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Oesterreichische Nationalbank

Stability and Security.

Workshops

Proceedings of OeNB Workshops

Strategies for Employment and Growth in Austria

March 3, 2006

No. 10

The issues of the "Workshops – Proceedings of OeNB Workshops" comprise papers presented at the OeNB workshops at which national and international experts – including economists, researchers, politicians and journalists – discuss monetary and economic policy issues. One of the purposes of publishing theoretical and empirical studies in the Workshop series is to stimulate comments and suggestions prior to possible publication in academic journals.

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Editorial

Christian Beer
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Oesterreichische Nationalbank

On March 3, 2006, the Oesterreichische Nationalbank (OeNB) hosted a one-day workshop on "Strategies for Employment and Growth in Austria." The workshop's objective was to propose concrete measures for the promotion of growth and employment in Austria. The workshop started with contributions that examined Austria's growth policy from an international angle.

The first speaker, *Andreas Wörgötter (OECD)* emphasized that Austria is not criticized a priori for adopting a special position with regard to economic policy in some respects, as the country shows a very sound overall economic performance. He referred to the concrete recommendations contained in the Economic Surveys as well as in various specific OECD publications.

According to Wörgötter, Austria with its sound economic indicators is probably not in the market for any radical economic policy reforms in the near future and even in the medium term. Austria could far better, however, if it continued searching for solutions with a constant willingness to embrace reform. Given the high national debt, fiscal policy is also relatively unsatisfactory according to Wörgötter. Wörgötter also pointed to the necessity of improving the school system and competition policy, of facilitating the access to risk capital and advancing research promotion. And finally, he called for further improvements in public sector efficiency and for a reform of the fiscal sharing plan.

Jürgen Janger (OeNB) developed a set of ideas for Austria's economic policy on the basis of the National Reform Programs that have to be drawn up in the course of the reformed Lisbon Process. The programs of selected countries in a similar situation as Austria contain many suggestions regarding the form and content of economic policy, in particular for pursuing a more proactive competition policy, improving the quality and quantity of education and training systems, promoting employment, increasing public sector efficiency as well as promoting the foundation of new companies. Janger suggested modeling Austria's economic policy on the forward-looking, interdisciplinary and target-oriented programs of other countries. In the second part of his presentation, Janger raised the question

whether the National Reform Programs actually generate additional benefits or merely serve the purpose of reporting.

Karl Aiginger (Austrian Institute of Economic Research – WIFO) discussed the fact that Europe is lagging behind the U.S.A. in terms of growth. Economic policy strategies should aim at creating an equilibrium between liberalization/deregulation (e.g. domestic market, flexibility), stabilization (e.g. price stability, deficit reduction) and acceleration of growth (e.g. research, education and training). According to Aiginger, Austria's economic growth needs to climb to approximately 3% in order to reduce unemployment and nonwage labor costs as well as to cut public debt. This goal could be achieved by adopting employment strategies on a regional, national and European level. Aiginger considered research and location policy as well as growth-promoting monetary and fiscal policy as starting points for achieving higher growth.

The second workshop session dealt with the regulation of product and service markets. *Michael Böheim (WIFO)* addressed the question whether it is possible to raise the growth potential in Austria by furthering market integration and increasing the intensity of competition. Given the energy markets' structural problems (e.g. electricity price structure as a market entry barrier) and high market concentration, Böheim considered these markets the biggest challenge for competition policy in Austria. He believes that it is generally possible to increase economic growth by stepping up competition. To this end, however, the deregulation and liberalization of the energy markets has to be combined with a more proactive competition policy. Böheim maintained that a legal unbundling without compromise is necessary to increase the intensity of competition, as non-discriminatory access to the electricity infrastructure is indispensable for a competitive, liberalized electricity market. Furthermore, Böheim pointed to persistently existing barriers for setting up companies and called for the thorough elimination of all national regulations that do not serve the purpose of ensuring the required quality levels. Any efforts to change the framework conditions for competition should become an integral part of a coherent competition policy.

Harald Badinger (Vienna University of Economics and Business Administration) emphasized the significance of foreign trade for increasing productivity. He argued that, while Austria is undoubtedly an open economy, remaining trade barriers in some industries should be lifted and the export ambitions of small and medium-sized enterprises should be supported. In the field of manufacturing, competition has intensified drastically since the 1990s and the domestic market has been functioning smoothly. In the service sector, however, the domestic market has not yet been fully realized according to Badinger. This shows that de jure liberalization does not necessarily lead to de facto liberalization, which hinges upon the design of legal provisions and on a proactive competition policy.

Iain Paterson (Institute for Advanced Studies – IHS) talked about the regulation of liberal professions. Paterson presented the results of a survey comparing the

degree of regulation in liberal professions in the EU Member States on the basis of market entry barriers (e.g. required qualifications) and market behavior (e.g. regulation of prices and advertising options). The example of lawyers and notaries shows that Austria is a highly regulated country. As regards the economic repercussions of the regulation of liberal professions, the survey results showed some interesting correlations. While the number of practicing lawyers and notaries and the sector's total turnover was found to be lower in highly regulated countries, the turnover per company was higher. Productivity (i.e. turnover per employee) turned out to be negatively correlated with the level of regulation. According to Paterson, excessive regulation of the liberal professions leads to lower employment and welfare.

The third workshop session dealt with the empirical findings of economics of education as regards the correlation of education and growth. In his introduction, *Ludger Wößmann (Ifo Institute for Economic Research, Munich)* pointed out that it is the quality of education rather than its duration that has an influence on economic growth, and that simply increasing the resources does not necessarily improve this quality. In order to attain a higher quality level of school education, an institutional environment is required which provides incentives for administrators and teachers to promote the students' performance. Wößmann presented empirical findings based on the data of three large-scale international school studies to describe such an institutional environment in greater detail. The findings suggest that school autonomy in conjunction with standardized external final examinations plays a particularly important role in enhancing the quality of education.

Wößmann maintained that publicly funded but privately administered schools can also help raise the quality of education, as they create additional options and, subsequently, provide incentives for innovation. He also touched upon the possible positive effects of a sound preschool system and performance-related teacher salaries as well as the possible negative impact on students' performance when they have to choose a particular school type at an early age.

According to *Ferdinand Eder (University of Salzburg)*, Austria's school system has taken a few steps toward the best practice examples Wößmann mentioned, but it still has a long way to go.

David B. Audretsch (Max Planck Institute of Economics) raised the question whether an entrepreneurial economy needs entrepreneurial universities. Audretsch pointed out that merely increasing the investments in research and development at universities is not enough; this knowledge must ultimately lead to the development of marketable products. As an example of how to increase the spillovers from university research, Audretsch cited the Bayh-Dole Act (1980) adopted in the U.S.A., which gave universities the right to market their research results, thus increasing the spillovers from university research and creating favorable effects on growth and employment. Audretsch maintained that an entrepreneurial society is of key importance in increasing economic growth; therefore, he argued, the old

university model does not make sense any more – nowadays universities simply have to be entrepreneurship-oriented.

