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Raising well-being
in Germany's ageing society

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RAISING WELL-BEING IN GERMANY'S AGEING SOCIETY

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By Andreas Kappeler, Andrés Fuentes Hufilter, Dorothee Schneider, Naomitsu Yashiro, Eun Jung Kim and Giovanni Maria Semeraro

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Abstract/Résumé

Raising well-being in Germany's ageing society

Population ageing is setting in earlier in Germany than in most other OECD economies and will be marked. It could lead to a substantial decline in employment, weighing on GDP per capita, and will raise demand for health-related public services. Germany has already implemented far-reaching reforms to mitigate the implications of ageing for per capita income, well-being and the sustainability of public finances. Nonetheless, continued efforts are needed to help older workers to improve their work-life balance and adjust their working hours to their ability and desire to work. Moreover, stressful working conditions and unhealthy lifestyles contribute to poor self-reported health and reduce the ability and willingness to work at higher age. There is scope to promote life-long learning. As the generosity of the public pension system will diminish, the contribution of private pensions to ensure pension adequacy needs to be strengthened. This Working Paper relates to the 2016 OECD Economic Survey of Germany (www.oecd.org/eco/surveys/economic-survey-germany.htm).

Key words: Well-being, demographic change, pension system, health, skills

JEL Classification: J11, I31, E24

Promouvoir le bien-être dans une société vieillissante en Allemagne

Le vieillissement démographique sera marqué en Allemagne, où il s'est amorcé plus tôt que dans la plupart des autres économies de l'OCDE. Il pourrait conduire à un recul important de l'emploi, ce qui pèserait sur le PIB par habitant, tout en augmentant la demande de services publics liés à la santé. L'Allemagne a déjà mis en œuvre de vastes réformes destinées à limiter les incidences du vieillissement de sa population au regard du revenu par habitant, du bien-être et de la viabilité des finances publiques. Cependant, des efforts supplémentaires s'imposent pour aider les travailleurs âgés à améliorer l'équilibre entre vie professionnelle et vie privée et à adapter le nombre d'heures travaillées à leurs capacités et à leurs souhaits. De plus, des conditions de travail difficiles et des modes de vie préjudiciables à la santé contribuent à un mauvais état de santé autodéclaré et réduisent la capacité et la volonté de reporter le départ à la retraite. Il serait possible de développer la formation tout au long de la vie. Par ailleurs, dans la mesure où la générosité du système public de retraite ne pourra être maintenue, il convient d'accroître la contribution des régimes privés afin de garantir des niveaux de pension appropriés. Ce Document de travail se rapporte à l'Étude économique de l'OCDE 2016 de Allemagne (www.oecd.org/fr/eco/etudes/etude-economique-allemande.htm).

Mots-clés: Bien-être, changement démographique, système de retraite, santé, compétences

Classification JEL: J11, I31, E24

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RAISING WELL-BEING IN GERMANY'S AGEING SOCIETY

By Andreas Kappeler, Andrés Fuentes Hutfilter, Dorothee Schneider, Naomitsu Yashiro,
Eun Jung Kim and Giovanni Maria Semeraro¹

Well-being outcomes are good in international comparison but weaken with age

1. Well-being outcomes for Germany are above the OECD average and particularly strong for income, jobs, work-life balance and education (OECD, 2014o; OECD, 2011b). However, well-being outcomes are lower for individuals at higher age, and evolve less favourably with age than in other OECD countries. For instance, subjective health outcomes decrease with age (OECD, 2014o; Gerstorf, 2010). There is also some evidence that subjective well-being decreases with age, though it temporarily rises around pensionable age (Enste and Ewers, 2014; Gwozdz and Sousa Poza, 2009; Wetzel, Huxhold and Tesch-Römer, 2015).

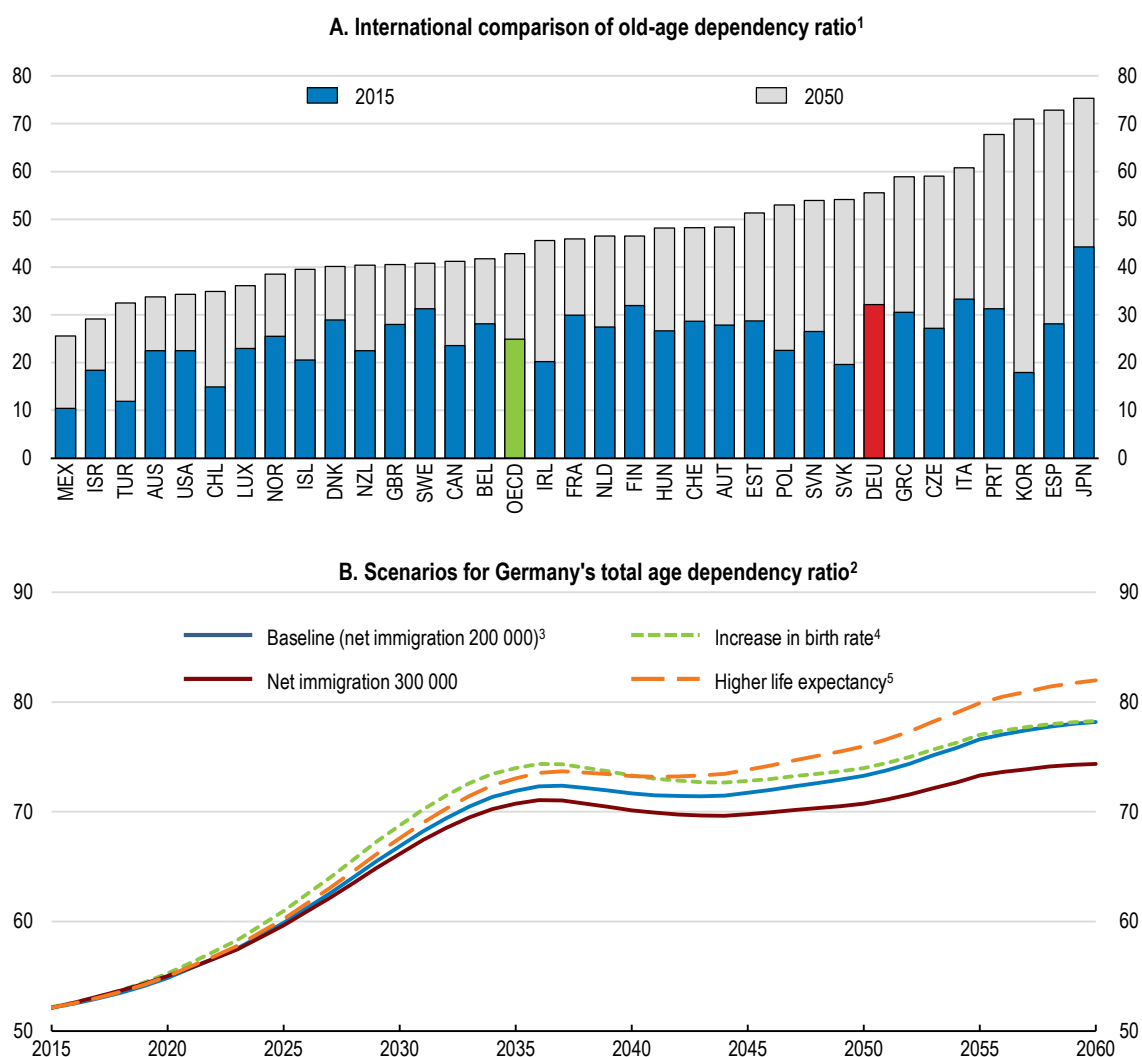
2. Inequalities in well-being outcomes are fairly high in Germany, as shown in the *2014 Economic Survey for Germany* (OECD, 2014a); and these inequalities tend to increase with age. Education outcomes, self-perceived health and life expectancy strongly depend on socio-economic background, more so than in many other advanced economies (*Economic Survey for Germany* 2014; Jagger et al., 2011; European Commission, 2013; Kroll and Lampert, 2014; Unger and Schulze, 2013; Kroh, et al., 2012). These gaps in well-being outcomes between individuals with different socio-economic background tend to widen with age. For instance, differences in health outcomes and subjective life satisfaction across skill levels increase with age (Schöllgen et al.; 2010; Wetzel, Huxhold and Tesch-Römer, 2015). The relevance of wellbeing of the elderly will increase with population ageing.

Population ageing is setting in more rapidly in Germany than in most other OECD economies

3. According to OECD projections, the total population will decline by 14.9 million or 18% until 2060 if current trends persist. The working age population (16-75) is projected to contract by 28% as the total dependency ratio is rising fast (Figure 1). These projections assume net immigration to reach 500 000 in 2015, considerably less than the actual net inflow, which could reach 1 million. In the baseline scenario, the projections also assume that net immigration falls to 200 000, somewhat above the historic average, by 2021. A sustained larger inflow would delay rather than offset population ageing (see below). Strong integration policies are required for the large inflow of humanitarian immigration to boost labour supply and GDP and minimise risks of poverty and social exclusion from rising, as discussed further below.

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Figure 1. The dependency ratio will rise



1. Population above 65 years old relative to population aged 15-65.
2. Population below 15 and above 65 years old relative to population aged 15-65.
3. The assumptions of the 'baseline (net immigration 200 000)' scenario include a constant birth rate of 1.4 children per woman, a moderate increase in life expectancy at birth to 84.8 years for men and 88.8 for women in 2060, and a gradual adjustment of net immigration from 500 000 in 2014 to 200 000 in 2021.
4. The 'increase in birth rate' scenario assumes the birth rate to gradually increase to 1.6 children per woman in 2028.
5. The 'higher life expectancy' scenario is based on a sharp increase in life expectancy at birth to 86.7 years for men and 90.4 for women by 2060.

Source: OECD (2015), *OECD Population Statistics: Historical population data and projections (1950-2050)* (database) and Statistisches Bundesamt.

4. Demographic trends between 2020 and 2035 will be strongly affected by the baby boomer generation approaching pensionable age, though this effect is limited to one generation. In the long-term, life expectancy is the most important driver of the rise in the dependency ratio.

- Life expectancy is projected to increase continuously, by seven years for men and six years for women until 2060. If life expectancy increased by an additional two years by 2060, the

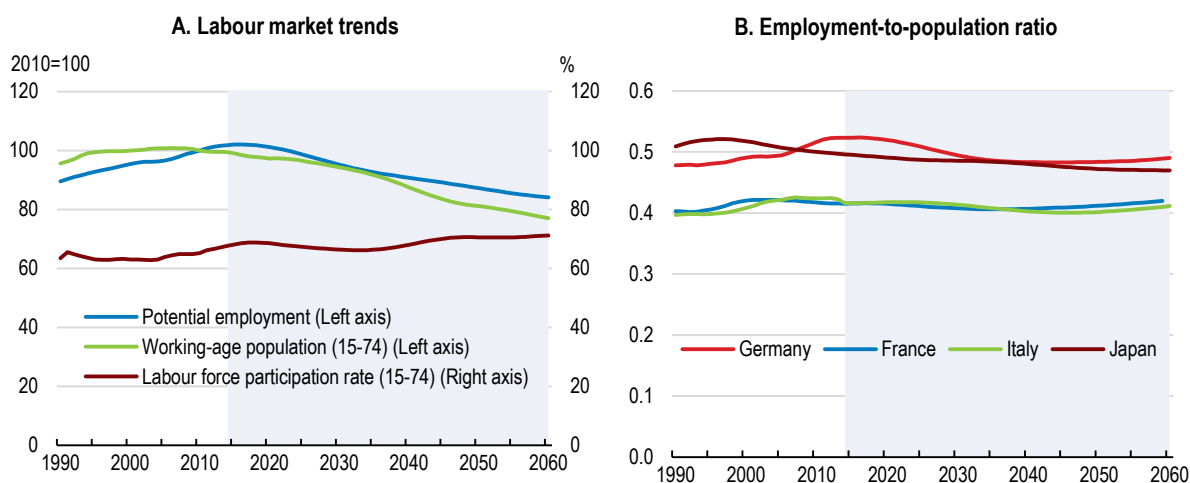
population would increase by two million and the total dependency ratio by four percentage points compared to the base-line scenario.

- A durable, substantially higher migration inflow can delay demographic developments. However, since fertility tends to adapt to local patterns over time, the impact of immigration flows on demography is ultimately temporary. One hundred thousand more immigrants per year than assumed in the baseline would imply a population that is 5 million higher by 2060. Migration patterns are highly volatile and therefore difficult to project. Over the last 20 years (1994-2013), net migration was on average 175 000 per year. With a surge in refugees, net migration increased from 128 000 in 2010 to around 600 000 in 2014 and could exceed 1 million in 2015.
- The fertility rate in Germany is one of the lowest in the OECD, at around 1.4 children per women. An increase in the fertility rate by 0.2 percentage points would slightly raise the dependency ratio initially, on account of a larger population of children and youth in education. This temporary effect would last until around 2060.

