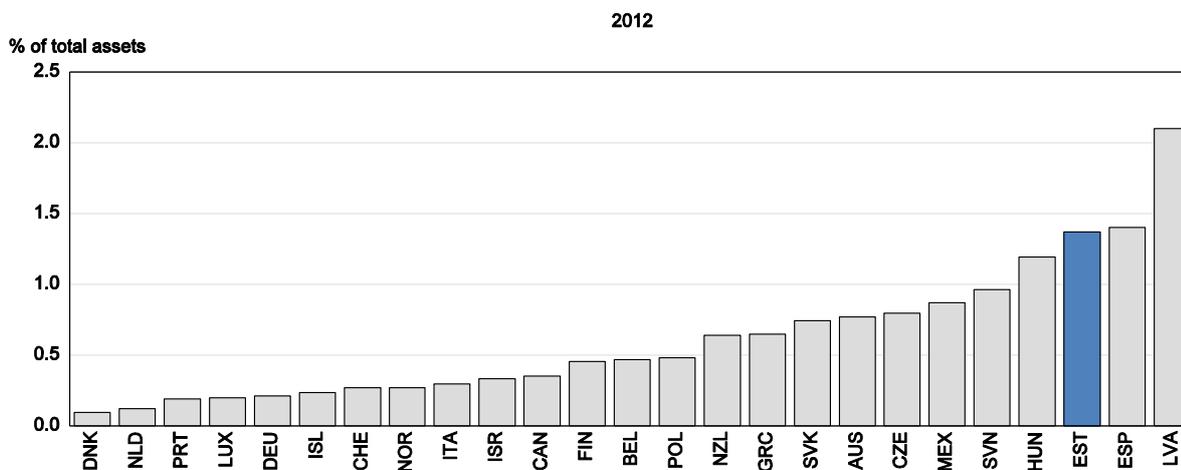
The net returns in the compulsory private funded pension pillar have been low

18. Since 2002, all young workers entering the Estonian labour market are enrolled in the compulsory, private, defined-contribution pension system. Many older workers have also enrolled in it voluntarily. For voluntary members, the decision to join the second pillar is irreversible. For enrolled workers, 6% of workers' salaries flow into an accredited fund chosen by each worker, of which 4 percentage points via employers' social security contributions.

19. However, since its inception net real returns after operating costs in the private pension system have been only 0.4% according to the Ministry of Finance. The National Audit Office (2014) has estimated a return of 0.0%. To some extent, the real exchange rate appreciation, which is typically associated with convergence of real income in catch-up economies such as Estonia, reduces the real return. The average gross nominal return in the second pension pillar has amounted to about 4% and the gross real return 2%.

20. Returns have been reduced by high costs. According to the Ministry of Finance, fund managers' operating costs have amounted to 1½ percentage points of asset value on average since 2002. Recent evidence from survey data collected by the OECD for purposes of international comparison suggests that fees and other operating costs borne by workers are relatively high in international comparison (Figure 5). Differences in the scale of pension fund systems do not seem to contribute much to explaining international differences in fees and costs borne by contributors (Tapia and Yermo, 2008). The negative impact of fees on future pensions can be substantial. An increase in the annual management charge of 1% of funds under management can reduce accumulated assets by as much as 20% over a 40 year contribution period (Whitehouse, 2001), assuming constant gross returns. Moreover, according to IOPS (2011), available empirical evidence does not suggest that higher costs and fees result in improvements in terms of higher gross returns or improved quality of service. High costs imply that the contributions needed to finance a given expected pension pay-out must be higher, which, like a tax on labour, is a disincentive to work in Estonia. Moreover, high costs also result in a loss of wealth for private households, but (unlike a tax) do not generate revenues to government.

Figure 5. Pension funds' operating expenses as a share of assets under management



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

21. Pension funds' marketing accounts for half of their operating costs. Marketing activities are largely unregulated, although pension funds have been barred from making presents to new clients and from bundling pension funds in the compulsory system with other financial products. Marketing may result in large deadweight loss, especially in the context of a compulsory system, in which competition among pension funds is limited to attracting clients from other funds, and in which some contributors lack financial education. Moreover, scope for institutional investors to outperform each other in the long-term through superior investment strategies is likely to be limited, reducing any benefits marketing may have. Marketing expenses charged to pension fund members may also be used by financial groups to cross-subsidise their other activities. Hastings et al (2013) found that marketing activities of fund managers with the purpose of attracting contributors to their funds lowered the responsiveness of contributors to differences in costs among pension funds, especially among low-wage workers. Such activities did not serve to inform workers about the effective prices of the options available to them. Instead, they fostered brand loyalty. As a result, advertising resulted in higher costs borne by contributors. Bernstein and Micco (2003) show that, in oligopolistic market structures, pension funds have incentives to engage in marketing that reduces social welfare but generates costs to raise profit margins. The government will implement a national program promoting financial literacy from 2014 to 2020. However, this step may not reach everybody covered in the compulsory system and will have a budgetary cost to the government.