Hans Pechar (University of Klagenfurt) highlighted the differences between higher education institutions in the U.S.A. and in Europe. Contrary to European universities, which are funded by the government and private sponsors, U.S. colleges have to prove their usefulness. With the economy being increasingly based on knowledge, this approach may well become a selection advantage. As regards Austrian universities, Pechar doubted whether the introduction of lump sum budgets and performance contracts has actually made decision-making more transparent. Furthermore, he criticized the still existing division of staff into junior faculty (*Mittelbau, i.e.* university teachers, researchers and assistant professors) on the one hand, and full professors on the other hand, which is not conducive to continual career development. He advocated the creation of a European area of higher education and research to raise competitiveness through the promotion of mobility and cooperation.

The final session addressed structural problems of Austria's labor market and the Lisbon objective of a higher employment rate. In his presentation, *Helmut Hofer (IHS)* discussed labor market developments in Austria and the associated policy challenges against the backdrop of the OECD's and the European Commission's economic policy recommendations. Hofer emphasized two aspects in particular, namely the skill structure of employees and the cyclical fluctuations of labor supply. He pointed out that the rise in unemployment over the past decade is almost entirely attributable to the increase in unemployment of low-skilled persons who have only completed compulsory education. This fact constitutes a particular challenge for economic policy. Given the high sensitivity of labor supply to economic activity in the past, minor cyclical fluctuations used to cause changes in unemployment rates; this effect has, however, weakened over the past few years. According to Hofer, labor market policy needs to focus on the school system and especially on persons with low qualifications in the next few years, as the latter will continue to face difficulty on the labor market. He called for lowering nonwage labor costs for these problem groups, promoting career development and life-long learning particularly in aging societies as well as creating stronger incentives for women to participate in the labor market. Furthermore, Hofer recommended taking measures in the field of unemployment insurance to reduce the large proportion of those employed in seasonal industries. He also advocated more flexible wages at the company level and more flexible work schedules.

Gudrun Biffl (WIFO) addressed measures for increasing female employment in Austria. While the labor market participation of working-age men varies relatively little in an international comparison, the female employment rate varies greatly. Biffl argued that the level of female employment depends on the social organization of work. In countries with high female labor force participation, home production has to a large extent shifted to market production. Compared with other

European countries, Austria ranks above average in the field of female labor market participation, but growth rates are comparatively low. This is to some extent attributable to the relatively small size of the Austrian service sector. Biffl maintained that the gender pay gap has hardly become smaller, that a sectoral segmentation by gender continues to be prevalent and that old role models are still strongly rooted in the education system.

Biffl made a number of concrete suggestions for promoting female labor market participation. They include replacing transfer payments with benefits in kind in the fields of childcare and care for the elderly, establishing information platforms and childcare associations (especially in rural areas) as well as aligning the working hours for women and men.

In his presentation on early retirement in Austria, *Alfred Stiglbauer (OeNB)* talked about the labor force participation of older workers, which is extremely low by international standards. Stiglbauer refused to consider the process of population aging as a crisis scenario only. Instead, it is the result of a demographic transition process, which entails sinking birth rates, declining infant mortality and rising life expectancy. Raising the employment rate and extending the time in active employment vis-à-vis the time in retirement is crucial for demographic reasons, in particular with a view to the pension insurance system. The budgetary projections recently published by the EU's Economic Policy Committee show that expenditure for public pensions, measured as a percentage of GDP, does not necessarily increase, provided that the aspired employment rate of older workers is achieved.

According to Stiglbauer, early retirement should not only be seen as a labor supply problem. He underscored the importance of ensuring the employability of older workers by placing emphasis on staff training and continued education, among other things. Furthermore, he recommended reconsidering the steep age-income profiles in some sectors and closely monitoring the situation of older workers in the labor market over the next few years.

Johannes Schweighofer (Federal Ministry of Economics and Labor) commented that the presumed need to increase the overall participation rate should have been justified more explicitly. Moreover, the effects on wages should be considered. Increasing labor supply may also increase unemployment – especially in the case of low-skilled workers. Especially with respect to female labor supply the distinction between the quantity and quality of labor supply is important. Schweighofer emphasized the favorable pension expenditure projections and called for a more skeptical stance on demographic projections.

A panel discussion concluded the workshop. *Silvia Angelo (Chamber of Labor Vienna)* called for investments in infrastructure and education as well as for a tax reform reducing the tax burden on medium and especially low incomes. Furthermore, she advocated the expansion of childcare facilities to promote the reconciliation of work and family life. Angelo argued that fiscal policy discussions

at a European level, which focus primarily on ways to cut costs, are not conducive to a quick economic recovery.

Peter Part (Federal Ministry of Finance) emphasized the significance of sound public finances. The relevant report of the Economic Policy Committee defines three requirements: First, budgets must focus on expenses which help increase total factor productivity (e.g. education and infrastructure). Second, these reallocated resources have to be used as efficiently and effectively as possible, and third, any such efforts have to be incorporated in a coherent economic and fiscal policy.

Verena Farré Capdevila (Federal Ministry of Economics and Labor) argued that election cycles and other aspects related to political economy were the root causes of the insufficient implementation of the National Reform Programs and the big differences in their contents.

Ralf Kronberger (Austrian Federal Economic Chamber) advocated reforming the fiscal sharing plan but regarded further fiscal decentralization not necessary. Kronberger argued that an empirical evaluation of the corporate tax reform should take into account not only demand effects but also supply effects. Finally, he recommended carrying out empirical trade analyses in many sectors to learn more about the effects of trade on growth.

Martin Zagler (Vienna University of Economics and Business Administration) spoke in favor of a broad agenda for promoting innovation. This agenda includes promoting competition, allocating more resources to highly specialized tertiary education institutions, eliminating distorting effects in the tax system, amending the *Gewerbeordnung (*Trade Code regulating small business and trade), eliminating barriers to setting up companies, reforming the bankruptcy law, establishing business centers in universities to market ideas, pursuing a stable interest rate policy as well as promoting long-term employment contracts for young employees.

In view of the strong signals of an upturn, *Karl Pichelmann (European Commission)* called for accelerating the implementation of the Lisbon Agenda to increase employment and productivity on the one hand, and on the other hand to proactively tackle the challenges posed by globalization.

Welcome Address

Josef Christl

Oesterreichische Nationalbank

High growth of GDP per capita is an important economic policy objective, as it promotes job creation and prosperity. Moreover, it facilitates fiscal policy; budget consolidation, for instance, becomes easier during economic upturns. Increased potential growth also helps central banks with monetary policymaking, as it reduces inappropriate political pressure on central banks to generate growth through surprise inflation. For a successful long-term growth policy, productivity growth and higher employment rates are pivotal.

Since 2001, several European countries have experienced relatively stagnant economic development characterized by weak growth and a sluggish reduction of unemployment levels. But even before then, the strong productivity growth in the United States and some European countries at the end of a strong upswing had prompted policymakers to develop the Lisbon Strategy with the aim of promoting growth and employment.

Austria's economic growth has been above the euro area average in recent years; employment is on the rise and Austrian businesses are making good use of opportunities in Eastern Europe. We should not rest on our laurels, however, but rather set our sights on more ambitious goals.

There has definitely been progress with some of the Lisbon objectives; unemployment in Europe, for example, has dropped by 2 percentage points since the mid-1990s, and the R&D ratio in Austria has surged to just below 2.5%. Given the adverse economic conditions, this has to be considered a major success, begging the question of how much more could be achieved during a sustained upturn?

