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Responding to Key Well-being Challenges in Austria

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ABSTRACT/RÉSUMÉ

Responding to key well-being challenges in Austria

Important challenges for the future of Austrian well-being arise from demographic and environmental trends. The ageing of the population calls for a fair balance between life-time pension contributions and entitlements, drawing on the recent pension reform. Such progress will allow Austrians to make more informed choices between the length of their work and contribution periods and retirement length and income according to their preferences, without threatening fiscal sustainability. With female labour force participation rising, family policies should help reconcile equality of opportunity within families by promoting the availability, affordability and quality of support services. A growing share of immigrant groups with low human capital calls for remedial policies to preserve social cohesion. Environmental pressures arise from urban sprawl and the strong expansion of road transport. Turning around these trends will require more appropriate pricing of the externalities and better regional development policies to foster denser settlements that are well connected to public transport. This entails a need to strengthen coordination between different government layers and better integration of regional development with transport and housing policies.

This Working Paper relates to the 2013 *OECD Economic Survey of Austria* (http://www.oecd.org/eco/surveys/austria-2013.htm).

JEL classification: D60; J10; Q50; O52.
Keywords: Austria; well-being; demography; ageing; family; immigration; environment; transport; urban sprawl.

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Bien-être en Autriche : les grands défis

Le bien-être des Autrichiens va se heurter à l'avenir à des défis importants liés aux tendances démographiques et environnementales. Le vieillissement de la population nécessite un juste équilibre entre les cotisations et les droits à pension, sur la base de la réforme récente du régime de retraite. Ces progrès vont permettre aux Autrichiens de faire des choix plus éclairés entre la durée de leur vie active et de leurs cotisations et celle de leur retraite ainsi que leurs revenus en fonction de leurs préférences, sans pour autant peser sur la viabilité des finances publiques. Face à l'augmentation du taux d'activité des femmes, les politiques familiales devraient contribuer à l'égalité des chances au sein des familles et favoriser des services de soutien accessibles, abordables et efficaces. La proportion grandissante des groupes immigrés ayant un faible niveau de capital humain exige la mise en place de mesures correctives afin de préserver la cohésion sociale. Les pressions pesant sur l'environnement sont causées par l'étalement urbain et l'expansion rapide du transport routier. Pour contrer ces évolutions, il faudra mettre en place une tarification plus appropriée des externalités et de meilleures politiques de développement régional afin de promouvoir des habitats plus denses et bien desservis par les transports publics. Il faut pour cela renforcer la coordination entre les différents niveaux d'administration et mieux intégrer les politiques de développement régional, de transport et de logement.

Ce Document de travail se rapporte à *l'Étude économique de l'OCDE de l'Autriche*, 2013 (http://www.oecd.org/eco/surveys/austria-2013.htm).

Classification JEL: D60; J10; Q50; O52.
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RESPONDING TO KEY WELL-BEING CHALLENGES IN AUSTRIA

By Rauf Gönenç, Oliver Röhn, Christian Beer and Andreas Wörgötter[1]

Austria's well-being is exposed today to a number of sustainability challenges. This paper discusses those arising from demographic developments and environmental trends.

Demographic changes: achieving sustainable work-life balances for all

Demographic changes raise challenges for Austrian well-being in three main areas: *i)* the ageing of the population challenges the sustainability of the public pension system, *ii)* rising female labour force participation strengthens demand for policies supporting the reconciliation of work and care responsibilities, and *iii)* a considerable share of the population with migration background and with relatively low human capital calls for adjustments in the channels of human capital formation and transmission of social capital.

Retirement and "wealth in time": reconciling free choices and fiscal sustainability

Long and healthy retirement periods for the majority of pensioners[2] funded by the public system have been a major ingredient of Austrian well-being to date. The retirement benefits enjoyed by cohorts retiring up till the 2000s were favourable relative to their life-time contributions. These benefits are becoming more costly to sustain with the rapid ageing of the population. Severe fiscal tensions, together with worrying medium-term demographic projections have led to a series of pension reforms and further reforms are to follow.

The average retirement age is presently 59, and life expectancy above 60 has attained 86 for women and 83 for men. The average monthly public pension for private sector workers was EUR 1180 in 2010. For public sector workers, it was EUR 2270. Men on old age pension received 69% of the average wage, and women 44%. Disability pensions for men amounted to 59% of the average wage, and the disability pensions for women to 33%. Persons retiring have an average life expectancy of 25 years, and average life expectancy increases by between one-two months per year. As of today, the persons retiring in compliance with the legal retirement age (65 for men and 62 for women) are entitled respectively to approximately 18/24 years in retirement.

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1. OECD Economics Department. This paper is a chapter from the *OECD Economic Survey of Austria* published in July 2013 under the authority of the Economic and Development Review Committee (EDRC). The authors thank Andrew Dean, Robert Ford, Monika Queisser, Romina Boarini, Miho Taguma, Willem Adema, Jean-Christophe Dumont and Richard Yelland for very useful comments. The research benefitted from continuous support from Austrian authorities, including the Federal Chancellery, the Austrian Delegation to the OECD and various Ministries. Special thanks go to Béatrice Guérard for technical assistance and to Sylvie Dewit and Mikel Inarritu for technical preparation.

2. However, disability pensions count for about one third of the yearly inflow into the pension scheme. The life expectancy of these retirees is substantially lower than the life expectancy of old-age pensioners.

A radical pension reform in 2005 unified the previously fragmented retirement schemes, and re-set contribution and benefit parameters. Higher minimum retirement ages (formally for women and *de facto* for men), and longer contribution periods were adopted. The public pension scheme was maintained as the main revenue source for future retirees, with high contribution rates when in activity, and high replacement rates in retirement (Box 1).

The reform is being implemented gradually. It was fully implemented for the cohorts born in 1987 and younger, while the pre-reform entitlements of the cohorts born between 1955 and 1986 will be credited to the new pension accounts (see below) by 2014. The calculation of the credit takes into account the pension regulations that were effective at the time entitlements were earned, but future entitlements will be calculated according to a single legal framework on the basis of individual pension accounts. This step increases transparency and aims at making penalties for early-retirement better discernable. Under the new parameters, the public pension spending (which is currently above 12% of GDP) is projected to reach 14% of GDP from 2030, then stabilise at that level until 2060 – however, these adjustments do not take into account the latest introduced in 2012). This would be one of the highest spending intensities among OECD countries (Figure 1).

Box 1. A well-designed but gradual pension reform

Austria tackled its pension reform needs somewhat later than many OECD countries. It has nonetheless put in place a strong legal and technical infrastructure to promote an actuarially fair and fiscally sustainable system. The implementation of the reform is gradual and is at times found to lack transparency and predictability, but has delivered important improvements and remains open to additional adjustments.

The new Pension Law (*Allgemeines Pensionsgesetz*) was adopted in 2004 and unified the rules for different occupational regimes. Before the reform different occupational groups (civil servants, workers, self-employed, farmers, liberal professions etc.) had different pension schemes, with different contribution and benefit parameters. The reform harmonised the scheme for federal employees with the general regime, but not those of the Länder and municipalities.

The contribution rate of the unified regime is set at a high at 22.8% of gross incomes, shared between employers and employees. Farmers' and self employed contributions are set at 17% and 18.5% respectively, with the difference from the full rate being paid out of the federal budget. Pension premia for the unemployed and persons raising children are paid from general government funds (respectively from the Unemployment Insurance Fund and the Family Burden Equalisation Fund).

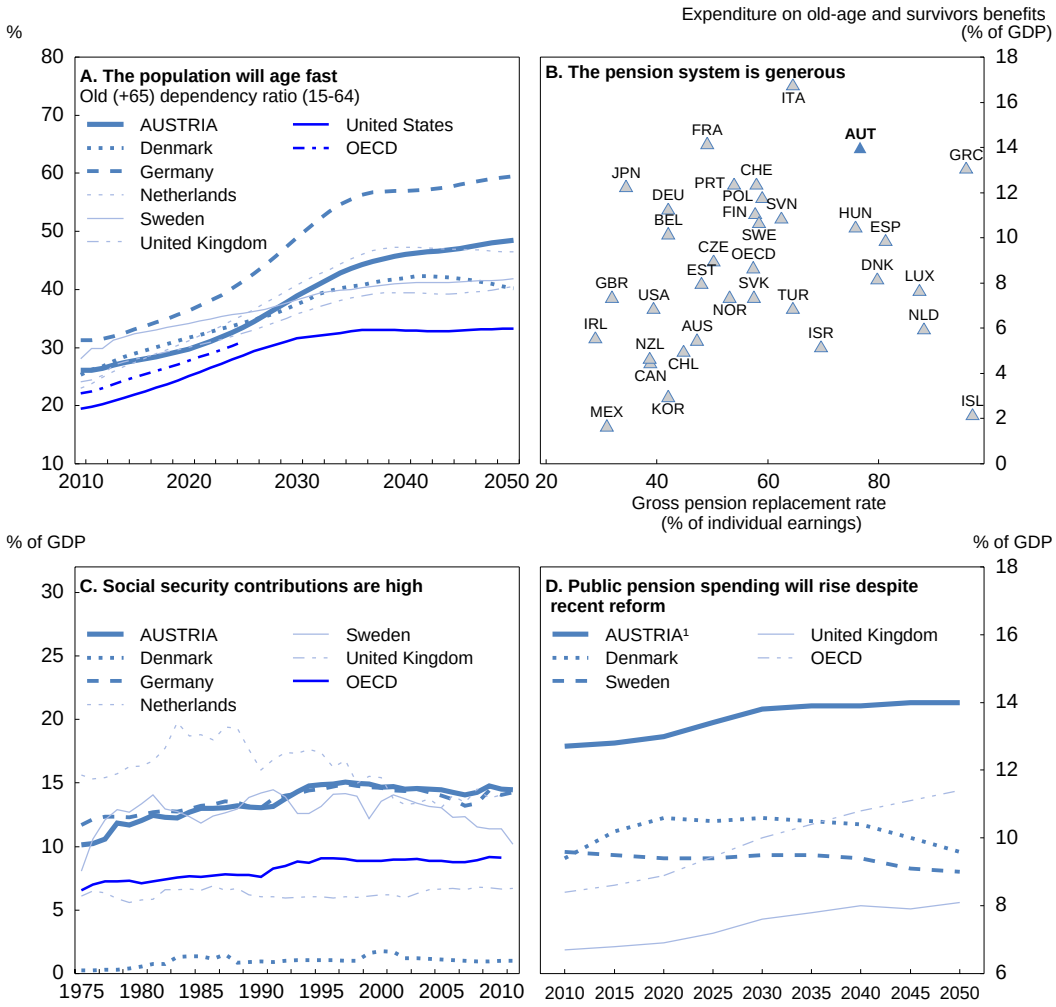
Future pension entitlements will be proportional to earnings over the best 40 years of work income and will reach 80% of this reference income after 45 years of contributions. The statutory retirement age is set at 65 years for men, and 60 for women, and the retirement age for women will converge to men by 2033. Persons having contributed at least 37.5 years are allowed to retire from age 62 (this period will be raised to 40 years by 2017), with a lower pension. Initially, pensions were to be adjusted by 4.2% for each year rights are claimed early, and increased by the same amount for each year of additional work. This rate was increased to 5.1% in 2012. A special retirement scheme was introduced for "heavy workers", where the statutory retirement age declines by three months per year of "heavy work".

As a result of these rules, the contribution and benefit parameters of the pension system are expected to converge with international standards for sustainability. The accrual rate in the system (a notional coefficient linking yearly pension contributions and subsequent pension benefits) was reduced to 1.78% in 2009, from 2% before. The so-called benefit ratio (this is, according to one among several definitions, the ratio of the average pension to average output per worker) is projected to decline from 22% in 2004 to 15% in 2050 (Knell et al., 2006).

A noticeable property of the new regime is its openness to regular parametric adjustments. A Pension Commission was created, which includes the representatives of the social partners and political parties, and other experts. The Commission is mandated to propose regulatory adjustments (*e.g.* to retirement age, to contributions or to budget transfers) if life expectancy increases more than expected, or in the event projections for other key variables (such as productivity growth or labour force participation) change.[3]

3. The 2004 Law prescribes that "if certain economic variables evolve less favourably than projected, first, the fiscal burden is to be compensated via reduced benefits, higher payroll contributions and higher transfers to the pension system out of the federal government budget". Following each revision of the official demographic projection, the commission will make proposals on the precise implementation of

Figure 1. There are strong demographic pressures on the pension system



1. Pension spending projections for Austria do not take into account the adjustments in pension parameters introduced in 2012.

Source: OECD, Historical population data and projections (1950-2050) Database; OECD Pensions Outlook 2012; OECD Social Expenditure (SOCX) Database; OECD, Revenues Statistics Database; OECD, Pensions At A Glance 2011: Retirement-income systems in OECD and G20 countries.

According to recent OECD analysis in *Pensions at a Glance* (OECD, 2011), the Austrian pension reform is now broadly in line with international standards, does not unduly penalise working at old age, and - notwithstanding persisting loopholes to early retirement- does not excessively encourage early retirement. The Austrian system now appears to deliver "benefit equivalence" (preserving the net pension wealth of older workers entitled to a pension but working additional years, see Queisser and Whitehouse,

adjustments, at three-year intervals. The commission will also make adjustment proposals if projections for other key variables, such as productivity growth or labour force participation, imply higher fiscal burdens. While parametric adjustments are legally required in case of changes in life expectancy, they are not legally required in case of changes in fiscal burdens (OECD Economic Survey of Austria, 2005).