22. To improve net returns, the government has tightened regulation on the fees charged by pension funds and has broadened the types of assets they can invest in. Issuance fees, which are paid at the point of purchase of fund shares and therefore discourage switching, were prohibited in 2009. Regulatory ceilings on the management fee were lowered for funds deemed to follow a conservative investment strategy, from 1.5 to 1.2% of assets under management. Ceilings for management costs were lowered for funds managing large asset volumes starting in 2011. In addition the government expects the management fees to fall further in the longer term, as it plans to apply stricter rules on the calculation of management fee ceilings in the largest pension funds from 2015 onwards. It expects that these measures will lower the management fees paid by contributors to below 1% of assets by 2019. The government also plans to allow pension funds to invest in non-quoted stocks and precious metals to give them more room to raise gross returns. Nonetheless, scope to improve the fee structure remains to encourage cost-cutting competition among pension fund providers. In particular, redemption fees, which discourage switching as much as issuance

fees, are substantial. They are allowed on the grounds that switching generates costs for pension fund managers.

23. To strengthen competition among pension funds, the government has strengthened requirements on the disclosure of fees, costs and other financial information from pension funds to improve transparency. The government has also allowed workers to switch fund up to four times a year, rather than once. The government is planning to create and launch a website providing information on pension funds. These steps are welcome. Nonetheless, transparency could be improved further. There is still a need to ensure that the information is disclosed in a standardized manner so that members can easily comprehend and compare the information provided by different pension funds. The government intends to take the necessary steps. Investment funds are not obliged to disclose costs resulting from fees of other investment funds in which they invest. It is welcome that the government plans to force pension funds to disclose such costs.

24. In view of the evidence suggesting that competition among pension funds in compulsory systems is not effective enough, corporate governance practices in pension fund management also have a role to play in ensuring they act in contributors' interests. Since 2010, Estonia has strengthened the legal provisions to prevent conflicts of interest in pension funds and asset management companies. These provisions set out that the management companies must act in the interest of the pension fund and its members. Estonia has also taken regulatory action to limit the use of pension funds to finance other activities of the pension fund supplier. Nonetheless, board members have incentives and a legal obligation to act in the interest of their shareholders which can be to the detriment of pension fund members. The establishment of a position for an independent board member in pension fund management companies could help improve representation of contributors' interests. The Estonian government is considering taking such a step. Some countries, such as Australia, have gone further and have required all board members to represent contributors' interests and to be independent of shareholders.

25. Several countries such as Australia and Sweden – have made policy reforms to reduce costs in private pension schemes (OECD, 2013b). Australia and Sweden have introduced a low-cost default-choice fund, in which contributors invest unless they take a deliberate decision to invest in another fund. Costs in these funds can be kept low with passive investment strategies, which follow the composition of security indices, and by doing away with marketing. Such a default-choice fund helps avoid that uninformed contributors' invest in funds where high costs depress returns. They also serve as low-cost benchmarks and may therefore also help to drive down costs in other funds. In Sweden the default-choice fund is managed by a government agency. In Chile, all labour market entrants contribute to a low cost fund in their first five years. This fund is attributed in a tendering process to the supplier offering the lowest costs. Several countries have outlawed advertising in compulsory funded pension systems, such as Poland and Sweden.

26. Sweden appears to have been particularly successful in reducing fund management costs (Box 2). Sweden has facilitated entry, by allowing all pension funds operating outside the compulsory system to be supplied inside the compulsory pension system as well, without further requirements, except the willingness of suppliers to accept substantial discounts with respect to the fees they charge outside the compulsory pension system. By contrast, Estonia requires pension funds to be specifically set up for the compulsory system. The centralisation of transactions in Sweden also appears to have lowered costs and strengthened competition. By doing away with pension funds' marketing activities, the system is likely to have reduced scope for cost-inflating cross-subsidisation of other activities of the financial groups. In the same vein, Japan set up a new authority in 2010 to run public schemes at a lower cost, while centralised private pension management is a policy objective in Mexico and the United Kingdom (OECD, 2013b).

27. If the government's efforts do not lower costs close to the levels observed in best-performing countries over the next few years, it should undertake a more fundamental reform of the compulsory

private pension system, for example, along the lines of the Swedish system, including the introduction of a low-cost default fund.

Box 2. The Swedish drive to reduce fees in the private compulsory pension system

The creation of the *Premium Pension Authority* in 1998 was key to reducing management costs in the compulsory, funded pension system in Sweden. Its responsibilities were taken over by the *Swedish Pension Authority* (SPA) in 2010. The SPA acts as a clearing house in the market of pension funds within the system. Pension fund suppliers wishing to participate in the Swedish compulsory private pension system have to accept management fee rebates. The SPA has set rebates of about two thirds with respect to the fees charged on the same funds offered outside the compulsory system (Tapia and Yermo, 2008), although the rebates tend to be smaller for small investment funds. In addition, since 2014, the SPA has imposed caps on fee levels. Workers choose among these investment funds. The SPA then carries out the transactions and allocates fund shares to individual accounts accordingly. The centralization of the transactions helps to reduce transaction costs. As a result, contributors do not face any charges for switching funds and there are no limits on how often members can switch funds. The Authority also provides uniform information on fees and costs which are deducted from gross returns. Advertising is banned. Because of the intermediation role of the SPA, suppliers cannot identify individual investors having chosen their funds. The large rebates have not discouraged entry. More than 900 investment funds have entered the market, including many small funds.

