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WIFO White Paper: Towards Higher Employment via Economic Growth Based on Innovation and Qualification

Summary

Karl Aiginger, Gunther Tichy, Ewald Walterskirchen (Project Lead and Coordination)

October 2006

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The pace of economic growth currently projected for Austria will not be strong enough for a reduction of unemployment. Higher growth is and remains the key leverage to raise employment and reduce the number of unemployed. However, for a high-income country oriented towards the European top group and being among the richest in the world a strategy must be designed whereby stronger growth is achieved on the basis of innovation and qualification. Technical progress and higher quality rather than production of larger quantities supported by low wages is the guiding principle. This requires a whole set of measures within a well-designed and consistent reform strategy supported by broad-based social consensus and optimism and underpinned by a long-term financial perspective. In its White Paper "Towards Higher Employment via Economic Growth Based on Innovation and Qualification", WIFO presents such a strategy.

The White Paper is built upon eleven strategic elements, with the focal points being a re-design of the Austrian innovation strategy from a technology taker to a technology supplier and a radical reform of the education and training system. The strategic elements are translated into eight target-oriented "packages" of measures. The overall strategy is to be implemented in three stages, starting with a kick-off period from 2007 to 2009. As from 2015, growth is supposed to be entirely based upon technical progress and quality improvement.

Executive Summary

Origin and purpose of the White Paper

1. In March 2005, WIFO submitted a proposal for a White Paper, in which it would develop a consistent strategy for growth and employment for the Austrian economy, inspired by the experience of the best-performing countries in Europe. Taking up the idea, the social partners commissioned the elaboration of the White Paper to WIFO, which was sponsored by *Oesterreichische Nationalbank* and other public and private institutions. The White Paper is the result of in-depth research, taking on board also contributions from domestic and foreign experts such as from the OECD and the EU as well as from the commissioning institutions. Beyond the intensive consultation and referee process that has taken place, the White Paper

nevertheless expresses the opinion of WIFO and its research staff and not that of the institutions that have commissioned it.

Examples of successful economic policy have shown that unemployment is brought to a sustained decline only in countries where first, economic growth is strong and second, policy follows a consistent long-term strategy, also involving stakeholders and expert knowledge. This goes in particular for European countries with a high initial level of per-capita income and a high-quality social safety net.

Framework conditions render consensus building more difficult

2. By international standards, Austria's economic policy has been successful on many accounts. A major feature has been the high degree of internal consensus which, however, has nowadays become more difficult to find, for several reasons.

On markets shielded from foreign competition it is generally easier to find domestic consensus. Work relations and business cycle conditions were relatively similar across sectors, facilitating a smooth conduct of incomes policy and wage negotiations. The Austrian education system supplied the necessary human capital of high level, but broadly constant over time. The population was largely homogeneous, and in times of full employment such as in the seventies the labour force could be increased by immigrants having the qualifications required. Substantial parts of the utilities infrastructure and the large-scale manufacturing industry were nationalised. Technology could be imported via the subsidiaries of multinational companies. Labour contracts usually extended over an individual's active lifetime. Fiscal, monetary and exchange rate as well as incomes policy could be shaped as considered best from the domestic perspective. Labour costs were about as high or even higher in neighbouring countries, with which the largest parts of goods and services were traded.

Closer external trade linkages of the economy, membership in the European Union, the integration of eastern and south-eastern neighbours into a pan-European economy, the consequences of globalisation and the implications of new technologies have profoundly changed the framework of reference for Austria. Work and family relations have diversified, corporate structures become more mobile, and work processes require new qualifications. Immigration is increasingly determined by non-market factors like wars, search for asylum or family integration, but also by rising income differentials, and is heavily concentrated on populations of low qualification. Austria, with one of the highest income levels in Europe and the world, pays wages that are significantly higher than those of eastern and south-eastern neighbouring countries. In such circumstances the traditional mechanisms are no longer working well, the newly emerging problems calling for new solutions.

The implementation and fine-tuning of the strategy laid out here by WIFO is up to Parliament, the federal government and other policy actors. It is true that policy has to respond to a broader array of goals than boosting growth and employment, even if the latter represent

key determinants of overall welfare. The strategy suggested here intends to prepare the ground for consensus on how to move forward. The White Paper is to serve as a guide for economic policy in general and for the institutions that have initiated its elaboration in particular. Since it presents different options and indeed more lines of action and measures than can actually be adopted, selection and the setting of priorities are essential prerequisites. In any case it would be important that the overriding goal and the strategy lines be widely accepted and implemented in a concerted way. Experience shows measures to produce poor results if the forces behind pull in different directions.

The strategy: growth as a leverage for higher employment

3. The medium-term path of economic growth in Austria, projected at an annual 2.1 percent for the next five years, will not allow unemployment to decline. At best, unemployment may become entrenched at the present, relatively high level.

There is no single measure, not even a combination of a few measures, to reduce unemployment markedly and in a lasting way. Nor can a determined, but short-term policy initiative be recommended, since each measure takes time to become effective and forces pulling in opposite direction will emerge after it has been phased out (e.g., the need for budgetary consolidation). Only a long-term strategy relying on mutually reinforcing elements from many areas of economic policy and supported by broad social consensus has a chance to raise growth and employment on a sustained basis.

4. The key instrument for raising employment is higher economic growth. The latter can be accelerated through

- future-oriented investment, i.e., higher and better-targeted expenditure on research, education and training, infrastructure (strategy elements 1 to 3 of the White Paper),
- structural reform, i.e., a higher degree of competition, flexibility, quality of the public sector (strategy elements 4 to 6),
- emphasis on Austria-specific strengths in technology and services as well as in energy and environmental policy (strategy elements 7 and 8),
- mobilisation of labour reserves from today's informal work arrangements, removal of gender inequalities and from turning the welfare system into a productive force (strategy elements 9 to 11).

Reforms along the lines of these eleven strategy elements should be made internally consistent and balanced from a social point of view. Only then will people be able to recognise the opportunities inherent in such policy, and only then will the different groups affected be ready to give up existing rights and sacrifice vested interests, in view of higher and more sustainable incomes and a sufficient number of jobs to be expected in the future.

It is easier to increase employment than to reduce unemployment. The reasons are that discouraged workers will resume job search as soon as employment prospects turn more favourable, higher growth in an open economy will attract foreign labour, that young people will tend to shorten their study and training periods and old ones defer their retirement. The White Paper estimates the growth threshold beyond which employment starts to rise at 2 percent, and that for unemployment to fall at 2.5 percent. Both thresholds vary with the cycle and policy measures may shift them somewhat; however, both are stylised facts supported by firm evidence and a plausible background.

5. Pursuing a national growth strategy is feasible. Its impact would be greater if growth would strengthen simultaneously across Europe. In this regard it would be important to co-ordinate policy measures for growth and employment at the EU level, to overcome sluggish medium-term growth in Europe, for the eastern and southern neighbouring countries to remain on a swift and smooth path of development, for Austria to take advantage of the opportunities offered by such "neighbourhood globalisation", and that growth remain strong in China and India.

The context: policy in Europe to foster economic growth

6. The EU economy, growing at a medium-term pace of only 2 percent, can draw only limited benefit from global expansion exceeding 4 percent p.a. With initial difficulties related to the introduction of a common currency and the creation of new institutions having been overcome, the current cyclical high, together with measures of consolidation, should lead to a decline in government deficits to an extent that would give new leeway for a pro-active growth-supporting policy stance. This includes stabilising measures in the next business cycle downturn to sustain expectations of private agents and enhance the general acceptance of the European socio-economic model and of the European institutions. Europe-wide investment, reaching from transport infrastructure to new technologies, should be enhanced, European research institutions of excellence be created and existing ones enlarged. The quality of national public finances and also that of the EU budget must be improved, by focussing more on research and education, by giving lower priority to surface-related agricultural support and higher priority to environmental and climate protection. The transfer of certain political responsibilities to the EU and its guiding role should lead to stronger emphasis being given by national authorities to other economic policy areas rather than to a retreat or restraint in economic policy matters. Differences in per-capita income between the EU member states are becoming bigger with enlargement, calling for different national policy responses. Thus, economic performance and, as a consequence, the "optimal" stance of economic policy differs considerably between the European North and the South. This suggests the adequacy of region-specific strategies within a country, but also common action by neighbouring countries in support of growth and employment (in addition to stronger co-ordination of macro-economic policies at the EU level).

The White Paper recommends: a strategy in three stages

7. The White Paper recommends for Austria a three-stage strategy. During the **kick-off stage**, from 2007 to 2008, a two-pronged approach is required. The hardening of unemployment needs to be arrested, notably by bringing more people both at the beginning and towards the end of the working life cycle into gainful employment. Likewise, a low-wage sector can and should be admitted and maintained for a limited period of time, partly in order to transfer work opportunities from the household and the informal sector to the regular economy. While transitional labour markets may make a positive contribution, they should at the same time be linked with offers for further training and the perspective of full-time jobs later on. In parallel, future-oriented investment must be reinforced in order to raise the growth potential. The re-positioning of Austria as a supplier of top quality and high-technology goods and modern services needs to be prepared. Should the cyclical conditions remain favourable, the necessary financial resources ought to be mobilised from a re-allocation of government expenditure, the reform of public administration, savings and cuts in subsidies. Only part of the cyclical revenue "dividend" should be used for the growth strategy, the other part for a reduction of public debt. In case of a cyclical slowdown, the target date for a balanced budget may be postponed, if thereby an improvement in growth perspectives may be achieved.

During the **reform stage** (2009 to 2015), the positioning of Austria within the top quality segment for the production of goods and services must be achieved. The integration of immigrants and their further education must be reinforced. Austria must be attractive for qualified labour, the low-wage sector should be geared towards reduction via the upgrading of qualifications. A quantitative increase in labour supply will not yet be necessary, but should be prepared in time. Full employment may be achieved towards the end of the period at the earliest.

In the **high-tech-stage,** as from around 2015, the rate of labour force participation (and immigration of qualified labour) should be increased by additional measures. Technical progress and the upgrading of qualifications will be the major sources of growth in that period. Austria must be positioned in the upper segment of intermediate technology and in the high-technology area, as well as in the supply of knowledge-based services and problem solutions. Only with such perspective being kept in mind already in the two earlier stages will wrong decisions be avoided.

The White Paper designs: eleven strategy lines for growth and employment

8. The White Paper outlines eleven strategy lines for higher growth and employment. Each of them consists of a large number of single measures. Innovation, education and training as well as the improvement of infrastructure will raise the medium-term growth path, in the short run via demand effects, in the long run through supply side effects and technical progress. The balanced introduction of greater market flexibility and a new open-mindedness towards

competition, coupled with stronger incentives provided through public spending and revenues (the "quality of public finances"), will remove impediments to growth. By reinforcing traditional strengths (in technology and services) and adopting innovative energy and environmental policies, growth will be enhanced and new export opportunities created. The gender strategy, the conversion of informal work into regular jobs and a social system supporting the opportunities offered by the new challenges will boost supply, quality and demand on the labour market.

9. The **innovation strategy (strategy line 1)** provides for an important re-adjustment. The existing innovation system was adequate for Austria's catching-up process and its role as innovation "taker", with the emphasis on imitation and gradual improvement, and with only a few large companies investing substantial funds in research, often within the framework of an overall corporate strategy. Today's position of a high-income country calls for Austria taking a technology frontier position and becoming a technology "setter". Innovation has to dig deeper, embarking on projects of higher risk and targeting niches of the high-tech sector. At the same time, research must play a larger role in companies, notably with small and medium-sized enterprises, start-up firms and services. Companies, universities and government must jointly reinforce their research efforts, improve efficiency and strengthen synergies.

10. The **education and training system (strategy line 2)** has traditionally been designed for work in stable activities, largely geared towards the domestic market and the catching-up process. Employment used to be full-time, often within the same company over the entire active life, with job profiles broadly stable over time and earnings rising steeply with the length of service in the same company.

Social selection should be reduced in the education system and educational careers be made more interchangeable horizontally and vertically. Special support measures should be offered to overcome Individual weaknesses and to achieve excellence with regard to personal strengths. Vocational education should concentrate on modern job profiles and keep open the doors towards higher education. Lifelong learning should become standard practice, and efforts at integration and qualification of immigrants should be strengthened (e.g., possibility to catch up on formal educational achievements, participation in further education activities). Austria must become attractive for well-qualified immigrants, and foreign students should be offered good opportunities for study and work.

11. Gaps in the physical **infrastructure (strategy line 3)** should be closed, notably as regards transportation networks between Austria and the new EU member states. Of ever increasing importance for growth and employment is also the "immaterial" infrastructure (bottleneck management, logistics). The latter, planning services, network optimisation and problem solving play a key role for demand and offer export opportunities towards countries with high and unsatisfied needs for infrastructure. Needs for replacement and repair can and should also be used for improvements in quality.

12. Competition (strategy line 4) promotes innovation, problem solutions and the quality of goods and services. Stronger competition-"mindedness" is conducive to the creation of enterprises and supports the expansion of small firms. Lower administrative cost, one-stop solutions, special research subsidies for small and medium-sized enterprises (SME) and modern competition authorities will lead to stronger job creation in SME. Against the background of international competition for attracting and hosting corporate investment, firms deciding on where to locate or enlarge their headquarters or research departments should find in Austria ample education and training facilities on the secondary, tertiary and university level. The formation of industrial clusters and competence centres should be intensified.

13. Flexibility (strategy line 5) enables firms to respond quickly to new opportunities and challenges and fosters competitiveness. Employees should be refunded the cost of flexibility, through more options likewise, higher earnings or opportunities for further training. Flexibility may enhance job security, while further training raises the probability for a jobholder of keeping his job or finding a new one.

14. The contribution of taxes and government expenditure towards higher growth and employment is summarised under "**quality of the public sector**" **(strategy line 6).** The public sector can use its spending as a tool to support growth and shape taxes and other revenues such as to promote employment and reduce negative external effects. The budgetary room for manoeuvre necessary for growth incentives, but also for the financing of the welfare system, the provisions for the ageing society and for rising health expenditure must be created through re-allocation of current expenditure, efficiency gains and administrative reform. Modern management standards, medium-term budgetary planning and an improved division of tasks between government levels should generate the savings necessary for the funding of higher future-oriented outlays within a given budgetary framework.

15. Austria's outstanding competence in certain **technologies and economic sectors (strategy line 7)** may support growth and employment. In tourism, the growth potential inherent in urban and cultural travel, winter sports and event-oriented short-term holidays should be exploited. "Creative industries" offer considerable opportunities either on their own or in combination with tourism. Co-operation, clusters, counselling and training as well as stronger promotion of research by broadening the concept of innovation may foster the expansion of knowledge-based services. Medical technology, tunnel construction, telematics, environmentally and demographically responsible construction are examples of technologies where Austria enjoys a comparative advantage, besides the areas of environmental technology, new sources of energy and hydropower. This advantage should be used for the solution of domestic problems and for the export of know-how, thereby strengthening growth and employment.

16. Innovation in the areas of **environmental and energy policy (strategy line 8)** may guarantee, with the instruments recommended, the security of energy supply, lead to higher energy efficiency, a reduction of the share of fossile energy sources and of greenhouse gas

emissions, and may create new job opportunities. Austria's strong profile as regards environmental technology, renewable energy sources and environmentally-responsible construction may benefit exports and is in line with Austria's ambition of being a leader in terms of energy efficiency, new energy sources and environmental standards.

17. The **transformation of traditional private household jobs into market jobs (strategy line 9)** will broaden supply and make it more transparent. Economies of scale may thereby be exploited (services can be offered for more than one client), qualifications specified and improved. Services, if carried out outside or in addition to the own family and officially declared, can be made subject to social protection (health and accident insurance, independent entitlement to retirement benefits).

18. The creation of **equal opportunities (strategy line 10)** is not only a claim from the social point of view. Using the female labour potential increases labour supply, economic efficiency and overall economic welfare. Wage discrimination as well as traditional differences in labour force participation and education are not only unjust, but also undermine growth, employment and competitiveness.

19. The **social welfare system (strategy line 11)** guards against risks, while also influencing health, education and motivation of the population. More security leads to higher consumption, more stable investment and greater export capacity. To this end, a system that has been designed for a closed economy with permanent jobs and stable family relation with a single (male) breadwinner and relatively short retirement periods, has to be adjusted to new circumstances. This seems to be somewhat more difficult to achieve in the continental European model than in the Scandinavian model, since it privileges insiders and ties many benefits to regular employment. Since the European socio-economic model seeks to combine efficiency with social safety and environmental goals, it can be turned into a productive force raising the quality of labour, capital and new technologies.

The White Paper explains: growth based on innovation and quality

20. The White Paper outlines a strategy for higher employment through stronger economic growth, aiming for innovation- and quality-based growth. A possible alternative, namely to divide a given number of total working hours for the whole economy by a larger number of persons, is not being recommended. A uniform cut in the statutory working hours via law or social partner agreement would be a defensive strategy likely to exacerbate distributional conflicts. A cut in working hours, accompanied by (partial) cuts in monthly wages would face the resistance of groups which want to see their currently low incomes rising. Besides, a reduction in working hours would, notably in a situation of excess labour supply, lead to gains in productivity rather than employment. Eventually, in the third stage, with the emergence of labour shortages, working hours would have to be increased again. However, refraining from a general and uniform cut in working hours does not exclude a recourse to well-designed, temporary and voluntary forms of reduction in individual working time or its redistribution

(sabbaticals, detachment for training purposes, paternity leave, shorter working hours for men who have so far regularly exceeded the normal working time etc).

In line with Austria's position as a rich country, the growth strategy is based upon innovation and qualification. It does not rest on a low wage level, but outlines an innovation- and quality-oriented strategy. Already now, one-third of economic growth is accounted for by technical progress, and a further one-third by the higher quality of inputs. These factors will gain in importance and the suggested strategy gives them special emphasis.

The White Paper proposes: target-oriented implementation "packages"

21. The eleven strategy lines must be accepted by all economic policy actors and translated into consumption and investment decisions. They have consequences for decisions on labour input, for education and training, and not only for those economically active, but also for those not yet or not any more in the labour force.

For the implementation of the strategies, the White Paper proposes eight "packages". Each package has a clearly-defined goal that is easy to communicate and for the achievement of which measures from several or all strategy elements have to be taken. In this respect, compromises will have to be found, as far as timing and financial resources are concerned. Acquired rights will be given up more easily, if incentives and opportunities of future benefits are being offered in return. A combination of measures towards achieving an identifiable positive goal stand a better chance of being accepted than single measures which benefit one group possibly at the expense of another. The responsibility for each package goes beyond one single ministry or institution. If no key competence exists or a larger number of institutions are concerned, one person or institution should be put in charge with the implementation of the package.

22. The **employment package** is intended to create jobs within short time and insert unemployed people into the labour market, while accepting the development of a low-wage sector for a transitory period. This can be achieved through cuts in social security contribution for low-wage earners, tax deductions for the cost of private services or premia for long-term unemployed when taking up a job. Front-loaded implementation of infrastructure projects (closing of existing gaps) should be planned in anticipation of possible slumps in business activity. The employment package is part of the measures specifically designed for the kick-off stage, along with the stepping-up of forward-looking investment in order to consolidate the economic performance in the medium term.

23. The **demand stimulus package** supposed to counter the weakness of domestic demand in the medium term. It contains a number of benefits for recipients of low incomes and cuts in subsidies for private saving and housing for earners of higher incomes. Specific forms of investment which carry an additional social benefit (positive external effects) will be subsidised through a targeted investment premium: energy conservation, environmental

protection, investment in child care facilities, software, broadband technology, telecom infrastructure, teleworking jobs.

24. The package for a **productivity campaign** shall take Austria onto a path of higher growth and speed up the move from the catching-up strategy to the front position. Measures from the innovation strategy, the transformation of the education system, technology incentives and such deriving from public procurement are clustered here.

25. The **competition package** is designed to enhance flexibility and competition. The potential of small and medium-sized enterprises shall be mobilised to a higher degree. Establishing a company will become easier, less bureaucratic and cheaper. The government takes over (for one year) the social security contributions for the first full-time employee in a newly-founded company. The technological profile of companies shall be sharpened and growth be speeded up. Security and flexibility may become mutually supportive. Transitional labour markets will facilitate switching from education to employment, from full to part-time employment and vice versa; jobs must be secure and the transition phase be limited in time (maximum duration of traineeships for university graduates or limited number per company). The maximum daily working time is to be increased, but not the normal working hours beyond which overtime payments are due.

26. The **qualification campaign** draws together the short- and medium-term reforms of the education and training system. It exploits synergies with the innovation strategy, using and changing the immaterial infrastructure. Co-operation between universities and the corporate sector will be enhanced, with the state providing subsidies for academic research sponsored by third parties. Technologies and high-value-added services will be developed, building upon traditional Austrian strengths, and exported.

27. The **integration package** gears immigration towards higher-qualified labour and jobs, in a forward-looking way. It reinforces integration of immigrants into the formal education system, but also into further education and training and into the political decision process overall. Deficiencies in qualifications of immigrants of the first and second generation are to be avoided or reduced.

28. The **energy and environment package** makes environmental policy a horizontal concern cutting across the whole range of policy instruments. It uses the tax system and other market instruments for a reduction of emissions. Environmental technology, the increase in energy efficiency and the introduction of alternative fuels and energy sources are given greater emphasis in technology policy, benchmarking and public procurement. Austria's favourable position as regards environmental technology and the use of alternative energy sources will be put to the benefit of production, employment and exports.

29. The **services and exports package** designs strategies for successful and promising services. It brings together measures for rural areas, for knowledge-based services and for

top-quality tourism. Exports are to be strengthened, notably towards defined special target countries and at the interface where goods and services exports can be combined.

The White Paper sets itself limits: reform of taxes and government tasks calling for fundamental discussion and analysis

30. The White Paper is based upon comprehensive analysis of different areas of the Austrian economy, drawing on the experience made by countries facing similar challenges. Underlying the summary presented here are 22 substudies, with a total volume close to 2,000 pages. The results of the substudies are supplemented by results from earlier studies by WIFO and other research institutions. Not all proposals are new, many of them have been advanced by the WIFO research staff in their function as policy advisors; many have also come to be conventional wisdom in the sense of often been proposed, accepted in principle, but never or only in part been implemented. The research findings of the substudies have been amended and corrected by internal and external referees, many of them based abroad.

Nevertheless, not all possible areas of economic policy have been fully explored. By intention, the White Paper abstains from submitting a detailed proposal for a comprehensive reform of tax structures and an in-depth analysis of government responsibilities. The next "big tax reform" should be designed on the basis of a thorough analysis of the current tax and contribution system, the relations between the federal state, the *Länder* and the municipalities, and of changing views on the role and responsibilities of government. In this regard, the White Paper only refers to current trends and suggests priorities that have emerged:

- the exoneration of labour from taxes, notably in the low-wage segment,
- the necessity to have external effects increasingly reflected in taxation,
- to strengthen incentives for taking up employment,
- to maintain a contribution from the wealthier population towards financing the social welfare system,
- to keep marginal tax rates as low as possible, where they jeopardise decisions in favour of investment and employment.

The fine-tuning of a reform along the lines of these five principles calls for more detailed analysis and information about cyclical conditions as well the priorities and scope for action on the part of policymakers.

The White Paper requires: financial stability, sustainability, consensus

31. The White Paper outlines the strategy lines from the perspective of creating new jobs and lowering unemployment. These are not the only current economic priorities, let alone the only social ones. The White Paper demonstrates the extent of the need for change caused by the

new trends in technology, the global division of labour and the diversification of individual needs and preferences. It starts from the hypothesis that these changes must by no means always have negative consequences, but that the reaction to them must be carefully planned and accompanied by economic policy action. The White Paper indicates a potential contribution by Austria towards changing the European policy framework, suggesting the use of Austria's influence on European policy. If augmented by a neighbourhood policy, the latter may become somewhat stronger.

32. The White Paper outlines a growth strategy on the basis of innovation and qualification. It proposes strategy lines and recommends their implementation in the form of task-oriented packages. Its purpose is not to invent everything new or to elaborate on all proposals in detail. It nevertheless tries to go beyond the present state in the strategy and the implementation of economic policy, by suggesting more and more profound measures than is presently the case. Special innovative approaches have been laid out in greater detail, others should be understood as options which, in the event, would have to be elaborated in detail. Most measures will become fully effective only through the implementation of the overall strategy or the respective package.

33. Model calculations clearly show that strengthening the pace of growth is not an easy task. On average, spending an additional € 1 billion may boost growth in the *short term* by 0.5 percentage point after five years[1] or by 0.1 percentage point per year. Employment is projected to increase by 14,000 until 2010 assuming higher spending on research and cuts in social security contributions, or by 2,000 to 6,000 in the case of tax cuts. The *long-term* growth effect is estimated at 0.2 percentage point per year for measures in the area of research and education. As for employment, the *long-term* effects amount to less than +10,000 for most measures, but to +17,000 for research spending and +19,000 for measures relating to education.

The model calculations also show that part of the growth effect will manifest itself in a decline of unemployment, another part in an increase in labour supply (higher participation rate). Importantly, one should guard against the notion that for a marked decline in the unemployment rate one would just have to take one or the other measure. The calculations should, however, be taken as rather showing the lower end of the possible range, since they do not take into account qualitative and more sophisticated factors such as an increase in Austria's attractiveness for investors or the creation of a social system conducive to private sector confidence, flexibility and security.

34. The financial implications have been estimated for a number of major proposals. Among the suggestions made for saving expenditure are restrictions in subsidies for private saving and homebuilding, cuts in the single-earner tax allowance, administrative reform and streamlining the budgetary process. On the revenue side, a reform of the real estate, the gift

[1] Deviation after five years from the baseline scenario, i.e., without implementation of the strategy.

and inheritance tax may provide additional budgetary leeway. Many measures (e.g., with regard to the innovation strategies) potentially raise the efficiency of expenditure without implying additional cost.

Overall, the proposals exceed by a wide margin the financial means currently available, considering in particular that from its geographical situation (in the centre of Europe and at the East-West divide) it would not be advisable for Austria to have higher tax and contribution ratios than its competitors with a similarly high per-capita income level and, moreover, to keep these ratios on a slightly falling trend. Options for financing the additional expenditure or the proposed cuts of taxes and social contributions are

- a postponement of the next tax cuts,
- a comprehensive, cost-saving administrative reform,
- re-allocating priorities within the budget,
- additional privatisations (including and in particular on the *Länder* and community level),
- mobilising private funds for research and social concerns.

The current favourable business situation, together with the expectation that Europe can return to stronger medium-term growth, should also yield additional revenues the larger part of which should, however, be used for debt reduction. Eventually, part of the measures – but only part – will be self-financing through stronger growth. Also from that perspective it will be important to reach a political and social consensus on the sustained implementation of the strategy up to the point where the growth effects and its fiscal "dividend" materialises. Such consensus will also reduce economic uncertainty during the implementation period.

35. Creating employment and lowering unemployment by means of an economic policy strategy is not an easy task. Other goals besides economic ones will compete for scarce government resources. Many measures will have little effect if other countries do not strive for higher growth as well. Even more difficult is to reduce the unemployment rate, since jobs newly created will be filled by persons currently out of the labour force (migrants, young people, discouraged jobseekers). Every single measure in isolation will prove less than effective if it is not supplemented by others, or if it is not generally understood and accepted. Confidence, certainty and optimism are at least as important as financial measures and competition. For this reason, the White Paper does not cite any rate of growth or any rate of unemployment which are certain to be achieved. It appears likely, however, that higher employment and higher incomes can be achieved, if the strategy proposed here is implemented over a longer period and on the basis of consensus.

1. A strategy for growth and employment

Investigations on the success of national economic policies have shown that unemployment is in sustained decline only in countries in which first, economic growth is strong and second, which pursue a consistent long-term strategy involving also the social partners and experts and their knowledge. This goes in particular for European countries with a high initial level of income and a well-developed social safety net (in countries where the starting point is low, the catching-up process by itself can generate a strong pace of growth). Austria's economic policy has on many accounts been successful by international standards, having for a long time been characterised by a climate of political and social consensus. For several reasons, such consensus has become more difficult to reach.

On markets shielded from foreign competition it is easier to settle compromises internally. Working conditions and the cyclical pattern were relatively similar across sectors, facilitating wage negotiations and the conduct of incomes policy. The Austrian education system managed to provide school leavers with the necessary qualifications of comparatively high level, but broadly constant over time. The population was largely homogeneous, and in times of full employment such as in the seventies, the labour force could be increased by immigrants having the qualifications required. Substantial parts of the utilities infrastructure and the large-scale manufacturing industry were nationalised. Technology could be imported via the subsidiaries of multinational companies. Labour contracts usually extended over an individual's active lifetime. Fiscal, monetary and exchange rate as well as incomes policy could be shaped as considered best from the domestic perspective. Labour costs were about as high or even higher in neighbouring countries, with which the largest parts of goods and services were traded.

Closer external trade and investment linkages of the economy, membership in the European Union, the integration of eastern and south-eastern neighbours into an all-European economy, the consequences of globalisation and the implications of new technologies have profoundly changed the framework of reference for Austria. Work and family relations have diversified, corporate structures become more mobile, and work processes require new qualifications. Immigration is increasingly determined by non-market factors like wars, the search for asylum or family integration, but also by rising income differentials, and is heavily concentrated on populations of low qualification. Austria, with one of the highest income levels in Europe and the world, pays wages that are significantly higher than those of eastern and south-eastern neighbouring countries. In such circumstances the traditional mechanisms are no longer working well, the newly emerging problems calling for new solutions.

In March 2005, WIFO submitted a proposal for a White Paper, in which it would develop a consistent strategy for growth and employment, inspired by the experience of the best-performing countries in Europe, and which could form the basis for a new social consensus. Taking up the idea, the social partners entrusted WIFO with the elaboration of a strategy for higher employment in Austria. The project has been sponsored by *Oesterreichische Nationalbank* and other public and private institutions. In the process of drafting and

discussing the strategy, representatives from the commissioning institutions, but also from the Austrian scientific community as well as foreign-based experts such as from the OECD and the EU, were invited to workshops.

The White Paper is the result of this in-depth research, taking on board the contributions from research as well as from the commissioning institutions. Beyond the intensive consultation and referee process that has taken place, the White Paper nevertheless expresses the opinion of WIFO and its research staff and not that of the institutions that have commissioned it.

The implementation and fine-tuning of the strategy is up to Parliament, the federal government and other policy actors. It is true that policy has to respond to a broader array of goals than boosting growth and employment, even if the latter represent key determinants of overall welfare. WIFO hopes that the strategy suggested here may prepare the ground for consensus on how to move forward in a spirit of co-operation. The White Paper is to serve as a guide for economic policy in general, and for the institutions that have initiated its elaboration in particular. Since it presents different options and indeed more lines of action and measures than can actually be adopted, selection and the setting of priorities are essential prerequisites. In any case it would be important that the overriding goal and the strategy lines be widely accepted and implemented in a concerted way. Experience shows measures to produce poor results if the forces behind pull in different directions.

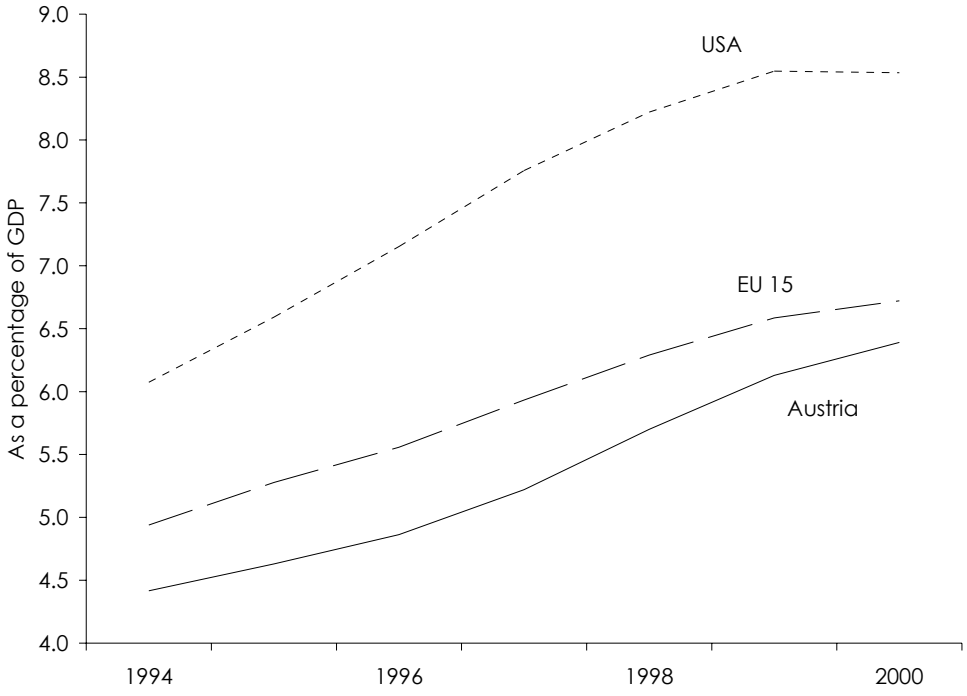
This summary of the White Paper brings together the results from 22 substudies. Chapters 2 and 3 highlight the changes in the global economic framework and Austria's position under these new conditions. The White paper proposes to raise employment in Austria by means of an innovation-and quality-based growth strategy. Implementation is to take place in three stages: a *kick-off stage*, in which the entrenchment of unemployment should be avoided and the course of future action be defined; a *reform stage*, where the high-technology sector and the quality of services are to be strengthened and where unemployment should be brought to a steady, if gradual decline; and finally a *high-tech stage*, where the Austrian economy should be firmly positioned in the high-technology and high-quality services domain, and where action will be taken to counter the effects of the ageing society and of falling labour supply (Chapter 4). The strategy for growth and employment contains eleven strategy elements which raise the path of medium-term growth, improve the adjustment of supply and jobs to rapidly changing external conditions, reinforce existing strengths and open new areas for economic activity (Chapter 5).

The White Paper proposes implementation in the form of eight "packages", each of which will combine and co-ordinate measures from the eleven strategy areas (Chapter 6). Following a short summary of the substudies (Chapter 7), calculations for the impact of part of the suggested strategy will be presented. They suggest that (i) accelerating the pace of growth and lowering unemployment will not be easy tasks, (ii) the strategy must be pursued in a sustained way over a long period, and (iii) only the synergies between the measures taken will be able to actually raise growth and employment (Chapter 8).

2. The new external environment in the early 21st century

The economic, social and political framework conditions are subject to permanent change. The latter has accelerated over the last two decades and it is likely that the higher momentum will be maintained. But there are also new and a higher number of options and possibilities for action. On balance, these changes are for the better, but they always generate winners and losers and there are persons, branches, institutions or countries which cannot keep pace with these changes.

Figure 1: Information technology gaining ground
ICT expenditure as a percentage of GDP; moving five-year averages



Source: EITO. – Note: 1990 to 2004; smoothed to a high degree because of ICT "bubble". Actual values 2004: USA: 7.7 percent, EU 15: 6.4, Austria: 6.4 percent.

2.1 Technical progress accelerates structural change

The development of new technologies, new materials and products changes production, consumption, communication and ways of organisation. Information technology, biotechnology, nanotechnology are "general technologies" insofar as they bring about change not only in specific branches, but across the whole range of production, consumption and social relations. Their introduction transforms the workplace, raising

demand for qualified and lowering it for unqualified labour. The application of new technologies gives an advantage to firms, institutions and persons ready to take them up (skill bias) and creates a broad array of attractive jobs, goods and services. Although the pace of today's change is difficult to compare with that of earlier periods of major technological revolution as a consequence of pioneering innovation (railway, electricity), it is beyond doubt that this change is profound and affects many areas of life.

2.2 Information technology revolutionising the organisation of companies and government

Partly as a consequence of technology, but probably also independent from it, the organisation of firms is subject to change. Companies become more international in scope, stages of production are increasingly separated (vertical breakdown), operational tasks outsourced and commodities and inputs purchased worldwide. Professional requirements change, often towards greater specialisation, but at the same time also towards a more general and integrated approach. The ability to communicate, the acquisition of a broader view, problem solving capacity and social competencies (i.e., the ability to work in a team) are becoming increasingly important. Hierarchies are becoming less steep, but income differentials within firms often wider. Geographical mobility is gaining importance. Firms operate on an international or even global scale, while focussing on narrower product markets. Firm size and firm concentration are increasing due to mergers and acquisitions, in particular in manufacturing industry, but also in network industries and increasingly also in the service sector, conferring market power and leading to stronger lobbying activity. With the increasing role of capital market financing, the quest for short-term profit maximisation becomes more widespread. Production more and more relies on supply of inputs from national and international channels. New firms and additional jobs are being created predominantly in the service sector. The establishment of new firms and the rise of small companies to medium and eventually large size are the sources of new dynamism. In many large companies, employment is in decline in the big-size factories, even if the latter remain important in terms of technology and as a hub for regional clusters and for the supply of inputs[2]. Headquarters of multinational companies and their satellites of high-quality services (including research centres) are becoming increasingly mobile and play a decisive role for the attractiveness of business locations.

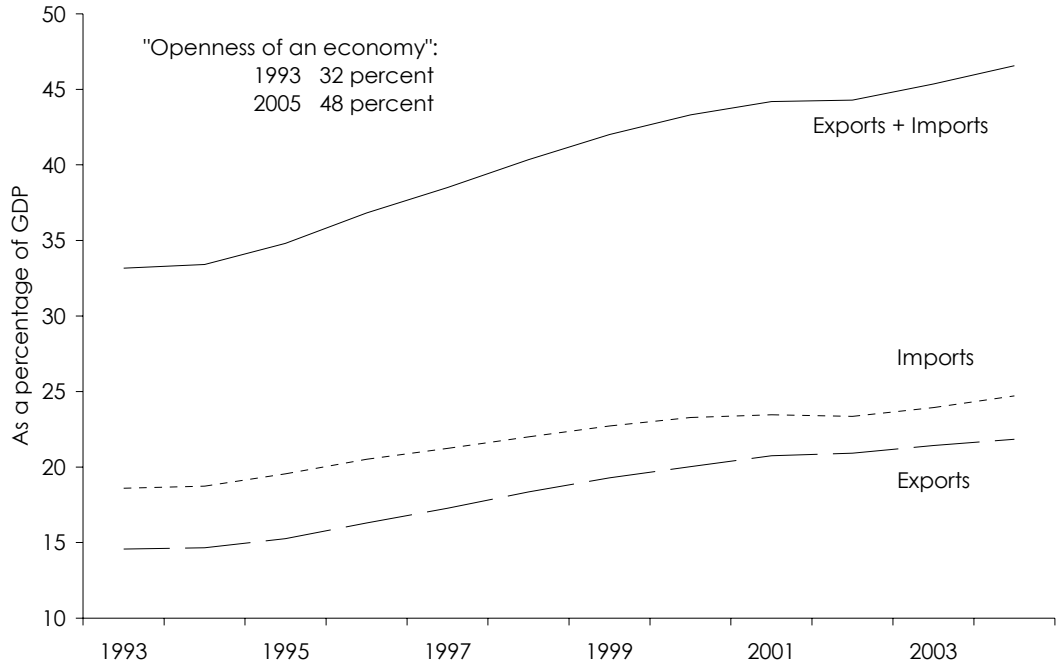
Information technology revolutionises also the public sector. Relations between government and the citizen may be put on an electronic basis, facilitating tax payment, the registration of firms and the granting of government authorisation. Routine operations no longer need

[2] As a consequence of the outsourcing of tasks, larger companies will increasingly concentrate on their core business, leading to the spreading of flexible, virtual small firms supplying project-related goods and services to established companies. In this way also, networks for the exchange of human capital will be created, governing the relations between the two types of companies (*Bock-Schappelwein, 2005*).

tedious repetition, e-card and electronics drive forward rationalisation in the health sector, one-stop solutions become feasible and distances are being crossed more easily. Education and training at the highest level and in great variety can be supplied, consumed and monitored across countries and regions.

Figure 2: New dimensions of European integration

Share of Austrian exports to and imports from EU 15 in GDP; moving three-year averages



Source: WIFO-data base.

2.3 European integration reaching new dimensions

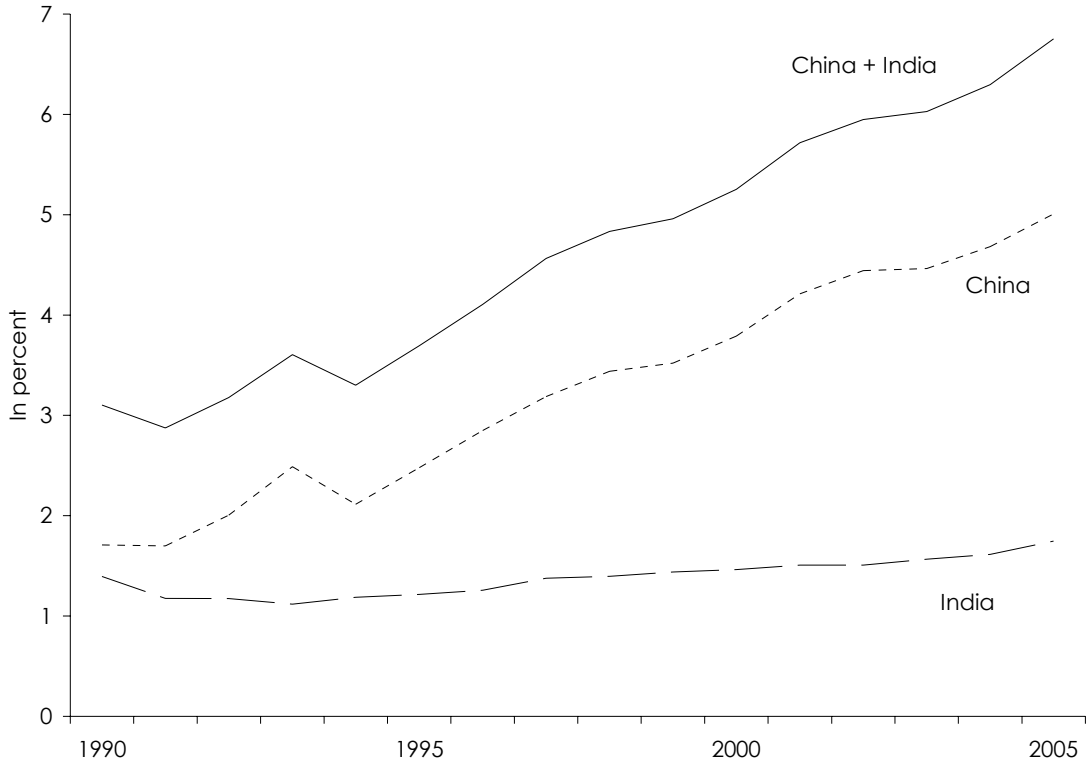
The number of EU member states has nearly doubled in the last ten years. The process of European integration will in the future involve even more countries, especially if one includes those countries which conclude free trade agreements or special integration-like agreements with the EU. This is bound to increase differences in income, economic structure and socio-economic systems within Europe. Integration is also reaching out to ever new areas, whereby the legal framework is changed as a first step before, with a certain time lag, the freedom of movement of goods, services, capital and persons is actually made use of to a rising degree.

The process of liberalisation is almost complete as far as the exchange of goods is concerned and it is gaining ground in the area of services. Regulations for financial aid, the acquisition of companies, competition, financing, balance sheet drafting or education are being strengthened, and the mobility of labour is rising de jure and de facto. Regions – both within national boundaries and large ones extending beyond national frontiers (Scandinavia,

Southwest Europe, Southeast Europe – are becoming more important, taking over from the national governments part of the responsibility for economic policy.

Figure 3: China and India doubling their world market share

China's and India's share in nominal world GDP in percent



Source: IMF, Oxford Economic Forecast.

Economic growth is higher in the new member states than in Western Europe, the economy of the whole of Europe including neighbours of the present EU (Southeast Europe, Turkey, Ukraine) is growing at a similar pace as the US. The income gap between these neighbours and the early EU Members is about as huge as that between the USA and Mexico. A positive consequence is the stronger growth momentum generated by the catching-up process, which as far as the "new neighbours" are concerned, offers incentives and opportunities for the present EU, although the substantial differences in wages, economic framework conditions and behavioural patterns may also give rise to tensions.

2.4 Globalisation deepening division of labour worldwide

The horizon for decisions on production, choice of location, the origin of inputs, consumer goods and machinery is becoming wider, as is the range of destinations and countries of origin in tourism. In essence, the spatial dimension for corporate decisions is changing. If this

process of internationalisation goes beyond the regional sphere, we speak about globalisation, with no clear borderline existing between "wider integration" (e.g., Europe with the successor states of the former Soviet Union) and worldwide globalisation.

The discussion about globalisation is nowadays often taking place under the impression of the historical catching-up process of China and India. The Chinese economy has been growing by a spectacular 68 percent cumulated over the last six years (by 9.0 percent p.a. between 2001 and 2006), the Indian economy by 48 percent (6.7 percent p.a.). China runs a high current account surplus vis-à-vis the rest of Asia, but also with Europe, and is becoming a competitor not only for labour-intensive products, but for all goods yielding benefits in mass production and with low transport cost sensitivity, and increasingly also for intermediate technology goods. Nevertheless, the level of per-capita income in 2005 was only 5 percent of that in Austria, on the basis of current exchange rates – but 20 percent when adjusted for the difference in purchasing power.

The development is heavily unbalanced, and there are severe problems as far as environmental protection and energy supply are concerned. In the long run, the catching-up process of China and India will not prove harmful for Europe, since strong demand from China will give impetus to global economic activity and thereby also to European exports, leading rather to a narrowing of the bilateral trade deficit. Other world zones, too (e.g., the Arab states, South America), with the exception of parts of Africa, are currently enjoying stronger economic growth than Europe, thus providing incentives for activity in Europe.

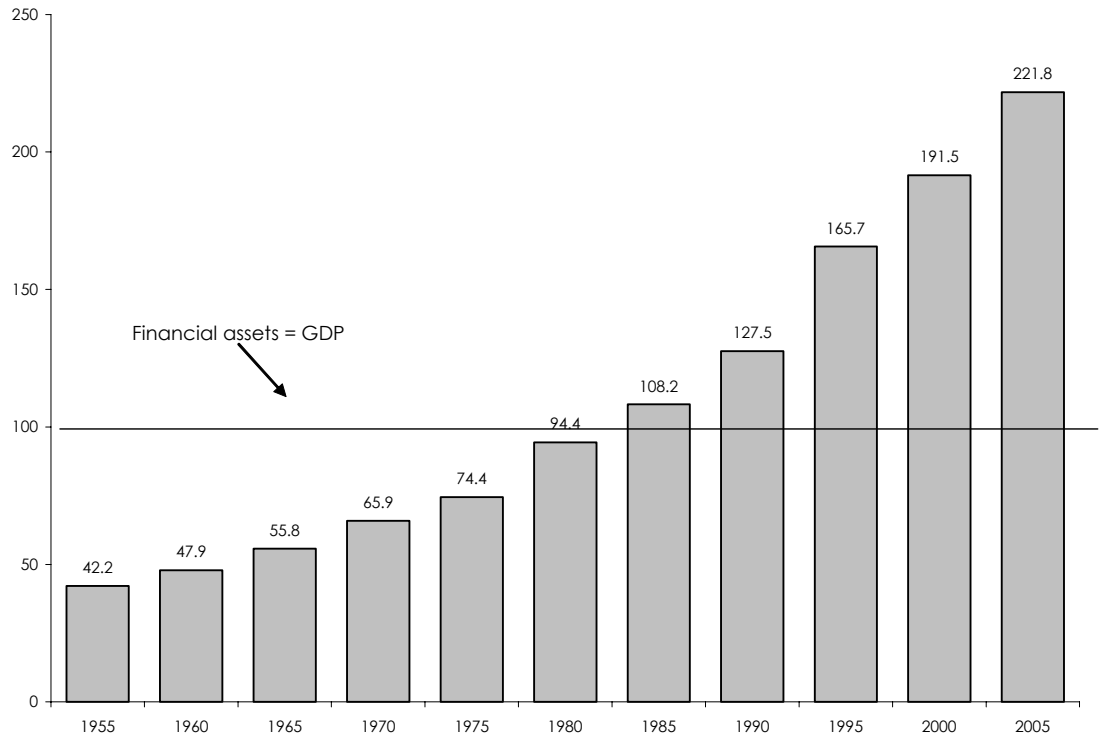
2.5 Growing income differentials and wealth

Decades of economic prosperity have led to a strong increase in the accumulated wealth of households in relation to annual income. This change conveys individual security, favours older age groups over younger ones, increases the scope for longer-term investment (be it in real or financial capital) and allows widely different investment strategies to be pursued. However, the wealth accumulated by many private households and firms exceeds the reserves warranted by the safety motive and may reinforce volatility on financial markets. The corporate sector shows a trend increase in the equity capital ratio and in capital market financing. The level of financial assets, the global market and new financial instruments offer investment strategies and decisions of many different kinds. They include the purchase of companies, acquisitions of financial stakes, diversification, financial transactions of hedging, but also of speculative nature, as well as the buy-back of own shares. New financial investors and intermediaries raise efficiency, widen the range of options and opportunities, but may also heighten instability and reduce the scope of action for policy at the national level.