The mid-term review of the Lisbon Strategy (Kok report) shows, however, that overall reform progress has been unsatisfactory so far and calls for increased national ownership, i.e. stronger involvement in and identification with the European growth and employment agenda at the national level. To this end, national action plans for growth and jobs have been introduced. These so-called National Reform Programs are the result of a broadly-based debate involving, among others, the social partners and European citizens. The fact that all EU Member States have adopted National Reform Programs is cause for optimism

within the EU, and there is reason to expect greater progress toward the Lisbon goals by 2010.

Against this background, the OeNB organized today's workshop with the objective of bringing forth new ideas on promoting employment and growth in Austria. Since a general direction for economic policymaking has already been provided by the European Commission's Integrated Guidelines, this workshop will focus, to the extent possible, on concrete and specific issues. The more we know about economic and employment policies, the more likely they are to be implemented.

In the beginning, we will hear two statements on growth and employment in Austria which present the topic from a cross-country perspective. Further key topics on the agenda are competition policy in Austria and the link between education and economic growth. Before the final panel discussion, we will also hear three in-depth presentations on employment in Austria. The workshop's agenda thus reflects the key elements of the Lisbon Strategy and the Integrated Guidelines.

For 2006 we expect a general upswing, which is a welcome prospect. Nevertheless, we should not sit back now, but rather use this positive momentum to implement further structural reforms and to promote sustainable growth and employment.

OECD Recommendations for Austria to Increase Growth and Employment

Andreas Wörgötter[1]

Organisation for Economic Co-operation and Development

1. How Does the OECD Make Its Recommendations?

The Organisation for Economic Co-operation and Development (OECD) defines itself as a service organisation for its member governments. Its goal is to help governments to find ways how to improve policies in a wide range of areas. The overarching objective is to allow member countries to achieve a high level of economic development, which is sustainable in the long term.

The Secretariat – organised in Directorates and Departments – produces drafts, which are then discussed in the responsible Committees. Member countries send their experts to share own experiences and to provide country specific expertise. The peer review format of advice is applied to avoid asymmetric treatment and allows for a relatively low-cost transfer of best-practice policies. Recommendations, however, are always country specific and take the local socio-political constraints in member countries into account.

The Economics Department is in close contact with other Directorates and drafts are exchanged for consultation before being discussed in Committees in order to fully exploit specialised knowledge in all policy areas, which are relevant for economic growth. Within the Department the Country Studies Branch is responsible for the Economic Surveys (presented to, discussed and published by the Economic and Development Review Committee, EDRC) and the bi-annual revision of projections (published in the Economic Outlook under the responsibility of the Secretary General) while the Policy Studies Branch carries out cross-country policy assessment, which is discussed in the Economic Policy Committee (EPC) and its Working Party 1 (WP1). More recently the Department closed a gap with

[1] Head of Division, Country Studies V, Economics Department. While the content of this contribution draws heavily on OECD publications and documents its presentation and interpretation is the sole responsibility of the author, who supervised the OECD Economic Surveys and Economic Outlook Country Notes for Austria between 2000 and 2005.

launching "Going for Growth" a cross country structural review process, which aims at helping member countries to more rapidly close the gap to the best performing economies.

2. Which Reforms Does Austria Need?

Austria's economic performance is very good. Measured against a number of aggregate indicators it is typically not only among the best performing EU Member States, but also a top performer among OECD member countries. Many benchmarking and ranking exercises see Austria also among the leading economies. GDP per capita is high, potential growth is also above average while inflation and unemployment are low. (see table 1)

Table: Performance Indicators for Austria

Indicator	Austria	Euro area	OECD
GDP per capita in PPPs	31,700	27,700 (EU 15)	28,700
Potential growth	2.5	2.0 (Belgium)	3.3
2000–2005 in %		2.8 (Finland)	(New Zealand)
Unemployment in %	5.9	8.6	6.5
Inflation in % (2005)	1.9	1.9	2.0

Source: OECD; OECD Economic Outlook 79 database.

Hence, there is no need for radical reforms. Nevertheless, Austria's performance could be even better if it would establish a climate of permanent readiness for reform. OECD recommendations aim at contributing to such a climate, which would also help to achieve the objectives of the Lisbon process.

3. OECD Recommendations for Economic Reform in Austria

OECD recommendations for economic reforms in Austria can be found in three regularly published documents:

- Economic Outlook – Country Note (bi-annual)
- Economic Surveys (2001, 2003, 2005)
- Economic Policy Reviews: Going for Growth – Country Note (2004, 2005)

The following sections summarise the main focus of OECD Recommendations since 2000. Overall Austria has one of the smallest income gaps relative to the benchmark U.S.A. The number of hours worked per working age adult is equally high as in the U.S.A. Only labour productivity exhibits some weakness.

3.1 Recommendations in the Economic Outlook

A recurrent theme in the Austria Notes of the Economic Outlook is some dissatisfaction with the performance of fiscal policy. Debt to GDP levels are too high and even rising, which is not warranted in the face of the equally severe ageing of the Austrian population and associated increases in public expenditures for old age income replacement and health care.

The zero-deficit – originally intended to be maintained every year – was only achieved in one year (2001) and since then general government debt relative to GDP stays stubbornly above 60%. Current government plans foresee achieving a balanced general government for the time after 2008, which is not very ambitious. While complying with the minimal constraints of the Maastricht treaty is not a problem for Austria some reduction in transparency came along with outsourcing some government agencies, which were responsible for transport infrastructure.

In some cases pro-cyclicality of government activities – both in terms of tax cuts and expenditure programmes – was observed and recommendations frequently requested to abstain from an activist fiscal policy. At the same time a tendency to consolidate the budget via one-off measures became a habit.

3.2 Recommendations in Economic Surveys

Recent Economic Surveys (2001, 2003, 2005) focused on a number of issues ranging from fiscal consolidation, public expenditure reform, fiscal federal relations, pension reform, labour market improvements, increasing the scope for competition, especially in domestic services industries and improving the environment for innovative activities. Sustainable development was addressed in a special chapter and followed up in subsequent surveys.

- *Structural reform and strict spending control are needed to make the fiscal turn-around sustainable*

Earlier episodes of fiscal consolidation in Austria before 2000 were succeeded by rapidly rising structural deficits. This reflects both the fact that past consolidation policies relied to a large extent on one-off measures and also that, with fiscal balances improving, new social entitlement programmes were instituted. Since 2000, balancing the budget appears feasible even though growth has slowed. However, several risks, both on the revenue and on the spending side, require tight spending control for the medium-term consolidation targets to be met. Most importantly, one-off measures continue to play a significant role in the government's savings programme, and not all parts of envisaged structural reform have yet been decided or implemented. Moreover, new spending programmes are envisaged, with the new family benefits that came into effect in January 2002 placing a heavy burden on the general government budget, accounting for some 1/3 percent of GDP. Hence, a sustainable elimination of the general government deficit

requires rapid replacement of the one-off measures by structural policies that are associated with lasting savings. The government has focused on administration reform as a source for budgetary savings. Major changes in government agencies have been carried out and Austria is also pressing ahead with the introduction of e-government. Over the years tax reductions have been implemented, but these have still to be backed up by structural reductions in government spending. Otherwise, there is a risk of a renewed spending cycle that would endanger the achievements made. Moreover, creating a budgetary surplus would help cope with fiscal pressures associated with ageing.