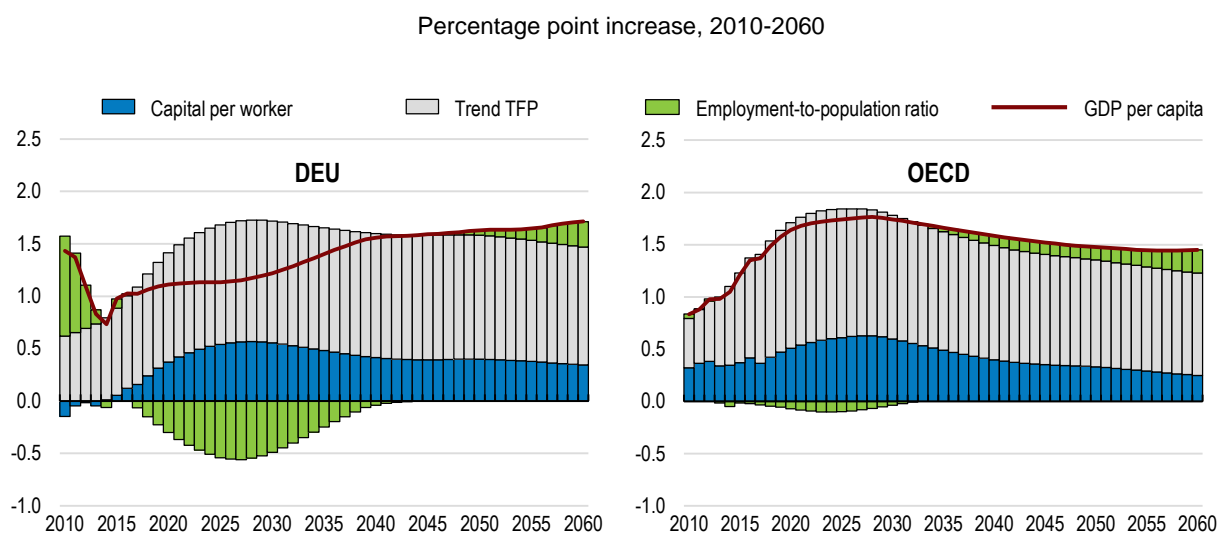
Ageing will weigh on employment and GDP per capita and will raise government spending

5. On the basis of current population projections and policies, employment is projected to drop by 23% by 2060. This is less than the projected drop in working age population, as labour force participation is projected to increase (Figure 2, Panel A). The employment to total population ratio would decline until 2030 (Figure 2, Panel B), a result of the retiring baby boom generation.

Figure 2. Impact of demographic ageing on labour



6. The shrinking labour force will reduce GDP per capita growth (Figure 3). This will be partly offset by an assumed acceleration of productivity at the beginning of the projection horizon, to catch-up with top-performing OECD countries. This may, however, not be achieved without substantially stronger investment (OECD, 2016a). Projections about potential GDP growth per capita by the OECD are above those of the European Commission and the German Council of Economic Experts (Box 1). The impact of demographic ageing on productivity is small. The average level of qualifications is not expected to change substantially. Longer life expectancy raises the return on human capital, which encourages investment in human capital, but an ageing society tends to be less innovative in the long-term (*Economic Survey for Germany*, 2012; Aksoy et al., 2015).

Figure 3. Shrinking labour supply will weigh on long-term growth

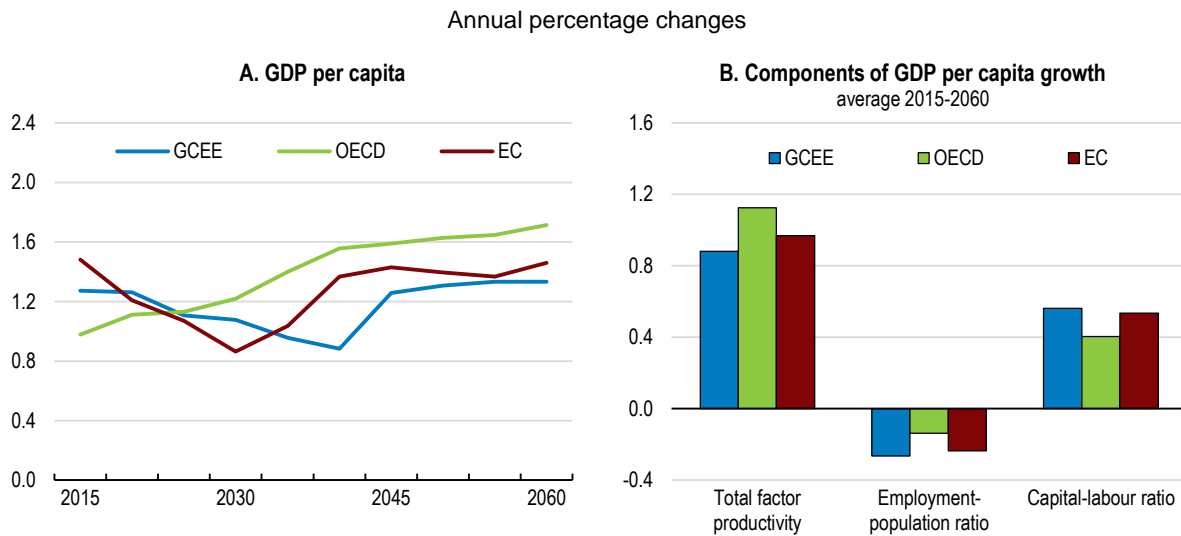
Note: Trend total factor productivity (trend TFP) includes the effect of human capital.

Box 1. Long-term economic projections compared

Unlike the OECD, the European Commission (EC) and the German Council of Economic Experts (GCEE) project growth of GDP per capita to weaken substantially over the next 15-30 years (Figure B1, left panel). The OECD projects GDP per capita to grow by 1.4% on average between 2015 and 2060, 0.1% and 0.2% points higher than the EC and the GCEE, respectively.

More optimistic assumptions about total factor productivity in OECD projections explain most of the differences (Figure B1, right panel). EC and GCEE also expect the labour force to shrink more. Unlike the OECD, they factor in a reduction in hours worked per worker, in part reflecting rising participation of women, who, on unchanged policies, would continue to work fewer hours than men. By contrast, the contribution of capital accumulation to GDP growth is stronger in projections of the EC and the GCEE than in the OECD's projections.

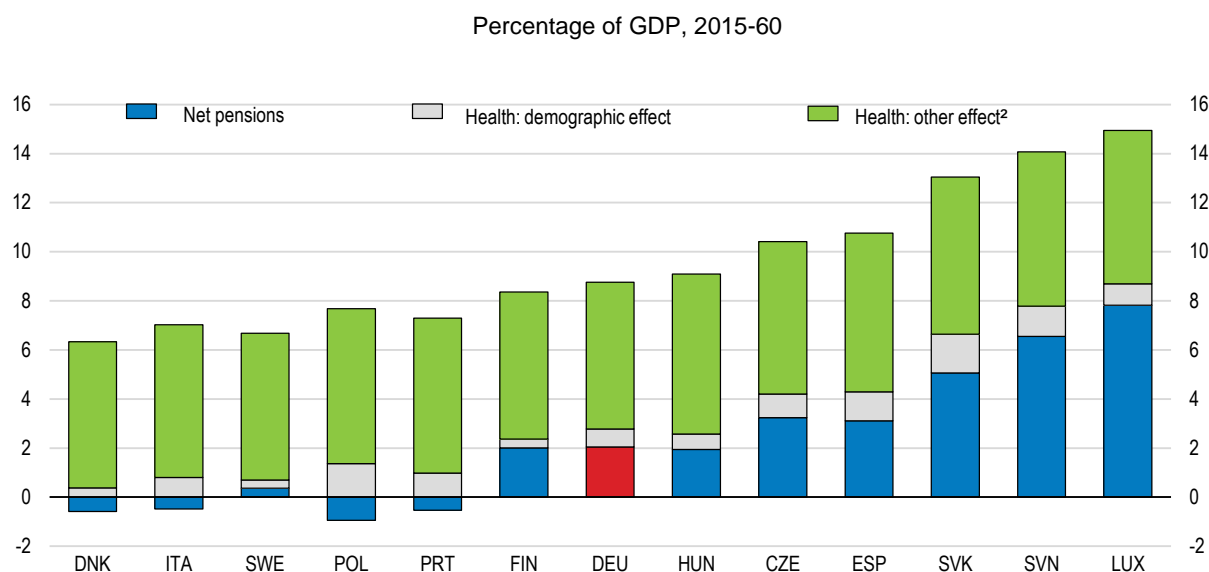
Figure B1. Long-term projections of growth rates of GDP per capita vary substantially



Note: OECD employment- projections include workers aged 15-74. The projections by the German Council of Economic Experts (GCEE) and the European Commission (EC) include workers aged 15-64.

Source: European Commission (2015), "The Ageing Report", and German Council of Economic Experts (2011), *Herausforderungen des demografischen Wandels*.

7. Ageing-related increases in pension and health spending will increase government spending (Figure 4). Net public pension expenditure is projected to increase by 2 percentage points by 2060 (European Commission, 2015). Ageing could raise the cost of health and long-term care by up to 0.9% of GDP by 2060, although cost containment measures could slow this increase (de la Maisonneuve and Martins, 2013; European Commission 2015). Education spending will decline by 0.7% of GDP (European Commission, 2015). Adjustments to pensions and extending employment of older workers would mitigate the effect of these costs. Most of the overall increase in pension and health care spending cannot be pre-financed through government saving but requires adjustments to pension systems and labour market participation of older workers (see below).

Figure 4. Projected changes in public spending on health¹ and pensions for selected OECD countries

1. Health- and long-term care spending projections based on "cost-pressure scenario".
2. Includes income effect, relative prices, technological change and health policies.

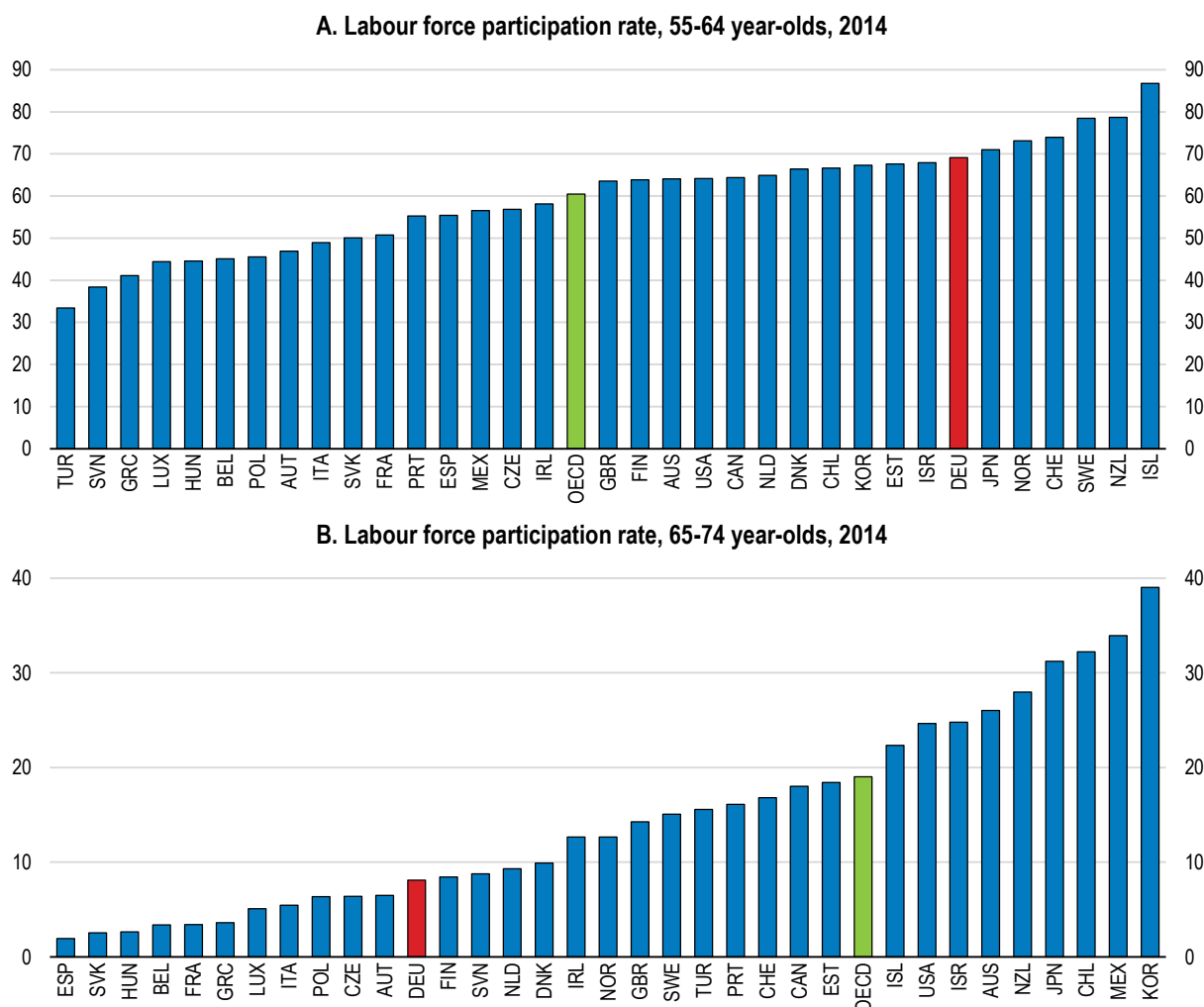
Source: OECD calculations based on de la Maisonneuve, C. and J. O., Martins (2013), "Public Spending on Health and Long-term care: A New set of projections", *OECD Economic Policy Papers*, No. 06, and European Commission (2015).