In most countries, the individual distribution of income has become more unequal during the last two decades. Yet, one would expect that in affluent societies which over decades have pursued the goal of equity of life chances and have strived for equal opportunities in education and training independent from gender and social origin, qualifications and as a

consequence individual incomes would become more equal. The widening gap between high and low incomes comes into conflict with the principles of performance-oriented pay and solidarity, while also dampening overall demand (consumption), notably in periods of spare capacity of output. Nevertheless, a massive increase for the low incomes holds the danger of generating higher unemployment among the low-qualified. The even larger differences in the distribution of wealth as compared with incomes keep large parts of the population from enjoying the higher security that should come with rising wealth.

Figure 4: Wealth rising in relation to current income
Ratio between financial wealth and GDP in Austria



Source: WIFO calculations, OeNB. – Wealth: private financial assets of non-financial enterprises and households. Current income: nominal GDP.

The distribution of personal wealth by size, age, type of assets and purpose of formation is one of the items least investigated by research. This is a default, given that the stocks are rising markedly as compared with current income, largely reflecting the peace and prosperity sustained over decades.

The rising importance of wealth is only one element of change in the distribution of risk. Higher incomes and wealth give more options for their diversification. Large companies in particular are able to diversify by region or by product. Financial markets call for relatively stable

dividends and share prices. This can be achieved, apart from the diversification referred to, by making inputs more flexible. Commodities and intermediate goods are purchased from different countries, technologies and machinery become more flexible, and labour is being transformed from a fixed cost factor into a flexible input. In this way, part of the heightened risks in global markets is being transferred to workers and employees. Companies being aware of their social responsibility and enjoying economic success in the longer run take these changes into account in defining their strategies, as do high-quality economic and social systems at the macro level.

2.6 Production and consumption becoming more heterogeneous

A feature of developments over the past decades is the trends towards greater heterogeneity: production technologies, qualifications, working hours, the design of contracts, consumer wants and preferences have all become more and more differentiated. This is partly the consequence of the secular increase in incomes and higher income differentials, partly the result of internationalisation and globalisation and partly caused by new technologies (ICT, biotechnology). The increasing heterogeneity of consumer preferences drives in turn a greater variation in the goods and services supplied. It often implies deviation from traditional conventions and rules and may give rise to heightened uncertainty if economic agents do not learn how to deal with it. Policy must provide a regulatory framework that acknowledges this differentiation and in some instances mitigates its effects.

Heterogeneity in production manifests itself in the co-existence between high-tech production requiring specialists with top qualifications and simple routine activities like in some service branches. Heterogeneity of demand calls for a greater supply variety and welcomes product innovation.

The income differentials between the top- and the low-qualified are rising, and probably also the differences in qualification levels (and not only the demand differential between the two categories). The qualification differential widens partly as a result of deficits in the integration of immigrants.

Labour contracts deviate increasingly from the standard pattern, e.g., as regards working hours, tasks required, fringe benefits or constraints.

2.7 The traditional family model is losing importance

The classic family model of a durable partnership with often gender-defined roles in work, education and care is losing importance. The single (male) breadwinner model is becoming the exception to the rule, with partial activity, part-time work and task-specific contracts becoming more widespread. Partner relations are becoming more fragile, biographies less linear and family patterns more varied. Single-person households and single-earner households on the one hand and double- or multiple-earner households on the other are

gaining importance. Professional requirements are changing, geographical mobility is rising and so are new job arrangements like part-time and fixed-term work or flexible switches between self-employment and dependent employment. The continental welfare model based on earned income and geared primarily towards stable work and partner relations is challenged in a particular way. The linkage of social safety to a sustained professional activity of at least one partner is no longer adequate given the speed of change and the variety of individual preferences and does not sufficiently integrate the new ones and the outsiders. Renouncing to own children is often, but not in all countries, the solution giving both partners the possibility of a professional career.

2.8 Structural change creates feeling of insecurity

The structural change of the last two decades has in many ways created the feeling of insecurity among the population. In the catching-up period of primarily quantitative growth people got used to the notion that jobs were safe and structural change implied almost always an improvement from the status quo. It was considered a matter of course that each generation would enjoy markedly higher incomes than the previous one.

Perhaps starting with the oil crisis of the mid-seventies that notion has become uncertain. The slowdown of growth with the end of the catching-up process (Europe vis-à-vis the USA) has set limits to the generally high-flying expectations: incomes have not always and not for everybody kept pace with strongly rising consumer demands, financing problems of government budgets and high public debt limited the expansion of social welfare, and slower economic growth accompanied by unabated or accelerating technical progress led to the shedding of labour.

In addition, competition from countries in transition and the former communist block increased, as did immigration. The latter not only made for higher pressure on labour markets; the opening of the borders also aroused fears about imported crime, allowing people to blame external influences for home-made problems. Terrorist groups sought, not without success, to use the feeling of insecurity for de-stabilisation, which was amplified by clumsy reactions from policy and media.

The widespread feeling of insecurity is problematic mainly because it reinforces a tendency to cling to vested interests, thereby inhibiting reforms and positive reactions towards seizing the new opportunities.

2.9 Work relations becoming more differentiated

The work process is undergoing profound structural change in more than one respect. Labour demand is shifting from manufacturing towards the service sector which already accounts for three out of four employees, with the trend heading further up. The service sector includes on the one hand modern business services with high qualification requirements (information

technology, planning, medical services, counselling), and simple tasks with relatively low pay (care, cleaning, ancillary services), on the other. New service jobs are being created at the interface between the market and the state (outsourcing of government responsibilities and institutions, regulation, NGOs, NPOs) or between gainful employment and unpaid activities (or the grey market). The implementation of new information technologies is supporting these trends, without being the only cause.

The number of jobs one may carry out over the whole active lifetime, often with the same employer, is becoming smaller. Further training and the maintenance of employability are of increasing importance. Non-regular forms of dependent employment, like part-time jobs, fixed-term contracts, mini-jobs and personnel leasing are spreading. At the same time, self-employment is gaining ground in new forms offering a high degree of flexibility in working time, such as task-specific or "free" service contracts. Many of these new work arrangements are not covered by social protection. New work relations are taking shape also at the top end of the range of qualifications, for individualised, highly flexible and specialised activities such as consulting. Some of them are exerted on top of a regular job or subsequent thereto, some as entry to the labour market after the completion of formal education.

The demand for labour is shifting from standardised qualifications towards polyvalent competences and skills. Knowledge from experience is becoming more important, but also social competences, management skills and the capacity to solve problems and conflicts. It can already be observed that the trend is turning away from often life-long work contracts with narrowly defined tasks, working time and position in a hierarchy (including promotion). The trend away from manufacturing and towards service jobs calls for greater flexibility in working time, in job content as well as in the place of work. This development, driven from the side of employers, may partly meet also the interests of employees in greater flexibility with regard to daily and weekly working hours and holiday planning, although individual preferences concerning overtime or shorter working hours may vary over the life cycle with the specific partnership or family situation or with age. Moreover, the preferences of employers and employees will not necessarily go into the same direction.

These developments call for the readiness of all employees to accept changes, while offering them the opportunity to make use of the variety of options according to their own individual preferences. The new variety implies that traditional career patterns and current provisions of social protection are no longer sufficient, but requires a higher amount of personal initiative and new social welfare arrangements. The advantages of the new work organisation are not distributed evenly: the better qualified may use them more easily, whereas lower qualified and groups exposed to higher risks may actually be worse off than before.

These changes interrupt the linear sequence of formal education followed by full employment until retirement. In the future it will be more common to acquire job experience in parallel to the study period and to interrupt professional careers more frequently, for reasons of education, leisure, job search or family. Transition into retirement will become

fluent. While fixed-term contracts and changes of jobs in the phase of entry to the labour market may reflect a search process in mutual interest, such arrangements may be less voluntary and symmetrical in the prime age brackets of active life (with the exception of child care periods).

2.10 Migration holding back population ageing, without preventing it

The ageing of the population is a worldwide phenomenon. It affects Europe to an above-average degree, both the old and the new member states. In 2050 for the first time, the share of people 60 years of age and above in the total world population will be higher than the share of young people (below 15 years). In the more advanced regions, the balance between young and old people has turned around already in 1998 (*United Nations*, 2001).

Ageing is a pervasive phenomenon, with repercussions on economic growth, private saving, investment, consumption and labour markets. Without accompanying comprehensive measures, a higher share of older people in the labour force is likely to dampen productivity growth and technical progress (*Kramer,* 2003). Ageing puts strain on social retirement and healthcare systems, changes the volume of tax revenues and of transfer payments, influences family relations, the time perspective of inheritance and the planning of personal life at large. Ageing also has an impact on the demand for housing and on migration. The trend, which is determined by a declining number of children per household and lower mortality, is irreversible. The decline of population in Europe may be mitigated or postponed by resorting to migration, while fertility can be boosted to some extent via an increase in family transfers or child care facilities[3]. Both options will not be able to turn around the trend increase in the average age of the population, but may succeed in slowing it down[4].

In 2050, the European population will be somewhat smaller and significantly older than today. The number of births per household is markedly below the reproduction rate. Average life expectancy is set to increase by a further six years. According to current EU projections, the decline in the overall population between 2004 and 2050 will remain limited, since net immigration will almost completely offset the decline in birth rates[5]. However, the population of working age will start declining as from 2010[6].

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[3] The fertility rate is projected to increase from 1.53 to 1.62 children per woman for the EU as a whole, and from 1.40 to 1.45 for Austria.

[4] The profile of population ageing is different in the highly developed countries where one-fifth of the population is of age 60 and above, from the less developed ones where this share is only 8 percent. The "demographic burden" coefficient which shows how many people of working age have to "support" one older person has fallen from 12 in 1950 to 8 persons in 2000 and is projected to go down to 4 by 2050 (*Vereinte Nationen*, 2001).

[5] The European population will fall by 4 million to a total 454 million, i.e., by less than 1 percent EU, Special Report, 1/2006). Net immigration amounts to 40 million persons (0.3 percent p.a., abating from 0.4 percent to 0.2 percent p.a. over the projection period). For Germany, the decline is expected at 5 percent (–10 percent for the population of working age). A negative trend is also projected for Portugal, Italy and Greece. These projections are based upon status-quo conditions: they neither include policy reactions in the areas of innovation, education, structural change,

The increase in the labour force participation ratio will be able to compensate the decline in the working-age population in the EU until 2017; thereafter, the ageing factor will dominate the trend rise in labour force participation. Three periods may therefore be distinguished:

- In the first period up to 2011, the demographic factor and rising labour force participation will support economic growth; strong growth is necessary in order to reduce or at least stabilise unemployment.
- Between 2011 and 2017, while the population of working age will already decline, the labour force will still grow due to higher participation rates and the extension of working life; discrepancies may grow between qualification profiles of labour supply and demand.
- As from 2017, population as well as labour force will decline, leading to slower growth, but nevertheless to lower unemployment.

The EU therefore sees the first period as a "window of opportunity for structural reform"[7]. On the basis of this trend and an exogenous assumption about the pace of technical progress, the EU projections arrive at the conclusion that potential growth will abate from currently 2.2 percent p.a. (2004 to 2010) to 1.8 percent p.a. (2011 to 2030) and further to 0.9 percent p.a. (2031 to 2050). The implicit budgetary burden in the form of age-related expenditure (retirement benefits, health and nursing care) is estimated at an additional 4 percent of GDP for the EU 15[8].

2.11 Climate change and resource bottlenecks forcing policy to react

Production and consumption patterns in the industrialised economies, but increasingly also in transition and developing countries, are proving resource-intensive and not environmentally sustainable. Ecological and energy issues are becoming major challenges for economic policy and society. Strong growth of the world economy, urbanisation also in Europe and prevailing forms of production and consumption draw the public attention to global climate

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new forms of labour organisation and immigration, nor the catching-up process in the enlargement and neighbouring countries.

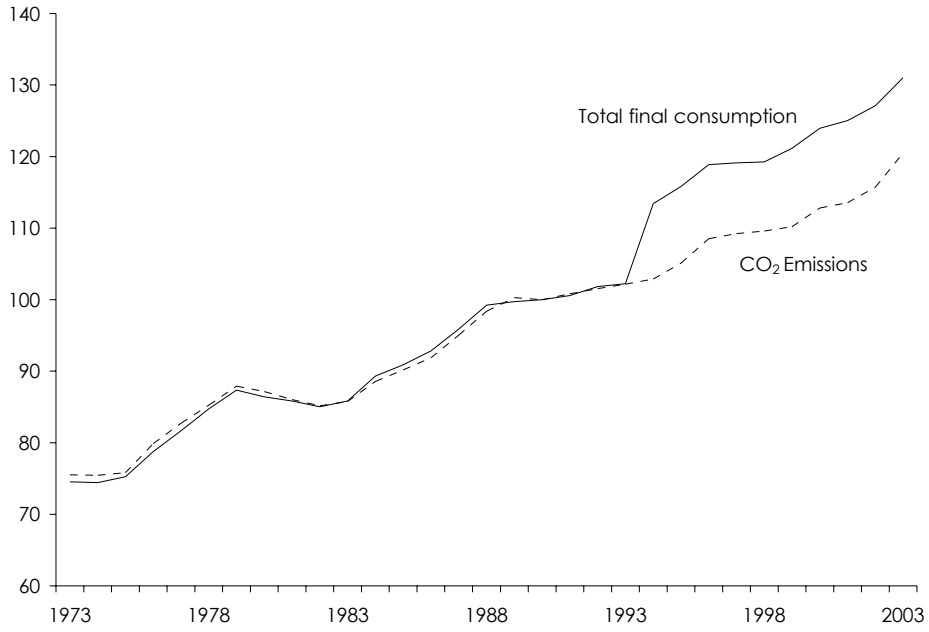
[6] The decline between 2004 and 2050 is projected at 48 million or 16 percent. The number of older people is set to increase by 58 million or 77 percent.

[7] Mechanically, the three periods have the following consequences. In the first period, GDP growth will exceed both growth of GDP per capita and of GDP per person employed (productivity). In the second period, GDP per person employed will be lower than overall GDP growth, and in the third period growth of GDP per capita and per person employed will be higher than overall GDP growth. In substance this implies that in the third period growth will be entirely driven by technical progress (and possibly by higher capital input) but no longer by an increasing labour force.

[8] For the enlargement countries (EU-10), the additional government spending is estimated at 1.5 percent of GDP. Lower expenditure on education and unemployment benefits will alleviate the budgetary burden. In Austria, age-related expenditure currently amount to 25 percent of GDP but, according to the projections, Austria is one of the few countries where this ratio will not increase.

change and the existing structures of energy and transport systems. Global warming is one of the biggest environmental challenges, even if its extent and consequences cannot yet be clearly identified. The reduction of carbon intensity of energy consumption, a reform of mobility systems and the security of energy supply are key challenges to be addressed.

Figure 5: Rising energy consumption and CO_2 emissions
Growth of world energy consumption and of CO2 emissions; 1990 = 100



Source: IEA-data base, CO_2 emissions from Fuel Combustion (2005 edition).

Policy has started to respond, in different ways depending on countries and regions. In the EU, fossile energy sources are subjected to higher tax rates, in some instances urban traffic is being regulated more strictly or made subject to tolls. A European market for CO_2 emissions has been established. Efforts at higher efficiency of energy and resource inputs are being intensified and supply and transport networks diversified.

Environmental policy is a horizontal matter cutting across many areas of policy. Alternative energy sources are exploited to an increasing extent and environmental and energy technologies have become a fast-growing market. Still, forward-looking environmental policy has not in all world regions, and especially not in countries of high energy consumption and a rapid pace of development, been given the strong emphasis it needs in order to achieve sustainable development. However, systemic change in this regard will determine the opportunities for growth of firms, economic sectors and entire regions.

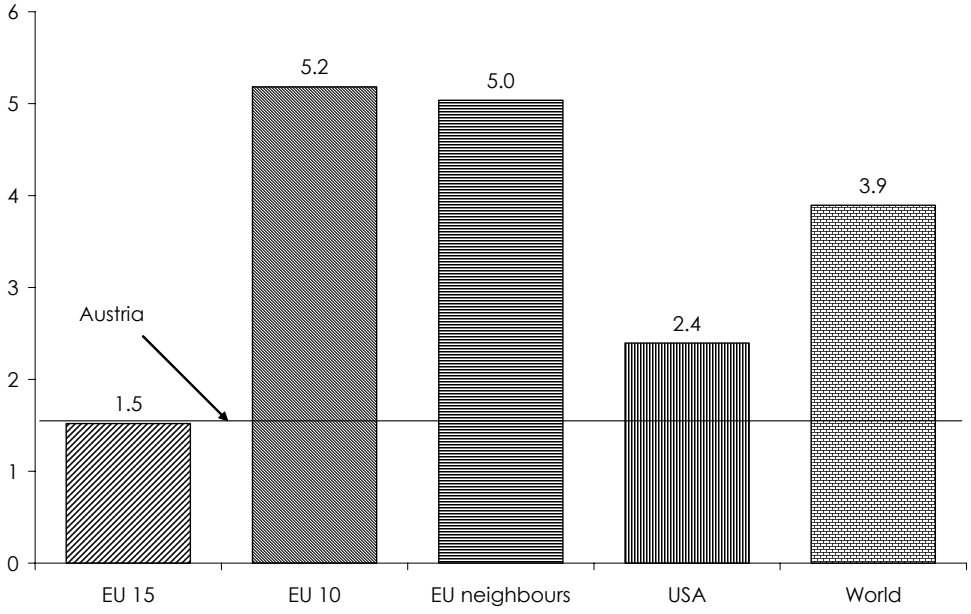
3. Austria's position under the new framework conditions

Austria is to a particularly high degree affected by the change in the framework conditions, with all the opportunities inherent in this profound change, but also with the necessity for firms, employees and economic policy to respond in the right way. The specific position of Austria, adjustment processes already initiated and areas where further change is needed will be illustrated hereafter, in line with the trends outlined in Section 2.

3.1 Austria's past performance

On the back of above-average economic growth up to the mid-1990s[9], Austria has become one of the five richest EU member states and is among the ten industrialised countries with the highest per-capita income. It has maintained this position by a small margin, with a positive gap of some 13 percent vis-à-vis the EU 15 and of 23 percent vis-à-vis the EU 25 (in terms of GDP per capita at purchasing power parities 2005).

Figure 6: Sluggish growth in EU 15 in a buoyant external environment
Real GDP; average annual change from 2000 to 2005 in percent

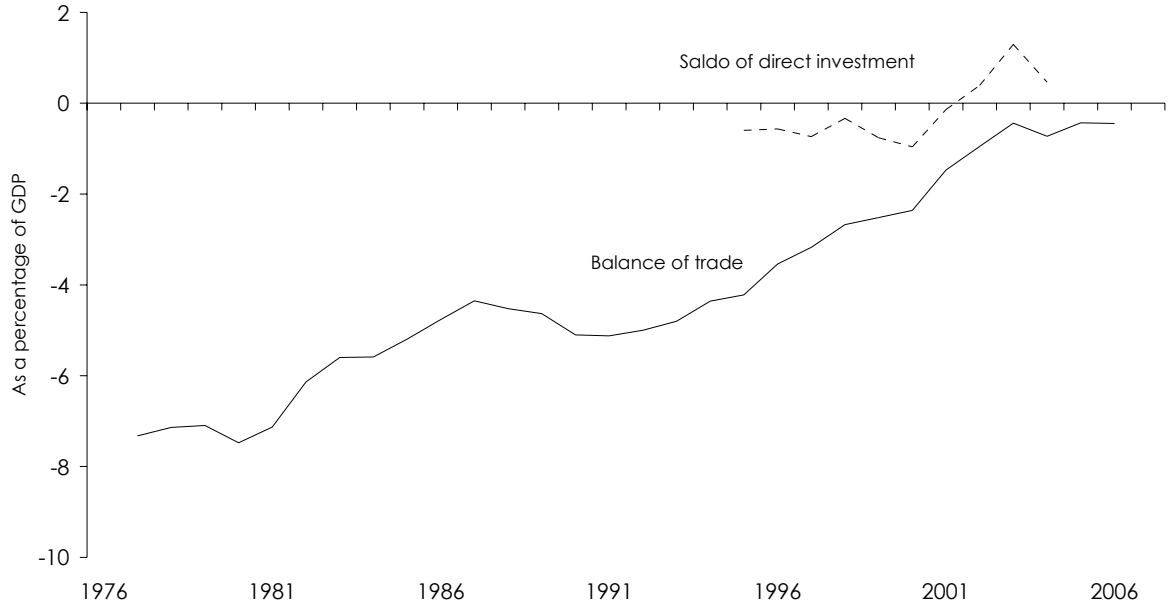


Source: WIFO calculations, WIIW. – EU neighbours: Croatia, Serbia, Bulgaria, Romania, Ukraine, Belarus, Turkey.

[9] Over the period from 1960 to 1995, Austria's GDP grew at an annual average of 3.3 percent, exceeding the EU-15 average by 0.2 percentage point.

Figure 7: Balancing trade and direct investment flows

Austria's trade and foreign direct investment balances as a percentage of GDP; moving 3-year averages



Source: WIFO data base, Statistics Austria, OeNB.

However, Austria's earlier growth advantage compared with the EU average has been lost during the last ten years, when Austria's GDP rose by an average 2.2 percent p.a., almost equal to the rate of the EU 15, although above that of the euro area (which does not include the faster-growing economies of the UK, Sweden and Denmark). Growth in the ten new EU member states, averaging 4 percent over the last ten years, has been surprisingly solid and stable, boosting the growth rate of the EU 25.

In all, Austria's economic development in the last ten years may be characterised by an average degree of dynamism, a satisfactory competitive position and the under-utilisation of its labour force potential. All these features need to be qualified.

Competitiveness

Competitiveness partly rests on the proven strengths of the past rather than on those which are nowadays necessary for a high-income country. The vicinity of new low-cost suppliers poses a challenge to Austria's competitive position.

Austria's competitiveness is revealed by the strong growth in exports and export market shares, the balance in net foreign trade and in the decline in labour cost in relation to the EU 15. Indicators of qualitative improvements are higher export unit values, the balance in net

foreign trade in technology-based manufactures and the equilibrium between inward- and outward-bound foreign direct investment[10].

The positive foreign trade position is nevertheless not rooted in the industries of the highest technological level. Expenditure on research has risen above the EU average only in the last few years, spending on education is stagnating as a proportion of GDP. Further education plays only a minor role, and in the area of technology- and knowledge-based services Austrian companies are absent on the international stage. Thus, Austria is lagging behind on a number of criteria that determine the competitive position of a high-income country in the longer run.

Employment

Economic growth in Austria is currently not strong enough as to fully exploit the supply of labour. The unemployment rate, although lower than in most other countries, has reached a historical high, partly as a result of higher labour force participation, the inflow of labour from Germany and immigration from other areas.

During the last ten years, employment in Austria grew by some 1 percent p.a. The total number of hours worked is rising to the tune of 0.3 percent p.a. (*Peneder*, Substudy 3). The pace of expansion is thus lower than in the EU 15, which is reflected also by the convergence of Austria's unemployment rate towards the EU average. According to harmonised EU definitions, Austria's unemployment rate stood at 4 percent in 1995, as compared with 10 percent for the EU 15. By 2005, unemployment in Austria had increased to a rate of 5.2 percent, whereas in the EU 15 it had moderated to 7.9 percent[11].

This convergence of the unemployment rates can be explained essentially by three factors: first, by Austria's no longer enjoying a growth advantage; second, by the mobilisation of productivity reserves such as in public administration, the former nationalised industries and public utilities; and third, by the stronger expansion of labour supply. From 2000 to 2006, labour supply in Austria has increased by 150,000 persons (at an accelerating pace in the last few years). The sources of the supply increase were the rising labour force participation by women and older persons (i.a., due to early retirement benefits being trimmed), easier labour market access granted to resident family members of immigrants, and labour inflow from old and eventually also from new EU member states and third countries.

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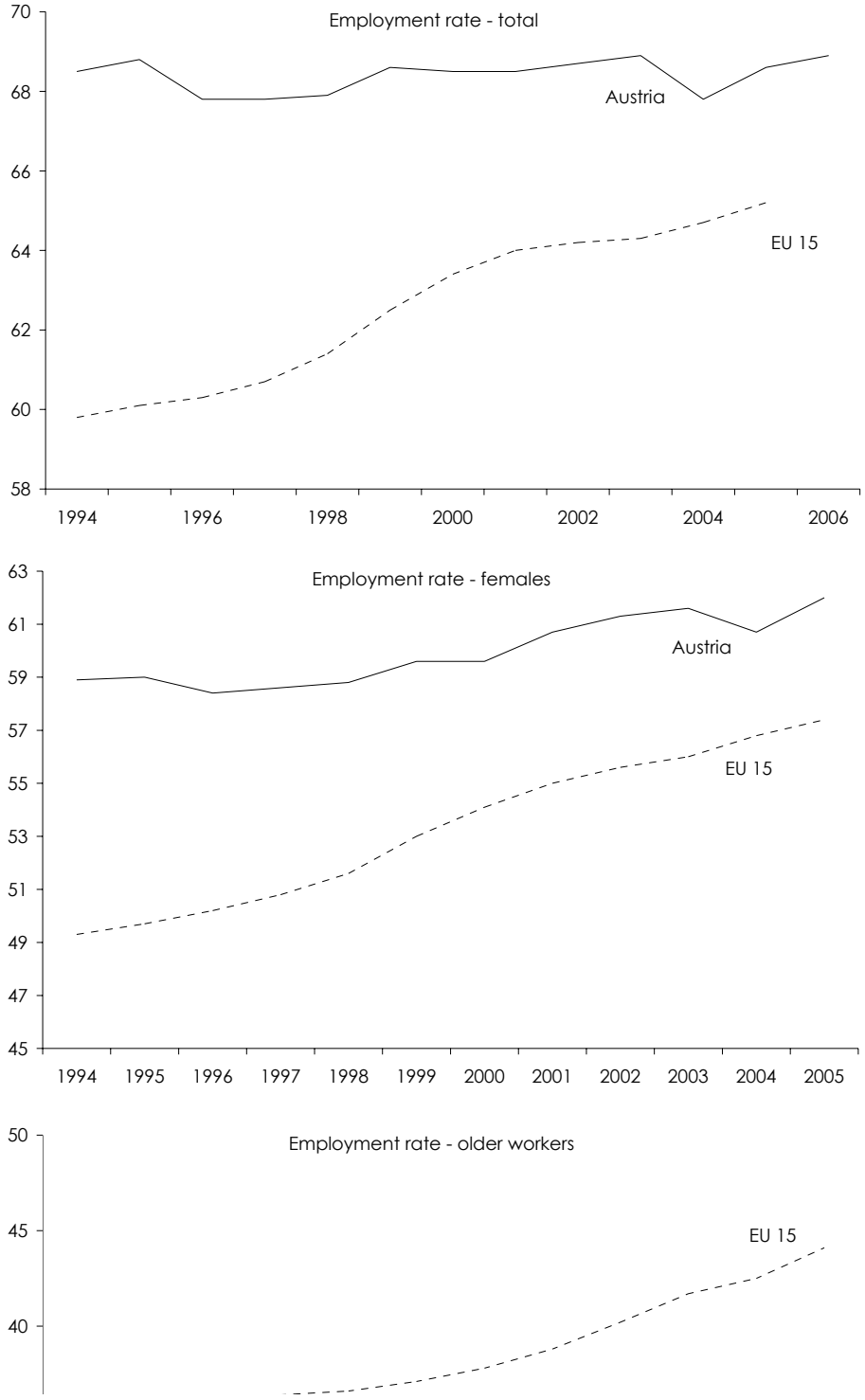
[10] The balanced net foreign trade position has been achieved for technology-intensive industries, but not with the high-tech branches in the narrower sense. The former definition includes suppliers to the motor car industry, whereas the OECD definition of high-tech comprises only five industries (aeronautics and space; pharmaceuticals; business machines, data processing equipment and computers; radio, TV and telecommunication; medical instruments, monitoring, steering and control technology, optical instruments).

[11] The differential has thus narrowed from 6 to less than 3 percentage points (the largest gap was recorded in 1994; convergence was relatively faster between 1994 and 2000, at 2.6 percentage points, than from 2000 to 2006, at 1.3 percentage points).

Figure 8: Employment ratios in Austria and the EU 15



Source: Eurostat.

The unemployment rate according to national definitions, at 7.3 percent in 2005, is still higher than the one based upon harmonised Eurostat criteria (5.2 percent). This is partly explained by the fact that additional categories of persons (registered unemployed with a commitment of being hired, with temporarily reduced availability for work, or with a mini job) are counted as unemployed, and partly by a lower denominator (self-employed and mini-job holders are not counted). Taking unemployment in the widest sense, allowing also for discouraged and marginalised jobseekers as well as for part-time unemployed, the "enlarged" unemployment rate may be as high as 9 percent (*Bock – Schappelwein,* 2005).

The number of young people unemployed, though low in Austria, is on an upward trend. Particularly high is the unused labour force potential in the upper age groups: the employment rate of people above the age of 55 amounts to 32 percent (1995: 30 percent; the Lisbon target for 2010 is a rate of 50 percent). The female jobless rate is higher or lower than that for men, depending on the definition used: it is lower according to the national definition, but higher on the harmonised Eurostat definition. The Lisbon target for the female employment rate is 60 percent, already exceeded by Austria with a current rate of 62 percent.

The number of unfilled job vacancies, at 26.000 in 2005, corresponds to around 10 percent of total unemployment according to the national definition. This ratio, being lower than in 1995 (12 percent) or 2000 (18 percent), is an important indicator for that part of unemployment which is due to a mismatch in the qualification profile between labour demand and supply. Nevertheless, the relation between vacancies and unemployed is an imperfect indicator since only part of the unfilled vacancies are reported to the labour exchange, and since it does not reflect regional or a number of other factors that may lead to the co-existence of excess supply and excess demand on the labour market.

The slight decline of unemployment in 2006 is in line with the rule whereby the threshold for such a decline is a rate of GDP growth of 2.5 percent and above.

3.2 The new challenges

3.2.1 From a technology "taker" to a technology "setter"

Being a high-income country, Austria cannot hope to foster its external competitive position via lower prices for standardised products. Austria has to specialise on goods and services of high value added and strive for technological leadership at least in a number of narrowly defined market segments. The supply of services ought to be reinforced, notably by concentrating on sophisticated, knowledge-based services. Rich countries command over know-how in corporate management and become centres of multi-national companies, be it as headquarters, competence centre or regional hub.

For a long time, Austria has been a technology "taker", with technology being imported through machinery and management by multi-national enterprises. A comparative advantage was that Austrian wages were lower than those in the fast-growing German economy. The structure of the education system (high share of population with secondary education completed and low share of university graduates, deficits in technical and natural science studies) still reflects the traditional strengths, while standing in the way towards reaching an adequate position at the "technological frontier" (see *Aghion et al.,* 2005, *Biffl,* 1998). Low expenditure on research, a negative balance on the number of patents filed, an industrial structure biased towards tradition, a low number of international headquarters and a modest role of natural sciences are all indicative of the gap to be bridged if Austria were to reach a position at the technological frontier.

Stepwise innovation, precision and reliability as well as competition in tasks requiring qualifications of intermediate level have established the reputation of Austrian firms. Furthermore, Austria's image is characterised by culture, tourism and environmental quality, agriculture and abundant supply of wood and timber. These "hard" and "soft" location factors have to be reconciled with the features of a society where new technologies drive consumption and production. Differentiation, new technologies, excellence in education and training at the highest level and international openness are key features of a country at the technological frontier. Its corporate pattern is one where large multi-national enterprises co-exist with a large number of start-up companies offering goods and services of top technological standard and quality.

In the future, the competitive position of a country of high per-capita income will be determined by innovation, education and training and state-of-the-art infrastructure. For all its efforts undertaken over the last ten years, Austria has not yet accomplished the task of moving from the catching-up process towards a frontier position in innovation, education and modern infrastructure.

3.2.2 Changes in the corporate pattern

Austrian companies have occasionally been labelled as world champions in succeeding in traditional structures. Satisfactory sales and high quality were mainly achieved in traditional, slowly-growing industries rather than in the technological industries or in technology- or consulting-based services. Austria has only few big companies, the service sector is relatively small, and the rate of business start-ups was low for a long time. Entire sectors were – and partly still are, like the liberal professions – shielded from foreign competition and new market entrants by wage and price regulation or legal provisions.

Among foreign company owners those from neighbouring countries dominate, outward-bound foreign direct investment is low and concentrated in a small number of branches, and the bulk of exports go to neighbouring countries – an important difference to Switzerland, for example.

Jobs in existing companies are relatively well protected. Pay scales and collective wage agreements provide for the steepest increase, in an international comparison, of earnings profiles with rising age or service in one and the same company. Wages include firm-specific fringe benefits and inhibit job change, as do sector-specific earnings differentials. Insurance and retirement benefits are tied to the wage contract or depend on the family situation.

Austria's accession to the EU, the transformation of eastern Europe and EU eastern enlargement, the privatisation of the nationalised industries and the liberalisation of markets such as for energy supply or financial and telecom services have brought about profound changes in the domestic corporate structure. An increasing number of industrial companies with a network of foreign subsidiaries are emerging. The formerly nationalised enterprises have been transformed into multinational companies with Austrian headquarters. The banking sector, insurances and real estate companies go international, predominantly also with their headquarters in Austria. Companies in the infrastructure domain, after having been partly privatised, feel obliged and able to expand and invest abroad. Community- or federal state-owned companies see, for their part, often no need for the time being to offer services or know-how beyond the boundaries of their jurisdictions, to exploit economies of scale or, as in the case of larger cities, to use acquired knowledge for activities abroad.

Corporate restructuring is taking place in line with international trends, both as far as internal organisation and the use of telecommunication is concerned. Large companies resort to the stock market to an increasing extent, without a wave of mergers or hostile takeovers having occurred so far. Surveillance of competition and competition-mindedness in general are less firmly rooted in Austria than in other countries. Mergers between public enterprises with the purpose of creating a large national provider are considered more important than competition.

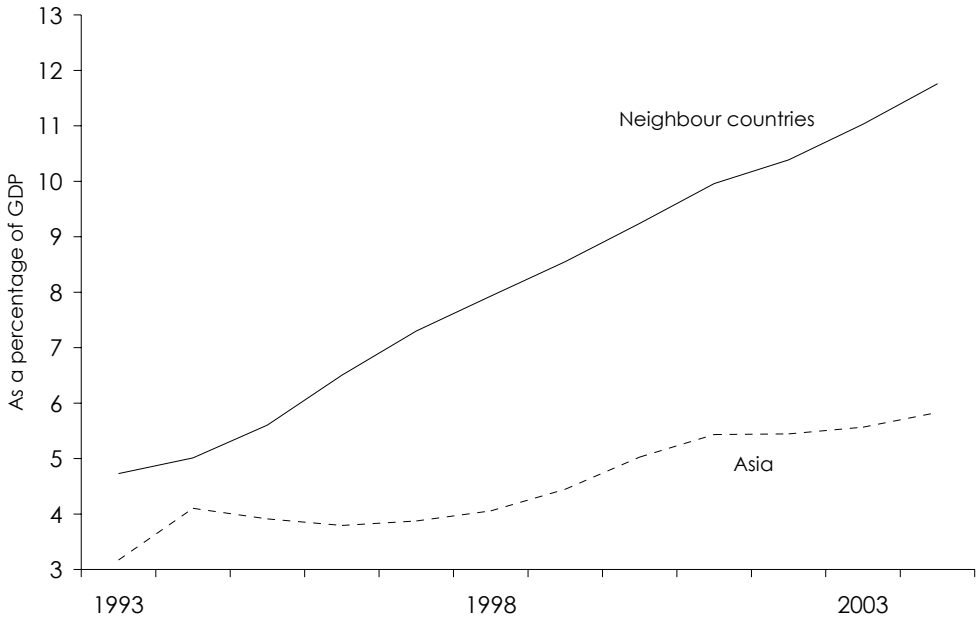
3.2.3 Contested position in the area of intermediate technologies

Austria has for a long time been at the margin or even outside the area of European integration. Economic ties were strengthened towards western Europe, while those towards the East were much weaker than warranted by historical relations and geographic proximity. Today, Austria is situated in the centre of the EU, both from the geographic and the economic perspective, a position that will be reinforced once the EU will enlarge towards the Southeast and its current neighbours. The position in the middle of a dynamic economic area in transition offers considerable opportunities, but also implies exposure to fierce competition for the benefits from the central location. Several regions and large cities in this area rival for gaining profile by hosting business headquarters, research or communication centres.

An additional factor is that Austria is situated at a "welfare edge". Unlike a centre of a steadily growing larger area, Austria is at the same time the middle and the edge. Incomes fall atypically strongly towards the East, their level being only one-fifth of that in Austria at a distance of just 500 kilometres. With an optimal division of labour, this carries a number of

advantages such as the possibility of saving cost for combined products and inputs, easily accessible production sites and low labour cost. At the same time, competitive pressure is high for goods produced in Austria which may also be manufactured in the low-wage-cost areas.

Figure 9: The "short-distance" and the "long-distance" globalisation
Asia's versus neighbouring countries' share in Austrian exports and imports; moving 3-year averages



Source: WIFO data base. – Neighbouring countries: new EU member states, Bulgaria, Romania, former USSR.

Austria is by tradition highly specialised in the intermediate technology domain, which has been facilitated by relatively low wages as compared with Germany or Switzerland, as well as by a qualified labour force. Motivation, flexibility, small innovations and adjustments have underpinned competitiveness and a strong export performance. This traditional Austrian specialisation is now being transferred to the enlargement countries, which can rely on qualified specialists and technicians and quickly catch up in technological knowledge and skills.

3.2.4 Opportunities offered by worldwide globalisation

The "long-distance" globalisation is a particular challenge for Austria, since the country has concentrated its foreign trade, both on the export and the import side, on markets in its neighbourhood and only few Austrian firms have subsidiaries or plants in China or India (or even the rest of Asia, let alone in Africa or South America). The dynamic Asian economies are

particularly promising export targets whose potential is not yet fully exploited by Austria. On the other hand, these countries' exports of low-cost products exert competitive pressure on European labour-intensive industries which in Austria claimed for a long time (and to some extent still does) an over-proportional share in total value added. As a consequence of the small number of large enterprises, Austria's bilateral trade balance with both China and India is negative, despite healthy export gains on both markets. Austrian firms should use to a greater extent the opportunities offered in these countries, even if Austria's market share in China will always be small and a positive external contribution to growth will be achieved more easily in the countries of the "short-distance" globalisation.

Austrian medium-sized companies which in the process of EU enlargements have become international players will find opportunities also for exports to overseas markets. The division of labour between Austria and its neighbours facilitates long-distance exports of goods combining inputs of low value added with more sophisticated stages of production (vertical division of labour).

3.2.5 Supply bottlenecks deferred by immigration

Between 1970 and 1988, the Austrian population was rather stable around 7½ million. In the aftermath of the Balkan war, it increased up to the mid-1990s by 350,000[12] to a total 8 million, levelling off subsequently. From 2000 to 2005, growth resumed to the tune of 43,000 per year or 215,000 persons in total, this time mainly driven by family members joining earlier immigrants and people motivated by economic reasons. The latter category, i.e., mainly people from Germany and other EU member states seeking employment and income opportunities, accounts for not more than half of total immigration.

Population projection

Projections of population trends distinguish between a baseline scenario (BS) and an alternative scenario assuming higher immigration (upper migration scenario UMS). The baseline scenario assumes that the net balance of immigration will decline markedly until 2020 (to a total around 20,000), levelling off thereafter. Nevertheless, the total population increases to nearly 9 million by 2050[13]. In the scenario with higher net immigration, the latter declines to 37.000 and the total population figure reaches 9 million already in 2024, rising to 9.8 million by 2050. Both scenarios imply a growing population, the increase ranging from ¾ million up to 1½ million persons[14].

[12] I.e., by 58,000 persons per year.

[13] At present, the total population amounts to 8.233 million people (*Statistics Austria*, figure for 2005).

[14] The official projections also include a lower scenario, whereby population growth comes to a halt in 2022, followed by a decline to a total 8.2 million by 2050. This scenario, assuming zero net immigration, does not appear realistic in view of increasing mobility within the EU, the accession of new members (e.g., Bulgaria and Romania in

Future population growth is thus almost entirely driven by net immigration of foreigners. The share of the resident population having been born abroad amounts at present to 13 percent, rising in the baseline scenario to 15.5 percent by 2025 and to 18 percent in the upper migration scenario[15], [16].

Population of working age

The increase in the total population pushes back the decline in the working-age population until 2018 in the baseline scenario, with a relatively steep increase until 2015 before levelling off. Thereafter, the population of working age is set to fall by 80,000 (from a total 5.732 million in 2015 to 5.649 million in 2025). In the higher-migration scenario, the working-age population will peak in 2022[17]. The subsequent decline is set to last until 2036, followed by a rebound.

Labour supply

Furthermore, labour supply, i.e., the economically active population (labour force) is dependent from the rate of labour force participation. The latter is more accessible to policy management than natural population growth, notably also in the short and medium term.

For this reason, WIFO distinguishes between a main variant, defined by a participation rate that follows the long-term trend, with the exception of an adjustment for older workers, for which it is assumed that, as a reaction to the pension reform, the current actual retirement age will converge towards the statutory age. This participation rate is applied to the baseline population scenario. In this combination[18], labour supply will increase from today until 2015 by 133,000 persons.

2007) and the phasing out of the temporary restrictions to labour mobility for the members of the 2004 enlargement round. Furthermore, with economic ties becoming closer in the context of globalisation, migration is likely to continue even if not necessarily leading to permanent residence in the country of destination.

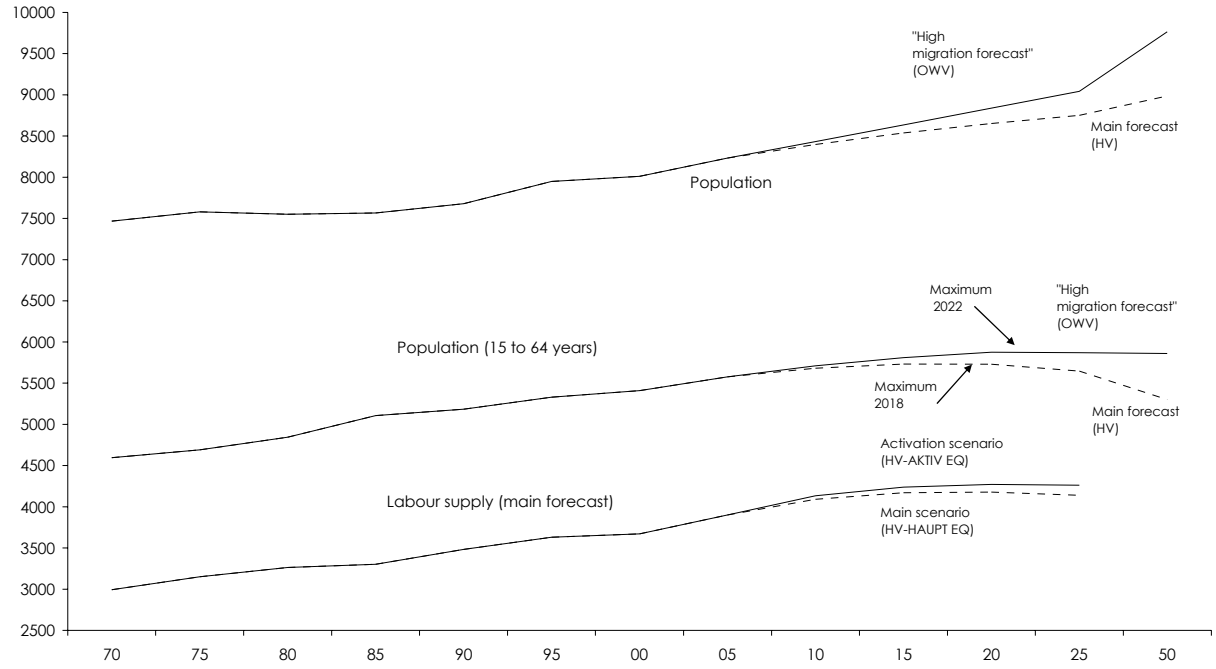
[15] This is a share of foreigners in the resident population which is currently exceeded in the EU only by Luxembourg. In Europe, only Switzerland exhibits at present a higher share of foreigners, and outside Europe Canada and Australia. However, in Switzerland, the share of foreigners from the EU 15 is significantly higher.

[16] After the White Paper had been finalised, the population projection was updated (projection 2006). The revised version differs only marginally from the previous one. Net migration for 2005 was replaced by the actual figure (upward revision from 36,300 to 49,170 for 2005; downward revision from 34,985 to 34,729 for 2006). According to the new projections, the total population is higher by about 20,000 in 2006, as from 2015 by 18,000, 2025 by 15,000 and 2050 by 4,000 than according to the 2005 projections, whereby three-quarter of the difference is accounted for by people of working age (15 to 64 years). All other assumptions (overall fertility, mortality, life expectancy) remain unchanged except for updates for 2005 and 2006.

[17] The apparent steeper increase towards the end of the projection period as shown in Figure 10 is due to the change in the scale from a 5-year to a 25-year interval. Because of the flat profile of the curve, the peak year can not be identified precisely.

[18] I.e., baseline population scenario plus modified status quo for labour force participation.

Figure 10: Population projections for Austria up to 2050



Source: WIFO, Statistics Austria. – Note: Two population scenarios (Baseline scenario and upper migration scenario). Two assumptions for the labour force participation rate, each of them applied to the baseline population scenario only.

In an "activation" variant it is assumed that labour force participation will rise towards rates currently observed in Denmark, in which case labour supply in 2015 will exceed the 2005 level by 339,000[19].

Population projections are subject to a considerable margin of uncertainty. WIFO considers the baseline population scenario in combination with the activation variant for labour force participation to be the most realistic projection. In that case, growth will not be constrained by labour supply up to the middle of the 2020s. There is, however, a need to boost labour force participation as from around 2015.

Population growth driven by immigration

The rising population trend and the considerable potential for mobilising additional labour reserves, while holding new opportunities, pose at the same time new challenges for policy

[19] This projection combines the upper migration population scenario with the activation variant of labour force participation. According to the upper migration scenario, the range is between 4.094 million and 4.301 million persons. The differences between the migration scenarios are smaller than those between the main and the activation variant, indicating the scope for policy action.

and society at large. The impact of rising labour supply, induced by migration and higher labour force participation, on qualification levels and the implicit demands on the education and training systems are issues the present White Paper puts particular emphasis on.

Among the immigrants, the share of men is somewhat higher than that of women, and the peak of the age distribution is in the 20 to 29 years bracket. Immigration from EU countries is on the rise, with strong net gains from Germany and Poland. Only part of the immigration is nowadays due to economic motives, the bulk is due to a "chain reaction" of earlier immigration, i.e., family members following the breadwinner[20]. Immigration is therefore more supply-driven than during the 1970s and is less than at the time geared towards Austrian manpower needs in the longer term. Poor employment and income opportunities in the country of origin are increasingly important motives for migration, as well as the incentives deriving from the freedom of residence within the EU. Given these reasons for migration, labour supply is rising most strongly in the low-qualifications bracket. The distribution by country of origin is shifting away from the successor states of Yugoslavia and from Turkey towards the new EU member states, but also towards eastern and south-eastern Europe and Asia. Although the integration of people from central and Eastern Europe is comparatively easy due to their higher qualifications, already the integration of current foreign residents (some of whom have even obtained Austrian citizenship) involves severe challenges for society and notably for the education and training system. Migration into Austria is higher than into Germany or into the Nordic countries (Sweden, Finland), although pressure is lower than in the southern member states (Portugal, Spain, Italy). In Germany, the total population is shrinking, since the outflow of partly high-qualified labour is no longer being compensated by immigration, given the poor labour market situation.

