This Overview is extracted from the 2016 Economic Survey of Hungary. The Survey is published on the responsibility of the Economic and Development Review Committee (EDRC) of the OECD, which is charged with the examination of the economic situation of member countries.

raising revenues or cutting spending (in age-related programmes or elsewhere). To illustrate the problem, if the estimated changes in aging-related spending were entirely deficit financed, under the baseline growth assumption the debt-GDP ratio would fall until the late-2030, as these expenditures are initially projected to fall, but then increase unsustainably (the "without offsetting ageing-related costs" scenario in Figure 19).

Public spending is relatively high, at half of GDP, especially considering Hungary's relatively low income (Figure 20). The government plans to lower overall spending as a share of GDP by more than offsetting the effects of higher wage for public employees through a freeze on social spending. A relatively large share of spending goes to general public services, reflecting high interest payments on public debt and the relatively high share of the labour force employed by the public sector (including those in the public works programme) (OECD, 2015a). By contrast, relatively low spending on health (Figure 20, Panel B) may contribute to low health status and to emigration of health-care workers (Chapter 2; OECD, 2015a). Education spending is also relatively low (Chapter 2).

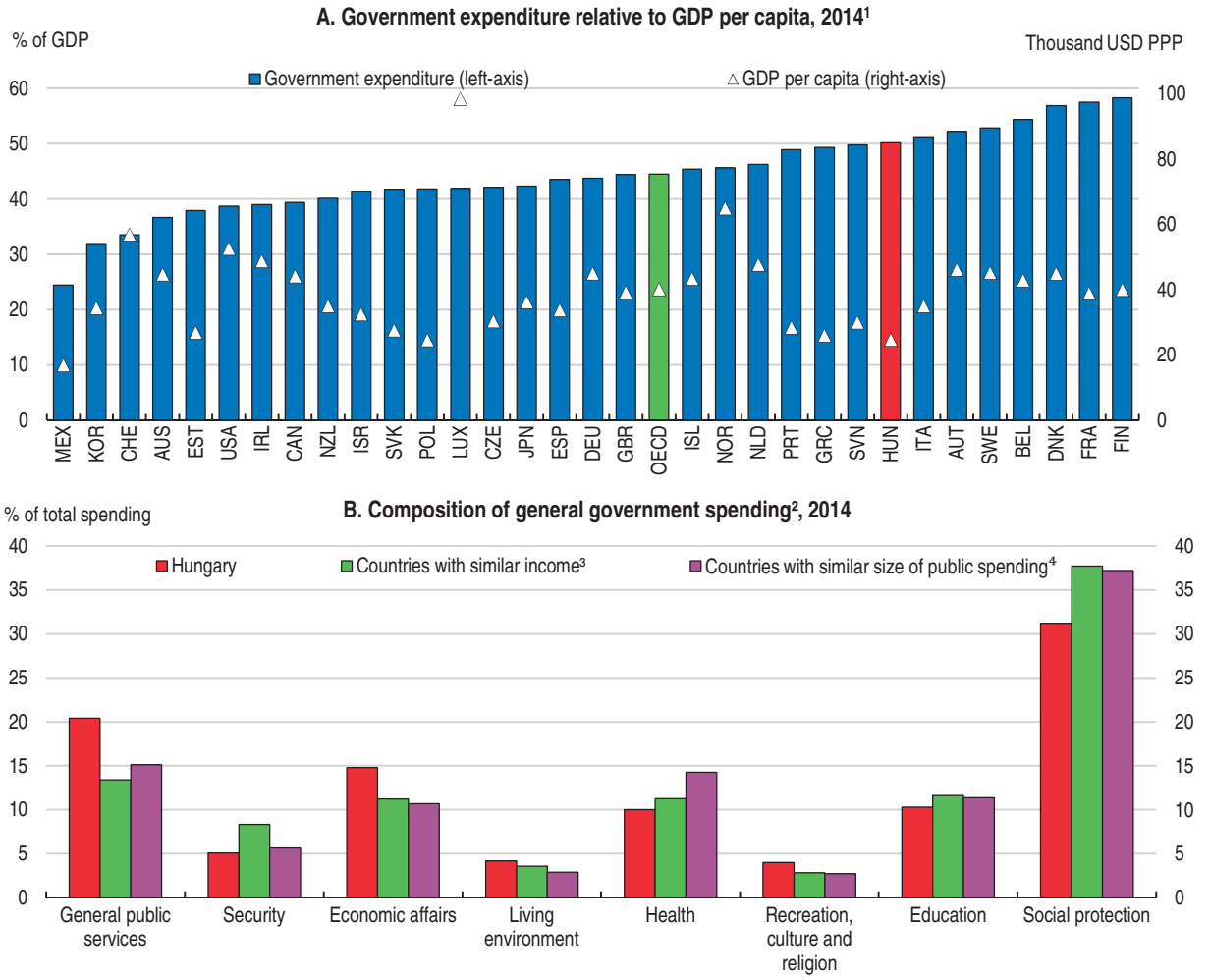
The government's emphasis on debt reduction is welcome and to ensure a durable decline in public debt, the structural budget deficit should gradually be reduced. This would bring the structural deficit closer to the 1% of GDP commitment for Euro and aspiring Euro members under the European Union's Stability and Growth Pact (European Commission, 2013). The size of government is ultimately a political and social decision, but the relatively large size of government suggests there is room for spending restraint to achieve a lower deficit. This should, of course, go hand in hand with efforts to improve the efficiency of both spending and taxation. The government has initiated steps in both directions. Further progress in these areas, as well as in debt reduction, needs to take place within a long-term strategy. A medium-term budgeting framework with a three year time horizon has already been adopted. Nonetheless, a longer time horizon for spending and debt reductions should be considered, including well-specified policy objectives.

Tax revenues are highly reliant on consumption taxes and social security contributions (Figure 21). The government is continuing to reduce the tax burden with a planned reduction in taxes and social security contributions by three percent of GDP, to below 36% of GDP by 2019 (Government, 2015c). At the same time, it is shifting the tax burden from labour to consumption. The flat income tax rate of 16% was reduced by 1 percentage point in 2016 and the family tax allowance in the case of two children will double between 2016 and 2019. Revenue increasing measures are mostly related to higher fees for public health and environmental taxes.

The VAT rate, at 27%, is the highest in the OECD. On the other hand, tax collection is well below what it should be (Figure 22), in large part because of evasion. The European Commission estimates imply that with full compliance at the current tax rate the VAT would raise an additional 3% of GDP in revenue.

Since 2013, the government has implemented anti-fraud measures, particularly mandatory use of online cash registers and an electronic system to track routes of goods. These measures have already boosted VAT revenues by 0.6% of GDP in 2014 and the government is extending them to some services (such as taxis, wellness-fitness, automotive repairs and medical services) (Government, 2015b). The authorities could consider introducing electronic invoicing, as Slovakia has done. The scope for boosting VAT revenues further is relatively large as the informal economy accounted for between 10%-17% of the economy in the 2000s and possibly more thereafter (Benedek et al., 2013; Semjén et al., 2010; Svraka et al., 2013).

Figure 20. **Hungary's public sector is relatively large and tilted towards general public services**



1. 2013 for Australia, Israel, Japan, Mexico, New Zealand, Switzerland, United States. The OECD aggregate is an unweighted average excluding Chile and Turkey.
2. Sectors based on Classification of the Functions of Government 99 (COFOG) at 2-digit level of which two sectors are aggregated: Security includes defence and public order and safety; Living environment includes environment protection and housing and community amenities.
3. Unweighted average of Poland, Slovakia, Czech Republic, Estonia and Greece.
4. Unweighted average of Austria, Greece, Iceland, Italy, Netherlands, Norway, Portugal, Slovenia and Sweden where government spending takes 45~55% of GDP as of 2014.

Source: OECD (2015), *OECD National Accounts Statistics Database*; Eurostat (2016), *Annual Government Finance Statistics Database*.

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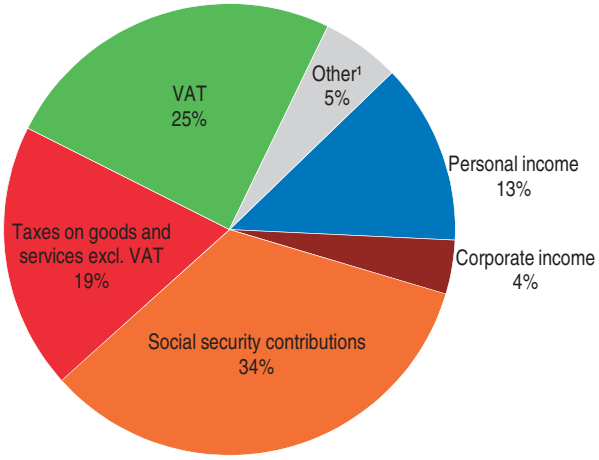
Avoidance could be further limited and revenues increased if reduced VAT rates for selected food, health and cultural products were abolished, particularly as such reduced rates do not typically improve equity much, or at all.