Reforming the pension system to improve the work-life balance of the elderly

8. Germany's public pension system is a single tier, earnings-related pay as you go system. To improve pension adequacy, the government promotes voluntary individual private and occupational pension plans (see below). If individual old-age income is not sufficient, additional means-tested social assistance can be claimed (OECD, 2013f). The labour market and output effects of ageing are exacerbated by policies that encourage individuals to withdraw from employment prematurely. These policies include early retirement schemes and features of pensions systems that penalize working.

9. Labour market participation of 55-64 year olds in Germany remains below best performing countries (Figure 5), despite an impressive increase over the past 10 years. The upwards trend have slowed down lately, partly because of the recent reforms of public pensions, which have facilitated early retirement for some workers (see below). The employment rate among individuals aged 65-74 remains well below the OECD average (Figure 5). Enabling elderly to adjust their working hours to their ability and desire to work is essential for their work-life balance and subjective well-being (Reday-Mulvey, 2005; Barnay, 2014; Nikolova and Graham, 2014). This includes options to combine an old-age pension with paid employment. Steps to remove barriers to employment at higher age can also help to reduce old-age poverty risks (OECD, 2015m).

Figure 5. The labour force participation rate remains low for 65 to 74 year-olds



Source: OECD (2015), *OECD Labour Force Statistics* (database).

Indexing the pensionable age to life expectancy

10. Indexing mandatory pension systems to life expectancy is important for ensuring the long-term affordability of public pensions for government finances as life expectancy increases (OECD, 2011d; OECD, 2014f; Johansson et al., 2013). Around half of OECD countries have an automatic link between pension entitlements and life expectancy. Germany’s public pension system is indirectly linked to life expectancy. An increase of pension contribution rates will reduce pension claims to share the fiscal cost of ageing among workers and pensioners. Moreover, a “sustainability factor” inversely links pensions to the ratio of pensioners to contributors (OECD, 2013d; OECD, 2011d). The increase of the contribution rate is limited by law to 22%.

11. Automatic adjustments in the pensionable age tend to reduce the political cost of implementing discretionary adjustments in pension benefits in response to changes in life-expectancy projections (OECD, 2011d). Some OECD countries, including Italy and Denmark, index the pensionable age to life expectancy, such that the ratio of retirement to working years remains constant for workers retiring at the pensionable

age (Johansson et al., 2013; OECD, 2011d). In Denmark, the resulting changes in the pensionable age need to be legislated every 5 years. Italy and Greece will link the pensionable age to life expectancy from 2015 and 2020 respectively. The Pensions Commission in the United Kingdom proposed steps in that direction (OECD, 2011d).

12. In Germany, the pensionable age is gradually rising from 65 to 67 years by 2029, but no further adjustment is foreseen. Without further increases in the pensionable age, increases in life expectancy after 2029 would raise the government deficit, increase the tax burden on labour and lower the level of pensions relative to average income, which would tend to increase old-age poverty risks (OECD, 2013d; OECD, 2015k). Germany should index the pensionable age to life expectancy.

Promoting flexibility in combining work and pension income

13. Reducing barriers for older workers to find a job reflecting their skills and physical requirements is important to help those who want to work beyond retirement age (see below). Moreover, flexibility in combining work and pension income is important to help older workers improve their work-life balance and adjust their working hours to their ability and desire to work (Reday-Mulvey, 2005; Barnay, 2014). Germany has also taken steps to promote employment beyond pensionable age. Working while receiving an old-age pension is possible. The pension reform in 2014 allows employers and employees to easily extend an existing contract beyond the pensionable age. The employee can either draw their full pension entitlements while continuing to work or continue to contribute to the pension system and accrue corresponding entitlements.

14. These new rules do not apply to workers who decide to draw their pension before the pensionable age, but would like to continue to work. For them, pensions are cut by up to two thirds, depending on earnings. Moreover, employers pay unemployment insurance contributions and continue to pay pension contributions for retired workers, who have reached the pensionable age or receive a full pension and start new employment relationships. However, the worker does not accrue any benefits from these payments. In Germany, pensioners lose pension wealth if they postpone their decision to draw old-age pensions beyond the age of 60 (OECD, 2015m). A parliamentary working group has proposed allowing working pensioners to accrue the benefits from pension insurance contributions paid by employers, provided they also pay the employee's share. They also propose abolishing unemployment insurance contributions for these workers, although this measure would be limited to a period of 5 years in the first instance. These steps are welcome.

15. The pension reform in Norway in 2010-11 provides an interesting example for such a fully flexible retirement scheme (Box 2). A fully flexible retirement scheme needs to be actuarial neutral to allow older workers to achieve their desired work-life balance without providing incentives for early retirement (Börsch-Supan et al., 2015). Therefore, contributions paid by workers who already reached the pensionable age need to result in higher pension claims (see above). Moreover, the pension premium for drawing old-age pensions later in life should be raised, as also argued in the *2012 Economic Survey for Germany*, and pension benefits should not be withdrawn when pensioners work.

Box 2. Flexible retirement rules – the 2010-11 pension reform in Norway

In 2010-11, Norway implemented a pension reform establishing flexible retirement between the ages of 62 and 75. The pension benefit is actuarially neutral and adjusted to changes in life expectancy over time. The pension may be drawn fully or partly (at least 20%). Pension and work income can be combined without any restrictions. Employment income for pensioners generates additional pension rights. Nearly 65% of workers aged 62-66 combine old age pensions with work

The same rules and conditions for unemployment insurance contributions and entitlements apply to workers up to the age of 67. Workers older than 67 cannot receive unemployment benefits. Unemployment benefits in Norway are financed by general tax revenues (OECD, 2013g; OECD, 2014n).

Reviewing the separate pension system for civil servants

16. Like most countries Germany has a separate pension scheme for civil servants. This is usually justified as means to guarantee the security, integrity and independence of the employees and to make a civil service career more attractive. The system covers all civil servants who are appointed for life, as well as judges and soldiers.

17. The public sector labour contract foresees a larger share of deferred compensation after retirement than in the private sector. A civil servant who decides to switch to a private sector job foregoes the more generous benefit entitlements accumulated in the civil servants' scheme, although this loss has recently been limited for some groups of civil servants (see below). For a 50 year old civil servant with 25 years of service and average earnings, the loss can be substantial. This cost rises with age (Palacios and Whitehouse 2006). Some researchers have estimated that the net present value of accumulated pension claims is more than twice as high for civil servants than in the general scheme (Frick and Grabka, 2010).

18. The above-mentioned loss in pension claims associated with switching from civil service to private sector employment severely constrains the labour mobility of civil servants. The government introduced an old-age payment (*Altersgeld*) for civil servants who switch into a job covered by the general public pension scheme in 2013. The *Altersgeld* limits the loss in entitlements accrued before the switch to 15%. However this only applies to civil servants with at least 7 years of public service and only to federal civil servants, federal judges and soldiers. Many *Länder* do not have equivalent rules for remaining civil servants. Remaining barriers to the portability of civil servant pensions should be lowered further, for example, by applying the new limit to the loss of pension entitlements to all civil servants, including at sub-national levels of government. In the long run, barriers to the portability of civil servant pensions could be eliminated by merging or harmonising the pension scheme for civil servants and the general public pension system, as most OECD countries have done.

Ensuring pension adequacy

19. Past pension reforms already in place in response to demographic ageing will reduce public pension entitlements relative to wages. The ratio of pensions to average wages is projected to drop from 45% in 2013 to 36% in 2060 (German Council of Economic Experts, 2013; Bach et al., 2014). Net public pension replacement rates for future retirees are already among the lowest across OECD countries and redistribution in the public earnings-related pensions' scheme is limited. While old-age poverty is not a major concern in Germany today, poverty risks among the elderly might therefore increase (Geyer, 2014; Martens, 2014). The federal government is monitoring the situation carefully. Continuous employment records and avoiding barriers to employment are important to reduce poverty risk. Moreover, individuals systematically undersave when planning for retirement due to myopia (Holmes, 2011; Börsch-Supan, 2005). Also workers with physically stressful jobs, who often earn low wages, tend to face a higher risk of

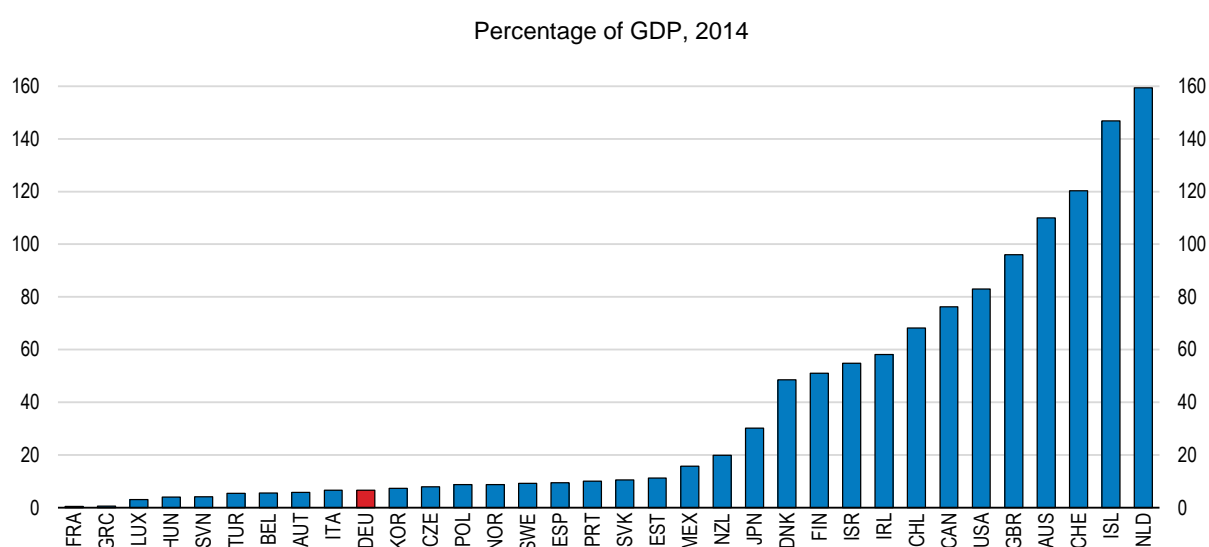
partial or full disability before reaching retirement age. Extending working lives, as recommended above requires additional efforts to address the risk of old age poverty and poor wellbeing for vulnerable groups.

20. To improve pension adequacy the government introduced state-subsidised voluntary individual private pension plans (*Riesterrente*) in 2001 and encouraged the expansion of occupational pensions. The share of households with supplementary pensions increased from 27% a decade ago to 61%. Nonetheless, coverage gaps remain substantial, especially among low-income households (Börsch-Supan et al., 2014). There is considerable scope to reform and expand supplementary private pensions, as argued below.

Expanding occupational pensions and raising transparency

21. Occupational pensions are the most common form of supplementary private pensions in Germany which are encouraged by the government. However, occupational pension assets (“*Pensionskassen*” and “*Pensionsfonds*”) amount to only about 6% of GDP, less than in most other high income OECD countries (Figure 6). These ratios would be somewhat higher if schemes are added which are funded from the employers’ own assets (see below) and occupational pensions provided in the form of insurance contracts, which are not included in Figure 6. Workers have the legal right to subscribe to an occupational pension plan, but need to take an active decision to do so. Many workers may not be aware of this (Lamla and Coppola, 2013). Occupational pensions are less common in small firms, also because the administrative costs involved. Operating costs in the occupational pension funds are low, amounting to 0.2% of assets under management in 2012 (OECD, 2013i). One reason is that occupational, unlike individual, pension plans are negotiated for a group (Berthon et al., 2014).