Table 1: Population, labour force and labour supply scenarios

	2000[1]	2005[1]	2010	2015	2020	2025	2050	2005/ 2010	2010/ 2015	2005/ 2025	Maxi- mum	/Year
				Persons				Absolute difference				
Population												
Baseline scenario (BS)	8,011.6	8,233.3	8,397.3	8,536.6	8,651.0	8,751.4	8,986.0	164.0	139.3	518.1	8,986.0	2050
Upper migration scenario (UMS)			8,432.4	8,634.9	8,838.5	9,041.1	9,765.1	199.1	202.5	807.7	9,765.1	2050
Population of working age												
Baseline scenario (BS)	5,410.3	5,577.2	5,681.6	5,732.2	5,730.7	5,648.5	5,302.3	104.4	50.6	71.3	5,732.2	2018
Upper migration scenario (UMS)			5,710.2	5,810.1	5,876.0	5,869.1	5,859.0	133.0	99.9	292.3	5,810.1	2022
Labour supply(Baseline scenario)												
Main variant (HV-HAUPT EQ)	3,673	3,900.0	4,021.0	4,033.0	3,959.0	3,848.0		121.0	12.0	–52.0	4,033.0	2018
Activation variant (HV-AKTIV EQ)			4,132.0	4,239.0	4,271.0	4,261.0		232.0	107.0	129.0	4,271.0	2022

Source: *Biffl* (2006). – [1] Actual figures.

[20] While the qualification profile of the economically-motivated immigrants, notably from the enlarged EU, does not differ much from that of domestic workers and employees, qualification levels of asylum seekers and of family members following the breadwinner are often significantly lower.

In view of the necessity for Austria to upgrade its supply structure in the longer term it would be desirable to encourage immigration of labour of intermediate and high qualification. A step in that direction has been taken as from the beginning of 2003, when the accession of foreign workers to the Austrian labour market has been subjected to a new regulation. In contrast to the immigration flows of the last decades, this kind of acquisition of foreign labour may enhance the competitiveness of fast-growing sectors as well as the number of research staff[21]. Nevertheless, a substantial part of immigrants will be of low qualification also in the future. These people, together with earlier immigrants of the first and second generation, will have to be taken care of in the context of an ambitious integration strategy[22].

Population growth via immigration mitigates the trend towards ageing of the population without arresting it. The share of the population below 15 years of age which at present (2004) amounts to 16.2 percent, will fall to 14.3 percent until 2025 and further to 13.6 percent by 2050, according to the baseline population scenario. The share of the population aged 60 years and above, currently at 21.9 percent, will go up to 28.4 percent (2025) and 33.7 percent (2050). Among the labour force, the age group 45 to 64 will become the largest one.

3.2.6 Use of private assets after the end of under-capitalisation

The stock of private assets held by Austrians is nowadays higher than GDP, as the country has moved from one poorly endowed with capital to a rich one. Private financial wealth (of non-financial incorporated enterprises plus private households) corresponded to less than half of GDP (48 percent) in 1960; today it is more than twice as high as GDP (2005: 222 percent).

As regards the re-allocation of private saving capital towards longer-term and higher-risk investment, Austria has also reached international standards. Stock market capitalisation in relation to economic performance has still been below-average in 2005 (41 percent as compared with 79 percent in the EU 15), due to the small number of joint-stock companies. The supply of equity capital for medium-sized enterprises and capital market financing of start-up companies and notably via venture capital are still insufficient. Tapping major private financial wealth for research, education, but also for social purposes, is underdeveloped, as is the acquisition of such resources by the institutions to be financed (fund raising events, public

[21] Residence and access to the labour market by foreigners have been the subject of a new regulation in 2005. According to the latter, highly qualified workers from third countries (no EEA citizens) may take residence and work in Austria, if they fall under the quota for required key specialists. Highly qualified workers from third countries who stay in Austria only on a temporary basis may receive a limited residence permit for an activity lasting for more than six months, or a work permit if they stay for less than six months. Groups falling under this regulation are typically employees of foreign companies, researchers, artists, personnel on a rotating basis or special cases of dependent employment (media personnel, researchers from non-certified institutions; *Bichl – Schmid – Szymanski,* 2006, *Biffl – Schappelwein*, 2006).

[22] The implementation of a sophisticated array of integration tools will have to be guided by the handbook published by the European Commission, which has been elaborated in order to facilitate the open method of co-ordination for migration and integration policy.

relations campaigns, advertising). Foundations are used as a means of tax avoidance rather than as one to address social concerns. Apparently, owners of land or real estate would rather leave their property unused than seeking a return, e.g., as a supplement of their old-age income. Renting out, by the owner or the tenant, is rather uncommon, partly for historical reasons, but also due to restrictions imposed by the regulations governing subsidised housing. In general, private wealth is infrequently recorded, assessed at current values and used as a base for consumption or contracting a loan. In the same vein, an increase in real estate prices is not used as collateral for higher credit financing or higher consumption in Austria, unlike in the USA or the UK.

Although Austria can no longer be regarded as under-capitalised, financial markets and private assets are not yet made full use of, with the whole range of supply and demand instruments offered by the market. Admittedly, however, there is only scarce statistical evidence on the situation of private income and wealth as well as the use of private wealth, such that no firm conclusions can be drawn. The same is true for the personal distribution of wealth which is likely to have become more unequal during the last fifteen years. The share of high incomes has increased. The gap between high and low incomes has widened over the medium term, though not by as much as in many other EU member states. Since the opportunities for earning additional income, but also for working part time, have increased, the income situation of households should not be directly inferred from the trend in individual incomes. Moreover, public transfers partly offset the trend towards higher income differentials. The poverty ratio and the proportion of people threatened by poverty are constant, but high for a rich country like Austria. Profits are rising faster than wages and salaries, and among profits returns on financial wealth tend to outpace operational corporate earnings.

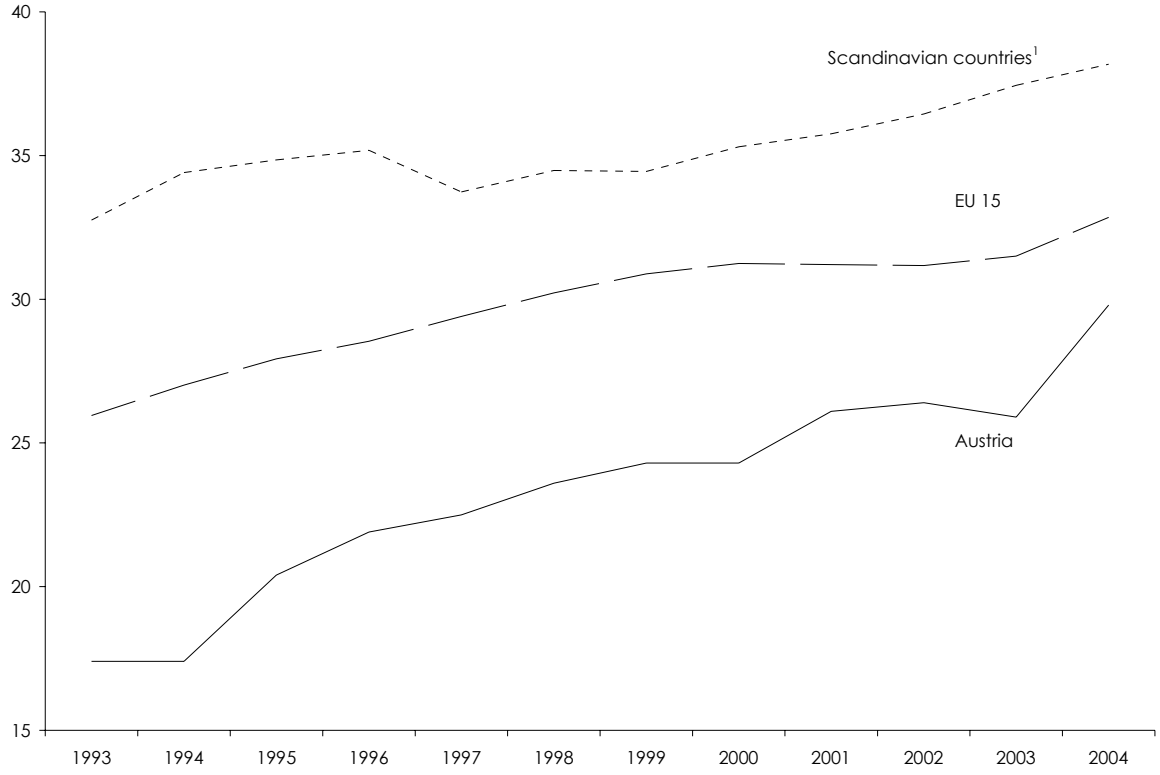
3.2.7 Increasing variety in products, work contracts and private wants

Variety and heterogeneity of goods supplied has increased sharply also in Austria, notably as a consequence of integration and globalisation. The range of work arrangements has widened considerably with the introduction of greater flexibility into the labour code, new types of work contracts and self-employment, greater variety in labour supply through foreign workers and, not least, via the hidden economy. Also in this respect, the need for reform was particularly high in Austria.

Secure full-time jobs, often held over the whole working life in the same company, were the rule rather than the exception, even if the company made losses. Consumer protection, price and market regulation have not only helped to ensure quality and keep inflation low, but have also constrained the variety of goods and services supplied. Stable property patterns in wholesale trade and the maintenance of traditional distribution chains also stood in the way of flexible adjustment. The "continental model", followed by France, Germany, Italy and also Austria, may, apart from its positive impact on economic growth and social security,

contribute towards institutional rigidity. Structural change may also be held back if wage negotiators take the limited earnings scope of a sector in difficulty as their yardstick. Jobs are being preserved in existing companies. The setup of new companies has often been seen from the angle of protecting existing firms rather than from that of new jobs being created. High non-wage labour cost, even for low incomes, and highly regulated goods and services markets inhibit start-ups and employment creation. While insiders are well protected, it is difficult to find a new job or set up a new company in the event of job loss or insolvency of a company.

Figure 11: Increasing labour market flexibility
Share of flexible work contracts (part-time and fixed-term contracts)



Source: WIFO calculations, Eurostat, EU Labour Force Survey and National Accounts. – [1] Denmark, Finland, Sweden.

The social partner institutions have been a crucial element in Austria's successful catching-up process. They have established stable work relations and contributed towards security and stability in the economic policy framework, a positive investment climate and flexible regulations. Wage policy guided by productivity growth, the conduct of fiscal and monetary policy, and the avoidance of unemployment have been the pillars for Austria to become one of the richest countries in Europe. The social partners have in crucial periods not only

supported, but actively shaped the opening of markets, the hard currency policy and eventually Austria's accession to the EU. The new developments (globalisation, differentiation, changes in income distribution and work relations, population ageing, government budgetary constraints) have created new challenges that can no longer be solved with the conventional methods. Insider-outsider problems become more acute, the need for flexibility and differentiation increases, and problems become multi-faceted.

The White Paper tries to give an answer to the issue, how this new heterogeneity may be managed in a socially acceptable way. The complexity of solutions calls for co-operation between the government, the corporate sector and other public and private stakeholders.

4. Growth based on innovation and qualification

4.1 The role played by growth

The analysis shows that reducing unemployment in Austria poses the greatest challenge to economic policy now and will continue to do so for the next ten years. This task will have to be mastered in an environment influenced by new challenges and Austria's special position. The robust economic development in 2006 has slightly enlarged the scope for action, but has not solved the fundamental problem of underemployment over the medium term.

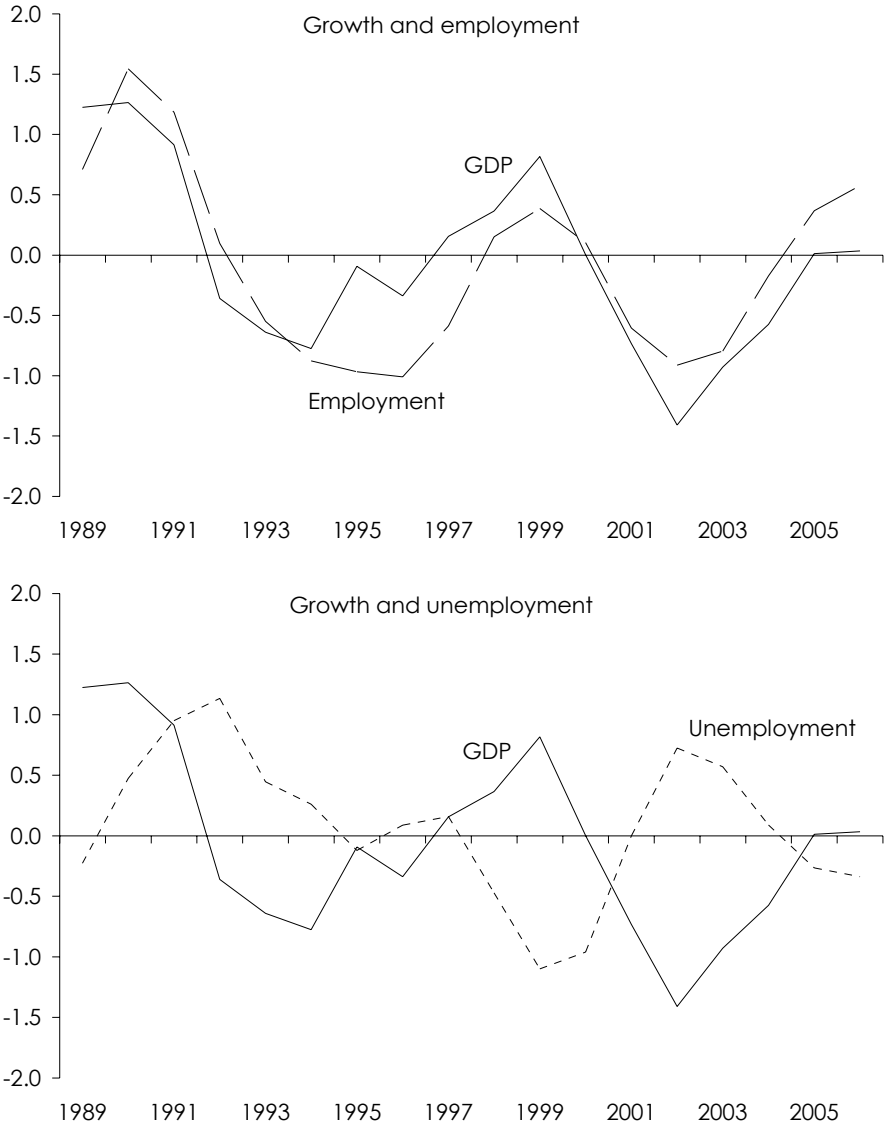
Definition of full employment

Attempts to state a quantitative limit for full employment fluctuate around an unemployment rate of 3 percent. Normally, unemployment cannot be pushed to a lower level, because there are frictions, seasons, search processes and limited occupational and geographical mobility. Recent literature defines full employment as that rate of unemployment at which inflation does not accelerate over the long term and there are no risks of wage inflation (NAIRU or NAWRU). This rate could be 4 percent for Austria, but it varies with the business cycle and can be changed by economic policy[23]. The lowest unemployment rates actually achieved internationally that have been maintained over a period of three years are found in Denmark, Ireland and the Netherlands with values of slightly over 4 percent. However, these are values from experience during a period of sluggish economic growth in Europe. If the actual growth and technological progress achieved are higher, lower non-inflationary unemployment rates should be feasible.

Unemployment rates of 5 percent or 7 percent (in Austria 2006, depending on the national or EU definition) – in which important elements of underemployment are not recognised – by no means constitute full employment and neither do the even higher unemployment rates in the EU. The social partners have defined the goal for Austria to achieve full employment by 2015 (*Österreichische Sozialpartner,* 2006).

[23] The concept of NAIRU or NAWRU estimates the unemployment rate at which inflation and wage inflation do not accelerate over the long term and at given institutions. The EU estimates NAWRU for Austria at 3.7 percent in 1995 and at 5.0 percent in 2006, and for the euro zone at 8.2 percent (European Commission, 2006). The OECD has published similar figures (*OECD,* 2006). This shows that the natural rate always moves closer the actual rate. See, for example, *Pollan* (2005) for a critique of the approach (2005). The concept of NAIRU assumes a mechanical relationship in which the institutions of the labour market do not play a role. Neither does it take economic policy into account even though it strongly intervenes in price and wage formation and thus its behaviour would also have to be included in an analysis. The natural unemployment rate is an equilibrium model for a market in which prices lead to the equilibrium of supply and demand.

Figure 12: Growth determines unemployment and employment
Moving three-year average



Source: WIFO, Statistics Austria. Note: The chart shows the development of the positive relationship between growth and employment (dependent active workers) as well as the negative relationship between growth and unemployment (persons unemployed according to AMS). The figures are standardised; therefore, the series have the same mean value and the same variance.

Forecasts and figures from experience

WIFO's current medium-term forecast assumes that the economy will grow in the coming five years by 2.1 percent annually and the unemployment rate will remain constant at 5.3 per-

cent and 7.3 percent (average 2005 to 2010). The model calculations in Substudy 2 show that[24].

- Growth of 1¾ percent is necessary to prevent employment from declining,
- growth of 2 percent is necessary to keep employment constant in full-time equivalents,
- growth of at least 2½ percent is needed to lower unemployment.

These figures depend to a certain extent on the business cycle, but are relatively stable and were confirmed in the year 2006. The expected growth rate of 3.1 percent will be enough to slightly lower unemployment. It increases employment by 1.5 percent with a major portion coming from the growing supply of labour and a higher activity rate among the older population.

This relation may change if the economic upturn is sustained. At an expected growth rate of 2.1 percent over the medium term, a steady unemployment rate is still "benign" and implies a higher rate of unregistered unemployed persons.

The EU uses the employment rate as a long-term interim target on the way to full employment. The activity rate is expected to hit 70 percent by 2010 (women 60 percent, older persons 50 percent). Austria is close to the overall target at 69 percent and has achieved the target for female employment, but has missed the target for older workers by far (2005: 32 percent). One should bear in mind in this context that the system of apprenticeship in Austria and the long duration of leaves of absence after the birth of a child (during which persons are considered employed) distort the rate upwards.

The strategy goal

This White Book develops a strategy for increasing employment primarily by a qualitative, innovation-based growth policy, in other words, by boosting economic growth under certain concurrent conditions. Economic growth in a rich country must be based on qualification and innovation. Therefore, the White Book designs a growth strategy that gives priority to instruments that improve qualification and support innovation.

Growth – in the form of high and rising incomes – is an important value in defining goals for the general population. However, it is not the only goal. Full employment, price stability, security and reliable incomes are other high priority economic goals. To this, one must add a broad spectrum of social and ecological goals including justice, sustainability and health as well as humanitarian, democratic and cultural goals.

Growth is not only important for individuals, groups and societies that wish to increase their income. It is generally easier to achieve lower unemployment, higher employment rates,

[24] *Aiginger – Steindl – Walterskirchen* (2006).

balanced budgets, to hedge risks and secure pensions, and generally have greater freedom of disposition and mobility in an expanding economy than in a stagnating one.

However, there are potential conflicts of goals: More growth may result in higher energy and resource consumption or may fuel inflation. The growth strategy proposed attempts to address this field of tension. Conflicting goals should be recognised early on and avoided, and synergies between the goals should be encouraged.

- The *social system* should be viewed as a productive factor and organised in a manner to lift performance and competitiveness rather than hinder flexibility and mobility.
- The *risk of inflation* should be lowered in advance by increasing the pace of technological progress. If there is higher productivity growth, prices do not start rising with every moderate increase in demand.
- *Environmental policy* is defined in conjunction with other policy areas (integrated environmental policy) and is based on ecological innovation and takes advantage of the employment opportunities of environmental technologies.

All of these elements are part of a qualitative and innovation-based growth strategy.

Changes to working hours

Basically, it is possible to lower unemployment even in the absence of growth. In this case, the given volume of work would have to be distributed across a larger number of workers or part of the workers would have to be motivated to retire from the gainful employment process. The distribution of the volume of work across a larger number of workers must be connected at least in some segments with the acceptance of lower incomes (a portion could serve to raise competitiveness via higher productivity and lower unit labour costs). Incomes could theoretically be reduced in such a way that lower incomes are less affected by cuts in income attributable to the reduction of working hours (re-distribution). Experience has shown that a reduction in working hours is generally not easy to implement. Furthermore, it is particularly hard to enforce for people who can co-determine or even plan their own working hours. Finally, working hours in the service sector are hard to measure and can easily be adjusted. The probability that fewer hours will not result in more employment is high especially if capacities are not fully utilised. Generally, shortening working hours is a passive strategy that requires some far-reaching changes if it is to be implemented equally and not to the disadvantage of workers in occupations that have less freedom in defining their working hours.

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[25] In other words: Growth is more important for economic policy than may be inferred from the preference it is assigned by individuals (because it is also an instrument for achieving other goals apart from the narrower purpose of attaining higher income).

[26] Restrictions to working hours and the prohibitions of overtime work or additional jobs are not unwanted, especially by persons who have even lower incomes and wish to earn more money.

Nonetheless, intelligent forms of shorter working hours (longer basic training, sabbaticals, voluntary reduction in available hours in certain life phases) can supplement a growth strategy, especially during the period during which there is no quantitative bottleneck in the supply of jobs. Longer training times, alternating phases of work and further education, consideration of the changing preferences in life cycles and the improvement of human capital also match the greater heterogeneity of preferences and the changed framework conditions.

Vice versa, longer working hours are not considered to be generally desirable and do not form any fundamental part under the proposed strategy. Longer working hours have a tendency of increasing unemployment rates unless imposed in highly price-sensitive and cost-dependent industries or in special critical situations. If they are implemented without raising weekly wages and in highly competitive markets, their positive quantity effects may outweigh the negative macroeconomic demand effects[27]. Longer working hours in certain emergency situations, for certain periods and for tangible or intangible consideration can help a company to secure its existence. As part of a rescue strategy with the prospects of heightening competitiveness after repositioning the company and if agreed between labour and management, they may help to prevent a drop in motivation and productivity. Win-win situations can be achieved by consensus, for example, by exchanging longer working hours in phases of high demand for blocked periods of further education in phases of slow demand. By contrast, the general prolongation of working hours without compensation would reduce hourly wages, keep unemployment at best from rising, heighten friction and lower macroeconomic demand.

The White Book develops a strategy for achieving higher employment and lowering unemployment through economic growth. Growth in itself is an important goal. Growth also makes it easier to achieve other economic policy goals such as employment, balanced budgets, the financing of pensions and social cohesion. The proposed growth strategy is based on innovation and qualification, but not on price competition. It also strives to achieve specific ecological goals and in this manner create positive synergies instead of giving rise to conflicts between the goals of growth and resource conservation. The social system is to be designed so as to support the growth process as a productive factor. Inflation is to be checked by a faster pace of technological progress and by competition. Central instruments of this growth strategy in a wealthy country are innovation, training, modern infrastructure and efficient organisation of companies, markets and institutions. The growth process is supported by steering macroeconomic trends at the national level, and Austria should take the initiative to strengthen coordination at the EU level.

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[27] The same is true if it occurs by lowering hourly wages, e.g., elimination of overtime pay.

4.2 Steering macroeconomic development

Steering the dynamic of an economy by taking macroeconomic measures is an essential part of any growth strategy. The possibility of supporting demand by more government spending and lower interest rates in periods of underutilisation of capacity and of avoiding overheating by lowering government spending and raising interest rates during boom phases is an important element of economic theory. Steering macroeconomic development does not only shift demand from the phase of a booming economy to recession, it also lowers frictional losses, reduces and smoothes average costs and lowers economic uncertainty. Macroeconomic steering raises the medium-term growth rates of consumption, investment activity and exports and thus overall demand. Higher incomes are attainable. The willingness to change at the microeconomic level requires macroeconomic stability.

Macroeconomic steering has become more difficult in the past ten years:

- Integration, globalisation and the opening up of national economies lower the effectiveness of national fiscal policies (leakage losses) if these are not coordinated across national borders.
- Lacking budgetary surpluses at the beginning of downswing phases and the higher government debt ratio relative to economic output have reduced expansionary leeway in phases of recession.
- A common monetary policy in the euro area must be designed to match the average economic situation of the member states. Additionally, it is often oriented on the inflation rates of the member states with lower price stability. This increases real interest in countries with stable prices. The priority of price stability results from the tasks of the ECB. The ECB had to first earn its reputation as policymaker for price stability and views price stability as a condition for long-term growth. After successfully building up this reputation and once economic policy has achieved inflation-free higher growth in Europe as well, monetary policy should be able to better support growth.
- The long phase of economic weakness from 2000 to 2005 in Europe – triggered by a hardly growth-oriented macro-policy, but also due to the temporary over-investment in information technologies – reduced the effectiveness of fiscal policy. High deficits that do not lead to a rapid jump-start of the economy (as expected by Keynesian theory and proven in past business cycles) burden the state's finances and limit the ability to provide additional fiscal impulses.
- The possibility of increasing consumption demand by raising low wages and reducing income disparities is limited due to the fiercer competition in the low-price sector.

[28] Macroeconomic stability defined as low amplitude of growth rates.

These "technical" or "institutional" changes in the effectiveness of traditional macro policies cannot veil the fact that more proactive macro-economic steering oriented on growth would have been possible – and still is – through the improved coordination, among other things, between countries and by enforcing infrastructure programmes.

The White Book proposes firstly, that future economic policy should address the European level; secondly, that it should strengthen policy coordination in Austria's regional context (neighbouring countries and regions) and thirdly, implement a growth strategy specific to Austria in three phases. The first phase contains a dual strategy against the solidification of unemployment: first, short-term measures in the low-wage segment and second, investment activity to boost growth. Should the economy slow down, these measures could also be financed by more government spending; if the economic pace is sustained in 2007/08, they must be enabled by additional efforts in the administrative reform ("Administrative Reform III") and by shifting fund allocations in government budgets. In the second phase, the focus should be on growth-driving and quality-improving measures, but the activity rate does not need to be lifted at any cost. When labour starts to become scarce due to demographic trends, the growth strategy should concentrate on technological progress and higher activity rates.

4.2.1 The European level

The European Stability and Growth Pact was eased, with the medium-term budget target now being contingent on the level of indebtedness and growth potential. It also takes into account structural improvements, and demands and insists on the reduction of the deficit in phases of expansion.

These changes have somewhat reduced the previous asymmetry in European fiscal policy. Symmetry should also be incorporated into the "integrated guidelines", the macro-economic part of which today still stresses fiscal stability more than sustainable growth. We still do not recommend any discretionary widening of the deficit in the event of a slowing economy.

The strict coordination of the restrictive fiscal policy goals do not have any counterpart in similarly binding rules to adhere to the growth and employment goals (and no sanctions). This is understandable with respect to the output goals (growth and employment cannot be achieved in a market economy with open frontiers by passing laws). What is not justified is the lacking sanctions and practically uncommented acceptance of long years of ignoring input goals (research spending of 3 percent, higher allocation of funds to universities, etc.). Spending on research by the EU 15 has been stagnating for a decade at around 2 percent. The attainment of the active goals of the Lisbon strategy could also be considered by a bonus credited to the membership fees. Apart from more symmetry in fiscal policy and the commitment to an active role to be played by the public sector during periods of economic downturn, the following is also recommended:

- The implementation of infrastructure programmes should be enforced, and in the event of a slump, there should be plans to carry these out sooner or faster.
- The improvement of the quality of the state's finances (switching to spending with an impact on growth at the EU level) should also be integrated more strongly into the macroeconomic guidelines and the national Lisbon plans.
- The financial framework of the EU should give higher priority to research and cut back assistance to farming based on amount of area cultivated in favour of environmentally-benign farming.
- Instead of keeping spending levels the same every year, the EU financial framework could be provided with a counter-cyclical component (advancing, pre-financing expenditure).
- The European Investment Bank should be involved more strongly in a strategy aimed at stabilising the economy and fostering growth.
- Financing the EU budget by EU-wide taxes (taxes on gasoline for air transport and navigation, financial transactions) should be considered.
- The growth targets and the attainment of the Lisbon goals should also be considered in the policy of the ECB – within the scope of its statutory function.
- Monetary policy could employ the reputation it has definitely acquired to encourage a strategy oriented on growth – rather than giving priority to price stability.
- The national Lisbon plans should fix binding milestones with compliance controlled by the Commission (and which might also be included in the recommendations of the OECD).

4.2.2 The regional level

The national level is not always the right one (for macroeconomic policy and for other policy areas) in a growing, integrated Europe.

In several larger countries, many decisions – including those relating to innovation, training, further education and infrastructure – are taken at the regional level (Länder), at least in part. In smaller countries, the leakage effects as well as the positive spillover of economic and growth-promoting measures are so great that the economic policy strategy should be coordinated with the neighbouring countries. It would make sense to think about forming regional associations that comprise several regions and also extend beyond national borders. These associations might even include a stronger, voluntary coordination of economic policy with the neighbouring countries. This is done in the Scandinavian countries and in the past has also been successful in the BENELUX countries. There are non-binding initiatives for the Central European region (CENTROPA, etc.), but these do not have much influence on economic policy. Closer collaboration between Bavaria, Austria and Northern Italy is also conceivable. Research, training, labour market policy and the acceleration of infrastructure programmes could be potential themes considering the beneficial spillover effects in these policy areas. Supranational "regional policy" in the form of coordinated economic policies between neighbouring states should not conflict with EU Directives. However, these could reinforce the effectiveness of EU policy, reduce leakage effects and take into account similar priorities by the neighbours (where differences exist between the larger regions of a growing European Community).

4.2.3 National economic policy is still important

The notion that a major portion of economic policy has shifted from the national level to the EU level is correct only in some aspects. Certain economic policy decisions have been assigned to the EU level. These concern mostly framework decisions that leave room for manoeuvring and frequently allow an even greater concentration at the national level. Monetary policy is defined by the ECB for 12 of the 25 EU member states. In the positive case, this draws national attention to income policy. Fiscal policy limits the government deficits and enforces the necessity to achieve surpluses before crises in order to be able to take counteractive measures under the Stability Pact during the crisis phases without reaching the deficit limits. The significance of shifts in the budget (quality of state finances) and the incentive effect of taxes and duties become clearer when it is not possible to simply finance every new expense by widening the budget. The Lisbon strategy draws attention to spending on research, educational goals, social cohesion and energy efficiency, with an unlimited leeway for implementation by the countries.

The notion that economic policy has lost significance due to the increasing liberalisation of the European single market and by privatisations is not always correct. There are areas from which economic policy may retire. However, there are new tasks such as competition and regulatory policy that need to be addressed. The new forms of employment contracts (flexibility) and the privatisation of infrastructure companies require more accompanying measures through integrating social systems and new regulatory systems. The ageing population is creating new demands on housing and infrastructure, and migration calls for integrating measures. The concentration of the rich countries on the highest quality segment requires high volumes of investments in new technologies and in qualifications. Globalisation is creating temporary losers apart from winners. Even if the gains are greater than the losses and there are more winners than losers, and even if the long-term perspective of the losers has improved, they still need support during the transition phase as regards re-qualification and the search for new jobs. The relinquishment of spheres of competence to the EU leads to a concentration of economic policy on the remaining areas. Changes in the global economy and the heterogeneity of labour, preferences and qualifications are creating new tasks for national and regional economic policy.

4.3 Three phases with divergent requirements

The economic and demographic situation in Austria suggests implementing a growth strategy – as implied in the explanations on steering macroeconomic development – as appropriate for each period of the business cycle.

4.3.1 The kick-off phase 2006 to 2008

Over the short term, it is necessary to reduce unemployment by pursuing a dual strategy. In view of the high level of unemployment and the risk that this could become a permanent situation, it is even recommended to create and preserve low-wage jobs. At the same time, spending on forward-looking measures should be increased that heighten the level of qualification and reinforces Austria's quality as a business location and future competitiveness. The demand effects of these measures are already having an impact over the short term, while the supply effect (faster technological progress, effect of research and innovation on potential output) follows with a time lag. Financing for the two sides of this dual strategy during this phase should come primarily from adjusting fund allocations in the budget, as the relatively fast growth of the year 2006 should be used for reducing the budget deficit. In the next economic contraction, the funding of the two goals (creation of low-wage jobs, investments in the future) may also be achieved by increasing government spending.

Low-wage jobs could be created and supported in the short term and temporarily by lowering payroll-related costs, by paying out income supplements (integration assistance, combined wages) and by introducing to the market activities covered up to now by the family. It is recommended creating jobs in the low-wage segment even in this phase in

conjunction with the perspective of further education and qualification. At the business level, wage development should take into account differences in company earnings so as to ensure that the increase in productivity attained across the entire economy is compensated at least in part of the economy. Immigration should be encouraged, duly taking into account the legal, humanitarian and long-term aspects. As far as possible, it should be oriented on younger and more highly qualified labour.

The necessity to achieve a zero deficit is lower than it would be without a consistent growth strategy. Nonetheless, it remains the goal to balance the budget over a full business cycle. The consolidation steps taken in phases of an expanding economy could be smaller, while support for growth in the next contraction could be higher if government spending allocates more funds to forward-looking areas and the growth expectations are higher.

4.3.2 Reform phase: 2009 to 2015

Based on calculations of the Austrian unemployment threshold, growth rates of 2.5 percent to 3 percent have to be achieved over the medium term. The low-wage segment is still necessary in this phase, but the focus should be on reducing its share. Qualification and innovation have to start acting as growth drivers and as stimulus for structural improvements. However, it is not (yet) necessary to raise the labour force participation rate at any price. Longer school education, job interruptions to pursue further education or within the scope of a life cycle model, actuarially-fair early retirement and the currently low regular retirement age are not a problem, because supply is higher than demand for labour. Full employment cannot be achieved yet in many areas during this phase. A tax reform should be designed to ameliorate the costs of the factor of labour and create positive incentives for employment and investment activity. Changes to allocations in government budgets should additionally encourage innovation and education, and – having been launched in the kick-off phase or earlier – are already having an impact on growth and employment. The increment of the regular retirement age in phases (simultaneously with more options regarding the start of retirement) to match part of higher life expectancies should be carried out or at least announced. Priority should be given to the adaptation of jobs for older workers and life-long learning.

4.3.3 High-tech phase: as of 2015

Only after 2015 will it become necessary to increase the activity rate by additional incentives and measures. As according to current forecasts, the pool of available labour is stagnating or is even starting to decrease, technological progress (linked to the factor of capital or isolated as total factor productivity) and improvement of the quality of the factor of labour will be the only source of growth. The catching-up process in the new member states has resulted in these countries taking over large areas of the middle technologies or are at least producing components for the technology industries. The Asian industrialised countries are specialised in

mass production and transportable goods. New competitors from the former Soviet Union and Turkey are gaining market shares. By then, the low-wage sector should have been largely reduced (apart from a few socially motivated segments). Austria is positioned in the upper segment of the middle technologies and in niches of high technology as well as in innovative services and problem solutions. Only if Austria bears this perspective in mind during the two first phases and all parties involved know the long-term goals, will it be possible to avoid friction and the low-wage trap.

5. The eleven strategies

The strategy to increase employment through higher economic growth contains eleven strategy elements – in addition to the improvements to the steering of macroeconomic development described in Section 4.2. The first three elements primarily serve to increase the medium-term growth trend and are referred to as determinants or "drivers" in literature on economic growth: These are *innovation* (Strategy Element 1), *education and qualification* (Strategy Element 2) as well as *infrastructure investments* (Strategy Element 3); all three elements – if they involve additional spending and not only heighten the efficiency of spending – also boost growth on the demand-side. The next group contains accelerators that reinforce the effectiveness of market forces and of economic policy measures: *competition and start-up activity* (Strategy Element 4), *flexibility and security* (Strategy Element 5) and the improvement of the *quality of the public sector* by implementing a taxation policy that encourages employment and government spending that fosters growth (Strategy Element 6). The third group takes advantage of specific Austrian features, achievements to create jobs, value added, and increase exports by *successful technologies and service clusters* (Strategy Element 7), on the one hand, and by taking advantage of the experiences of *innovation in energy and environmental policy* (Strategy Element 8), on the other hand. The latter group creates additional employment by *transforming informal work into gainful employment* (household, care, homecare; Strategy Element 9), by *promoting gender equality* (10), and by increasingly using the *social system as productive force* (Strategy Element 11).

5.1 Innovation

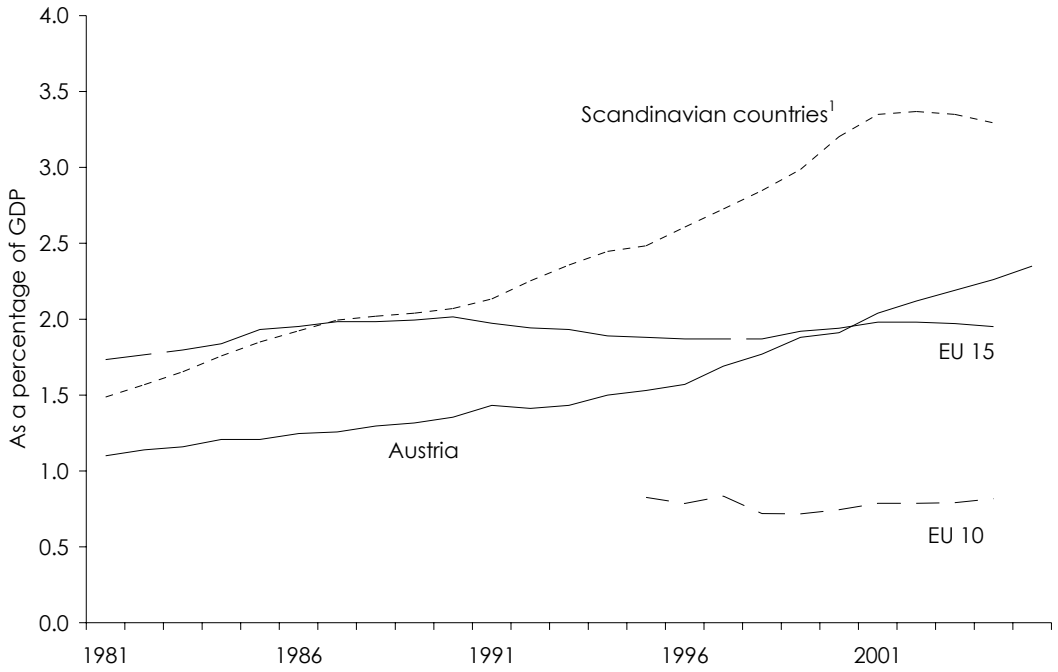
Innovation plays a central role for growth in highly developed economies. Technological innovation as well as social and organisational innovation is an important determinant for the competitiveness of an economy and therefore crucial for the creation and preservation of jobs. The contribution of innovation to economic growth can be measured by the econometric analysis of cross-section data (*Falk,* Substudy 2) or by breaking down growth into (i) quantitative increase of the inputs of labour and capital, (ii) their quality and (iii) autonomous technological progress (*Peneder,* Substudy 3). *Peneder* estimates the contribution of autonomous technological progress for Austria in the period from 1990 to 2004 at 0.8 percentage point – almost one-third of actual growth. The higher quality of labour and capital jointly make a similar contribution. Thus, two-thirds of overall growth is "qualitative growth"; only one-third is due to the pure increase in inputs. At the company level, the contribution of research to sales revenues and employment has been proven by many studies. Due to the positive spillover effects – research findings are beneficial not only for the company conducting the research – the returns on research spending are even greater for the entire economy than for the individual researching company.

Austria's position

Catching-up process and achievements

Austria imported technology during the economic reconstruction period after World War II and was selected as production site because of the low wage level (and the quality of the skilled workers). This role is increasingly being played by the enlargement countries today. As a country with one of the highest per capita incomes, Austria has to become a developer and exporter of technology and position itself in the highest quality segment for industrial products and services.

Figure 13: Large disparities in spending on innovation
Share of R&D in GDP



Source: OECD, Main Science and Technology Indicators; EU. – [1] Denmark, Finland, Sweden.

Austria has continuously been improving its technological position in the past 15 years. In 1990, it was below or at best on the average of the EU member states, while today it ranks in fifth place according to the *European Innovation Scoreboard*. This is also true for one of the most frequently cited innovation indicators: The share of research spending in gross domestic product (R&D ratio) has risen from 1.4 percent (1990) to 2.4 percent (2006), putting Austria in fifth place among the EU countries (after Sweden, Finland, Denmark and Germany). The attainment of the Lisbon targets of a 3 percent ratio by 2010 is feasible if spending by businesses and the public sector continues to increase by 11 percent per year.

The subsidisation of research through taxation (indirect subsidy) has been widely enlarged in the past few years and, in a similar manner, direct subsidies (by low-cost loans, grants, etc.) have also helped to boost research activity. More spending on R&D was not due to more robust growth in the high-tech industries, but rather to more spending on R&D within existing structures. The high technology segment by contrast has grown at below average rates – especially as regards value added – and has lost weight. To accelerate structural change, a reform of the training, further education and research systems is necessary to enable a transformation towards high technology and knowledge-based services.

The weaknesses of the innovation system

There are substantial weaknesses in the Austrian innovation system that need to be eliminated in addition to increasing research and innovation efforts to boost growth and employment. We have grouped these into four problem areas:

First, Austria has some quantitative and some qualitative deficits in the high-tech industries as well as in the technology and knowledge-based services. The focus is on applied research and experimental development, while the significance attached to basic research is (very) low. Innovation is usually of a type achieved step-wise, incrementally and seldom radical; value added in the high-tech segment is decreasing. Venture capital financing does not concentrate on risky projects in the first phase of innovation.

The qualitative deficit in Austria may be due to the long period of scant spending on R&D, but also to the absence of company headquarters with research facilities, the inadequate cooperation with universities and the lack of innovative firms in the service sector. This deficit was not a problem in Austria's reconstruction phase, but is becoming one in the face of new competitors pursuing imitation strategies and taking over the medium-high technology position.

Secondly, innovation and research is hardly anchored within the corporate sector. The number of companies engaged in research and innovation has risen in the recent past, but the quantitative portion of R&D activities is still concentrated in a few large corporations. Large corporations also absorb a very large share of the indirect subsidies without expanding radical innovation activities dramatically. The companies are probably also not challenged enough by consumers, the public sector and demand for investments and services. Research cooperation among companies, between companies and universities and colleges is much too rare. The share of university research funded by corporations is far below the average.

Thirdly, lacking innovation activity is an unintended result of the educational and university system in Austria. Innovation, renewal, the aspiration to achieve the radically best solution is neither firmly entrenched in the occupational nor in the educational system; relationships between university and the business sector are not intensive enough, the number of university graduates with technical and natural science degrees and the general ratio of academics is

too low (the standing of natural sciences and also of information technology is not high enough at general upper secondary schools and occupational upper secondary schools). There are not enough new companies, industrial research and problem solutions in the area of modern services. Generally, Austria does not spend enough on universities and non-university high-quality research.

Fourth, a part of the long years of low research spending is due to the fact that the Austrian industrial and service structure does not concentrate as much on innovation-intensive industries as would be commensurate with the income level. Although the system of providing subsidies according to the bottom-up principle does take structural change into consideration, it does not do enough to support change. Moreover, the subsidy landscape is still lacking transparency and is fragmented, the evaluation culture could do with further improvement. Research spending and achievements are not topical in regional policy, collective bargaining agreements or company presentations.

These four deficit fields show that there is a need for catching-up in the production of innovation as well as with respect to demand for innovation and the accompanying institutions of the Austrian innovation landscape. More efforts need to be invested in improvements and in financing, and the organisational and institutional framework needs to be overhauled.

Reform programme

Strategic orientation

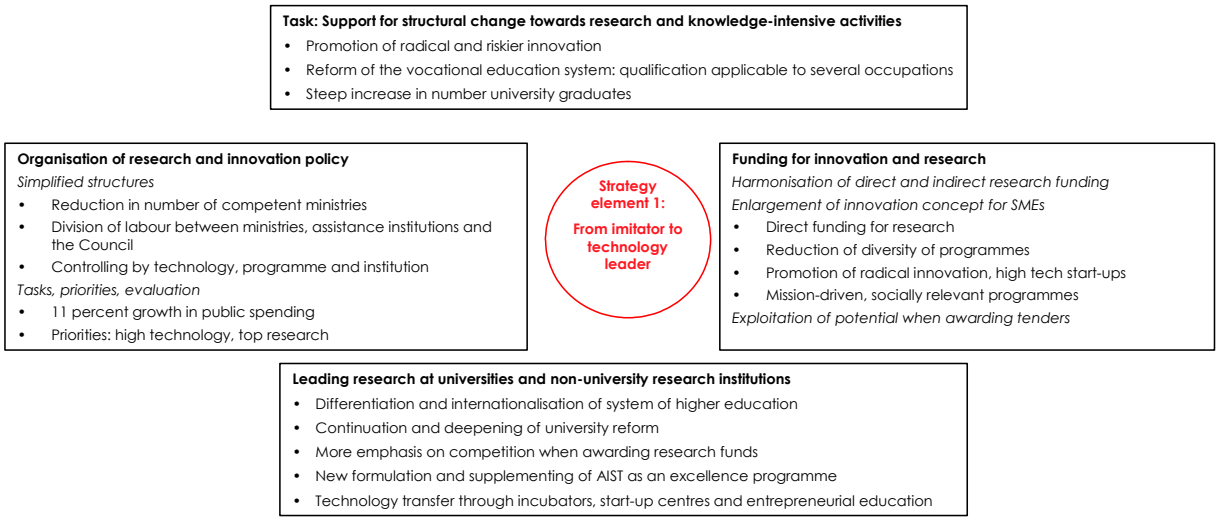
The current system of innovation has substantially narrowed the lag behind the leading countries. The task of an innovation-based growth strategy would be to reform the system in a manner that ensures competitiveness on the technology front (frontier strategy). The structures of the economy, the educational system and the public sector must be changed to allow the efficient application of R&D funding.

This requires the following strategic decisions:

- Reform of the innovation system for the new role as an independent producer of leading technology (frontier technology instead of catching-up process);
- creation of a research and innovation location that is also attractive for international students, researchers and companies;
- determination of binding research strategies for all bodies that implement research and innovation policy;
- establishment of achievement, competition and evaluation as basic principles of research and innovation;

- strengthening of synergies between the systems of education and research, e.g., orientation of education on increasing demand for researchers.