Containing spending in public pensions can help limit social security contributions

28. Disability pensions as well as special pension regimes for workers in specific occupations and sectors account for about a quarter of public pension spending (National Audit Office, 2014), which is mostly funded from social security contributions. While these pensions are often low, about 40% of men and 30% of women receive public pensions before they attain the legal retirement age. The average age of first pension receipt is 52 years (Center for Policy Studies, 2011). In part special pension regimes exist because workers in these occupations or sectors are presumed to face higher health risks. However, in most cases, their health risks appear not to be higher (National Audit Office, 2014). The impact on labour market participation of these special pension regimes has been limited because pension receipt is compatible with work and employed pensioners benefit from tax advantages, including reduced employer social security contribution payments for workers receiving special occupational and disability pensions. However, as the 2012 Economic Survey (OECD, 2012) has pointed out, disability benefit recipients do not have access to activation measures, lowering their employability.

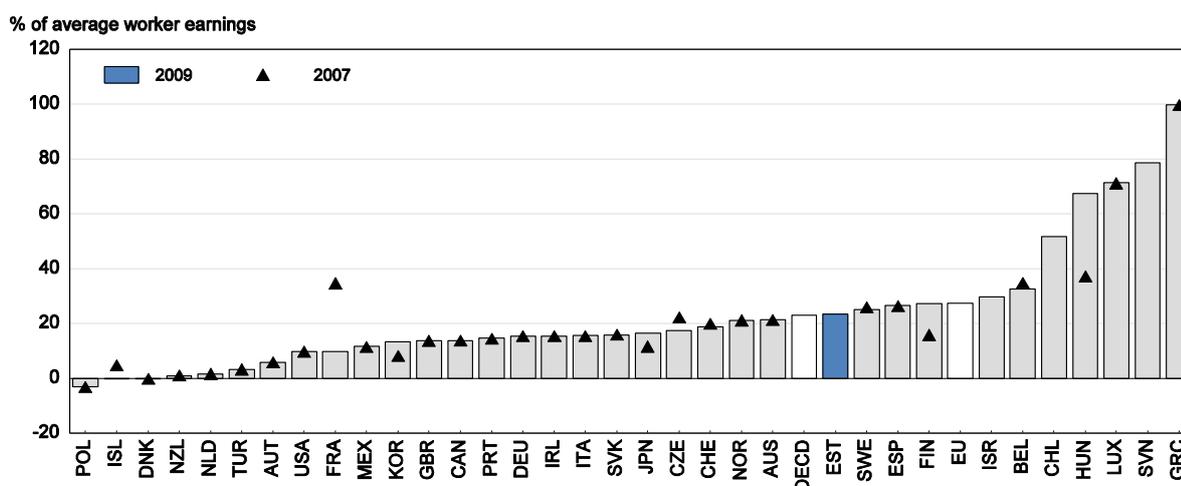
29. Parliament is considering a reform of disability benefits. The planned reform aims at reducing inflows into and raising outflows out of disability by strengthening assessment of the capacity to work, and making activation measures available to disability benefit recipients, including individual-based training and job-seeking services. The planned reform also foresees provision of rehabilitation services as early as possible and to tie the receipt of benefits to the obligation to use activating services (National Audit Office, 2014). The government also plans to reform the occupational and sectoral early pension schemes.

30. However, Estonia still does not have work accident and occupational sickness insurance. Such insurance, coupled with experience-rated employer contributions, is key for employers to have adequate incentives to prevent deterioration of health outcomes at work. As the 2012 Economic Survey has pointed out, work-related accidents and diseases constitute an important health risk in Estonia, particularly for workers in low-skill occupations. Disability pensions have provided substantial poverty relief in the past. It is therefore also important that reforms limiting access to disability pensions are accompanied by steps to provide more generous, means-tested minimum income support for the unemployed, combined with more effective activation policies, as pointed out in the 2012 Economic Survey (OECD, 2012).

31. One option to avoid falling pension benefit replacement rates without raising contribution rates is to raise the retirement age. Pension reform introduced in 2012 will gradually raise the legal retirement age from 63 to 65 for men and from 60.5 to 65 for women between 2017 and 2026, helping to contain pension spending. The legal retirement age could be indexed to gains in life expectancy after 2026. There also is room to improve incentives for later retirement. The average age of first regular old age pension receipt is 59 years, significantly below the legal retirement age of men and women.

32. As most OECD countries, Estonia allows retirement on old-age pensions before and after the legally defined age subject to discounts for earlier retirement and supplements for later retirement, provided the pension entitlements exceed minimum pensions. According to OECD estimates, workers' net pension wealth decreases if they decide to retire later, resulting in a positive implicit tax on continued work without pension receipt. Hence, workers may have incentives to draw old-age pensions early resulting in costs for government finances. While an implicit tax on later retirement has also been estimated in pension systems of other OECD countries, it is relatively large in Estonia, according to estimates with 2009 data (Figure 6). In a similar vein, more recent evidence shows that postponing the retirement age from 60 to 65 reduces the present value of old-age pension payments of Estonian workers (OECD, 2013b), even though Estonian employers continue to pay substantial pension contributions (20% of the gross salary) for workers who decide to continue working between the age of 60 and 65. Incentives to retire early can also have a regressive effect, as workers with poor earnings record may not be able to take advantage of it as they may not have acquired rights exceeding the minimum pension before the legal retirement age.