2006).[4] Nonetheless, further adjustments would be useful, such as raising the discount for each year of early retirement from the present 5.1% to above 6%, in order to achieve full actuarial neutrality.[5] A more rapid increase of the statutory retirement age for women was also recommended (OECD, 2011; OECD, 2004), but is currently not envisaged. The OECD has welcomed the creation of individual pension accounts, which should allow benefits to be managed in line with contributions (OECD 2005, OECD 2011b). The new system has the potential to mimic a notional contribution-based accounting system and permits to adjust parameters in order to remain actuarially fair and fiscally sustainable. The entrants to the labour force since 2005 (who are subject to the new pension regime) can request yearly notifications of their accumulated contributions and future entitlements. Those who were already in the labour force in 2005 (and are therefore subject to a mix of regimes) will have the same possibility from 2014, with their pre-reform entitlements credited to their new pension accounts.

While the pension system is on this sound institutional foundation, it continues to display certain important uncertainties and shortcomings. Additional action is required in the following:

Making redistributive and contribution-related elements more transparent

Part of existing redistributions in the pension system are deliberate, such as benefits for survivors, and for people with involuntary interruptions in their work histories. Other redistributive elements are more "accidental" (in the sense of not serving any deliberate social policy objective) such as those arising from cohort effects (entailing different rules for different cohorts) and life expectancy differences between social groups. Increasing transparency in these areas would allow better calibration of the former and corrections for the latter and help improve the evidence base for future pension measures. The need for clarifying the redistribution principles of the pension system is recognised and some comprehensive analyses start to become available (Marin, 2013). Transparency can be improved in particular in the following areas:

- The reform is being phased in gradually. Cohorts born before 1955 are not affected at all, but will continue to draw pensions until about 2040. This introduces potentially large wedges between the contribution and benefit balances of different cohorts.

- Certain professional categories, such as the farmers and the self-employed, are subsidised. Civil servants also obtain high returns – their returns on contributions are expected to converge with the actuarial averages of the general regime from the 2020s. Contribution/benefit balances also differ because of differences in the life expectancies of those in different professions (OECD, 2005).

- The beneficiaries of the socially guaranteed minimum pension receive, provided that they were insured for at least 15 years, about 980 EUR per month, with 220 000 recipients in 2011. In 2012, 70% on average of these minimum benefits were based on acquired entitlements, and were funded from the pension system; 30% were paid from the government budget. Premium contributions on behalf of the unemployed, the persons on maternity leave, and other eligible caretakers in families are also funded from government funds. The financing modalities of these transfers (between the public budget and the pension system) should be kept transparent.

4. According to official calculations, the accrual rate of 1.78% and the discount rate of 5.1% generate in combination a pension gain of 7-8% per year of additional work at old age.

5. Actuarial neutrality requires that the pension wealth of a participant when retiring a year later is the same as his/her pension wealth if he/she retired today, plus the value of any extra pension accrued during the year (Queisser and Whitehouse, 2006).

- Persons having interrupted their work and contribution histories, and those having contributed mostly part-time, find themselves with uneven pension rights according to the cohort to which they belong. This arises from differences in their pension regimes before the unification of the system. On the other hand, differences in individual preferences for working and contributing shorter or longer periods, in exchange for higher or lower pension benefits, should be respected. To disentangle deliberate (purposeful) and non-deliberate (accidental) gaps between contributions and benefits, their balance should be made as transparent as possible across cohorts.

- Survivors' pensions can be seen either as an insurance mechanism or as a reward for survivors' earlier family and care contributions. They are funded currently from the pension system, according to benefit rules which were revised in 2009. Questions remain open on requisites for a fair survivor pension regime (Box 2). This is an important issue as more than 25% of all pensioners drew survivor benefits in mid-2000s, and this proportion will remain above 20% through till 2050.

Box 2. The difficult issue of survivors' pensions

Survivors' pensions are intended to secure the living standard of widowers, widows and orphans when a pensioner passes away. They may reach up to 60% of the income of the deceased person, depending on his/her income and the income level of the survivor. There are some preconditions but no minimum age to receive a survivor's benefit.

Survivors' pensions amount in average to 28% of the average wage. As they are not based on own contributions of married couples, but are financed from the pension system, they result in cross-subsidies. It is difficult to determine a fair level for these transfers, as many issues need to be taken into account, including the notion of family (going beyond legal marriage) and the desirable degree of social protection for persons who have provided mainly family services during their lifetimes.

Survivor benefits, as of today, are ultimately subsidies from unmarried to married couples. To receive them, marriage has to be valid at the time of death, even though there are special clauses for the divorced. In case of remarriage, survivor's pensions are lost (excluding a lump sum payment). The design of survivor benefits appears to be in need of adjustment to new family forms and histories.

There is therefore a large persisting potential for cross-subsidisation between various groups in the Austrian pension system. The high level of contributions and benefits blurs redistributive and contribution-related elements. However, these have not been systematically analysed to date. To improve public confidence in the integrity of the pension system, and build an evidence basis to guide policy decisions on possible future adjustments, these "redistributive" and "deferred saving" elements should be made more transparent. The Pension Commission should be mandated and resourced to foster such transparency.

Tightening the preconditions for early retirement

The low effective retirement age is a distinct feature of the Austrian labour market. It reflects the availability of relatively easy exit avenues until recently. In 2010, only 28% of new pensioners took the regular route to old-age pension, whereas 31% were granted a disability pension and 41% benefitted from other early retirement schemes. At the time of early retirement, two thirds of the disability pensioners were beneficiaries of a sickness benefit or of an unemployment benefit.

Measures were taken to raise the labour force participation of older workers at the time of the pension reform, including amendments in the disability, heavy work and part-time work rules. The proportion of those employed in age groups 55-64, traditionally well below OECD averages, increased as a result, but important gaps remain as OECD averages have also increased. The challenge is to keep exit windows open only for persons with severely reduced working capacities. Additional restrictions will apply in this area from 2014. Those partially disabled should be further helped to better use their remaining work capacity in

alternative occupations, for example via partial in-work benefits. The new policies should be fully implemented and the development of the effective retirement age should be closely monitored so as to take appropriate additional measures if necessary.

Table 1. Senior workers' employment has improved but the average age of withdrawal remains low

Employment rate (%)	Austria			OECD		
	2001	2005	2011	2001	2005	2011
Age group 50-64	44.8	47.2	57.1	55.6	58.4	61.2
Of which: 50-54	74.5	76.1	81.9	71.8	73.7	76.1
55-59	43.5	50.0	60.9	55.9	59.9	64.8
60-64	12.7	13.6	20.9	32.5	35.6	40.0
Effective labour force exit age [1] (years) Men	59.5	58.9	60.4	63.1	63.3	63.9
Women	58.3	58.1	58.4	61.1	62.0	62.8

1. Effective exit age over the five-year periods 1996-2001, 2000-05 and 2006-11. The effective exit age (also called the effective age of retirement) is calculated as weighted average of the exit ages of each five-year age cohort, starting with the cohort aged 40-44 at the first date, using absolute changes in the labour force participation rate of each cohort as weights.

Source: OECD estimations from national labour force surveys and *OECD Education database*.

In official projections, the employment rate in the age cohorts 55-59, 60-64 and above 65 are projected to increase in the coming decades (Schiman and Orischnig, 2012). Unofficial projections also conjecture on future paths of labour force participation. Drawing on a detailed gender and cohort based model, Wöss and Türk (2012) suggest that the employment rate – in particular of women and of the 50-64 age group – could grow considerably stronger in the long-term. The economic dependency ratio (the proportion of pensioners, disabled and unemployed relative to the employed) to the horizon 2050 is projected to vary in a bracket between 75-90%. Alternative calculations, notably in the EC Ageing Report (EC, 2012a) suggest a variation between 71-86%. The width of these brackets illustrates the considerable potential available for reducing the financial burden of ageing by boosting employment.

Improving employment opportunities for older workers

The large majority of Austrian workers (about 80%) retire as soon as they are eligible for a pension (Pension Commission, 2012). The tendency to retire as early as feasible may reflect workers' preferences, , but also, according to certain signs, a lack of attractive and health preserving and health preserving work conditions at old age (Chamber of Labour, 2009). Policy initiatives to make work more attractive have been taken during recent years at different government levels (Federal government, Länder governments, Social Security Institutions) and ministries (Health, Labour, Economy). These measures have been relatively unrelated to each other, and greater coordination holds the promise of making the policy more effective (Box 3). High employment costs of older workers have been identified as a key obstacle to the employment of older workers (WKO, 2012; OECD, 2011b). Indeed, Austria has traditionally been one of the OECD countries with the steepest age-wage curves, even if updated comparative data is not available (OECD, 2005). Recent policy measures to close exit loopholes to early retirement, and social partners' awareness of the issue hold the promise of making wage provisions in collective agreements more old age employment friendly.

Box 3. Employment of older workers

After a large multi-country review of ageing and employment policies in 2003-05, summarised in the OECD report *Live Longer, Work Longer* in 2006, in 2012 OECD updated related policy actions in 21 Member countries. This update covers policy actions in three areas: *i)* strengthening financial incentives to carry on working, *ii)* tackling employment barriers on the side of employers, and *iii)* improving the employability of older workers. This investigation implies that there is no "silver bullet" for improving the employment rate of older workers, and that action is needed in a wide range of areas. Concerning Austria the main observations were:

OECD recommendations in 2005	Assessment
A. Strengthening financial incentives to carry on working	
Monitor early retirement incentives	In 2012, pension entitlements under the "corridor pension" (early retirement from 62) was restricted to persons with at least 37.5 years of pensionable service. This period will be stepwise increased to 40 years.
Adjust the retirement age in line with demographic developments	There is no automatic adjustment rule yet in Austria. A process based on shared analytical evaluations between stakeholders is in place.
Reconsider the introduction of special rules for strenuous work.	At least 10 of the 20 years preceding retirement must be spent in jobs defined as "heavy labour" for early retirement. The definition of "heavy labour" remains somewhat open-ended.
Consider raising the minimum and the statutory retirement age of women earlier	The statutory retirement age is at present 65 for men and 60 for women. Women's retirement age will increase from 2024 and converge with the men's in 2033.
Monitor the impact of the old-age part-time employment scheme	A part-time allowance is paid (for men aged 58 and above and women aged 53 and above), permitting older employees to reduce working hours with partial wage compensation. After 2013 this will be conditional upon recruitment of a formerly unemployed person or a new apprenticeship in the same enterprise.
Review the possibility of introducing partial in-work disability benefits	No particular actions have been taken yet. Measures have been taken to reduce inflow to invalidity and disability (*i.e. Health Road* and *Fit2Work* initiatives).
Eliminate "own-occupation" assessment in determining a person's disability status	For workers above 57, eligibility for disability requires loss of 50% or more of work capacity in the existing specific occupation. Mirroring recent reform in unemployment insurance, work requirements should be broadened.
Improve access of older workers to medical as well as vocational rehabilitation	The "*Rehabilitation-Preceding-Pension*" programme was reinforced with new measures for medical rehabilitation and vocational qualification in 2009. These are co-ordinated between public employment and pension insurance agencies. Incentives are granted to enterprises hiring disability pensioners.
B. Tackling employment barriers on the side of employers	
Improve the targeting of payroll tax cuts	Age-related cuts in social security contributions are abolished from 2013 (as part of fiscal consolidation). Existing cases (waivers on unemployment insurance contributions of workers above 57) are left untouched.
Evaluate the bonus-malus scheme for hiring and firing older workers	A "Bonus-Malus System" was introduced, with financial incentives to enterprises recruiting people above 50 (*bonus*) and disadvantages for dismissing older workers (*malus*). This was abolished in 2009 as large administrative costs were not found to justify the limited employment impact.
Take a balanced approach to employment protection	The authorities estimate that the existing employment protection rules achieve a fair balance between employee and employer interests.
Reconsider the rule that unemployed workers who fulfil the criteria for early retirement have to apply for a pension	In general, this rule still applies. Entitlement to unemployment benefits ends when eligibility for an old-age pension is attained.
Accelerate reform of seniority-based wage regimes	Wage policy is the responsibility of social partners. In recent years, partners in some sectors have tried to flatten out the wage curve, by attenuating automatic wage increases and other differentiations on basis of seniority. Though as yet unsuccessful, these attempts will continue over the next years.
Monitor the effects of anti-discrimination legislation	To improve protection against discrimination, the Equal Treatment Act of 1993 was reinforced both in material law (increasing the minimum levels of compensation for damages) and in procedures.
Promote and monitor age diversity programmes	Social partners have launched a number of initiatives to stimulate age-compliant and ageing-friendly workplace design and organisation.

C. Improving the employability of older workers	
Explore the potential of make-work-pay policies	In an in-work benefit scheme (*Kombilohn*), eligible workers in full-time jobs gain a monthly wage top-up of EUR 300 if their contribution base is less than EUR 1500. Jobseekers aged 50 and above unemployed for more than 182 days are targeted.
Spread new activation approaches to older workers	A "*Fit2Work*" programme was launched in 2011, as a counselling and support service to prevent early retirement for health reasons. The Public Employment Service, the Labour Inspectorate, Social Insurance Institutions, Social Partners, and Ministries of Health, Finance, Economy, and Labour are all involved.
Improve the coherence of the continuing education and training system	The coherence of the various training areas can be further improved through closer co-operation between different layers of training provision.
Promote lifelong learning	Since 2009, only six months of employment is needed to take-up a subsidised training leave (training allowance), and modular training was made available. Participation has increased significantly, to 10 000 persons per year.
Validate on-the-job competences	Several measures were introduced to recognise competences acquired through non-formal on-the-job learning. A pilot project begun in 2008 (*Du kannst was!)* documenting competences as a common initiative of Social Partners and the Land of Upper Austria.