Figure 14: Innovation strategy



Implementation measures

Organisation of research and innovation policy

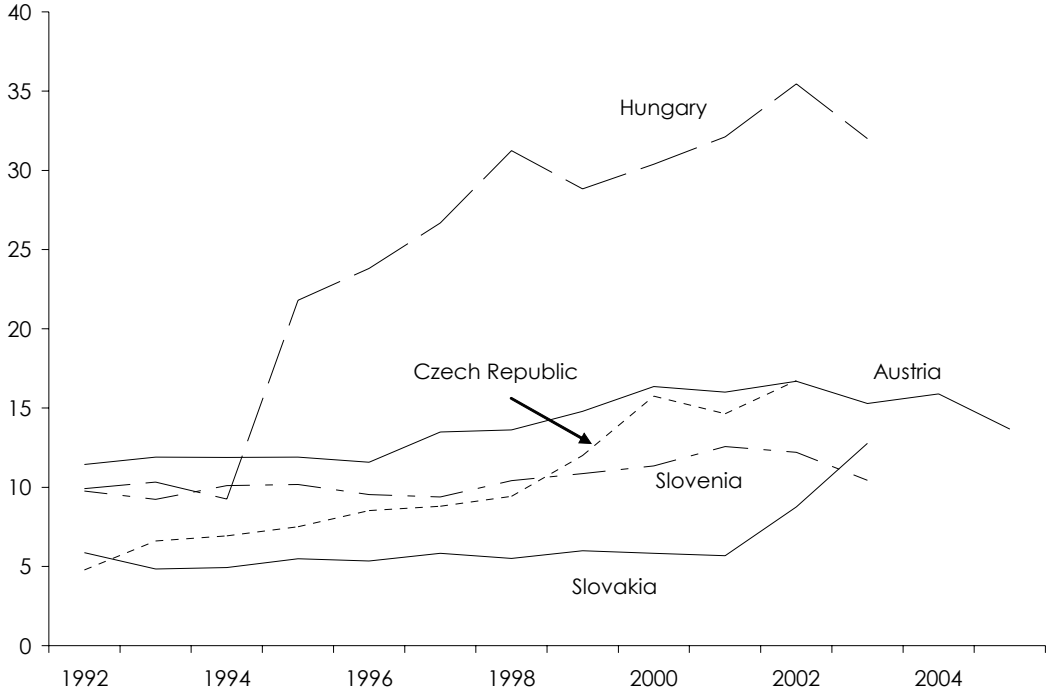
- Reorganisation of areas of competence of ministries with respect to research, technology and innovation policy (competencies); it would seem useful to concentrate research, technology and innovation competence in two ministries;
- definition of division of labour between the ministries, institutions, the Council for Research and Technology Development, universities and non-university research institutions;
- commitment of the government to increase spending on research by 11 percent per year (as would be necessary for the Lisbon goal);
- definition of what is to be achieved by subsidies through tax incentives (broad) and direct subsidies (depth);
- evaluation of what has been achieved thus far by tax incentives;
- definition of technology priorities including priorities with dual returns: mission-driven programmes useful for society (environment, health, architecture to fit old age;
- more competitive tenders for research funds, especially for university research (by *Fonds zur Förderung der wissenschaftlichen Forschung, FWF*);
- strong concentration of subsidies in high-tech areas;

- transparency of use of funds by consistent overview of subsidies according to uniform criteria that are purposeful for the planning of measures in this area (e.g., it is currently not possible to determine the funds used for biotechnology);
- general shift from subsidies for investment to subsidies for innovation (all levels and institutions);
- bundling of measures for direct assistance into lines of action such as (i) subsidies for radical, high-risk innovation, (ii) subsidies for small and medium-sized businesses (initiation and expansion of innovation), (iii) implementation of collaboration of science and business and (iv) technology focus (mission-driven programmes, Austrian strengths);
- promotion of additional sources of funding for research (municipalities, foundations, inheritances, donations);
- increase of number of graduates with tertiary education as well as from upper secondary schools to support the structural change in the economy towards more intense research and innovation activity.

Promoting diffusion

- Broader assessment base for SMEs for tax reliefs. Transition from assistance for R&D spending to spending on innovation (definition of innovation spending according to the Oslo manual);
- bonuses for third-party co-financed research (in the case of cooperation between business and university and non-university research institutions; additional state-subsidised bonus of around 20 percent on third-party funds);
- higher research bonus for start-ups;
- abolition of assistance for "inventions valuable for the economy" and the confirmation required from the Federal Ministry for Economic Affairs and Labour, introduction of a regular track for tax reliefs;
- combination of research policy with measures for structural change (attract headquarters with educational and research institutions);
- cluster policy to reinforce synergies and the absorption capacity of firms and industries;
- more intense use of European research programme (more co-financing and lead financing) and of monies from the Structural Funds for innovation and R&D;
- strengthening international innovation networks;
- support for innovation by passing laws promoting quality (building code, standards) and by the public sector acting as a role model;
- propagating eligibility of third-party funded research for subsidies.

Figure 15: Share of high-tech industry in exports



High-tech industries:
2440 Pharmaceuticals, medicinal chemicals and botanical products
3000 Office machinery and computers;
3200 Radio, television and communication equipment and apparatus;
3300 Medical, industrial process control equipment, optical;
3530 Aircraft and spacecraft.

Source: WIFO calculations, UN World Trade Database.

Innovation depth and structural change

- Structural change by differentiation for direct assistance: Higher degree of assistance for high-risk innovations and high-tech;
- improved implementation of research findings at universities by supporting establishment of new companies (spin-offs);
- support for the establishment of technology start-ups especially regarding financing such as making venture capital available in the early stage through assistance measures;
- special packages for businesses planning to set up or expand research centres in Austria (provision of skilled labour by AMS, focus on occupational secondary schools and specialised colleges, course of studies and laboratory facilities at universities);
- evaluation of research promotion, the variety of research promotion measures, interaction between ministries and assistance actions;

- strengthening research and innovation through demand from the public sector.

Leading research at universities and research institutions

- Excellence programmes for existing universities and research facilities as a supplement to the Austrian Institute of Science and Technology;
- enhance the appeal of universities for international researchers;
- invitation to students from the enlargement countries to study in Austria addressed to the top 5 percent of each country;
- better support and integration of international students in Austria with partial integration into the labour market;
- orientation of universities on research topics and areas of study (nanotechnology, complexity research) instead of the disciplines of science;
- greater orientation of master study programmes on demand from industry (and services);
- integration of the topics entrepreneurship, starting businesses, research technologies, intellectual property rights into the curricula;
- higher priority for innovation, natural sciences and technology at middle-level schools and upper secondary schools;
- increase the share of study options in the areas of technology and natural sciences;
- publication of job opportunities by course of study before the start of the study year.

5.2 Education and qualification

The quality of human capital determines growth and the competitiveness of a country. The excellent qualification of workers is the foundation for the capacity to achieve technological, social and organisational innovation. Human capital is a central variable of the econometric explanation of growth disparities and for the detailed analysis of growth by component. As per capita income increases, human capital will become even more important for growth of a country compared to available raw material resources and also relative to material investments.

The quality of human capital in Austria is determined not only by education and training, but also by the qualifications and the integration of migrants.

Job-related further education is becoming increasingly important as a determinant for competitiveness, growth and employment. For this reason, the European Union has added a separate further education goal to the Lisbon strategy. One-eighth of the population should take part in life-long learning.

Box 1: Reform of sabbatical for further education purposes

Starting situation

Life-long learning is growing in significance. This often requires longer periods of further education (educational sabbaticals). The current model of the educational sabbatical regulated by law is hardly used (2005: 1,358 persons). To be eligible, the current system requires a person to have a period of prior employment of at least three years and the needs of the company must be taken into consideration. The period for which the allowance for further education is granted is between three and twelve months. By receiving this money, the employee has insurance for health, casualty and pension coverage.

Reform proposal

The allowance for educational sabbaticals should be raised from € 14.53/day to at least the amount of a supposed unemployment benefit (average unemployment rate in 2005 was € 24.10/day). It would also be worth considering creating a progressive scale for the allowance for education sabbatical or linking it to the degree of formal education as a means of motivating groups of the population who have a lower participation rates in further education. The employer tops up the allowance for further education (e.g., 50 percent of income loss) if there is agreement at the company level and the training constitutes a substantial benefit for the company. This would help to make sabbaticals for further education purposes more attractive – the public sector, employer and employee would jointly bear the costs.

Further options for designing sabbaticals

The three-year employment requirement with the same employer could be replaced – similarly to the conditions applicable for students receiving stipends who support themselves – by the receipt of income in a certain minimum amount (self-supporting recipients of stipends: annually at least € 7,272). Theoretically, the benefit of an allowance for further education could thus also be opened to persons employed as freelancers or under work contracts. The minimum duration of the educational measures (3 months) should remain intact, but the maximum term should be handled more flexibly and linked to the term of the training. In the case of educational programmes that last a longer time, proof of the successful completion of the course should be required.

Incentives for further education should also be created for recipients of childcare allowances, if the childcare allowance is not used until the 30th month of the child. Those periods during which persons on childcare leave claim childcare money, but use the time for further education, should be granted the higher allowance for further education.

A part-time educational sabbatical model could enable employees who have at the most only completed apprenticeship or lower-level vocational schooling, to upgrade their education and obtain secondary school, apprenticeship training, specialised vocational school or upper secondary school leaving certificates). Depending on the amount by which working hours are reduced, a pro-rated portion of the allowance for further education should be tax free (fictitious unemployment benefit). The part-time childcare leave model in the case of single parents (worker, married, one child) with a gross monthly salary of € 1,500 who shortens working hours from 38 to 30 hours per week would give rise to costs of € 4.84 per day.

The expansion of the part-time further education sabbatical model to include more highly-qualified persons would increase the appeal of the part-time models. Currently, part-time employment in Austria is mostly female, while the average number of weekly working hours of men is above the EU average.

The growing significance of further education has the following reasons:

First, the level of knowledge and the skills called for by the business sector are changing very fast.

Second, Austria's new position as a provider of technology and organiser of the changed economic landscape of Europe requires new qualifications.

Third, job careers are becoming longer because it is getting harder to retire early.

Fourth, the ageing of the population will result in the group of 45 to 64-year-olds to be the largest one on the market by 2010 (it replaces the 25 to 44-year-olds as the largest group to date).

Fifth, in-house further education will lose appeal for companies, because the rising mobility of workers means that they cannot be sure of earning a return on the costs of further education through higher sales revenues.

Austria's position

Training

The Austrian system of education has had and still has a generally good reputation. Austria as a business location usually achieves a good ranking with respect to education, flexibility and motivation. Nonetheless, there is a need for reform, especially the permeability of educational paths should be heightened, the educational chances of disadvantaged groups increased and the integration of persons with a migration background improved. Austria's new position as a rich country closer to the technology front and with new organisational and management tasks makes the permeability of the system and the quantity and quality of tertiary education the most important competition factor.

Austria's competitive edge is at risk of crumbling for several reasons:

First, the dual system of education and the qualified and skilled workers it produces have always been viewed as a competitive advantage in the past. However, most apprenticeship positions are offered in manufacturing and in the traditional clerical and personal services. The number of apprenticeship positions is decreasing and the workshops for apprentices at the large, formerly state-owned firms have been closed. Modern service enterprises hardly train any apprentices. Most apprentices do not exercise the professions they trained for later on.

Second, Austria has a deficit in the number of tertiary graduates but at the same time a large share of secondary graduates. The deficit in tertiary education was diminished by the

creation of the specialised colleges (*Fachhochschulen*), but not eliminated[29]. With the higher income levels and the necessity to be present in the highest quality and technology levels, the position with respect to tertiary graduates is increasingly determining Austria's competitiveness (a good position with respect to secondary graduates helps in phases of eliminating technology deficits.)

Thirdly, the new member states are already competitive today in the area of middle-level qualification, in which Austria used to have a relative advantage. Additionally, they are less expensive.

- The rapid structural change requires new and broad qualifications that can be used flexibly for the rapidly changing technologies, market opportunities and problems.
- Within the university studies, the share of graduates with degrees in the technical and natural science fields is low in Austria. Generally, Austrian universities are not always successful in international comparison.
- The Austrian system of education is characterised by a striking differentiation in the participation in education by social origin and regional infrastructure. Educational decisions are taken relatively early and the boundaries of the system are hardly permeable.

Further education

The landscape for further education in Austria is highly fragmented and it is hard to obtain an overview. The offerings are not coordinated. They are often overlapping, do not supplement or have a modular in design. Informally acquired knowledge is only inadequately documented and used. The occupational segment of further education is strongly restricted to own initiative, younger generations and persons with higher formal qualifications. Internal personnel and career planning often fails to take the change in skills that comes with age into account.

Integration of migrants

The growing share of migrants in the active population is rendering Austria's competitiveness dependent on the qualification of this group of workers. Migrants of the first and second generations are in the educational system for shorter periods and fewer take part in further education measures (*Biffl*, 2004). A large share of migrants with poor education and a low level of training is a problem for the economy as it increases the job risk and the threat of social tension. A major share of apprentices and skilled workers in Austria will come from the

[29] It is larger than can be explained by the institutional situation.

population group of migrants in the future, because the other segments of the population are increasingly completing full-time secondary education.

Reform programme

Strategic orientation and fundamental principles

- Decisions on education should be reached irrespective of the family, social or regional background. In cases in which this happens, it must be possible to make corrections afterwards – the horizontal and the vertical permeability of the educational system must be increased.
- Substantial investments must be made into education, training and integration. Institutions and incentive structures must be adjusted to the new requirements of a rapidly changing society, new technologies, high immigration and flexible labour structures. Standards and performance goals must be defined for all institutions and their compliance should be evaluated.
- Further education must become topical across a broad spectrum and interest not only the persons concerned, schools and firms, but all instances of society. It must also have a decentralised regional component, e.g., contact persons, promoters and competent persons at the municipal and district levels.
- The state, province and municipality are responsible for spreading the external returns achieved to ensure that the benefits of further education accrue not only to the persons directly involved (spillover, cumulative effects).
- A legal right to further education may be viewed as suitable compensation for greater flexibility in working hours and as a basic element of a flexicurity strategy.
- The successful integration of migrants is increasingly determining the quality of Austria's labour force. This must specifically be taken into account in all educational and training measures with the cooperation of representatives of migrants.

Implementation measures

Apprenticeship and vocational education

- Promotion of apprenticeship positions in segments with promising job prospects;
- apprenticeships for modern services (awareness and new apprenticeship programmes);
- reform of the so-called "poly-technical year" and vocational schools (see Box 8);
- reform of teacher training;
- strengthening the company component in safety nets;

- establishment of occupational profile of apprenticeship with option of obtaining an upper secondary school leaving certificate (also at companies).

Greater vertical and horizontal permeability

- A higher share of secondary graduates with upper secondary school leaving certificates should be aimed for and the completion of education during working life should be facilitated;
- vocational decisions should be made later and should be easier to correct;
- strengthening of performance groups at school;
- permeability between the different schools should be increased as well as between apprenticeship and school.

Quality of schools

- Increase in the quality of education at all levels by promoting strengths and eliminating weaknesses (teacher aids, streaming, reduction in ratio of teacher-to-pupils);
- promotion of information technologies in the educational system (minor significance in apprenticeship training and at vocational schools up to now);
- strengthening internationality of secondary education (encourage exchange programmes for pupils and teachers);
- promotion of education and training aspects in the agricultural sector and rural regions;
- invitation, care and integration of foreign students in exchange and excellence programmes;
- strengthening autonomy of schools at simultaneous evaluation and achievement measurement;
- eliminate the deficit in tertiary graduates, especially in the fields of technology and natural sciences, and in management and organisational professions;

Upgrading the teaching profession

- Upgrading of schools and social recognition of the teaching profession by introducing, among other things, more competition, external evaluation;
- increase mobility in the teaching profession: autonomy of schools in appointing and paying staff, entry and exit options, longer teaching periods in exchange for sabbatical semesters;
- promotion of mobility among teachers (regional, international, subject-related);

- sabbaticals for teachers (possibly in exchange for temporary higher number of teaching hours or support service for migrants or payment of costs of further education);
- easing entry and exit options for teachers (transitions);
- options for highly qualified teachers (skip classes, performance groups, priority in international exchange programmes);
- homogenisation of the diverse education and training schemes for elementary and secondary school ("Hauptschule") teachers as well as for teachers at the more academically oriented secondary schools ("AHS") and upper vocational secondary schools (colleges and universities).

Organisation of further education

- Further education must be worth the effort and become standard practice;
- a better overview of further education options;
- codification of graduation diplomas;
- embedding further education in a national qualification scheme in accordance with the European efforts;
- develop instruments for recognising informal knowledge;
- building block system for further education.

Incentives for further education

- The legal right to further education is a suitable compensation for greater flexibility in working hours (component of a flexicurity strategy, e.g., higher flexibility and working hours in summer in exchange for blocked further education during periods of slow demand; see Box 1 and Box 7);
- working hour accounts and sabbaticals should be developed in the interest of companies and employees;
- further education must start at companies before a job is lost;
- regional components of further education, e.g., a contact person, promoter or responsible party at the municipal or district level;
- encouragement of further education through media campaigns (raising awareness);
- promotion of existing tax reliefs for further education (dissemination and an evaluation after three years).

Box 2: Transition labour markets – Opportunities for more employment

The concept

Transition labour markets should form a bridge between two states: On the one hand, education, further education, and family work, and on the other, employment as well as between types of employment (part-time/full-time, self-employed/dependent employee, temporary/indefinite contract) and between employment and further education or retirement.

The purpose of the transition labour market is to ease access to the labour market while also ensuring that this phase actually remains only a transition and does not turn into a permanent state (trap). The bridges should generally be accessible from both sides.

Part of a flexicurity strategy

The critical phases of transition should be ameliorated at least in part by the financial, organisational and social framework. This should support individuals and companies, help overcome income insecurity and protect against risks. Therefore, transition labour markets combine flexibility and social security (flexicurity) in sub-segments of the labour market.

Example: Marginal employment

Persons with marginal employment contracts have accident insurance. Health and pension insurance may be bought for € 45, but the purchase must be explicitly claimed. In this manner, many persons who are marginally employed over longer periods lose pension years and are not insured. It would be feasible to automatically start the self-insurance when a person is registered as marginally employed unless the employee explicitly requests opting out of the self-insurance, because he or she already has insurance under another employment contract (switch from opting in to opting out). It would also be feasible that (i) this switch between options takes place only after six months of marginal employment, (ii) previous insurance periods can be bought afterwards, (iii) as of one full year of employment with the same employer, the employer takes over a portion of the insurance payment. All of these proposals prevent insurance-free transition phases from turning into permanent ones.

Example: Open welfare benefits

The open welfare benefit system introduced in the 1970s as a residual safety net is increasingly being used by wider groups with a variety of problems (debt, divorce, unemployment, no housing, low-wage sector) and by unemployed not entitled to social insurance coverage. These persons do not receive any training to improve qualification and once they find a job again, they must repay the welfare benefits (refund is not executed in all provinces). The lacking qualification and the theoretically high "marginal tax" in the event of re-entry into the labour market prevent the transition to employment. Persons able to work should be integrated into training programmes and once they find a job again for several months, the refund of the welfare benefits should be waived.

Transitions from full-time to part-time work, from self-employed to dependent employment should be regulated so as to allow a return to the previous status and to ensure that entitlements earned during full-time work (amount of unemployment benefits, pension payments, severance payments) are not immediately cut.

Integration of migrants

- Earlier start of education to compensate gaps in language skills, capacity of expression: one year of kindergarten to be mandatory;
- tutoring, special teachers to eliminate weaknesses;
- integration of migrants into the school organisation;
- special offers to complete schooling at a later time; recognition of qualifications earned abroad;
- integration of migrants through diverse offerings, competition of public and private institutions, NGOs and non-profit initiatives;
- combination of language courses (for persons who immigrate to Austria after completing school education) with employment schemes.

Increase activity rate among older generation

- Development of a programme for older workers (analogously to the Finish programme FINPAP);
- workplaces at companies should be adapted to ageing, careers should enable switching between job types (forward-looking personnel planning);
- flexibility of workflows and working hours should meet the needs of employers and employees (balanced flexibility);
- promotion of vocational qualification in adult education;
- qualification measures for education not completed;
- integration of groups not close to the labour market, handicapped;
- partial unemployment and partial retirement;
- reform of disability pensions.

5.3 Infrastructure as a locational and demand factor

A high-capacity infrastructure forms an important basis for the economic development of a country. The most important physical infrastructure areas include transport, energy, information and water management. Empirical studies have proven that public infrastructure investments have not only a short-term positive impact on growth but also a long-term impact.

Investments in infrastructure increase the productivity of an economy especially if it helps to overcome bottlenecks (traffic jams, excessively long travel times, etc.). Improved transportation helps companies to expand their sales markets and lower transport costs. In

the area of environmental protection, the long-term effects are positive, e.g., lower water treatment costs and less damage to plants from emissions. The expansion of the energy supply grid is necessary to ensure undisrupted flows and thus secure energy supply. Longer periods without electricity in an information society are the equivalent of a catastrophe.

Investments in infrastructure increase the growth potential and also help to stabilise economic demand in times of low consumption or restrained investment activity in capital goods. Generally, it may be assumed that investments in infrastructure in an amount of € 1 billion increase employment by 8,000 to 12,000 persons. The multiplier is smaller, the higher the import ratio such as for capital goods, and lower for local construction investment activity and several areas of intangible infrastructure.

The needs in infrastructure are shifting in the wealthy countries:

- From tangible infrastructure to intangible infrastructure,
- from new construction to restoration work and replacements,
- from construction output to planning services, logistics, inclusion of telematics,
- from the establishment of a central grid to its optimisation and the elimination of bottlenecks.

Austria's position

Transport infrastructure

Investments in tangible infrastructure, particularly in roads and rail, have increased substantially in the past few years, and there are plans to further expand investment activity (Transportation Policy Scheme). In the next few years, roads[30] and railway lines[31] to the enlargement countries will be improved and bottlenecks are to be eliminated. Delays in planning are to be avoided and proceedings accelerated. Important are measures to steer the development of road traffic to avoid traffic jams and peak loads (e.g., congestion charges for certain times of the day) and reduce door-to-door journey times for passengers and freight on the railways.

The project of the Brenner base tunnel is less important for Austria than for Germany and Italy as regards traffic management aspects. It significance for Austria is in the reduction of the strain on the environment. The experience made with cost overruns in large-scale projects of

[30] For example, railway line between Bratislava and the Summerauer rail axis: Summerau Linz Graz Spielfeld and the A6 North-East motorway Parndorf Kittsee Bratislava, the A5 North motorway Wien Brünn, S7 in the direction of Hungary; Fürstenfelder highway Riegersdorf Heiligenkreuz and the S10 Mühlviertler highway Linz Freistadt.

[31] The further expansion of the four rail line Westbahn and the two rail line expansion of the Pottendorfer line to relieve the southern route.

this size is to be considered carefully and taken into account when planning and executing the project. Unplanned additional costs from this project would hinder the expansion of infrastructure in other areas. Before completing the project, the willingness of all *Länder* and of the EU should be ensured to shift a major part of traffic to rail transport by taking steering measures so as to render the project worthwhile (increase in tolls on competing roads to Swiss levels).

Energy and telecommunications

In the area of electricity management, the gap in the North-South connection is to be closed, decentralised generation of electricity should be enlarged and alternative sources of energy encouraged.

With respect to telecommunications, territorial coverage and competition in the broadband segment should be given high priority. Demand for information and telecommunications technology is to be promoted (government, *Länder*, municipalities, further education).

High priority should be given to competition in the electricity and telecom sectors and non-discriminatory access to the grids and networks is to be ensured. Regulatory bodies must be strengthened and should also analyse developments in competition intensity with a view to future trends. Competition might become restricted due to the emergence of national and international company groups, which could make services more expensive again.

Organisation of know-how for exports

The great opportunity for developing countries is to be able to use expertise gained within the country for exports. This is particularly true for Austria due to the need of the neighbouring countries to catch up. The opportunities are in the areas of tunnel construction and in telematics, utilities and disposal services and in water management technology. Economic policy must support companies with information and the legal framework conditions. It is particularly important to promote commitments abroad in areas where the public sector is still owner by incorporating such goals in the statutes and corporate missions and appointing a management with international experience. Without outsourcing or at least partial privatisation enterprises are usually not flexible enough to take advantage of the opportunities abroad. The timeframe for exploiting the first mover advantage is short.

Municipal water management is an example for the structural shift from coverage of home markets to exports and consulting opportunities. The need for investing is high but it is no longer rising and moving from the field of construction to restoration work; saturation is appearing in the domestic market, but at the same time the exporting opportunities are growing. Economic policy can provide support through information on calls for tenders and the legal framework. It is also important for Austrian firms to be able to make the required financing offers for the projects and also reach the required size, for example through

collaboration, project partnerships and mergers. If the bidders are public sector enterprises, the readiness and authorisation to act abroad should be established and/or enlarged. Optimisation should be attained also beyond the borders of the municipalities (by changing the by-laws or by privatisation, joint ventures, etc.).

Reform programme

Strategic orientation

Overall, the area of infrastructure is undergoing a significant transformation. The need to expand the physical infrastructure declines in a rich country, while the significance of interfaces, elimination of bottlenecks, value-enhancing repair work, use of new technologies and intangible infrastructure is gaining significance. Austria has a need to catch up through the enlargement of the economic relations with the new EU member states. The focus is on high performance and service quality, with investments in transhipment facilities, railways and logistics being the high priority goals. The expansion programme for the high capacity road and rail networks defined in the Austrian Transportation Policy Scheme is ambitious but delays should be avoided. An acceleration of the pace should be included in the plans in the event the economy slows down. Austria's expertise (tunnel construction, logistics, road pricing, planning) should be exploited in connection with the great need for catching up in the enlargement and neighbouring countries. Peak traffic loads can be smoothed by applying road pricing and city centre tolls, and long-term holiday planning. Innovative transport alternatives for passenger and freight transport in agglomerations will be developed. Procedures should be made faster; delaying mechanisms should become expensive just as incomplete applications and poor procedures management by authorities. Mediation procedures can help to prevent conflicts and shorten the duration of proceedings.

Bundled implementation measures

Enlargement of infrastructure

- Ensuring the financing of the Austrian Transportation Policy Scheme;
- promotion and acceleration of Trans-European projects;
- elimination of bottlenecks in the physical infrastructure, e.g., railway lines and roads to the enlargement countries;
- reinforcement of capacity to accelerate the progress of large-scale projects in phases of a contracting economy and of awarding smaller contracts faster (flexible start);
- re-thinking the physical infrastructure (road, rail, lines) regarding intangible aspects (usable value, maintenance, service, problem solution);

- enlargement of energy security by strengthening North-South connections (380KV line) and expansion of decentralised supply (co-generation and alternative energy sources);
- use of Austria's strengths in alternative energy (solar energy, passive energy technology in procurement by the public sector, subsidised residential construction and export);
- improvement of broadband penetration (supply and demand) in rural areas.

Improvement of quality/steering

- Application of telematics to steer traffic flows and heighten safety;
- investments in transhipment facilities;
- inclusion of side roads and bottlenecks in transport management (road pricing, City toll);
- reducing peak traffic loads by applying road pricing and City tolls, organisation of holidays, telework;
- promotion of innovative transport alternatives for passenger and freight transport in agglomerations;
- shortening approval procedures (mediation, qualified reversal of burden of proof, costs for arbitrary delays and inadequate quality of documents submitted);
- timely planning of repairs and inclusion of ecological elements (materials, noise, energy savings);
- investment campaign at the interfaces (rail, road) with the optimisation of door-to-door transport times;
- promotion of use of broadband by municipalities, peripheral regions, small enterprises and schools;
- coordination agency for information and communication technologies;
- cluster initiatives for information and communication technologies.

Innovation and use of know-how for exports

- Exploit technology advantage in the areas of ecological and energy-saving construction as well as for alternative, decentralised energy technologies and through activities in new export markets;
- exploit potential markets for water management and disposal management in Central and Eastern Europe;
- export campaign in the traditionally strong branches of the economy with high innovation content such as tunnel construction, telematics and planning services for energy-optimised building;
- de velop Austria into logistics hub of an enlarged Europe.

5.4 Competition and start-up activity

There are changes underway in the landscape of the business sector. Large companies are merging, undergoing internationalisation and diversifying. At the same time, there are counter movements in the shape of concentration on the core business, hiving off of divisions, outsourcing business functions. Medium-sized companies are using the dynamic of the neighbouring countries and globalisation to spur their growth. Small businesses in saturated markets are establishing branches in neighbouring countries and optimising their supply structures. Employment dynamic is shifting from the large companies to medium-sized ones, the fast-growing small businesses and one-person businesses. Employment is growing broadly only in the service sector. Nonetheless, it is the network of relationships and suppliers (especially industry and services) that make a business location attractive. The number of start-ups and types of legal forms of new businesses is rising, driven in part by the mobility of capital due to EU regulations and in part as a reaction to job loss.

Austria's position

Austria has a lack of competitive spirit despite many measures to improve competitiveness. Competitiveness is striven for by becoming bigger and through mergers rather than through innovation, competition and the establishment of new companies. The number of start-ups is rising, but usually in traditional segments. In infrastructure sectors, the intensity of competition is often low despite liberalisation, but often the regulatory authorities do not exert much pressure and businesses are not very flexible due to legal and ownership restraints. Austria is at the bottom of the ranking with respect to the liberalisation of the highly skilled unregulated professions. Overall, there is a lack in awareness that competition is essential for the creation of value added, employment and exports. Competition lowers prices, boosts innovation and encourages a greater diversity of products and higher efficiency, i.e., leads to more growth and more prosperity over the long term.

Start-ups are on the rise in Austria according to all indicators. This is typical for the current phase of economic development of transition to a mature service economy. However, Austria is still in the bottom half of the middle range in international comparison of start-ups. Employment schemes that encourage start-ups by offering intensive counselling services are one of the most successful programmes for reducing unemployment. On the other hand, the start-ups are hardly technologies oriented and most are single-person businesses without any strong orientation on growth. Post-entry-performance of Austria's start-ups is hardly dynamic. On the average, 3.5 percent of jobs are created every year by start-ups. However, as closures eliminate jobs at the same time, the net employment effect is much lower. The creation of new jobs concentrates in a few rapidly-growing businesses.

The establishment of a company is still expensive and time-consuming in European comparison, especially in the case of incorporated companies. In some areas, start-ups are

still severely limited by regulatory barriers and partly dependent on the assessments of competitors.

Reform programme

Strategic orientation

Policymakers can contribute to increasing the growth orientation of businesses and encouraging innovative start-ups. Policies aimed at fostering start-ups are an area that covers many fields and extends beyond a policy only for SMEs. The creation of favourable framework conditions is a central theme, just like the design of suitable assistance schemes. The framework conditions include regulation, human capital, entrepreneurship education, insolvency law, etc. High-technology start-ups need highly qualified and flexible workers, entrepreneurial qualifications and aspirations. Over the long term, this means that the framework conditions will have to be created in the area of education: Establishing entrepreneurship education in all educational levels and higher ratio of graduates with upper secondary school and university degrees. The positive aspects of the reform of the tertiary educational sector should be continued und deepened. Tertiary education should give higher priority to general qualifications and qualifications relating to other fields than up to now.

The location of multinational companies, the encouragement of growth of medium-sized business to become large enterprises, the establishment and enlargement of regional centres and research facilities are important tasks of location policy. Companies are to be linked more closely with higher schools, colleges and universities. Small and medium-sized companies are to be given access to research facilities and engage more frequently in contract research and research cooperation projects. The appeal of Austria as a research country and for research headquarters is determined not so much by financial offerings as by linking educational and training institutions (ranging from apprenticeship training to the set-up of a supporting university institute). This form of support for start-ups cannot be provided that easily in the countries in a phase of catching up, and – unlike subsidies for capital goods – does not violate EU competition policy.

As regards the infrastructure industries (former "natural monopolies" postal services, railways, energy, telecoms) there is a transition from the former national monopolies to a competitive situation between larger and smaller, national and international companies, but it is often too slow due to the ownership structures. In some case, Austrian "champions" have emerged who are financing their international expansion in part by high market shares and wide margins in Austria.

The changeover from the government regulation of prices and partly also investment and capacity management to a system of competition oversight, separation of the grid or network from services, and the promotion of market access has not yet taken full effect. The

magnitude of the challenge of unbundling varies with the industries concerned, as does the momentum of their international activities. The desire to have Austrian champions is popular, but ultimately companies facing competition – while at the same time being possibly integrated in diverse international alliances and cooperative relationships – may be more advantageous for competition, innovation and finally also growth and employment in Austria. The fact that the electricity sector must be state owned by law and the continued strong political influence constitute a barrier to the reorganisation of the electricity and energy industry. This does not rule out that a certain share of public ownership can be argued, considering the significance for the business location and given resources. The competition authorities as well as the regulatory bodies should be measured by their contribution to increasing innovation, value added and employment.

Bundled implementation measures

Strengthening the spirit of competition

- There is a deficit in Austria with respect to competition awareness. The positive role of competition for innovation, growth, price stability and also for employment is underestimated.
- Raising awareness supported by empiric studies on the positive effects of competition intensity for incomes and employment.
- Strengthening competition awareness starts in the educational system (entrepreneurship, job profiles) and covers job counselling, labour market promotion, continued education, and is also an integral part of competition regulation, start-ups, financing through loans and equity capital and also insolvency law.
- An overall strategy for competition is to be developed in which problems are analyzed looking forward (industries with potentially restricted competition) and a proactive innovation-oriented competition policy is pursued.
- Participation in the OECD Review of Regulatory Reform to ensure the international comparability of competition intensity.

Easing and promoting start-ups

- Further reduction of start-up times and costs through the application of electronic one-stop shops. It should be possible to establish a company in one day (permit) (unless a specifically named exception applies).
- In international comparison, the costs for the establishment of joint-stock companies are disproportionately high. The requirement of a notarial deed for the establishment of a *Gesellschaft mit beschränkter Haftung* (limited liability company) should be eliminated.

The minimum capital requirements are to be reduced, the establishment published in an electronic companies register.

- The costs of insolvencies and the related social stigma should be reduced. Failure is a consequence of taking a risk.
- Market access restrictions based on training requirements, long practice periods and restrictive access exams should be cleared.
- Activities reserved exclusively to certain regulated trades or the liberal professions should be reviewed. A market-oriented regulatory system should be installed for the liberal professions that defines the objectives and limits of self-regulation, eases restrictive access and codes of conduct and prohibits all types of schedules of professional fees irrespective of how non-binding these may be.
- Elimination of all types of territorial protection or demand assessments; subsidiary application of Business Code.
- Certifications may be applied in certain trades and other professions instead of restrictive regulations.
- Establishment of entrepreneurship education at all levels of education.
- Pre-start-up financing programmes.

Promotion of company growth and technology intensity

- As regards the financing structure of SMEs, a financing culture that favours equity is to be encouraged; harmonisation of tax treatment of equity capital to be the same for borrowed capital.
- The credit risks of smaller and medium-sized businesses are to be bundled through securitisation and made tradable on the market. This livens up the capital market and boosts inexpensive short and long-term financing (see Box 3).
- As regards venture capital, supply and demand side barriers should be eliminated: Limited partnerships modelled after the British system and more tax transparency.
- Improvement of investor protection (transparency, liability for self-trading and insider dealings), possibility of minority shareholders to sue management board (Austria is a laggard internationally with respect to investor protection).
- Tax incentives for innovative fast-growing start-ups (e.g., three-year exemption from income tax; abuse due to bogus firms should be borne in mind).
- Incubators and technology start-up centres.

Box 3: Modern securitisation techniques and market potential for Austria

Asset Securitisation

Financial innovation in the shape of securitisation is understood to mean the transformation of a pool of like assets (e.g., mortgage loans, corporate loans, consumer loans, trade credits, trade receivables, etc.) into tradable securities. The so-called originator (frequently a credit institution or a company) sells a portion of its receivables to a special purpose vehicle company (SPV) founded specifically for this purpose. The latter finances the purchase of the receivables by issuing securities that are traded on organised capital markets such as stock exchanges (this is the difference between securitisation and factoring). As the securities, are backed by acquired receivable assets, these are referred to as "asset-backed securities" (ABS).

Special Purpose Vehicles

The special purpose company issues the securities in its own name and rating. This is the special attraction of these modern securitisation methods, particularly for family-owned companies (medium-sized companies often shy away from capital markets due to the high disclosure requirements). The securitisation of receivables makes it possible for companies to access the inexpensive financing of capital markets without an external rating. ABS investors take guidance directly from the rating of the SPV and usually they do not know the identity of the individual sellers of the receivables. Thus, the SPV usually does not intervene in the debit management of the sellers of the receivables. The originator (company, bank) remains responsible for the collection of the receivables sold.

Motive

The central motive for using securitisation by companies is the risk transfer (from the company to the ABS investors) and the inflow of liquidity (from ABS investors to the company). The advantages of modern securitisation techniques for banks are improved the risk diversification, easier access to liquidity, no burden on equity capital, a broader range of products and enlargement of investment options. The benefits for investors are the improved risk-return management and wider investment opportunities.

Financing effect and risk transfer

Inflow of liquidity and risk transfer are manageable through the selection of the securitisation technique. The financing effect is the lowest in the case of so-called synthetic securitisation. In this type of securitisation, the ownership of the receivable remains with the originator (bank or company), and only the credit risk is transferred to the SPV by using derivatives. In the case of the so-called true sale or traditional securitisation, ownership of the receivable and therefore the entire related risk (credit risk, market risk, etc.) is transferred to the SPV. This enables the largest-possible financing effect and risk transfer, but the transfer of ownership in receivables (and thus of any related security) to the SPV requires collateral under civil law and insolvency law.

Basic types

Generally, all types of receivables can be used for securitisation. In practice, however, the following basic types have become established: Mortgage-backed securities or MBS (mortgage-backed loans), collateralised debt obligations or CDOs (securitisation of loans and credit-like products to companies) and ABS in the narrower sense (securitisation of credit card receivables, leasing receivables, trade receivables and consumer loans).

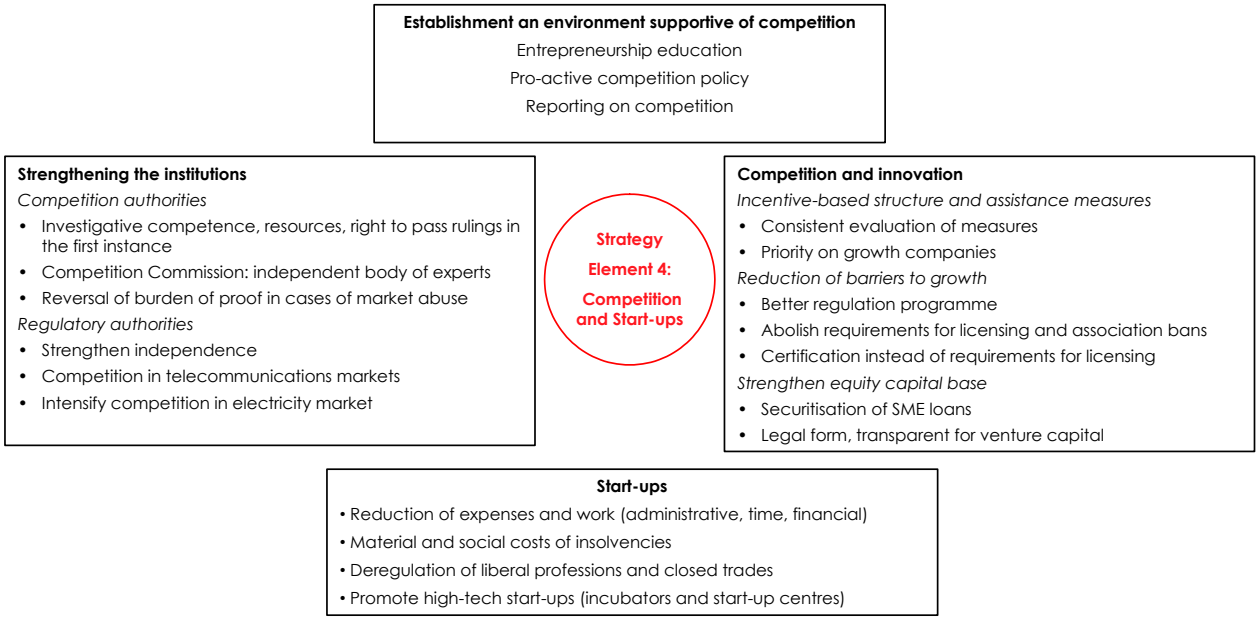
European securitisation market

The worldwide market for ABS is assessed by Bloomberg Inc. at around USD 8,000 billion (one-fifth of global GDP). According to Internet research, the European market comprises only 10 percent of the global ABS market. The largest segment in Europe is the market for MBS. At a prorated volume of securitisation of housing loans claims of 3.5 percent of total outstanding receivables from mortgage-backed loans in the EU, the European market potential for MBS is by far not exhausted. In the US, the comparable figure is almost 50 percent (or USD 2,500 billion). Measured by transaction volume, the European market for MBS is dominated by Great Britain (around USD 45 billion). In the Netherlands, Italy and Spain, the MBS market is much smaller but growing fast according to Internet research. In Germany, the market for MBS does not have significant volume and is strongly fragmented with respect to the underlying assets. In Austria, a market for MBS practically does not exist.

The potential of the domestic securitisation market

The money supply account of OeNB stated for Austria a total volume of receivables generally eligible for securitisation of almost € 290 billion as of 2005, consisting of outstanding bank receivables from non-banks and loan receivables of non-financial stock corporations. This corresponds to around three-quarters of outstanding fixed-income domestic securities or 2.5 times the stock market capitalisation in 2005. This transaction volume is the maximum (fictitious) upper limit and drastically exaggerates the realistic potential for securitisation in Austria. Even though reliable indications of a realistic estimate of a future securitisation market in Austria are lacking, the expectations of one-third of the maximum securitisation potential or a transaction volume of almost € 100 billion as medium-term securitisation goal appears reasonable. However, if one assumes a securitisation goal of 50 percent in mortgage-backed loans like in the USA as guidance, this would result in an additional issuing volume of almost € 45 billion alone from securitised mortgage-backed receivables.

Figure 16: Intensification of competition



Efficient regulation and forward-looking competition policy

- Better-regulation programmes to reduce administrative costs for businesses;
- more stringent application of deadlines and administrative fines (arbitrary delays, imprecise documents) in administrative proceedings to shorten the duration of proceedings;
- focus and bundling of reporting obligations for businesses;
- codes of conduct such as advertising bans and association prohibitions should be reduced;
- harmonisation of regulations throughout the territory of Austria. e.g., building code, welfare benefits;
- unbundling of business stages at large infrastructure businesses especially in the area of energy (electricity, gas, mineral oil);
- the emergence of large companies that control the market (merger monitoring) must be supervised by the competition authorities with respect to effects on end consumers;
- the constitutional clause fixing a majority stake held by the public sector in the electricity enterprises should be abolished. This does not rule out that a certain share of public ownership can be maintained, considering the significance for the business location and given resources. The grid infrastructure requires careful regulation and use of water resources is a sensitive issue.

- the role of independent experts (including foreign expertise) is to be reinforced in competition policy (especially at competition authorities and regulatory bodies);
- implementation of the competition stimulation package 'electricity';
- lowering the fees for feeding electricity through the grid;
- strengthening the competencies of competition authorities, including the partial reversal of the burden of proof in the case of abuse of power;
- proactive, forward-looking competition policy that analyses sectors with potentially low competition at risk.

5.5 Flexibility and security

The rapid changes in the economy and technology, the global intensification of competition and last but not least, the strong migration movements are heightening the significance of flexibility and mobility. Firms that respond rapidly to fluctuations in demand and react to new needs and technical potentials, enjoy a competition advantage. Workers who are flexible with respect to location and job content have better development and employment opportunities. This is an enormous change especially of the socio-economic model in which permanent jobs at one and the same company or (state-owned enterprise) were the rule and were secured by accords against dismissals and enjoyed social benefits linked to the companies. Loyalty to a company was rewarded by steep pay scales. Changing jobs was expensive for workers and employers. Insurances and additional pensions were linked to the company. Already in the past few years, changes have taken place here (pension fund, new termination payment regulation). Higher flexibility has been incorporated into collective bargaining agreements, the assessment periods have been extended. Flexibility at the company level is often greater than regulated by law or as defined in collective agreements.

The welfare model in place in Continental Europe[32] is characterised by a higher degree of employment security and the job security for existing work contracts is also partially stronger, especially in comparison to Denmark. Flexibilisation by easing or eliminating the regulation of temporary jobs and of part-time jobs has been implemented earlier and more radically in these countries.

If higher flexibility is guided precisely by the needs of demand and required by employers, it restricts the freedom of disposition of workers and must be remunerated. This is done traditionally by paying overtime wages and higher pay for work on weekends. Flexibility is limited by labour laws and can be widened by longer periods of calculation for pay. The room for manoeuvring for compensation is much larger though. Compensation can be offered in attractive leisure time and further education offerings. Higher flexibility does not mean that it is always demanded only by employers. The right to limit working hours or to

[32] This model includes Austria and Germany as well as Belgium and sometimes Italy and the Netherlands.

widen these depending on income wishes or life phase can also be attractive for employees. Company, individual or collective agreements with rights for both parties can be viewed as "balanced" flexibility; if defined by law and in collective agreements and enabled by the organisation of the company, also as "organised" flexibility.

Higher flexibility requires higher security: The European Union is therefore attempting to combine higher flexibility for companies with higher security for employees in its employment strategy. According to this concept, flexibility and security support each other: Security makes flexibility acceptable and flexibility returns higher security. This concept has become known as "flexicurity". Security for employees is increased by legally defining sufficient compensation in the event of job loss as well as by education and training, i.e., better employment opportunities. The acceptance of flexible forms of work contracts (e.g., part-time) can be made more secure by combining them with social benefits, by giving priority to former part-time employees when advertising full-time vacancies, by expanding the offerings of further education to part-time employees. Transition labour markets increase the probability of finding a job at the point of change. However, it should be assured that the transition will be completed after a certain time.

Ultimately, the qualified permanent job can and should remain the dominant type of job on the labour market, with a term of, say, ten years not ruling out changing jobs several times in one's life career. The corporate culture, a partnership relationship between employer and employee with trade unions acting as third parties is one of Europe's and Austria's strengths, which also includes flexibility and further education (see *Tichy,* 2002).

Austria's position

According to the OECD regulation indicator, labour market regulation is lower in Austria than the EU average, but has not decreased since 1990. According to the mobility index of the EU, labour market flexibility in Austria is around that of the EU 15. Wage flexibility in connection with taking unemployment into consideration in wage negotiations is high in Austria and working hours flexibility is in the international middle range.

The share of flexible contracts (part-time plus limited contracts) is a bit lower in Austria than the EU 15 average, but has increased strongly in the past few years (see Figure 11). In Scandinavian countries it is traditionally high.

According to the existing indicators, Austria is in the middle range of EU countries as regards linking labour market flexibility and social security. The distance to the flexicurity model of the Scandinavian countries is high though. *Guger – Leoni* (Substudy 15) attribute this to the divergent labour and social regulations for private and public sector employees and dependent and independent gainful employment, lacking support infrastructure, and a low degree of social protection for groups of which particularly high flexibility is required as well as the high wage-related costs for standard employment contracts.

Reform programme

Strategic orientation

Mobility in the educational system should be reinforced by higher permeability between the educational paths. Further education can increase job security and the probability of finding an attractive job if one loses the old one. Mobility within the occupations and professions should be encouraged by harmonising labour law and social security laws (including pensions). Personnel leasing firms encourage mobility and flexibility between companies and make it easier for people to enter the job market. A flattening of company and collective agreement income careers increases the mobility, especially of older employees. As a supplement, career management at firms should be used to increase mobility between jobs in accordance with the learning curve and capabilities by age group (from physical activity to an organisational, coordinating job).

The reduction in the number of jobs in the industrial sector and the increase in services calls for a drastic change in the job landscape, often in the middle of a professional career. The transition between dependent and independent employment heightens employment opportunities, but also requires new forms of security and return options. Financial markets must offer innovative solutions for new and smaller businesses. The securitisation of receivables and loans as well as venture capital fosters the innovative segment and firms that grow fast. Incentives to work and leave existing social nets if possible (welfare, disability insurance) and the re-entry after career interruptions or stays abroad should be made easier. The integration of migrants into the education and training schemes (making up educational degrees) supports integration and growth.

Bundled implementation measures

Cost-cutting

- Cutting wage-related costs, especially in the low-income segment (see Box 6);
- cutting wage-related costs by extending the calculation periods;
- cutting wage-related costs by paying for services not related to employment and currently provided by social security institutions out of tax money;
- separation of attendance obligations from work obligations in labour law;
- employment vouchers for long-term unemployed (with a higher subsidy element if for a longer time).

Education and qualification

- Learning flexibility in the educational and training system;

- securing the potential of skilled workers by improving the integration of migrants, a mandatory kindergarten year, broader and more modern apprenticeship professions, apprentices in modern services;
- harmonisation of welfare between federal provinces, elimination of high marginal taxation in the case of re-employment, inclusion of welfare recipients in employment training schemes (open welfare);
- stronger integration of immigrants, also outside of the labour market (culture, housing);

Flexicurity

- Higher compensation payments in the event, for example, of unemployment with stricter rules regarding job acceptance, mandatory further education and more intense ("coached") job seeking (activation);
- reorganisation of unemployment insurance into a working life insurance that also includes self-employed;
- part-time unemployment benefits;
- harmonisation of welfare rates and requirements for eligibility by passage of a uniform federal law;
- retention of claims in the amount of unemployment benefits in the case of temporary self-employment or part-time work;
- social security for new work rhythms, discarding the idea of a linear course from education to work to retirement;
- experience rating for accident and unemployment insurance; bonus for further education and restructuring of jobs (age-appropriate, health-promoting and for annual employment contracts, see Box 4);
- enlarge scope of competence of Public Employment Service Austria (AMS) to include welfare recipients capable of being activated and their full integration into AMS education and training programmes;
- higher additional earnings option for welfare recipients – up to now, any earnings were deducted;
- right to part-time work option with right to return to job;
- priority should be given to part-time employees and other flexible groups when creating full-time jobs;
- longer period of higher minimum benefits for persons not capable of being activated, the ill and handicapped (fight against poverty);
- activation premium and coaching programme for all long-term unemployed persons and welfare recipients capable of being activated.