Figure 6. Implicit tax on continued work: old-age pensions¹



1. Implicit tax on continued work in regular old-age pension system, for 60 year olds.

Source: Duval, R. (2003), "The Retirement Effects of Old-Age Pension and Early Retirement Schemes in OECD Countries", OECD Economics Department Working Papers, No. 370, OECD Publishing and OECD calculations.

Strengthening the supply of marketable skills has been on the forefront of the government agenda

33. According to PISA results, literacy, numeracy and science competences among Estonian youth are strong. Numeracy and literacy skills are also above average among OECD countries for the adult population, although results for problem-solving skills have been somewhat less favourable (OECD, 2013f). Estonia has made progress in reducing early school drop-out, as the share of youth leaving the education system without an upper secondary degree out has declined from 14% in 2009 to 10% in 2013. This share is now lower than in most OECD countries. The government has also implemented the European Union's "youth guarantee" programme. In particular, youth who have been inactive for 4 months

receive an education, training or employment offer from the government. The government has also taken steps to make the supply of skills more relevant for the labour market. It has set up a task force to anticipate future skills demand. It will establish regular consultations between the government, employer representatives and unions on a nationwide, sectoral level. The task force is also required to propose institutional reforms to improve cooperation of stakeholders for the monitoring of skill mismatches. The government has adopted the Estonian Lifelong Learning Strategy 2014 – 20 (Box 3). Furthermore, a draft *Adult Education Act* is in preparation to set quality standards as well as to increase the visibility of adult training.

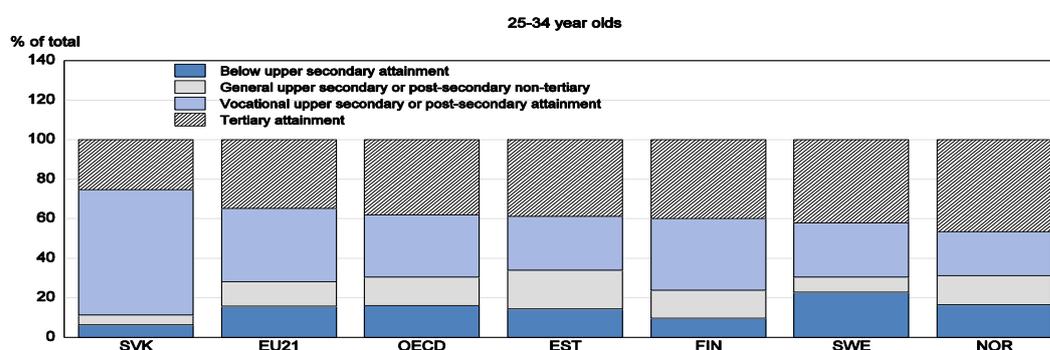
Box 3. The Estonian life-long learning strategy 2014-2020

The Strategy aims at meeting labour market needs better, as well as at meeting well-being objectives. It will serve as the basis for decisions for educational policy and funding. Programmes to implement the Strategy are being elaborated by the Ministry of Education and Research. To monitor the application of the strategy, a steering committee will be formed, which will include experts from the field of education and employment. Every two years, it will revise implementation. The Strategy fixes targets, for example on participation in life-long learning, the number of people with professional or vocational qualifications, digital skills and the use of digital technology as well as equal opportunities. Progress is also measured by key targets covering labour market outcomes, numeracy and literacy skills. Learning opportunities should be improved particularly for those with weak performance in the labour market. A regular nationwide survey will be conducted to measure stakeholders' satisfaction with the outcomes.

The measures envisaged include reviewing content and volume of education programmes, changing assessment and evaluation principles, developing teacher training as well as strengthening educational research. Providing information and counselling services will be improved with priority placed on the final stage of basic education. Strengthening of international experiences and competences will be supported. The study of sciences will be promoted especially among girls. The government, in cooperation with employers, will forecast and monitor labour market needs.

34. Despite the decline in the early drop-out rate, 30% of young people do not have a professional or vocational qualification which prepares for labour market entry. Relatively many young people obtain upper secondary academic degrees but do not continue studying at university. The share of young people whose highest educational attainment is a general upper secondary degree is relatively large (Figure 7). Only 34% of students attend vocational courses, fewer than in most European countries (OECD, 2013b). Academic upper secondary degrees do not prepare for immediate labour market entry in Estonia. The government aims at reducing the share of young people without professional or vocational qualification to below 25%. To reach this target, it aims at raising participation in vocational education and training. The new framework to forecast skills demand should also help more youth obtain professional qualifications.

Figure 7. Highest educational attainment of young adults



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

35. Across European countries, employment prospects for youth holding at most upper secondary degrees are better if their degree is vocationally-oriented than academically oriented (ECDVT, 2013). Vocational education graduates move more quickly from school to a job. Their job tenures tend to be longer. They are more likely to obtain permanent contracts and less likely to experience qualification mismatch. Their income prospects are also better initially, although the relationship tends to reverse beyond the age of 30. Moreover, graduates from work-based vocational education and training (VET) fare better than those from school-based programmes. The probability of being employed is significantly higher for work-based VET graduates and their transition from school to work quicker. There also is an income premium of work-based VET graduates relative to school-based graduates. Evidence across OECD economies also shows that labour market outcomes of vocational graduates improve if substantial work-based training is built into programmes (OECD, 2014).