Source: OECD (2012), www.oecd.org/els/emp/Older%20Workers%20Austria.pdf.

Adjustment of pension parameters to changes in life expectancy

The mandate of the Pension Commission should be strengthened to better take into account rising life expectancy. Contribution and benefit parameters are supposed to be adjusted to reflect these changes, but this adjustment has not been systematically implemented to date. The sustainability mechanism should be reformed on the basis of a clearly defined set of indicators and fully take into account changes in life expectancy.

Ageing and health care costs

The ageing of the population puts also pressure on the health system. The chapter on health in the *2011 Economic Survey* (OECD, 2011) provided a thorough review of this sector, pointing to both its appreciation by the population and its high cost. This raises a tension for the future of Austrian well-being, as in the retirement system. The OECD Survey recommended a better alignment of the fragmented financing, spending and provision responsibilities between the federal government, the Länder and the health insurance institutions. Better integration of preventive, curative and post-hospitalisation services would yield cost savings and quality gains. Co-ordination with "non health service" areas, such as life-styles and diets was also found to be crucial. These co-ordination needs are relevant in the ageing society, notably in areas of mental health and new forms of dependence (for example Alzheimer diseases). Austria has taken steps in the recommended directions recently, but major changes have proven difficult to implement. The policy framework needs to stimulate more innovative, less segmented and lower cost health services.

Box 4. Policy recommendations: ageing and retirement

- Identify and reduce all remaining obstacles to the employment of older workers and close the remaining loopholes into early retirement. The new policies tightening pre-conditions for early retirement should be fully implemented and the development of the effective retirement age should be closely monitored so as to take appropriate additional measures if necessary.
- The Pension Commission should be mandated to better reflect changes in life expectancy in the sustainability mechanisms of the pension system. It should also calculate "deferred saving" and "redistributive" elements between cohorts in order to improve the evidence basis for future measures.
- Pension transfers serving social goals should be funded from transparent sources, minimising opaque cross-subsidies within the system. The future fiscal cost of the pension system should be assessed and controlled in the light of this analysis.
- Implement the recommendations of the health chapter of the 2011 *OECD Economic Survey of Austria*.

Care within families and equality of opportunity between genders

Finding satisfactory balances between work and family responsibilities will continue to shape material sources of well-being, equality of opportunity between genders and family life patterns. The evolution of fertility will also depend on the way work and family responsibilities can be better reconciled.

Austria has a relatively high female labour force participation rate at 67%, against the OECD average of 57%, but this is below countries such as Sweden, Switzerland, Denmark and the Netherlands. In couple families, the standard employment pattern is one full-time and one part-time worker, as the majority of women combine family responsibilities with part-time work. This pattern faces sustainability challenges, however, for two reasons: *i)* strains between work and family responsibilities remain high, even for women working part-time; and *ii)* as women become better educated, their willingness to work full-time increases, as does the opportunity cost of not doing so. Families need to find new ways of reconciling work and care responsibilities, including by rearranging gender roles.

As discussed in Röhn et al., (2013), women's wages remain below men's, in part as a consequence of these prevailing family patterns. Despite rapid catch-up in their education background, gender differences in market earnings persist due to part-time work, maternity leaves, career interruptions because of child-bearing and other care responsibilities. One recent study of wage differences added further insights: it found that women still do most of the work at home, also when they and their partners are employed full-time. Men may then have more leisure time, and more rest to recover from work, and may make more productive employees (Böheim et al., 2007). Rational employers may anticipate this and behave accordingly. After controlling for individual characteristics, the study found that married women earned indeed less than unmarried women, while men received a marriage premium. This confirms that unbalanced distribution of care responsibilities may affect equality of opportunity through various channels.

Gender discrimination has been a prominent well-being issue in Austria in the past two decades. The main policy initiative was the adoption of an equal treatment law (*Gleichbehandlungsgesetz*) in 1993. The law stipulated equal pay for equal jobs, and created an Equal Pay Commission. The Commission rules on broad subjects including job advertisements, discriminations concerning on-the-job training, promotion, mobbing, unfair dismissals and sexual harassment. Certain measures were also taken to support more equal distribution of care responsibilities within families, such as extending the allocation of child care allowances by up to 6 months if two parents take parental leave in alternance, instead of only one.

More recently, a National Action Plan for Gender Equality in the Labour Market has been introduced, and a Charter for a Better Reconciliation of Family and Work was adopted. The Plan covers the period 2010-2013, with four strategic goals: *i)* providing gender-sensitive career guidance and diversifying education paths and career choices; *ii)* reducing gender-specific differences in employment, and supporting transitions to full-time employment; *iii)* promoting more women in leadership positions; and *iv)* reducing the gender pay gap. This plan contains a package of 55 measures, of which 32 have already been implemented. The Charter is a statement of public commitment to family-friendly measures in companies and organisations. It was co-signed in 2012 by the Federal Ministry of Economy, Family and Youth, the Social Partners and the Federation of Austrian Industries. Austrian enterprises have also the possibility of taking part in "Work and Family Audits" which help companies develop a family friendly corporate culture. These audits have been successful and are being extended to small-and-medium sized enterprises and to hospitals and nursing homes, which employ large proportions of female workers.

The legal framework leaves however intact the issue of voluntary trade-offs by women between work and family responsibilities. Such trade-offs are found not only in Austria, but also in similar countries such as Denmark, the Netherlands and Sweden (Eurofound, 2009). Part-time work take-ups by women do not decline in Austria, but are on the increase. Although the divergence of employment and wage patterns between genders may undermine equality of opportunity, they may also be part of individual preferences. As discussed in Röhn et al., (2013), the majority of Austrian female part-time workers declare working part-time voluntarily (even if these surveys are difficult to interpret when choices are bound by the institutional and service environment). The National Action Plan for Gender Equality in the Labour Market aims in all instances to promote the full-time labour force participation and employment of women. Opting for part-time work is also not uniquely a gender issue: many men opt also for this type of work and shorter work hours.

These choices have however social consequences. According to a recent OECD analysis, GDP per capita in Austria is projected to grow at a lower rate than in other countries if current patterns of labour force participation do not change. It may vary between 1.5 and 2.1% per annum until 2030, according to alternative degrees and intensities of female labour force participation - concerning in particular their choice between part-time and full-time work. This is the largest uncertainty bracket among comparable countries (Table 2).

Table 2. Labour force and growth under different scenarios of female participation (2011-2030)

	Projected increase/decreases in total labour force size in 2030 as percentage of the levels observed in 2011			Projected average annual growth rate in GDP per capita (USD 2005 PPP, percentage, 2011-30			
	No-change scenario[1]	Convergence in participation rates[2]	Convergence in intensity of labour force participation[3]	No change in labour force participation rate (LFPR)[4]	Male and female LFPR gap reduced by 50%, by 2030[5]	Male and female LFPR gap reduced by 75%, by2030[6]	Male and female LFPR gap reduced by 100%, by 2030[7]
Austria	**-3.6**	3.5	17.4	**1.5**	**1.8**	**1.9**	**2.1**
Denmark	-2.7	1.2	8.6	1.2	1.4	1.5	1.5
Finland	-4.2	-1.7	3.8	1.9	2.0	2.1	2.2
Germany	-11.9	-5.7	8.2	1.6	1.8	2.0	2.1
Netherlands	-6.0	0.3	22.2	1.6	1.9	2.0	2.1
Sweden	0.5	3.8	9.9	1.9	2.1	2.1	2.2
Switzerland	0.2	7.2	27.6	1.9	2.2	2.3	2.4
United Kingdom				1.4	1.7	1.8	1.9
United States				1.7	1.9	2.0	2.2
OECD				**1.8**	**2.1**	**2.3**	**2.4**

1. No-change scenario: the projected size of the total labour force aged 15-64 years if the labour force participation rates for men and women remain constant from 2011 to 2030 at the rates observed in 2010.
2. Convergence in participation rates: the projected size of the total labour force aged 15-64 years if the labour force participation rate for men remains constant from 2011 to 2030 at the rate observed in 2010, and the rate for women shows a gradual increase (steady growth rate) from 2011 to 2030 reaching the 2010 rate for men by 2030.
3. Convergence in intensity of labour market participation: the projected size of the total labour force aged in 15-64 years if the full-time equivalent rate for men remains constant from 2011 to 2030 at the rate observed in 2010, and the full-time equivalent rate for women show a gradual increase (steady growth rate) from 2011 to 2030 reaching the 2010 full-time equivalent rate for men by 2030. The full-time equivalent rate is calculated as the labour force participation rate, multiplied by the average usual hours worked per week by all employed men and women respectively, and divided by 40.
4. No change: the gap between male and female labour force participation rate remains at the levels observed in 2010 (this scenario is identical to the baseline growth scenario presented in the *OECD Economic Outlook*, No. 91, *long-term database*).
5. Gender gaps narrow by 50%: the gap between male and female labour force participation levels observed in 2010 is reduced by 50% by 2030, based on a steady growth rate in female labour force participation.
6. Gender gaps narrow by 75%: the gap between male and female labour force participation levels observed in 2010 is reduced by 75% by 2030, based on a steady growth rate in female labour force participation.
7. Convergence in participation rates: the gap between male and female labour force participation levels observed in 2010 disappears by 2030, based on a steady growth rate in female labour force participation. Thus, in this scenario it is assumed that the female labour force participation rate will reach the levels observed for men by 2030 and the gender gap no longer exists.

Source: OECD Secretariat estimates in *Closing the gender gap* (2012).

Austria provides generous support to families with child and elderly care responsibilities. Family benefits accounted for 3.1% of GDP in 2009. This is high by international comparison, although below France and Sweden. The share dedicated to young children and institutional care remains however lower than in similar countries, while benefits last longer (Hofmarcher-Holzhacker, 2012). Support to old-age care is also one of the most generous in the OECD, with 1.5% of GDP, and is expected to claim more fiscal resources in the future (Eurocentre, 2013). The federal organisation of these policies is complex: cash transfers (via a variety of means-tested and non means-tested schemes) are granted by federal authorities, subsidised in-kind care facilities for old-age dependants mostly by the Länder, and child care facilities mostly by municipalities. The net effect of policies on citizens' work-life balances deserves to be analysed more systematically (Box 5).

Box 5. The complex design of family policies

Changes in family policies in the 2000s have placed Austria among the most generous countries in this area (Figure 2) Family benefits accounted for 3.1% of GDP in 2009, compared to the EU average of 2.3%. Policies' stated goal is "to allow parents to use their preferred mode of providing care for their children, to support the re-entry of parents into the labour market, to create family-friendly workplaces, to promote and fund good quality childcare facilities, and to help fathers who want to be more involved in family life" (EU, 2013). Family policies use a wide range of instruments at various government levels. They are highly complex, families themselves finding at times difficult to evaluate all their options:

- Parental leave. Maternity leave starts eight weeks before birth, and lasts for a further eight weeks afterwards (12 weeks in the case of a caesarean or multiple births). Additional unpaid "employment protected" parental leave can be claimed until the day the child turns two. This period of two years is at present not consistent with the period over which child care allowances are paid (2.5 to 3 years, see below), reportedly creating some confusion on the length of parental entitlements. Additional leave provisions were made recently available, until a child starts school. Parents have also a legal right to work part-time since 2004, as a measure to facilitate their staying in the labour force. This may have played a role in the expansion of part-time work. During the first four years of child raising, pension contributions for the period spent in child care are paid from a Family Fund, More extensive part-time leave entitlements are for example available in Norway, permitting mothers to work part-time until their youngest child turns 12. This measure is reported to have had an important role in the upturn of fertility in Norway (Johnsen, 2012).
- The family allowance (Familienbeihilfe) is not means-tested, and depends on the age of the child, rising from € 105.40 per month and per child during the first three years of life to € 152.70 per month for eligible youths until they reach 24 (in some exceptions until the age of 25), provided that they – after having reached the age of 18 – are in further education and have no income superior to € 10 000 per year. An additional sum is paid to families with two (additional € 12.80), three (€ 47.80), four (€ 97.80) or more (extra € 50 per child) children. Every September an additional amount of € 100 is granted for children between 6 and 15. Handicapped children entitle families to increased family allowances (plus € 138.30 per month). There is a further increase (multiple child bonus) of € 20 per month for the third and each further child if household taxable income is below the annual limit of € 55 000 per year. Families receive also € 58.40 per month and child as a negative tax, paid out with the family allowance. Furthermore, tax reductions are available to recipients of family allowances.
- Child care allowance provides financial support to those on parental leave. There is a flat-rate scheme (offering a total of four options) that parents can claim whether they were employed prior to the birth of the child or not. Depending on the chosen option it may be claimed up to 36 months (the child's third birthday). There is a cap on the income earned by the parent while on leave (a parent may additionally earn up to 60% of the income earned prior to the child's birth, in which no childcare allowance was claimed, restricted to the third year prior to the child's birth, or at least up to € 16 200 a year). If the exemption limit is exceeded, the child care allowance will be claimed back up to the amount exceeding the exemption limit. Since 2010 parents have had a further option, in form of an income-related child care allowance, aiming to give parents with a high income potential the opportunity to withdraw from the labour market for a limited period of time to look after their child. Extended duration in case of shared care between parents (up to 6 additional months) gives an incentive to better balance care responsibilities.
- Subsidised child care places. Public support to childcare places amount to as much as 90% of their operating costs. Both fixed and operating costs are subsidised in public kindergarten, but only operating costs in the private ones (OECD, 2006). This is a significant incentive to outside care, but is effective only when childcare places are available. Municipalities manage about 60% of childcare places, the rest being provided by religious institutions and companies. 80% of children aged 3 are enrolled in kindergarten, as well as 94% of the 4 year olds and 96% of 5 year olds, mostly on a part-time basis. The enrolment rate of children under three is 16% in the country (with an objective to raise it to 28% by 2014), but higher in Vienna. New stimulus is being given to the creation of childcare places at all ages.