Flexibility

- Elimination of hindrances to sliding retirement (calculation of termination pay);
- raise maximum permitted working hours per day to 12 hours (without increasing normal working hours of currently 8 hours, exceptions for certain jobs with high strain);
- free selection of retirement age with actuarially correct discounts.

Mobility

- Flatter age profiles in company agreements, pay scales, collective agreements for pay to match productivity;
- reduction over the long term of wage differentials between the economic sectors (for increasing mobility);
- combination of part-time work with part-time retirement;
- strengthening the permeability of the educational system horizontally and vertically;
- harmonisation of labour law and social security law to increase mobility;
- partial disability and re-training to recover capability to work (reform of disability pension).

5.6 Quality of the public sector

The role of the public sector has changed enormously. It is developing from a sovereign and administration state to a service provider for citizens and the economy, and should integrate the new challenges into its activities (globalisation, ageing, unemployment, slow growth, distribution). The government spending ratio, which had risen for decades is viewed as having hardly any more room for increase and for the first time stopped rising in the last decade in Europe (especially in Sweden, Finland, Demark and most EU member states) and in some countries even decreased.

The Austrian government defined as a goal in 2002 to reduce the ratio of government spending as a percentage of economic output to 40 percent by 2010. Opinion in the literature states that as of a certain point further growth of the size of a government is a barrier to growth[33], but cannot specify this point precisely. There is consensus that the structure of government spending ("quality of government spending") and the incentive effects of taxes and charges (and thus also of their structure) is more important than the amount. As regards the relationship of receipts to expenditure, literature tends towards an equalisation over the long term, although there are some (e.g., OECD) who call for a budget surplus over the medium term, firstly because budget rules can be breached more easily

[33] Up to this point, a higher government spending ratio is beneficial, e.g., high infrastructure spending.

going up than going down (asymmetry), and secondly, because of the weight of the ageing population and the rising costs of pensions and healthcare this is expected to entail for society. Several countries have defined as goal to achieve a budget surplus on the average of the business cycle (Sweden, Finland). The EU demands that members achieve a medium-term budget balance around zero, with certain growth-stimulating spending being allowed since the last reform of the Stability Pact in deviation of the tenet.

Austria's position

Austria's taxation ratio, which had shown a tendency to rise until the beginning of the year 2000, has been declining steadily ever since. It is still slightly higher than the European average, but the gap to the EU 15 countries is narrowing constantly. As regards the overall structure of taxation, two aspects are remarkable for Austria versus the average of the OECD and EU 15: First, Austria's payroll sum taxes contribute much more than the average to overall tax receipts. Second, the quantitative significance of wealth-related taxes has decreased significantly in Austria versus the international trend. The effective taxation burden on labour is much higher in Austria and the burden on capital and energy much lower than the European average. The marginal tax rate for dependent employees is steadily rising, especially in the low-wage segment and is far above the average of the EU 15.

Reform programme

Strategic orientation

There seems to be a consensus in Austria to work towards a zero deficit in the medium run, and the tendency to gradually lower the taxation ratio seems to be agreed across political factions. In the light of the vicinity to countries with simple taxation systems and low tax rates, a total taxation ratio that does not rise over the short term and shows a slightly sinking tendency over the long term – if this is permitted by the spending requirements in the future – may serve as insurance premium for the country as a business location. However, it has been shown that a high wage land cannot secure its position over the long term through price competition factors.

The growth contribution by investing in the future

The contribution of government spending to growth is its stabilisation function (supports demand in recession) and in supporting activities that directly influence growth: Infrastructure, research, education and further education. Spending on infrastructure today is lower in Austria than in other countries, while spending on research and education is higher, but still much lower than in the Scandinavian countries. Spending on information technologies is average in Austria (i.e., much less than would be required to attain the technology position being targeted). In all categories, additional spending – given the quality

is assured – would increase the growth trend. Total spending in the future – government and private – is one-third lower in Austria than in the Scandinavian countries.

Securing against risks and design of social security system

Structural changes, internationalisation and globalisation, and the business cycles create winners and losers of change. The social system must offer security to the losers, and increase their capability for change. This is in addition to the traditional tasks of security against illness and accidents and measures to fight unemployment.

Spending on social security (mostly public funding in Austria as well as generally in Europe) is around 22 percent within the European average and relatively constant. Often, the passive share is higher than the active share (assistance for the labour market, health), and the changeover to a system that combines more security with higher flexibility should be promoted.

Tasks and effectiveness

Tasks should be done by the government levels best suited to do so, even though there is a certain tendency towards decentralisation due to the heterogeneity of technologies and preferences. Tasks and expenses should be bundled at all federal levels. Old tasks should be reduced and new ones started. Spending should be planned for several-year periods and output targets should replace input targets. New forms of budgeting techniques and public-sector management should be introduced. The state encourages market access of new businesses and of competition.

Incentive effects of taxes

The tax burden should be structured so as to distort competition as little as possible and offer more incentives for employment and higher capital expenditure. Taxes that relate to investment decisions or job creation must be low, activities with negative external effects should become more expensive (burden on environment, contribution to climate change), and activities that create growth (and positive external effects) should enjoy tax reliefs. In Austria, taxes and charges on labour are relatively high, while taxes on assets are relatively low; excise taxes are in the average European range and energy taxation is slightly below average. The difference between gross wages and net wages is relatively high, especially for low incomes. The difference between the personnel costs of the employer and the net income of workers is higher here than in the Scandinavian countries although they have a higher total taxation ratio. Income taxation is higher for sole proprietorships[34] than for corporations.

[34] If a certain profit threshold is passed.

The White Book does not develop any strategy for a major reform of taxation. It is unclear whether the political will and the financial leeway exists to implement any such reform. A major taxation reform should be started after analyzing the matter fundamentally. Taxation measures (including social security charges) are addressed in such cases in which they can be implemented over the short term and the perspective of job creation is clear (e.g., relief for the factor of labour).

The White Book recommends taking a first step to lower wage-related costs in the range between the threshold for marginal income and € 1,000. The next tax reform should strive to achieve a fundamentally well-structured reform that focuses the effects of taxation and spending on increasing growth and employment.

Bundled implementation measures

Budget target and taxation ratio

- Steady decrease of the taxation ratio over the long and the short term – after meeting requirements for future spending – while simultaneously increasing the government's contribution to growth and improving the structure of taxation and charges;
- the administrative reform (the one implemented up to now plus administrative reform III) must make provisions for lowering taxation and meeting the growing need for investments in the future and higher spending on healthcare and homecare;
- avoidance of tax competition with the enlargement countries;
- review of tasks;
- clearing up area of subsidies.

Investments in the future

- Higher and qualitatively improved spending on investments for the future;
- expansion of infrastructure especially to the enlargement countries;
- focus on telecommunications and intangible infrastructure.

Structure of social security system

- Better security against new risks while demanding participation in costs and offering qualification.

Distribution of tasks and efficiency

- Examination of tasks and revision at all state levels; elimination of parallel work;

- more efficient use of funds: Promotion of new public management;
- reform of budget law with stronger focus on output;
- increase of mobility in the public sector,
- more performance-based pay;
- economic incentives for cutting costs (consensus and cooperation of persons involved);
- bonuses (e.g., use of a certain percentage of costs saved for performance and cost-cutting bonuses, awards and further education);
- avoidance of parallel work and gaps between tasks and spending;
- flexible use of reserves/ option of re-allocation;
- sanctions if budgetary targets are missed (e.g., statutory obligation of ministers to dedicate spending);
- improved income possibilities for entry-level jobs, flatter life income curve;
- uniform pay scales in the public sector;
- working hours: flexible working hours, introduction of working hour accounts;
- definition of economic incentives to encourage mobility in the public sector;
- restrict granting of tenure to sensitive core areas;
- implementation of budget reform (definition of detailed spending categories);
- harmonised reporting (reports on divestments, documentation of research spending, report on subsidies);
- standardisation of budget law for the federal government, *Länder* and municipalities.

Tax incentives

- Lower marginal tax rates and tax wedge in the lower income brackets: by reducing contribution to social insurance and lowest tax rate;
- long-term structural analysis and reform of the tax system before the next major tax reform;
- lower taxation ratio on labour by compensating the reduction of municipal tax by a property tax with realistic valuation of real estate;
- taking advantage of the fact that wage taxes can be lowered more if energy and traffic-related and emission-linked taxes are hiked in phases with due regard to maintaining competitiveness;

- preservation of minimal elements of inheritance and gift tax by taxing property and real estate at realistic rates (exception for single-family homes); transfer of businesses remain subject to inheritance and gift tax but ameliorated by high allowances and the option of postponement for five years if business is continued (depreciation afterwards);
- replacement of minimum price regulation for tobacco goods by higher taxation;
- review of dual tax system with uniform corporate taxation;
- lower unemployment contributions (bonus experience rating) and reduction of contributions to insolvency fund for full-year employment (see Box 4).

5.7 Successful technology and service cluster

Innovation efforts and improvements of human capital are generally important for Austria's competitiveness. In many countries, top-down approaches are also applied in addition to tax incentives and project promotion, i.e., special attention to technology priorities. The need to specialise in high technology, for which demand will be high in the future, or in medium-high technology, where Austria is currently strong, has already been addressed. Usually, large companies are successful in the high-tech segment and large countries have good market positions.

Austria's position

There are some technologies in which Austria due to its strengths, location and socio-economic system has competitive advantages that it can expand. These include environmental technology, water management, medical technology, new energy forms, tunnel construction, organic farming and – possibly not yet promoted enough – specific areas of the construction industry such as architecture for older residents and ecological construction.

In the area of modern services and planning work, creative industries, digitalisation of art, culture and tourism, multicultural management and integration processes, public-private partnerships, management of cooperation among businesses, logistics and quality assurance in outsourcing would be promising fields in which Austria's strengths can be combined with social and economic significance. This can help fight the deficits in Austria in the areas of high quality services. Furthermore, these are technologies and services that would help to improve Austria's position as an expensive location within a dynamic region with good, soft location factors, situated at the boundary between high and low wage regions.

There are support and special programmes for some of these areas in the research strategy of the Austrian Council for Research and Technology Development, and in the regional and nationwide cluster initiatives.

Box 4: Experience rating: Bonus regulations for unemployed persons and accident insurance

Unemployment, accident risk and early retirement are not determined only by the economic situation, production conditions and the individual behaviour of the insured person, but also by the decisions taken by companies (job design, working climate, etc.). Therefore, in the USA, the Netherlands and Scandinavian countries, the behaviour of companies has a greater impact on the institutional organisation of social security. External social costs – such as unemployment or accident risk – are internalised by an experience rating (credit/debit rule) and incentives are created to organise production in such a manner so as to avoid termination of employment on short notice and accidents.

Businesses with model accident protection and permanent jobs subsidise high accident risk and seasonal unemployment

Austria has a high degree of seasonal unemployment in international comparison and a higher risk of accident than Scandinavian countries. The organisation of the company and the structure of the workplace play an important role in both problem areas (accident prevention, occupational health, working climate); an experience rating or a credit/debit system could serve as incentive to pay due attention to these two aspects in business practice.

It is proposed to start with positive incentives (credit/debit system) in the initial phase similar to car insurance models. As regards accident insurance, the system allows some financial clearance, while in unemployment insurance this clearance will increase as the economy grows.

As regards accident insurance, model accident prevention should be rewarded by lower insurance premiums: If the accident risk of a business is below the average of its risk class, the insurance premium is reduced or a one-time credit paid out. In unemployment insurance, the share of unemployment benefits caused by the company could be linked to the contributions paid by the company to the unemployment insurance scheme. Businesses that over the past two years generated fewer claims on the unemployment system than the industry average would pay lower contributions.

The detailed structure of such experience rating models can be developed based on those in the USA, the Netherlands and Finland. In the USA, where unemployment benefits are financed solely by employers, the contributions of individual companies to the unemployment scheme increase with the number of persons fired and with the volume of unemployment benefits paid to the former employees of the company. For the USA, empirical analyses of the effects of experience rating are available that span two decades and indicate substantial effects. Depending on the study, federal state, institutional organisation and business cycle, temporary layoffs were lowered by 20 percent to 50 percent. In the Netherlands, the experience rating is attributed responsibility for reducing the inflow to disability pensions by 15 percent. In Finland, where, depending on the size of the company, up to 80 percent of the costs of early retirement (due to disability or unemployment) have to be borne by the company under the experience rating scheme, the risk of unemployment for older workers is expected to decrease by around 16 percent.

Reform programme

Quality tourism as a growth opportunity

Tourism is an economic sector with employment growth that outpaces not only that of the overall economy, but also higher the rest of the service sector. It is the motor driving employment in the intermediate business branches and regions with low activity rates and where the potential for gainful employment is expanding due to in-migration and urbanisation. However, there are workers in tourism that receive low wages and are not employed throughout the entire year; given such employment conditions, it is very often not possible to cover such jobs from the domestic pool of available labour.

Employment opportunities will continue to be attractive in the future as well, such as in city and culture tourism, winter sports and short holidays offering special experiences and wellness components. Austria's new position in the European region, the steeply rising incomes in the new member states and the neighbouring regions of the EU will double the number of potential visitors to Austria in the coming 20 years. However, there are quantitative limits in the agglomerations and in the seasonally and thematically specialised regions. Higher quality and higher daily spending will then be the only chance to achieve growth, but qualitative tourism will require changes to the image and management of businesses, and the qualification of employees. It is urgently necessary to overcome the image of low quality and low qualification standard of employees. Internationalisation, upgrading, seasonal prolongation, better exploitation of fluctuations and combinations with non-tourist services are helping tourism become a growth industry.

Knowledge-based non-tourism services

The significance of services for growth and employment in Austria is increasing before a backdrop of progressing tertiarisation and new technological developments. New possibilities of digitalisation of services are creating opportunities for product innovation and enlarging the range of services that can be provided remotely. At the same time, new ICT applications at all levels of the value added chain are enabling process innovation that increases efficiency. The traditional image of services as a stagnating sector with limited potential for raising productivity has thus become obsolete. On the contrary, the growth and employment effects of complex services extend far beyond their direct contribution to production and foreign trade: Knowledge-intense services serve as pacemakers for the export of goods and their inputs are contributing to efficiency in industry as well. As mediators in modern networked production, they often play an important role in the production and diffusion of knowledge, which is the actual "raw material" of a knowledge-based society.

It makes sense, therefore, to position the competitiveness and efficiency of the (business related) service sector prominently in the assistance initiatives of the public sector. Globalisation and technology competition make it necessary to focus priority on innovation

and internationalisation. Existing measures and instruments for the promotion of these fields of action should be adjusted more specifically to the characteristics and needs of the tertiary sector. This requires a stronger focus on intangible investments as the object of assistance schemes and the linking of traditional instruments with incentives in human and organisational capital.

Bundled implementation measures

Tourism

- Promotion of full-year jobs (as a condition for receiving subsidies);
- encouragement of the diagonal integration of tourism with the creative industries and other knowledge-based services;
- improved electronic presentation of services offered;
- rerouting demand to the low season and in-between seasons, and to weekdays with lower demand;
- establishment of culture and leisure time parks in rural regions;
- stronger cooperation among businesses (for example of summer and winter businesses to ensure the full-year employment of workers);
- further education as a core element of tourism activity with the outlook of broadening and improving such activity;
- change in image from providers of room and board to providers of integrated leisure time services.

Knowledge-based non-tourism services

- Enlargement of the scope of innovation tasks eligible for assistance to include organisational and management innovation as well as forms of organisational learning; explicitly research-based programme for the tertiary sector;
- focus of ICT assistance on implementation of complex B2B and B2C solutions and their integration into the value chain;
- promote networking and cooperation among smaller service businesses to share the costs and risks of innovation and internationalisation;
- formation of clusters with joint development of service and manufacturing activities along a thematic priority; umbrella projects focused on problems as focal points of potential clusters;

- in the SME segment, addressing company-internal limitations in human and management capital by providing intense information and consulting; improving incentives for the specialised further education of employees and business owners;
- constant review of the system of export promotion with respect to its suitability for the international expansion of services;
- raising awareness in small and medium-sized service sector businesses; diffusion of "best practices"; introduction to innovation and internationalisation strategies through modular consulting and training components;
- help with cross-border searches for partners and investment activity to provide a basis for the export of many services;
- focus exporting activities on high-quality knowledge-intense services (consulting, advisory services). Intensive support forms as well as instruments for on-site support;
- reduction of regulatory barriers to the creation of multidisciplinary, integrated overall solutions for exports.

5.8 Innovative energy policy and environmental policy

The implementation of environmental measures in the 1970s was initially viewed as counterproductive to growth and employment. In this first phase, ex post repair work of damages was the order of the day. As environmental problems became more complex and shifted from the local to the global level, the goal of including environmental policy into other policy areas was formulated in the 1980s and 1990s (research, housing construction, transport) in the *Brundtland Report* (1987). Environmental policy is a topic that involves many areas, has been included in the Lisbon strategy, and is thus part of the economic policy guidelines of the EU. A third phase of environmental policy is the growing recognition that an integrative energy and environmental policy not only serves the attainment of the energy and environmental policy goals in a narrower sense under certain conditions, but can also strengthen the competitiveness of the economy (Porter theory) and contribute positively to growth and employment. The conditions of an integrative environmental policy include: (i) the use of market economy instruments (certificates trading, taxes), (ii) high-quality, but over the medium term stable environmental conditions, (iii) the use of the innovation potential of an economy and its technological and regional strengths.

Environmental policy is an important part of a growth and employment strategy, because it affects all areas of production and consumption activities. The positive effects of environmental policy approaches result, on the one hand, indirectly from the avoidance of negative external effects (reduction of ecological repair costs and other macroeconomic costs such as health costs), and, on the other hand, from the direct positive effects such as job creation in the environmental technology industry. A major role is played by energy-

related aspects (esp. energy efficiency, renewable energy), which contribute to reducing the negative ecological effects (greenhouse emissions, other air contaminants) as well as to promoting energy supply security and the reduction of dependence on imported fossil fuels and thus to the improvement of the competitiveness of the economy.

Austria's position

Austria had an ambitious environmental policy in the 1980s that contributed to the development of a strong competitive position in the environmental technology industry. The environmental technology industry is growing in importance for Austria's economy. The relative significance and dynamic of the environmental industry over the course of time are revealed in the development of the contribution to GDP and the share in sales revenues and employment in the manufacturing sector. GDP contribution was 1 percent in 1993 and rose to 1.4 percent by 1997, hitting 1.7 percent in 2003. Measured by sales revenues in manufacturing, the share of the environmental technology industry rose from 2.1 percent in 1993 to 3.7 percent in 2003. The share of employment in manufacturing has also developed dynamically and was 3.3 percent in 2003.

An energy supply that is benign to the environment and climate means that it reduces the use of fossil fuels. Increasing energy efficiency is of central importance in this context. The significance attached to it at the European level is reflected at the national level as well: The government programme 2003 defined as goal that the specific energy consumption (energy used per unit of GDP) was to be lowered by an average 1 percent per year until 2010. The actual development of energy consumption and energy efficiency contrast with the political targets defined. Gross domestic consumption of energy per unit of real GDP has decreased on average from 1990 to 2004 in Austria by 0.1 percent per year.

The Kyoto Protocol signed in 1997 fixed binding emission reduction targets for the industrialised countries. However, Austria is the country of the EU, which following Luxembourg was the furthest away from its Kyoto target in 2004 and the gap has been widening from year to year.

Reform programme

Strategic orientation

The White Book recommends an innovation-based and cost-optimising leading role for Austria in the environmental technology and energy sector. The strategy should be guided by the objectives and programmes of the EU, but develop special Austrian technology and problem solutions and market these worldwide. Progress in technology, its effects on Austrian exports, investments, employment, and competition should be evaluated regularly.

Central partial strategies are, first, the promotion of the environmental technology industry and targeted technology programmes, second, greater energy efficiency and supply security as well as a higher share of alternative energy sources and third, the reduction of emissions especially in the transportation sector.

In the area of technology, the solid position in environmental technology and in the use of low-carbon and material-flow-reducing technologies should be exploited within the country and for exports. The generation of electricity from co-generation plants and from alternative energy sources is to be increased. Austria's competence in the area of telematics and logistics could also be exploited to achieve the environmental goals. The production of biological fuels is a field of research in which Austria would be able to reinforce its good technological position even more, and the conversion of biomass into fuels and other sources of energy is a field with great technological development potential. The realisation and marketing, including specifically the entry into international sales markets should be promoted by providing specific assistance to high quality service professions in this field (study courses, business start-ups, cluster formation).

The EU Green Book on energy efficiency, the EU Sustainability Strategy, the Environmental Technologies Action Plan and EU Directives are to be implemented proactively. Currently, neither is energy consumption decreasing in Austria relative to economic output, nor do CO_2 emissions meet Austria's targets under the Kyoto Protocol.

The priorities of Austrian energy policy are to increase energy efficiency, diversify energy sources and ensure supply security (partly through regional and fuel diversification, partly through investments in bottlenecks and storage). Energy efficiency is to be lifted by 20 percent by the EU Building Directive, the use of co-generation technologies, ecological labelling of electric equipment and the use of new air conditioning systems.

The international reactions to the price level of petroleum, the security of supply and the long-term availability (peak-oil discussion) must be monitored. In no case should the energy price hikes be ameliorated by cutting taxes (income specific incentive-compatible reliefs might be considered). Energy saving investments (private and businesses) should be treated preferentially. A parallel concept to the Swedish plan to exit dependence on oil is recommendable.

As regards transport, the enlargement of the roadway network should be limited (links to enlargement countries, elimination of bottlenecks). In Austria, priority should be on energy efficiency, improvement of the modal split (less road transport, more transport on railways, waterways, bicycles and non-motorised passenger transport) and on the improvement of the interfaces between the individual modes of transport. In the field of telematics, cost cutting should be possible by the optimised use of existing transport systems and due to Austria's leading technology position.

The role model effect of the public sector, the promotion of environmental and energy technologies with Austrian strengths, market economy instruments (including energy and environmental taxes) enable positive contributions to growth and employment, while achieving the environmental goals at the same time. A consistent long-term policy requires that the consumption of energy and the environment should noticeably and steadily become more expensive in comparison to labour. Should this hinder the competitiveness of segments in industry despite the reliance on new and subsidised technologies, problems should be addressed using incentive-compatible means. If the demand side applies higher energy efficiency to enlarge energy services (more horsepower, air conditioning, more kilometres driven), then the price of energy must be increased.

Bundled implementation measures

Environmental technology industry and technology programmes

- The proactive implementation of EU legislation with an innovation-based frontrunner position (taking into account the competitiveness of industry);
- take advantage of the competence in the areas of telematics and logistics to attain environmental objectives;
- exploit the position in the technological lead in conversion of biomass into fuels to promote study courses, business-start ups, cluster formation;
- set up an information platform on target countries for environmental technology exports and as support for market development (legal information, language support, etc);
- presentation of the Austrian environmental technologies in the target countries;
- technology policy programmes focused on specific themes.

Energy supply and energy efficiency

- Master plan for the reduction of dependence on fossil fuels;
- changes to the structure of energy supply;
- broad utilisation of co-generation technologies;
- increase in share of renewable energy sources (harmonisation and continuation of assistance schemes);
- high energy standards for buildings;
- use subsidised housing projects to showcase energy-saving measures and new technologies;

- diffusion of energy-saving research findings of the programme "Future Homes" (*Haus der Zukunft)*;
- take advantage of state-funded construction and procurement for ecological goals (passive energy technology);
- translation of energy efficiency initiative of the EU to a harmonised strategy;
- labelling of electronic household appliances regarding energy efficiency and information campaigns and initiatives to replace appliances;
- energy security by diversifying imports geographically, e.g., new pipeline for gas supplies;
- review option of increasing reserves (natural gas, petroleum).

Transport sector

- Improvement of energy efficiency of motors and vehicles;
- change in modal split (in favour of rail, navigation, bicycle) by introducing incentive programmes;
- promotion of hybrid vehicles in the public sector;
- tax incentives for hybrid vehicles;
- change in vehicle tax to a CO_2 emissions-based assessment (versus engine power in kW);
- expand demand management: Road pricing at bottlenecks, also on low-capacity roadways;
- alternative fuels with the target of replacing 20 percent conventional fuel by alternative fuels in road transport.

5.9 Transforming informal work into gainful employment

One component of higher employment ratios in Scandinavian countries is the fact that tasks taken care of in Continental countries within households are covered by public, private or semi-public institutions or by private businesses (partly non-profit organisations) that receive funding from public bodies. This includes childcare, health, support, homecare, household work, and gardening, preparation of meals. The advantages of a complementary market sector (versus household production but also existing state or communal organisation) are, on the one hand, the diversity of the services offered, and on the other hand, in the possibility of having a choice of household task or occupation, and in acquiring an independent insurance. Usually, efficiency in the supply of services is greater if done through the market (economies of scale); the same applies to quality assurance and training.

Austria's position

Over the long term, gainful employment in Austria is growing at a slower pace than in other countries. Since 1960, employment (active population, i.e., including self-employed, exclusive of persons receiving childcare allowance and persons doing military and civil service) has risen by 426,000 or 13 percent in 45 years. Inclusive of marginally employed persons and freelance workers, the increase was by 605,000 or 19 percent. The increase is thus much lower than in the USA and a bit lower than in the EU 15. The slow dynamic versus the EU 15 has emerged over the past ten years. An important component is the fact that the share of the service sector in Austria with 66 percent of employed persons is almost 6 percentage points lower than the EU average.

The fastest growing segments within the service sector are healthcare and social work as well as business-related services. The first group is dominated by female employees, and the second group by males, which is a consequence of the sustained gender segmentation in the educational channels. The wages in the health and social fields are below average, and gender differentiation is higher. Within the group of business-related services, tax and management consultants are the largest group (71,000), followed by architects and civil engineers (40,000). Very dynamic is the job development at staffing companies and personnel leasing firms (this employment group has risen fivefold and accounts already for 9 percent of employees in industry-related services). Generally, these business-related services profit from outsourcing and the success of industry in international business.

Reform programme

Strategic orientation

Vouchers for specific purposes, freely usable transfer payments, subsidies and tax deductions are alternatives to make this sector more attractive. Occupations must be defined, apprenticeships and training programmes created, and quality control installed and improved. Collective bargaining agreements, laws on foreign nationals and tax law must be adapted to meet the situation. Jobs in this area are heterogeneous – from highly qualified to relatively simple – and the willingness to pay is often not as high as the costs (including full insurance costs for hours worked), and the performance of the work is more personal than normal market jobs. The organisation of the sector would create some enormous advantages: compared to the present situation, more free time (for employers), more financial independence, and more security for workers and a reduction of illicit labour.

Bundled implementation measures

Transforming informal work into market jobs

- Increasing the activity rate of women by improving childcare;
- harmonising childcare allowance periods with job protection;
- tax incentives for companies that make childcare facilities available to their employees (and even higher ones if open to non-company persons and there are no alternatives within a five km radius; inclusive of grant from municipality);
- transformation of part of childcare allowance, if not used, into a training voucher;
- tax incentive for certified support and homecare services (day care, mobile care for handicapped and the aged; deductibles);
- tax incentive for household services (gardening, cleaning); with a maximum limit, temporary, and on the condition that the person performing the service is simultaneously engaged in education and training activity;
- creation of new occupational profiles and educational fields;
- conversion of a portion of any higher homecare allowance into vouchers;
- competition, diversity and quality assurance in the newly emerging markets (support, homecare, integration occupations);
- separation of attendance obligations from work obligations in labour law.

Careers in healthcare and care professions

- Inclusion of healthcare and care occupations in the regular educational system;
- direct path of further education from mandatory schooling to healthcare occupations;
- healthcare apprenticeships at hospitals;
- orientation of training programme not only on care at hospitals, but also extramural care (change in job profile);
- re-training commensurate with age, careers for homecare occupations;
- homecare platform to improve information, assure quality, diversity and competition;
- conversion of some of the jobs of 430,000 persons caring for relatives (usually providing care to one single person) into jobs involving giving care to several people, and providing such persons with social insurance security;
- innovative housing complexes (housing blocks with care unit);

- residential construction to meet needs of the older population (including new communication and care technologies);
- reform of welfare system (recourse provisions, additional income, training).

5.10 Promoting gender equality

The current distribution of working hours, professional activity, and incomes between the genders is inefficient, hinders growth, and is unjustified. Even though the qualification structure among women has improved steadily, the gap has not been closed in the market for gainful employment. The better use of the potential of women would – apart from the tenet of equality – increase the efficiency of Austria's economy, result in higher economic output, higher employment, and greater prosperity. Higher levels of participation of women in the labour force would not only improve the deployment of human capital resources and thus result in higher productivity and boost the service sector, but would also lead to the sustainable financing of the pension and healthcare systems as well as strengthen social cohesion.

As regards the quantitative aspect, the share of females in the active population in Austria is higher than the European average: The employment rate of women of 62 percent meets the EU target for 2010 (60 percent), while the gender gap in the activity rate has narrowed since 1995 by 5 percentage points[35]. The female labour force participation rate in Austria is still far below the level of the Scandinavian countries.

Austria's position

As regards qualitative aspects, the Austrian labour market has strong gender segmentation along the occupations, employment forms, and hierarchical levels: While men have above-average working hours, women work largely in part-time jobs. These differences in labour force participation reflect an unequal distribution of unpaid household work, care and homecare work. The latter is performed mainly by women, which often restricts their time and thus their employment opportunities. It reduces occupational career opportunities and is reflected in their lower incomes: Dependent employed female employees earn on average 35 percent less than men do. Part of these differences is due to divergent working hours, and gross earnings are 18 percent lower than those of men. Leading positions in business, science, and administration are still predominantly occupied by men.

The educational gap has been narrowed substantially, and in secondary schooling and at universities, the share of females is 50 percent. Nonetheless, the differences in education paths and career decisions are still an important explanatory factor for the gender gaps on the labour market. At the universities, the percentage of women working in the area of

[35] From 17.6 percent (1995) to 12.6 percent (2005), computed on the basis of Eurostat data.

science, mathematics and informatics is 33.7 percent (EU-25 average 38.0 percent), in engineering and in specialties related to industry it is 19.6 percent (22.4 percent)[36]. Gender-specific concentrations that continue in the working world also exist at other levels of education especially in apprenticeship professions and at vocational schools.

Reform programme

Strategic orientation

At the latest in the third phase of the growth strategy – when labour starts getting scarcer – a higher participation rate of women, longer working hours, and longer careers will become absolutely necessary. The pursuit of this strategy requires a change in the way society thinks and thus far-reaching programmes in a wide range of policy areas.

Bundled implementation measures

- The consistent pursuit of the gender-mainstreaming strategy in all public sector organisations (including making the relevant resources for gathering and processing information available);
- consideration of corporate gender equality culture into public tendering practice (proof that bidder pursues equality policy and a policy that enables combining parenting and work as well as schemes to promote female participation should be defined as positive criteria);
- fighting gender segmentation in education (especially regionally and in the service sector);
- softening the gender role in education and in career decisions: Promotion of women in so-called male jobs by organising open house days and internships at businesses;
- no sole-earner deduction option for married persons without children;
- higher single-parent deduction;
- conversion of part (of possibly higher) homecare allowance into care vouchers;
- gender budgeting in government finances;
- promotion of part-time employment with sufficient weekly working hours to ensure subsistence (around 30 hours);
- campaigns to encourage part-time work for men;
- part-time work for qualified jobs and jobs in higher hierarchical positions;

[36] The data refer to the academic year 2001/02.

- easing the switch from full-time to part-time employment and vice versa (right to return to full-time work, advancement of such models, e.g., for small businesses as well);
- evaluation of experience made with existing childcare part-time work scheme;
- labour market policy: Use of newly developed instrument of flexibility counselling;
- end the discrimination of part-time employees in laws, collective agreements and works' agreements;
- part-time employees should be enabled to take part in company training programmes just like full-time employees;
- greater educational and job opportunities for women in rural regions (education, jobs, income); e.g., by offering mobile counselling, networking events and close involvement of regional actors;
- full coverage of national territory with childcare facilities and full-day schooling;
- support and homecare services for relatives;
- option of selecting shorter childcare leave/parenting leave with higher income replacement pay;
- promotion of stronger participation of fathers in childcare (e.g., father month, income-linked childcare allowance, participation of father as criterion determining total amount of childcare allowance paid out);
- flexibility protection for working parents.

5.11 The social system as productive force

The European model is often viewed as a barrier to competitiveness due to the high share of the public sector, the role of the public sector in education and healthcare, and the high regulatory density. Nonetheless, over decades, this system has helped Europe narrow the gap in output versus the USA, and measured by broader prosperity criteria, the gap may even have been eliminated. Economic theory – and empirical experience – show that reduced economic insecurity and the stability of framework conditions as well as consensus and confidence in institutions play an important role for growth in consumer spending and investment activity.

Austria's position

Austria's socio-economic model is a variant of the European model. Austria is usually grouped together with Germany and France (often with Belgium and sometimes with Italy and the Netherlands) in the Continental sub-model. The Austrian socio-economic system also contains elements of the Scandinavian model. The Continental model is more strongly focused on

gainful employment, but makes labour expensive due to the financing of social benefits by wage-related costs and today – especially in the major economies in Continental Europe of Germany, France and Italy – it is characterised by higher unemployment, lower activity rates and a greater preferential treatment of insiders (e.g., employed persons versus unemployed) than in the Scandinavian countries. Members of this block have larger income disparities (e.g., between pensioners by occupational group and by years of work) and a greater inequality in incomes, employment and division of tasks between the sexes[37].

The strategic goal for Austria must be to strengthen the positive contribution of the social system to growth, employment, and competitiveness, and in this manner transform the social system into a productive force. The Scandinavian countries illustrate how in many cases and even after several crises in which their per capita income dropped below that of Austria (Sweden, Finland) or to around the same level (Demark) an economy can be social, inclusive and egalitarian as well as competitive and achieve the highest technological level[38].

The model in Continental Europe has a great need for reform compared to the Scandinavian model. The social system here is based largely on gainful employment and on stable jobs and family relationships. The need to urgently reform the system has not been highlighted by any

[37] The social system should ideally be an inclusive one in the sense that all citizens participate in the major pillars of the social system (accident, health, old age, care) and not only those who are integrated into the job market and have paid their contributions and/or are covered as family members. The disadvantage of a high and minimum security is that this lowers the incentive to protect and make provisions for oneself, and to participate in economic output. The effects of deadweight loss, double payouts and ultimately prosperity tourists from countries with lower security cannot be ruled out. Prevention and care are neglected in favour of curative medicine. Countries with inclusive systems have often made adjustments ex post and need to stronger social and administrative controlling.

Possible solutions are first, deductibles, second, a credit/debit system to promote preventive behaviour and third, making (higher) security contingent on additional obligations and control. Stiffer sanctions in the event of abuse of unemployment insurance and illegal side work at the same time are recommendable if higher benefits are paid.

Social benefits granted to all persons irrespective of assets and needs are expensive and have a scant incentive effect compared to the funding required. A large share of taxes and government spending in the countries with the Continental model is redistribution from middle class to middle class. Targeted structure for social benefits (linked with need, personal efforts, and behaviour) is more efficient. Checking need requires strict, often expensive, and sometimes inhuman control. If only the lower income groups are recipients of social benefits, this could be interpreted as a willingness of the middle and higher income groups to contribute to the financing (*Esping-Andersen,* 2002).

A possible solution would be to restrict controls to a few easily measured and very important circumstances. The needs test for social benefits is required more frequently in the Anglo-Saxon countries than in Continental Europe. The Scandinavian model partly "replaces" controlling by the close relationships between administration, welfare institutions, employment services, and trade unions with the concerned persons (knowledge of situation, control, trust).

[38] *Aiginger* (2005) states five factors that are responsible for this: (i) balanced flexibility that is integrated into a comprehensive security net, (ii) greater incentives to work plus active, challenging labour market policy, (iii) discipline and quality of government finances by re-allocations in government budgets towards high priority and forward-looking spending, (iv) promotion of research, education, life-long learning and (v) embedding all policy measures in a consistent long-term strategy within the scope of a four-party partnership (employer, employee, government, experts).

dramatic crisis. As the Continental countries are in the average range as regards the share of the public sector, taxation and regulation, the need to carry out a reform has not been recognised as rapidly as in the Scandinavian countries. The openness (export and import ratios) is also lower in the large Continental countries. The lower degree of inclusiveness of the system has created insider/outsider problems and is restricting the integration of guest workers and migrants. Security in the event of unemployment (replacement payments) and the quality of the retraining measures are lower; especially the low-income groups enjoy significantly better protection in the Scandinavian model.

Reform programme

Strategic orientation

The White Book attempts – without using the Scandinavian model uncritically as guidance – to learn from the Scandinavian countries and from the attempts of Anglo-Saxon countries to raise low wages to create an incentive to re-enter the workforce. The goal is to overhaul the current Austrian model in a way that enables the economy (employers and employees) to respond to changes in the framework conditions rapidly and benefit from them, to take into account the new heterogeneity of desires, technologies and options, and make the required flexibility socially compatible by better education and security, and to eliminate previous omissions such as in the incentive structure (high wage-related costs) and to act more firmly to resolve the often neglected gender disparities. A socio-economic system that makes it possible to exploit these advantages flexibly, to secure and re-train the losers of the change process – or even better, a forward-looking policy that strives to keep the number of losers low – is a productive force just like labour, capital and technical progress.

Bundled implementation measures

- Balanced and controlled flexibility (flexicurity, part-time work with legal entitlement, right to return to full-time, social security and forward-looking re-training),
- positive job incentives (low wage-related costs, dual company taxation, incentives for re-training),
- quality of government finances (incl. *Länder* and municipalities), encouragement of forward-looking spending,
- regionalisation of further education,
- consistent strategy and consensus (strategic policy, inclusion of social partners, positive motivation of reforms, fair distribution of burdens),
- networking of firms, schools and universities,
- strategy forum for using value added to promote knowledge-based growth at companies and in employment (see Box 5).

Box 5: Strategy forum to bolster competitiveness

Problem

Austria – just like most European countries – has a dual distribution problem. The functional distribution of income has been shifting in the past 25 years to the detriment of wage incomes, and the personal distribution of income in favour of higher income groups. This development – partly as a reaction to the counter tendency before – was welcomed by many economists as a means of making investments and new technologies more profitable and boosting the competitiveness of Austrian companies. Wage moderation was also implicitly accepted by trade unions to avoid any risks to the location and to jobs. Today as well, fully demanding the average productivity increase would pose a threat to competitiveness at many, especially small businesses and the jobs of low-skill workers.

Possible solution: Differentiated wage increases

Generally, wage increases that reflect productivity growth are attractive, because they help to keep distribution constant and increase demand to the extent permitted by technology. A productivity-linked wage policy also encourages structural changes: Successful companies increase their earnings and reinvest them, while less successful companies exit the market. If full compensation for productivity gains is relinquished in phases of higher unemployment, but uniform wage increases are granted across a sector, the wage ratio decreases. Wage increases linked to earnings – in addition to negotiated wages under collective agreements – raise wage sums and increase consumption. A profit-linked bonus can be negotiated at the company level or in collective agreements that define the principles (formula) of the additional profit-linked bonus.

Possible solution: Enhance appeal as a business location by joint efforts

Moreover, employers and labour representatives should jointly investigate the possibilities of using the value added earned by a company for activities to secure its existence. The application of rising profits for the higher qualification of employees, location infrastructure, research, schools as well as roads and transport routes, and kindergartens increases the quality of a location. These factors make companies – as production sites and headquarters – more attractive.

Conclusion

To close the gap between the need to earn bigger profits to achieve competitiveness, expansion and risk reduction, and the fact that profits are only accepted if reinvested in the country or if their use is at least proactively argued, it would be necessary to set up a discussion forum at company level and maybe even at industry level to discuss possible strategies for knowledge-based company growth and higher employment. This could serve as supplement to wage increases differentiated more strongly by company. The basis of an extended, more modern social partnership is greater trust and security in the maximum development and use of the capabilities of the company's own staff, and the prospects for initially flexible employees of greater job security over the course of their life cycles.

6. The eight packages

The eleven strategy elements and the measures mentioned illustrate how growth and employment can be boosted. «Not all strategy elements and measures are new and neither are they concrete enough to be put directly into practice. It is not the task of this White Book to detail the instruments or to define priorities as regards contents and timeframe. Still, it is indeed the purpose of this publication to point out that the individual measures listed would only be of very limited effect if implemented in isolation, considering the complexity of the tasks and the new framework conditions, and furthermore, any administrative reform with its (isolated) sets of instruments would hardly be successful if other units do not work in the same direction and the measures are also viewed positively by companies, consumers and social partners. In this sense, the traditional approach of taking isolated measures has been exhausted, which has been clearly shown in the past. Only problem-oriented, interdisciplinary and balanced overall approaches with measures that are mutually supportive and encouraging offer chances of success and of obtaining the political acceptance needed. For this reason, the White Book proposes bundling the strategies into eight packages that are easier to communicate and implement. Each package contains several strategy elements and most strategy elements are also contained in various packages. Due to the administrative and financial burden alone, it would not be possible to realise all packages at the same time immediately, not even an individual package. However, an essential part of the strategy of the White Book is that, in any case, the larger, coherent and balanced parts of a package as regards the distribution of burdens should at least be drafted and possibly also realised in several phases. In the packages, the measures should be balanced with respect to distribution policy and also mutually supportive and reinforcing to enable synergy effects. Companies, persons, institutions and economic policymakers are all called upon to work towards this goal.

6.1 Employment package

The goal of this package is to accelerate employment growth through labour market measures. The package therefore combines measures from the educational strategy, the flexibilisation strategy and the creation of new jobs by transforming household jobs into marketable jobs. In the event of a plunge in the economy, additional measures from the infrastructure strategy should be promoted. The principal bodies responsible for implementing this package are the Federal Ministry of Economics and Labour (BMWA), Federal Ministry of Finance (BMF), Public Employment Service Austria (AMS), social insurance organisation, lawmakers and social partners.

Two of the problem areas are summarised in detail below: the group of workers with low skills (because the unemployment rate is higher here), and older workers due to the lower participation rate. Older persons usually fail to find new jobs once they lose their employment.

Promoting or even just preserving the low-wage/low-productivity sector is not without problems, and the risks are discussed under the catchphrase "low-wage trap": The incentives for low-skilled workers to re-qualify are decreasing. Only those businesses remain in Austria that can be kept competitive with low wages. The losses of companies and jobs in Austria at a later time are enormous and painful. Production in the area of households and services is still labour intensive and rationalisation at companies and in public administration is not being carried out. The use of information technologies and innovation is being slowed. Therefore, all measures that generate employment in the low-wage sector should be design bearing in mind the need for forward-looking incentives. The creation of low-wage jobs should be combined with further education and quality control.

The financing of the package should not be done at the expense of a balanced budget, but rather as fast as possible by re-allocating funds. Only if the expected dip in the economy in Germany is very pronounced due to the hike in VAT or if an economic downturn sets in, should a larger contribution be considered, including additional government spending.

Incentives to create jobs

- Lowering wage-related costs especially in the low-wage segment (between the marginal employment threshold and € 1,000);
- lower employer contributions to social insurance by broadening the assessment base (to include income on rentals and leases, and interest income);
- payment of wage-related costs for the first full-time employee of a start-up (must be paid back in three times the amount, if new companies are founded just to take advantage of the bonus);
- tax deductible status of household, repair and care services (with upper limit and contingent on mandatory qualification offer);
- transformation of informal activity into gainful employment (marketisation of household jobs) e.g., household, gardening, homecare, among others, by improving the system of service vouchers;
- promotion of transitional jobs in socio-economic businesses;
- improvement of job environment for occupations of low appeal (tourism, harvest helpers, care work);
- training relating to job placement (e.g., inplacement foundation) for instable workers;
- for groups with impaired employability, the acquisition of basic qualifications (e.g., language skills) is important including, if applicable, the completion of compulsory schooling.

Long-term employment-boosting incentives

- Incentives for companies to create long-term employment (seasonally throughout the year, higher number of weekly working hours): Bonus for full-year jobs in construction and tourism (in unemployment and health insurance, see Box 4);
- investment allowances for businesses that invest in energy saving, emissions reduction, software, broadband, telecom infrastructure (investment bonus "light");
- review of conversion of negative tax into an incentive to accept employment (early, direct visibility and payout; employment voucher for long-term unemployed persons);
- strengthening the company-specific component in wage negotiations (more closely linked to performance, but with floor for lowest wage bracket in collective agreement that may not be underpaid by companies);
- reservation of a portion of jobs at municipalities for long-term unemployed persons or multiple problem cases; as an alternative, protected workshops in the district;
- flattening of the age profile (older/younger) in gross wages by changes to pay scales, option of part-time retirement;
- intelligent shortening of working hours (sabbatical);
- reduction of tax privilege for overtime pay (income ceiling as for extraordinary expenses);
- incentives to advance investments in residential construction, repair work and rehabilitation of structures.

In the event of a steeper decline of the economy, further measures from the infrastructure strategy

- Acceleration of national and international projects (included in the planning ex ante);
- promotion of decentralised energy investments (co-generation, solar energy).

6.2 Demand stimulation package

This package comprises measures that serve to boost the demand-side of the economy in the event of an economic contraction or a longer period of weak growth in consumption and investment activity (and at the same time improve locational quality). Domestic demand in Austria, just like in many other countries, has not picked up despite many years of booming exports and sustained global economic growth. Consumption is scant from incomes (high savings propensity), and despite rising profits and high profit ratios (at now normalised capacity utilisation) investment activity is sluggish. The package includes macroeconomic measures, which have been described for the national and the international level in Section 4.2, and combines these with measures to improve infrastructure to use the new technologies. Responsible for this package is the Federal Ministry of Finance; Federal Ministry of Social Security, Generations and Consumer Protection; Federal Ministry of Economics and Labour, Federal Ministry of Transport, Innovation and Technology, *Länder* and social partners.

Box 6: Reducing the burden of wage-related costs for the low income groups

Starting situation and motivation

The social systems are financed in Austria primarily by proportional employer and employee contributions that are collected at the same high rate once income reaches the marginal employment threshold (monthly € 333.16) up to the maximum assessment base (€ 3,750) for all incomes. Since, as soon as the marginal employment threshold is crossed, the full obligation to pay contributions takes effect – 18.1 percent for employees and 21.8 percent for employers – it acts as a threshold with a very high marginal tax burden that sharply raises the costs of increasing employment and encourages illicit work.

Two measures are proposed to make legal employment contracts in the low-wage segment more attractive beyond the marginal employment threshold: A. The general conversion of the marginal employment threshold into a tax credit or allowance, and B. The enlargement of the assessment base for contributions to health insurance (with a simultaneous cut in the contribution rate).

A. Degressive social insurance allowance instead of marginal employment threshold

The marginal employment threshold in social insurance is converted for employers and employees into an allowance in the amount of the threshold that is reduced in increments with rising income and ends at a gross monthly income of around € 1,000.

An allowance of € 333 means that just like up to now, no social insurance is due on monthly income up to € 333 – with the exception of the accident insurance contribution of 1.4 percent. However, at present the entire amount of income is used as assessment base for computing social insurance contributions as soon as the marginal employment threshold is crossed, while in our proposal only the income that exceeds the allowance is subject to mandatory social insurance. Thus, today, for example, a monthly income of € 350 means social insurance contributions for employees of € 63.4 and for employers of € 76.3, but according to our proposal, it would be € 3.1 and € 4.8, respectively; for income of € 700 monthly, the social insurance contributions today are around € 127 and € 153, but according to our proposal of a degressive (40 percent of original) allowance, the amounts due would be € 103 and € 124.

Assuming that the maximum allowance corresponds to the applicable marginal employment threshold up to now, and in the subsequent higher wage brackets (social insurance statistics), the allowance decreases at intervals of € 60 by 10 percentage points each (around € 30), the loss in receipts from contributions to the social insurance system and the reduction in the burden on low-wage earners according to the data of the payroll tax statistics of 2004 would be around € 350mn (€ 160mn employees' and € 190mn employers' contributions). As around 50 percent of persons in the concerned income groups receiving income throughout the full year were part-time employees, this is an absolute upper limit.