Figure 6. Occupational pension plan assets



Source: OECD (2015), Pension Markets in Focus 2015.

22. The government plans to promote occupational pensions through collective agreements among social partners. A number of countries have chosen a broader approach, by introducing automatic enrolment with an option to opt out within a specified timeframe to increase participation (Table 1). Automatic enrolment aims at overcoming individuals’ myopia in retirement and pension saving decisions, while preserving individual choice. Evidence from Italy, New Zealand and the United Kingdom shows that automatic enrolment improves coverage (OECD, 2014f). The German government should consider introducing automatic enrolment of all employees in occupational pension plans, with a possibility to opt

out. Automatic enrolment would boost occupational pensions especially among workers in small firms. The small firms could coordinate and provide occupational pension schemes collectively, for instance at sector level, as is done, for example, in Switzerland, and in some sectors of the German economy.

Table 1. Automatic enrolment in occupational pension schemes in selected OECD countries

	Description	Target group	Opting-out window	Contributions
Canada	The Pooled Registered Pension Plan, introduced in 2012 at the federal level, will be fully in place across Canada pending provincial enabling legislation.	Full-time employees and part-time employees with at least 24 months of continuous employment.	60 days. The decision to opt out or stay is irrevocable.	Employer: voluntary. Employee: chosen freely, with a default rate at the beginning.
Chile	The system was phased in between 2012 and 2014 with an increasing share of earnings covered. During this period, contributions were funded via tax rebates owed to the workers.	Self-employed. Exempt are self-employed above 55 (for men) and 50 (for women) or those subscribed to other pension plans.	Until before the submission of the income tax declaration in each respective tax year.	Employee: 10% of covered earnings.
Italy	Automatic enrolment was introduced in January 2007.	All private sector employees in January 2007. All first-time employees afterwards.	Six months. The decision to opt out or stay is irrevocable.	Employee: voluntary. Employer: 6.91% of gross wages plus a matching contribution if employee contributes.
New Zealand	KiwiSaver was introduced in 2007. Existing employees not subject to the automatic enrolment rule can also join (opt in) the KiwiSaver plan on a voluntary basis.	New employees aged from 18 to 64 years.	2 to 8 weeks. Contributions already made are refunded. The decision to opt out or stay is irrevocable.	Employee: 3% of earnings or more. Employer: 3% of salary. The government matches employees' contributions by 50%, up to NZD 521 annually.
United Kingdom	Automatic enrolment was introduced in 2012 for workers not yet covered by a private pension plan. The duty on employers is being staged in between 2012 and 2018, starting with the largest employers.	Employees aged at least 22 and under state pension age, and earning over GBP 10 000 in 2014/15 terms.	One month. Employers must automatically re-enrol eligible jobholders who chose to opt out on a three-yearly cycle.	Employer, employee and state contributions are being phased in until 2018 to a minimum total contribution of 8% of qualifying earnings.
United States	Automatic enrolment in 401(k) pension plans was introduced in 1998 for newly hired employees. In 2000, it was extended to current workers not yet enrolled.	Typically employees over the age of 21 employed for at least one year.	90 days. Opt-out decisions can be reconsidered at regular intervals.	Employer voluntary for the basic contribution. Employee: automatic contribution rate depending on exact scheme.

Source: OECD (2014), *OECD Pensions Outlook 2014*, OECD Publishing, Paris.

23. According to the Deutsche Bundesbank, book reserve schemes (direct commitments of employers) represent 59% of total occupational pension entitlements (Deutsche Bundesbank, 2013). These schemes are defined benefit and worker contributions are often not invested outside the employing firm. Instead, their employer retains the funds inside the firm and is liable for meeting pension promises when they fall due. According to the Bundesbank the present value of such pension commitments amounts to at least 10% of GDP (Deutsche Bundesbank, 2013). It is substantially higher if calculated at current market interest rates, given that regulatory discount rates are still above the currently low market interest rates. One reason for the popularity of book reserve schemes is that they benefit from higher tax advantages than

funds invested outside the firm (Berthon et al., 2014). Also, externally invested funds face higher costs due to regulatory solvency and liquidity requirements for external providers. These costs have risen recently.

24. The book reserve schemes may generate some systemic financial risks, which could materialise in the context of a macroeconomic or financial crisis in which many firms go bankrupt at the same time. Employees' pension claims are insured through a mutualisation scheme. A wave of bankruptcies may lead to increasing contributions which could feed back to bankruptcy risk. The government may be pressured to step in in such an event (Deutsche Bundesbank, 2013). Moreover, demographic change will raise liquidity risks among firms providing such pension schemes, because the firms' pension pay-outs will rise over time as workforces age, forcing firms to have sufficient financially liquid assets, including in periods of weak sales, so the risk of a crisis of the scheme will rise over time. The systemic risk is also aggravated by adverse selection. Since the contribution rates firms pay into the mutualisation scheme do not vary with their bankruptcy risk, book reserve schemes are relatively attractive for firms with high bankruptcy risks. Book reserve schemes also harm the efficient reallocation of capital, as they will tend to retain capital in established firms, and in particular, in firms with relatively weak solvency prospects.

25. Supervision of direct pension commitments of employers is needed to better understand the macroeconomic and microeconomic risks they entail, including for firms' solvency and credit rating. The systemic risk from direct commitments could be reduced by obliging firms to invest part of employees' pension contributions outside the firm. Also, contributions to the mutualisation scheme could be made dependent on risks, which could be assessed on the basis of the firm's equity.

Reducing costs of state subsidized individual private pensions and making them more targeted

26. Individual voluntary private pension plans (*Riester Rente*) are heavily subsidized (Box 3).

Box 3. The *Riester* pension plan

The *Riester* voluntary private pension scheme was introduced in 2001. Certified *Riester* products include private pension insurance plans, bank savings plans, investment fund savings plans and real estate savings agreements. Up to 30% of the accumulated savings can be paid out as a lump sum.

Eligible for the *Riester* subsidy are employees and their spouses. The self-employed are typically not eligible. The minimum annual individual contribution to be eligible amounts to EUR 60. To receive the maximum subsidy (EUR 154 per individual) a contribution of 4% of the households annual income before taxes is required, with a maximum threshold of EUR 2 100. Additional subsidies are paid for each child (EUR 185, or EUR 300 for children born after 2007). Alternatively, *Riester* savings up to EUR 2 100 can be deducted from the annual income if this is more profitable for the *Riester* saver than receiving the subsidy.

27. Some research suggests that operating costs charged by financial intermediaries offering *Riester* contracts are high, reducing real returns for clients. Estimated costs amount to nearly one half of nominal interest earned (Balodis and Hühne, 2014), though differences among contracts are substantial. However, there are no comprehensive data to assess costs. The collection of comprehensive data on operating costs is desirable to design policies to minimise costs. Net real returns of *Riester* pensions are estimated to be around 1.3%; guaranteed returns are often below inflation. In comparison, real returns of occupational pensions are estimated to be between 1.6% and 2.8% (Berthon et al., 2014; Hagen and Kleinlein, 2012; OECD, 2014f).

28. One reason for high costs of *Riester* products is limited comparability. Legislation has obliged providers to provide binding and comparable performance measures (*Produktinformationsblatt*) from 2017 onwards. There are concerns that the new document may not present all information in a standardised way, may not include a comprehensive and transparent disclosure of total costs, and may not include

performance measures of other providers. Also, the vast variety of products on the market makes it difficult to compare products (Balodis and Hühne, 2014).

29. Making products of different providers easily comparable could be achieved through a single information platform, as planned by the government (*Produktinformationsstelle Altersvorsorge*). Also, providers should be required to publish comparable performance indicators of a low-cost benchmark fund selected by the government in the product information sheet. Such steps may also help to push low-performing product types out of the market and thereby make the market less complex. It also needs to be ensured that the *Produktinformationsblatt* provides a comprehensive and transparent disclosure of total costs.

30. Low income earners often do not compensate the foreseeable decline in public pensions through individual or occupational pension plans (Börsch-Supan et al., 2014), raising concerns about rising old age poverty in the future (OECD, *Pensions at a Glance*, various issues, and Lüg and Schwark, 2014). Subsidized private pensions like the *Riester* scheme tend to be better able to reach out to low-income households than occupational and unsubsidized private pension plans (OECD, 2013f). Demand for *Riester* products is strong among parents with more than two children as *Riester* subsidies increase linearly with the number of children. The tax allowance, which can be claimed as an alternative to the subsidy, tends to favour high-income households. Abolishing this option would therefore tend to reduce income inequalities.

31. One reason for low enrolment of low income households in the *Riester* scheme is that they are often not aware about eligibility for the subsidy (Coppola and Gasche, 2011). More efforts are needed to target the *Riester* subsidies to low-income households, including by making information more easily available (Coppola and Gasche, 2011; Hagen and Kleinlein, 2012; Börsch-Supan et al., 2012; Kolerus, Koske and Hüfner 2012). Moreover, the subsidy should be extended to all low-income individuals, provided the operating costs they bear are low. For instance, the low-income self-employed should also be allowed to participate in the *Riester* pension plan (Lüg and Schwark, 2014).

Reforming disability benefits

32. Disability benefits and occupational accident insurance are the principal instruments to limit poverty risks among disabled individuals. Thereby also make an important contribution to lowering old-age poverty risks (Sternberger-Frey, 2014; OECD, 2010b). Disability benefits should be designed such that they ensure recipients stay attached to the labour market, according to their ability to work. In the absence of appropriate reassessments of work capacity and activation measures, generous disability benefits risk being used instead for early retirement (OECD, 2009b; Faik and Köhler-Rama, 2013).

33. Germany implemented far-reaching reforms to raise employment of individuals with disabilities in 2001 (Box 4). Disability benefits in Germany decreased gradually from EUR 763 per month on average in 2000 to EUR 633 in 2012 in nominal terms (Sternberger-Frey, 2014). This partly reflects discounts from disability benefits for claiming the benefit before the age of 64 (Sternberger-Frey, 2014). Poverty increased among the disabled and is substantially higher than for individuals without disabilities (Figure 7; Kemptner, 2014), although Figure 7 does not include the steps taken in 2014 to increase disability pension entitlements somewhat (Box 4). Individuals with weak socio-economic background face a higher risk of disability (Hagen and Himmelreicher, 2014). The share of disability benefits recipients with mental ill-health increased substantially in recent years, especially among those aged 55 to 60 (OECD, 2015c).

Box 4. Disability benefits in Germany

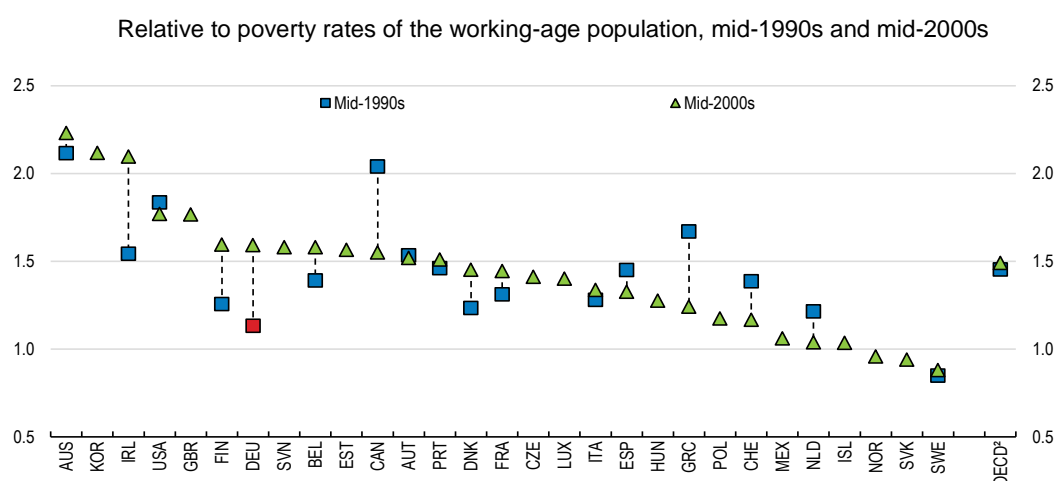
Occupational accident insurance covers occupational health risks, such as work accidents, including on the way to and from work. Individuals who suffer from a reduction in their ability to work not covered by occupational accident insurance can apply for disability benefits (*Erwerbsminderungsrente*) before reaching pensionable age. Roughly 1.6 million individuals received disability benefits in 2011, compared to 1.9 million in 2000. Individuals who can only work less than three hours a day are entitled to receive full disability benefits. Individuals able to work three to six hours per day are entitled to receive partial disability benefits. Partial disability benefits are topped-up if the regional labour market does not provide sufficient opportunities to work part-time. Labour income during the last five years prior to disability determines the level of the benefit. Disability benefits are cut by discretionary steps as income of the beneficiary rises; by one third, one half or two thirds depending on earnings thresholds. Full disability benefits cannot be lower than subsistence benefits plus a top-up of 17%. Disability benefits are financed via the mandatory public pension system.