- *Introducing a medium-term fiscal framework, which would put Austria's fiscal balances on a sustainable path, allow automatic stabilisers to play its role in the business cycle and facilitate prioritisation and efficiency (i.e. cost-effectiveness)*

Significant expenditure cutting measures – which are not yet fully specified – will be needed to reach the government target of a balanced budget by 2008. The introduction of a medium term budgeting framework would help to strengthen the necessary prioritisation and output orientation of the budgeting process so as to avoid the economic costs of ad-hoc measures. Fiscal sustainability calculations should be regularly carried out for all levels of government. Further tax reforms should focus on base broadening in exchange for statutory rate cuts.

- *Reforming fiscal-federal relations, which were identified as overly opaque and costly.*

Sub-central levels of government rely largely on shared taxes, for which the federal government has full legislative responsibilities, and on federal government transfers. A large proportion of municipalities' and states' tax and transfer revenues are earmarked to specific spending programmes, often in terms of extra-budgetary funds, and there is widespread co-financing of spending items between the states and the municipalities. A complicated system of revenue redistribution reduces transparency. Reforms should focus on improving the revenue structure of lower levels of government. Dispersed decision making, notably in the health care system, but also as regards supra-regional infrastructure planning, should be harmonised and the scope for cooperation in service provision strengthened.

- *Increasing the scope for competition in a number of areas, especially among professional services, but also retail and handicrafts.*

The OECD growth study has provided evidence that competition-enhancing policies can foster the growth of productivity and employment. While some reforms of competition-related policies have been implemented in recent years, legal restrictions continue to impair competition in many product markets. Moreover, unduly restrictive regulations are particularly widespread in the services sector. This is manifest in comparatively weak productivity growth in this sector over the past decade, while manufacturing performed well by international comparison. In-depth analysis suggests that comprehensive reforms of the

domestically oriented industries and of public procurement policies could substantially boost consumer welfare.

Professional self-organisation tends to establish entry barriers, which contribute to a significant difference in productivity growth between sectors exposed to international competition and those, which are predominantly producing for local markets. A recent banking scandal highlights the weaknesses of Austria's rather informal personalised system of checks and balances relative to the OECD wide more usual rule based systems of supervision and prosecution of abuse of market dominance. In network industries "national champions" still enjoy political support. Zoning laws and shop opening hours regulations distort consumer and producer choices in retail trade. Weak performance is widespread in the services sector, owing in large part to regulations that thwart competition.

Productivity in retail distribution in general is lower than in many comparable countries. This reflects the fact that regulations of large stores and opening hours are stricter than elsewhere. For example, up to now average shop opening hours were the shortest in the European Union. Besides limiting consumer choice, these regulations prevent taking advantage of economies of scale. The federal government has widened the legal scope for extended shop opening hours. The *Länder* should make full use of this option; and broader liberalisation of the retail sector should be considered.

Trades and professions are subject to a complex set of regulations, comprising both statutory provisions and significant elements of self-regulation. There is evidence that this contributes to higher prices and the observed low firm turnover rates might also be related to restrictive regulations. There is considerable scope for discontinuing some existing provisions or reforming them so as to minimize their distorting effects on competition. For example, for those activities where certification is warranted in order to safeguard certain levels of quality, it should pertain to employees rather than owners. In professional services, recommended fee schedules, issued by the relevant associations, effectively prevent price competition and should be prohibited.

Recent reform of competition law took important steps towards aligning the Austrian framework with the mainstream. In particular, the reduction of the social partners' direct influence and the creation of an independent competition authority were commendable, albeit overdue. Yet the institutional set-up now in place and procedures for enforcement are overly complex. These shortcomings should be remedied. Most importantly, the currently inadequate capacity of the competition authority should be considerably increased. A leniency programme should be introduced and the introduction of criminal sanctions for hard-core cartels considered.

While Austria has been early to liberalise electricity demand, it is imperative that the structure of the industry becomes more competitive. At present, production and distribution remain characterised by extensive vertical integration and

government ownership. The latter follows directly from legal regulations of ownership and restrictions of voting rights. The government is actively encouraging further consolidation, while the competition authorities did not publicly advocate competitive solutions in the recent prominent merger case. Further domestic consolidation is considered necessary by the authorities for safeguarding the international competitiveness of Austrian producers after the imminent opening of the European electricity market. This is a misguided aim if it leads to higher prices for consumers, and it would impair the competitiveness of Austrian producers in other industries. Moreover, the consolidation might permanently prevent Austrian consumers from gaining the benefits of the larger European market.

- *Improving the incentives for innovative activities, also by improving general education components in vocational training. Subsidisation of enterprises is still widespread and introduces important entry barriers.*

A well educated labour force is key for an innovation-minded economy. Austria is spending a lot for its education system, but the outcomes are falling short of performance in many other countries. International experience suggests that a combination of national standards with a higher degree of school accountability for outcomes and a larger degree of freedom as concerns educational instruments and employment of teachers would help. Competition should be strengthened. As concerns start-ups of enterprises, the focus should be shifted from granting tax concessions to the improvement of general framework conditions, such as lowering barriers to entry and administrative burdens on entrepreneurial activity.

- *Increasing the labour supply for non-core age workers. Increasing the – exceptionally low – labour force participation rate for older workers, improving the compatibility of professional and family obligations, especially for women with small children, and reducing seasonal inactivity, which benefits from a large fiscal subsidy.*

Labour force participation needs to be increased by more effectively curbing early retirement and terminating the fiscal subsidisation of seasonal inactivity. Employers should fully finance the costs of early retirement on account of onerous work while invalidity pension schemes are in urgent need of reform.

- *Improving the cost effectiveness of environmental policies. As regards environmentally sustainable growth, Austria is acting from a position of relatively good environmental performance and with the ambition to further improve environmental outcomes. However, the policy mix being used relies too much on command and-control type measures, while a well-established framework for integrating environmental concerns into general policy planning is lacking. In particular, there is little ex ante and ex post evaluation of potential environmental benefits which would lead to changes in programmes or termination of ineffective programmes. Not least, this implies that policies directed at similar objectives are not well balanced so as to*

secure high degrees of overall efficiency. A consistent framework for cost-benefit analysis across policies should therefore be introduced. An ambitious Kyoto target serves as the flagship of Austria's climate change policy, which is a prime example for Austria's ambitious environmental goals. However, the policy mix applied for this purpose can be improved.

3.3 Recommendations in Going for Growth

Going for Growth is indicator based and identifies policy priorities in areas for which the country underperforms. Policy priorities are formulated according to cross-country studies, which establish a relationship between indicators, policies and performance. Such studies are typically discussed in EPC or its WP1. Close cooperation with other Directorates incorporates the rich wealth of competence throughout the OECD.

3.3.1 Policy Priorities in General

Reduce the Implicit Tax on Continued Work at Older Ages
Austria has already reduced financial disincentives to work at older ages, in addition to aligning pension arrangements for public sector workers on those in the private sector. However, public sector pensions are not yet harmonized across all levels of government, existing early retirement pensions are not actuarially fair for all workers, higher unemployment benefit entitlements are granted for older unemployed workers, and subsidies for old-age part-time employment are making early withdrawal from the labour market attractive. Such measures should be reconsidered and phased out.