These changes to the tax system should make it less distortive and thereby stimulate long-term growth. However, social security contributions (35% for a single full-time worker on the minimum wage) tend to reduce equity because they damage the employment prospects of low-skilled workers, and are levied on labour income alone. This is partially offset by the Job Protection Act's provision which reduces employers' social security contributions. Equity would be further improved by, for example, substituting these taxes for a broader income tax, which would tax capital income at the personal level as well.

Figure 21. **Tax revenues are reliant on consumption taxes and social security contributions**

Distribution of tax revenues, 2014



1. Includes payroll tax, property tax, income taxes not allocable to either personal or corporate income.

Source: OECD (2015), "Revenue Statistics: Hungary", *OECD Tax Statistics Database*.

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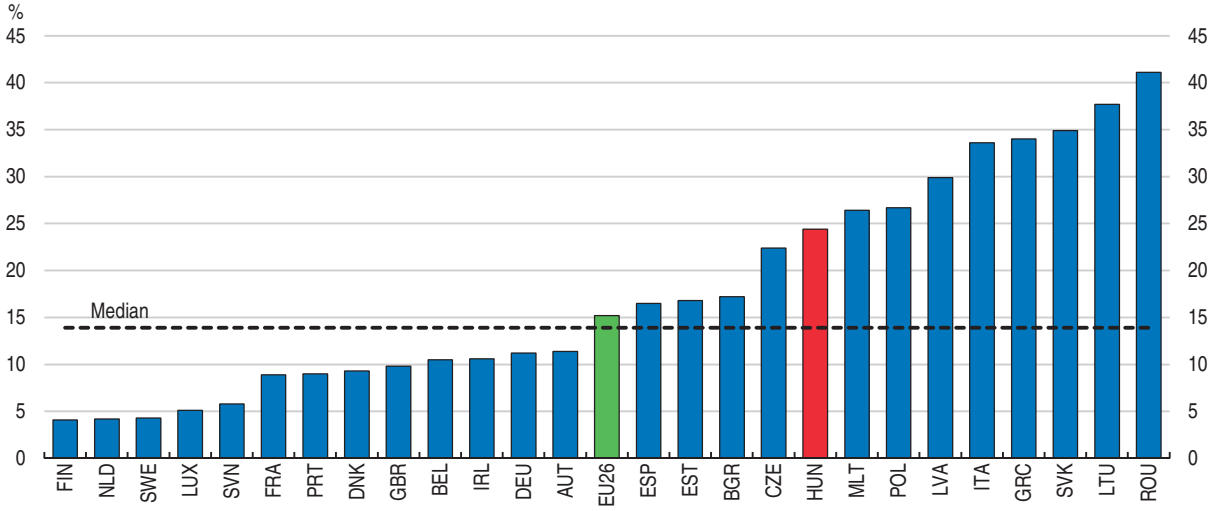
Figure 22. **VAT revenue loss due to tax avoidance and evasion is above the EU average**

VAT gap as a percentage of liability, 2013



Source: European Commission (2015), *Study to Quantify and Analyse the VAT Gap in the EU Member States*.

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Likewise, shifting to consumption taxes can improve economic growth, but its immediate distributional effects can be somewhat regressive when expressed as a percentage of income, as those on lower incomes spend more of their money on consumption (Johansson et al., 2008; OECD, 2014b). These factors, together with the plans to freeze social spending, may result in a deterioration of Hungary's relatively low income inequality.

Population ageing increases spending pressures

In the longer run, ageing will be the main driver of spending. Current long-term projections suggest a fall in ageing-related spending until 2030 and thereafter increase by 3.75% of GDP by 2060 (Table 4). Population ageing is more advanced in Hungary than in other countries; indeed, the population peaked in 1981 at nearly 11 million and the fertility rate is one of the lowest in Europe (Figure 23). The population is projected to fall to 9.2 million by 2060 (European Commission, 2015). Until now, the prime age population has been relatively stable, but it is projected to fall to the smallest in Europe as a share of total population, leading to one of the highest old-age dependency ratios. These projections assume an annual inwards migration of 20 000. If income convergence continues to disappoint, inwards migration may fail to materialise and the emigration of young skilled workers may accelerate (Chapter 2).

Table 4. **Long-term projections for ageing related spending (% of GDP)**

	Total ageing spending[1]			Gross public pension spending			Health care spending			Long-term care spending		
	2013	2030	2060	2013	2030	2060	2013	2030	2060	2013	2030	2060
Czech Republic	19.1	20.4	22.5	9.0	9.0	9.7	5.7	6.3	7.0	0.7	1.0	1.5
Hungary	20.8	18.2	21.9	11.5	8.9	11.4	4.7	5.2	5.7	0.8	0.9	1.2
Poland	20.9	20.5	22.3	11.3	10.4	10.7	4.2	4.8	5.6	0.8	1.1	1.7
Slovenia	24.7	26.7	31.6	11.8	12.3	15.3	5.7	6.5	7.1	1.4	1.9	2.8
Slovak Republic	17.7	17.9	21.8	8.1	7.6	10.2	5.7	6.6	7.9	0.2	0.4	0.6
EU28	25.6	26.4	27.3	11.3	11.6	11.2	6.9	7.5	8.0	1.6	2.0	2.8
Euro area	26.8	27.7	28.5	12.3	12.9	12.3	7.0	7.5	7.9	1.7	2.1	3.0

1. Total ageing spending includes spending on gross public pension, health care, long-term care, education and unemployment benefit
Source: European Commission (2015), "Economic and Budgetary Projections for the 28 EU Member States" (2013-2060), *The 2015 Ageing Report*, 3/2015, Brussels.

Public pension spending is projected to remain around 11.5% of GDP with a nearly unchanged replacement rate of 45%, which is close to 10 percentage points higher than the EU average in 2060 (Table 5). However, pensions are indexed to prices, not wages, leading to a decline in benefits relative to wages by 9 percentage points to 32.5%. This implies increasing inequality between pensioners and a higher risk of older pensioners not having sufficient incomes. This may eventually increase political pressures to raise the benefit ratio, which would lead to higher spending than now assumed.

Other ageing-related spending, such as health care, may also increase faster than projected. Current health spending per capita is lower than the average in the region and less than half of the OECD average. Per capita health spending could therefore increase relatively rapidly as Hungarian incomes catch up to those of richer OECD countries. The emigration of health professionals accelerated in 2000s and a rising number of doctors are leaving the profession. Significantly higher wages may be needed to stem these developments (OECD, 2015b; Varga, 2015). Moreover, low health care investment spending has led to unfavourable working conditions and outdated medical equipment. Such under-investment is not sustainable. Finally, the bulk of long-term care is currently provided informally by family and friends, but as in other countries this may change, and an increasing institutionalisation of long-term care would raise public spending.

Figure 23. **Demographic prospects are unfavourable**

1. Ratio of 65+ to 15-64 year-olds.

Source: European Commission (2015), *The 2015 Ageing Report*.

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Table 5. **Benefit ratios and replacement rates in Europe**

	Benefit ratio[1]		Replacement rates[2]	
	2013	2060	2013	2060
Czech Republic	42.6	40.7	43.3	49.3
Hungary	41.4	32.6	45.5	45.2
Slovenia	37.8	32.9	36.1	34.1
Slovak Republic	46.0	30.4	51.7	49.4
EU28[3]	46.5	38.4	43.8	36.0
Euro area[3]	49.6	40.3	53.0	44.2

1. The "Benefit ratio" is the average benefit of pensions as a share of the economy-wide average wage.
2. The "Replacement rate" is calculated as the average first pension as a share of the average wage at retirement.
3. Weighted average.