B. Enlarging the assessment base for health insurance with a yield neutral effect

Social insurance is financed largely by contributions on income from gainful employment (wages, salaries and receipts of self-employed) up to the maximum assessment base. High incomes and income on assets, which are growing in significance, are not subject to social insurance contributions.

The enlargement of the assessment base for health insurance to include income on assets – rental and lease income and interest income – would lower the contribution rate by 0.8 percentage point for insured persons without losses in contributions.

Infrastructure: Interfaces and greater capacities

- The enlargement of the infrastructure especially of railways, roadway routes to the new member states, electricity industry (completion of the transport scheme, acceleration of the TEN projects);
- investments in alternative energy, higher energy efficiency and energy supply security;
- investments at the interfaces of rail and roads, especially intangible and technological elements;
- improvement of capacity, security and customer orientation by applying telematics (parking management systems, vehicle fleet management, etc.);
- promotion of the supply and use of broadband, especially the expansion of the infrastructure in rural areas;
- investment incentives for ecological residential housing construction and plant rehabilitation to increase energy efficiency and improve architectural biology;
- greater deployment of regenerative energy source in residential housing (e.g., geothermal heat, biomass, solar energy, ground water, etc.);
- thematic housing projects (e.g., for senior citizens, families) with units for housing care personnel and household related services (care services, kindergartens, leisure time facilities, and shops).

Increasing the propensity to invest

- Investment allowances for businesses that invest in energy saving, emissions reduction, software, broadband, telecom infrastructure, tele-workplaces (investment bonus "light");
- incentives for business locations (especially headquarters, local competence centres, research headquarters) by networking with educational and research developments;
- strategy forums at company level (strategies for securing locational appeal for businesses and higher qualification).

Measures to stimulate consumption

- Reduction of wage-related costs in the low-wage segment (effect: increase in real wages);
- bigger hikes of small pensions by introducing base amounts;
- increase in allowances for care and partial payout in the form of a care voucher than can be redeemed at a recognised institution;
- restricting subsidies for precautionary savings to low income groups (maximum amount like for extraordinary expenses);

- reduction of subsidy element for building society savings schemes and income tax maximum limits (parallel to extraordinary expenses).

Greater use of assets for consumption and residential construction

- Replacement of loan agreement fee by property tax with an assessment closer to reality (possible option: instead of communal charges);
- more competition (lower costs) for the brokerage of real estate (broker fees);
- speed up procedures and reduce the financial burden of registration in land register;
- encourage use of real estate assets for housing purposes (rental), as a basis for cheaper consumer loans, support for start-ups;
- greater use of assets through inter-generational transfers: For example, paying training costs or sabbatical;
- strategy to encourage donations and charities.

Creating confidence and security

- Consensus on long-term growth strategy with the involvement of the social partners;
- positive statements of the reasons for the reform with strategic goals; Explain reforms in positive terms, naming strategic goals;
- definition of Austria's location quality based on research and human capital;
- recognising the chances and freedoms of openness;
- flexible labour markets with security and training;
- medium-term productivity-oriented wage policy (real wages are rising parallel to productivity);
- greater differentiation in wage increases in the short term between companies with solid profits and companies with problems in price competition;
- support for exports to priority markets by ensuring ideal locational conditions, information, priority markets.

6.3 Productivity campaign

The development of productivity is a crucial source of growing prosperity. It defines competitiveness in a high-wage country and enables higher wage increases. In phases of sinking employment rates, technical progress is the only source of growth[39]. Raising

[39] Growth can be generated by increasing the total factor productivity, by investments and by quality improvememnts of all inputs, but not by enlarging the number of employed persons (see *Peneder,* Substudy 3).

productivity is even more important considering the rising average age of employed persons and the higher share of migrants.

Austria is specialised in the medium-high tech segment today. The additional funding needed to achieve success here is low, positive spillover in networks exist, the qualifications in Austria (specialised and secondary education) largely exist for this segment. However, medium-tech markets are being targeted to an increasing degree by the new member states. Entering sub-segments of the high-tech segment is absolutely necessary. In the area of services, a shift should be achieved towards high quality, knowledge-intense services. Relations with universities should be encouraged, specialised colleges and striving for excellence are imperative. Professional experience gained at foreign high-tech companies and in studies at excellence universities would be one strategy element.

In addition to the measures of the innovation strategy, the package comprises measures from the area of education and training strategy and from the strategy to promote new technologies and services. It is necessary to include the Federal Ministry of Transport, Innovation and Technology, the Federal Ministry of Economics and Labour, and the social partners.

Innovation in the narrower sense

- Shift from the promotion of investments to the promotion of innovation;
- binding funding for research strategy (to achieve the 3 percent ratio);
- within the innovation assistance schemes, a shift towards the promotion of riskier projects, with a high innovation, high-tech component and high chances of growth;
- development of an assistance strategy for radical innovations;
- assistance for innovative SMEs especially in the first stage of growth by enlarging the concept of research to include the innovation concept (according to the Oslo Manual);
- competitive, but generous financing of universities.

Networking with education and competition

- Link to ICT investments with organisational innovation;
- promotion of division of labour within companies (outsourcing) with quality control;
- promotion of competition and regulation of competition;
- promotion of start-ups and their post-entry growth;
- cluster formation to increase productivity and spillover;
- training within companies (in law, collective agreements, works' agreements);
- right to sabbaticals.

Link to industrial policy

- Enlargement and creation of research headquarters (and offer to network with educational institutions);
- promotion of diffusion of inventions (transfer institutions);
- promotion of research cooperation between business and university;
- promotion of research themes and technologies that pay dual dividends and of potential Austrian strengths;
- high quality public procurement policy;
- share of basic research (from special funding) in contracts awarded by public bodies;
- consideration of publication activity and completion of studies within the set time in performance agreement with universities.

Stimulation of demand for high technology

- Introduction of a coordination office for information and communications technologies;
- stronger inclusion of ICT in education and training;
- promotion of e-learning programmes;
- competitive tenders for technology programmes;
- excellence programme for institutions and networking with AIST (Austrian Institute of Science and Technology);
- facilitation of exchange between university and the business sector;
- excellence programme for leading international scientists.

6.4 Promotion of competition and flexibility

The structural change in Austria is below average by many measures (even though there are some solid achievements within the given structures). The opening of the borders, the rapid change in technology, organisation, and supply relations is making it harder to achieve success within the existing structures. The transition from labour-intensive branches to knowledge-intensive ones and from medium-tech to high-tech, from manufacturing to planning and organisation, from simple to complex and technology services needs to be accelerated. The short-term costs of change in this context must limited by qualification offers and a fast pace of growth.

Flexible work contracts and the adaptability of employment to demand are advantages for businesses. Lacking security and continuity is lowering the willingness on the part of the employee as well as on that of the employer to deepen company-specific know-how or to organise in-house training courses. This is also true for part-time work, high mobility and

atypical work contracts and outsourcing. Although these do increase flexibility for the company, they should not become a permanent situation for employees. Transition labour markets from education to work, from unemployment to gainful employment are sensible responses to the need for more flexibility and ease the entry into the labour market and the switching of jobs. In order to avoid transition markets from becoming traps, it would be good to increase the degree of social security with the duration (repeat, frequency) of an instable employment contract and to increase the human capital of flexible employees by continuously offering training. This is the only way that an instable work contract can be transformed into a stable one, and sufficient periods creditable to the pension system can be earned.

These types of solutions are referred to in labour market literature as flexicurity and the management of transition labour markets. Industrial policy speaks of the promotion of structural change and of start-ups, while innovation policy stresses the significance of a high-tech sector.

The package comprises elements from the flexibilisation and competition strategy as well as from the innovation, education and training strategy. The body responsible is primarily the Federal Ministry of Economics and Labour (BMWA), the social partners and the regulatory authorities.

Promotion of change through more competition

- Forward-looking, pro-active competition policy;
- anchoring the flexibility as a skill in the educational and training system;
- unbundling of ownership rights in infrastructure for generation and supply (electricity, gas), national competition and international expansion (and coordination) instead of national, state-owned champions in the area of infrastructure;
- mobility in organisation and labour law applicable to the public sector;
- promoting competition in the service sector, for the liberal professions, and in infrastructure;
- promotion of start-ups instead of national champions;
- consideration of diverse earnings situations within the sectors (when negotiating collective wages);
- participation in profit and performance of a company as part of wages;
- improvement of risk coverage and reducing cost funding for SMEs through securitisation of receivables and loans;
- establishment of transparent markets for trade in milk quotas (milk quota exchanges);
- increase efficiency in the brokerage of residences (lower brokerage fees, paid by sellers).

Box 7: Labour market flexibility and training

Starting situation

The business sector needs greater flexibility in working hours, especially longer daily and weekly working hours in phases of higher demand. This reduces the chances of employees to participate in training activities. Therefore, it would be logical to offer employees blocked time off for further education in other periods as compensation for periods of longer working hours. This greater flexibility for businesses through lower costs would increase efficiency and competitiveness. For employees, taking part in training would mean one step further towards more job security and income security. The two sides would benefit from the higher qualification measures over the long run.

Defining policy

Collective agreements between the social partners could define entitlements to further education by employees as compensation for greater flexibility with respect to working hours. In the light of the differences in existing collective agreements regarding working hours, it would be feasible to define these by different methods depending on the sector (or at the company level).

Learning time accounts could be set up for all employees at each company. The hours collected would be redeemable in the form of blocked training activities for which the employer pays the expenses. The accounts would be fed with working hours performed "flexibly", that is, outside of the contractually agreed-on working hours. The entitlement to be released from work can be compensated by diverse forms of flexible working hours, and an increase in the daily/weekly maximum working hours could also be compensation for entitlement to training. The regulations applicable to overtime pay would remain in place by retaining normal working hours. Nonetheless, the specific requirements of an occupation and the specific strains of certain jobs have to be considered to avoid damages to health and consequential costs.

As a base value, a target of at least one week of training activities per year and person could be defined. In the event of an expansion of the statutory maximum working hours and longer periods of higher demand, longer further education periods are also feasible (four weeks and more). The learning time accounts do not need to be filled with hours on a 1:1 basis, but could also be compensated at a more favourable rate as an incentive for employees. Open issues relating to insolvency and the transferability of learning time accounts must be defined by law and in collective agreements.

Flexibility through greater security

- Higher compensation payments in the event, for example, of unemployment in exchange for stricter rules regarding job acceptance, mandatory further education and higher mobility;
- exchange of longer working hours in seasonal peaks for blocked training periods;
- securing the potential pool of skilled labour by improving integration and raising participation in training measures by migrants;
- strengthening horizontal and vertical permeability of the system of education;
- long term: Phasing out promotion of the low-wage sector by wage moderation.

Mobility

- Flatter age profiles in pay scales;
- standardisation of labour and social insurance law;
- higher maximum permitted working hours per day to 12 hours (without increasing normal working hours of currently 8 hours, exceptions for certain jobs with high strain);
- change in the occupational profile towards more interchange between education, work, and switching occupations and employers;
- acceptance of atypical work contracts as a sign of search processes and transition labour markets (with increasing security and higher priority for new jobs with unlimited contracts; see Box 2);
- retention of unlimited full-time job as the standard model in Europe for work contracts;
- greater share of assistance element in the case of high-risk, radical innovations.

6.5 Qualification campaign

A qualification campaign to promote growth and employment is needed. This campaign would focus on the reform of education, training and the integration of migrants. The measures to integrate migrants are summarised in the integration package (see Section 6.6), because this task extends beyond the sphere of qualification.

The principal aim of the qualification campaign would be to reform the institutions and contents of the educational system, which served their purpose well during the catching-up phase, in such a manner so as to ensure that the education offered supports Austria's position as a technological frontrunner in a knowledge-based society and generally meets the needs of a period of rapid change and open borders.

Box 8: Poly-technical school and vocational schools

Starting situation

Even though mandatory schooling lasts nine years, education in the lower secondary level of schools ends after eight. All further forms of education within upper secondary school start at the ninth grade, with the exception of apprenticeship training, which starts as of the tenth. As an interim module between the lower secondary school level and apprenticeship, the so-called poly-technical school was created. However, the actual educational flows for bridging the ninth school year pass not only through the poly-technical school, but also via the vocational medium-level and higher-level schools (*Steiner –Lassnigg,* 2000) – not least due to the shortage in apprenticeship vacancies, which may turn the poly-technical school into a dead-end street. High dropout rates at the medium-level and higher-level schools are the consequence. At the poly-technical school, there is also a negative selection as illustrated by the PISA study.

Youths who cannot find a training place only because of the tight labour market need a real alternative to the classical dual system of education. Education according to the transition concept (Jugendausbildungs-Sicherungsgesetz, JASG) is not suitable for these youths, because it is uncertain how long they will stay in the programme and whether an apprenticeship position will be found. The longer they are in the training programme, the harder it becomes to find a position, because they are not only exposed to competition from their 15-year old peers entering the market, but also suffer from increasing stigmatisation.

Reform proposal

The core of the reform would be the establishment of a new type of school with a large practice element for youths who would like a hands-on vocational education. Vocational schools could take over this function. The new type of school would start in the eighth school year. The first school year (9th school year) should be dedicated to general education and in the following years, the educational focus on practice should become greater. This hands-on education could be completed either at a company (classical dual scheme) or at school (e.g., apprentice workshop). Youths that fail to find an apprenticeship position after the first year of school, could switch seamlessly to continue at the full-time school with a strong focus on practice. Occupational fields[1] would need to be defined for this type of school for which youths may opt at the beginning of the ninth school year.

At the same, there should be a differentiation within the scope of hands-on education. Apart from the traditional apprenticeship training (and hands-on education at school), preparatory courses should be offered – as an optional module – for the leaving certificate exam for the upper secondary vocational school. Like schools that prepare students for the upper secondary vocational school leaving exam and are paid for by public funds, these preparatory courses for the upper secondary vocational school leaving exam should also be free of charge. Precisely the costs of education are a barrier to access that should not be underestimated for the target groups concerned. The early combination of initial vocational training with preparatory courses for the upper secondary vocational school leaving exam could contribute to raising the number of youths with upper secondary school leaving certificates.

[1] Example of Denmark: Basic education takes place in one of seven occupational fields: trade/technician, technology/communications, machine engineering/transport/logistics, foods/restaurants/hotel and accommodations, services, business/commerce/office /banking, construction/plant engineering.

The qualification campaign has synergies with practically all other strategies. It is a precondition and supplement for the innovation strategy, it promotes the innovative elements of infrastructure strategy and is supported by these, it enables flexibility, which in return is secured by further education; it is the requirement for specialisation in the new technologies and knowledge-based services, for high-quality exports and a leading position in environment technology. Supply and demand by qualification must support each other if friction is to be avoided. The analysis shows that not only does Austria lack sufficient highly qualified labour, but also that demand is also relatively conservative from business, the public sector and institutions. The primary bodies responsible for these policies are the Federal Ministry for Economics and Labour, the *Länder*, schools and universities, lawmakers and the social partners.

Improvement of supply

- Reform of apprenticeship training and vocational schooling;
- greater vertical and horizontal permeability;
- quality of schools;
- upgrading of apprenticeships;
- organisation of further education;
- stronger interchange between innovation/technology and science/education;
- premium for third-party funding in collaboration between businesses and universities;
- networking of businesses with higher technical schools.

Promotion of demand for qualification

- Shift in intangible infrastructure;
- promotion of environmental technology, health technology, innovative research in construction;
- new renewable energy technologies, solar energy technologies;
- high quality public procurement policy;
- shift in exports of goods to combined exports (goods plus services);
- exports of problem solutions and know-how;
- promotion of headquarters and research centres;
- expansion of sector for high-tech production.

6.6 Integration package

The share of migrants of the first and second generations in the active population is clearly on the rise. Net immigration of foreign nationals will decrease slightly according to the demographic forecasts versus 2005/06, but will remain positive according to the two variants. This is postponing the looming bottleneck in population of working age and in the supply of labour, and is therefore desirable from a labour market standpoint. Mobility and migration movements are not easy to steer even at the centre of a dynamic economic region (despite transition regulations until 2011).

The integration of migrants into the working process, their participation in training and the education of the second and third generations are of special importance in a strategy to boost growth by specialisation in the quality segment, in high technology and high-quality services. Migrants will make up the larger share of Austria's skilled workers in the future, because in urban agglomerations in any case, a growing number of pupils without a migration background are completing upper secondary level education. An integration strategy is primarily an education and training strategy, but also needs other supplementary measures. Integration should extend as far as possible to all areas of society, including housing, social, cultural, political, and sports aspects. Integration should be a contribution to social and cultural diversity in Austria. All government levels are responsible for this goal (federal, *Länder* and municipalities), public and private institutions, social partners and NGOs.

Measures need to be taken that influence the pattern of immigration, raise the level of qualification of migrants in Austria, and thirdly, integrate them into institutions and promote their job opportunities.

Measures

Structure of immigration

- Facilitate residence permits and eliminate access barriers to the labour market for qualified asylum applicants;
- lower duplicate study fees for non-Austrians if their academic achievement is good;
- work permits for two to five years for non-Austrians after completion of studies (with good grades);
- support for partners of key labour force members looking for work in Austria;
- facilitate circular migration (non-Austrians who spend part of their working life in Austria, part abroad and vice versa for Austrians);
- increase appeal of Austrian universities for top students (stipends for top 5 percent);

- make regulations governing the employment of non-Austrian key personnel more attractive to younger members.

Improvement of qualification

- Eliminate deficits and unequal starting situation;
- raise basic capabilities by introducing a mandatory pre-school year;
- tutoring, special teachers to eliminate weaknesses;
- attractive offers to complete schooling at a later time;
- special attention to gender equality in education and selection of profession;
- recognition of qualifications of migrants;
- student exchange programmes with the most important countries of origin of migrants.

Integration into institutions

- Intensify share of working parents;
- representatives of migrants in school organisations, teachers' bodies, Public Employment Service Austria (AMS), Federation of Trade Unions (ÖGB);
- more collaboration in media;
- cultural diversity and peer learning as part of curricula;
- political participation of migrants (Minimum: advisory councils).

Careers and study

- Encourage cooperation between federal level, *Länder*, and municipalities to adjust integration programmes to regional differences;
- scientific studies of careers and career barriers of migrants;
- studies on barriers to integration and prejudices;
- reduce regional residential concentration in urban agglomerations;
- studies on integration profiles (and reasons for differences) of the different migrant generations in Austria;
- take advantage of language skills of migrants in elective courses at school and training programmes at companies and for support (communication) at hospitals;
- providing advice to individuals opting for self-employment;
- concepts for care of the elderly.

6.7 Energy and environment package

An innovation-based environmental policy and a long-term energy policy have important interrelationships with policy (ecologisation of the tax system), with macroeconomic steering (increased incentives for the rehabilitation of residential buildings in a recession), with technology policy and infrastructure, and with regions and agriculture. Environmental technology, renewable energies and know-how harbour substantial export potential as other countries in Eastern Europe and in Asia raise their environmental standards. Responsibilities in connection with this package lie with the Federal Ministry of Economics and Labour (BMWA), the Federal Ministry of Agriculture, Forestry, Environment and Water Management (BMLFUW), the Federal Ministry of Transport, Innovation and Technology (BMVIT), the Federal Ministry of Finance (BMF), and the social partners.

Controlling, planning, steering

- Reduce the tax burden on labour while taxing external effects (with due regard to preserving competitiveness);
- offer incentives for measures designed to raise energy efficiency (investment allowance for energy conservation and environmental investments);
- set examples in public construction and procurement;
- promote and harmonise the framework conditions for alternative energy source;
- diversify energy sources;
- draw up a master plan for reducing the dependence on fossil fuels (example: Sweden);
- promote equipment optimisation (loan-services package);
- assess motor vehicle tax on the basis of CO_2 emissions;
- avoid traffic generators.

Structures and systems

- Change the organisation of energy generation (in favour of decentralised generation);
- promote environmentally-friendly modes of transport (railways, ships) and enhancing service quality, minimising total journey times (from point to point);
- carry out thermal rehabilitation of residential and commercial buildings;
- target non-profit housing construction, office construction and subsidies for residential housing construction to raise energy efficiency;
- close gaps in the infrastructure.

Box 9: Responsibility for further education at the regional level

Problem/motivation

Life-long learning is becoming the key to preserving economic competitiveness, economic wealth, and employment. Under the European Initiative on Life-long Learning, efforts are therefore being undertaken to foster interest in further education. Regional policy is promoting life-long learning, networking among industries, businesses and regional institutions and helping to activate the population under the motto of the "learning regions".

In addition to the financial and time barriers, there are also spatial barriers and the problem greatly divergent baselines and qualifications needs. In a survey on the topic of life-long learning conducted in Austria in 2003, people were asked what changes they would like to see that would facilitate participation in further education. The respondents specifically expressed the wish for a wider range of options in further education close to their homes, more evening courses, release from work for the purpose of further education and training, the wish for more courses on weekends and more childcare facilities.

Initiatives at the regional level

In order to make the significance of life-long learning visible at the regional level, persons responsible for further education could be appointed at the district or municipal levels. These could assume the following tasks:

Regional actors (e.g., larger municipalities, associations of municipalities or districts) could develop regional target-group-specific strategies for overcoming obstacles to further education and thus help to raise participation in further education. In addition, they should organise further education courses in municipalities in which no providers of further education are located (e.g., make space available for providers of further education).

In addition, regional vocational and educational counselling could be established at the regional level (e.g., district) that is independent of the sponsoring organisation. Where vocational and educational counselling is located at institutions providing further education, for example, such services refer their clients mostly to the institutions' own programmes. Information services provided by AMS (Public Employment Service Austria), on the other hand, are hardly ever used by individuals who are not registered as jobless. The OECD has therefore identified a need for an expansion of services targeting primarily adults and young people who have already left formal education. A lack of information about the scope, structure and quality of services available result in high information procurement and search costs. A professional educational and vocational counselling service set up in the region that calls on the municipalities at regular intervals and offers its services would be an effective solution.

In certain areas, the networking of industries, businesses and institutions embedded in the concept of the "learning regions" could be initiated by the municipalities. Service deficits could be identified, for example, by talking to businesses and evaluating information gathered in the course of educational counselling. Here, the local authorities could assume a co-ordinating and informative function and initiate joint regional educational efforts at the industry or company level by bringing together the relevant actors.

Technology and education

- Give more weight to innovations in environmental technology;
- develop alternative fuels and propulsion technologies;
- implement target-driven technology programmes for basic and applied research;
- diffuse new technologies (*Haus der Zukunft* programme; low-emission engines, hybrid car);
- train architects, builders, plumbers, construction trades, students and managers of public buildings (schools, hospitals) in energy efficiency and ecological construction;
- conduct information campaigns and counselling services for private households on building rehabilitation, energy-efficient construction and alternative heating systems;
- conduct national debate about the use of new technologies in agriculture.

6.8 Services and export package

This package comprises the expansion of Austrian exports of high-quality products and production-related services as well as an enhancement of quality in tourism and the exploitation of new opportunities in rural areas. The priorities of this package are closely linked with the innovation strategy, the education strategy but also the promotion of competition and the advancement of gender equality. Beside the Ministry for Economics and Labour, responsibility also rests with the Economic Chamber and the Agricultural Chamber as well as with national and EU-wide framework programmes.

More flexibility and security

- Promotion of sustainable and high-quality employment in tourism and in the construction industry;
- regionalisation of further education to reduce wage differences relative to the centre (see Box 9);
- promotion of further education in exchange for more flexibility;
- tax deductibility of household jobs (associated with further education);
- bonus for businesses offering permanent employment in seasonal industries (experience rating).

Promotion of competition and new business establishments

- New regional concepts in response to new framework conditions (urbanisation, telecommunication, ageing, population growth through migration);

- competition for private domiciles, service enterprises, reassessment of second homes;
- promotion of new business establishments (especially in innovative areas and production-related services);
- optimisation of forestry use of areas no longer needed for agriculture;
- innovation promotion for SMEs (expansion of R&D definition towards Oslo protocol);
- start-up centres for services.

Innovation strategy

- Using *Fachhochschulen* (providers of specialised tertiary education) and universities as drivers of economic development;
- formation of clusters;
- new technologies in energy and environmental industries;
- export opportunities deriving from environmental technology;
- using existing strengths in medicine, health-care, ecological and energy-efficient construction;
- promotion of innovative activities in the service sector.

Education and further training

- Basis for export capability and innovation;
- full-year jobs and further education in tourism;
- efforts to reduce social inheritance in education;
- improvement of childcare in rural areas;
- integration of care professions into the regular education system;
- training for nursing professions to start immediately after compulsory education;
- new vocational school (integrating the "poly-technic year");
- platforms for the provision of care.

Measures to support exports

- Removal of main obstacles to exports: credit risk, legal uncertainty, market entry costs, lack of contacts and market information;
- financial support for exports, including export guarantees and soft loans (and review of costs and effectiveness);

- provision of market information;
- adaptation of export promotion instruments to SME needs;
- closer integration of production and service activities;
- change in composition of exports to include more high technology and high-quality products;
- involvement of businesses in development co-operation;
- improved access and exploitation of multilateral development cooperation projects,
- advancement of internationalisation activities in the service sector.

7. The results of the 22 substudies

Substudy 1: Determinants of economic growth in the OECD area

Co-ordinator: Martin Falk
Authors: Martin Falk, Fabian Unterlass
Scientific support: Martina Agwi

This article explores the supply-side causes of long-term differences in the growth rates of industrialised countries on the basis of panel data. A thorough analysis of the differences in growth is an important basis for economic policy recommendations.

The empirical study conducted on the basis of OECD data for the period 1970 to 2004 has yielded the following key findings: The critical long-term determinants of economic growth are the investment ratio, the corporate R&D ratio, the contribution of high tech to value added, R&D expenditure and human capital assets. Gross fixed capital formation has the strongest impact on economic growth. Capital expenditure speeds up technological progress and is frequently associated with productivity-boosting process innovation. Its impact on economic growth is uncontested by all schools of economic thought. The authors' research shows that the influence of capital expenditure for tangible assets on economic growth decreases in the course of time while that of research and development increases, i.e., it is the quality of the capital employed rather than the quantity that counts.

In the context of capital expenditure, it is spending on plant and equipment that is of particular importance for long-term economic growth, as Hahn's study demonstrates (Substudy 5). The significance of capital spending on new construction is substantial in less-developed industrialised countries, but declines in highly-developed industrialised states. In Austria, the proportion of construction spending is relatively high if measured against the country's level of industrial development while expenditure on information and communication technologies is relatively low.

Another new aspect of empirical analysis is the inclusion of production patterns into growth equations. The authors have evidence that a high proportion of high tech in value added activities, exports and R&D spending exerts a significant positive influence on economic growth. The Austrian industrial sector is characterised by a relatively large share of medium-high to higher technologies (e.g., many automotive components suppliers). Typical high-tech industries are the pharmaceutical industry, biotechnology, communications engineering, medicine, control systems, and the aviation and aerospace industry. In individual cases it may, however, be difficult to define what is medium-high and what is high technology. Austria's highly developed materials technology sector is characterised by high technology even though it is not classified as a high-technology industry according to the OECD definition.

Another major contributing factor to economic growth is human capital. Adequate measurements of education and training are difficult, however. Usually, years of formal schooling are used as an indicator. In the authors' models, the number of years of formal schooling have a positive impact on economic growth. However, the quality and structure of education and training (e.g., the share of scientists) appear to play a greater role than the number of years spent at school or university.

The study also highlights a substantial path-dependence of growth, which explains two-thirds of GDP development per employable person in the past: those economies that enjoyed above-average growth in the past will probably continue to do so in the future. This is no reason for pessimism for the other countries, though. If they succeed in lifting their pace of growth to a higher level through innovation, research and education, it will very likely remain at this higher level for many years. What is achieved in this manner is not only a leap to a higher level, but sustainable higher economic growth. The USA and the Scandinavian countries can be cited as examples proving this point.

Recommendations

Given the significant influence of high technology on economic growth, a clear recommendation should be made to promote high technology. Austria's high-technology sector is in fact too small. Austria has to increase its high-tech orientation. This applies to R&D spending as well as to the structure of the industrial sector and to exports. Austria cannot stay a medium-high tech country as the East-Central European and Asian countries are becoming increasingly competitive in this area. A shift in the industrial sector composition and in R&D spending towards the high-tech sector will generate higher economic growth over the long term, as the markets for these products are growing very rapidly and highly-developed countries are able to gain a temporary advantage ("monopoly position") over industrialised countries eager to catch up.

A strong high-tech sector is also desirable from a labour perspective. While the medium-high tech sector is critically dependent on lowering unit labour costs (through wage moderation and employment cuts) to survive in a competitive international environment, the high-tech sector relies much more on its employees' innovative capabilities.

Despite high per-capita incomes, economic growth in the past decade was particularly high in the USA and in Scandinavia. The great importance of research and the high-technology sector in these countries were key drivers of this development, which over the past decade stopped the convergence process (catching up of countries with lower per-capita incomes) previously observed among the developed industrialised states.

Specific, "discriminating" high-tech promotion is not easy to implement politically, however. Direct R&D promotion (evaluation of projects), policies designed to attract new companies

and assistance for the establishment of new enterprises appear to be the most suitable instruments for this purpose.

Implementation of R&D in new products has to be improved. More spending on education and professional development is needed to promote the diffusion of new technologies. Specific technology and education planning need to go hand in hand.

As an economy expands, the focus of investment activity shifts from building construction to plant and equipment (machinery, vehicles) and on to research and innovation. In the light of the decreasing significance of expenditure on plant and equipment for long-term economic growth, R&D and innovative activities should be given priority over traditional investment promotion and construction spending.

Substudy 2: Growth and employment in Europe since 1995

Co-ordinator: Ewald Walterskirchen
Authors: Karl Aiginger, Sandra Steindl, Ewald Walterskirchen
Scientific support: Waltraud Popp, Roswitha Übl

This article explores the demand-side causes of differences in economic growth. Supply-side factors can explain part of the long-term differences. In the shorter and medium run, however, demand-side factors play a major role.

In the period under review, 1995 to 2005, demand in Europe was generally weak and highly fragmented. In most countries of the euro area, economic growth remained below potential growth and lagged considerably behind the US economy. From 2001 to 2005, capacity utilisation was below the long-term average, which was significantly longer than in previous periods of cyclical sluggishness. Capacity utilisation was too low during this time to stimulate investment and bring about a self-supporting cyclical upturn.

From 1995 to 2005, the differences between the EU countries' growth rates were more pronounced than in the preceding decade. The best performance was achieved by the Scandinavian countries, Great Britain, Ireland, and Spain. At 2.2 percent, economic growth in Austria corresponded to the EU average, but exceeded that of the euro area. Germany and Italy were trailing behind.

The differences in growth were attributable primarily to private consumption and residential construction (rather than to exports and capital spending). In the fast-growing economies mentioned above, a strong rise in housing prices boosted personal net wealth and thus private consumption. Consumer lending expanded substantially and the private households' saving ratio dropped significantly. Residential construction investment was strongly encouraged in these countries by the expectation of a continued rise in the prices of houses and flats (but accounted for only about 5 percent of GDP). In Germany and Austria, these stimuli were not felt. Here, weak domestic demand was compensated at least in part by the

robust growth of exports. Since 1995, unit labour costs have improved at a faster rate in Germany and Austria than in any of the other EU countries. This led to an export boom while at the same time contributing to relatively weak domestic demand. Italy lacked even these export-driven stimuli as the Italian economy's competitiveness has deteriorated markedly since its accession to Monetary Union. The loss of the exchange rate as an instrument of economic policy has not been compensated by higher wage flexibility, as had been hoped.

An international panel study investigated the influence of economic performance and other factors on the development of the labour market. It showed that economic growth had a massive impact on employment and unemployment trends. Two-thirds of the change in employment and half of the change in the rate of unemployment can be "explained" by economic growth. In addition to economic growth, the unemployment rate is also influenced by demographic developments (in-migration). During the period under review, 15 percent of the change in the EU countries' rates of unemployment were attributable to such trends. Beyond that, measures targeted at the labour market – training programmes, low-pay "internships" for limited periods of time – also have an impact on unemployment. These are, however, frequently "emergency measures" taken in response to inadequate economic growth. The development in real wages and demand patterns has a significant negative, albeit very minor influence on employment and unemployment.

From an economic policy perspective it is interesting to know which level of economic growth triggers additional hiring. In the medium run, this employment threshold has been relatively stable in Austria. It corresponds, by definition, to productivity growth and in full-time job equivalents is close to 2 percent. The unemployment threshold is close to 2.5 percent in Austria and is determined by productivity trends as well as demographic developments.

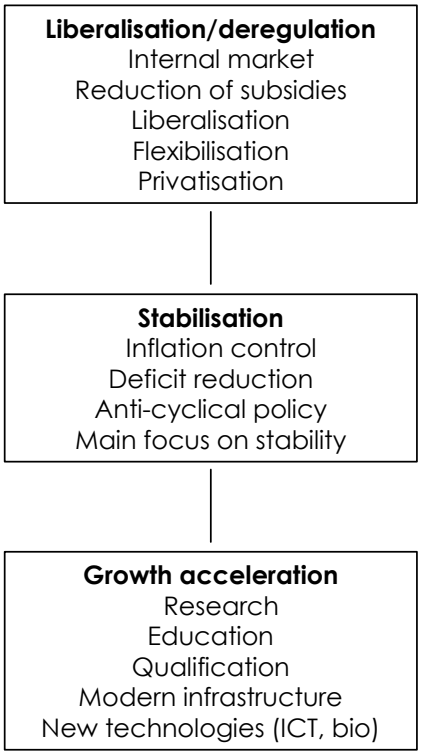
Recommendations

The EU is a political success story as it has made and/or preserved peace in its member states for the past 50 years. The economic performance of the EU has been less consistent. The first 35 years of European integration produced impressive results. The disappointing economic development of Europe over the past ten years has been the consequence of the asymmetric use of economic policy strategy lines. The EU's economic policy has focused on the components of liberalisation/deregulation and has applied macroeconomic control asymmetrically (with more emphasis on price stability and deficit reduction than on the stabilisation or active fostering of growth) and has neglected the third component, namely the stimulation of growth. To complement the deregulating and stabilising components, active demand policies and an aggressive promotion of growth factors would have been required in this phase.

The active component of a long-term supply-side economic policy is, in fact, the promotion of investment, research, and education. It is indispensable when (1) the economy is exposed to shock liberalisation (single market policies), (2) a stability postulate (which makes sense in

the medium run) is implemented for the first time (Stability and Growth Pact), (3) a distribution of incomes is tolerated under which low incomes rise at a slow pace, and (4) increased personal contributions are called for under the pension system. In the absence of active growth policies it takes too long for liberalisation, budget discipline and profit recovery to trigger a spurt of innovation and economic growth.

Figure 17: EU policy fields



Today, key areas of economic policy are controlled at the European level. Therefore, EU policies and their relations to national policies require special attention. The EU's economic policy strategy is laid down in the Broad Economic Policy Guidelines. At present, it comprises all three lines of policies: firstly, supply-side structural reforms (single market, liberalisation, labour market reforms, deregulation); secondly, macroeconomic framework conditions (stability policy, sustainability of finances, wage development); and, thirdly, policies designed to raise the economy to a higher growth path (technology, research, education, professional development).

The execution of these policies is subject to different sets of rules, however. Single market policies are enforced by means of laws, regulations and actionable rules. The containment of budget deficits is defined in the Guidelines with a bias towards stability and is also being pursued asymmetrically in the Growth and Stability Pact (sanctions in the case of deficits). The main task of the European Central Bank is monetary policy. Its independence is laid down in the Maastricht Treaty. No sanctions are imposed for the persistent neglect of the

growth component. This asymmetry was caused in part by past experience (high deficits, no debt reduction when the economy was booming, reluctant anti-inflationary measures in southern Europe). In addition, it has certainly also been shaped by the expectation shared by many economists that low inflation rates, balanced budgets, moderate wage increases and deregulated labour markets would automatically lead to economic growth and the reduction of unemployment (referred to in literature as the "Paris Consensus" after the OECD's headquarters).

What the EU lacks – in contrast to the USA and Great Britain – is a commitment to proactive counter-cyclical policies. Even at times of economic stagnation, EU policies largely aim to keep inflation rates and budget deficits low. Thus, they have a "restrictive bias". In the USA, Great Britain, and Scandinavia the "pact" between counter-cyclical and growth policies works much better. Debt-financed spending programmes and massive interest cuts are employed to fight recession. Once the economy has entered a cyclical upturn, structural reforms are pressed to expand potential output. The Scandinavian countries have demonstrated, moreover, how acceptable results can be obtained even with EU institutions and rules.

After the last recession, the European economy was mired in a phase of pronounced weakness for an extraordinarily long time. This suggests an inadequacy of the EU's macroeconomic stabilisation policy. Under Monetary Union, the instrument of active anti-cyclical fiscal policies – with rising structural budget deficits in phases of recession – was given up when the Stability and Growth Pact was adopted. Therefore, anti-cyclical stabilisation is now primarily the responsibility of the European Central Bank. According to international studies, however, demand in the euro area is significantly less sensitive to interest rate changes than in the USA or in Great Britain. Efficient anti-cyclical stabilisation policies in the euro area therefore require either active anti-cyclical fiscal policies or an adjustment of financial markets to Anglo-Saxon standards.

A reduction of transaction costs (e.g., abolition of tax on credit contracts, reduction of broker charges) could stimulate housing construction and consumption in Austria. A slight rise in housing prices would lead to advance purchase decisions. Raising the volatility of housing prices to stimulate economic growth is not recommended, as any sharp rise in prices is usually followed by a slump.

In housing policies, fiscal policies should be implemented in an anti-cyclical manner. Before Monetary Union, the national central banks were able to react to surpluses or shortages in the housing sector by changing interest rates. Due to the single monetary policy being pursued in the euro area, fiscal policies now have to assume this anti-cyclical function in order to prevent extreme fluctuations in residential housing construction as well as in the prices of homes and flats.

Substudy 3: Growth, structural change and productivity

Co-ordinator: Michael Peneder
Authors: Martin Falk, Werner Hölzl, Serguei Kaniovski, Kurt Kratena, Michael Peneder
Scientific support: Eva Sokoll

Substudy 3 breaks Austria's economic growth down into its supply components ("sectoral growth accounting"). The detailed study yielded the following result: Over the 1990-2004 period, real value added rose in Austria at a pace of 2.4 percent per year. Income from capital services contributed 1.3 percent p.a. to growth, of which almost one full percentage point was due exclusively to increased quantity, and the balance to quality effects (structural change). The expansion of labour services contributed 0.5 percent to growth, of which 0.2 percent was attributable to rising labour volume and the balance to the enhanced quality of labour services. The contribution of the residual, i.e., multifactor productivity, which is interpreted as factor-independent technological progress, amounted to about 0.9 percentage point. When multifactor productivity and quality effects of labour and capital are added up it is evident that quality improvements contributed almost two-thirds to the rise in real value added. The quality of capital input (information and communication technologies) and labour input (education) is increasingly gaining importance versus pure quantity. Where intermediate inputs are concerned, the trend is likewise towards highly qualified production-related services while the share of raw materials is declining.

A disaggregated analysis of the contributions to growth from the individual sectors shows the highest growth rates in the computer and information processing industry, in aviation and communication as well as in research and development. The strong expansion of the gross production of the automotive industry is due in large part to intermediate inputs, with the increase in value added being much lower.

The relatively modest contribution of labour input does not signal a minor importance of labour as such, but mirrors the waves of rationalisation efforts undertaken over the past decade to increase competitiveness and shareholder value. The demand for labour was inadequate to fully exhaust available potential. Despite a growing workforce and growth opportunities created by European integration it has not been possible to expand employment (measured in terms of labour volume).

The sum total of hours worked has been largely stable in Austria since 1990, rising by only 3 percent on an accumulated basis. While globalisation, technological change and weak demand have not led to a decline in the demand for labour, no major rise has been recorded either, even though wage growth has been lagging significantly behind productivity gains. The stagnation in labour volume is obviously attributable to low demand for labour services at times of relatively sluggish economic growth – not to a general shortage of labour since 1990.

Table 2: Key components of growth

Value added in percent; factor contributions and multifactor productivity in percentage points

	1990-2004	1990-1995	1996-2000	2001-2004
	Average year-to-year change			
Value added, real, APF	+ 2.38	+ 2.62	+ 2.83	+ 1.46
– Capital services	+ 1.33	+ 1.33	+ 1.36	+ 1.29
Quantity contribution	+ 0.96	+ 1.02	+ 1.08	+ 0.71
Quality contribution	+ 0.37	+ 0.31	+ 0.27	+ 0.58
– Labour services	+ 0.46	+ 0.28	+ 0.80	+ 0.31
Quantity contribution	+ 0.20	+ 0.02	+ 0.48	+ 0.10
Quality contribution	+ 0.27	+ 0.26	+ 0.32	+ 0.21
= Multifactor productivity, APF	+ 0.59	+ 1.01	+ 0.68	– 0.15
– Reallocation of value added	– 0.02	– 0.06	– 0.04	+ 0.06
= Multifactor productivity, PPF	+ 0.61	+ 1.07	+ 0.73	– 0.21
– Reallocation of capital	– 0.18	– 0.13	– 0.16	– 0.29
– Reallocation of labour	– 0.06	+ 0.03	– 0.10	– 0.13
= Multifactor productivity, AAI	+ 0.85	+ 1.17	+ 0.98	+ 0.21

Source: WIFO calculations. – Note: APR . . . aggregated production function; PPF . . . production possibility frontier; AAI . . . direct aggregation across industries (i.e., not assuming homogeneous value added and factor prices among industries).

About one-third of the growth in real value added is attributable to the increase in multifactor productivity. This can be explained, apart from the innovative performance of companies, by learning effects ("learning by doing") and the use of new technologies. Multifactor productivity varies substantially over the course of a business cycle – as does labour productivity. Even over several years, businesses are unable to fully adjust their factor inputs to weak demand. This also explains the negative contribution of multifactor productivity during the phase of economic sluggishness in the period 2001-2004. The short-term development of multifactor productivity is thus unsuitable as a measure of factor-independent technological progress. Remarkable were the negative contributions of multifactor productivity in highly ICT-intensive services. Apart from data problems, this is an indicator of insufficient organisational innovations in optimising ICT use.

Recommendations

- The relatively high contribution of factor-independent technological progress (one-third of economic growth) underlines the importance of innovation and technology policies.
- With regard to capital input, quality rather than quantity should be stressed.
- Given the large contribution of investment activity to economic growth, investment should be encouraged by policies enhancing Austria's attractiveness as a business location, industrial policy, regulatory policy, policies promoting the establishment of new businesses, export promotion, tax policy or direct investment incentives. A favourable demand environment (e.g., due to expenditure on infrastructure) has a positive impact on the propensity to invest. This underlines the importance of macroeconomic

stabilisation policies. It would be especially beneficial to adjust expenditure on infrastructure flexibly to create anti-cyclical effects. Stable demand prevents fluctuations in multifactor productivity and reduces economic uncertainty.

- The contribution of quality improvements in labour input to the increase in real value added was relatively modest in the period analysed. This points to deficits in the field of human resources. More proactive education and qualification policies are needed to translate new entrepreneurial opportunities into economic growth.

Substudy 4: European economic policy: Internal Market, EMU, Lisbon, enlargement

Author: Fritz Breuss
Scientific support: Roswitha Übl

This article provides a broad overview of EU institutions and the European Union's economic policy. It is actually inappropriate to talk about a "European economic policy". There is no such thing as a central economic policy for which the Union would have sole responsibility.

The EU's relatively weak economic performance is linked in considerable part to the asymmetry of the European Union's economic policy: monetary policy is controlled centrally and is highly geared towards stability. The more restrictively designed budget policy is subject to a "hard" co-ordination regime including the threat of sanctions. The Lisbon strategy by contrast, which aims primarily to raise growth and employment, is co-ordinated only by "soft measures" (without any sanctions). European economic policy requires a great co-ordination effort including the comprehensive Lisbon process. That growth policies have been bundled only inadequately to date is reflected by the slow pace of economic and employment growth in the EU.

Integration (Internal Market, EMU including euro, EU enlargement) had been expected to yield a high growth premium. The Internal Market project was launched in 1993 to prevent Europe from falling behind the USA in global competition.

Another positive impact on growth had been expected of the creation of Economic and Monetary Union in 1999 as the glorious conclusion of economic integration in Europe. The introduction of the euro and closer integration of the financial markets have indeed led to lively intra-EU trade, high price stability and a marked reduction of budget deficits. The "euro dividend" in terms of higher economic growth remained modest, however.

As a matter of fact, since the early 1990s, the US economy has grown by about 2 percentage points faster than the EU. Thus, there is a wide chasm between the expectations and the reality of European integration.

By adopting the Lisbon strategy in March 2000, the heads of state and government aimed to increase and better exploit growth potential. A "new open method of co-ordination" was introduced to implement this strategy. Until the year 2005, however, no visible success was

achieved. When the Lisbon strategy underwent a relaunch in spring 2005, the member states were called upon to take a more active part in the shape of national reform programmes and other actions. It remains to be seen whether this will bring about any acceleration of growth.

EU enlargement in May 2004 was an event of worldwide historical significance as it finally ended Europe's political division. It remains to be seen whether this step will be of equal significance in economic terms. EU enlargement is yet too recent to allow a final comparison of economic expectations versus the integration effects actually attained. At least for the old EU states (with the exception of Germany and Austria) it seems to have generated only modest growth effects while apparently helping the new member states to catch up quite rapidly. Countries that have been engaged in intensive trading with the new countries ever since the opening up to the East are benefiting from the new legal certainty created by EU membership, which permits them to further deepen their trade relations.

One possible explanation for weak economic performance may be the fact that the large European countries that were supposed to close up to the technological frontrunner (USA) have been remiss in their technology, innovation and education policies. Before the drafting of the Lisbon strategy this had hardly been an issue within the EU. Economic policy was focused on liberalisation (the four basic freedoms), and price and budget stabilisation. The mere formulation of the ambitious target of becoming the world's most competitive and most dynamic knowledge-based economic area by 2010 was in any case not sufficient.

Aghion – Hewitt also emphasise the influence of macro-policies: The positive effect of anti-cyclical fiscal policies is further reinforced by a more vigorous liberalisation of product and labour markets. Short-term macro-policies include the main policy fields of Economic and Monetary Union such as monetary and fiscal policies, which are being conducted concurrently in a less than optimal manner. These policy areas are firmly anchored in the Treaty establishing the European Community and in the Stability and Growth Pact. Compared with the USA and the UK, the EU's fiscal policy has in any case a restrictive bias; it does not actively intervene in a recession (only through the action of the automatic stabilisers).

The EU is still far from being one nation (like the USA). It is a union of national states whose citizens identify with their respective member state rather than regarding themselves as Europeans. An important obstacle to integration (compared with the USA) is doubtless the fact that the EU does not have one common language.

As in some policy areas room for action is shrinking at the national level, the EU level is being addressed increasingly as a political instance. Austria should, on the one hand, make more vigorous contributions to EU policies while, on the other, also exploit its options within the European Union. The Scandinavian states have shown that they can pursue their own policies and attain excellent economic performance even within the "EU corset". The re-

nationalisation of the Lisbon strategy is indicative of a return of responsibility for economic policy to the member states.

Substudy 5: The influence of financial and capital market systems

Author: Franz R. Hahn
Scientific support: Christa Magerl

In macroeconomics, the direct causal influence of the financial system, specifically of financial markets, on the level and long-term pace of growth of per-capita income is controversial. The thesis that the development of the financial system correlates positively with that of the overall economy is generally accepted. In neoclassical economics, which proceeds from the assumption of complete and perfect markets, financial markets and financial intermediaries are of no relevance to long-term economic growth. In the tradition of Keynesianism, economic growth has a major influence on the financial system. The new endogenous growth theory in the tradition of Schumpeter, by contrast, quotes the reduction of specific market imperfections by more efficient financial intermediation as a contribution to long-run growth.

Empirical studies confirm that financial institutions and financial markets serve as growth catalysts. They stimulate growth by 'pooling' and efficiently reallocating savings and, specifically, through the diversification of investment and financing risks. The more efficient the financial institutions, the smaller the divide between individual savings and effective investment. Underdeveloped or illiquid financial markets and financial institutions have a negative impact on a country's long-term economic growth. This is particularly evident in developing countries.