Improve Graduation Rates from Tertiary Education
The share of labour force with tertiary graduation is among the lowest in the OECD. The government has introduced a major university reform including performance targets. Part of university funding is being linked to quantitative performance indicators. To raise participation in tertiary education, it was recommended that performance-based funding of tertiary institutions is strengthened, that academic requirements in occupational-oriented programmes – which establish inappropriate access barriers – is reduced and that a loan scheme for study fees with income-contingent repayments is introduced.

Strengthen Competition Law and Enforcement
Despite major reforms and increased staffing and resources for the Competition Authority much remains to be done to remove existing barriers and obstacles for

competition in Austria. To promote greater competition in product markets, it was recommended that more powers and resources be assigned to the Federal Competition Authority (FCA), that the institutional setup of competition policy be streamlined, that rules on vertical agreements be simplified and that the labour and commerce chambers' right to nominate lay judges be discontinued. Existing compulsory membership in professional chambers and their far-reaching powers in many areas important for competition should be reconsidered.

Reduce Administrative Burden on Start-Ups

Enterprise dynamics in Austria is low, although enterprises – once established – live longer. However, facing rapid technological change and pressures from globalisation makes it necessary to reduce the existing barriers to establish new firms and enter markets in Austria. The costs of setting up limited liability companies are high. Regulation of entry in trades and liberal professions is still cumbersome although requirements on professional qualification and experience for self-employed engineers and architects have been eased and bankruptcy procedures and restrictions on cross-holding of equity for businesses supplying related services have been relaxed. Membership in compulsory professional chambers is expensive. Progress along these lines would improve the environment for start-up, which would also re-enforce other reforms (like make universities more interested in commercialising their findings.

Reduce Inactivity Traps in the Benefit System

Recently introduced family benefits may impose a disincentive to stay economically active for women with small children. It is therefore recommended to restructure childcare benefits in favour of vouchers for child care, and that job-placement activities be better integrated with social assistance.

Policy Priorities for Improving the Environment for Innovative Activities

The 2005 "Going for Growth" exercise took a special look on innovation, an area which was also identified in many Economic Surveys for Austria as an area of concern. Austria showed average levels of R&D activity, scientific output and innovation output, below average levels of human resources and weak science-industry linkages and venture capital. More recently the Austrian economy has lost some momentum and is now growing more slowly than a number of other smaller OECD countries. It needs to enhance its ability to exploit advances in science and science-based technologies. R&D/GDP catching up but has still a significant innovation gap. Austria, for example, has been lagging behind in terms of total R&D investment as a share of GDP, largely due to low levels of industry-financed R&D. Nevertheless, it has achieved relatively high levels of GDP per capita (approximately USD 28,900 PPP in 2002) and has successfully leveraged strengths in niche markets, including through non-R&D based innovation efforts.

Improve Educational Achievements
The Austrian school system is segmented and favours early streaming of children. Between school variance is considerable. Mobility between different types of schools is reduced. Expenditures per student are high. In order to improve educational achievements and the efficiency of the school system country-wide performance targets for secondary schools should be introduced. At the same time their operational independence should be raised. In other words, schools should be free concerning the educational methods and means which allow them to help their students to achieve common targets. Further measures to widen access to tertiary education – accompanied by a loan programme with income-contingent repayments to help students fund study fees – should be considered.

Improve Access to Venture Capital
The venture capital market is small in Austria. Remove restrictive investment rules for venture capital funds. Ease quantitative restrictions on investment of pension funds in venture capital

Streamline Public Support for Business R&D
Simplify fiscal incentives for R&D spending, evaluate more via an independent agency.

Foster Product Market Competition and Entrepreneurship
Further reduce the cost of setting up public limited enterprises. Make regulation more conducive to competition in service industries, such as in professional services and retailing. Strengthen competition law enforcement.
Improving the environment for innovative activities and improving the efficiency of Austria's knowledge sector requires an integrated approach to a wide range of policies including competition policy, public support for R&D and innovation and intellectual property rights. Innovation policy needs to be much more "centre stage" within overall economic policy, interactions between Higher Education Institutions (HEIs)/Public Sector Research Establishments (PSREs) and business need to be enhanced, and R&D expenditure as well as other investment in knowledge further increased.

4. To Sum up

For Austria to even improve on its excellent economic performance OECD recommendations focus on four broad policy areas:

- firmly establishing sustainable fiscal policies and introducing a medium term expenditure framework. Increasing the efficiency of government operations

and continuing with administration reforms which reduced costs for the tax payer; reform fiscal-federal relations
- improve the scope for competition, especially in services sectors and liberal professions
- remove remaining obstacles to economic activity, in particular seasonal unemployment, early withdrawal from the labour market and families with small children
- strengthen the education system so as to respond effectively to the skill requirements of a rapidly changing knowledge based economy

Following these recommendations, monitoring results of policies and adapting measures where necessary will improve Austria's chances to make a significant contribution toward achieving the Lisbon targets of the European Union.

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The Lisbon National Reform Programs: New Ideas for Austria's Economic Policy

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Following the relaunch of the Lisbon Process, the EU Member States drew up their National Reform Programs (NRPs) in the second half of 2005. This paper starts by pinpointing potential new ideas for Austria's economic policies and policymaking from a selection of other NRPs, with the aim of suggesting means how to further improve the quality of the Austrian NRP. The author then examines the question of whether the reform program in itself can increase the likelihood of actually transforming the measures announced in the NRP into tangible policies.

The topics discussed include competition policy, education and further training, employment promotion measures, public sector reform, and support programs for small and medium-sized enterprises (SMEs). Austria's economic policymaking may find stimulus in the forward-looking, cross-sectoral and goal-oriented political strategies and action plans of other countries, which also contain elements of monitoring and evaluation.

The NRP's prospects for success in improving the implementation of economic policies depend on whether or not it can become an effective commitment device for growth- and employment-oriented economic policy. Arguably, this will only be possible if a number of conditions are met: The NRP must achieve a higher profile in public consciousness and its signaling effect must be clarified through precise analyses of the influence on growth and employment engendered by the measures set out in the program. Furthermore, the appointment of an official body (such as the European Commission or an independent research institute) to evaluate and report on the progress of each country would be of value.

The full text of this article can be found in Monetary Policy & the Economy, Q2/06:
http://www.oenb.at/en/geldp_volksw/vowi_pub/economic_publications.jsp

Comment on "The Lisbon National Reform Programs: New Ideas for Austria's Economic Policy"

Karl Aiginger

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1. Insufficient Growth in a Period of Buoyant World Demand

Economic growth in Europe has been disappointing over the past ten to fifteen years. In a period in which the world economy is growing at a rate between 4% and 5%, European growth is only about 2%. Cumulating the five years from 2002 to 2007 world output increased or is expected to increase by a steep of 25%, GDP of the EU-15 by a humble 8%. Three documents present recommendations for higher growth in Austria: Organisation for Economic Co-operation and Development (OECD) 2005, The National Lisbon Plan (2005) and Aiginger (2005).

2. The Country Report on Austria 2005

The latest report of the OECD on Austria stresses that "…. the Austrian economy is maintaining its position among the top performing European economies" – with some distance to the very best countries. The report then claims that the growth rate of Austria would still be higher if (i) obstacles for higher labor participation specifically for older workers would be removed, (ii) if productivity in services would increase faster and if (iii) the innovation system would not be "sub-optimal".