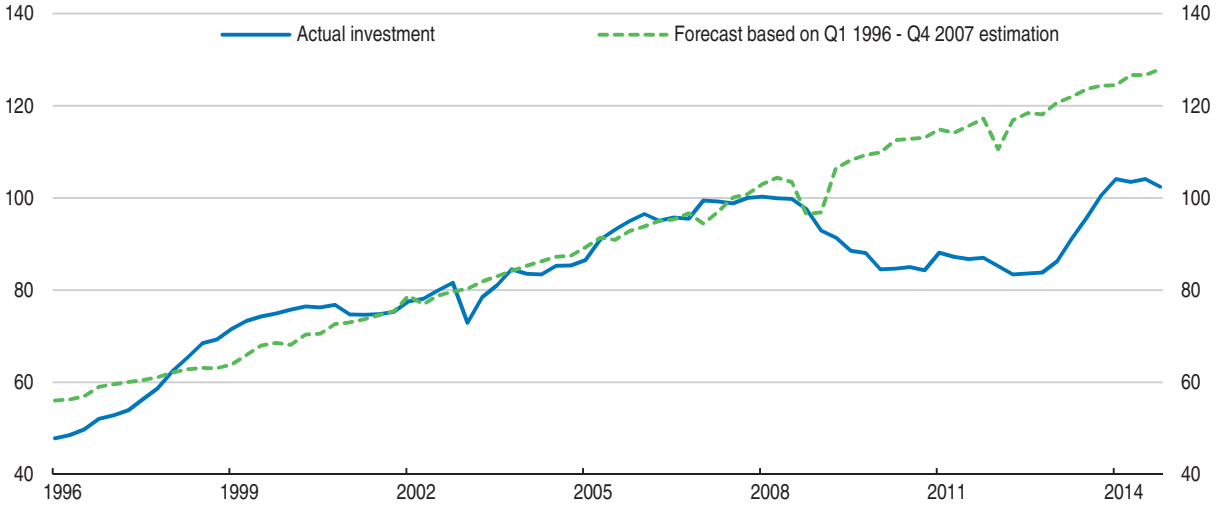
Source: European Commission (2015), "Economic and Budgetary Projections for the 28 EU Member States" (2013-60), *The 2015 Ageing Report*, 3/2015, Brussels.

Bolstering business investment

Higher business investment would bolster productivity growth and deepen integration into global value chains. Prior to the crisis, there was a relatively close relationship between economic activity and business investment. During the crisis, this relationship was eroded, leaving today's level of business investment well below what economic growth would suggest (Figure 24). This downwards shift can be explained by a number of factors. The crisis induced a sharp reduction in business profits, which have not yet recovered (Government, 2015c; Bauer, 2014). The fall in profitability was compounded by the introduction of sector specific taxes, which together with frequent changes, particularly in the aftermath of the crisis, in the regulatory environment (see below) reduced predictability and risk tolerance, further dragging down investment (Martonosi, 2013).

Figure 24. **Investment is lower than expected**

Simple accelerator model of non-residential investment, value of actual investment in 2007 Q4 = 100[1]



1. In real terms. 4-quarter moving average applied. Actual GDP and capital stock series are used to calculate the forecast based on 1996 Q1-2007 Q4 estimation. In the estimations, the level of investment is explained by current and lagged changes in real GDP and replacement investment. For more information on the methodology: OECD (2015), *OECD Economic Outlook*, Vol. 2015 Iss. 1, June, Annex 3.1.

Source: OECD (2015), OECD calculations based on *OECD Economic Outlook: Statistics and Projections Database*.

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In addition, financing sources dried up as the banking crisis sharply reduced bank lending. This particularly affected domestic SMEs as multinational companies relied on international financial markets for their funding. The Funding for Growth schemes have resulted in some new investment, particularly by smaller firms, and have also been used to refinance older and more expensive loans (Endresz et al., 2015). Other funding sources, such as equity or corporate bonds, play only a minor role in Hungary, as in other eastern European countries.

Developing capital markets would provide new sources of funding, but it is a slow process that requires improving transparency, reliability and comparability of information (Jäger-Gyovai, 2014). In particular, a critical mass of floated firms will be needed to secure a well-functioning stock market (Adarov and Tchaidze, 2011). In this respect, developing common rules and standards for accounting, corporate credit, insolvency and other capital market regulations could foster capital markets in the region, which could possibly clear the way for making the Budapest stock exchange part of a larger regional stock exchange, as in the Baltic area (Véron and Wolff, 2015). Such a larger stock exchange would be more viable than the Budapest exchange alone. New financing sources should be promoted by adjusting existing or adopting new regulation to new financial technologies. At the same time, investor confidence needs to be strengthened, pointing to the need for creating a more stable regulatory framework that promotes the competitiveness of the business sector.

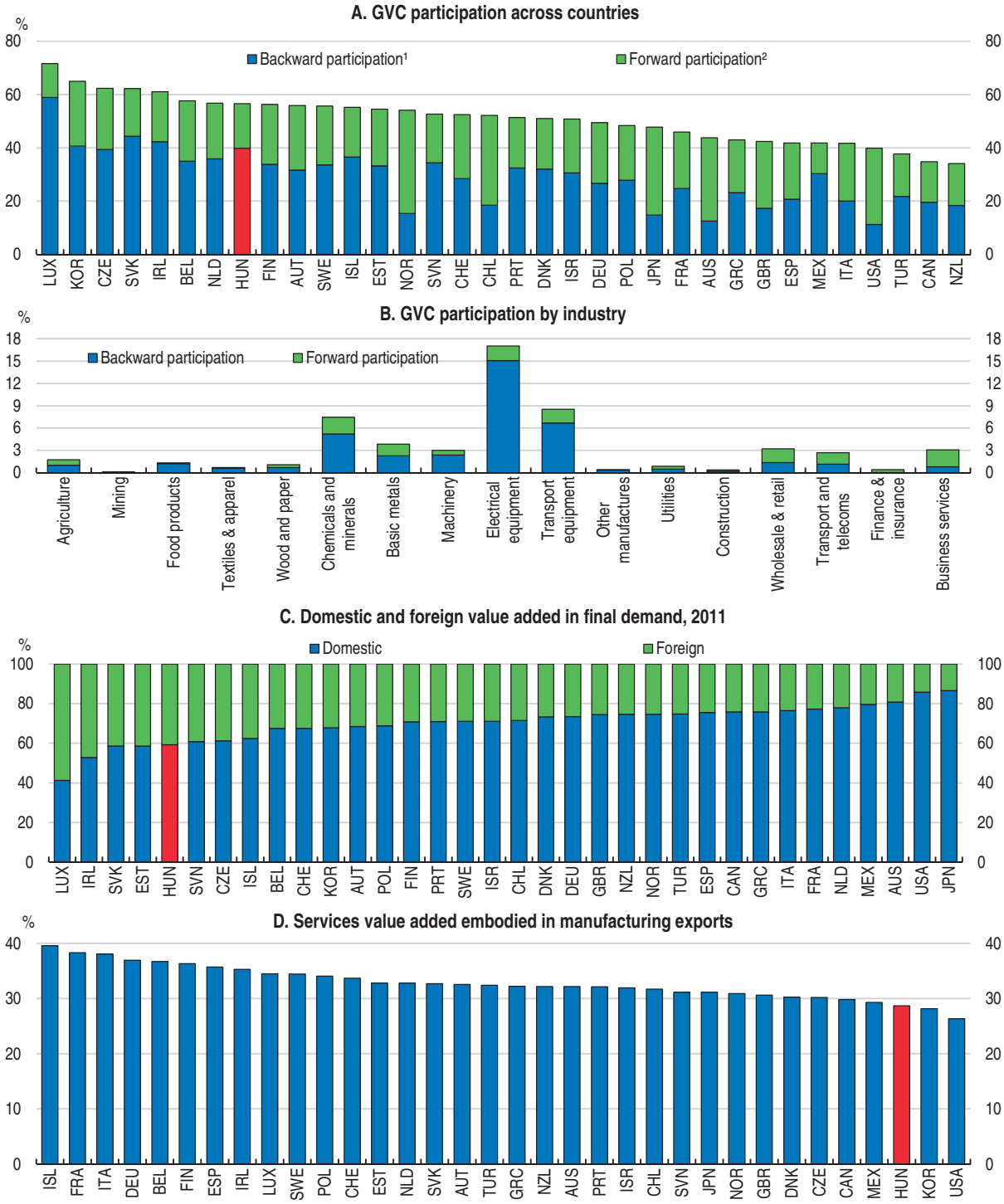
Global value chains benefit relatively few

Hungary's participation in the global value chains is among the highest in the OECD (Figure 25, Panel A). This success is linked to the large presence of foreign firms in the (intertwined) electrical and transport equipment producing sectors, which are characterised by high inflows of inward FDI and intensive links with manufacturing in other countries, especially Germany (Figure 25, Panel B; Chapter 1). The multinational companies behind this inward FDI typically use a high share of foreign produced intermediates in their production or rely on inputs from foreign-owned producers in Hungary.

In contrast, domestically-owned producers of intermediate inputs have been less successful than in other countries in integrating themselves into the production chain of the large foreign-owned exporters, which means that the value added in exports is relatively low. In addition, producers of intermediate inputs have a relatively low contribution to the production of other countries' exports (known as low "forward participation" in GVCs). Moreover, services contribute less to manufacturing exports than in any other European country (Figure 25, Panel D). As a consequence, Hungary has missed out on direct services provision, such as communication, but also indirect services that help to differentiate and upgrade products (such as design, development, and marketing). Better use of such services would help firms to capture more value in the global value chains (OECD, 2013a).

Inward FDI accounts for a substantial part of business investment and over time the inflows have been concentrated in a few sectors. The high concentration in the vehicle production (22% of industrial production and 13% of total exports) and the dominant position of a few German firms involve some exposure to firm, sector and country specific risk. Moreover, there is little investment in intangibles, such as R&D, digital economy and other elements of knowledge-based capital that are needed to foster potential growth and move up the value added chain (OECD, 2015c). Finally, the firm structure is dominated by

Figure 25. **Hungary's participation in the global value chains (GVC) is very high**



Note: 2009 data unless specified.