Since the 1970s, new financial instruments have made it easier for enterprises to access the capital and financial markets and thus to hedge risks. New markets for financial derivatives (futures, options and swaps) facilitate market-based risk transfer and provide more options for the active diversification and hedging of risks. At the same time, however, they also facilitate system-endangering financial speculation. If financial derivatives are used primarily for speculation rather than for hedging of risks, they can profoundly undermine the stability of the financial system. Past experience shows, however, that the system-stabilising effects of financial innovations predominate. The most successful recent financial innovations include credit derivatives and new securitisation techniques (debt securitisation). They enable banks and businesses to transfer the credit risks associated with loans to other participants of the financial system (e.g., insurance companies) via market mechanisms.

The econometric analysis performed in this contribution supports the thesis that financial markets and financial institutions have been strengthening economic growth in the OECD countries since the 1970s mainly through improved risk management. In the panel study, the coefficients of the risk-based financial indicators all have, without exception, a significantly

positive impact on economic growth. Long-term growth in highly developed industrialised countries is supported mainly by private-sector research and development. As innovation and R&D are high-risk activities, they require underpinning by modern methods of risk management. In Austria, small and medium-sized enterprises are mainstays of innovation-driven economic growth. They are disadvantaged, however, by restricted access to the capital and financial markets and thus have at their disposal fewer options for active risk management. Modern securitisation methods can mitigate this disadvantage for SMEs. Securitisation of receivables of small and medium-sized companies by special-purpose entities would not only enable SMEs to access new, alternative sources of finance apart from bank loans, but also develop new mechanisms of risk management that in the past were available only to large enterprises.

In Austria, the legal framework for advanced securitisation methods for SMEs was created as late as 2005 (abolition of ban on assignment of receivables).

Conclusions

Globalisation, new technologies and stiffer competition have increased the risks in the financial system and resulted in a need for more prudent modes of behaviour. Banks are asking for more collateral to secure their lending and businesses are looking for higher returns on their investments. This is one of the reasons of the current weakness in growth. To overcome this, many economists recommend the continuing development of financial markets and an increased transition to a market-based financial system. For theorists, such an approach fully benefits from the action of market forces, while practitioners see it primarily as a way for a better diversification of risks, specifically including market and credit risks.

The article cannot provide any evidence for the superiority of market-based systems versus bank-dominated ones. Scope and quality in the provision of financial services are more important than the institutional differences in financial systems. A development of instruments for active risk control and diversification may, however, well contribute to faster growth. As a specific measure, it is proposed to make it easier for SMEs to access modern securitisation techniques.

Substudy 6: Population trends and migration

Author: Gudrun Biffl
Scientific support: Julia Hudritsch, Andreas Steinmayr

For the future development of unemployment or any potential labour shortage, the development of the working-age population plays a critical role. The time from which the supply of labour will contract noticeably is of high relevance for labour market policies.

Any longer-term projection of the size of the labour force is based on scenarios of demographic trends. While in the past, demographic forecasts were considered highly

reliable, they have become uncertain today due to large migration flows. This is illustrated by the need for massive revisions in recent years. Demographic projections differ primarily in terms of migration assumptions, whereas fertility and mortality trends have a very minor impact on population figures in the short to medium term.

Therefore, the migration assumptions are the critical factor in population projections today. In the years 2004 and 2005, net immigration amounted to about 50,000 individuals. Based on current projections, this figure will decline in the medium run, but will nonetheless stay relatively high. The mean migration variant (called "main variant") is based on a net inflow of almost +30,000 per year up to 2025. Official demographic projections do not specifically take into account the inflows to be expected from the new member states (including Romania and Bulgaria) after the end of the transition periods. From then on, Austrian businesses will be able to hire cheap labour from the new member states quite officially without any restrictions.

The article focuses on two variants of population trends (main variant and higher migration variant) and explores two scenarios of labour force participation (trend and activation scenario).

According to the main variant of demographic development, the proportion of the population not born in Austria will rise from currently 13 percent to 15.5 percent by the year 2025 (according to the higher migration variant, to 18 percent). This is a peak value within the EU, which will also entail political consequences and make very urgent demands on integration policies. Particularly in metropolitan areas (Vienna) receiving high immigration inflows, the need for adjustment is high. The level of education of individuals with a migration background is too low even in the second and third generations.

According to the scenario assuming a rising trend in the employment of women and older individuals (including the effects of the pension reform), the labour force will increase by 2025 by about 140,000 (+7,000 per year). This is little in terms of the expected demand for labour and will allow the integration of jobless individuals into gainful employment and/or economically motivated immigration.

Under the "activation scenario" the labour force may be raised by up to 400,000 individuals. This requires, however, a significant expansion of childcare facilities, a "marketisation" of household production and, most importantly, very attractive employment opportunities as an incentive to take up work.

Even if employment ratios by age and gender remain at the current level, the labour force will rise slightly until 2018 or 2022 (higher migration variant) owing to projected immigration. From 2018 or 2022, the labour force will decline unless employment ratios can be raised. By that time, at the latest, raising employment participation will have become a key labour market policy issue – also to keep immigration within politically acceptable limits. An increase in the employment ratio of the domestic population will doubtlessly lead to higher GDP per

employable population. Whether the living standards of the population (domestic population plus immigrants; per-capita GDP) will rise as a result of immigration is uncertain.

The Lisbon strategy for raising employment ratios is the right way to proceed in the long run. At times of high labour surpluses, this strategy has to be applied with caution, however. While it may increase employment it may also boost unemployment unless the economy can be lifted to a higher growth path through innovation, education, infrastructure, and macro-management.

Recommendations

- The employment ratio of older people is extremely low in Austria. This offers ample scope for an expansion of the labour force as soon as a significant shortage of qualified labour develops in the coming decade.
- The employment ratio of women varies closely with the level of education. Action to advance education and training for low-qualified individuals as well as the availability of childcare facilities are important measures to raise the employment ratio in the long run. The great weight of "household production" in Austria compared with the EU average is associated with the lack of full-day care facilities for children and pupils. The current environment encourages the continued provision of such services by the private households.
- It is recommended to focus immigration policy on qualified individuals. This – combined with a proactive advancement of education and training – is part of the White Book strategy towards higher quality. A shortage of unqualified workers will not develop even after 2015 as any potential shortage can be corrected relatively easily through immigration, which, however, entails political and integration problems.

Substudy 7: The role of the state

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This article provides a comprehensive description of the role of the state and its significance for economic development. According to traditional thinking (*Musgrave*), the state has to perform three key functions in the economic area: resource allocation, stabilisation and distribution. The resource allocation function is exercised when the market fails (e.g., in the case of monopolies, external effects). The stabilisation function imposes on the state the task of maximising the continuous utilisation of available production potential. The distribution function is to ensure that economic policy also takes into account notions of fairness. The literature, however, also discusses the possibility of failure on the part of the state if, for example, a country's bureaucracy pursues interests of its own.

Modern growth literature assigns a special role to the state in the development of the long-term growth path. Different paths of capital accumulation may be the result of state intervention. Endogenous growth theory (*Romer*) posits that investment in real capital and human resources generates positive external effects. Thus, the government's education and research policies have an important role to play in the process of economic growth. In contrast to the neoclassical model, technological progress is not seen as an exogenous factor, but may be influenced by public sector activities.

A special branch of endogenous growth theory addresses economic institutions – i.e., the rules governing economic interaction in a society (*North*). By offering more legal certainty, reliable market and competition rules as well as a reduction of transaction costs, such institutions offer incentives for businesses to accumulate capital. The key objective is to create an institutional environment that supports technological change (*Romer*). From this perspective, the education and training system and adequate protection of ownership rights are important growth factors. *Aghion* also includes macroeconomic framework conditions sustaining a low level of interest rates among the growth-promoting factors.

An important criterion for the growth effect contributed by the public sector is the structure of government spending. Under the Lisbon strategy, long-term economic growth is to be supported by an increase in the quality of public finance. Government expenditure and revenues are to be shifted towards areas that promote growth and productivity more effectively. Expenditure on research and development, education and training and investments in infrastructure are regarded as advancing growth. Spending on bureaucracy and pensions is classified by economists as less productive. Austria's national reform programme, designed to implement the Lisbon strategy, contains a number of measures aimed at restructuring government spending ("a billion euros earmarked for research", broad-band rollout campaign) and tax revenues (introduction of a levy on coal and natural gas, increase in the tax on mineral oil).

The state also plays an important role in designing the factors that determine a country's quality as a business location. It is the government's task to increase the attractiveness of the country for mobile international production factors by providing public goods (research, education, infrastructure), a tax system favouring production and an efficient administrative organisation. The phrase "competition for business locations" was coined in view of companies' high mobility and their tendency to locate their operations at places where the results of economic policy (tax burden, quality of workforce, wage costs) are most attractive.

In recent decades, criticism was levelled at "out-of-control" government activities and the resulting high tax burden. In many industrialised states, the public sector share in GNP peaked in the 1990s, in some countries (UK, Benelux) even earlier. The literature on economic theory does not provide any clear guidance regarding the effects of the public sector's share in GNP on economic growth. In some studies, the size of the public sector correlates significantly negatively with growth, in others, its influence is insignificant (there is no evidence of a

significant positive influence of the entire public sector). The result depends, above all, on the structure and efficiency of state activity. In the past decade, both countries with a very small (USA, UK) and a very large public sector (Scandinavia) were successful. Switzerland, with a very small public sector, recorded extraordinarily low economic growth, however.

The positive contribution of the state to economic growth consists primarily in the production of public goods, macroeconomic stabilisation, and the generation of positive external effects. A negative contribution of the state to growth may take the shape of over-regulation, inefficiencies and duplication of administrative effort.

The state's role is changing from a "service state" to a "guarantor state" guaranteeing civil rights and the provision of services. The state performs regulatory and social tasks and takes corrective action in the case of market failure. In the European Union, a variety of tasks previously carried out at the national level have been taken over by the EU. For other tasks, the EU has issued guidelines leaving substantial leeway for national economic policy.

Recommendations

The range of tasks carried out by the public sector is gradually becoming more de-centralised. The infrastructure networks at central state level have largely been completed – with the exception of links to the new EU states and the elimination of bottlenecks. At the regional and local authority levels, however, there is still need for investment in interfaces and qualitative improvements of, e.g., educational facilities, kindergardens, the local transport infrastructure, and care institutions. A reorganisation of the federal relationships in Austria could release potential for growth.

Substudy 8: Research and innovation as engines of growth

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Scientific support: Elisabeth Neppl, Roland Spitzlinger

Over the past 15 years, Austria has improved its technological position continuously. While in the early 1990s, Austria was below average or, at best, EU average on most technology and innovation indicators, the country has meanwhile moved up to the middle regions and, partly, even to the leading nations. In the ranking of EU member states (*European Innovation Scoreboard*), Austria meanwhile holds fifth place. In the years 2002 to 2004, 53 percent of Austrian companies with more than nine employees introduced innovations, which suggests quite a remarkable innovation propensity even by international standards. The increasing research intensity of these innovative activities is also clearly reflected in the rise of R&D expenditure: the R&D ratio rose from 1.44 of GDP in 1993 to 2.43 percent in 2006. Apart from businesses, which fund about two-thirds of R&D activities, other sources of finance (public sector, foreign investment) also made their contributions. The R&D ratio is thus approaching

the Lisbon target (3 percent by the year 2010). In order to attain it, R&D expenditure would have to grow by almost 11 percent per year.

Austria has been successful in its technological catching-up process, and has approached the group of technological frontrunners. As a consequence, however, the growth potential inherent in the pure application and minor further development of new technologies has been shrinking at the same time. Now, the primary objective is no longer to apply existing technologies, but to develop new ones. Today, the Austrian innovation system is faced by the great challenge of having to encourage a larger number of enterprises to engage in more radical innovations at the technological front. In Austria, 60 percent of corporate research spending goes to experimental development, 35 percent to applied research, and the remainder to basic research. While such a pattern is suitable for catching up, it is inadequate for winning front-runner positions. The Austrian industrial sector is characterised by low, medium and medium-high tech industries with low to medium R&D intensity. The catching-up process seen over the past 15 years has been driven by an intensification of R&D expenditure within this framework, but there has been no structural change that would have shifted activities towards high-technology industries. The share of the (narrowly defined) high-tech sector in R&D spending and in value added has even slightly declined during the past ten years. Only knowledge-intensive services have been expanded. In the three successful Scandinavian EU countries, both segments have risen strongly, by contrast. An acceleration of structural change towards more research- and knowledge-intensive industries – quite generally, innovative activities in leading-edge technology – is a precondition for improving opportunities for growth in Austria.

By international standards, research promotion is relatively high in Austria and has contributed to the rise in R&D expenditure. In the coming years, key objectives will include not only more funding for R&D activities but, most importantly, closer control of the development process and more efficiency in the employment of resources: what is needed is more R&D funding for SMEs, more radical and higher-risk innovative efforts and, quite generally, the promotion of more radical and higher-risk innovative activities in cutting-edge technology.

A prerequisite for a shift in the orientation of development – from a catching-up strategy to efforts directed at attaining a position among the technology leaders – is changes in the Austrian education and research system. Human capital is key to innovation processes. New ideas can be implemented only with the support of highly qualified workers. Therefore, a clear improvement in the education system in qualitative and quantitative terms is a prerequisite for any "front-running" strategy. In addition, the universities and non-university research institutions will have to increasingly play their role as cooperation partners for the business community and as drivers of societal developments. This may have a direct impact on innovative power if technology transfer runs smoothly between companies, research institutions, and universities. Universities are also a key factor in regional development processes.

Conclusions

Modern theory and empirical findings emphasise the positive correlation between innovation, research and development, and growth and employment. Thus, the strong rise in Austria's research ratio is to be lauded. The public sector has contributed to this directly – by raising its own spending – and indirectly through the massive promotion of corporate R&D spending. However, the required structural change towards high-technology manufacturing and knowledge-intensive services has only been stimulated inadequately by these research, technology and innovation policies. And this will be exactly the challenge in the coming years.

The following factors may be cited as causes of the widespread absence of structural change.

- It takes time before increased research efforts translate into marketable products. As a rule, investments are required which have to be made in response to cyclical trends or the demand situation. Therefore, the transformation of research input into output is closely associated with a successful macroeconomic stabilisation policy.
- The Austrian innovation system, as it is organised today, is difficult to control. This is due to fragmented and overlapping powers, a lack of information about the actual employment of resources, and the absence of cross-institutional strategies.
- The Austrian system for the advancement of innovations has hardly any steering effect and thus fails to promote structural change. Too often, minor improvements are encouraged whereas the support for radical and high-risk developments is inadequate. Generous fiscal incentives enable more effective discrimination where direct funding is provided.
- The numbers of graduates from the secondary and tertiary levels of education are significantly below the level that would be required for attaining a position among the technological leaders. There is also substantial room for improvement with regard to the quality of research done at the universities and their interaction with the business community.

Recommendations

- Ongoing development of the organisational framework of the Austrian innovation system to enable strategy-driven policies. This must include a reduction in the number of ministries having responsibilities in this field, a clarification of powers and competencies, a definition of interaction with outsourced institutions (specifically in the funding system), the compilation of information on the actual use of resources in categories of relevance for research, technology and innovation policies, and the development of an obligatory cross-institutional strategy.

- Clear improvements in the research and education systems are a fundamental prerequisite for providing more growth and employment opportunities. It is therefore essential to raise the quality and the quantity of graduates as well as of research output and the interaction of research institutions with the business community and society at large.
- The reforms needed in the direct promotion of innovative activities must specifically address the following issues: incentives for small and medium-sized enterprises (initiation and expansion of innovative activities), support for radical and high-risk innovative strategies, the foundation of enterprises, the proactive advancement of cooperation between the academic and the business communities, and the establishment of programmes of societal relevance with a strong focus on research and technology ("mission-oriented programmes").
- Even if the above has highlighted mainly the need for repositioning innovative and research activities, one must always bear in mind that the rapid rollout of new technologies is also a key ingredient for successful economic development. Innovative demand on the part of consumers, businesses and the government is an important factor. In view of the still relatively slow pace at which new products are rolled out in Austria compared with international practice, efforts should be made to change the "culture of innovation" in this area.

Substudy 9: Education and training as a prerequisite for innovation

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Decisions concerning education are having an increasing impact on future employment and income opportunities. This is reflected not only by the high unemployment and poverty rates among unqualified and low-qualified individuals but also by their low social status, short life expectancy, and poorer state of health. Due to weak demand for labour or the expansion of the supply of highly-qualified individuals in excess of the actual demand for highly-qualified workers, top-down displacement competition has emerged in a number of industries. More highly qualified graduates are applying for jobs for which in the past a lower level of education was considered adequate. In other areas, highly-qualified workers are in short supply and, in the long run, structural change will further boost the demand for a qualified workforce.

The Austrian education system is characterised by a strong differentiation of school attendance by social background and the regional educational infrastructure. Social selection is particularly evident in the transition from the four-year primary school to secondary education at "*Hauptschule*" (secondary school) or at the more academically

oriented junior level of "*AHS*" (upper secondary school), and after the completion of the years of compulsory school education. Socially selective access to education affects most of all children from educationally underprivileged groups of the population and children with a migration background. This inequality in educational opportunities is largely maintained as second-chance education path is rarely taken to obtain qualifications later on.

At the first interface between primary school and junior-level secondary school, 70 percent of children "opt" for *Hauptschule*, 30 percent for the lower level of *AHS*. 6 percent of adolescents do not attend any further educational institutions after the end of compulsory schooling. This percentage must be reduced.

The initial level of education attained significantly influences access and opportunities for participation in further education. Today, production knowledge is quickly obsolete. Ongoing professional development therefore has to be regarded as an investment in the preservation of competitiveness. The European Union's Lisbon strategy accords an important role to life-long learning. The target is a 12.5 percent participation rate in further education among those aged 25 to 64.

In Austria and Germany, the education system is traditionally still highly committed to the selection principle, whereas in Scandinavia the focus is on the promotion the weaker pupils. After completion of four years of primary education, admission to the lower level of *AHS* is conditional on good marks in the final school report.

Based on current findings, social selection in education is relatively high in Austria as assistance is available only to a very limited extent (assistant teachers) and decisions on the further course of education have to be taken at several points.

This article proposes four areas in which reform is needed:

- Less social selection in access to education,
- integration of individuals whose native language is not German,
- increasing the number of graduates from upper-level secondary education,
- increasing the share of people in further education.

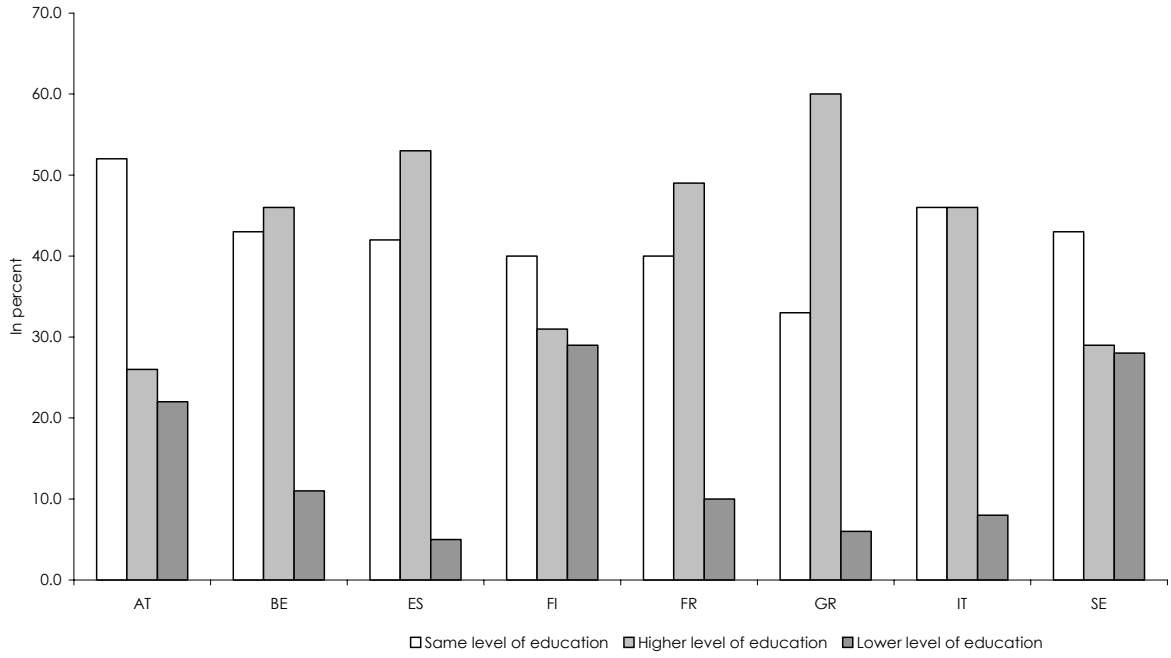
The actions taken to reduce social selection in the access to education are aimed primarily at smoothing the interfaces in basic education and lowering transition barriers. The target is to provide equal educational opportunities for all young people regardless of their social, cultural and regional backgrounds. While these are measures that will benefit all educationally underprivileged groups, action to integrate people whose native language is not German is tailored to individuals with a migration background. These two lines of reform focus on compulsory education. The third is targeted at further education following compulsory education within the framework of the formal system of education. Here, the main focus is on reducing the share of people without further formal education while at the same time increasing the number of people who may enter tertiary branches of education.

The fourth line of reform focuses on improved access to and participation in further education.

Conclusions

Due to early selection and inadequate permeability, the Austrian education system offers little flexibility and is a major obstacle to upward mobility. This applies, in particular, to decisions on further education taken after the completion of compulsory education and, as a consequence, to life-long learning for work, which is not very widespread yet and mostly confined to individuals holding higher qualifications. In view of the prevalence of medium-high technology in the Austrian economy relying largely on skilled labour, this low degree of utilisation of existing human capital has not been regarded as a major problem thus far.

Figure 18: Young people's and their parents' educational attainments



This problem will attain increased urgency, however, as structural change accelerates and the transition to high technology becomes a necessity in the long run. It is therefore imperative to actively encourage the formation of human capital and to make full use of available potential. Without a substantial increase in the employment of graduates from tertiary education, the transition to high technology and radical, forward-looking innovations will not be possible. This fact has to be brought to the awareness of business managers.

Recommendations

- Introduction of a nation-wide compulsory year of pre-primary education. This is to foster communication skills and the native language as well as to correct linguistic and social deficits. Currently 92 percent of all children aged 5 attend institution-run childcare facilities.
- Provision of individualised support to low performers in the school system and more support for the acquisition of language skills. According to the PISA study, 20 percent of those aged 15 to16 do not have the basic skills required for understanding simple everyday texts. Increased individualised support for low-performing pupils is therefore urgently needed. Furthermore, additional teachers are to be made available for individualised language assistance to pupils not having German as their native language. Especially before the backdrop of continuing immigration, better integration of children with a migration background is becoming increasingly important.
- Nation-wide after-school childcare by professional staff at the primary and lower secondary levels. The provision of professional assistance with homework and recreational activities also produces employment effects.
- In case of need, more financial assistance should be provided for pupils in institutions providing further education to mitigate social differentiation. Since 2000, neither the amount of pupil support granted nor income thresholds have been adjusted to inflation and wage developments.
- Free-of-charge completion of lower-level secondary education (*Hauptschule*) regardless of age. Failure to complete lower-level secondary education results in limited opportunities in the labour market and contributes to social marginalisation.
- Incentives given to businesses to train apprentices ("Blum grant") should be focused on seminal occupations. After the end of their apprenticeships, many young people do not find employment in the occupation they trained for nor in related occupations. In simple trades, in which apprentices can be quickly usefully employed, many more apprentices are trained than skilled workers are finally needed. In highly-qualified trades, on the other hand, in which apprenticeship training is very expensive, few apprentices are trained, which raises the spectre of a shortage of skilled workers.
- Combination of *Berufsreifeprüfung*, i.e., a general higher university entrance qualification for leavers of the initial vocational education system, and apprenticeship: *Berufsreifeprüfung*, now taken as an external exam, should be offered as an integral part of apprenticeship training.
- All facilities offering further education should be co-ordinated under a common strategy for the implementation of lifelong learning.

- Development and expansion of instruments for the recognition of informally acquired knowledge. Countries such as Australia, Ireland, and the UK could serve as models in this regard.
- Incentives for educational leave combine two elements: income-substituting benefits as financial assistance during the time spent on further education and a right to be released from work including the guaranteed right to return to the job. In Austria, incentives have to be improved significantly to encourage the use of sabbaticals.
- More hours worked during summer might, for example, be compensated by a period devoted to further training in winter. Some businesses already keep working time accounts. Fluctuations in order flows may thus be used for further training without impairing operations. Usually, the balance on working time accounts is just a few days.

In industry-wide collective agreements in force in Austria, further education plays only a minor role. A legal entitlement of employees to release from work for education and training (*Bildungsfreistellung*) has been laid down in only a few collective agreements thus far. In contrast to release from work for education and training purposes, there is no legal entitlement in Austria to unpaid training leave (*Bildungskarenz*). Raising the financial assistance offered to those taking unpaid training leave to amounts equivalent to unemployment benefits would create a significant incentive for further training.

Substudy 10: Productivity-enhancing investment in infrastructure

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An efficient infrastructure is an important basis for a country's economic development. The most important segments of tangible infrastructure are transport, energy, information, and water management. Empirical studies show that public-sector investment in infrastructure has not only a short-term, but also a long-term positive impact on economic growth.

Investments in infrastructure increase an economy's productivity, especially if they help to eliminate bottlenecks (congestion, excessively long journey times, etc.). Improved transport conditions allow businesses to serve larger markets and reduce the cost of transport. Expenditure on environmentally-friendly infrastructure generates positive effects in the long run, e.g., by keeping water treatment costs low and containing immission-induced damage to facilities. The development of energy supply networks is needed to ensure smooth processes and thereby energy supply security. In an information-based society, extended power blackouts are tantamount to disaster.

In Austria, investments in infrastructure have been raised by an annual average of 0.5 percent from 1995 to 2004. Expenditure on the road and railway networks was stepped up substantially during the past ten years. Spending on the supra-regional road network rose from a low of 0.2 percent of GDP in 1995 to 0.4 percent of GDP in 2004. Investments in railway infrastructure were expanded from 0.3 percent to 0.6 percent of GDP. Here, the main focus was on the development of the railway line linking Vienna to the western parts of Austria and on the modernisation of railway stations. Spending on the railways surpassed expenditure on the supra-regional road network, which should have increased the railways' competitive position.

Domestic goods and passenger traffic will grow by almost one-third from 1998 to 2015. The highest growth rates are expected in air transport. Investment in airports is made step by step in line with the requirements set by air operations. The current expansion of Vienna International Airport will be completed by 2008. In Vienna, the underground railway has become the most important means of public transport. It is being developed further to serve existing and new residential areas and to absorb commuter traffic flows. In the third wave of expansion, the U1 and U2 lines will be extended.

The future challenges posed by transport infrastructure requirements will include, above all

- ensuring the execution of the expansion programme for the high-ranking rail and road networks laid down in the transport master plan. This ambitious expansion programme largely meets the needs of the expected increase in traffic. The Austrian motorway company ASFINAG is planning to boost its investment spending from € 1.1 billion (2005) to € 1.4 billion annually by 2010. Over the same period, the railways will invest an average of € 1.4 billion per year. The planned expansion of the infrastructure network is required to ensure that the increase in traffic volume can be accommodated as smoothly as possible. Economic policy is called upon to ensure funding of the expansion programme. While ASFINAG and the airports can expect funding to come from user charges, the cost of investments in railways and waterways will ultimately have to be borne by the state.
- Many cases of traffic disruption can be blamed on technical shortcomings in the infrastructure. Careful inspections and timely repair work as well as replacement investments ensure the quality of infrastructure services. As a rule, such investments generate a higher employment effect for domestic businesses than new construction.
- The efficiency of the transport infrastructure will also have to be improved by more investment in innovative information and automation technologies.
- Expenditure on transshipment facilities and freight stations will facilitate transfer from trucks to the railway (containers, etc.). At high energy prices, the relatively low energy consumption per unit carried will open up new perspectives for rail systems. The development of new transport systems has to be monitored and, if necessary, encouraged (e.g., pneumatic transport systems as an alternative to freight transport).

Investments in the energy industry declined significantly between 1998 and 2002, which specially affected power plant construction. Over the coming years, capital spending is expected to pick up momentum. Supply security and quality are of particular importance. This substudy therefore recommends focusing economic policy on the expansion of the 380°kV power grid to reduce the north-south divide (surplus production in the north-east, deficit in the south), on the acceleration of the permitting process for grid development as well as on decentralised power generation and alternative facilities (biomass, solar energy). Raising investment in the domestic natural gas network does not appear to be necessary in the near future in view of the current level of projected consumption (+2 percent p.a.). Austrian companies are, however, pursuing major investments in international gas pipeline projects (Nabucco), which will contribute to supply security and the diversification of sources of supply. To secure electric power supply, investment spending until 2015 is targeted to total € 11.5 billion, half of which is to be spent on generation (power plants), and the other half on network infrastructure.

Under the heading of infrastructure, information and communication technologies (telecom networks) are increasingly gaining importance. Expenditure on telecommunication was boosted until 2000 and then reduced significantly. The network for broadband technologies, which is key to ICT, has been developed at rather a slow pace in Austria. In addition to implementation of the ICT master plan, the rollout of broadband to rural areas is a central concern. Closer integration of ICT into the educational system would also be desirable (compulsory ICT courses).

Investments in municipal water services targeted at water treatment have led to a clear improvement in the ecological status of receiving waters. The percentage of the population being served by the public sewer and water treatment system was raised from 60 percent (1991) to 88 percent (2003). The new markets in central and south-eastern Europe offer Austrian companies a chance of using their long-standing technological experience in municipal water services for export purposes.

Investment in infrastructure results not only in long-term productivity increases, but also generates relatively high value added and employment effects, as such investment is carried out primarily by domestic companies and the share of imports in such investment is relatively low.

Investment in infrastructure is also of great importance as an anti-cyclical instrument and has been employed in Austria successfully in recent years for the purpose of cyclical stabilisation. However, an option for the accelerated execution of investment projects should be included in calls for tenders.

Conclusions

Starting from a low level, investment in the transport sector has been doubled over the past ten years. Current development plans provide for further increases in the coming years. This will reduce existing bottlenecks, especially in east-west traffic.

Investment spending on public administration infrastructure, education, and energy supply has decreased in contrast. In these areas, there should now be quite a backlog in demand. In the field of ICT, rural areas still lack quality of supply and competition. Demand for ICT should also be encouraged (training, e-government).

Where energy supply is concerned, it is competition and utilisation of decentralised generation that is inadequate rather than the infrastructure, with the exception of the north-south link. In telecommunications, the currently lively competition is being threatened by mergers and pacts. Strengthening the positions of the respective regulatory agencies would be advisable.

Substudy 11: Measures for boosting domestic demand

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Theoretical models often postulate that in the medium and long run, economic growth is determined only by supply factors, i.e., by the availability of capital and labour and technological progress. This is also in line with the economic policy views of the European Commission and the OECD. These views have to be questioned, however, in light of the underutilisation of capacity in the euro area persisting since 2001 due to inadequate demand.

While Substudy 2 outlined the importance of demand trends in the EU, this article explores these aspects from an Austrian perspective. EU experiences have shown that the differences in the development of consumption have been important contributing factors to differences in growth rates between EU countries. In a number of countries (Scandinavia, UK), private households have been increasingly willing to take on consumer loans, mainly because of their rising net worth and falling real interest rates. In these countries, the private households' saving ratio decreased substantially. In other countries, specifically Germany, private consumption was slowed down, among other things, by precautionary savings. A study conducted by the expert council attributed one-third of the rise in the savings ratio in Germany to the increasing inequality in the distribution of personal incomes. It is common knowledge that households with good incomes save more.

In Austria, not all components of demand have developed unfavourably since 2000. At +5.2 percent in real terms, exports of goods and services rose in the period from 2000 to 2006

at the same pace as the long-term average. Net exports provided a high contribution to growth. Capital expenditure on plant and equipment – the demand component that varies the most significantly with the business cycle – lagged farthest behind the longer-term development despite the introduction of an investment allowance (*"Investitionszuwachsprämie"*). While earnings and export trends would have suggested a more robust development of investment spending, low capacity utilisation had a dampening effect on the propensity to invest. The companies' sales expectations were too volatile. Fiscal investment incentives generated only some temporary stimulus. The migration of industrial enterprises to other countries does not play a significant role in the weakness of investment activity. This was compensated by just as high investment spending by foreign enterprises in Austria. Investment activity revived only in 2006 when capacity utilisation finally rose beyond the longer-term average.

Private consumption, which usually has a stabilising effect on the business cycle, was sluggish in the period from 2000 to 2006. At +1.2 percent p.a. it grew only at about half the long-term average. This was not even changed by the big tax reform. Private consumption, the most important demand aggregate, now tends to be weak compared with past performance. Consumer-driven demand has suffered from the weak development of incomes and an increasing propensity to save. The excellent development of unit labour costs provided robust momentum to exports whereas private consumption was depressed by low wage increases and rationalisation efforts in the industrial sector. Budget consolidation measures moreover slowed down the increase in transfer payments (pensions) and in the public-sector payroll.

Over the past five years, persistent unemployment led to high uncertainty about incomes and fostered precautionary savings, and growth in private pension schemes after the pension reforms caused the savings ratio of private households to rise. Key conditions for an improvement in consumer confidence are successful employment policy and stable social security systems.

Recommendations

There are a number of ways in which economic policy can bolster weak consumer demand:

- Improvement of the incomes of low-income earners with a low propensity to save. Model simulations using the WIFO's macro and sector models show that the multiplier effect of an increase in such incomes is well above 1.
- Reduction of social security contributions for low-income earners (see Substudy 15). This is an incentive for unemployed people to accept lower-paid work.
- Lowering the upper income thresholds and/or the repayment obligation when certain income limits are exceeded in the area of subsidised housing construction: in many other industrialised countries high expenditure on housing reduces the savings ratio of higher-

income groups. This is hardly the case in Austria. Upper income thresholds for state-subsidised private pension schemes might also be considered.

- At times when the propensity to save is high, saving incentives should be reduced and loans exempted from the tax on credit contracts. Abolition of the tax on credit contracts, which hits shorter-term borrowing particularly hard, would make it easier to raise consumer loans.

Influencing investment demand in a sustainable manner is more difficult. Investment is highly dependent on prevailing sentiment, therefore confidence in the future must be created. Confidence can be best improved through the implementation of a credible and consensual reform model. One conceivable approach might be an investment allowance that is confined to certain activities (energy conservation, environment, software).

The most important determinant of investment activity is capacity utilisation. If capacity utilisation can be increased by means of export promotion and expenditure on infrastructure, this will also have a positive effect on investment activity. In addition, all measures taken to enhance the attractiveness of Austria as a business location can improve the investment environment.

According to the WIFO macro model, a reduction of corporation tax by € 1 billion (0.4 percent of GDP) increases spending on plant and equipment by 0.4 percent in the medium run. Even though investment in plant and equipment has the highest import ratio of all demand components, GDP will be 0.2 percent higher in the medium term than with the base solution. In the demand-side WIFO macro model, (accelerated) depreciation adds more momentum to growth than tax cuts. In the long-term neoclassical model (see Substudy 22 "Model simulations"), a reduction of corporation tax also has a long-term positive effect on economic growth – unlike many other economic policy measures.

Substudy 12: Growth stimulus from the public sector

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Scientific support: Dietmar Klose

Theoretical and empirical research shows that the public-sector share of GDP has but little impact on growth and employment. The impact of the level of government spending and taxes on economic growth is negative or insignificant, the impact not very strong and not robust. There is some evidence suggesting the existence of an inverse U-shaped relationship (negative impact of large public-sector share and tax load ratio) but it is too weak to allow the determination of the optimum public-sector share.

Of more relevance for growth and employment is the structure of government receipts and expenditure. Taxes and payroll charges have a more significant negative impact on growth and employment than the taxation of income from capital and assets. High marginal tax

rates have a greater negative impact than high average tax rates. Public-sector consumption expenditure has a less expansive effect than spending on education and infrastructure.

The supply of male labour hardly responds to changes in the taxation of income from employment, unlike that of married women and low-income earners. The decision to participate in employment is more elastic towards changes in taxation than towards the volume of work, particularly among low-qualified individuals.

Measured against these findings, the Austrian system of levies is not optimal. Levies on labour are substantially above the EU average and – in contrast to the EU – have been increasing further over the past few years. A shift from levies on labour towards heavier taxation of the environment and capital (real property, energy consumption, inherited wealth) would promote both growth and employment. As in Austria one-sixth of the income earned by employees is subject to much lower tax rates, the marginal tax rate differs quite dramatically from the average tax rate.

The composition of Austrian public-sector spending also offers some room for changes more conducive to higher growth. In public administration, efficiency gains leading to positive effects on growth and employment could be attained through moderate decentralisation and, above all, clear streamlining of intergovernmental transfers (housing construction, teachers) as well as through a harmonisation of budget legislation and a stronger focus on output in budget management.

Recommendations

- Gradual reduction of the tax load ratio in Austria while promoting forward-looking investment and pursuing medium-term balancing of the budget.
- Reduction of the basic rate of income tax and social security contributions for low-income earners. This will, among other things, provide more incentive for unemployed persons to accept moderately paid jobs.
- Reduction of further levies on labour (above all, municipal tax); to be compensated by higher taxation of real property, estate tax, energy taxes (ecological tax reform).
- Strengthening the taxation powers of the *Länder* and local governments (increased taxation of real property).
- Unbundling of intergovernmental transfers, specifically in housing construction, municipal water management, and teachers employed by the *Länder*.
- Swift implementation of planned reform of budget legislation.
- Review and revision of competencies at all levels; elimination of duplicate activities.

- Economic incentives for cost reduction, productivity increases and mobility in the public sector.
- Avoidance of competitive undercutting of corporation taxes in the EU.

Substudy 13: Exports of goods and services strengthening demand

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In recent years, foreign trade has become the main driver of economic growth in Austria. After many years in which the trade balance had been negative due to structural factors, it finally turned positive. In contrast to widespread fears, especially the economic integration of the eastern countries has proved to be highly stimulating to growth. Concerns that rising outward investment and the high share of intermediate input from foreign sources might depress net exports in the future have not materialised. Outward investment and exports are mutual substitutes only to a very minor extent, in fact they tend to complement each other. The high proportion of intermediate input imported shows that Austria knows how to benefit from the international division of labour. It is not justified to describe this development by deprecatory terms such as "bazaar economics". Outsourcing is still relatively moderate in Austria even though growth rates are high. It is true that cross-border outsourcing initially leads to a decline in value added and job losses. Without such a move, however, the entire production might move abroad due to a loss of competitiveness. Successful outsourcing raises productivity and finally leads to higher sales in both domestic and external markets.

Austria's increasing internationalisation is reflected particularly clearly by the export ratios of goods. These have almost doubled since the early 1970s (to almost 40 percent). Austria has been able to win market shares on the global markets and improve its trade balance in the long run. To this, the opening up to the east and Austria's position as a "first mover" contributed quite substantially. This year, Austrian exports of goods have practically reached the levels of exports by Sweden and Switzerland.

Since the early 1990s, a catching-up process has also been going on in outward and inward foreign direct investment. Over the past two decades, Austrian direct investment in foreign assets rose from 1 percent to more than 20 percent of GDP. An important role was played in this context by acquisitions of businesses in Eastern Europe, particularly by Austrian banks and insurance companies, retailers and service enterprises. A significant contribution was also made by the regional headquarters of large multinational companies, which as Austrian enterprises developed the eastern markets and also invested there. Thanks to Austria's great attractiveness as a business location, foreign direct investment in Austria also grew substantially. During recent years, Austria turned from a net importer into a net exporter of direct investment.

Overall, the result of internationalisation has been positive for Austria. In most cases, intelligent, well-paid jobs were created in highly competitive businesses. Cheap imports from Asia and Eastern Europe have strengthened the consumers' real purchasing power and reinforced the competitiveness of Austrian manufacturers.

However, the current trade balance and export figures paint too rosy a picture. It is, in fact, weak domestic demand that depresses imports and has forced many companies to increasingly engage in export activities. Secondly, many years of wage restraint relative to the rise in productivity have reduced unit labour costs in Austria more substantially than in competing countries. This development cannot continue forever (nor will the deterioration in Italy's and Spain's competitive positions). Thirdly, Austrian exports still involve mainly medium-high technology. The promising sectors of high technology and services are under-represented. It is therefore indispensable, also with a view to exports, to proactively encourage the shift to high technology. The high-tech sector, however, is frequently the domain of very large companies, of which there are not many in Austria.

Against the backdrop of continuing trends of tertiarisation and new technological developments, the services sector will be very important for growth and employment. New approaches to the digitisation of services create room for product innovations and expand the range of services that can be provided remotely. The growth and employment effects of complex services go far beyond their direct contribution to production and foreign trade. Knowledge-intense services are working as pacemakers for the export of goods and their inputs are contributing to efficiency in industry as well. As "mediators" in advanced network productions they play, moreover, a key role in the production and diffusion of knowledge, which is the actual "raw material" of a knowledge-based economy. A quite significant share of services is not exported, however, but made available through foreign direct investments (banks, insurance companies, consultants).

Export promotion instruments have been restricted by EU law and international agreements. Exports are promoted mainly indirectly through technology, fiscal and location-based policies. Beyond this, support can be given to companies in the form of special information and consulting services provided by public-sector bodies. In the EU, government-subsidised export insurance is confined to non-marketable risks. Acting as the Ministry of Finance's agent, Oesterreichische Kontrollbank, Austria's Export Credit Agency, runs a non-profit-oriented guarantee programme. In 1996, OeKB ceased to cover marketable risks, leaving this segment to private insurance companies.

For most exports, credit periods are common practice, which constitute an important competitive factor. The length of the credit period allowed depends on the prevailing market conditions. Long credit periods are practically a must when supplying capital goods and plant and equipment, and when exporting to developing countries. The commercial and political risks of a default on payments may threaten the very existence of exporters. Many exports are therefore possible only if the associated risks can be covered.

A recent study (*Egger – Url*) estimates the export multiplier effect of OeKB guarantees to be very high, in the range of 2.2 to 2.5. Based on improved estimation methods, the multiplier effect was higher than in previous studies. For soft loans, the long-term export multiplier is 2.2. As a point of criticism it is noted that these instruments do not aim to strengthen the framework conditions in the target countries and therefore do not contribute to correcting the causes of imbalances in underdeveloped regions. They do not achieve a substantial intensification of economic relations with developing countries. To be attractive, markets need sufficient purchasing power and efficient institutions. Another point of criticism addresses the fact that many of these instruments are highly product-specific (capital goods, engineering) and therefore have hardly any feed-through effect on other categories of goods. Initial contacts financed from public funds should also serve as "door openers" and not turn into export subsidies to individual companies. Strategically aligned "business-driven development cooperation" could boost export performance specifically in the long run.

Recommendations

- In the EU, the options available for export promotion are limited. R&D funding and measures to enhance the attractiveness of business locations stimulate exports indirectly and promote a shift in exports towards more high technology and high-quality products.
- International restrictions on financial export promotion measures entail a stronger focus of export promotion on market information and counselling.
- Export promotion activities should be co-ordinated more effectively to allow better exploitation of synergies.
- Export guarantees and soft loans are assessed positively as a matter of principle, but continuous monitoring of the costs and effectiveness of financial export subsidies is advisable.
- Concentration of export promotion on dynamic markets with a large market potential (key markets of Central and Eastern Europe, Asia, Balkans and in the area around the Mediterranean).
- Further adjustment of promotion instruments to the needs of SMEs, including in particular the provision of extensive information and consulting services to compensate for the companies' lack of human and management resources and more incentives for specialised professional development.
- Strategically oriented business-driven development cooperation.
- Improved access and exploitation of multilateral development cooperation projects.
- Closer integration of production and service activities.
- Advancement of the internationalisation of services, specifically through:

- The promotion of networks and cooperation among small service enterprises for the purpose of cost and risk sharing,
- the formation of clusters including the joint development of service and manufacturing activities in specific fields,
- a continuous review of the export promotion system with regard to its capability to advance the international expansion of service enterprises,
- awareness-building among small and medium-sized service enterprises; diffusion of "best practices",
- assistance in the cross-border search for partners and in investment activities as a basis for the export of a wide range of services,
- focusing on the export of high-quality knowledge-intensive services (consulting, counselling),
- reduction of regulatory barriers hindering the development of multi-disciplinary, integrated total solutions in the export business.

Substudy 14: Active labour market policy

Co-ordinator: Hedwig Lutz
Authors: Hedwig Lutz, Helmut Mahringer, Andrea Pöschl

Over the next ten years, neither a decline in the labour pool is expected nor a reduction in the actual supply of labour. Quite to the contrary: The supply of labour will increase further (see Substudy 6). Overcoming unemployment and underemployment will therefore remain a key political challenge in the coming years if the economy keeps growing at only a moderate pace. Against this backdrop, labour market policy measures including qualification efforts are gaining particular importance.

The primary contribution of labour market promotion consists of

- an improvement of the "matching process" in the labour market by reducing regional and qualifications-related imbalances, and
- increasing the employability of jobseekers facing obstacles to employment.

Current challenges to be addressed by proactive labour market policies include

- raising the employability of older individuals,
- facilitating the first entry into the world of work,
- dealing with the growing segment of people without stable employment,
- requirements of gender equality policies,
- groups with impaired employability.

The most important tools of active labour market policies include training, financial employment incentives (integration assistance), start-up programmes (helping unemployed people to set up their own businesses), courses in active employment search and labour market orientation as well as transitional jobs for jobseekers facing special obstacles to employment.

Since the end of the 1990s, resources for active labour market policy have been stepped up substantially in Austria. Especially in 2006, funding was strongly expanded (under a job creation initiative by the federal government called "*Unternehmen Arbeitsplatz*").

The actual effect of such activities targeted at the labour market is occasionally rated quite differently by international evaluation literature. Nonetheless, some key findings are commonly reported:

- Training activities are especially effective for re-entrants (re-qualification), less so for men at prime employment age and older individuals. Especially longer training activities have a positive long-term effect on the chances to find employment.
- Assistance in job-seeking appears to help most unemployed, most of all, however, women. At the same time, more stringent controls are needed of individual people's job-seeking behaviour.
- Direct provision of work tends to be rated negatively internationally (e.g., in the new German *Länder*). It hardly enhances opportunities for long-term employment. However, if measures involving the provision of work are used selectively for certain target groups (e.g., socio-economic projects in Austria), they have a strong positive impact on employment.
- Hiring incentives benefit especially the long-term unemployed and women re-entering the job market. The problem with most studies is, however, that they do not measure deadweight loss, some of which is estimated to amount to 80 percent of the assistance provided. As assistance to individuals with a poorer chance of integration reduces the extent of deadweight loss, strong target orientation is of particular importance to ensure the effectiveness of integration assistance.
- Labour market policy measures effectively boost labour supply. This applies specifically to women and older job-seekers. Without such incentives, many of these people would have left the labour market. The impact of such measures on the number of jobseekers is less significant, though.

From these evaluation results, recommendations may be derived for labour market policies. The principle underlying Sweden's labour market policy is also helpful: finding work always has priority. Only if this proves impossible, will active labour market policy measures be tailored to jobseekers. Unemployment benefit is regarded as a temporary solution until the first two sets of measures produce results.

According to the OECD (Employment Outlook 2006), activation strategies have a significant impact on unemployment. These include:

- In-depth interviews with counsellors,
- interviews for job vacancies named by the counsellors,
- job-seeking on the unemployed person' own initiative,
- participation in the formulation of a customised action plan,
- attendance of training or job creation programmes.

Such a system that combines "the carrot and the stick" is key to maintaining the incentive to work in an environment offering adequate or even relatively high benefits. Such activation strategies require more AMS (Public Employment Service Austria) counsellors or further outsourcing of service and counselling activities to external organisations.

With such activation strategies, income-substituting benefits are linked more closely to activities pursued during unemployment. Jobless people have the obligation to attend interviews for the purpose of counselling, training courses, etc. A relatively high level of benefits requires effective control mechanisms. Jobseekers spending a large part of their time on activation activities are entitled to have their unemployment benefits topped up by an extra payment.