All in all, thanks to high average wage levels and public subsidies to kindergarten, full-time child care, when available, costs about 20% of the average family's second earning – whereas this ratio is above 50% in several other countries. However, this estimation is based on standard services and does not take into account any specific quality requirements of parents. The *implicit rate of taxation* remains also high for low-income women, due to the level of care costs against wages, income taxes paid and losses of social benefits. In 2009, this rate for mothers taking up employment at 67% of the average wage was estimated to reach one of the highest rates in OECD (OECD, 2009). On the other hand, Austria's tax system encourages higher work hours by women by permitting individual tax filing. Depending on the relative income level of couples, individual tax filing affects positively female labor market participation. Mothers work longer hours than in Germany, which has been related to lower marginal tax rates for second earners.

The accessibility, affordability and quality of care services for dependant elderly also influences second earners' labour force participation. External services are growing in this area. Recent projections by the Ministry of Finance assume that 13% of dependant elderly may shift from family to institutional care between 2009-50. This would amount to an annual shift of 0.3% of all dependants. An accelerated scenario projects that 0.6% of dependants may shift to institutional care each year until 2030, and 0.9% between 2030-50.These projections imply an increase in women's full-time labour force participation (illustrated in Table 2).

From the perspective of maximising well-being, government policies should not focus solely on maximising labour force participation and GDP growth, but they should help family members combine work and family responsibilities according to their preferences. Low female labour force participation has costs in terms of lower family income, foregone GDP growth and gender equality. On the other hand, if reflecting a fully deliberate choice on how to balance work and family obligations, both men and women spending more time with the family could also have well-being advantages. The availability of high quality external care is essential in this regard. Despite efforts at Federal, Länder and municipal levels, these services are not yet available at the required degree of accessibility and affordability (OECD, 2012a). Concerning child care, even if subsidies to kindergarten help keep fees relatively low as discussed in Box 4, they are still scarce for very young children and constraints on opening hours and accessibility in holiday periods are difficult to reconcile with full-time employment for both parents. Additional capacity and service innovations would facilitate families' work-life balances. Encouraging examples of how child care facilities might develop are provided in the area of elderly care: dependent care subsidies freely used by recipients, associated with enabling market entry conditions, have stimulated a vibrant service market (Eurocentre, 2013) (Box 6).

Box 6. Innovations in elderly care

Diversification of care channels for the elderly are helping families to better manage work and care responsibilities. Complementary services are provided through traditional (nursing homes, post-hospital care) and new channels. They are offered by public and private providers, and on a non-profit or commercial basis. They are publicly subsidised at differing degrees. The broadly enabling regulatory environment permitted the emergence of various forms of care.

One example is the home-based services provided by personal helpers under the responsibility of families. These have initially developed outside the legal framework and rely on the availability of skilled, but nevertheless affordable helpers from Slovakia. The number of families using these services reached several tens of thousands (estimates range between 20 000-60 000). These arrangements were subsequently legalized and helpers became registered self-employed or wage earners.

Ambulant support services are provided through co-operation between municipalities and civil society organisations. They involve regular visits to dependants, at varying frequency according to requirements. They help keep dependants in their own or their families' living places. They have preventive and medical components that families cannot provide and significantly reduce the need for more costly and less preferred institutional placements.

A neutral policy stance, permitting families to organise their care responsibilities according to their preferences and circumstances is appropriate from the perspective of maximising well-being. It is also reducing the fiscal costs for a given level of services. However, this policy framework has not been sufficient to date to improve gender balances in care responsibilities within families (OECD, 2013a).

Family choices between internal and external care may be altered by public policies for good reasons. For example, there is a legitimate case in favour of institutional care for children above 2 years old, given the benefits for their development from socialisation – notably for the children of vulnerable families. As a result of recent policy emphasis in Austria, the enrolment rate of children above 2 in kindergarten has now reached international averages. The participation of children above 5 in pre-school education was also recently made compulsory. In contrast, the case for additional subsidies (on top of standard child subsidies)

to external care for children under two years old is more open to discussion and should continue to be evaluated (OECD, 2011; OECD, 2004; US Committee on Integrating the Science of Early Childhood Development, 2000). In all instances, the market environment for such services should be made fully open for the development of capacity, under adequate quality norms.

A systematic analysis of the fiscal costs and well-being outcomes of the existing set of measures which aim to reconcile work and family responsibilities would be helpful. Surveys and longitudinal studies may provide pertinent information on well-being outcomes for families, as well as children and dependant elderly. These analyses may help direct public policies to the areas where they would have the strongest impact. They would also help manage long-term fiscal costs.

The remaining tensions between work and family responsibilities may have played a role in the decline of fertility in Austria (Box 7 and Figure 2). Better educated women have experienced the strongest retrenchment. Between 2000 and 2009, fertility continued to slightly decrease, remaining in the vicinity of 1.4 per women, while it increased from an average of 1.7 to 1.8 for OECD countries as a whole. In Austria, it varies greatly across social groups (Table 3).

Box 7. Some empirical insights on the determinants of childbearing

According to a review conducted by the OECD (D'Addio and Mira d'Ercole, 2005), empirical studies suggest that childcare support policies have a noticeable influence on fertility. Blau and Robins (1998, 1989) found that public childcare availability increases fertility rates, while higher childcare costs have the opposite effect. Similar results for Italian women were reported by Del Boca et al*.,* (2003). Ermisch (1989) found that the availability of market-provided childcare in a range of OECD countries slowed down the decline of fertility rates.

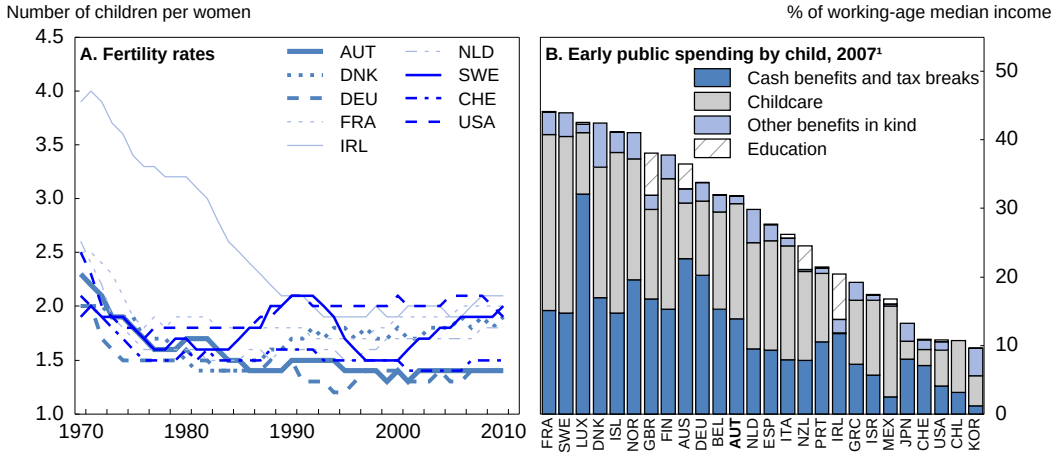
Concerning family policies (*i.e*. financial incentives), Barnby and Cigno (1988) found that public benefits speeded up the onset of motherhood in the United Kingdom. Whittington et al*.*, (1990) and Whittington (1992) found that a tax relief in the United States had positive effects on family size. Similar results were reported for Canada by Zhang et al*.*, (1994). Laroque and Salanié (2004) found that an ambitious reform of family benefits in France may have increased births by close to 5%.

Maternity and parental leave provisions seem also to play a role. Rønsen (2004) found that the extension of maternity leave had a positive impact on fertility in Norway and Finland. Andersson (2001) suggested that the introduction of a "speed premium" in the parental-leave system of Sweden accelerated childbearing decisions, reducing the spacing between the first and second births.

Certain studies investigated the effect of family policies on a cross-country basis. Blanchet and Ekert-Jaffé (1994) investigated the effects of benefits available in 11 countries. Gauthier and Hatzius (1997) modeled the relation between fertility rates and policies in 22 OECD countries over the period 1970-90. Adsera (2004) studied the relation between fertility rates and institutions in 21 OECD countries. All these studies have reported a positive relation between public incentives and fertility rates.

Source: D'Addio and Mira d'Ercole (2005) (references are listed in this source).

Figure 2. Fertility rates and family policies



1. Social expenditure on children in early childhood (0-5 years) per capita.

Source: OECD, Health Database; OECD (2012), OECD Family Database, OECD, Paris (www.oecd.org/social/family/database).

Table 3. Fertility varies across social groups

(Fertility of women born 1955-1960 according to place of residence, country of birth and education)

Place of residence	Share in population (%)				Mean number of children		Share in the total population %
	Childless	one child	2 children	3+ children	Per woman	Per mother	
All resident women	16.1	23.4	37.9	22.6	1.77	2.11	100
Vienna	25.3	28.3	31.4	15.0	1.43	1.92	19.4
Country of birth							
Austria	16.4	23.8	38.0	21.8	1.74	2.08	86.3
EU15	21.9	22.8	34.3	21.0	1.64	2.09	2.4
Former Yugoslavia	9.0	18.2	45.6	27.2	2.05	2.25	4.9
Turkey	4.8	6.9	22.7	65.6	3.07	3.22	1.6
Level of education							
Tertiary: university	29.8	24.0	32.1	14.1	1.35	1.93	7.0
Tertiary: academy (teachers & social workers)	18.1	21.2	40.1	20.6	1.69	2.07	5.2
Upper secondary	22.3	25.3	35.3	17.1	1.54	1.98	9.4
Lower secondary	14.3	25.0	40.0	20.7	1.74	2.03	48.7
Compulsory education	13.5	20.2	36.5	29.8	1.99	2.30	29.7

Source: Statistics Austria (2005c), *Population census 2001*.

Box 8 outlines recommendations in this area - drawing also on a comprehensive recent OECD project on "Closing the Gender Gap" (OECD 2012 a, OECD 2012 b, OECD 2011).

Box 8. Policy recommendations: reconciling equality of opportunity and freedom of choice within families

- To make parents' choice between in-house and external care feasible, make high quality external, formal child care available for children at all ages, including in rural areas. Improve the compatibility of child care services with parents' work hours and conditions.
- For very young children, combine existing cash benefits with affordable and accessible external child care. For older children at pre-school age, continue to give policy preference to high quality institutional care.
- Keep the regulatory framework open for new entries and capacity growth in child care and elderly care, under proper quality and security regulations. Subsidies to these services should be granted on a level-playing field between public, non-profit and commercial providers to stimulate competition and innovation.
- Analyse the full range of policies aiming at reconciling work and family responsibilities. Evaluate outcomes against fiscal costs. Surveys and longitudinal studies should be used to provide pertinent information on well-being outcomes for families, children and dependant elderly. Focus policies on the most effective instruments.