1. The indicator measures the value of imported inputs in the overall exports of a country (the remainder being the domestic content of exports). This indicator provides an indication of the contribution of foreign industries to the exports of a country by looking at the foreign value added embodied in the gross exports.
2. The indicator provides the share of exported goods and services used as imported inputs to produce other countries' exports. This indicator gives an indication of the contribution of domestically produced intermediates to exports in third countries.

Source: OECD (2013), *Global Value Chains Indicators Database*.

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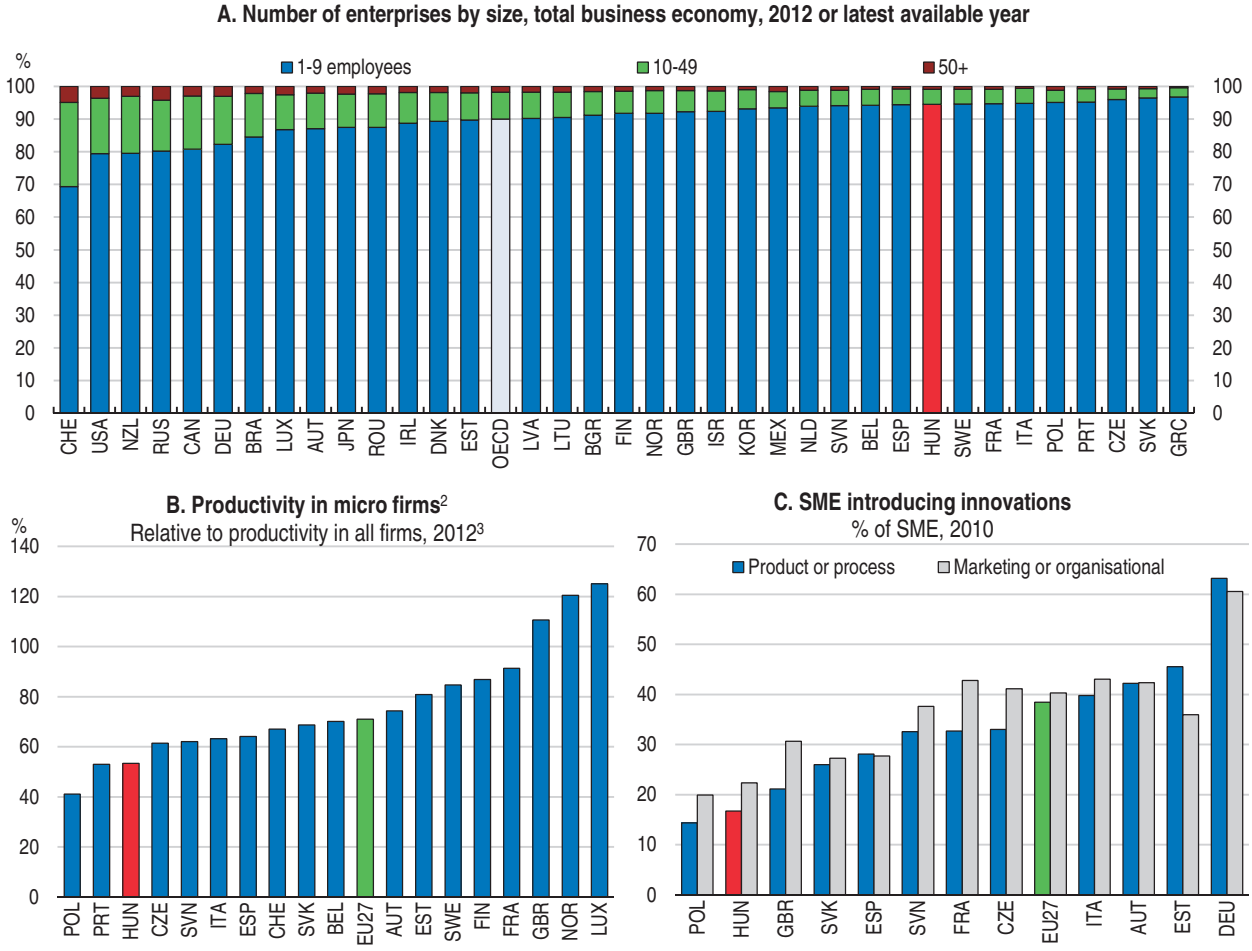
Figure 26. **Many small and medium-sized enterprises (SME)[1] have low productivity and innovative activity**



1. Enterprise size classes are based on the number of persons employed: a SME employs 0-249 persons and a micro firm employs 0-9 persons.
2. Productivity is defined as value added at factor cost (in euros) per person employed. The sector covered is the total business economy (including repair of computers, personal and household goods; excluding financial and insurance activities). 2010 data for Germany, Switzerland and the EU aggregate.
3. 2010 data for Switzerland and the EU aggregate and 2011 data for France.

Source: OECD (2015), *Entrepreneurship at a Glance 2015*, Fig. 2.1; Eurostat (2015), "Structural Business Statistics – Industry Trade and Services", *Eurostat Database*, April; and European Commission (2014), "SBA Fact Sheets 2014" for each country, *DG Enterprise and Industry*.

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SMEs and many of them are not very competitive, as they suffer from low productivity and innovative activity, hindering their involvement in GVCs (Figure 26).

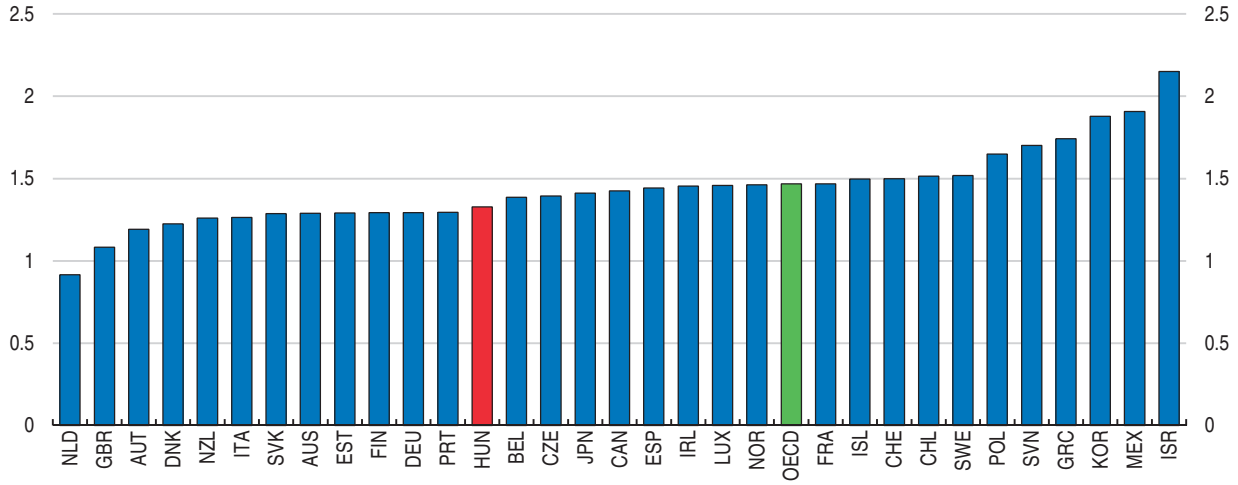
Broadening participation to other sectors is difficult to achieve through inward FDI, as the comparative advantages in terms of attracting inward FDI have been eroding over time (Chapter 1). Thus, promoting participation of other industries must rely on removing entry barriers and other pro-competitive regulatory reforms (Chapter 1), and by building an education system that is better at matching the needs of a labour market that can support increasingly sophisticated economic activities (Chapter 2).

Frequent changes in the regulatory framework holds back business investment

OECD's PMR indicator shows that on average regulation is not particularly strict and the government has a programme to simplify regulation (Figure 27). However, regulation has often changed and at times there has been a lack of coordination across policies, creating regulatory uncertainty and high compliance costs that weigh on investment (OECD, 2015a; World Bank, 2015). The government should strengthen the role of Regulatory Impact Assessments (RIA) to improve the quality and stability of regulation and policies (OECD, 2014d). The general knowledge and transparency of RIA would be enhanced by publishing the government's annual RIA report that is currently for internal consumption. In addition, standardised and more transparent RIA guidelines should be adopted. Charging a body to evaluate and improve RIA processes and to develop a common methodology for measuring the effects of policy initiatives across all proposals would facilitate better regulatory policy making.

Figure 27. **Product market regulation is below average in the OECD**

Product market regulation indicator, Index scale of 0-6 from least to most restrictive, 2013



Source: OECD (2014), "Economy-Wide Regulation", *OECD Product Market Regulation Statistics Database*.