I agree in principle with these recommendations, but would put the priorities differently. The main economic problem of Austria today is the underutilization of the existing labor force - as mirrored by an unemployment rate which is high in historical perspective and increasing (even if it is low in international comparison). The reason for unemployment is on the one hand the sluggish macroeconomic growth (which very much in parallel with the EU-15 is about 2%), combined with a rather steep increase of labor supply. Labor supply has increased about half a percentage per annum over the past years, and lately even by a full percentage point. These are extraordinary high growth rates, specifically for a period of sluggish demand. Adding up a labor productivity trend as of 2% (or a little below)

to the given increase in labor supply gives a rate of growth of 2.5% as the benchmark to be surpassed for decreasing unemployment.

The OECD recommendation to make a better use of the existing labor force and specifically to remove obstacles for the elder to work, maybe a good recommendation in the long run, specifically in the time to come in which endogenous labor supply will decrease. In the short run however, forcing people to work longer and to start earlier will increase unemployment. Even higher increases in labor supply may raise per capita income marginally, but it will increase unemployment by a larger amount, since to some extent the older workers substitute the younger ones.

3. Does the Tail Wag the Dog?

The fundamental theoretical difference between the OECD point of view and my own is that the OECD believes in principle that increasing labor supply (L) leads to higher growth (Y) (higher labor supply causes higher Y), while I believe that higher growth of output and demand leads to higher employment (higher Y leads to higher labor demand). This difference replicates the old controversy whether the "output market dominates the labor market", or "the labor market dominates the output market". I acknowledge that there are periods in which the quantity of labor supplied is decisive for growth; this is specifically the case in periods of high demand. This is however not the situation of today. Even now a better qualified labor force will lead to higher growth. The main objective for economic policy today is to raise aggregate demand (by a growth oriented macroeconomic policy) and the medium-term growth path (by fostering innovation, education and intangible infrastructure). The medium-term growth rate is less than 2% in Europe, and about 3% in the US. Unemployment is higher, employment rate lower in Europe. The opposite was true in the seventies and eighties of the 20th century.

If we ask how to raise economic growth, than there are short-run strategies, like public deficits in periods of low demand, or medium-term strategies like smoothing consumption or increasing incentives for investments. In the long run growth theory tells us that the most important strategies are investing into research, education, lifelong learning and modern infrastructure. A necessary help should come from flexibilization of the labor market and of deregulation of product markets. However, flexibilization and deregulation will increase economic growth specifically more effectively in periods of increasing demand and if supported by pro active innovation policies.

Table: The Question of Causality

Position A:	Y (or Δ Y) →L (or Δ L); Growth is necessary or at least helpful for employment
Position B:	Y (or Δ Y) ← L (or Δ L); labor supply increases are sufficient for higher growth
Synthesis:	(1) Δ Y leads to Δ L; Δ Y depends on growth drivers (K, R&D, H, TP) Macroeconomic stability, Trust, Institutions (2) L supports Y; specifically upgrading skills, re-qualification, sometimes subsidizing wages (price of L)
Qualifications:	
(2) Δ L	more important if labour shortage exists; if qualifications are widely wrong (frictions, mismatch)
(1) Δ Y	more important if output demand is weak; if new technologies are underutilized; if other countries are climbing up the quality ladder, and threaten historical competitive advantages

Current European problem: Δ Y < [Δ L + technical progress]

4. How to Raise Economic Growth?

The recommendations of the OECD Report on Austria stress the importance of deregulation, specifically in the legal professions. This is an important issue, and there are chances to promote growth and employment by deregulation, by internal market programs, flexibilization etc. What is important however is that these policies usually have a considerable lag, and work far better in periods of growing demand. Or to say it more technically, flexibilization and deregulation is a necessary condition for higher growth but not a sufficient one. Pains precede gains; and the upfront disadvantages of deregulation are rather concentrated in some firms, regions and professions, while the advantages come later, are dispersed and benefit different groups (the more skilled employees). This does not mean that structural policies should not be followed, they are very important for long-term competitiveness. But they should be integrated into a broader strategy in which macroeconomic growth is stimulated by a growth and quality oriented fiscal policy and a balanced monetary policy. Secondly the technology driven potential growth should be supported by a pro active policy.

5. Following the "Paris Consensus": Soft on Innovation Policy

The current OECD report on Austria does not forget innovation and education totally. However, the recommendations about regulation and fiscal policy issues are very explicit and concrete. The recommendations in the innovation part are rather soft, relative to the recommendations in other parts. Let us repeat the headlines in the "Policy assessment box on innovation":

- Framework conditions for start ups should be improved
- Competition in product markets should be further encouraged
- The flexibility of the labor market should be raised
- Hurdles for the supply of risk capital should be raised
- Government support for innovation should be streamlined
- Secondary education should be reformed
- University reforms should proceed further

While these flexibility and competition increasing measures may always be advisable and necessary to increase economic growth, this is not a set of recommendation sufficient to boost research expenditures or investment into human capital in Europe to the extent needed to bridge the gap to the U.S.A. or to accelerate economic growth at any significant dimension. It reflects what I call the Paris Consensus on Economic Policy: "Let us liberalize and then wait for innovations and growth to come". The report however contains some useful home exercises for the economy in the waiting room.[1]

6. Lisbon Strategy Relaunched

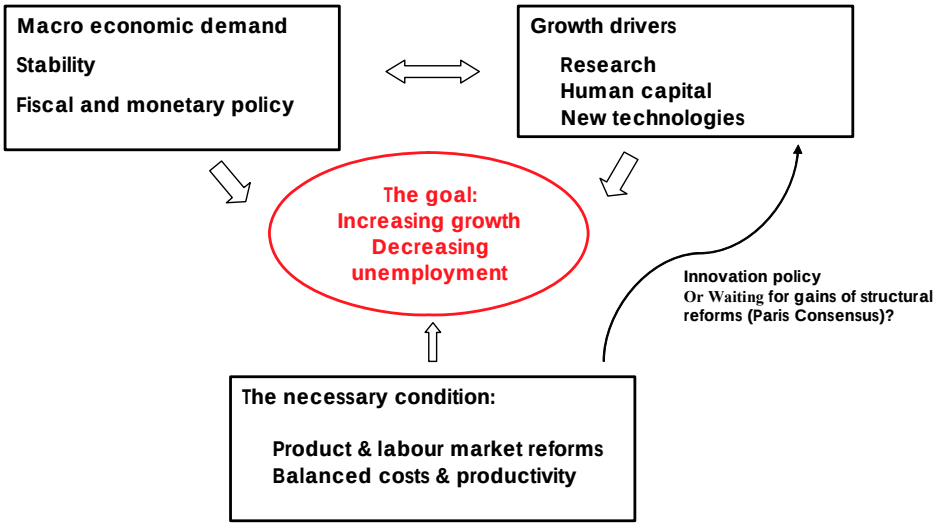
Growth enhancing policies are at the heart of the Lisbon Strategy of the European Union, a strategy which has lately been relaunched. The 2005 relaunch asks the individual countries to present their own National Lisbon Plans. Jürgen Janger accurately describes the priorities of the Austrian Lisbon plan. He criticizes that the

[1] The term OECD consensus on Economic policy has been labelled to my knowledge by David Dodge, the Governor of the Bank of Canada in a speech on March 13th (see internet label: http://www.banxico.org.mx/gPublicaciones/Seminarios/esp/dgie/estamacromer/DavidDodge.pdf). The consensus delineates four principles optimal for economic growth: Trade liberalization, structural reforms (flexibilization), fiscal prudence, and inflation control as priority for monetary policy. This strategy contains nothing about education, innovation, infrastructure; fiscal prudence is defined without reference to the quality of budgets, monetary policy without referring to the stabilizing component of monetary policy in a low growth/low inflation period. I am grateful to Andreas Wörgötter to provide me with the reference to the OECD consensus.