Improving the quality of education for immigrants: making high quality employment accessible for all

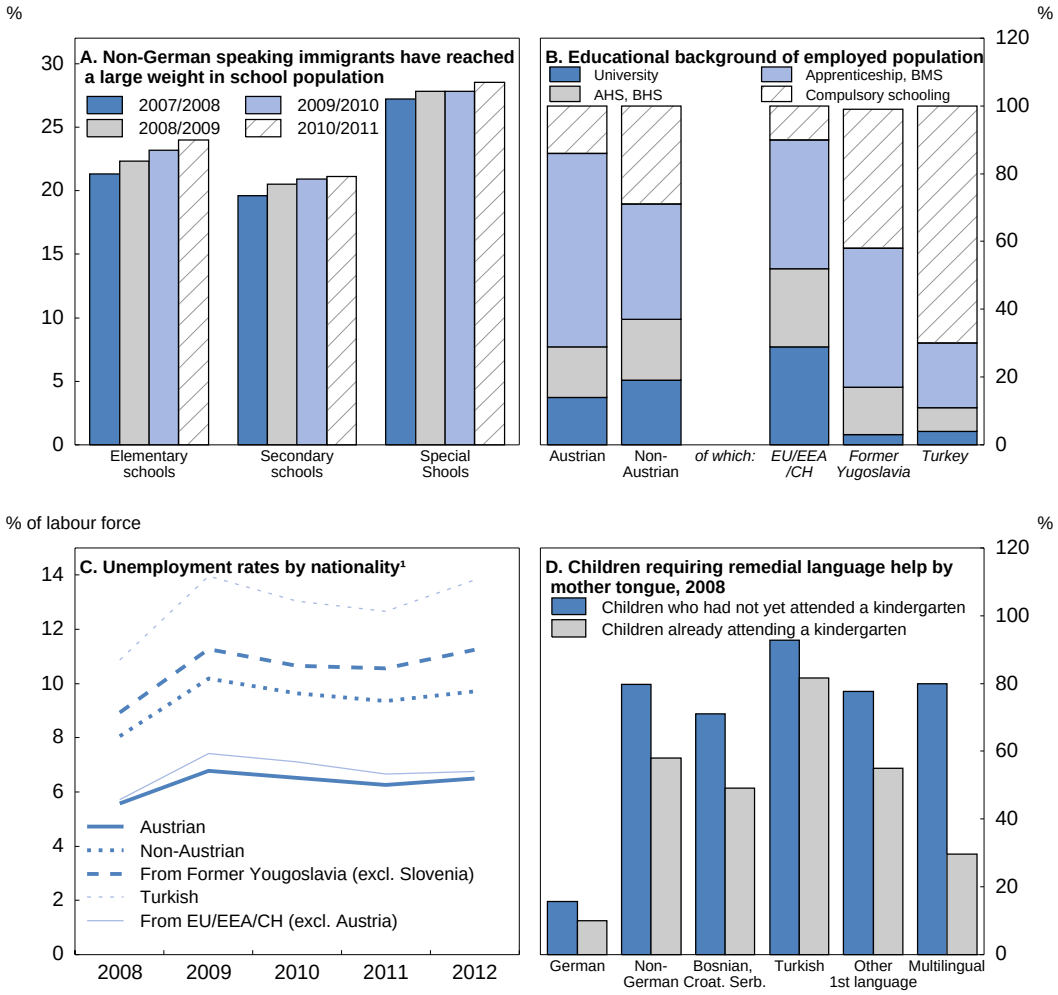
People with a migrant background now represent 19% of the population and the share is steadily growing. Nearly one third of them are second generation, *i.e.* were born in Austria of immigrant parents. The largest group of first generation immigrants are from Germany (23%), followed by people from former Yugoslavia (22%) and Turkey (19%), with the latter having a higher share among second-generation migrants. The proportion of the population with migrant background is projected to increase in the coming decades assuming that immigration and birth rates stay at current levels.

A recent OECD project (OECD, 2012) has analysed the labour market integration of immigrants in Austria in its various dimensions, and concluded that "All things considered, there has been significant progress in Austria's integration framework over the past few years and recent initiatives go in the right direction, but integration policies still lag behind those of other OECD countries". The recent creation of a Secretariat of State in charge of integration issues is a welcome step forward. This section addresses only the education challenges of children of these communities as the key determinant of their future well-being.

Immigration in general contributes to Austrian well-being by supporting labour force growth and skill supply. However, certain migrant groups tend to suffer from important shortcomings in their human capital, which tends to be passed on to their children, especially given the important role of the family in Austrian education.

Statistik Austria (2012) found that some children who do not use German at home begin their education in a special school (*Sonderschule*, intended for children with intellectual difficulties), rather than in a standard elementary school. Nearly 30% of all pupils in special schools came from non-German speaking families in 2011. Furthermore, children with an immigration background constitute a high proportion (28%) of pupils in "non-academic lower secondary" schools. The quality of these schools in rural areas and small towns is good, but is admittedly lower in large urban areas where migrants are concentrated. The proportion of migrants attending schools providing a university entrance qualification is also below average. High drop-out rates from the education system is another area of divergence. Nearly 15% of pupils who do not speak German at home and completed their 8th grade in 2010, did not continue their education. Only 4% of German-speaking pupils were in this situation. These educational handicaps are a source of accumulated well-being disadvantages (Figure 3).

Figure 3. Migrants' demographics and education policy challenges



1. Unemployment rates here are computed as the percentage share of unemployed persons in the sum of dependent wage earners and unemployed persons.

Source: Statistics Austria, Migration and Integration 2012; Federal Ministry of Labour, Social Affairs and Consumer Protection (ELIS Web).

Policymakers have taken important initiatives in this area, as reviewed by a recent OECD investigation on the education of children with migrant background (OECD, 2011b):

i. Early child care support to migrant families has focused on improving children's language capabilities from a very early age, both in German and in the mother tongue. International and Austrian research suggests that language capacities are crucial for children's mental and intellectual development. Research also implies that a range of fundamental personal capacities form at very young age, and can be better cultivated with the help of outside support to families (Box 9). However, offering such support has not proven easy. Adequate professional capacities in the kindergarten, as well as co-operation by families themselves are critical for success and are not always available. More weight is now being put on linguistic abilities in "fit for school" tests before children's entry into primary school, in order to direct pupils with inadequate linguistic

abilities to an additional pre-school preparation year.[6] An initiative in the same direction but intervening earlier are language tests administered to all 4 year old pupils in public child care facilities, with special language support offered free of charge when deficits are noted

ii. Another key goal has been to make schools more inclusive in the subsequent stages of education, as discussed in the chapter on education of the *2009 OECD Economic Survey of Austria*. The objective is to eliminate excessively early tracking of students before they have developed their full potential, which is particularly important for the children of immigrant families. One planned instrument is to upgrade non-academic lower-secondary schools into higher quality *Neue Mittelschule.* These will be generalised by 2018 and are intended to provide graduates aged 14 better access to higher education opportunities. Successful upgrading of lower-secondary schools in urban areas might require additional pedagogical and material resources. On the other hand, currently only few academic lower secondary schools adopt the *Neue Mittelschule*. Ways should be explored to broaden this welcome initiative.

iii. Curbing early drop-out rates is also a key target. The proportion of school drop-outs in Austria is lower than the EU average for natives, but higher for migrants. New initiatives included youth and apprentice coaching, free-of-charge programmes to provide qualifications to pupils who have not completed schooling (second-chance education), and training guarantees for students who have not found company based apprenticeships (by training them in dedicated public facilities). Early results from these initiatives are encouraging. Between 2007-2010, Austria succeeded in reducing the average school drop-out rates more than in the other EU countries (despite starting from a lower average level) and reduced the rates for migrant children – while these rates increased in the EU (EC, 2012).

iv. More actively involving immigrant groups in public policy efforts, for instance through inclusion in social partnership institutions which play an important role in the policy debate, could facilitate a more effective communication with such groups and ease their participation in human capital strengthening programmes through a better understanding of what is expected from families. Best practices from OECD countries suggest that programmes which provide education and integration support to migrant children are more effective when they are administered in close co-operation with beneficiary groups, including in dedicated facilities open to parents (OECD, 2012g).

Nonetheless, the successful participation of children with migrant background to apprenticeship education – a pillar of the Austrian well-being model as discussed in Röhn et al., (2013) - continues to raise challenges. Employers who take apprentices have to be sure that new hires have the needed basic training, notably in language, comprehension and basic mathematics, This is a requirement for effective on the job learning, but is not always granted (See, for example, Profil, 2013). As children with migrant background represent now a large proportion of entrants in apprenticeship training (25% of students in "polytechnic schools" have a mother tongue other than German), and as apprenticeship offers a promising avenue for the labour market integration of migrants, apprenticeship system's effective functioning is crucial. This is also essential for the future success of high quality and high productivity economic activities in Austria.

6 . In Vienna, 131 such pre-school classes are already in operation. They hosted 1658 pupils in the school year 2012/2013 and will teach about 1800 in the school year 2013/2014. This corresponds to 10% of all children expected to start elementary school in this city.

Box 9. Remedying to language handicaps at very young age

While the vast majority of young children in Austria are raised by their families (Röhn et al., 2013), the proportion is even higher among migrants. This seems to weaken their language capabilities not only in German, but also in their mother tongue (due to their narrow socialisation environment).

A language survey of children aged 4.5-5.5 showed that 90% of German-speaking children attending a kindergarten had language skills consistent with their age, and only 10% of them required remedial help. In contrast, about 60% of children whose first language was not German required remedial help to achieve (German) language skills consistent with their age. Language deficits were prominent in the case of Turkish speaking children (82%), while 50% of Bosnian, Serbian and Croatian speaking children also required such help.

The proportion of children not attending a kindergarten and requiring language help was significantly higher (50%) than for children attending a kindergarten (23%). Among the former, some 16% with German as first language needed remedial help, the corresponding figure for those with another first language was 80%. There was a catch-up requirement for 93% of pupils of Turkish origin and for 71% of pupils of Bosnian, Croatian and Serbian origin.

Source: Statistics Austria, Migration and Integration, 2012; OECD Review of Migrant Education: Austria, 2009.

Box 10. Policy recommendations for strengthening migrants' human capital

- Provide migrant children with high quality German education from a very young age and provide mother tongue support where necessary.
- Avoid early streaming of migrant children to less demanding education streams before they have developed their full potential.
- Transform all non-academic lower-secondary schools into Neue Mittelschule by 2018, as planned. Fully enforce their quality standards, including in disadvantaged urban areas. Encourage academic lower secondary institutions to join this initiative.
- Open social partnership institutions for migrant groups to enhance migrant families' awareness and capacities in supporting their children's health, education and other socialisation needs.

Ensuring environmental sustanability

Austria's rich natural asset base, its forests, mountains, biodiversity and natural beauty, as well as the improving air and good water quality, have contributed to the population's high level of well-being. Good environmental quality positively affects life satisfaction (Boarini et al., 2012) and natural assets generate important revenues and employment thanks to a thriving tourism sector. High quality recreation opportunities and satisfactory air and water quality also have positive health effects and thereby increase well-being (*e.g.* Prüss-Üstün and Corvalán, 2006; Ellaway et al., 2005).

However, environmental pressures are arising from urban sprawl and a strong acceleration of road traffic. The rural population is declining, as new employment is mainly created in urban areas, but new settlements are mostly established in suburban areas, leading to urban sprawl. Coincidently, higher incomes and the desire of the urban population to live in larger living spaces have reinforced this suburbanisation trend and also increased commuting. Despite a growing population, internal migration from Vienna to other regions of the country has been larger than migration towards Vienna over the past decade. In contrast, the regions adjacent to Vienna have seen the largest net migration inflows in Austria. A similar trend is also observable in other larger urban areas (Figure 4). Population density in the three metropolitan areas[7] Vienna, Graz and Linz is low by European comparison, suggesting room for further

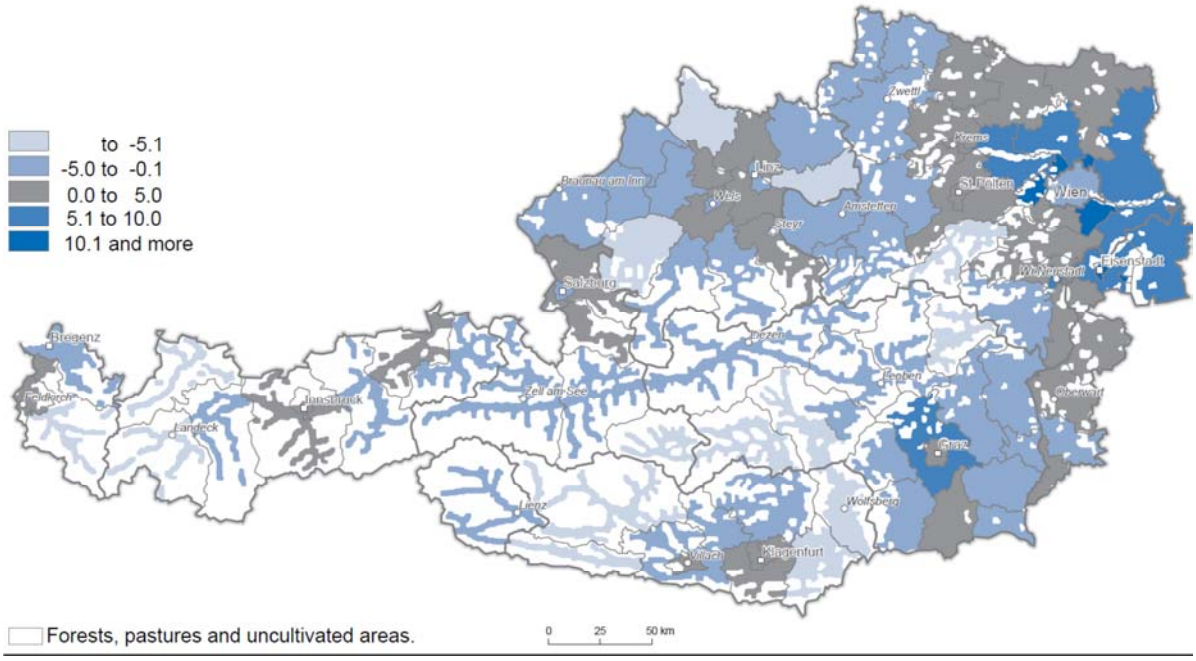
7. Metropolitan areas are defined according to the functional boundaries approach, which includes Hinterland based on commuter data (see OECD, 2012d).

densification, and living spaces have grown continuously and are high by international comparison. According to regional population projections, the regions surrounding major cities, in particular Vienna, will also record the largest increases over the next decades. While the populations of the cities themselves will also rise, these increases will not be as significant as those registered in the surrounding areas (ÖROK, 2011a).