To raise employment of individuals with disabilities, Germany, as one of the first countries, introduced temporary disability benefits, which are reassessed at periodic intervals (OECD, 2010b; Sternberger-Frey, 2014). Spending on activation measures for disabled individuals is higher than in most other OECD countries, reaching 0.3% of GDP (OECD, 2010b). Moreover, workers with health problems are entitled to receive assistance from their employers, such as an adapted workplace, preferential selection and support for training, and part-time employment. As a result of successful activation the employment rate of disabled individuals is one of the highest among OECD countries (OECD, 2009b).

Disability benefit recipients continue to automatically acquire public pension claims as if they continued working until reaching the pensionable age. A discount is applied to disability benefits if received before age of 63 years and ten months. The discount amounts to 0.3% for each month of benefit entitlements before that age up to a maximum discount of 10.8% (OECD, 2013f; Krause, Ehrlich and Moehring, 2013).

The government increased old-age pension entitlements for disability benefit recipients somewhat in 2014. The benchmark age for accumulating public pension claims for disability benefit receivers was raised from 60 to 62. Moreover, the period of earnings prior to disability is shortened for the calculation of disability benefit if this is more favourable for the disabled individual.

Figure 7. Trends in poverty rates¹ of people with disability



1. Poverty rates are defined as percentages of people with disability in households with less than 60% of the median adjusted disposable income.
2. OECD refers to unweighted averages of countries for which data are available. Estonia and Slovenia are not included in the OECD average.

Source: OECD (2010), *Sickness, Disability and Work: Breaking the Barriers: A Synthesis of Findings across OECD Countries*.

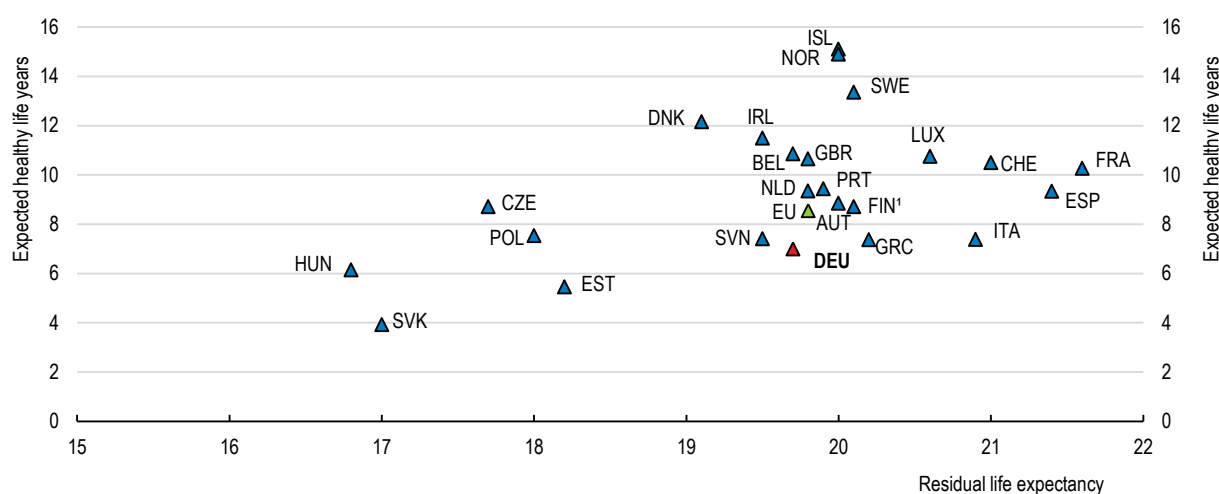
34. Further efforts are needed to ensure disabled individuals receive the support they need, while ensuring they stay attached to the labour market. Such steps could complement the indexation of the pensionable age recommended above, as they would provide better protection for workers with physically demanding careers or weak socio-economic background. Such workers face a bigger risk of not reaching pensionable age in good health. Such steps could therefore also make reform to index the legal retirement age more acceptable for a larger segment of society. One possibility is to eliminate the discount from disability benefits for claiming the benefit before the age of 63 years and ten months. Pension discounts for early retirement are supposed to make voluntary retirement actuarially neutral, which is different from health-related pension benefits. Moreover, discrete cuts of benefits as other income rises should be reconsidered. Such cuts make it unattractive for disabled individuals to work more, especially when marginally exceeding the earnings thresholds.

35. Germany subsidizes private disability insurance to offset the decline in public disability benefits. Additional tax subsidies for contracts guaranteeing a life-long pension were introduced in 2014 (*Altersvorsorge-Verbesserungsgesetz*). Nonetheless, only 40% of employees have a private insurance (Sternberger-Frey, 2014). Eighty-one percent of applicants report coverage below their desired level; two-hundred-thirty-five thousand insurance applications are rejected every year (ÖKO-TEST, 2014). One reason is that private providers can select clients based on their occupational risk. But there is also a risk that individuals with low disability risks do not buy an insurance policy. As a result, private insurance fees are extremely high for some occupations. Moreover, insurance coverage ends well before pensionable age for some occupations (Sternberger-Frey, 2014). There are also concerns about the high number of legal cases about whether an insured event occurred, suggesting that insureds face difficulties in claiming benefits. Limited information about the number of cases and benefits paid by private providers are available (ÖKO-TEST, 2014). One way to reduce the number of legal cases would be to require providers to acknowledge the disability assessment of public pension authorities.

Improving health outcomes in the light of demographic change

36. The German health care system offers a high quality of infrastructure and excellent access to care for the whole population, according to OECD health data. Nonetheless, Germany faces a range of ageing related health challenges (OECD, 2014k). The number of expected healthy life years at age 65 is low compared to other countries with comparable life expectancy (Figure 8). Also self-reported health is comparatively low, including among the elderly (OECD, 2014k). The share of individuals aged 50-65 with serious health problems is high compared to Germany's peers, with notable differences across individuals with different socio-economic background (OECD, 2014k). The incidence of some chronic diseases, including cardiovascular diseases, cancer and diabetes, is comparatively high and the cost of mental ill-health to society is above the EU average (OECD, 2015c; OECD, 2014k). Also dementia among those aged 65 or older is more widespread than on average in EU countries (OECD, 2015a).

Figure 8. Residual life expectancy and expected healthy life years at age 65, 2013



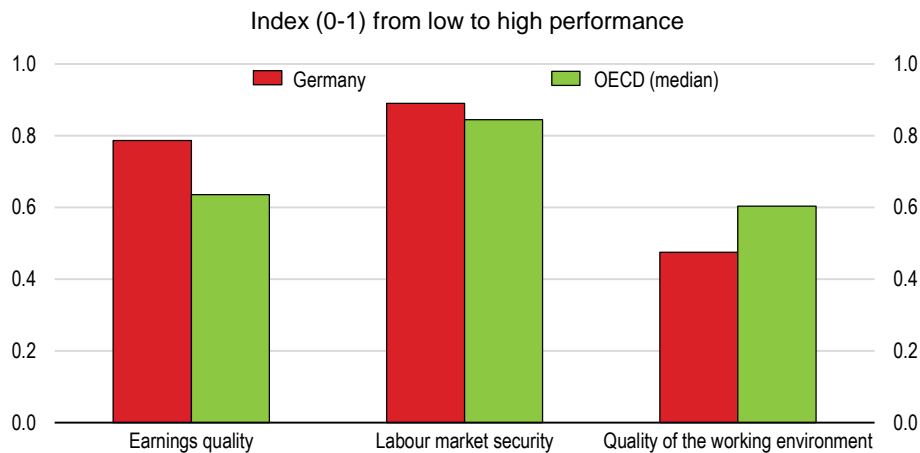
1. Expected healthy life years in 2012 for Finland.

Source: Eurostat (2015).

37. The high observed incidence of chronic diseases and high cost of mental ill-health to society may partly reflect good diagnostic systems. But it also results in higher demand for health and long-term care services. Poor health reduces life quality and constrains labour market participation, including by older individuals. Germany can do more to strengthen health at the work place and discourage unhealthy lifestyles, as argued below.

Continuing to improve job quality

38. Employment is not only a major driver of material living standards but it is also one of the most powerful determinants of wellbeing. However, work can also be an important source of stress and poor health, especially if job quality is low (OECD, 2013e; OECD, 2014i; OECD, 2010b). Stress, created by low job quality accumulates over time and can lead to poor health and reduce the motivation to work especially at higher age (OECD, 2014b). The OECD assesses job quality based on three dimensions: earnings quality; labour market security; and quality of the working environment (Figure 9). Germany performs comparatively well in terms of earnings quality and labour market security. This is also reflected in a fairly high job satisfaction (OECD, 2013e). Also, old-age discrimination in Germany is comparatively low and is expected to fall, as the labour market continues to remain tight (OECD, 2015g).

Figure 9. Job quality and job opportunities, 2010

Note: The earnings quality indicator captures the level of earnings and degree of inequality. It corresponds to the weighted mean of individual earnings, calculated with higher weights attributed to the bottom part of the earnings distribution. The labour market security dimension reflects the expected earnings loss associated to unemployment, as a function of the risk of becoming unemployed, the expected duration of unemployment and the degree of income protection provided by unemployment benefit systems. The quality of the working environment captures the incidence of jobs that involve high demands with few resources through the nature and content of the work, working time and workplace relationships.

Source: OECD (2014), *OECD Employment Outlook 2014*.

39. Germany falls below the OECD average in terms of quality of the working environment (OECD, 2014b). For example, 19% of German workers report difficult and stressful working conditions, which is more than twice as high as for Denmark and the Netherlands. Low quality of the working environment and high stress contribute to poor self-reported health and to sickness absence and raise the risk of mental illness and early retirement (Argaw et al, 2013; Barnay, 2014; OECD, 2015c). Aggregate data for Europe show that a poor working environment is associated with lower self-reported health (OECD, 2014b; Eurofound, 2012).

40. Employers are well placed to reduce stress and help ensure employees stay physically and mentally healthy (OECD, 2014b; Bundesregierung, 2012; OECD, 2015c; Federal Ministry of the Interior, 2011). The cost of mental ill-health for the German economy is comparatively high (OECD, 2015c). Mental ill-health accounts for most of new disability benefit recipients in recent years (Sternberger-Frey, 2014).

41. With 65%, the share of enterprises which already supports sick employees to return to work after a long-term sickness absence is above the EU average (OECD, 2015c). Also, the integration of disabled individuals in the labour market is high (see above). However, only few employers routinely analyse the causes of sickness absence (OECD, 2015c). Also, the percentage of enterprises using psychologists is one of the lowest in the EU (OECD, 2015c). Efforts are underway to strengthen workplace health. For instance, the public health insurance funds have been required to raise workplace health promotion spending. In addition, safety-at-work regulation has been strengthened. However, there is scope for improvement:

- Financial incentives for enterprises to engage in prevention should be raised. Firms engaging in prevention can be awarded premia and certificates through the accident insurance scheme, which is welcome (IAG, 2010). Some countries, including Switzerland and the Netherlands, introduced experience rating in employer contributions to disability insurance, obliging employers with many former employees on disability benefits to pay higher contributions. In Germany, employers' contributions to the accident insurance depend on the share of former employees on

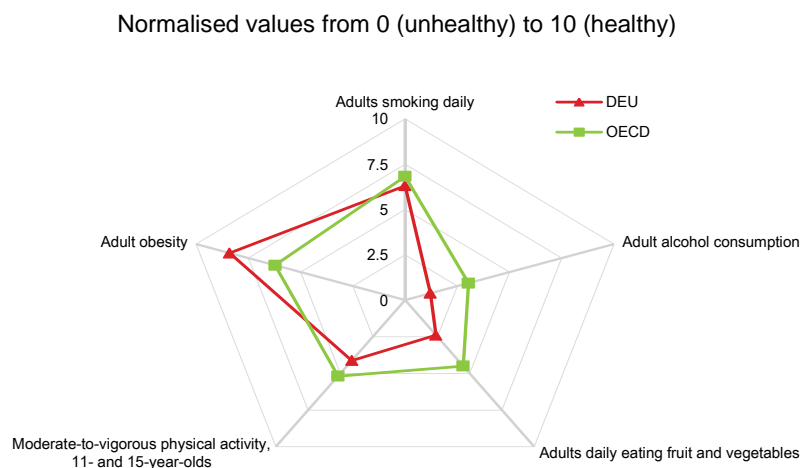
disability benefits, but penalties are small, with notable regional differences (see Box 3; OECD, 2010b; Koning, 2005; IAG, 2010). Accident insurance and disability benefits should be financed more via experience rated contributions of employers. This could also help to raise incentives for companies to support stressed staff at risk of mental ill-health and train managers accordingly.