36. The benefits of vocational education on labour market performance in terms of raising employment rates and reducing qualification mismatch are less marked in Estonia than in other European economies (ECDVT, 2013). Graduates from upper secondary vocational education are even subject to a higher risk of over qualification than graduates from academic upper secondary education who enter the labour market. Moreover, as the 2012 Economic Survey noted, dropping-out is still high specifically in vocational schools (OECD, 2012). Drop-outs from these schools have remained high in recent years. Estonian vocational graduates earn lower wages than their general education peers although the gap has diminished according to data from Statistics Estonia.

37. Young tertiary graduates perform well in the Estonian labour market in international comparison. 85% of young people aged 15-34 year olds who graduated from higher education less than 3 years earlier are in employment. In most European OECD economies this share is substantially lower. By contrast only 67% of young people with an upper secondary degree are in employment up to 3 years after graduating, less than in many European OECD countries (Table 4). Estimated rates of return to tertiary education are also high. This applies both to private returns, which accrue to graduates in terms of higher net wages, as well as to the returns accruing to government, which result from higher tax revenues and lower benefit spending for the unemployed (Figure 8). The fact that highly skilled young people do not tend to emigrate to higher-income countries in Europe confirms that such skills are in high demand in Estonia.

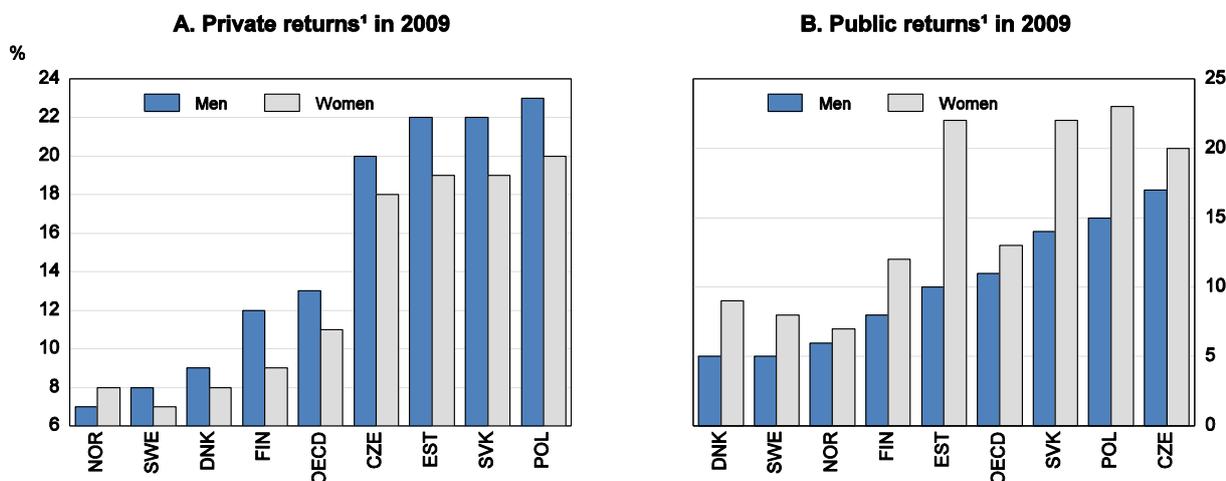
Table 4. Employment rates of young people up to 3 years after graduation by educational attainment level

15-34 year olds, 2013

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

Source: Eurostat.

Figure 8. Private and public returns to tertiary education



1. Internal rate of return.

Source: OECD (2103), Education at a Glance.

38. These findings suggest that improving access to upper secondary vocational education while expanding its work-place -based content as well as improving access to higher education for all talented youth would improve skills supply, reduce skill mismatches and improve employability and productivity performance. Improving access to education may also encourage some young people to stay in Estonia rather than emigrate.

Improving vocational education

39. The government has taken substantial steps to improve vocational education in recent years. It has supported upgrading the technical equipment of vocational schools, in part financed with European Union funds. Vocational schools' programmes have been based on occupational standards. Teaching in vocational schools has also been opened up to practitioners from businesses. Labour market outcomes of graduates from individual schools have been benchmarked. Individual schools' graduates' average earnings are published by Statistics Estonia, facilitating choice and strengthening competition among education institutions. These steps may well have contributed to the trend improvement in earnings of graduates from vocational education relative to graduates from general education. However, practitioners can as yet not combine work in their businesses with part-time teaching in a vocational school. Such part-time arrangements have proven effective in reinforcing links between the business community and vocational education institutions across OECD countries (OECD, 2014).

40. An attractive vocational education system can also contribute to improving the continuous education system. Adults are increasingly seeking to improve their skills through continuous education offered by vocational education schools. To make vocational education and training attractive for the adult population, flexible ways of recognising skills should be encouraged, including both recognition of prior learning and competence-based examinations. To meet the needs of adults, flexible forms of provision are useful, including part-time, modular arrangements, distance learning and competence-based approaches. As the 2012 *Economic Survey* pointed out, there is a need to provide public co-financing for continuous education, especially of low educated and older workers, as well as towards employees in SMEs.

41. The still relatively weak performance of the vocational education system can in part be related to the fact that businesses remain little involved in the provision of vocational education and training, as pointed out in the 2012 *Economic Survey of Estonia*. In particular, vocational education is little workplace-based. Most students attend school-based education, where students typically only complete 4-6 months of internships. Only 2% of youth who complete vocational education do an apprenticeship. The government aims at raising this share to 7%.