As a consequence of urban sprawl and suburbanisation, land-use changes due to newly built-up areas have far outpaced population growth and are above the national target (Figure 5). Over 20 hectares per day of green- or agriculturally used land are being converted, which roughly corresponds to the area of the city of Salzburg per year. The area for buildings and transport infrastructure increased by about 13% (20% buildings, 5% infrastructure) between 2001 and 2011 (Statistik Austria, 2013) compared to a population growth rate of about 5% over the same time period. While the area for buildings and transport infrastructure per capita was 200m^2 in the 1950s, it increased to 500m^2 in 2007. Overall, the sealed area (that is, rendering the soil impermeable as a result of paving and other construction work) has more than doubled since 1995, increasing the risk of floods and endangering biodiversity.

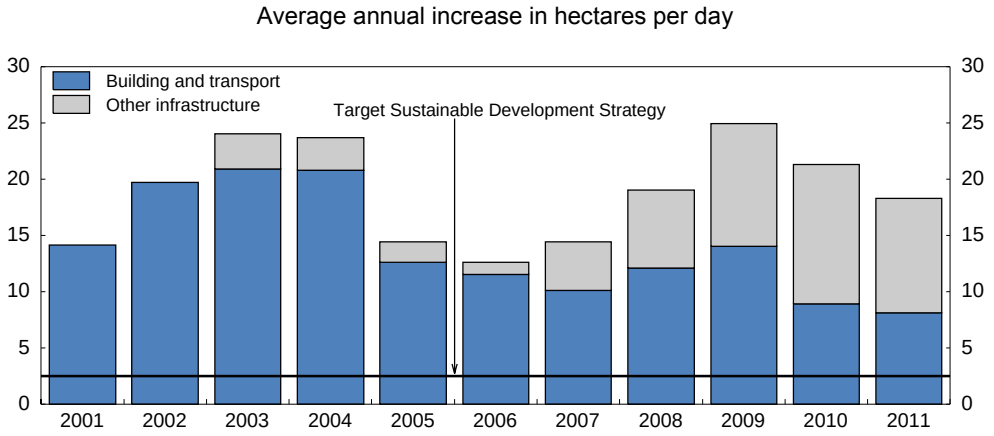
Figure 4. Net internal migration flows

Average 2002-11, per 1000 inhabitants



Source: Statistics Austria.

Figure 5. Land-use changes due to new built-up area are above target



Source: Austrian Federal Office for Metrology and Surveying, (BEV, Bundesamt für Eich- und Vermessungswesen) aggregated by Environment Agency Austria (UBA, Umweltbundesamt).

The population living in rural areas is still high in international comparison, despite declines. Almost half of the population lives in predominantly rural areas compared to an OECD average of 34%.[8] This may partly reflect strong local ties and low residential mobility as described in Röhn et al., (2013), which contribute to local social capital (David et al., 2008). As social capital may entail both private and social benefits, for example through reduced crime rates (OECD, 2011c; Putnam, 2000; Halpern, 2005), this may have increased well-being. Considerable subsidies for the development of rural spaces may have also kept a larger share of the population in rural areas. As a large share of these subsidies are tied to environmental goals, such as organic farming or nature preservation, this may have also improved well-being (see Box 11). However, the population living in rural areas may be associated with environmental pressures of their own, as settlements are more fragmented and the car is the main mode of transportation. Moreover, declining employment opportunities in rural areas and limited access to public transportation may have contributed to the rapid increase in car commuting.

The share of commuters among the employed has increased significantly over the past decades. More than half of the employed live and work in different municipalities today, up from about a quarter in the 1970s (Statistik Austria, 2010). According to the latest comprehensive commuting study conducted in 2001, commuting distances also increased from an average of 11 kilometres in 1971 to 20 kilometres in 2001. About three-quarters of commuters used the car in 2001 (excluding commuting within Vienna) and this share is higher in rural areas (BMVIT, 2012a).

8. Based on the OECD regional classification. The regional typology comprises three classes: predominantly urban, intermediate and predominantly rural. The share of the population living in rural and intermediate areas is 77%.

Box 11. The Austrian concept of rural space and rural development policies

Rural areas are more important in Austria in terms of the share in the total area and population compared to most EU countries. This has historical reasons. Settlers since the late Neolithic have cultivated almost the entire territory from the top of the Alps to the river valleys of the lowlands with little untouched nature. They have thus influenced and shaped a "man-made" landscape in Austria (BMLFUW 2007), which has laid the foundations for today's tourism.

The importance of the preservation of this cultural heritage of a cultivated landscape can be found in a range of government documents. The national *Sustainable Development Strategy* (BMLFUW 2002), for instance, states that the diversity of the various living spaces for nature and man should be preserved through strong regional orientation combined with special efforts to consolidate the rural areas. Local supply should be guaranteed throughout Austria. The strategy highlights that the diversity of living spaces and natural and cultivated landscapes must be preserved as they are the heritage for future generations, they offer space for housing, work and leisure, they create identification with the region. The *Austrian Spatial Development Concept* (ÖREK, 2011b) also includes the development of the rural space as one of their goals.

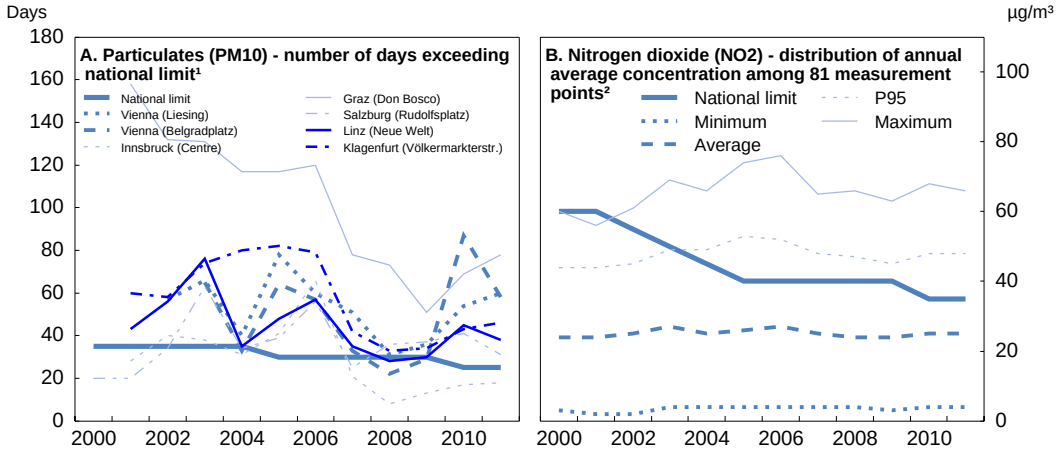
Agricultural policies play a crucial role in the preservation of rural spaces and environmental protection. Agricultural firms mainly operate on a small-scale, partly due to the high share of mountain farmers. This structure hampers international competitiveness but is seen as an advantage to preserve the historical cultivated landscapes (BMLFUW 2002). About 60% of the national agricultural budget was allocated to the development of the rural space in accordance with the second pillar of the common EU agricultural policy. Over the period 2007-13 close to EUR 8 billion (2.6% of GDP) was spent on the development of rural spaces with a bit over half of this amount coming from EU structural funds and the rest from the Austrian budget. According to the Austrian national *Programme for the Development of Rural Spaces* (BMLFUW, 2007), four main goals are pursued: *i)* strengthening the competitiveness of agriculture and forestry (12.5% of total funds); *ii)* environmental protection and rural/landscape conservation (73.4% of total funds); *iii)* quality of life and diversification of the rural economy (6.2% of total funds); and *iv)* the so-called LEADER programme, which, as a bottom-up concept, supports innovative regional projects that implement the three aforementioned goals.

The programme for the development of rural spaces allocates the largest resources towards environmental protection and preservation of landscapes. Under this goal the Austrian programme to promote environmentally friendly, extensive and natural living space preserving agriculture (ÖPUL) is the most important measure, but compensations for disadvantaged regions (mainly mountain farmers) are also significant. In contrast to many other EU countries, where environmental programmes are confined to particular areas, the ÖPUL aims at a country-wide coverage. In 2011, 74% of all agricultural firms covering 89% of the agricultural area received support through this programme. On average, subsidies amounted to EUR 4795 per firm. Partly as a result of these support measures areas with organic farming and natural protection more than doubled between 1995 and 2011. Organic farming now accounts for about a fifth of the agricultural area and areas under environmental protection reached 4% of the total territory, higher than EU averages (Statistik Austria, 2012). Organic farming and environmental protection measures include for example the reduced use of fertilisers, abstinence of certain chemical pesticides and temporary fallowing schemes. These measures benefit biodiversity and improve the quality of soil and water resources.

Looking ahead, it is possible that EU funds for rural development in Austria will be slightly reduced for the period 2014-20. The discussion on national co-financing is still ongoing.

Increased car commuting due to urban sprawl and low residential mobility has coincided with a strong acceleration of road freight traffic, in particular cross-border and transit traffic, owing partly to Austria's high trade intensity and its central location after the fall of the Iron Curtain and EU eastern enlargement. Road and especially freight transport accounts for 60% of NO_X emissions, which remain above national and EU targets. Emissions could be reduced since 2005 thanks to the introduction of vehicle emission standards EURO 4 and EURO 5. The transport sector is also an important emitter of particulate matters (PM10), especially from diesel cars. Emissions increased markedly between 1990 and 2005 but could be reduced thereafter thanks to technical improvements and increased use of particle filters. Despite declining trends, concentrations of particulate matters (PM10), ozone and nitrogen dioxides (NO_2) in several urban areas and along transport routes remain above national limits set by the *Ambient Air Quality Act* and the *Ozone Act* to avoid adverse health effects (Figure 6).

Figure 6. Air pollution



1. The national limit requires that the daily maximum should not exceed 50 µg/m³ more than 35 (until 2004), 30 (until 2009) and 25 (since 2010) days a year to limit health effects.

2. National limit includes margin of tolerance. From 2012 onwards the national limit is 30 µg/m3.

Source: Umweltbundesamt (Environment Agency Austria).

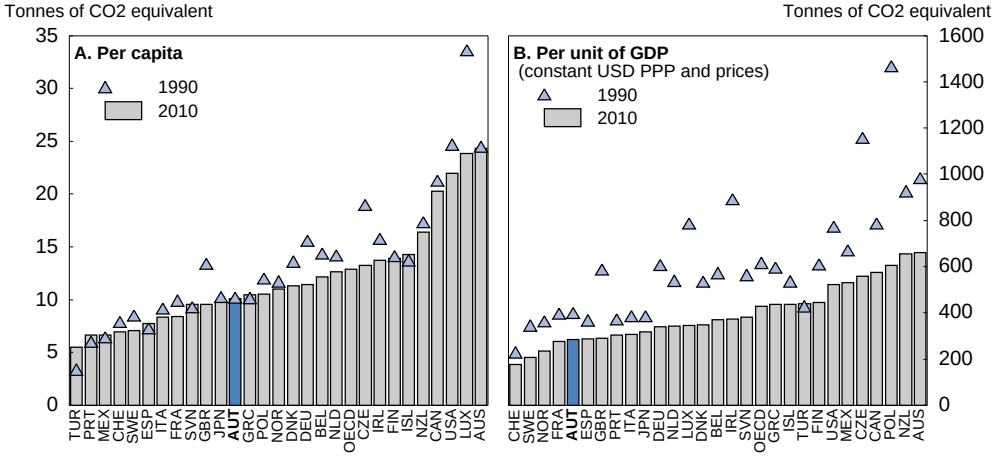
Road transport is also the largest emitter of GHG emissions outside the EU emissions trading system and emissions have increased strongly between 1990 and 2005 (Box 12) partly also due to fuel sales to non-residents owing to lower taxes than in neighbouring countries. Emissions have declined since 2005, but meeting Austria's EU 2020 GHG reduction targets will be difficult without reducing emissions from road transport further. The transport sector is also the main source of noise and the increase in road transport considered the second most pressing environmental concern after climate change in 2007 (Statistik Austria, 2009).

Turning around these environmental trends will require most importantly a more appropriate pricing of the externalities associated with transport and better regional development policies to foster denser settlement that is well connected to public transport. This entails a need to strengthen coordination between different government layers and better integration of regional development with transport and housing policies to foster policy consistency.

Box 12. Austria's climate change achievements and goals

Austria's carbon intensity (per GDP) is relatively low but progress in reducing greenhouse gas (GHG) emissions has been slower than in other OECD countries. Austria is one of the few countries where total GHG emissions in 2011 were still above emissions in 1990 (Figure 7). An absolute decoupling between GHG emissions and GDP growth is only observable since the mid-2000s.

Figure 7. Greenhouse gas emissions



Source: OECD Environment Database; OECD Economic Outlook Database.

Under the Kyoto Protocol and the burden sharing agreement of the EU, Austria was committed to reduce emissions by 13% below 1990 levels by 2008-12. However, greenhouse gas emissions over the period 2008-2011 exceeded the target on average by 22%. Through an extension of the programme to purchase of emission reduction credits under the Clean Development Mechanisms (CDM), Joint Implementation (JI) and Green Investment (GI) schemes of the Kyoto Protocol in 2012, Austria was able to meet its Kyoto obligations for the period 2008-2011. However, the necessary purchases from these schemes were significantly higher than planned in the Austrian Climate Strategy of 2007. The largest share of the emission reductions credits were contracted under the GI scheme, under which the selling country has to invest the proceeds from the sale of the credits in climate mitigation projects with a measurable climate impact in terms of reducing greenhouse gases. The Austrian GI projects were conducted in Latvia, the Czech Republic, Estonia and Bulgaria. Under current emission projections, the contracted emission reduction credits will also likely cover the difference between actual and target emissions in 2012.