- There is scope to improve monitoring and make collaboration between authorities and employers more effective (Ahlers, 2015; Kohte, 2015; OECD, 2015c). The number of staff of the occupational health and safety inspectorate declined from roughly 4 500 in 1995 to 3 000 in 2013. Regional units could be introduced to support small firms; serve as a platform for an exchange of information among the private sector, researchers, health insurance providers and the government; and monitor progress. This would also help to build up experience by regional authorities to keep the quality of inspections high. These units could be introduced in close collaboration with health insurance providers who already dispose over a regional network.
- Existing regulation may not always be applied to individuals in precarious employment, for instance because their bargaining position is weak, which makes it less likely that they sue their employer; or they are less well-informed about their rights (Becker and Engel, 2015; *Economic Survey for Germany* 2014). Effective collaboration between authorities and firms is needed to enforce existing law in a way that also accounts for the specific needs of individual companies.

Discouraging unhealthy lifestyles

42. Unhealthy lifestyles raise the risk of chronic diseases, including a range of cancers, stroke, diabetes, asthma and hypertension, and also contribute to mental ill-health (Sassi et al., 2009; OECD, 2013b; OECD 2015f; OECD, 2015i). The prevalence of unhealthy lifestyles is high in Germany, despite improvements in recent years. Germany scores comparatively low in adult smoking, adult alcohol consumption, diet and physical activity (Figure 10).

Figure 10. High adult alcohol consumption impairs the healthiness of lifestyles, 2012 (or nearest years)



Source: OECD (2013b), *Health at a Glance 2013*, OECD and EU (2014), *Health at a Glance: Europe 2014*, and OECD and WHO (2014), *Health at a Glance: Asia/Pacific 2014: Measuring Progress towards Universal Health Coverage*.

43. Preventive measures can substantially reduce unhealthy lifestyle choices (Box 5; OECD, 2015f; OECD, 2015i; Sassi et al., 2009; Lunn, 2014). Prevention is also a powerful instrument to reduce

differences in health outcomes by socio-economic background (Advisory Council on the Assessment of Developments in the Healthcare System, 2012; Advisory Council on the Assessment of Developments in the Healthcare System, 2007). Preventive interventions often entail low costs and are generally found to have a favourable cost-effectiveness ratio (Box 5). Many individuals might welcome interventions that make it easier to control their own behaviour and make daily decisions consistent with long-term goals. For instance, the decision framework can be designed such that it makes physical exercise more likely or reduces the probability of tobacco or alcohol consumption, while preserving free choice (Lunn, 2014).

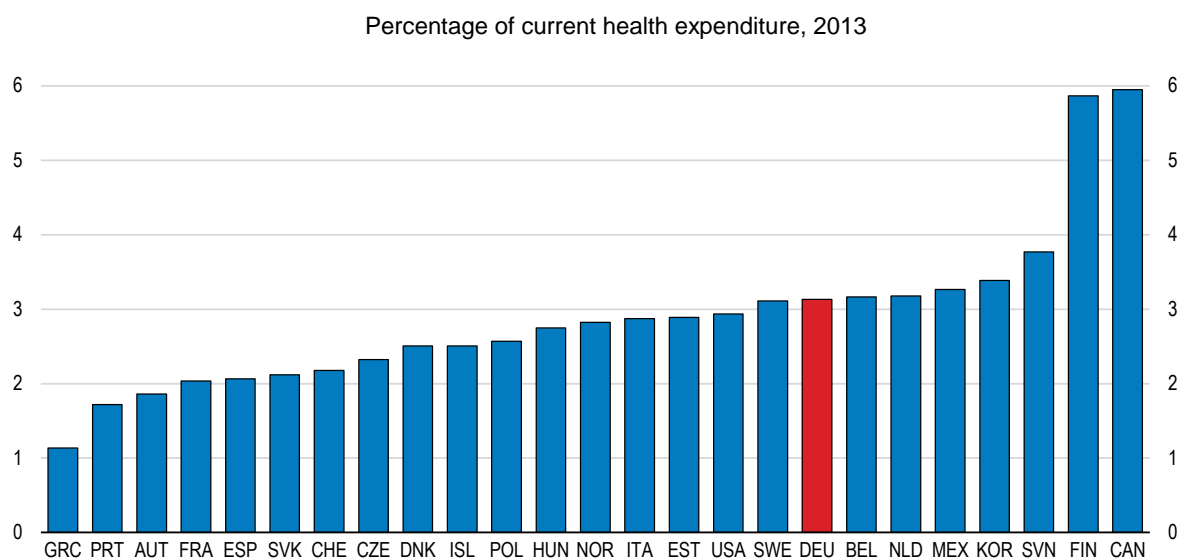
Box 5. Effectiveness of preventive interventions – some evidence

Cost-effectiveness analysis (CEA) is becoming increasingly widespread to assess the impact of prevention programmes on chronic diseases. Unlike cost-benefit analysis, CEA assesses benefits also in non-monetary terms. (Sassi and Hurst, 2008). CEA of preventive measures typically includes quality-adjusted life years, subjective assessments, or simply life years gained. An alternative is cost-minimisation analysis. It assesses the cost of alternative programmes to achieve a pre-determined objective.

The OECD has conducted comprehensive studies to assess the effectiveness of prevention for alcohol consumption and obesity (OECD, 2015f; Sassi et al., 2009). Preventive measures are generally found to be cost effective.

- *Alcohol consumption:* Policies to increase the price of alcoholic drinks, regulation and enforcement policies, education programmes and health care interventions are all effective instruments to curb alcohol-related harms and improve health, based on OECD analysis on Canada, the Czech Republic and Germany (OECD, 2015f). According to this report, there is scope for Germany to raise prices of alcohol through taxes and restrict advertisement regulation (see main text). These have low costs and substantial yields in terms of reducing health costs and increasing disability-adjusted life years. Individual assistance to reduce or stop excessive consumption of alcohol are also expected to produce the largest reductions in health care expenditures, but also entail high implementation costs (OECD, 2015f).
- *Obesity:* Interventions aimed at tackling obesity generally have favourable cost-effectiveness ratios (Sassi et al., 2009). Intervention costs exceed health care cost savings for most interventions, but the interventions also entail non-monetary benefits in terms of life expectancy. Tax and regulatory measures yield cost savings and are moderately effective in raising disability-adjusted life years. Counselling has the strongest positive impact on disability-adjusted life years but also entails comparatively high costs. School based campaigns entail comparatively high costs but yield fairly low benefits in terms of disability-adjusted life years. The use of multiple-intervention strategies may significantly enhance overall impacts while retaining a favourable cost-effectiveness profile. Preventive measures were also generally found to be effective in reducing differences in life expectancy and disability-adjusted life expectancy across socio-economic groups (Sassi et al., 2009).

44. Spending on prevention and public health services is above the OECD average (Figure 11) and the German government is planning to further increase it. The German Prevention Act, which entered into force in July 2015 obliges public health insurers to double their spending on prevention to seven euro per insured persons per year. Nonetheless, as argued below, more can be done to promote effective prevention in Germany, notably by reviewing regulation and strengthening research.

Figure 11. Spending on prevention and public health services

Note: Prevention and public health services include services designed to enhance the health status of the population as distinct from the curative services which repair health dysfunction. Typical services are vaccination campaigns and programmes.

Source: OECD (2016), *OECD Health Statistics* (database).

45. There is scope to use regulatory measures and price incentives more to reduce alcohol consumption in Germany (see Box 2.5; OECD, 2015f). For instance, taxes on alcohol are lower in Germany than in many OECD countries, especially for beer, although the reduction in harmful drinking triggered by a tax increase is estimated to be particularly high in Germany. Moreover, the introduction of a minimum price for alcohol is estimated to raise prices in the cheaper segment of the alcohol market by 10%. This would reduce health costs and reduce disability adjusted life years, according to OECD analysis (OECD, 2015f). Regulation of advertising alcohol products would yield particularly high benefits in terms of more healthy life-years in Germany, at fairly low cost (OECD, 2015f). Germany has a comparatively low legal minimum age for purchasing alcohol (16, 18 for spirits). There is also scope to reduce tobacco consumption in Germany by raising taxes and introducing stricter regulation, for instance on smoke-free areas in public places (OECD, 2015i).

46. Effectively identifying, implementing and monitoring preventive measures to reduce unhealthy lifestyles requires a systematic research effort. Major research gaps continue to prevail (Advisory Council on the Assessment of Developments in the Healthcare System, 2007; Lunn, 2014). This is also reflected in the government's action plan for research on prevention and diet (Federal Ministry of Education and Research, 2013). One reason for research gaps on prevention is that basic research on prevention is a public good, which makes it unattractive for private actors. The government provides up to EUR 125 million for research- and development projects in the period from 2013 to 2016.

47. Prevention of unhealthy life styles may benefit substantially from behaviourally informed research, including through the use of local policy trials and experiments (Behavioural Insights Team, 2010; Lunn, 2014). The Behavioural Insights Team in the UK, which also acts as an internal consultancy for UK policy makers, is a good example. It works, among others, on public health, with a focus on promoting healthy diets and reducing smoking and alcohol consumption. Similar research efforts to promote healthy life styles are undertaken by the French Centre d'Analyse Stratégique and the Joint Research Centre (JRC) of the European Commission (Lunn, 2014). The newly established behavioural

advisory unit to the German government could play a similar role in providing useful insights on how to promote healthy life-styles through behaviourally informed policies.

48. More efforts are also needed to target preventive measures to individuals with weak socio-economic background, including homeless individuals, unemployed or specific professions associated with elevated health risk (Advisory Council on the Assessment of Developments in the Healthcare System, 2007). Preventive measures tailored to elderly with weak socio-economic background will be of increasing importance in light of demographic ageing. Personal contact with elderly is particularly important because they tend to be less prone to use advanced communication tools (Heinrich Böll Stiftung, 2013). The newly enacted German Prevention Act which focuses on the further development of health-promoting structures is a step toward reducing inequalities in health.

Reforming the financing of health and long-term care

49. Public health and long-term care are mainly financed via social security charges levied on labour income. This raises the cost of labour and reduces incentives to work. Public health insurance contributions have increased from 13.2% in 1995 to 14.6% in 2015, excluding income specific surcharges which health insurers can levy; long-term care contributions increased from 1% to 2.35%, with a surcharge of 0.25% for childless employees. The projected increase in social spending, mostly due to technological change and some contribution from demographic change, could further raise the labour tax burden, although employers contribution rates have been frozen at 7.3% since 2011 by law. The share of labour taxes in total tax revenues is among the highest in the OECD, with harmful consequences for long term growth (OECD, 2015j).

50. The federal government is gradually increasing the share of spending financed from general tax revenue, which accounted for 5% of total financing in 2014, up to EUR 14.5 billion in 2017. Continued efforts are needed to make the financing of health insurance less dependent on the taxation of labour income, as also argued in the *2008 Economic Survey for Germany*. To this end health insurance contributions could be assessed on the basis of all household income and the number of adults who are insured. For example, in Switzerland, adults, rather than families, pay a lump sum fee for compulsory health insurance and low-income households receive a transfer from the government to cover for all or for part of the fees.

51. The segmentation of health and long-term care insurance into a private sector, which covers about 10% of the population, and a public sector, which covers 90% of the population, hampers equity. Low and middle income earners and individuals with poor health status are generally covered by public health and long-term care insurance, where contributions are independent of health risks and proportional to wage income (up to a ceiling). Employees with a wage income above EUR 56 250 per year can choose private insurance. Allowing high-income earners with low morbidity risk to withdraw from the system makes risk sharing among the remaining social health and long-term care insurance members costlier, resulting in higher contributions (*2014 Economic Survey for Germany*).

52. Private health insurance providers do not participate in the central health fund. The health fund redistributes insurance contributions of public insurers on the basis of risk-adjusted transfers and thereby reduces selection on the basis of risk. Unlike public providers, private providers calculate insurance premia independent of income but based on individual health risks. Private health insurers compete on the basis of risk selection rather than on the basis of efficiency (*2014 Economic Survey for Germany*). Removing incentives for insurers to compete on risk would improve equity and efficiency, as argued in the *2014 Economic Survey for Germany*. It should be considered to require all insurance companies, private and public, to provide mandatory health insurance packages to all individuals on equal terms, as public insurance companies already do, including participation in the central health fund.