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Tax policies weigh on investment incentives as the tax system is subject to frequent changes and has high compliance costs for SMEs (OECD, 2014a). Moreover, the sector taxes complicate the tax system, which is otherwise relatively simple, and are often based on turnover, which itself tends to distort activity. In addition, the rates in the sector taxes tend to increase with their tax bases. As a result, the tax incidence is higher for larger and typically foreign-owned companies and incentives for FDI, entry and expansion incentives are reduced. Fostering investment incentives requires a simpler and more predictable tax system for SMEs, while the distortive sector taxes should preferably be phased out or at least have identical rates across competitors in the same sector.

Better public procurement would enhance the efficient use of EU structural funds. These funds are facilitators for economic growth and business investment (MFB, 2015). The funds are dedicated to underdeveloped part of the country rather than the high growth areas in the middle and western part of the country. Hungarian financed public infrastructure investment should complement the EU funds by promoting agglomeration

effects in the high growth areas. This should include upgrading secondary and tertiary networks as well as other measures to promote communication.

However, not all public procurement has been open to tendering. The government has introduced a new public procurement framework, which should ensure that all public procurement follows EU rules in this area. Also, corruption has been a recurrent issue. The National Anti-Corruption Programme could be bolstered with the establishment of a dedicated anti-corruption agency as done in other countries in the region, Australia and Spain. A noticeable example in this area is the success of Hong Kong's anti-corruption agency in reducing corruption (OECD, 2013b).

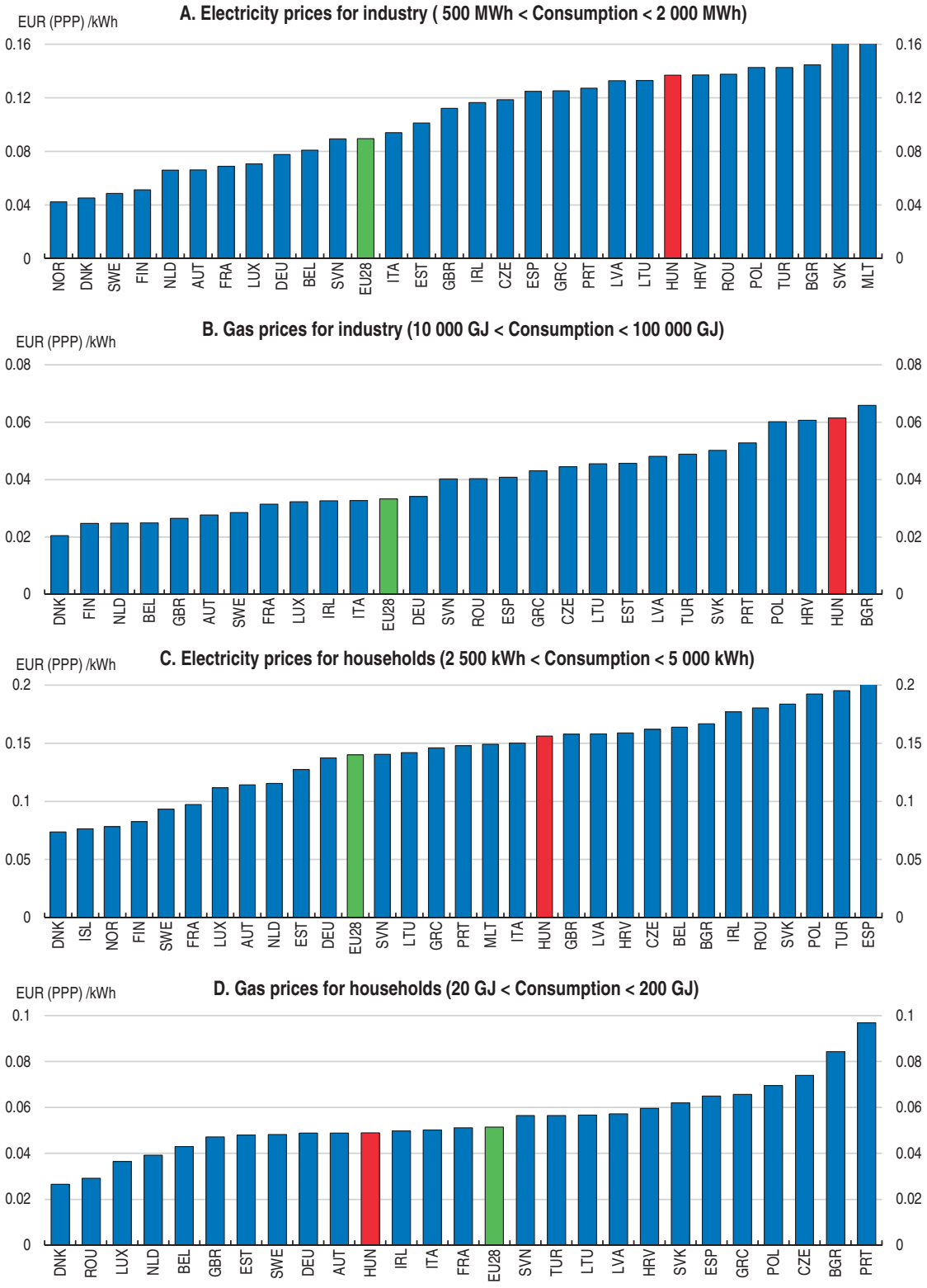
The role of the competition framework could be strengthened. Not all bills from the government and parliamentarians are submitted to the competition authority for commenting on the competition aspects of the bills. The quality of regulation could be strengthened if the competition authority systematically commented on all relevant proposals. Moreover, a number of sectors are exempted from various elements in the competition law. The agriculture sector is exempt from the competition act's ban on restrictive practices – the exemption is only applicable to local markets where EU-trade is not affected (European Commission, 2014). Nonetheless, the exemption increases regulatory uncertainty with detrimental effects on investment incentives and should be removed. Another area that reduces investment incentives is the government's wide scope for using decree to exempt whole sectors from merger regulation on public interest grounds. This means that market participants in that sector do not know what forces are shaping future market structures. In contrast, the European standard is that governments only after a full merger review can permit the competition decreasing mergers on clear and limited public interest grounds, preserving competition as the main shaper of market structures. Hungary should follow the European merger standard.

Entry into network sectors has become more difficult. State-owned energy companies have taken over energy retailing and the energy regulator imposes universal service obligations and price regulation. The energy market is characterised by low gas and electricity prices for households, but high prices for firms, which reduce competitiveness and investment incentives (Figure 28). Moreover, the state-owned retailers may bear a cost of up to nearly ½% of GDP for providing low retail prices, and if energy prices rise again this cost will rise too. This situation is likely to result in higher government contingent liabilities, as the retailers may eventually have to be bailed out. The government should introduce market-based energy prices by giving the responsibility for regulating prices to the sector regulator, using clear competition-friendly pricing principles. Public service obligations should be met through explicit and transparent compensation to providers. This would reduce distortions and, by increasing transparency, perhaps lead to better decisions regarding public service provision.

Regulation of the retail sector has increased, reducing entry, ICT investment and inward FDI incentives. Permissions are required for opening outlets larger than 400 m^2. However, the permission granting powers have been moved from a ministerial committee to one single local government official with ample room for discretion in giving derogations from the rule (LawNow, 2015). Media reports that for food outlets, derogation has seldom been granted to foreign-owned outlets, but larger Hungarian owned chains and, less frequently, smaller independent shops have benefited from derogations (Tldr.444; 2015). Transparency could be improved by clarifying the rules for derogations, increasing

Figure 28. **Energy prices are high for firms and low for households**

Prices excluding taxes and levies, 2015 S1



Source: Eurostat (2016), *Energy Price Statistics*.