For the period 2013-20, the EU-wide goal of cutting GHG emissions by 20% from 1990 levels by 2020 translates into a national reduction target of a 16% by 2020 compared to 2005 for sectors not included in the EU Emission Trading System (ETS) (mainly the transport, residential and agricultural sector). Compared to emissions in 2011, this implies a further reduction requirement of about 5% in the non-ETS sectors by 2020. According to simulations by the national environment agency, measures implemented until February 2010 would not suffice to reduce emissions to meet the EU 2020 target. However, with measures specified in the *Austrian Energy Strategy* and planned policies, which, according to the view of experts, are expected to be implemented and to become effective by 2030, emissions are estimated be reduced by about 18% and hence the EU 2020 could be met (UBA, 2011a).[1] With the increase in fuel taxes in January 2011, one important measure assumed in this second scenario has since been implemented.

Table 4 displays Austria's sectoral emissions compared to selected countries. Per capita emissions from the energy industries are relatively low. This is due to Austria's large share of hydro power in electricity generation and a relatively large share of biomass in heat generation. In contrast, emissions from manufacturing and construction industries, industrial processes and in particular the transport sector are higher than in the other countries. A relatively high share of energy intensive industries in total value added is partly responsible for the higher emissions from manufacturing. Especially energy combustion and process related emissions from the iron and steel industries are significant (13.4% of total GHG emissions). But process related emissions from mineral (mainly cement clinker) products (3.5%) and the chemical industry are also important (0.8%). However, emissions from the latter have significantly declined since 1990.[2]

Differences in emissions between Austria and the other countries are particular pronounced for the transport sector. In 2011, the transport sector was the second largest emitter of GHG with 26% of total emission, slightly behind the industrial sector (from both energy combustion and industrial process) with 30%. Emissions from the energy sector amounted to 17% of total emissions. The increase in emissions from the transport sector since 1990 has also been

significantly larger than in other sectors in Austria and than in transport sectors in the other countries (Table 4). Emissions started to decline since 2005, partly thanks to a range of policy measures such as the promotion of biofuels, the introduction of tax incentives for the purchase of cleaner, low-carbon cars (Normverbrauchsabgabe, NOVA) and the *klima:aktiv mobil initiative* (see main text).

More than 95% of emissions in the transport sector are due to road transport (60% passenger transport and 40% freight transport). While the fuel efficiency of domestic passenger fleet continuously improved since the 1990s and the use of biofuels rose, both effects have been overcompensated by the increase passenger kilometres travelled (Table 5). Road freight traffic also increased markedly since 1990 and the share of rail transport in total domestic freight transport declined from 36% to 31% over the period 1990-2010. However some decoupling of emissions from output, measured in terms of tonne-kilometres, could be observed thanks to efficiency gains (higher capacity utilisation, optimising of transport routes, scope effects) and larger use of biofuels. As discussed in the main text, "fuel exports" play an important role in transport sector emissions. They accounted for about one third of all emissions of the transport sector and strongly increased between the early 1990s and mid-2000s. Excluding emissions due to fuel exports, Austria would have met its national emissions target for the road sector as stipulated in the *Climate Change Act of 2011*, which sets ceilings on sectoral emissions not covered by the EU-ETS. Looking forward, the governments aims to reduce emissions from the transport sector by 6% until 2020 compared to 2010, and by 19% until 2025, after the completion of the modernisation of main rail routes.[3]

Table 4. Sectoral GHG emissions

	Per capita GHG emissions, 2010 (tCO_2.eq/capita)						Percentage change in total emissions 1990-2010					
	AUT	DNK	DEU	NLD	SWE	CHE	**AUT**	DNK	DEU	NLD	SWE	CHE
Total excluding LULUCF[1]	**10.1**	11.3	11.5	12.6	7.1	6.9	**8.2**	-10.5	-24.8	-0.9	-9.0	2.2
Total including LULUCF[1]	**9.7**	10.9	11.7	12.8	3.4	6.8	**18.8**	-18.7	-21.7	-0.9	2.1	8.4
Energy	**7.7**	9.1	9.6	10.7	5.3	5.6	**16.1**	-5.9	-23.4	15.5	-7.9	4.7
Energy industries	**1.7**	4.4	4.3	4.0	1.4	0.5	**3.3**	-8.4	-17.2	26.4	29.0	64.5
Man. industries and construction	**1.9**	0.8	1.4	1.6	1.1	0.8	**22.3**	-18.0	-35.1	-17.4	-15.9	-6.6
Transport	**2.7**	2.4	1.9	2.1	2.2	2.1	**60.0**	22.8	-6.1	32.3	7.5	12.4
Other sectors	**1.4**	1.3	1.8	2.8	0.5	2.2	**-20.9**	-25.3	-29.9	19.7	-61.2	-4.2
Other	**0.0**	0.0	0.0	0.0	0.0	0.0	**31.8**	-10.1	-89.2	-42.2	-78.7	-41.3
Fugitive emissions	**0.1**	0.1	0.1	0.2	0.1	0.0	**66.2**	26.0	-64.4	-4.0	161.2	-47.5
Industrial Processes	**1.3**	0.3	0.9	0.6	0.7	0.5	**5.7**	-23.9	-23.2	-53.0	8.1	9.1
Solvents	**0.0**	0.0	0.0	0.0	0.0	0.0	**-36.1**	-18.1	-57.2	-68.5	-6.4	-54.5
Agriculture	**0.9**	1.7	0.8	1.0	0.8	0.7	**-12.9**	-23.5	-18.9	-26.2	-13.2	-7.3
Waste	**0.2**	0.2	0.1	0.3	0.2	0.1	**-49.7**	-41.4	-71.6	-60.8	-46.0	-38.5

1 LULUCF stands for land-use, land-use change and forestry.

Source: OECD calculations based on data obtained from UNFCCC.

Table 5. GHG emissions from road transport

	Change in emissions 1990-2010	**Share in total emissions 1990**	**Share in total emissions 2010**
Freight transport	113%	5.5	10.9
Light trucks	35%	1.7	2.1
Heavy trucks	147%	3.9	8.8
Passenger transport	37%	11.8	15.0
Diesel cars	397%	1.8	8.2
Petrol cars	-30%	9.6	6.2

Source: Umweltbundesamt (Environment Agency Austria).

1. This scenario assumes average real GDP growth of 2%. With lower GDP growth of 1.5% a non-ETS reduction of 19% is projected.
2. The installation of a catalytic reactor to reduce N_2O emissions in saltpetre production in 2003 is mainly responsible for this drop.
3. These targets exclude emissions from fuel export.

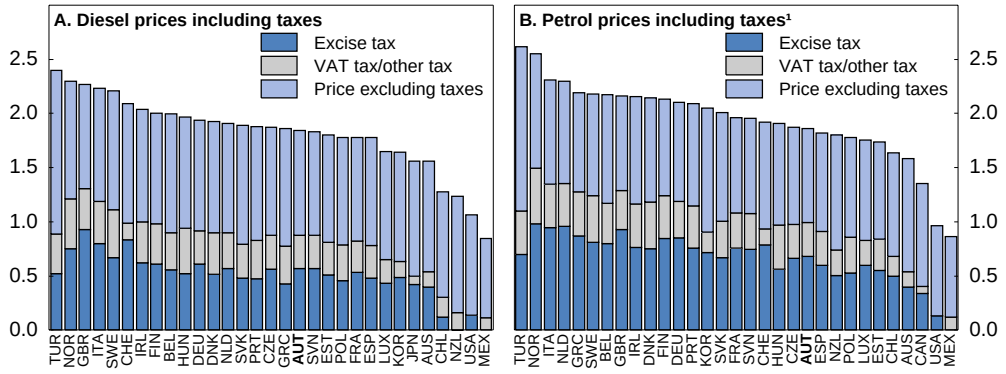
Improving the pricing of road externalities

The government is aware of the environmental pressures arising from the transport sector and has launched a range of initiatives. For instance, *klima:aktiv mobil* is an important part of the cross-sectoral *klima:aktiv* strategy, launched by the Ministry of Environment in 2004, which is embedded in the Austrian federal climate strategy. It primarily aims to introduce and promote climate friendly technologies and services. The *klima:aktiv mobil* module aims to promote climate friendly mobility. It offers several services: *i)* consulting programmes for firms, cities, municipalities and schools on how to environmentally optimise their mobility management and rationalise transport needs; *ii)* subsidies for climate friendly projects such as a change in the car fleet to alternative energies, biking and public transport; *iii)* information campaigns to raise awareness of the benefits of climate friendly mobility; and *iv)* training and certification for example for fuel efficient driving coaches. In addition, the government has recently rolled out its action plan to promote electric cars and, more generally, electricity based transportation (e-mobility). While these initiatives are welcome, their effects are likely to be visible only in the long-term and better pricing of externalities associated with transport would be a more cost-efficient way to reduce externalities. By increasing the costs of car commuting, it would also provide incentives to move closer to the workplace and/or places with better access to public transportation.

Fuel prices remain lower than in neighbouring countries, in particular compared to Germany, Italy and Switzerland, owing both to lower pre-tax prices but also lower excise taxes, despite a tax hike in January 2011 (Figure 8). This has contributed to sizeable "fuel exports", *i.e.* the difference between fuel sold and fuel consumed in Austria. Estimates suggest that "fuel exports" have increased sharply in the early 2000s and now account for about a third of total fuel sales (BMFLUW, 2009). Freight transport accounts for about two thirds of the fuel exports and fuel exports in passenger cars are mainly directed towards Germany. As the CO_2 emissions accounting is based on fuel sales, fuel exports have also contributed to the strong increase of CO_2 emissions and the high CO_2 intensity of the transport sector (Box 12).

Figure 8. Diesel and petrol prices and taxes

Total price (USD per litre), 2012Q4



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Source: IEA Energy Prices and Taxes Database.

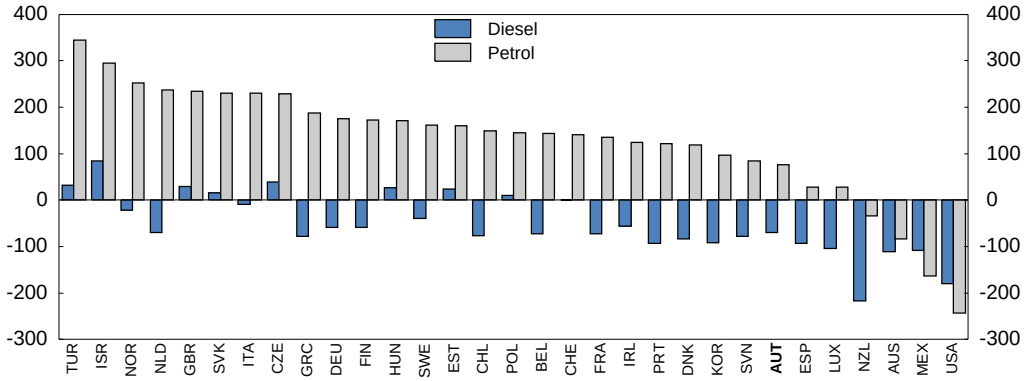
Some emissions are therefore simply diverted from neighbouring countries to Austria; as for example lorry drivers in transit or cross-border traffic use the opportunity to fill-up their tanks. However, there are quite likely additional emissions and congestion as a result of extra trips and detours taken exclusively to exploit fuel price differences. Hausberger and Schwingshackl (2011) estimate that an additional tax

increases by 5 ct/l would reduce local CO_2 emissions by 1% by 2020 and would reduce "fuel exports" by 10%. However, the study does not differentiate between diverted emissions and genuine reductions due to fewer extra trips. It may therefore be useful to conduct studies to improve the understanding of the amount of extra trips. Such a study could also shed more light on the fiscal implication of a tax hike. The government estimates that increasing fuel taxes to match neighbours fuel prices would likely generate extra fuel tax revenues, despite lower fuel exports (BMFLUW, 2009). However, uncertainties surrounding elasticities of fuel exports are large and additional fuel tax revenues could be offset by lost VAT income from non-fuel sales purchased at gas stations. As fuel tax differences compared to eastern neighbours are small, a tax increase may induce extra trips from Austrians to its eastern neighbours. For this reason, Austria should participate in efforts to harmonise fuel taxation at the European level to reduce fuel tourism and assure that each country can price externalities appropriately.

Diesel fuel is taxed at a substantially lower rate than gasoline. Partly as a result, the share of diesel cars in the local fleet has increased sharply. However, local externalities associated with diesel imply higher social costs, mainly owing to more severe pollution, notably through particulate matter (Figure 9). Hence, Austria should increase taxation on diesel fuels above gasoline taxes to better reflect externalities. More generally, a recent OECD publication (OECD, 2013) showed that implicit carbon prices varied substantially across different fuels. This means that carbon mitigation is not pursued at least cost in Austria. The recent abolition of several tax exemptions for fossil-fuels, such as the tax refund for diesel used in agriculture, is welcome in this respect.