Austrian National Plan is analyzing past measures and initiatives more than presenting future goals or milestones to be achieved. I agree with Jürgen Janger that the chapter on the innovation strategy is the best one, since it contains the objective of a 3% R&D-expenditure rate in 2010 and it presents the institution to delineate the strategy, the instruments, and players. Similar strategies are lacking of education and life-long learning. Jürgen Janger furthermore collects innovative proposals in other countries reports, which could be relevant for Austria, too. Among them are a proactive competition policy, goals for tertiary attainment, specific allowances for firms giving research endowments to universities, strategies to combine work and child rearing and public sector reforms.

The recommendations of the OECD country report and the goals of the Lisbon strategies - those of Austria and of other countries - provide a set of strategies which may help to increase growth and employment in Austria. This needs a combination of strategies: (i) making the economy more flexible and more competitive, (ii) stabilizing macroeconomic demand and (iii) boosting new technologies and better qualifications, education and lifelong learning. These steps are required specifically in case labor supply increases by one percentage point per annum, and given that many of our neighbors are high growth economies with much lower incomes. A more detailed policy to enhance economic growth and employment is presented in Aiginger (2005). It contains seven sub-strategies: innovation, education, lifelong learning, modern infrastructure, labor market flexibilization and activation, headquarters and new firms and environmental technologies.

Chart: The Three Elements of a Growth Strategy



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Will Further Market Integration and Intensified Competition Lead to Higher Growth in Austria?

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1. Abstract

This paper comprises five main sections.

After this introduction into the structure of the paper *section 2* presents the main theoretical foundations of a growth-oriented competition policy by providing a review of the relevant literature from the early 1940s up to 2005.

Section 3 will present empirical evidence concerning regulation and competition in Austrian product markets. Both international as well as cross-sectoral comparisons are provided for Austria to gain a representative overview of the relevant indicators.

Section 4 is concentrated on the energy sector where competitive distortions in the relevant markets are most obvious in Austria. On the basis of a thorough analysis of the pending competitive constraints in electricity markets the respective challenges for Austrian regulatory and competition policy are carved out.

Section 5 concludes with some fundamental recommendations based on our analysis of competition and regulation in Austrian energy markets.

2. Theoretical Foundations of a Growth-Oriented Competition Policy

Market competition takes place as a "process of creative destruction" (*Schumpeter,* 1942) and can be interpreted as a "search and discovery process" (*Hayek,* 1968). Competition as a perpetual search and discovery process for new products, processes and markets ensures that producers are forced to continuously adapt their products and/or processes to changing consumer preferences in order to keep their existing customers or even find new ones. Existing products and processes are challenged by innovations and will be driven out of the market if innovative products and processes fit customer needs better. New markets might develop.

Based on the insights gained from the theoretical model of perfect competition, it has been widely recognised that competition is an important force in achieving allocative efficiency, providing incentives for the efficient organisation of production, and pushing forward innovation activities.

According to this line of thought, we can identify three forms of incentives for improved efficiency provided by competition (*Armstrong, Cowan and Vickers,* 1995).

First, competition tends to "select" more efficient firms at the expense of less efficient ones, thus resulting in overall improvements in productivity. In an adaptation of the core principles of Darwin's natural selection theory, it is argued that competition drives enterprises to better adapt to their environment because of threats to their survival. Firms with market power are shielded from this kind of selective competition and can therefore survive without constant efforts to enhance their efficiency. The precise mechanism by which competition fosters the "survival of the fittest" depends upon the nature of the competitive process (*Vickers,* 1995), yet the conclusion is quite robust.

Second, competition provides managerial incentives for the reduction of organisational slack and X-inefficiency (*Leibenstein,* 1966), thereby improving productivity and corporate performance. Darwinian tradition emphasises that competition drives inefficient firms out of the market: the higher the degree of competition, the stronger the pressure to reduce organisational and managerial slack.

Third, one can expect that sharpened incentives (see above) may well lead to productivity improvements, which may be (partly) induced by increased efforts being put into R&D and innovation. The theoretical support for the proposition that competition fosters innovation exists, but this is yet far from conclusive.

During the intense discussion whether competition fosters or hinders growth – a controversy that originally dates back to the early 1940s – two "competing" theories, which are facing each other as thesis and antithesis, have been developed and ambiguous evidence was found on the efficacy of competition (Cf. *Seong,* 2002). After sixty years of research, economics is now at least able to specify the conditions under which competition will produce better economic performance or, alternatively, cause deterrence of innovation. Deregulation efforts as well as interventions by competition policy aimed at increasing the competition intensity on a market are always moving within the field of tension between positive impulses for economic performance on the one hand and negative incentives for innovative entrepreneurs in the form of reduced monopoly rents on the other hand.

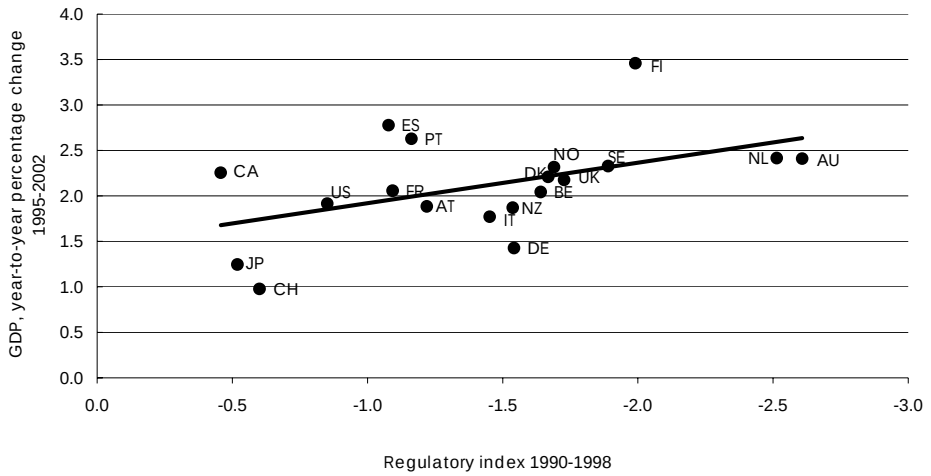
2.1 Thesis: Competition Necessitates Innovation and Boosts Economic Growth

A series of studies in the tradition of principal-agent theory shows that competition induces a firm to be more efficient by reducing its agency problems (*Mookherjee,* 1984, *Willig,* 1987, *Hermalin,* 1992).

Aghion et al. (2001) demonstrate in a model with step-by-step innovation that competition has a positive effect on growth by pointing out that a technological leader in a more competitive industry earns higher profits relative to other firms in the industry due to the "selection effect" of market competition. In this institutional setting, a strong motive for innovation and/or investment in R&D comes from the possibility of escaping from competition with "neck-and-neck" rivals ("escape-competition effect").