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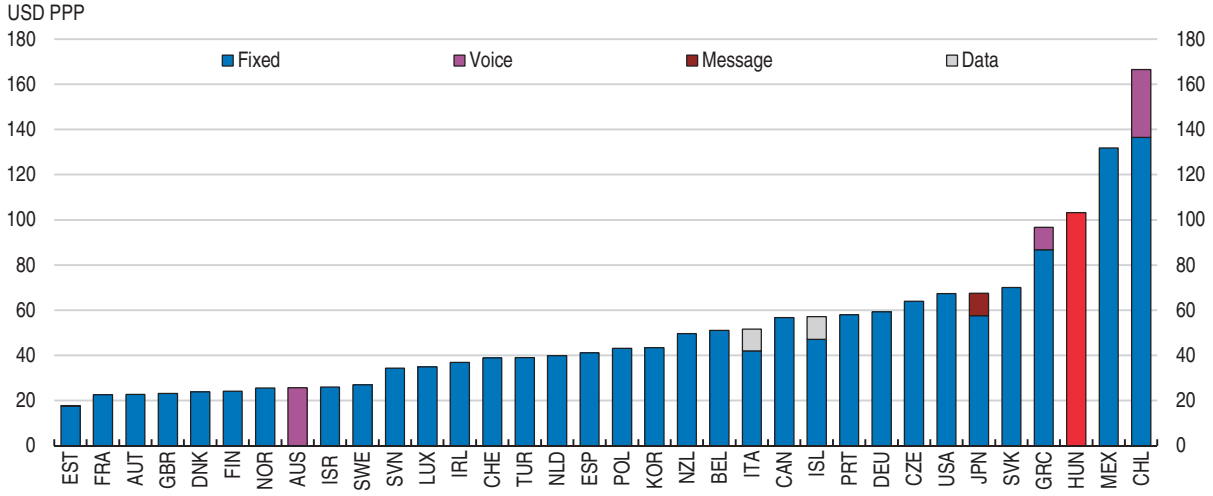
the ceiling on surface area, establishing secure clear guidelines, and move permission granting powers to local municipalities. For public policy reasons, Sunday opening hours were restricted to smaller shops and, tourist areas. However, such regulation reduces investment incentives for creating larger and more efficient outlets. The Sunday opening hour restrictions were repealed in spring 2016. Retail efficiency is also hampered by a sector tax (a food chain supervisory fee) which previously had rates that increased with turnover. The sector tax should be reconsidered. Revenue shortfalls could be secured through the broader and less distortionary VAT system.

The telecommunication sector is highly concentrated. The regulatory framework is in line with EU recommendations. Nonetheless, local loop unbundling is not in place and non-discriminatory third party access for MVNOs to networks is not secured. As a result, telecommunication prices are the highest among European member states (Figure 29). This weighs directly on investment incentives both in the sector and in the wider economy (OECD, 2015), and hurts especially poor households. Indeed, Hungary has low telecommunication investment per capita and relatively few households have access to broadband networks or even have a computer at home. A new mobile network operator is entering, but it will have less network capacity and weaker financial backing than the incumbents (BMI Research, 2014). Liberalising the sector and boosting investment incentives requires that the government award a spectrum with full band width to a new mobile network operator and that mobile virtual network operators (resellers of bulk purchases) have non-discriminatory access to networks. The government's effort to have country-wide broadband coverage by 2018 through the Digital Hungary Programme to stimulate broadband penetration would be enhanced by securing local loop unbundling.

Figure 29. **Telecommunication prices are high for high-usage consumers**



Note: 900 calls + 2 GB mobile basket, August 2014, VAT included.
Source: OECD (2015), *OECD Digital Economy Outlook 2015*, Table 2.92.

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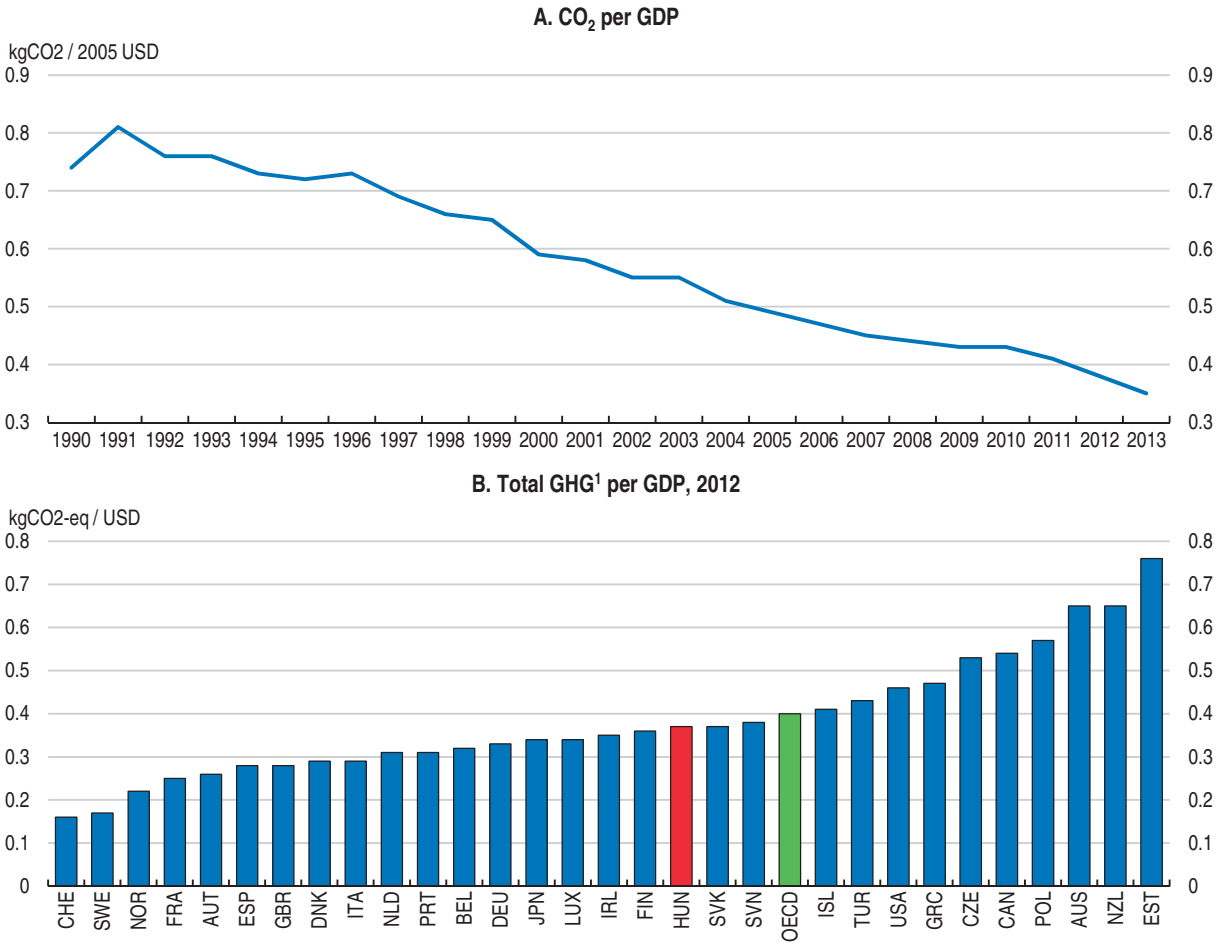
More investment is needed to achieve environmental objectives

Hungary has made considerable progress in reducing CO_2 emissions over the past couple of decades (Figure 30). This has allowed greenhouse emission intensity to be lower than many of the other countries in the region, although the intensity remains higher than

Figure 30. **Emission intensity is declining**



1. Total emissions of CO_2 (emissions from energy use and industrial processes, e.g. cement production), CH_4 (methane emissions from solid waste, livestock, mining of hard coal and lignite, rice paddies, agriculture and leaks from natural gas pipelines), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF_6).

Source: IEA (2015), "Indicators for CO_2 Emissions", *IEA CO_2 Emissions from Fuel Combustion Statistics Database*; OECD (2015), "Greenhouse Gas Emissions by Source", *OECD Environment Statistics Database*.

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elsewhere in Europe. Thus, there is a need further reduce emissions. Current policies to reduce emissions are mostly focused on renewable energy, with the objective of boosting its share from less than 10% to nearly 14% by 2020. Thereafter more ambitious targets are likely in response to the COP21 agreement. The main instrument in place is feed-in tariffs (with time-varying rates), but other instruments include investment financing and guarantees, and biofuel obligations. The feed-in tariffs tend to be lower than in other European countries and favour smaller plants. The parameters of the electricity grid, including limited capacity to accept wind power (and other weather dependent technologies), may have contributed to the instalment of smaller and less efficient wind mills. As a result, the support system is not always promoting scale effects in the provision of renewable energy. Investments in renewable energy generation could be stimulated by implementing a feed-in tariff system that is not biased in terms of technology, scale, and time of generation. Another approach could be to use competitive auctions for renewable energy projects.