42. One constraint on the development of firm-based training appears to be the small size of many firms. Norway has developed a system in which firms can share apprenticeship places. It also helps providing information about local firms' skill needs to schools and their pupils. Students are placed in apprenticeships through training Offices for Vocational Training at the local level. Firms with common skill needs cooperate in these Offices, through which they can offer joint apprenticeships. Municipal school authorities have a secretariat that provides support in running them. There are teachers in most schools who maintain contacts with enterprises as a regular part of their job (Kuczera et al., 2008). Networks of two or more firms that jointly offer apprenticeship training have also been found to be effective in fostering apprenticeship supply by Muehlemann and Wolter (2013). Partnerships between training providers and employers encourage training provision which is sensitive to labour market needs, familiarise employers with vocational programmes and qualifications, and help teachers of vocational subjects to keep up-to-date (OECD, 2014f). Local flexibility in curricula supports such partnerships. For example, in Germany, each individual vocational school has some flexibility in its curriculum to adapt it to local needs. Steps to provide such flexibility are being considered in the United Kingdom in its reform of vocational education (OECD, 2014f).

43. A barrier to the development of apprenticeships is the requirement to pay the national minimum wage to trainees. At 40% of the median wage, the minimum wage is likely to be too high for training purposes in many cases. Since trainees may not be able to cover living expenses if they are paid substantially less than the minimum wage, government financial support for students from low-income households is needed. However, granting an exception from the minimum wage for trainees requires that sufficient training is indeed provided. As the previous *Economic Survey of Estonia* pointed out, there still is a need to monitor the quality of work practice schemes and to develop quality assurance for apprenticeships (OECD, 2012). Quality standards for work-based learning help to avoid the allocation of students to unskilled tasks and ensure they acquire useful occupational skills. Such standards may cover the content and duration of training, the assessment of training outcomes and the competences of those who supervise trainees. The work-based learning should be systematic, quality-assured and credit-bearing. Requiring didactic skills from workplace-based trainers has been found to improve training outcomes in Germany (OECD, 2010b). In Germany, the cost of courses preparing for the exam for trainers is mainly covered by the participants, whose training qualifications lead to better career prospects and a higher salary. In Germany, Denmark and Switzerland permission for training is withdrawn from companies that provide sub-standard training (OECD, 2010b). A clear legal framework can be an important support for work-based learning (OECD, 2014f).

44. Independent and professional career guidance backed by solid career information at the end of lower secondary education plays an important role for youth career prospects (OECD, 2014f). The Estonian government's Lifelong Learning Strategy recognises the need to provide such guidance. Mandatory short internships towards the end of compulsory school can play a useful role, as research suggests that young people value information on jobs and careers if obtained in a real workplace and through contacts with working people (Transition Review Group, 2005).

45. Youth attending vocational education away from home do not receive financial assistance to bear the additional costs, except some subsidies to cover costs of transport as well as access to subsidised meals and lodging. More financial support for these young people would make it easier for them to choose

vocational education away from home, helping to improve matching of youth to firms' skill needs. It may be particularly important in Estonia to foster mobility of students owing to low population density. More financial support would also help to reduce drop-out, which is highest in rural areas, where vocational schools are more likely to be distant. Such financial support needs to be directed at families with low income and parental education.

46. Youth are 2-to-3 times as likely to drop out from lower or upper secondary education if neither parent have at least upper secondary education than youth whose parents have graduated at a higher level. These parents are more likely to underestimate the benefits of education and to be less able to support their children. Male youth in these families are especially likely to drop out, perhaps because gender stereotypes put particular pressure on them to take up paid work early on to supplement family income. Help for these families to meet the costs of upper secondary education may therefore be particularly effective in reducing the risk of drop-out.

47. Grants for vocational students could also support the acquisition of vocational education and training abroad. Grants for international activities have been argued to help improve qualifications of vocational education students (ECDVT, 2013) and may be particularly useful for Estonia, as they could reinforce the transfer of technology from higher-income countries.

Improving access to tertiary education, notably for the disadvantaged

48. Strong PISA results, relatively favourable employment outcomes of young tertiary graduates, high returns to tertiary education and rising vacancies for highly skilled workers suggest that widening access to university education has substantial economic benefits. As pointed out in the 2012 *Economic Survey*, students from families with modest socio-economic background had particularly limited access to university education. By contrast, PISA results of pupils with weak socio-economic background are particularly strong in international comparison (OECD, 2013g) underlining the benefits of removing barriers for students with low socio-economic background to access tertiary education. While university fees have been abolished, wealth in many Estonian households is still modest, making it more difficult for families to contribute to students' living expenses. Moreover, families with low socio-economic background tend to underestimate the benefits of post-compulsory education, including tertiary education.

49. It is therefore welcome that an improved needs-based study grant system was implemented in 2013. Grants vary from EUR 75 to 220 per month, paid 10 months a year, and depend mostly on students' and/or their family income. Students with excellent study results may apply for an additional grant of EUR 100 per month. From 2014 students studying in "smart specialisation" priority areas defined by the Estonian government (ICT, health technology and resource efficiency) may apply for higher grants (EUR 160-320 per month). To qualify, students must pass the full study programme each semester. Failing to pass an exam may result in loss of entitlement in the following semester. Grants can be used for study abroad up to a year.