Improving skills in the context of demographic change

53. Population aging underscores the need for a continuous acquisition of new skills by workers of all ages and policies that enhance lifelong learning. The decline in the size of young age cohorts entering the labour market has reduced the supply of new skills, while working lives lengthen. At the same time, technological change, including the rapid advance in computer capacity and ICT renders some skills obsolete while increasing the demand for skills that complement the new technologies (Autor *et al.*, 2003). Population aging can thus result in skill shortages that could limit the scope to which Germany can exploit new technologies, thereby constraining productivity growth. Skill shortages can also widen income inequality, given that skilled-biased technological changes are a major driver of the polarisation of household incomes (Brynjolfsson and McAfee, 2011). Steps need to be taken to increase the opportunity for workers to upgrade their skills throughout their career.

54. 57% of 25-64 year-olds have an upper secondary vocational qualification as their highest degree and Germany's vocational education and training (VET) plays a key role in the high employability and the successful integration of young workers in the labour market. However, the employment rates of graduates from upper-secondary and tertiary vocational education and training drops in more strongly with age from the peak in their late 30s early 40s, compared to graduates from academic tertiary education (Table 2). Also, earnings of vocational training graduates grow considerably less with age than those of academic tertiary education (Table 2.3). Furthermore, the risk of long-term unemployment is shown to be relatively high for older graduates of the vocational education system in the 2014 *Economic Survey of Germany* (OECD, 2014a). These observations suggest that VET graduates are subject to a larger risk of skill obsolescence at older age. This may limit their life-cycle earning and employment prospects, resulting in their relatively early exit from labour market (Hanushek *et al.*, 2011). High specialisation of skills and the low general education content of VET degrees may limit the workers' ability to acquire new skills or switching professions in later stages of their careers (OECD, 2010 *Economic Survey of Germany*).

Table 2. Employment rates by educational attainment and age group, 2013

Age group	Below upper secondary education	Upper secondary education	Of which, vocational education	Vocational tertiary education	Academic tertiary education
25-34	55.4	80.2	85.2	90.9	86.9
35-44	64.7	86.2	86.9	93.5	90.7
45-54	65.7	84.6	84.8	92.6	92.6
55-64	45.8	61.3	61.3	74.6	78.7

Source: NEAC (National Educational Attainment Classification) database.

Table 3. Relative earnings of employed adults by educational attainment and age-group, 2012

(Upper secondary education, 25-34 age group = 100)

Age group	Below upper secondary education	Upper secondary education ¹	Vocational tertiary education	Academic tertiary education
25-34	84	100	145	149
35-44	97	121	169	225
45-54	115	131	194	240
55-64	105	121	171	274

1. Mostly vocational education.

Source: OECD (2014), *Education at a Glance 2014*, OECD Publishing, Paris.

55. Cognitive skills such as numerical proficiency are central in developing skills and complement ICT skills in increasing a worker's competency in new jobs and occupations in the digital economy. The numerical proficiency of youth in upper secondary vocational education is significantly lower than the OECD average among youth in vocational education. And only 13% of graduates from upper secondary VET continue into post-secondary education (OECD, 2015). Furthermore, while youth in Germany are relatively well endowed with ICT skills, they have fewer opportunities of using cognitive and ICT skills at work compared to prime-age workers (the Survey of Adult Skills, 2012). This can limit their chance to develop those skills that define their employability in the later stage of career.

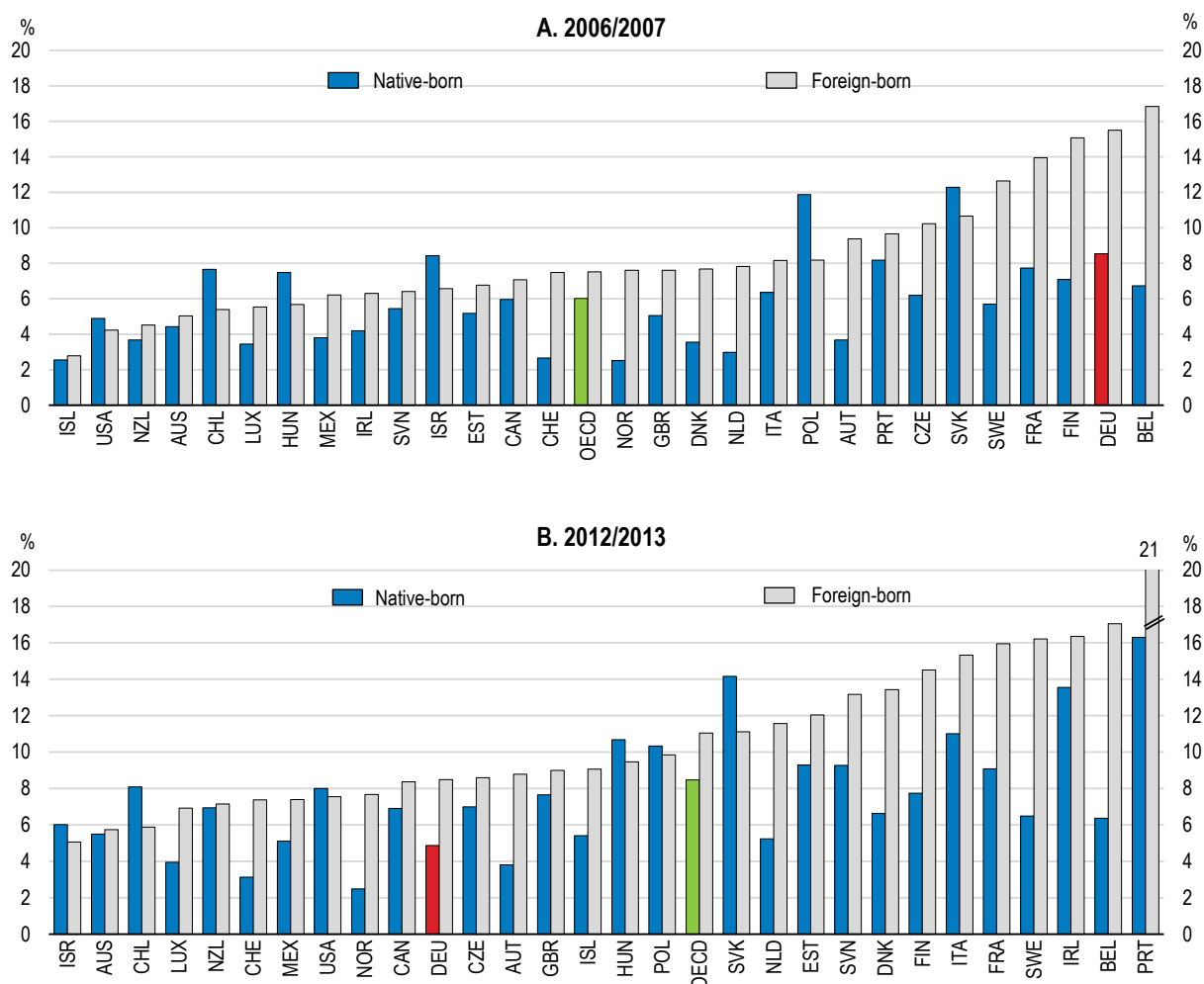
56. Life-long learning is likely to be particularly important to support life-long employability of vocational education graduates. The participation rate of workers with upper-secondary VET degrees in life-long training has increased from 38% in 2010 to 47% in 2014 (Bundesministerium für Bildung und Forschung, 2014). Yet, they are observed to participate relatively little in lifelong learning, either in form of on-the-job training or informal learning, compared to university graduates (Behringer and Schönfeld, 2014). As argued in previous Economic Surveys, steps to reduce the variety of VET qualifications could improve flexibility of future VET graduates. The general education content of VET should also be given more weight in examinations. Steps can also be taken to provide life-long learning opportunities in general skills (mathematics, German, foreign languages, computer skills). Policies to encourage life-long learning could include tax incentives (Brenke and Zimmermann, 2005) and should encourage the provision of better programs. For instance, Spain recently opened provision of publicly funded training programmes to competition while strengthening the quality control.

A large inflow of refugees has raised immigration to historically high levels

57. Germany has received substantial immigration flows in the past 25 years, from within the European Union as well as from outside. In 2014 approximately 20% of the population had a migration background (BMI, 2016). Germany has increased its efforts to attract skilled immigrants, for example by introducing special visas for high skilled workers and workers with qualifications in short supply. Germany has also introduced a number of policies to improve integration in the labour market. Migrants raised in Germany can apply for dual citizenship and measures were implemented to certify foreign qualifications. Labour market and educational outcomes for migrants have improved. The unemployment rates of immigrants decreased in absolute terms and in comparison to native Germans (Figure 12). Education outcomes in compulsory education (PISA results) also improved (Figure 13). Nevertheless the gap between migrants and natives in unemployment and education remains larger than in best performing OECD countries, which shows scope for improvement in integration (OECD/European Union, 2015; OECD, 2013a).

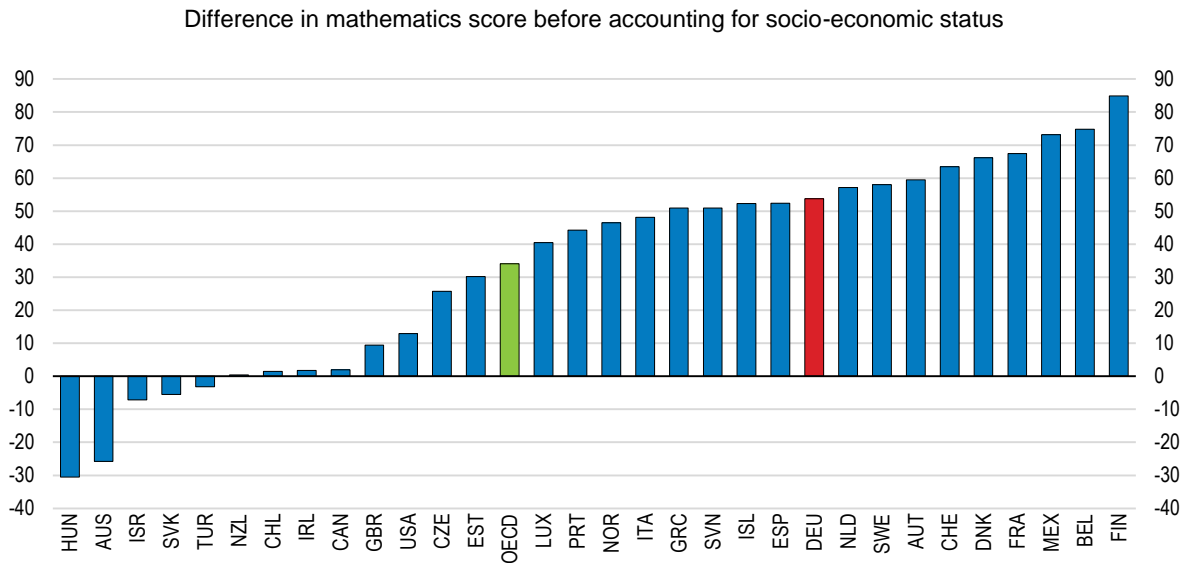
Figure 12. The unemployment rate has fallen, especially for immigrants

Percentage of labour force (15-64 years old)



Source: OECD (2015), *Indicators of Immigrant Integration 2015: Settling In*.

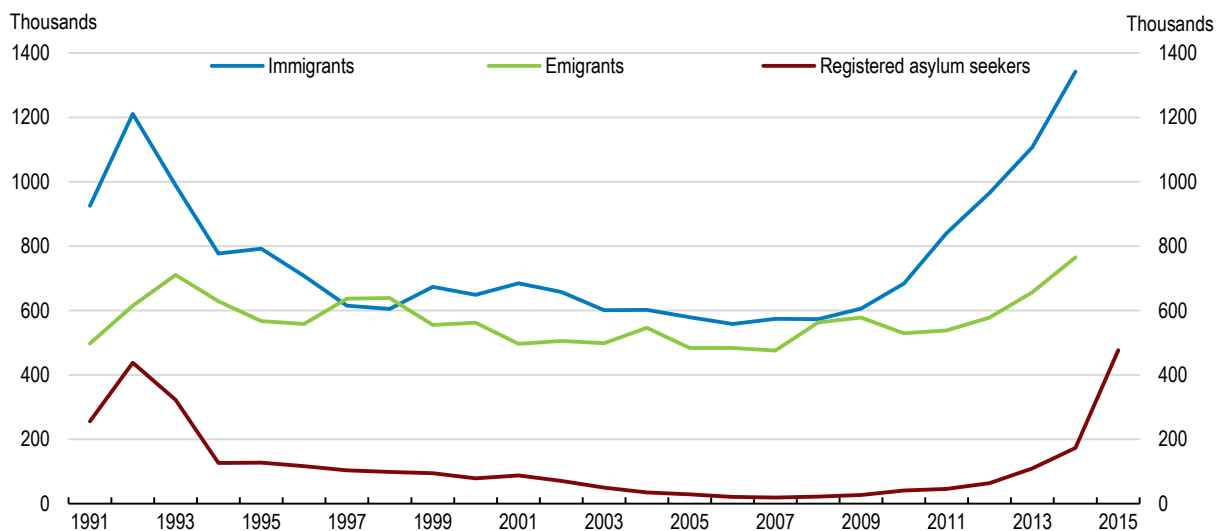
Figure 13. The difference in learning outcomes between immigrant and non-immigrant youth is substantial



Source: OECD (2013), *PISA 2012 Results: Excellence through Equity (Volume II): Giving Every Student the Chance to Succeed*.