Figure 9. Implicit diesel and petrol prices after adjusting for externalities

EUR/tonne of CO_2, 2012Q3



Note: The implicit carbon price for diesel and gasoline is obtained by subtracting the external costs of negative externalities from the carbon price implied by excise tax. The implied carbon price is computed by converting the excise tax per litre to a tax per ton of CO_2 after deducting the estimated cost of a range of externalities associated with burning fuel. The conversion is done based on a CO_2 content of 2.7kg of CO_2 per litre of diesel (light fuel oil for households and industry), and of 2.24kg of CO_2 for petrol (premium unleaded for households). The external cost contains air pollution, noise, accidents and congestion. The estimates are taken from Persson and Song (2010, "The Land Transport Sector: Policy and Performance", OECD Economics Department Working Paper, No. 817, Table 5.9) for noise pollution, accidents and congestion. The cost estimate for air pollution for Germany published in CE DELFT (2008, handbook on Estimation of External Costs in the Transport Sector) is used for all countries.

Source: OECD calculations based on Égert (2011), France's Environmental Policies: Internalising Global and Local Externalities, OECD Economics Department Working Papers 859.

While fuel taxes can address externalities, including congestion, they are not precise and there are therefore gains to using other instruments. In particular, Austria could extend its system of road and congestion pricing. While congestion is less of a problem in Austrian cities than in comparable European metropolitan areas, traffic does lead temporarily to above limit local emissions and capacity constraints in cities and areas around urban centres. Lorries and heavy vehicles (above 3.5t) pay a kilometre based road toll on motorways and expressways differentiated by emission classes. Passenger cars pay a fixed yearly fee independent of the distance travelled. In addition, there are special tolls for certain roads and tunnels

mainly for Alpine passes. The benefits from congestion and road pricing could be further expanded in Austria by extending distance-based prices to passenger cars and by targeting them in time and more geographically. Geographical pricing would take into account that social costs of pollution are likely to be even higher in mountainous areas, where air pollution will frequently be trapped and cause extended exposure (EEA, 2013). Higher user charges at peak hours and in congested areas would give incentives to road users to adapt their daily schedule, spreading the peaks in demand over the day and leading to a more efficient use of road capacity and less demand for infrastructure expansion. Extending road prices in this way should be feasible at relatively low additional costs, as an electronic toll system for trucks is already in place in Austria.[9]

Car use and commuting are subsidised through the tax deductibility of commuting trips and the tax treatment of company cars as a low taxed fringe benefit. Commuting allowances are distance dependent, reducing incentives to locate closer to the workplace, and higher if public transport is not available, reducing incentives to locate in areas well connected to public transport. The tax deductible amount can reach up to EUR 3672 per year for distances beyond 60 kilometres if public transport is considered "unreasonable".[10] Some Länder also additionally subsidise commuting and eligibility for commuting allowances was recently eased for part time workers. Commuters who don't pay income tax are granted a negative tax and as of 2013 the subsidy scheme was supplemented by a direct tax reduction of EUR 1 per km, which reduces the regressivity of the system. Overall, about 19% of all wage earners were entitled to commuting allowances in 2011 and commuting allowances were particularly wide spread in Lower Austria and Burgenland, two Länder with a high share of commuters to Vienna.

Company cars used for private purposes increase the taxable income of the employee by 1.5% of the vehicle acquisition costs, capped at EUR 600 per month. Fuel costs paid for by the company are not subject to a benefits tax above this income cap and the tax treatment is independent of car emission standards. This provides incentives for private company employees to over-use company cars and to drive bigger, more expensive and less fuel efficient cars. The number of company cars rose rapidly over the past decade and about 40% of new cars were company cars in 2011 (VCÖ, 2012). More than 80% of new luxury cars and 70% of SUVs are company cars (UWD, 2012). Recent OECD analysis estimates that the total annual subsidy per company car amounts to EUR 1342 (OECD, 2012e). The scheme is also likely to be regressive, as high income earners disproportionately benefit from company cars. Since 2013, employees using a company car for private purposes are not entitled to commuting allowances any more, which is a welcome step. Removing the distorting effects of car usage subsidies, would strengthen the incentives from pricing road externalities to reduce private transportation.

Higher prices for road transport along with fostering competition in rail transport to reap full cost-efficiency gains may also divert more traffic to the train, in line with government goals. In freight transport the share of rail is slightly above 30%, already high in international comparison. This share is even higher in cross-border freight transport (excluding transit) thanks in part to public investments and subsidies to freight terminals, which facilitate a switch in the transport mode and connections to private railways. Austria aims to increase the overall modal split in freight transport to 40% by 2025 (BMVIT, 2012b) mainly through the modernisation of existing major axes to increase their capacities and new and extended freight terminals. Fostering competition in railway could help to lead to a more cost-efficient service provision and lower prices. The railway market in Austria was formally liberalised in 1998 and according to the Rail Liberalisation Index (IBM, 2011) the degree of market openness is among the highest in the

9. For successful experiences with congestion charges, such as Singapore's Electronic Road Pricing, see OECD (2013b).

10. Public transportation is considered unreasonable if public transportation is available on less than half of the distance between living and work place, the person suffers from a severe walking impairment or public transportation exceeds a certain commuting time threshold.

EU. However, despite progress in recent years, the market share of the incumbent still remains at above 80% in freight and above 90% in passenger transport (IRG, 2013). Open tenders for the provision of transport services under a public contract, could help boost competition.

Better integrating regional, transport and housing policies and improving policy coherence

While better pricing of road externalities can help internalise some of the environmental costs of urban sprawl, namely air pollution, noise and congestion associated with car commuting, other costs such as a loss of natural spaces and biodiversity are harder to quantify and price. In this case regulations may be more appropriate, which calls for improving regional development policies to foster denser settlements around urban cores. Denser settlements favour walking or biking, are a prerequisite for the cost-efficient provision of public transport and would reduce the loss of natural space and biodiversity (OECD, 2012g).

These goals are broadly incorporated in the *Austrian Spatial Development Concept* (ÖREK, 2011b). In addition, the Austrian *Sustainable Development Strategy* of 2002 (BMLFUW, 2002) specifies an annual national upper limit for new built-up areas. Since the adoption of the strategy the cooperation between municipalities on issues concerning the settlement of enterprises has been enhanced. Regional goals for land-use changes have been formulated, housing subsidies (Wohnbauförderung) have been raised for denser building structures, and subsidies paid for land-saving area development (UBA, 2010). Nevertheless, the national target stipulated in the *Sustainable Development Strategy* has never been met (Figure 5). This may be due to a lack of coordination between the federal level and Länder and municipalities, that are mainly responsible for regional planning.

The national regional development strategy should be complemented with instruments to improve coordination between different layers of government. Criteria for priority areas for development could be set out at the federal level, while leaving the responsibility for implementation at lower levels of government. To assure compliance with national targets, regional development plans of lower levels of government could be subject to central government approval as is envisaged in the new national territorial development concept of Luxembourg (see OECD, 2012f).

Better integration of regional planning and transport policies would help to assure that settlements are well connected to public transport. The new comprehensive transport plan (*Gesamtverkehrsplan*, BMVIT, 2012) is an important step in this direction. It presents goals and strategies for an integrated transport policy across all means of transport and decision makers (EU, federal, Länder and municipalities). It also suggests that by 2020 50% of all new construction development areas should be within 500 metres of an existing or planned public transport stop. This should be complemented by improved coordination of spatial and public transportation planning between regional authorities and especially between central cities and the surrounding municipalities. Provision of (regional) public transportation is mainly the responsibility of municipalities and provision is often not well coordinated between municipalities. Public financing of supply is highly complex and fragmented between different levels of the government (Kroissenbrunner, 2012). To improve the coordination of public transportation supply, a federal fund could be established similar to the agglomeration fund in Switzerland. Municipalities could compete for the federal funds, the allocation could be based on rigorous cost-benefit analysis criteria related to sustainable transport and spatial planning goals, and preference be given to projects that improve inter-regional cooperation. Moreover, new transport infrastructure projects should systematically take into account environmental impacts such as the threat to biodiversity through fragmentation of natural habitats. In case such fragmentations are necessary, technical solutions such as green bridges and tunnels for wildlife passing could be considered.

Given strains on public finances, private investment will also be needed to finance public transportation projects. A key priority to scale-up private investment in public transportation projects is to

provide financial tools and risk-sharing mechanisms, to facilitate access to private financing and improve the risk-return profile of public transport infrastructure projects (Ang and Marchal, 2013). Instruments include notably public-private partnerships (PPP), which can be effective procurement methods provided they offer sufficient value for money compared to public procurement. Other innovative instruments include land value capture tools, which provide revenues from the positive externalities generated by transport infrastructure, notably the increase in land and real estate value and economic activity near transport stations. Such tools have been used to finance the renovation of Vienna Central station, by combining the construction of a new section of the train station with the development of about 100 new retailers and businesses in and around the train station as part of the urban re-development programme "Bahnhofsoffensive" (PwC, 2013).

With effective regional development policies in place, other policies can help increase land supply, in particular in urban areas and agglomeration centres, and strengthen incentives to settle in these areas. The price responsiveness of housing supply is particularly low in Austria compared to other OECD countries (Caldera Sánchez and Johansson, 2011). Low supply responsiveness drives up prices in particular in places with abundant employment opportunities providing incentives to live further away from workplaces. A large social and cooperative housing market and rent regulations in the private sector may have improved the affordability of housing for lower income households, but may have also put pressure on expected returns and hence lowered private rental supply. To increase the availability of construction land, some Länder introduced additional instruments into their regional development laws. For example, temporary land zoning (*e.g.* in Lower Austria, Burgenland, Styria) allows land to be re-zoned to its previous status (mainly grassland) without compensating the owner if construction land is not covered with buildings within a given time period. Some Länder also levy special fees for unused construction land (*Infrastrukturabgabe*, *e.g.* in Upper Austria, Salzburg, Styria). Vienna is the only Land which allows for expropriation under relatively strict conditions.

In addition to these measures, housing supply could be increased and land hoarding reduced by updating outdated land values on which property taxes are levied. Property taxes are low in Austria in international comparison. This is mainly due to the outdated land values. In addition, land values do not reflect relative prices of properties in different locations. Low property taxes may have led to land hoarding in expectation of future price increases and hence a reduction in the supply of construction land. In addition, until recently capital gains were untaxed after a speculation period of ten years contributing to land-hoarding incentives. There is evidence that land hoarding forced some Länder to re-zone new previously unused land further away from the urban cores, which may have contributed to urban sprawl (UBA, 2010). Raising currently low property tax revenues by updating land-values could also be growth enhancing, if the revenues are used to reduce more growth detrimental taxes such as labour taxes, as argued in the previous *Economic Survey* (OECD, 2011a). To foster demand for housing in urban areas and agglomeration centres, housing subsidies could be adjusted. Existing housing subsidies already take ecological considerations into account, for example, through a preferential treatment of denser settlements structures. These incentives could be strengthened and extended by differentiating subsidies according to the access of the building to public transport.

To strengthen policy coherence and efficiency, the consistency between different subsidies and other polices related to regional development, transport and housing should be reviewed. Trade-offs between different well-being dimensions exist. Housing policies, such as housing subsidies, rent control and social housing, may have increased the affordability of housing. They may have also reinforced low residential mobility which has contributed to stability of living spaces with positive effects on social connections and local social capital (see above). For instance, a high share of social and cooperative housing in the rental market, widespread rent control and strict tenant protection regulations may act as a transaction cost (Badinger and Url, 2002) as tenants are reluctant to give up acquired rights and below-market rents (Andrews et al., 2011). While low residential mobility does not appear to be associated with strong

regional differences in unemployment rates in Austria, it may increase commuting, which is subsidised as described above. Austria also spends a large amount of subsidies on the development of rural spaces. While a large share of these subsidies are tied to environmental goals, such as organic farming or nature preservation (see Box 11), they may have kept a larger share of the population in rural areas, where settlements are more fragmented and the car is the main mode of transportation. It may therefore be useful to conduct a comprehensive study on the interaction and combined impact of these and other policies on overall well-being.

Box 13. Environmental recommendations

- Price externalities stemming from road transport better. Increase diesel taxes to reflect externalities. Consider extending the road pricing system. Abolish the favourable taxation of company cars and phase out the commuting subsidy.
- Develop instruments to improve coordination between the regional, Länder and federal levels to promote denser settlements well connected to public transport. To increase land supply in designated areas, raise property taxes by updating land values on which they are levied.
- Review the consistency between different subsidies and other polices related to regional development, transport and housing. Conduct a comprehensive study on the interaction and combined impact of these policies on overall well-being.
- Systematically conduct environmental impact assessments for new transport infrastructure projects.

Conclusions

The challenges raised by demographic and environmental trends for the future of Austrian well-being invite policy responses which should take advantage of the synergies between different well-being areas. In areas with trade-offs between well-being dimensions, citizens should be enabled to make free and well-informed choices between these dimensions according to their preferences.

To make retirement decisions in the ageing society open to individual choice, well-being maximising and fiscally sustainable, a fair balance between life-time pension contributions and entitlements should be promoted by drawing on the recent pension reform. With female labour force participation rising, family policies should help reconcile equality of opportunity within families by promoting the availability, affordability and quality of support services. A growing share of immigrant groups with low human capital calls for remedial policies to preserve social cohesion, which requires stepping up efforts to promote human capital formation.

Responding to environmental pressures arising from the rapid expansion of road transportation and urban sprawl, calls for a more adequate pricing of externalities associated with road transport and improved regional development policies. Regional development policies should be better coordinated across government layers, and better integrated with housing and transport policies. Improving the integration of policies on the basis of common evidence and analysis can help promote higher and more balanced well-being.

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