50. Spending on income-dependent student grants is expected to rise from 8 million to 16 million (0.1% of GDP) in 2016. Relative to GDP, spending will remain lower than in most OECD countries for which comparable data is available (OECD, 2013b). While Estonian students do not have to pay fees, transfers to private households for tertiary education relative to GDP are also lower than in continental European countries where fee levels tend to be modest. For example, in Nordic countries, where students also do not pay fees, such transfers range between 0.3% of GDP (Finland) to 1% of GDP (Norway). It may be worth-while assessing whether the conditionality concerning study progress as currently defined deters young people from disadvantaged socio-economic background. Extending the portability of grants to foreign universities, which is currently limited to one year, may widen the scope for students to pursue

specialised studies abroad and which Estonia, because of its small size, may not be able to offer. Studies abroad may in some cases also contribute to knowledge transfer from abroad.

51. Student loans could also be further developed. Full-time resident students can apply for state guaranteed loans. Estonian citizens or persons with a permanent residence permit, with full-time studies, have the right to obtain a study loan. The maximum amount is EUR 1 920 per academic year, which may be insufficient to cover study costs. Moreover repayments of the loans are not income contingent.

The Russian-speaking minority suffers from relatively high unemployment

52. About 30% of the resident population is considered “ethnic non-Estonian”, of which most are of Russian origin. Many are not Estonian native speakers. Fifteen percent of the resident population in Estonia are Russian native speakers. While labour market statistics by language background are not available, the unemployment rate of ethnic non-Estonians was 12.4% whereas for Estonians it was 6.8% in 2013, despite broadly similar educational attainment levels. This difference has fallen little over the past 25 years (OECD, 2010c). Higher unemployment rates among ethnic Russians, who mostly live in the north-east of the country, contribute to regional differences in unemployment rates. One reason for poorer employment prospects may be lack of Estonian language skills, as argued in OECD (2010c). However, recent empirical evidence suggests that Estonian language skills raise wage prospects only for a small minority of Russian-speakers at the lowest end of the wage spectrum (Toomet, 2011). This finding suggests that other factors contribute to their worse labour market outcomes. In any case, the government funds Estonian language courses. Self-evaluated knowledge of Estonian has improved, but 31% of non-native speakers continue to lack basic Estonian language skills.

53. Close to one half of native Russian speakers are stateless and therefore face considerable disadvantages with respect to their labour market prospects. They do not have access to jobs in the civil service, they face restrictions on the ownership of land, and they may be excluded from certain private sector jobs (OECD, 2010c). As they are not nationals of an EU country, they do not have full access to the rights associated with such citizenship within the European Union. For example, unlike Estonian nationals, they do not have access to higher education in other EU countries on the same terms as nationals of the country concerned. Adults aged 16 or older have to prove sufficient language skills to obtain Estonian citizenship through naturalization. They also have to prove knowledge of the Estonian constitution and history (OECD, 2010c). More than half of adult Russian-speaking Estonians who attempt to pass language tests fail them. Individuals who fail their exam are not reimbursed the costs of the Estonian language course. Children below the age of 16 can obtain citizenship without proof of language skills, although this requires a formal application. The government has developed an action plan to reduce the number of people with undetermined citizenship in its 2013-20 Integration Strategy (OECD, 2013b). Improving access to Estonian citizenship could strengthen labour market prospects of the stateless. For example, steps could be taken to make it easier to prove Estonian language skills.

Box 4. Recommendations to make the most of human capital

Encourage equal pay between women and men

- Require both parents to take up parental leave in order for parents to qualify for the full leave entitlement. Identify and address barriers to female entrepreneurship. Consider requiring firms to identify and address pay inequalities between men and women.

Tax system

- Further reduce the taxation of labour earnings, in particular of low earnings, by reducing social security contributions on low wage earners. Raise more revenues from the taxation of real estate. To this end, broaden the tax basis of real estate taxes to include buildings, remove exemptions in land tax and evaluate property according to market values.

- Abolish the lump-sum minimum social tax.
- Broaden the base of personal income taxation, notably by eliminating the deductibility of mortgage interest payments.

Compulsory private pensions

- Reduce costs born by workers, in particular marketing expenses.
- Consider a fundamental reform of the compulsory private pension system, along the lines of the Swedish system, including the introduction of a low-cost fund to which new contributors are assigned by default.
- Improve disclosure of information on costs to the public in a standardized manner.
- Remove limits on switching between funds. Abolish redemption fees.
- Improve representation of contributors' interests in pension fund governance.

Public pensions

- Phase out special occupational and sectoral pension regimes. Reform disability pensions as planned, in particular, increase access to activation measures and strengthen the assessment of the capacity to work. At the same time expand the safety net for unemployed workers.
- Index the legal retirement age to changes in life expectancy once the retirement age of 65 years is fully phased in 2027. Improve incentives for continued work in the old-age pension system.
- Introduce accident and occupation illness insurance with experience-rated employer contribution rates.

Improving the supply of skills

- Introduce a tax-free lower minimum wage for apprenticeships in firms which meet accredited training standards and improve financial support for students.
- Strengthen collaboration of businesses and schools at the local level.
- Provide independent and professional career guidance at the end of lower secondary education, including short internships towards the end of compulsory school.
- Lower barriers for the integration of Russian speakers in the labour market for example by providing more help to prepare to pass exams required for Estonian citizenship.