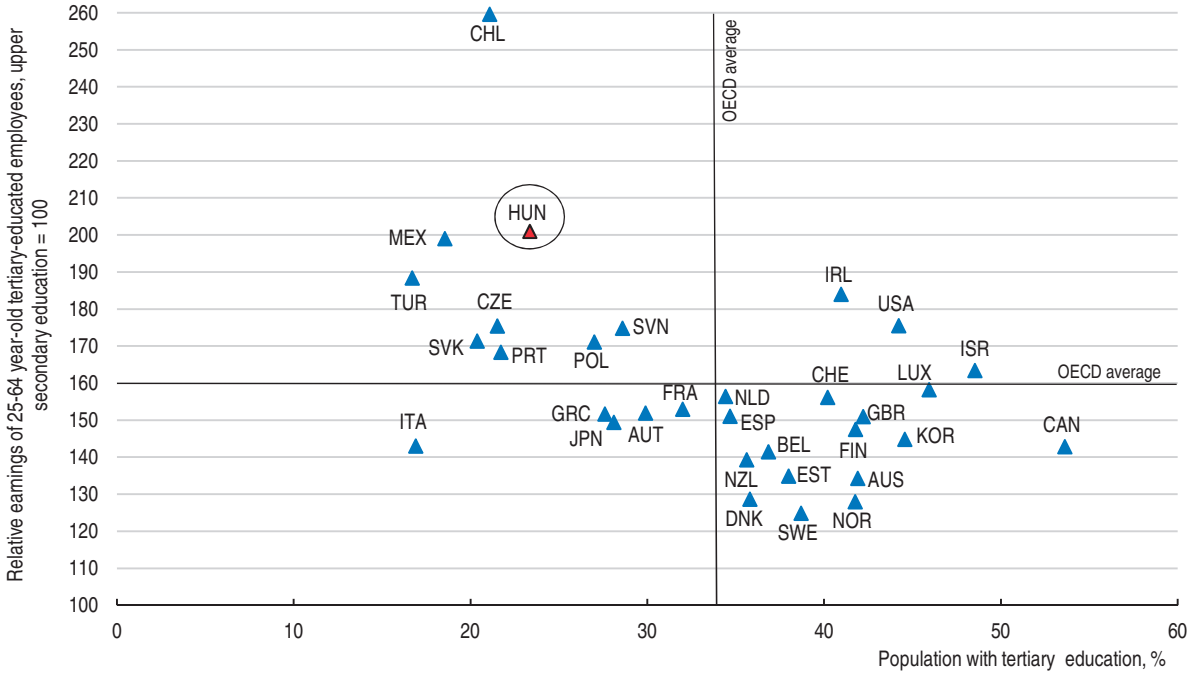
Enhancing skills to boost growth

Economic restructuring over the past decades has changed the labour market's skill requirements raising demand for high skilled workers as integration in GVCs has shifted manufacturing production towards sectors with more technology content. This dynamic will continue as Hungary continues to catch up to the richer OECD countries, as the associated move up GVCs is likely to create new job opportunities for well-educated professionals (EC, 2015a). Workers with poor and obsolete skills suffer from high unemployment. At the same time, many companies are experiencing growing shortages of labour with relevant technical skills (Manpower Talent Shortage survey, 2015).

However, the education system has not responded at the same pace. Enrolment in secondary education has increased substantially, although graduates have difficulties finding a job; the employment rate for youth age 20-24 is below the OECD average. Enrolment in tertiary education has also increased over the past decades, but graduation rates, while rising, remain low. Thus, relatively few adults have tertiary education, but those who do command one of the highest wage premia in the OECD (Figure 31). Moreover, graduation rates are increasing in fields where employment growth is relatively low, leading to growing mismatches with many workers in occupations that are not directly related to their field of study, weighing on wages and productivity (OECD, 2014a; OECD, 2015a).

Figure 31. **The room for further expansion in tertiary education remains high**

Relative earnings of tertiary-educated workers and their share in the population, 2013 or latest available data



Note: Tertiary education includes short cycle tertiary, bachelor's, master's, doctoral or equivalent degrees. Data on educational attainment refers to year 2014 or latest available year.

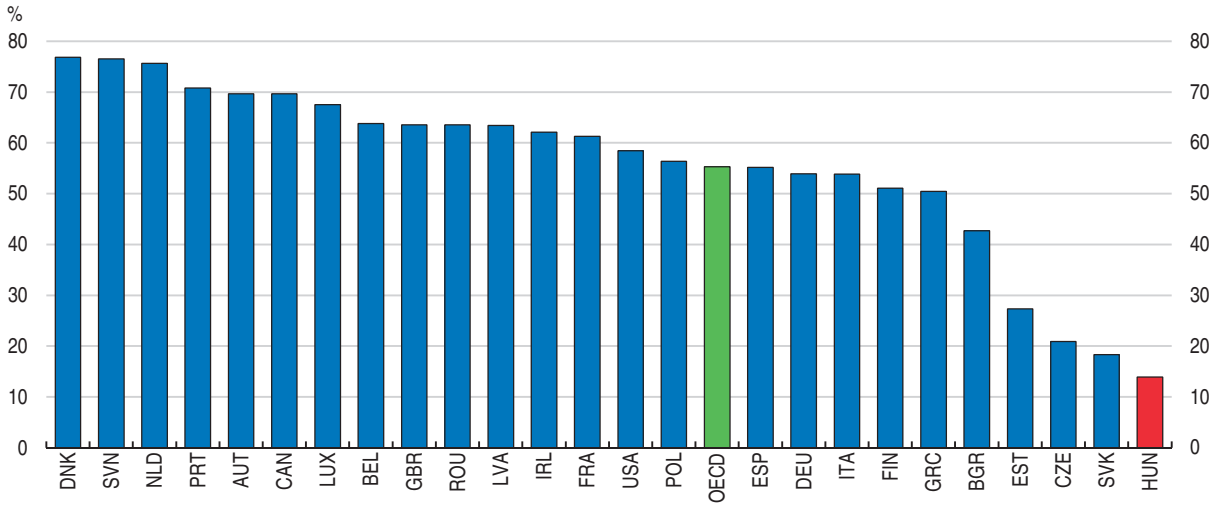
Source: OECD (2015), *Education at a Glance 2015*, Tables A1.3a and A6.1a.

StatLink http://dx.doi.org/10.1787/888933349569

Despite progress, still few women with small children work in the labour market, even though they often have tertiary education. Parental responsibilities keep mothers with two children out of work for one of the longest periods in the OECD (Figure 32). This reflects

Figure 32. **The impact of motherhood on employment is very high**

Employment rates for mothers with youngest child aged 0-2, 2013[1]



1. 2012 data for Denmark and Finland.

Source: OECD (2015), *Pensions at a Glance 2015*, Fig. 3.7.

StatLink http://dx.doi.org/10.1787/888933349575

long parental leave and insufficient availability of care facilities for young children. The government has taken steps to improve women's options to gain paid employment, including tax relief for employers hiring parents with young children, permitting parents to work without losing parental benefits, the introduction of measures that oblige employers to allow returning mothers to work part-time until their children reach the age of three (potentially discouraging the hiring of young women), and expanding nursery capacity. But allowing more mothers to work will require better possibilities for reconciling work and family life. Further expansion of child care for 0-3 year-old children would increase parents' options regarding the choice between jobs and care. Private provision of such services could be promoted by transforming part of the parental leave benefits to a voucher linked to the purchase of childcare services (OECD, 2007). Reducing parental leave would keep women more in touch with the labour market; better transforming part of maternity leave into paternity leave would allow fathers to share in the care of their young children and even the playing field in this respect between women and men.

Only 42% of older workers (55-64 years) are working – one of the lowest figures in the OECD. Older workers are much more exposed to a risk of depreciation of their qualification and skills, as the demand for different skills is subject to constant change. Nonetheless, only few older workers participate in lifelong learning, contributing to the low employment rate (OECD, 2012a). To bolster lifelong learning, the government has introduced an adult training programme for acquiring a second vocational qualification. Experience in other OECD countries, such as Canada, Netherlands and Spain, indicates that creating tool sets, including individual learning accounts, can be effective in facilitating lifelong learning. The accounts could be financed through the vocational training contribution (1.5% of wages) and they would provide older workers with more responsibility and control of their own training to match their needs. This could be complemented with training vouchers to older workers, as is done in Austria (OECD, 2005).