58. Immigration has recently accelerated, most recently driven by humanitarian migrants seeking asylum (Figure 14). Most humanitarian migrants are from the Middle East, the West-Balkans and East Africa (BAMF 2015). The number of asylum requests reached 440 000 in 2015. However, due to the large inflow and limited administrative capacities, there is a significant time lag between arrival and the application for asylum. The total number of humanitarian immigrants in 2015 seeking asylum is probably around 1 million (1.2% of the population; BAMF, 2016).

Figure 14. The number of immigrants and registered asylum seekers has risen



Source: Federal Statistical Office and Federal Office for Migration and Refugees.

59. Of the asylum seekers in 2014 more than half were 25 years old or younger. 67% are male (BAMF, 2014). The education level of most refugees appears to be low, although information on the qualification structure of the refugees is still scarce (Hinte et al., 2015; IAB, 2015; SVR, 2015).

60. The following sections will discuss evidence on the economic impact of immigration and policies to improve labour market performance of immigrants, both in the short term, to ensure rapid progress with the integration of the large number of humanitarian immigrants, and in the medium and long term.

Strong integration policies have large benefits for immigrants and the established population

61. The economic impact of the refugee inflow are highly debated, but there seems to be a consensus that benefits increase substantially with successful integration (OECD, 2015h; SVR, 2015; Gemeinschaftsdiagnose, 2015; Fratzscher und Juncker, 2015; Bonin, 2015). Research shows that immigration flows have no or only weak short-term negative labour market effects among the native population, although the low-skilled population at highest risk. Indeed, migrant tend to improve the productivity and wages of more skilled workers (Glitz, 2012; IAB, 2015; Jean and Jimenez, 2007, Okkerse, 2008). A recent study shows that inflows of low-skilled refugees in Denmark led to an upskilling of native low-skilled, which prevented negative wage or employment effects (Foged and Peri, forthcoming).

62. Sufficient up-skilling opportunities are needed for vulnerable native workers, notably the unskilled and the long-term unemployed, as well as for immigrants. Therefore, active labour market policies should be intensified and combined with incentives to acquire qualifications, as argued in the *Economic Survey 2014*. The federal government increased its budget for active labour market policies for 2016 by 3.8% based on OECD statistics. In view of the large number of newly arrived refugees this increase seems small to provide adequate support for the long-term unemployed and the large number of newly arrived refugees. Sufficient public funds should be ensured to improve employability on currently disadvantaged groups on the margin of the labour market as well as the future successful asylum seekers.

63. Many refugees have no documentation certifying their qualifications and therefore need a quick but precise assessment of skills. In some professions such assessments by practitioners have already been introduced. If a migrant is not granted recognition in the form of a degree or allowance to perform the job for which they have skills, there should be affordable training to provide the missing skills, ideally on the job (OECD, 2014c). In order to avoid drop-outs from qualification programs migrants need to receive advice to raise their awareness of the benefits of the additional qualification (OECD, 2016). Migrants who have acquired qualifications in their country of origin need to be able to have them recognised in Germany. The recognition act of 2012 allows for standardized recognition of professional qualifications, but the regulations differ by *Land*. Furthermore the recognition process is costly for applicants (Bundesministerium für Bildung und Forschung, 2015). Moreover, migrants are particularly likely to be unaware of the value of certified skills. For some migrants with lower qualification in unregulated jobs, as compared to for examples doctors, the immediate revenue of a certification might be lower, but a certification would open opportunities to continued education. Therefore especially these migrants need funding for the recognition of their qualifications as well as for possible additional training if the qualification is only recognized in part. The Employment Agency can fund the recognition procedure for refugees under certain conditions. Training measures are for example provided by the nationwide Network “Integration through Qualification (IQ)”. There also are regional financial assistance programs. However, a broad coverage of funding should be ensured.

64. There are a large number of measures and initiatives to help integrate asylum seekers and refugees that have been implemented by various public or private actors. There is no overview of programmes and measures. A transparent collection and presentation of these measures on the internet

could help migrants make the best use of the offered support according to their specific needs. It could also be used to assess coverage and evaluation to show best practices or benchmarking.

65. Newly arriving asylum seekers are currently distributed among the *Länder* according to a formula that takes into account population and income levels. Each *Land* distributes asylum seekers among municipalities according to their discretion. They have often been placed according to available housing, reflecting the large number of refugees. However, evidence from Sweden and Denmark shows that housing refugees where local labour market conditions are the most favourable improves employment rates and wages (OECD, 2016b). Furthermore specific skills of a refugee for which there is a higher demand in certain regions, could be taken into account in the decision where to settle an asylum seeker (OECD, 2015b).

66. Germany has changed many regulations recently to improve access of asylum seekers to the labour market. The duration of the asylum process between the formal request for asylum and the decision on this request is short in OECD comparison and the government aims at reducing the average duration of the asylum seeking process further from currently five months. However, due to the large number of asylum seekers there is a time lag between the first registration when entering the country and the formal request for asylum. The asylum seekers can enter the labour market three months after the formal request for asylum. Highly qualified asylum seekers and those with qualifications for jobs with skill shortages can then apply for jobs without further restrictions. Asylum seekers pursuing a vocational training do not require an approval of the Federal Employment Agency. All other asylum seekers can requests for labour market entrance, but can only be hired if there is no domestic worker available for the job and if the conditions of employment are equivalent with that of domestic employees. 15 months after the request for asylum all asylum seekers can be hired without restrictions. Between January and July 2015, 30% of the requests for labour market entrance were denied, mostly because domestic workers had priority (Deutscher Bundestag, 2015b). Employment in a temporary work agency is open after 3 months for the highly qualified, but is subject to a waiting period of 15 months for other asylum seekers. Remaining out of employment for too long can stigmatise workers and this scarring may lead to persistent unemployment and over-qualification (OECD, 2014c). Indeed, the probability of scarring is much higher for migrants than for natives (Immervoll et al., 2015; König, 2013). In order to reduce scarring labour market access of asylum seekers who have high prospects of staying should be facilitated earlier (OECD, 2016b). The labour market testing for this group of asylum seekers could be dropped, allowing them to enter temporary work generally after 3 months. At the same time precautions should be taken to prevent negative consequences for currently long term unemployed.

Reducing barriers of entry

67. Regulation which keeps labour and product markets open to entry can improve integration (Jean et al., 2007). In Germany employment in the public sector is significantly lower for immigrants. A higher share could improve their visibility in everyday life and serve as a role model for the private sector, which, as experience across OECD countries shows, improves integration outcomes in the medium- and long-term (OECD, 2014c). Evidence shows that strong equal employment policies, such as employment targets, diversity recruitment plans or affirmative action can improve the employment rates, including for migrants from lower-income origin countries (OECD, 2011a; 2014c). This also improves the representation of the needs of immigrants in the decision making processes of the public administration (OECD, 2015d). Changes in the civil service law to ease entrance restrictions for non-Europeans could support this.

68. Foreigners are more likely to create a new business than the established population. 40% of new enterprises are started by foreigners. Measures to facilitate business creation would also help. There are still a number of restrictive regulations, such as in some service occupations and crafts, which could hold

back self-employment (Chapter 1). Complex and long procedures set a particularly high burden for immigrants, who are less knowledgeable of German bureaucracy (OECD 2014e).

Improving integration through education

69. Germany has recently improved access to language and integration courses for asylum seekers with a high probability to gain the status of a refugee. However, 25% of migrants who were eligible for an integration course before the recent improvements did not participate, partly because of the financial burden (Deutscher Bundestag, 2015a). Language courses should be offered comprehensively and as early as possible (OECD, 2014c). Participation fees, should be eliminated. A fast assessment of who is likely to stay in Germany would reinforce incentives to invest in education, both by private and public suppliers of services and the refugees themselves (OECD, 2016b).

70. Migrant children under 3 years are less than half as likely to enrol in formal child care as children of native families (Beauftragte der Bundesregierung für Migration, Flüchtlinge und Integration, 2014). However, young children with a migrant background especially benefit from early childhood education and care, because they can prevent gaps in cognitive, linguistic and social abilities. Such gaps may otherwise appear due to the limited help immigrant parents can provide to their children (Schneeweis, 2011; OECD, 2015e). Therefore, early childcare needs to include educational aspects, including language training, as soon as possible. Since refugees may not be aware of the benefits of early childhood education and are less likely to be employed, they should be supported in order to strengthen awareness and improve incentives to send their children to child care (Beauftragte der Bundesregierung für Migration, Flüchtlinge und Integration, 2014; OECD, 2015e; OECD, 2014c). Experience, for example from the United Kingdom, shows that such steps also often encourage parents to participate in a language course, training or in the labour market.

71. Some refugees aim to bring their families to Germany by family reunification. Evidence shows that a later arrival in the host country increases the performance gap in education, especially in reading skills, and the probability of early school leaving. This late arrival penalty seems more pronounced the larger the distance between the native and host country with respect to language and economic development (Heath and Kilpi-Jakonen, 2012; Corak, 2011; OECD, 2013c). Since young migrant children benefit from an early start (OECD, 2015e) reunification of families should be done quickly and with priority for families with young children (OECD 2014c, OECD, 2016b).

72. Efforts are needed to improve education prospects for all children with difficult socio-economic background. Early tracking has negative effects on the mobility in the education system and disadvantages especially students with a low socio-economic background, including immigration background (Schleicher, 2014; OECD, 2015e). For newly arriving immigrant students limited mobility through early tracking can be even more harmful as a first assessment of skill may not be correctly done due to lacking language competencies (OECD, 2015e; OECD, 2014a). It is important that students attend mainstream classes as soon as possible after arrival rather than segregating them, as this has been shown to improve their education outcomes. To this end, all teachers should be trained to accommodate migrant children's educational needs (OECD, 2015e) and adequate support should be available for individual counselling. For adolescent and young adult refugees language training during school holidays have proven the most effective (OECD, 2015e). Schools and municipalities should work closely together with the parents and help them support their children (Beauftragte der Bundesregierung für Migration, Flüchtlinge und Integration 2014, OECD, 2015e, Schleicher 2014).

73. Foreign-born 25 to 64 year olds participate much less in education and training than the native population (OECD/European Union, 2015). Adults with a low socio-economic background should be encouraged to participate in continuous training. Information about training offers should be further

improved and financial support programs monitored (OECD, 2014a). Migrants special needs need to be taken into account such as more time for questions due to language difficulties (Bethscheider, 2008).

Recommendations to raise well-being in Germany's ageing society

Reforming the public pension system to lengthen working lives

- Index the legal pension age to life expectancy.
- Raise the pension premium for starting to draw old-age pensions later in life and do not reduce pensions for old-age pensioners who work. Allow working old-age pensioners to accrue benefits on social security contributions employers pay on their behalf.
- Strengthen insurance against disability, for example by making it easier to claim legitimate private disability insurance benefits.
- Remove barriers to the portability of civil servant pensions.

Improving the private pension system

- Enroll all individuals in occupational pensions by default, allowing them to opt out.
- Strengthen supervision of direct pension commitments of employers. Make contributions to the risk-pooling scheme dependent on risk indicators.
- Reduce operating costs of subsidised, individual pension plans by improving comparability among providers.

Improving health and education outcomes at high age

- Promote workplace health by improving monitoring and the collaboration between authorities and employers.
- Strengthen enforcement of workplace regulation for workers on non-standard contracts.
- Strengthen experience-rating in employer contributions to work accident and disability insurance.
- Encourage healthy life-styles by raising taxes on alcohol and tobacco and reviewing regulation.
- Broaden the contribution base for the funding of health and long term care beyond wage income to all household income.

Improving life-long learning

- Strengthen life-long learning opportunities especially to provide general skills for graduates of vocational education.

Improving the integration of immigrants

- Improve training and the recognition of immigrants' skills.
- Ease labour market testing requirements for asylum seekers who are judged likely to stay and include them in active labour market programmes. Ease restrictions on their employment in temporary work agencies.
- Decide quickly who will be allowed to stay and reunite families quickly, especially those with young children.
- Take stock of all available integration measures and evaluate their effectiveness.
- Improve access of immigrants to public sector jobs.
- Integrate migrant children in mainstream schooling while providing specific language support.
- Provide financial incentives and advice to parents to encourage refugees to make use of childcare and early childhood education.

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