Recommendations

- Rigorous implementation of a system combining "the carrot and the stick",
- development of ageing management and health-at-the-workplace programmes at company level and provision of integration assistance to increase the employability of older people,
- integration of the safety net for young people into a new competitive form of training or a new type of school,
- training programmes relating to job placements (e.g., in-placement foundations) for employees without stable employment,
- facilitation of the transition from part-time to full-time employment and re-entry assistance as an important instrument of general equality policy in the labour market,
- for groups with impaired employability, the acquisition of basic qualifications (e.g., language skills) is important including, if applicable, the completion of compulsory schooling.
- transition jobs in socio-economic enterprises are particularly effective for unemployed people who are difficult to place,

- appropriate assignment and approval practices are key to the effectiveness of a labour market policy measure – promotion instruments have to be applied as appropriate for the target groups concerned,
- higher budget for the AMS job exchange service to enable longer-term budget planning,
- policy decisions have to be taken on the strategic orientation of the AMS job exchange service: What types of services have to be provided by the AMS, what services by external organisations; where does the AMS compete with external organisations? Depending on this, the job centres have to be given adequate budgets and room for decision-making.
- provide longer funding horizons for projects – arrange for quality assurance at project sponsors (risk of political cycles in the allocation of resources).

Substudy 15: Labour market flexibility and the social safety net

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Increased labour market flexibility to ensure smoother adjustment is a core concept of the European employment strategy. Labour market and social security institutions are to be adapted to meet the increased need for flexibility in order to reconcile the principles of efficiency and solidarity at times of rapid change. In Anglo-Saxon countries, labour market flexibility is high. In the Scandinavian countries and in the new member states it has been raised significantly during the past one-and-a-half decades. By contrast, the countries on the European continent whose social security systems are based predominantly on gainful employment and stable labour and partnership relationships are still in need for reform.

Based on existing indicators, Austria ranges in the middle segment of EU countries where linking labour market flexibility with social security is concerned. This gap to the Scandinavian countries' flexicurity model is quite wide, though.

- Different sets of labour and social security regulations for private-sector and public-sector employees as well as for dependent employment and self-employment reduce workplace flexibility in Austria. The convergence processes of the past decade have not gone far enough yet. In order to improve mobility significantly, maximum harmonisation of labour and social security legislation should be sought.
- The childcare infrastructure, which should facilitate the combination of work and family duties, is inadequately developed in Austria. This applies in particular to after-school care for infants and pupils. The lack of childcare facilities prevents balanced gender equality

and a significant widening of the supply of labour if more workers are needed in an economic upswing or when the population of working age stagnates.

- While social security for people in "regular" employment in relatively high in Austria, people providing the required labour market flexibility enjoy substantially less social protection. Among them are specifically young people just entering the job market, people working under contracts for work, freelancers and the new self-employed.
- In low-income brackets, high wage-related costs are an obstacle to hiring that cannot be ignored.

Measured by the OECD regulatory indicator, labour market regulation in Austria is less restrictive than on the EU average but has not been relaxed since 1990. In terms of the EU's mobility index, Austria's labour market flexibility is about in line with that of the EU 15. Wage flexibility relative to unemployment is high in Austria, working time flexibility ranges in the middle field on an international level.

In Austria, the increase in precarious employment has concentrated in the segments of young people, small businesses and certain industries (seasonal and business-related personal services). Employment stability among young people (aged 15 to 25) has halved over the past 20 years. Atypical employment offering less social security has increased strongly: new self-employed, freelancers, short-time employment.

Recommendations

- Harmonisation of labour and social security legislation for all gainfully employed persons,
- reduction of wage-related costs for low incomes and expansion of assessment base for contributions to cover rental and interest income,
- reduction of seniority-based wage increments to improve employment chances of older workers,
- inclusion of self-employed in unemployment insurance,
- reform of invalidity and general disability pensions focusing on the preservation of employability,
- experience rating in unemployment and accident insurance with bonus element (as a form of reducing wage-related costs),
- bonus for jobseekers taking part in activation programmes,
- additional investments in social services (childcare, elder-care) and education,
- payout of part of transfer payments in the form of checks for services,
- improvement of incentives for sabbatical schemes and unpaid leave for educational purposes,

- increase maximum daily working hours to 12 (without changing normal working time).

Substudy 16: Ageing service society

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By international standards, the development of employment has been relatively weak in Austria. One of the reasons for this is the comparatively low momentum in services. Personal services have been expanding only moderately, including specifically services to households such as childcare and nursing. The reluctant development of this segment of the tertiary sector goes hand in hand with subdued growth in the employment of women. In Austria, women give up gainful employment for family-related reasons (childcare, nursing) for longer periods than in other countries.

In the tertiary sector, the strongest rises in employment have been recorded in business-related services as well as in healthcare and social services. The latter segment is going to gain even further importance owing to the rising proportion of elderly people and also because of the limited potential for rationalisation.

Recommendations

Training for the healthcare and nursing professions is not part of the normal system of education. After the completion of compulsory education, there is no direct path in further education for the health-care and nursing professions. During their training, which is offered predominantly by hospitals, the young trainees enjoy neither the status of apprentices nor that of pupils in vocational schools. Especially men enter qualified nurse training programmes relatively late, after completion of some other training (apprenticeship). We recommend integrating training for the healthcare and nursing professions into the normal school system in line with international practice.

One problem is the shortage of training places for qualified nurses. The hospitals provide training more or less for their own requirements. Every year, young people are denied admission to training because of the limited number of places available, even though the actual demand for nurses is so great that large numbers of nurses have to be hired from the Philippines and Eastern Central Europe.

For domestic nursing and care, the substudy recommends the increased establishment of agencies. They provide a better overview of the options available locally. Agencies serving as care-provider platforms can supply comprehensive information to relatives and individuals in need of nursing care. Such agencies are to place workers in jobs with full social security protection.

Innovative nursing schemes should also include the provision of services to groups of housing units. In large housing complexes, for example, a flat could be made available to a nurse – as previously to a caretaker. Such nursing services close to home are significantly less costly and more humane than institutional care (in nursing homes).

Substudy 17: Growth and employment opportunities in tourism

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In Austria, tourism is a "mature" industry, as during the high season areas suitable for tourism are already operating at full capacity. Even though new destinations (spas, health resorts) have been developed, Austria is unable to keep pace with the rapid growth of international tourism in quantitative terms and is losing market shares. Due to the trend to take several shorter holidays the length of individual stays is going down.

The share of tourism (export) is already extremely high in Austria: at well over 6 percent it is almost twice as high as exports of manufactured goods. Tourism is predominantly a low-wage segment with relatively unpleasant working conditions and low qualifications.

Opportunities for further expansion are offered mainly in the shape of city breaks and cultural tourism, ranging from purely private travel to increased employment-related and business trips as a consequence of globalisation. Further potential has been identified in short trips offering special experiences and in winter sports. Short holidays are taken mainly to stay in spas, for cultural reasons, or to attend events. While overnight stays in ski-based tourism are approaching the limits to growth set by the natural environment, spending per night (quality) could still be raised further. The traditional holidays in summer resorts are in trouble, however. Therefore, Austria is currently unable to maintain its high market share in tourism.

Tourist services are an employment driver with a very high employment multiplier effect. According to Statistics Austria, the number of people in dependent employment in terms of full-time equivalents rose by 1.6 percent per year in the 1995-2005 period, which was much faster than in the overall economy. Tourism is thus one of the industries with the highest employment growth. According to an input-output analysis, foreign tourism has the second-highest value added multiplier and the highest employment multiplier of all demand segments. The fact that the growing segments – city trips, culture and wellness tourism – typically offer full-year jobs has a positive impact on employment. Seasonal jobs are filled largely by foreign workers who are usually not entitled to draw unemployment benefits because of the short duration of employment.

Recommendations

The aim of tourism policy must be an increase in qualitative growth and an extension of the tourist season. The primary task is to increase the quality offered and raise visitor spending.

Such upgrading of the services offered is also desirable from an employment perspective. Cheap tourism employs primarily unqualified foreign workers who are hired for a brief season. The share of foreign labour is already almost one-third. Any further expansion will not only hit political limits, but also endanger the authenticity of what Austria has to offer to tourists. To attract and keep domestic employees, working conditions will have to be improved, however.

The key recommendations in this article:

- Confine assistance to tourism to full-year establishments offering relatively stable employment. Targeting promotional measures to full-year activities will not only contribute to an increase in labour productivity but will also reduce seasonal unemployment and improve working conditions.
- Shift advertising for tourism from traditional foreign markets to markets with future potential (countries of origin: North America, China, Russia, new EU member states).
- Greater seasonal price differentiation to enable full-year operation.
- Use of qualified job descriptions and professional development (in-house careers with change of jobs over the life cycle).

Substudy 18: Elements of a growth strategy for rural areas

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This sub-section explores how production and employment can be raised in rural areas. Compared with other European countries, a relatively large proportion of the Austrian population lives in rural areas, where it also makes a considerable contribution to value added.

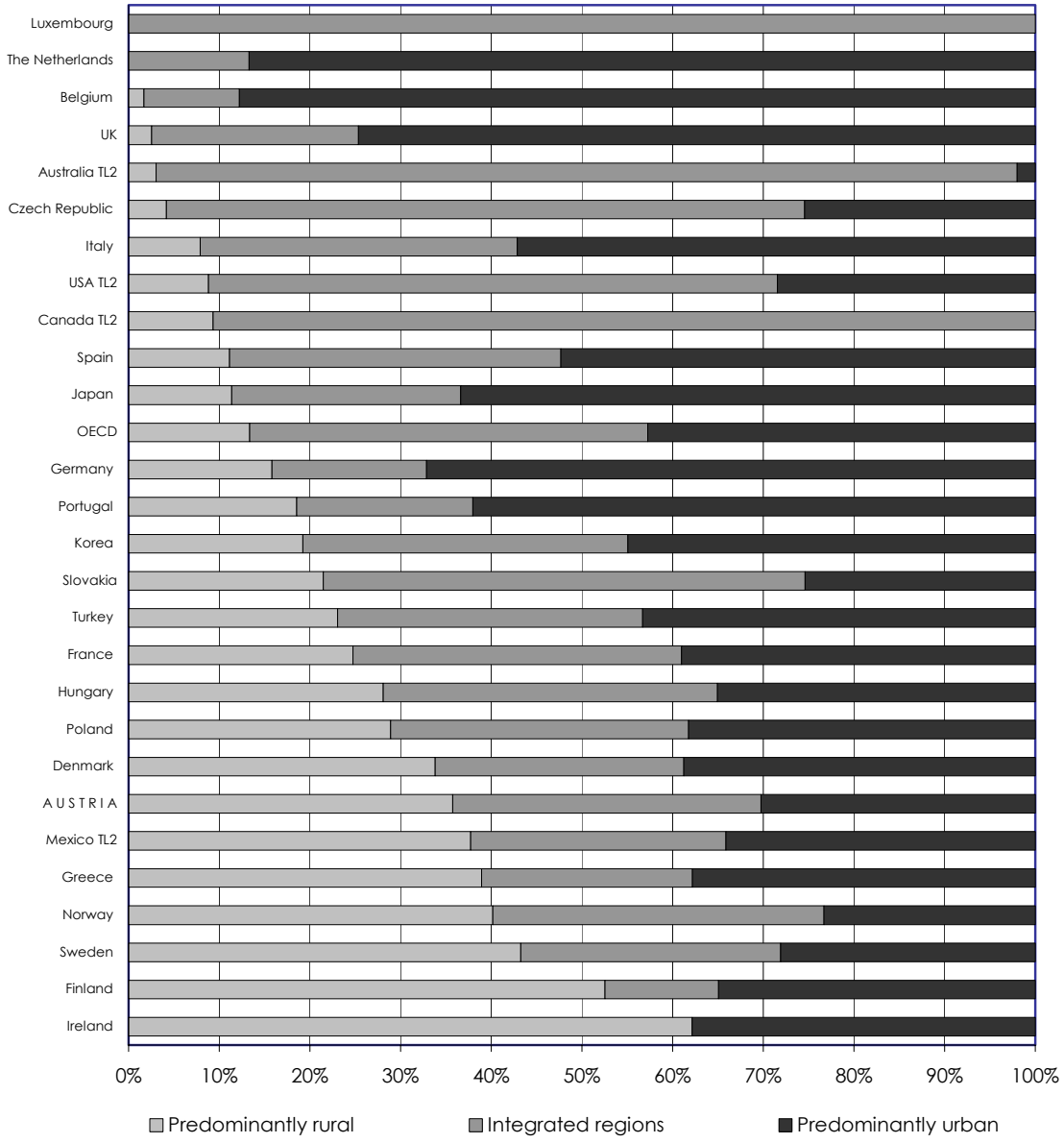
Since Austria's accession to the EU, the rural regions have been able to catch up a little against other regions. Starting from a low level, economic growth was slightly faster than in the other regions. Of the EU 15, only Ireland was similarly successful as Austria in this regard. This growth was driven by the manufacturing sector.

Nonetheless, some areas have a shrinking population. Forecasts indicate that the number of regions with a shrinking population will even go up. Low population density is the most prominent characteristic of rural areas. It is associated with long transport distances and a higher cost of many services.

The capital intensity of manufacturing operations in rural areas is low. In the face of international competition, labour-intensive production is exposed to strong pressure, which is enforcing job cuts. In rural areas, services rather than agriculture is the most important sector. There are only a few districts in which agriculture accounts for more than 10 percent of

income. Compared with non-rural regions, two factors stand out: a low level of formal education and low employment participation among women.

Figure 19: International comparison of share of rural areas



Source: OECD, Regions at a Glance (2005). Note: For countries of the European Union, the regional classification of the OECD is based on the nomenclature of territorial units for statistics (NUTS) developed by EUROSTAT. See http://ec.europa.eu/comm/eurostat/ramon/nuts/home_regions_de.html; the comparison above is based on Territorial Level 3 (TL 3) / NUTS 3 regions; – [1] Territorial Level 2 (TL 2).

The most important advantages of rural areas:

- Low land prices, which make these areas suitable as locations for space-intensive manufacturing operations and cheap housing. Low housing costs partially compensate the income gap versus urban regions,
- natural resources (water, forests and attractive cultivated landscapes of high recreational value),
- cultural highlights of a special character (e.g., Waldviertel).

Rural areas are attractive as places for living and for recreation. Low land prices encourage the establishment of second homes. Increased exploitation of the resources available in rural areas (forests, land, landscape) includes, apart from nature-based tourism, special potential in the wood-processing industry. The boom of the ICT sector has enabled even geographically remote locations to become providers of ICT services.

The comparative advantage of rural areas lies specifically in the leisure industry. The previous advantage of relatively low labour costs is being lost increasingly with the progression of the international division of labour.

Recommendations

- For rural areas, a strategy is recommended that aims at exploiting scope effects (i.e., advantages resulting from the joint presence of agriculture and forestry, small trade and industry and nature-based tourism).
- In rural areas, the most urgent concern is raising the level of education and women's participation in gainful employment. In these two areas, the lag is particularly significant.
- More efficient transport links to the regional centres are key in supporting the rural regions' catching-up process. Better transport links to the eastern neighbouring states are urgently needed to gain access to these new export and supply markets.
- Growing population density and pressure in Austria and its excessive concentration on metropolitan centres coupled with information and communication technologies offer new opportunities for rural areas, which should be defined in differentiated master plans.
- Bridging the ICT divide between urban and rural areas (efficient broadband networks) is a prerequisite for the creation of tele-workplaces in the country.
- Biomass in the shape of wood is in ample supply in rural areas. The high cost of logging in remote areas currently puts limits on its exploitation, however. Increased encouragement of cooperation among forest owners allows the exploitation of economies of scale.
- The rural development programme spends considerable financial resources on the advancement of environmentally sound and sustainable agriculture. The scope of this programme is no longer justified in the present environment (low output prices). Financial

resources no longer needed should be employed first of all for the promotion of innovation, diversification in food production, renewable raw materials, and the development of services exploiting scope effects.

- Tourism offers an opportunity for rural regions. A number of rural regions have successfully developed attractive leisure products (wine-based tourism, regional specialities, bicycle tourism). In addition to unspoilt nature, it is important to offer cultural activities and to cultivate the manmade landscape. Culture is neither urban nor rural. More cultural activities (galleries, readings, concerts) enhance the attractiveness of rural areas – for their inhabitants, urban dwellers, second-home owners, and tourists.
- While the agricultural contribution to GDP is shrinking, the number of rural workers and demand for seasonal workers for harvesting and cultivating high-quality crops (wine, vegetables, fruit) is rising. Obstacles reducing the supply of labour, including the lack of prestige of agricultural work, have to be removed as workers employed in the processing, distribution and business-related service industries profit from an attractive supply of raw materials.

Substudy 19: Competition and regulation

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Despite various measures taken to improve competitiveness, Austria is still lacking in competitive spirit. There is still wide-spread belief in the advantages of sheer size (economies of scale) and the possibility of attaining competitive strength internationally through mergers rather than innovation.

After a first wave of liberalisation, which was characterised by the reform of the business code and "genuine" privatisations, deregulation efforts came to a standstill. According to international studies, however, deregulation harbours substantial growth potential.

In the telecom sector, liberalisation was quite a success – due, above all, to the introduction of new technologies. In the energy sector, deregulation led to downward pressure on power and gas prices for businesses while private households benefited much less.

Recommendations

- The development of a general spirit supportive of competition should be promoted. Competition policy is more than dealing with anti-trust litigation. Absolute priority should be given to the establishment of a pro-active competition policy on the basis of a sound economic groundwork.

- The deregulation of highly skilled professions like notaries, lawyers, public accountants, etc., should be advanced vigorously. Abolition of territorial protection clauses, recommended prices, elimination of demand-testing as a condition for granting a license, and restrictions on advertising.
- Competition on the telecommunication markets has to be preserved. The liberalisation of the telecommunication markets was a success confirming the validity of the deregulation strategy. In the longer term, mergers and agreements might put this achievement at risk, however.
- The liberalisation of the energy markets has not been a full success, as competition intensity has not been promoted. Competition in the energy markets (electric power, natural gas and mineral oil) has to be intensified substantially across the entire value-added chain). Unbundling of ownership rights in power generation, grid operation and distribution is a key instrument in this context. The creation of a single European energy market is imperative.
- The independence of competition and regulatory authorities should be strengthened while guaranteeing the provision of resources and investigative instruments required for the independent performance of duties.
- Efforts to remove regulatory obstacles to the development of entrepreneurial activities should continue. Further liberalisation is required with regard to the qualification-based restrictions on the access to trades under the business code. Positive momentum is expected from the creation of new occupational fields under the business code (e.g., self-employed nurses).
- The relatively high expenditure in terms of administration, time and costs of setting up limited liability companies ("GmbHs") should be reduced (model: Denmark).

Substudy 20: Start-ups and development of firms

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Start-up companies are frequently seen as drivers of economic development, as sponsors of innovations and new products. Newly founded companies and SMEs are in fact more important today than they were 30 years ago. This is attributable to the structural change towards services as well as the liberalisation of previously sheltered parts of the economy and the reduction of market entry barriers due to technological change. Today, SMEs have more opportunities to occupy market niches and market their own innovations. In most European countries, the share of SMEs has been rising for quite some time. As a rule, newly established businesses increase competition intensity in the market for products. Existing companies are

forced to produce more efficiently. In addition to productivity effects, newly founded companies are also thought to generate positive effects on employment, even though these are not always sustainable because of the large risk of failure for new companies and existing competition.

In Austria, the number of businesses is increasing according to all sources of information (self-employed people, businesses with employees, members of the Austrian Federal Economic Chamber, *WKÖ*). The steepest rise has been recorded by the statistics of the Economic Chamber, the least by the statistics of the Main Association of Social Security Institutions. The latter, however, count only businesses with at least one dependent employee. New registrations with the Economic Chamber recently almost hit the level of 30,000 per year. However, the statistics of the Main Association of Social Security Institutions also show that along with the newly founded businesses, the number of business closedowns has risen well. This is consistent with international evidence showing that a rise in the number of start-ups is always associated with an increase in the number of closedowns. International data shows that the number of business start-ups in Austria is close to the level of comparable countries. New businesses are mainly small enterprises with a high risk of failure. By international comparison, the survival rate of newly established Austrian businesses calculated on the basis of the statistics of the Main Association of Social Insurance Institutions is in about mid-field. On the average, 3.5 percent of jobs are created each year by start-ups. Over each five-year period, foundations and closedowns of businesses are responsible for about 50 percent of newly created or lost jobs. Measured against these numbers, the net employment effect is low. Job creation by existing companies is confined largely to just a few high-growth companies (known as "business gazelles").

Conclusions

Compared against international benchmarks, the reluctance in establishing new businesses is certainly not dramatic in Austria as far as can be concluded from the inadequate data base. Most of the start-ups are, however, very small businesses rather than registered firms. It is not insufficient new business formation activity that is the main problem of weak growth, but rather a lack of high-tech start-ups and the slow growth of newly formed companies.

In Austria, the fastest-growing group of businesses is neither start-ups nor SMEs, but medium-sized companies. Most small businesses are unfortunately "just small". Of the smallest businesses, rapidly expanding ones (one to nine employees) unfortunately account for only 3 percent. In the category of 250 to 1,000 employees, they represent more than one-third.

Where economic policy is concerned the key strategic question is what type of business should be promoted: should incentives go primarily to the medium-tech business gazelles that generate growth and employment now or to high-tech start-ups driving structural change in the Austrian economy? In the medium run, companies that are strong now will be faced by competitive pressure coming from low-wage countries. It is therefore more advisable to assist

the hitherto less successful high-tech start-ups, which in the future should stand a better chance in a high-wage country.

There are several ways of providing assistance to new businesses, including specifically high-tech start-ups, and companies with high growth potential:

- The cost of company formation should be reduced substantially.
- The cost of insolvencies and the associated social stigma should be reduced effectively. Failure is part of being an entrepreneur.
- Market access barriers, activities reserved exclusively to certain professions and obsolete rules in regulated trades and occupations should be carefully reviewed.
- Austria has a well developed system of business development with a wide array of measures for new business formation, high-technology start-ups and high-growth companies. These measures should be rigorously subjected to the principle of evidence-based governance in order to make the system of business promotion more efficient.
- Tax and other development measures should be incentive-driven as a matter of principle.
- Public venture capital (VC) should focus on funding segments of technology and phases in company formation that are not already being targeted by private VC and/or on enhancing the leverage effect of private VC. This would reduce the risk of undesirable displacement effects.
- An important instrument for facilitating high-technology start-ups are business incubators and technology-oriented start-up centres. A number of such centres already exist, and provide infrastructure and know-how for start-ups. High-technology start-ups require highly qualified and flexible labour, business qualifications and entrepreneurial vision. Over the long term, this means that the required groundwork needs to be laid in education: integrate entrepreneurship education at all levels of education and raise the percentage of upper secondary school education and university graduates. The positive steps taken towards a reform of tertiary education have to be continued and intensified. In tertiary education, general qualifications and qualifications not part of the core discipline are to be allocated more importance than in the past.

Substudy 21: Environmental policy as part of a growth strategy

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This chapter discusses environmental policy as part of a growth strategy and focuses on those aspects that support structural change towards environmentally sound development. One

focus of the analysis lies on the identification of potential approaches to the integration of environmental policy into other policy areas such as, for example, technology and research policy, energy and transport policies. Environmental policy thus appears to become increasingly a key approach to a growth and employment strategy. The positive effects of environmental strategies derive on the one hand indirectly from the prevention of negative external effects (reduction of the cost of ecological repair work and other macroeconomic costs such as healthcare costs) and, on the other, from direct positive growth and employment effects in the environmental technology industry. Here, energy-related strategies have a major role to play (above all energy efficiency, renewable energies), which on the one hand help to reduce the negative ecological impact (anthropogenic climate change, other air pollutants), and on the other contribute to an enhancement of competitiveness by strengthening the security of energy supplies and reducing dependence on imported fossil fuels.

The EU strategy for sustainable development (2001, as well as the revised sustainability strategy 2006) and the Lisbon strategy (2000) mirror these needs: in addition to the goals of economic and social renewal through technological innovations, cross-generational environmental protection was included in the EU's Framework Programme as a third objective. In 1997, the Kyoto Protocol had moreover laid down binding targets for emission reduction by the industrialised nations. However, in 2004, Austria was the EU country which after Luxembourg was farthest from reaching its Kyoto target and the gap is becoming wider every year.

The environmental technology industry has been gaining economic importance in Austria. The relative significance and momentum of the environmental industry over time is reflected by the development of its contribution to GDP and its share in the turnover and employment of the manufacturing industry. In 1993, it accounted for 1 percent of GDP. This share rose to 1.4 percent in 1997 and hit 1.7 percent in 2003. Measured in terms of the turnover of the manufacturing industry, the share of the environmental technology industry rose from 2.1 percent in 1993 to 3.7 percent in 2003. Its contribution to manufacturing industry employment also expanded dynamically and in 2003 was already as high as 3.3 percent.

The provision of energy in a way that is compatible with the climate and environmental protection requires a reduction of the use of fossil fuels. Raising energy efficiency is of key importance in this regard. The emphasis placed on this issue at the European level is also reflected at the national level. The 2003 government programme set the goal of reducing specific energy consumption (use of energy per unit of GDP) by an average rate of 1 percent per year until 2010. The actual development of energy consumption and energy efficiency is in contrast to these political objectives. Gross domestic consumption of energy per real GDP declined by an average of 0.1 percent per year in the period from 1990 to 2004.

The proactive implementation of European framework directives and strategies is of key importance in increasing energy efficiency. This includes, for example the EU Directive on the

Energy Performance of Buildings, the Cogeneration Directive as well as the European Commission's Green Book on Energy Efficiency "Less is More", and the White Paper on Transport Policy.

An interesting research programme in Austria is "Future Homes" (*Haus der Zukunft)*. It is based on developments in solar and energy-efficient construction (solar low-energy building design, passive energy building). An important key area of this programme is the rehabilitation of old buildings (heat insulation). Especially buildings built in the post-war period are in need of comprehensive rehabilitation.

With regard to energy supply, highly efficient cogeneration equipment allows a reduction of primary energy use and greenhouse gas emissions compared with the separate production of power and heat. In this field, there is still potential for expansion.

Conclusions

Compared with concerns of economic policy such as raising growth and employment, environmental policy has been playing a subordinate part despite its incorporation in the EU's policy guidelines. However, in recent years, climate change has increasingly manifested itself as a key environmental problem even at the regional level in the shape of extreme weather conditions (floods, droughts, avalanches). Rising oil prices and the debate about energy supply security have likewise directed attention to a stronger diversification of energy supply, above all, through the increased use of renewable energy sources and a marked increase in energy efficiency. Because of its focus on energy technologies and its high innovative power, the Austrian environmental technology industry is well positioned to make a contribution to the attainment of these objectives and, beyond that, to use its potential for the creation of employment. In addition to the development of resource-conserving technologies, their rollout and application has to be encouraged and supported as well. This applies to both energy generation and end users, and might take the shape of a nationwide implementation of passive building design in new building construction. Beyond that, improving the thermal efficiency of old buildings is of key importance from both the perspective of energy efficiency and the impact on employment. Last but not least, a change in transport policy is critical in reducing the dependence on oil imports and CO_2 emissions.

Substudy 22: Model simulations of selected economic policy measures

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The substudy on "model simulations" evaluated the effects of various economic policy measures in terms of their impact on growth and employment. Overall, seven strategies designed to promote growth and employment were explored. Two measures (increasing

public-sector R&D spending and improving labour qualification) are aimed at raising the growth rate of potential output in the long term. The other five measures are fiscal policy interventions: an increase in public investment in infrastructure, a reduction of wage, corporation, and turnover tax and of social security contributions.

A model enables only the study of the effects of quantifiable economic policy measures on the overall economy. Some political recommendations of a qualitative and complex nature, as e.g., to generally increase the country's attractiveness as a business location, cannot be tested by means of a model. Likewise, the simulations cannot consider active labour market policy measures going beyond the improvement of worker qualification, such as measures aimed at the integration of workers with a migration background.

In order to make measures and their effects comparable, each stimulus was assumed to be worth € 1 billion at current prices (which corresponds to 0.4 percent of nominal GDP in 2006).

Calculations were carried out both with the primarily demand-side WIFO macro model and the supply-side long-term model.

Results

- The three expenditure-side fiscal policy measures (increase in spending on R&D, qualifications and infrastructure) will produce about twice as much impact on GDP and employment in the short run as the four revenue-side fiscal policy interventions (reduction of taxes and social security contributions).
- In the former case, the measures taken (increase in spending by € 1 billion) will boost real GDP overall by half a percentage point, while the tax cuts will raise it by only one-quarter of a percentage point.
- Compared with revenue-side interventions it is interesting to note that both reductions of wage tax and social security contributions have the greatest impact on employment both in the short and in the long run and will lower the equilibrium unemployment rate. A reduction of corporation tax, on the other hand, leads to the largest increase in potential output in the long run, while creating a comparatively minor rise in employment.
- According to endogenous growth theory, all of the economic policy measures evaluated here will result in higher levels of GDP or potential output. Expenditure on research and development and on education have a long-term effect on potential output growth provided that the erosion of the real value of additional measures by inflation is compensated. This would require the government to invest additional funds in these areas every year.
- Under the model, the simulated stimulation of the economy through injection of € 1 billion will deteriorate the financial position of the state by 0.1 percent to 0.3 percent of GDP –

depending on the measure taken – and will thus not endanger the goals of the Stability and Growth Pact (SGP).

- Stimulation of the economy through additional spending on research and education in the amount of € 1 billion achieves the highest growth in employment in the long run (+17,000 to 19,000 jobs). A reduction of turnover tax, by comparison, would be expected to generate only a minor impact on employment.
- In the simulations of the two WIFO models, the effects of the individual economic policy measures in the amount of € 1 billion each are comparable with the results of standard simulations of international models both with regard to the growth effects to be expected (up to +0.5 percent per year) and in terms of the likely employment effects (up to +19,000 jobs).
- The models do not represent any synergies resulting from the simultaneous implementation of several measures. Individual effects can be aggregated to yield the total effect of a set of measures. It may, however, be the case that an optimally-designed bundle of measures has a greater impact on key economic aggregates than the sum total of the single effects according to the model. It appears plausible that a combination of more spending on R&D and education could lead to an extra bonus in terms of growth and employment in Austria.

8. Cost of implementation, financing and chances for success

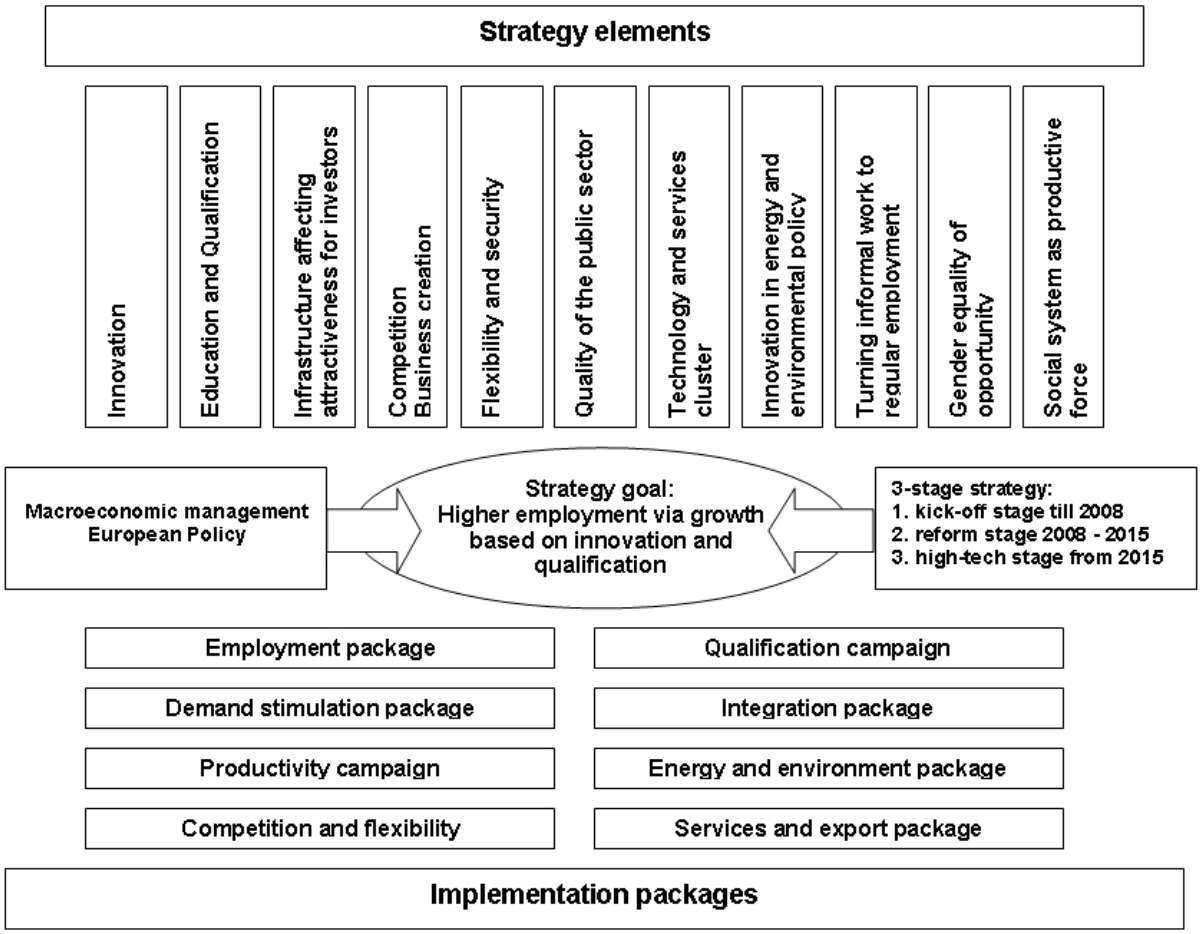
8.1 The limits to financing capacity

The White Book develops a consistent strategy for increasing employment and reducing unemployment by means of an innovation-based and quality-driven growth strategy. Unemployment in Austria will fall only if growth exceeds a rate of 2.5 percent over the medium run. Therefore, growth must be boosted by at least half a percentage point over the current medium-term forecast. Even then, unemployment will decline only slightly as long as the supply of labour keeps rising steeply. The current surge in the supply of labour will flatten as of 2015 and come to a standstill around the year 2020. According to current projections, the supply of labour will then initially contract slowly, later on more rapidly. Therefore – given the current trend in labour supply combined with present underemployment – growth will not be limited by any inadequate quantitative supply of labour during the next ten years (which does not rule out qualitative shortages and discrepancies between the patterns of supply and demand). Despite the trends towards an oversupply of labour the White Book does not recommend a linear reduction of working hours, but views intelligent forms of working time reduction (education, sabbaticals) as more appropriate. It is also important to boost European growth beyond the current expectations of just about 2 percent (through changes in European economic policy and better exploitation of the rapid rise in global demand). In addition, high growth in Austria's neighbouring countries would be important for three reasons: firstly, because it stimulates demand; secondly, because it creates positive mutual stimulation (spillover) of research and infrastructure investments; and, thirdly, because it takes pressure off the labour market.

The White Book describes eleven strategy elements and outlines eight packages for their implementation. This defines the direction in which economic policy has to move in the individual policy fields. Experiences from other countries have also been integrated. The proposals have been developed partly as guidance, partly as measures to be taken. Each of the changes proposed can be implemented with low intensity or by employing more intensive effort. The important thing is for all actions to be aimed at the same target. For all of these reasons, the costs of the strategy and its returns cannot be calculated with precision. It is safe to say, however, that the costs of all measures proposed herein will by far exceed the financing capacity at the given tax ratio. The limits to financing capacity are significant also because it would be advisable – given Austria's geographic location – to maintain a slight downward trend in the overall tax ratio. The packages are therefore to be implemented step by step, with the key priorities named to remain undisputed, however, and to serve as a compass for changes. Implementation activities will then be carried out step by step as feasible with the financial resources available. Examples have been set by Sweden, Denmark and Finland, where the growth strategies were initiated against a much more difficult

budgetary background, today's government spending relative to GDP is below previous peaks, and budget surpluses are being attained.

Figure 20: Strategy proposal of the WIFO White Paper



The financial resources needed for supporting the strategy can be expanded by successfully implementing the administrative and budget reform, by re-allocations of the budget at the federal level, the *Länder* and the municipalities, and by cutting subsidies. A third phase in administrative reform (e.g., elimination of duplicate activities) and the execution of key elements of the reform of the federal state may add additional scope for action. It may also be helpful to use part of the next tax reform for funding expenditure to support growth (i.e., keep tax cuts a bit more modest). The growth-boosting effect of a tax cut depends significantly on the momentum of the economy and on the efficiency of the markets. It therefore makes sense to first enable the economy to become competitive in the top quality segment and cut taxes only afterwards. The room for manoeuvring for both a tax cut and forward-looking spending will also be greater if further privatisations are carried out (also at

the *Länder* and municipal level, including PPP models) and so-called counter-financing (partial compensation of tax cuts by the collection of additional revenues) is permitted. Given the structure of the Austrian tax system and changes in the framework conditions this means, for example, maintaining an element of wealth taxation (e.g., collection of land tax and estate tax on real property holdings, see Box 10), higher taxation of emissions, an increase in the tax on tobacco instead of minimum prices that are probably incompatible with EU law). Savings are possible with regard to the privileged tax treatment of overtime pay, incentives for savers, and the sole-earner deduction (if there is no child). State transfer payments can be made more dependent on income (subsidies for residential housing construction only for individuals earning up to twice the median income), and existing subsidies should be reviewed. Higher charges and deductibles (again taking the distribution effect into account) may also contribute additional scope for action.

Box 10: Reform of land, gift and estate taxes

Taxes on assets and the transfer of assets today account for 0.6 percent of GDP in Austria, which compares with 2.2 of GDP on the EU 15 average (1.3 percent and 5.2 percent respectively of tax revenues). This is attributable to the abolition of business capital tax, wealth tax, securities tax and stock exchange transfer tax as well as the extensive tax exemption for privately held financial assets and the taxation of land and real property under the headings of land tax, estate tax and gift tax on the basis of assessed values.

Compared with labour, the taxation of land and real property is subject to relatively minor distortions. This category of assets cannot be moved to a low-tax country. Also, considerations of distribution policy in general and the moderate taxation of income from capital in Austria (flat rate withholding tax on income from capital; extensive tax exemption of capital gains) would suggest a heavier taxation of wealth for the purpose of financing public expenditure.

The simplest approach to raising public revenue from land, estate and gift taxes is the implementation of a more realistic valuation method for land and real property holdings, preferably by means of a flat-rate system keeping the cost of administration low.

Reform of land tax

Today, tax is levied on land owned in Austria: land including buildings, land used for business operations and land being part of the assets of agricultural and forestry enterprises. The base of taxation is the assessed value 1973, which was raised linearly once in the 1980s. The maximum tax rate applied is currently 1 percent of the assessed value. The tax collected goes to the local authorities. The assessment base for land tax has to be brought closer to the market value of taxable real property by means of a suitable valuation procedure.

The increase in the valuation of real property subject to land tax has to be accompanied by an adjustment of the tax-free allowance, the amount of which, in the case of privately held property, could be based on the value of an average single-family home. Reasonable tax-free allowances must also be provided for land and real property used by agricultural and forestry enterprises.

An average tax rate of 0.6 percent on real property (assessed at market value) would be sufficient (assuming that about half of real property would be taxable if valued conservatively and taking tax allowances into account) to raise the proportion of taxes on immovable property from 0.2 percent of GDP to the EU-15 average of 0.9 percent of GDP. This would result in tax revenues of € 2.2 billion (or € 1.7 billion more than at present). Municipal tax generates revenues of at least € 1.9 billion.

Reform of estate and gift tax

Interest-bearing financial assets that are finally taxed at source are completely exempt from estate and gift tax, dividend-yielding securities finally taxed at source are largely exempt from estate tax whereas transfers of cash are fully subject to taxation. Unlike interests in enterprises held by a business, such interests are largely exempt from estate tax if held privately. Land and real property are valued at about three times the assessed value, which covers only part of the actual market value, whereas other assets subject to estate or gift tax are taxed at the current market value. Liabilities are deducted from undervalued land and real property at the actual nominal value. Revenues from estate and gift tax amount to about € 150 million.

Gift tax is an important restraint on the transfer of interests in partnerships among family members for the purpose of avoiding taxation in higher income tax brackets by way of "family splitting". Also, if estates and gifts were generally tax-exempt, the tax on contributions to private foundations would be hard to justify. Last but not least, taxation of the transfer of assets by way of inheritance or gift may prevent excessive concentration of wealth and thereby improve equality of opportunity. However, some comprehensive reforms are necessary.

A reformed estate and gift tax on privately held land and real property might be levied by a procedure similar to that used for the collection of land tax. The tax-free allowance of currently € 2,200 would have to be increased substantially, though, and an average single-family home would have to be tax-exempt.

Pieces of land used for business operations also have to be valued closer to market value. The valuation of sole proprietorships and interests in partnerships and in non-exchange-listed corporations would have to be based more heavily on the capitalised value of potential earnings (currently a mixed valuation scheme based on net asset value and capitalised value of potential earnings is used). Exchange-listed corporations would be valued on the basis of share price as is current practice. The tax-free allowance for transfers of business assets (currently € 365,000) should be based on the average business assets of a typical sole proprietorship or a typical medium-sized partnership or corporation. In addition, the option of deferred payment or payment by instalments should be offered (e.g., deferral by a minimum of five years, payment of tax over ten years and partial amortisation afterwards if the business is continued) in order to avoid potential liquidity problems.

The number of tax classes should be reduced and the number of tax rates as well as the top rates lowered.

8.2 Assessment of the effects of seven categories of measures

To assess the chances of success of the growth strategy, the White Book groups the measures proposed into seven "meta-measures" of economic policy. Simulations were performed to explore the effects of three expenditure-side measures – namely an increase in public research spending, an intensification of education and training, and an expansion of infrastructure investments – and of four revenue-side measures – namely a reduction of wage, corporation and turnover tax and of social security contributions. For reasons of comparability, all measures were assumed to represent a spending volume of € 1 billion and were implemented in two models: the WIFO macro model, a Keynesian-type demand model permitting short to medium-term imbalances in the goods and labour markets, and the Austrian long-term model (A-LMM), which explains long-term growth potential and an "equilibrium" unemployment rate by supply-side theory. The effects were calculated for a short term (one to five years, annual results) as well as for a long term (ten to 15 years after implementation). In the short-term model, additional expenditure was not financed by raising income from other sources but compensated in part by the higher tax revenues it generated, as a result of which an expenditure of € 1 billion (0.4 percent of GDP) led to an increase in the deficit ratio by only 0.2 percent to 0.3 percent. Both models are so highly aggregated that specific measures cannot be introduced into the model in detail but have to be translated into the given model structure. This has to be considered when interpreting the results of the model.

The results can be summarised as follows:

- In general, the three expenditure-side fiscal policy measures (increase in R&D spending, improvement of qualifications and infrastructure investments) generate about twice as high effects on GDP and employment in the short term than the four revenue-side fiscal-policy interventions (reduction of taxes and social security contributions). In the former case, the measures will boost real GDP cumulatively by about half a percentage point, while tax cuts will raise it by only one-quarter of a percentage point.
- Compared with revenue-side interventions, it is interesting to note that both the reduction of wage tax and of social security contributions has the most impact on employment in both the short and the long run and will lower the equilibrium unemployment rate. A reduction of corporation tax, on the other hand, leads to the largest increase in potential output in the long term while creating a comparatively minor rise in employment.
- According to endogenous growth theory, all of the economic policy measures evaluated here will result in a higher level of GDP or potential output. The three expenditure-side and the four revenue-side measures have very similar effects in the course of time, i.e., they generate a short-lived boost to growth, which quickly fades out. Expenditure on research and development and on education have a long-term effect on potential

output growth provided that the erosion of the real value of additional measures is compensated. This would require the government to keep investing additional funds in these areas.

- According to the model, the simulated meta-measures involving spending of € 1 billion each will deteriorate the financial position of the state by 0.1 percent to 0.3 percent of GDP – depending on the economic policy measure taken – and will thus not endanger the goals of the Stability and Growth Pact (SGP). If applied in isolation, they will, however, raise the pace of growth by only $^1/_{10}$ percent per year.
- Stimulation of the economy through additional spending on research and education in the amount of € 1 billion achieves the highest growth in employment in the long run (+17,000 to 19,000 individuals). A reduction of turnover tax, by comparison, would be expected to generate only a minor impact on employment.
- In the simulations of the two WIFO models, the effects of the individual economic policy measures in the amount of € 1 billion each are comparable with the results of standard simulations of international models both with regard to the growth effects (up to +0.5 percent per year) and in terms of the likely employment effects (up to +19,000 jobs).

8.3 The role of synergies, consistency and consensus

The calculations clearly show that boosting growth is not an easy task. On the average, € 1 billion will lift growth *in the short term* by 0.5 percent over five years[40] and by 0.1 percent annually. Employment will rise by 14,000 until 2010 (in the case of research spending and a reduction of social security contributions) or by 2,000 to 6,000 in the case of tax cuts. The *long-term* growth effect of spending on research and education amounts to 0.2 percent per year. The *long-term* effects on employment are below 10,000 with most measures, only research expenditure will raise employment by 17,000 and spending on education by 19,000. The model calculations also demonstrate that part of the growth effect leads to a reduction of unemployment, another part to an increase in labour volume (recovery of employment ratio). These are important warnings in the face of claims that one or the other measure would suffice to bring about a significant drop in unemployment.

Nonetheless, there are also important indications that the economic policy measures might even have a stronger impact. Each of the strategies produces significantly falling returns if the environment does not move in the same direction (in the case of research, if education or infrastructure are lacking, etc.). Such synergies of individual strategies cannot be represented in the model. Secondly, any measures taken are the more effective the longer they aim in the same direction. Continuous, credible and consistent policies that can be planned are more effective than changes in priorities and attention. Thirdly, the reduction of economic

[40] Difference after five years compared to the base scenario.

uncertainty, the confidence of economic players in the consistency of economic policy and the willingness of politicians to support and stabilise growth have an essential yet unquantifiable effect on growth. Fourthly, stronger momentum in the neighbouring countries or in Europe as a whole might create a much better environment for the Austrian economy. Changes in European economic policy are outlined in the strategy, but not included in the estimates used in the models[41].

Table 3: Medium- and long-term growth and employment effects of selected economic policy measures

	GDP, real	Potential output, real	GDP growth, real	Growth of potential output, real	Active workers in dependent employment	
	Cumulative deviation from base solution in percent		Deviation from base solution in percentage points		Cumulative deviation from base solution in 1,000 person	
	Average 2006/2010	Average 2016/2020	Average 2006/2010	Average 2016/2020	Average 2006/2010	Average 2016/2020
Increase by € 1 billion per year						
Public R&D expenditure	+ 0.5	+ 5.3	+ 0.1	+ 0.2	+12.3	+16.9
Public education expenditure	+ 0.5	+ 0.9	+ 0.1	+ 0.1	+ 7.9	+19.0
Infrastructure investments	+ 0.5	+ 0.5	+ 0.1	+ 0.0	+ 8.6	+ 1.9
Reduction by € 1 billion per year						
Wage tax	+ 0.3	+ 0.1	+ 0.1	– 0.0	+ 5.2	+ 8.2
Corporation tax	+ 0.2	+ 0.8	+ 0.1	+ 0.0	+ 3.5	+ 2.7
Turnover tax	+ 0.1	+ 0.0	+ 0.0	– 0.0	+ 1.4	+ 0.1
Social security contributions	+ 0.3	+ 0.2	+ 0.1	– 0.0	+ 9.2	+ 6.6

Source: WIFO. – € 1 billion is equivalent to 0.4 percent of nominal GDP (2006).

[41] An indication of the cumulative effect of a strategy is found in the successful budget consolidation in the USA, in Sweden, and in Denmark (with the latter still having budget surpluses while the USA are posting deficits again): After growth is lifted by employing a growth strategy, tax revenues rise automatically as a result of the elasticity of tax revenue (even if there is a trend towards lowering tax rates). In Austria, an exogenous rise in the growth rate boosts it by ½ percent or € 500 million (0.4 percent of GDP) The net financial investment falls by 0.2 percent

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