BIBLIOGRAPHY

Anniste, K., T. Tammaru, E. Pungas, T. Paas (2012), "Emigration after EU Enlargement: Was There a Brain Drain Effect in the Case of Estonia?" – University of Tartu Faculty of Economics & Business Administration *Working Paper Series*, Issue 86, pp. 3-20.

Anspal S. and T. Rõõm (2007), Gender Pay Gap in Estonia: Empirical Analysis. *Mimeo*.

- Berstein, S. and A. Micco (2003), *Competition in a World with Markups and Sales Agents: The Chilean Pension Fund Industry*, Pensions Institute Discussion Paper 03-13.
- Eesti Pank (2014), Labour Market Review 1/2014.
- European Commission (2013), *The 2012 Ageing Report. Economic and budgetary projections for the 27 EU Member States (2010-2060)*.
- European Centre for the Development of Vocational Training ECDVT (2013), Labour market outcomes of vocational education in Europe Evidence from the European Union labour force survey. *Research paper* No. 32.
- Ionescu, L. and E. A. Robles (2014), “Update of IOPS Work on Fees and Charges”. *IOPS Working Papers on Effective Pensions Supervision*, No.20
- IOPS (2011), “Comparative Information Provided by Pension Supervisory Authorities”, *IOPS Working Paper* No. 15, <http://www.oecd.org/site/iops/principlesandguidelines/49354396.pdf>.
- Johansson, Å., et al. (2008), “Taxation and Economic Growth”, *OECD Economics Department Working Papers*, No. 620, OECD Publishing.
- Kuczera, M., G. Brunello, S. Field and N. Hoffman (2008), “A Learning for Jobs Review of Norway”, OECD Publishing.
- National Audit Office of Estonia (2013), “Overview of the use and preservation of state assets in 2012–2013” *Summary of Problems in the Development and Economy of Estonia*. National Audit Office: Tallinn.
- National Audit Office (2014) “Sustainability of the state’s pension system. Does the state guarantee the effective functioning of pension pillars?” *Report of the National Audit Office to the Riigikogu*. Tallinn.
- OECD (2010a), *Employment Outlook 2010*, OECD Publishing.
- OECD (2010b), *Learning for Jobs. Synthesis Report of the OECD Reviews of Vocational Education and Training*, OECD Publishing.
- OECD (2010c), *Reviews of Labour Market and Social Policies: Estonia*, OECD Publishing.
- OECD (2012), *OECD Economic Surveys: Estonia 2012*, OECD Publishing.
- OECD (2013a), *Coping with Emigration in Baltic and East European Countries*. Chapter 2: “Emigration from Estonia: Recent trends and economic impact”, by Veronica Kaska. OECD Publishing.
- OECD (2013b), *Pensions at a Glance 2013: OECD and G20 Indicators*, OECD Publishing.
- OECD (2013c), *International Migration Outlook 2013*, OECD Publishing.
- OECD (2013d), *Education at a Glance 2013*. OECD Publishing.
- OECD (2013e), *Pensions Markets in Focus 2013*. OECD Publishing.

OECD (2013f), *OECD Skills Outlook 2013: First Results from the Survey of Adult Skills*, OECD Publishing.

OECD (2014), *Skills Beyond School: A Review of Post-secondary Vocational Education and Training*, OECD Publishing.

Turk, P., L. Kraut, S. Anspal, E. Kallaste (2010), “Gender Pay Gap in Estonia: Policy Recommendations”. *Mimeo*.

Praxis Centre for Policy Studies (2011), Opportunities of Sustainable Financing of the Estonian Social Insurance System. *Mimeo*.

Pungas, E., O. Toomet, T. Tammaru, K. Anniste (2012), “Are Better Educated Migrants Returning? Evidence from Multi-Dimensional Education Data”. *NORFACE Working Papers, Discussion Paper No.2012-18*.

Puur, A., L. Sakkeus, T. Tammaru (2013), “Population”, *Estonian Human Development Report 2012/2013*. Estonian Cooperation Assembly.

Muehlemann, S. and S. C. Wolter (2013), “Return on investment of apprenticeship systems for enterprises: Evidence from cost-benefit analyses”. *EENEE Analytical Report*, No. 16 Prepared for the European Commission.

Tapia, W. and J. Yermo (2008), “Fees in Individual Account Pension Systems: A Cross-Country Comparison”, *OECD Working Papers on Insurance and Private Pensions*, No. 27, OECD publishing.

Tarum, H. (2014) “Migration Potential of Working-age Population in Estonia in 2013”, *Policy Analysis 2/2014, Series of the Ministry of Social Affairs*, Tallinn.
http://www.sm.ee/fileadmin/meedia/Dokumendid/Toovaldkond/uuringud/Migration_potential_of_working-age_population_in_Estonia_in_2013_final.pdf

Toomet, O., (2011), “Learn English, Not the Local Language! Ethnic Russians in the Baltic States”, *The American Economic Review*, Vol. 101, No. 3, pp. 526-531.

Whitehouse, E. R. (2001), “Administrative Charges for Funded Pensions: Comparison and Assessment of 13 countries”, in OECD, *Private Pension Systems: Administrative Costs and Reforms*, Private Pensions Series, Paris.

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