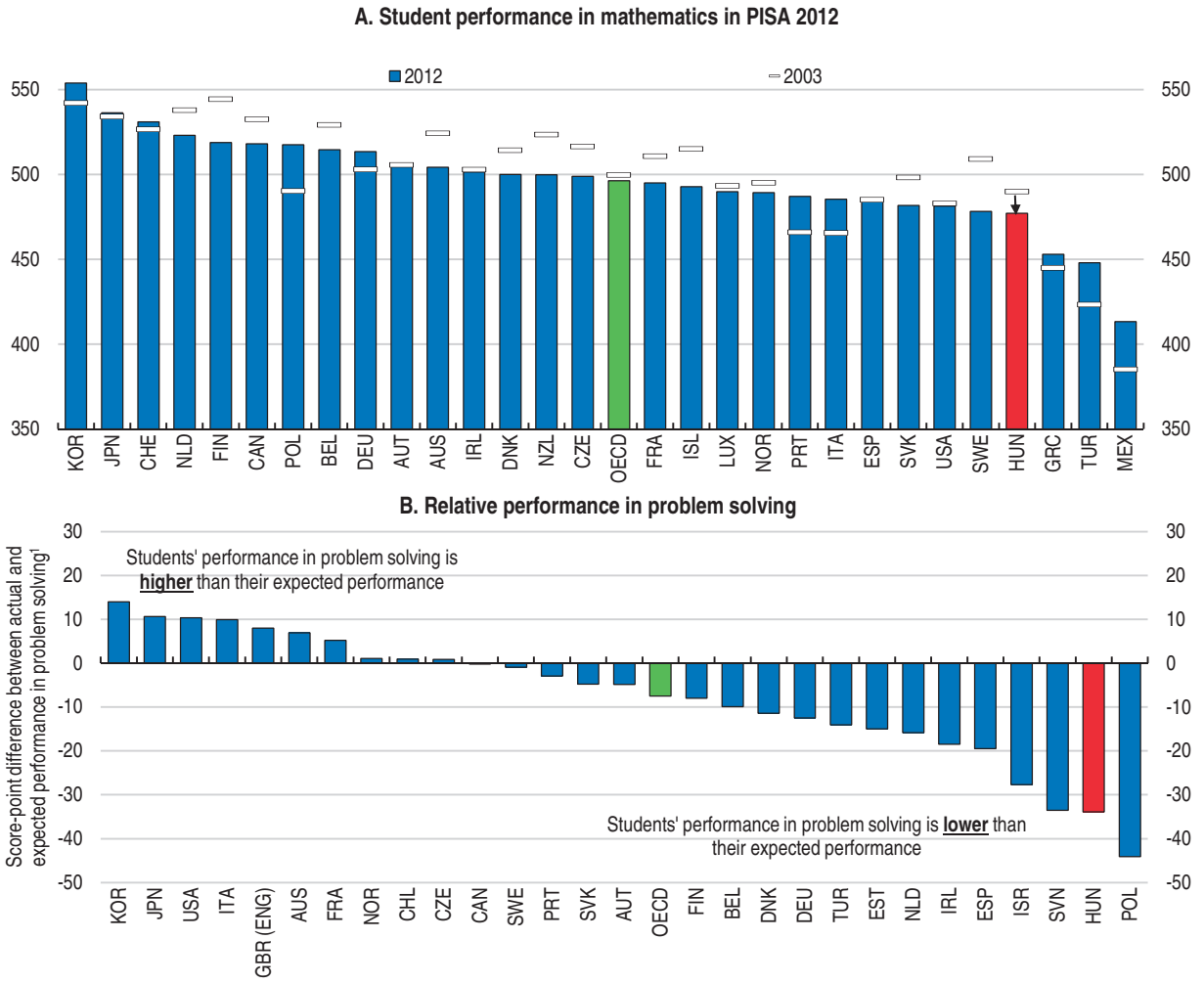
Emigration of young and skilled workers contributes to labour shortages in some professions, such as in the health care sector. Since 2008, the stock of emigrants has tripled to 3% of the labour force. The government is trying to attract skilled young expatriates through the recently launched "Come Home, Youth!" programme, which covers part of resettlement costs and provides a monthly wage subsidy for one year (of EUR 320). Uptake has been limited. Other countries, for example, Denmark, Finland, Ireland, and the Netherlands, have also granted tax concession for returning high-skilled workers (OECD, 2011). Further easing of visa and work permit requirements can help attract skilled labour from outside EU. Special attention in this respect should be given to (the relatively few) international students, who have studied in Hungary and are thus familiar with the language, institutions and culture. These students should be allowed to look for a job after graduation and automatically provided with work permit if they find a job.

Regarding low-skilled workers, the scaling up of public work schemes has provided temporary relief from unemployment of people who have long been excluded from the labour market through mostly menial jobs, notably benefitting low-skilled workers in poor regions with weak labour market prospects. Ideally, public works jobs would lead to jobs in the primary labour market. However, less than 14% of participants have found employment in the primary labour market after terminating work in the scheme, and most participants return to the scheme after another spell of unemployment. This is in line with experiences in other countries, indicating that skills gained in public work schemes are seldom relevant for private sector employment. Indeed, participation in public work schemes can even lower subsequent employment probability as enrolees are prevented from job search or training activities (Card et al., 2015).

To address this issue, the authorities are bolstering the schemes' training component to include one-fifth of participants – an approach that holds the promise of making growth more inclusive by bringing those who have been excluded from the labour market into regular work. A problem is that training has not markedly increase employment probabilities, reflecting large uncertainties concerning the effectiveness of different types of training. Thus, the scaling up of training should be combined with careful evaluation to identify training programmes that favour subsequent employment. Increased transit from the schemes to the private labour market should be the success criterion for the schemes. The effectiveness of the schemes might be bolstered if they were closely coordinated with other job programmes, such as job search assistance and mentoring. Indeed, the new profiling system could be a step in this direction. If such measures were successful, the public works schemes could be scaled back as over time fewer people would need this sort of support.

PISA scores have been deteriorating, including in mathematics, and are now below the OECD average in all assessed subject (Figure 33, Panel A). More worryingly, the education system falls short in preparing students to perform tasks required in today's labour market, such as solving non-routine problems in unfamiliar situation. Indeed, the PISA tests show that problem solving skills are among the weakest in the OECD. Particularly, students perform significantly worse in problem solving than students in other countries with similar performance in core subjects, suggesting that Hungarian teaching remains too content-centred with little space for knowledge application (Figure 33, Panel B). In contrast, the rapid changes in the economy and technology require the ability to adapt to new circumstances and learning in unfamiliar contexts. Empirical research confirms that those with the highest level of proficiency in problem solving also find employment in the occupations with the strongest employment creation (OECD, 2014c).

Figure 33. **Student performance in PISA 2012 has deteriorated**



1. Each student's expected performance is estimated, using a regression model, as the predicted performance in problem solving given his or her score in mathematics, reading and science.

Source: OECD (2014), *PISA 2012 Database*, Tables I.2.3b and V.2.6.

StatLink http://dx.doi.org/10.1787/888933349580

Good learning requires highly qualified and motivated teachers. However, teacher salaries are among the lowest in the OECD and teachers tend to face high administrative workloads. The government has introduced a new career model and promotion system for teachers to increase their salaries. This is step in the right direction. In addition, in countries where teachers have relatively low pay, an element of performance-based pay can improve student performance (OECD, 2012b). This should be complemented with measures to ensure continuous professional development. Recent reforms in Hungary have centralised responsibilities for schools teachers' salaries and career system. In this context, the authorities should restore school autonomy to allow school to adapt to local context (OECD, 2014a). In addition, administrative burdens should be reduced to give teachers more time to teach and prepare as well as enable principals to engage more in pedagogical leadership.

Vocational education has two pathways: vocational training for less academically inclined students and vocational secondary schools with a higher element of general

education with the possibility for accessing tertiary education. Vocational training provides practical workplace training, with limited general education content, to prepare students for direct access to the labour market. However, quality is low and vocational training has become the education path for children with weak socio-economic background (Keller and Mártonfi, 2009). Graduates are faced with high unemployment rates, difficulties in finding a first job, and wages that are 25% lower than other secondary school graduates (Hajdu et al., 2015). In addition, the limited general education content reduces graduates' adaptability to changing labour market needs, leading to increasing wage dispersion over time vis-à-vis general education graduates (Hajdu et al., 2015).

The government is reforming VET training by introducing a two-year study extension that leads to the upper secondary degree that gives access to tertiary education. This study programme starts with three years to acquire practical skills followed by two years of general skill studies, rather than an integrated study programme. Integrated study could be achieved by merging the vocational training and vocational school systems. This would increase the emphasis on general skills and improve the reputation of vocational training, helping to close the gap in labour market outcomes between training schools and vocational secondary schools.

Such a reform should be complemented with systematic assessments of students to ensure a basic minimum level of skills and identify those in need of targeted support. A factor behind the poor outcome of workplace training is that often students are allocated to unskilled tasks or only trained in firm-specific skills. To improve the quality of workplace training, subsidies should be introduce to reward companies which have high training quality standards. Also, contractual arrangements should define obligations of trainee and employer to achieve learning objectives, which should be developed by employers and schools.

Tertiary graduates enjoy a favourable labour market situation, but the supply of tertiary graduates remains stubbornly low as less than half of the students are able to finish studies within the required time as completion rate is one of the lowest in the OECD. In addition, labour market outcomes of different tertiary graduates differ greatly. For example, graduates with degrees in informatics and engineering earn more than twice the earnings of graduates in social science or agriculture. Moreover, one in four graduates in tertiary education works in a job that do not need their tertiary degree – a problem also observed in other countries (Nyusti and Veroszta, 2013). This mismatch is the strongest in the fields of social science, agriculture and humanities.

Relatively few financial resources are devoted to higher education. However, both public and private returns to tertiary education are among the highest in the OECD, providing strong incentives for investing in tertiary education. Thus, the government should increasing funding in this area. Moreover, there is a need to enhance incentives for institutions to better respond to labour market needs. This could include better career counselling and strengthen partnership between tertiary education institutions and private companies to facilitate the labour market transition of students (OECD 2014a). Moreover, for equity reasons, means tested support for disadvantaged students, including academic mentoring and financial aid, should be expanded.

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