Empirical evidence for the Darwinian assumption that competition forces firms to innovate and to be more efficient, thereby raising productivity and enhancing growth, is quite broad (e.g., *Nickell,* 1996, *Blundell, Griffith and Reenen* 1995, *Geroski,* 1990, 1995).

Chart 1: Higher Growth through Deregulation



Source: Nicoletti, Scarpetta and Boylaud (2000), author's calculations.

Porter (2000) found empirical evidence for both the intensity of local competition and the effectiveness of national antitrust policy having a positive relationship with the level as well as the growth rate of GDP per capita. The argument that more

competition has a positive impact on growth is also confirmed by the fact that the OECD countries having started to deregulate network industries most ambitiously in the early 1990s enjoyed the highest GDP growth per capita in the late 1990s (see chart 1).

Despite the strong empirical support for a positive relation the efficiency between competition and growth remains a controversial issue. According to *Schumpeter* (1942), an atomistic firm operating in a perfectly competitive market may be a perfect vehicle for static resource allocation, but a large firm with substantial market power is the most powerful engine of progress and long-run expansion of total output.

2.2 Antithesis: Competition Impedes Innovation and Curbs Economic Growth

Schumpeter (1942) identified two effects of market power on innovation. First, he argued that expected ex-post market power, even though it would be transient, induces firms to have an incentive to innovate. If firms expected excessive rivalry after the innovation, they would have little incentive for innovation. Second, Schumpeter also argued that an ex-ante oligopolistic market structure and the possession of ex-ante market power are favourable to innovation. This is because it is easier for firms to predict rivals' behaviour under an oligopolistic market structure and therefore there is less uncertainty of excessive rivalry. Schumpeter thought that profit from ex-ante market power could serve as a source of internal financial resources for innovation activity by implicitly assuming an imperfect capital market (*Cohen and Levin,* 1989).

By further exploring Schumpeter's basic propositions in the context of endogenous growth theory (e.g., *Aghion and Howitt,* 1992, *Grossman and Helpman,* 1991, *Romer,* 1990), no compelling evidence for the negative trade-off between competition and growth was found. Schumpeter's results rather proved to be very sensitive to the underlying assumptions (*Aghion and Howitt,* 1997).

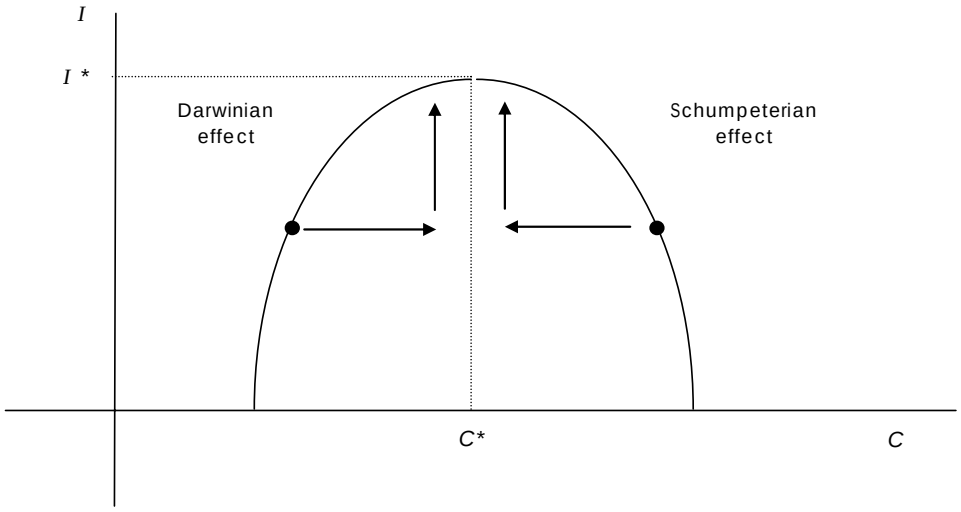
2.3 Synthesis: Non-Monotonic Relationship between Competition and Innovation, and Growth, Respectively

In an attempt to "reconcile" both lines of argumentation, recent research in the Schumpeterian tradition provides evidence that, with the monopoly at one extreme, competition enhances efficiency (only) until a certain level of market concentration is reached, while competition hampers efficiency if it is too intense.

This non-monotonic relationship between competition and efficiency (or productivity and growth) is known in the literature as the "inverted U-shape" hypothesis. According to *Aghion et al.* (2005), the relationship between product market competition and innovation is "inverted U-shaped" because at low levels of

competition, the *escape-competition effect* (Darwinian effect) tends to dominate while the *appropriability effect* (Schumpeterian effect) tends to dominate at higher levels of competition.

Chart 2: The "Inverted U"



Note: C . . . competition intensity, C . . . "optimum" competition intensity, I . . . innovations indicator, I* . . . "optimum" innovation level.*

Source: Author's illustration.

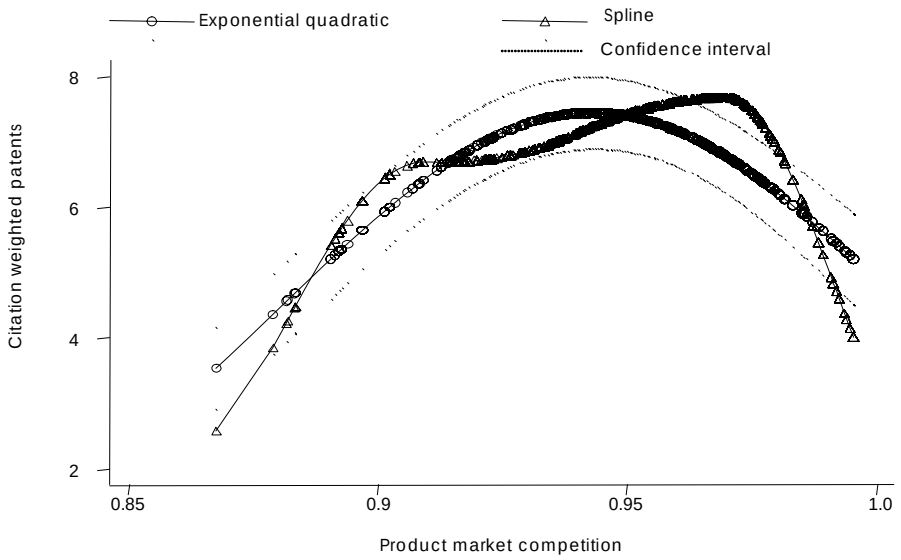
The logic of the "inverted U" implies that the effects of a relative change in competition intensity on growth depend on the current level of competition ("Laffer curve" problem; see chart 2). The combination of Darwinian and Schumpeterian effects leads to an "inverted U-relationship" between competition and growth.

By using data for UK manufacturing industries, *Aghion et al.* (2005) found that negative "Schumpeterian" effects of competition on innovation (and growth) only materialise at very high competition intensity levels (see chart 3). According to this research, the escape-competition effect is strongest in industries with a small technology gap ("neck-and-neck" industries) and the appropriability effect is strongest in industries with a large technology gap because of expected larger (temporary) monopoly rents.

However, in case of really strong competition, not too many industries will remain neck-and-neck. On the other hand, weak competition leads to many industries remaining neck-and-neck, where the escape-competition effect

dominates, while strong competition unlevels them, making the appropriability effect dominate ("composition effect").

Chart 3: Empirical Evidence on the "Inverted U"



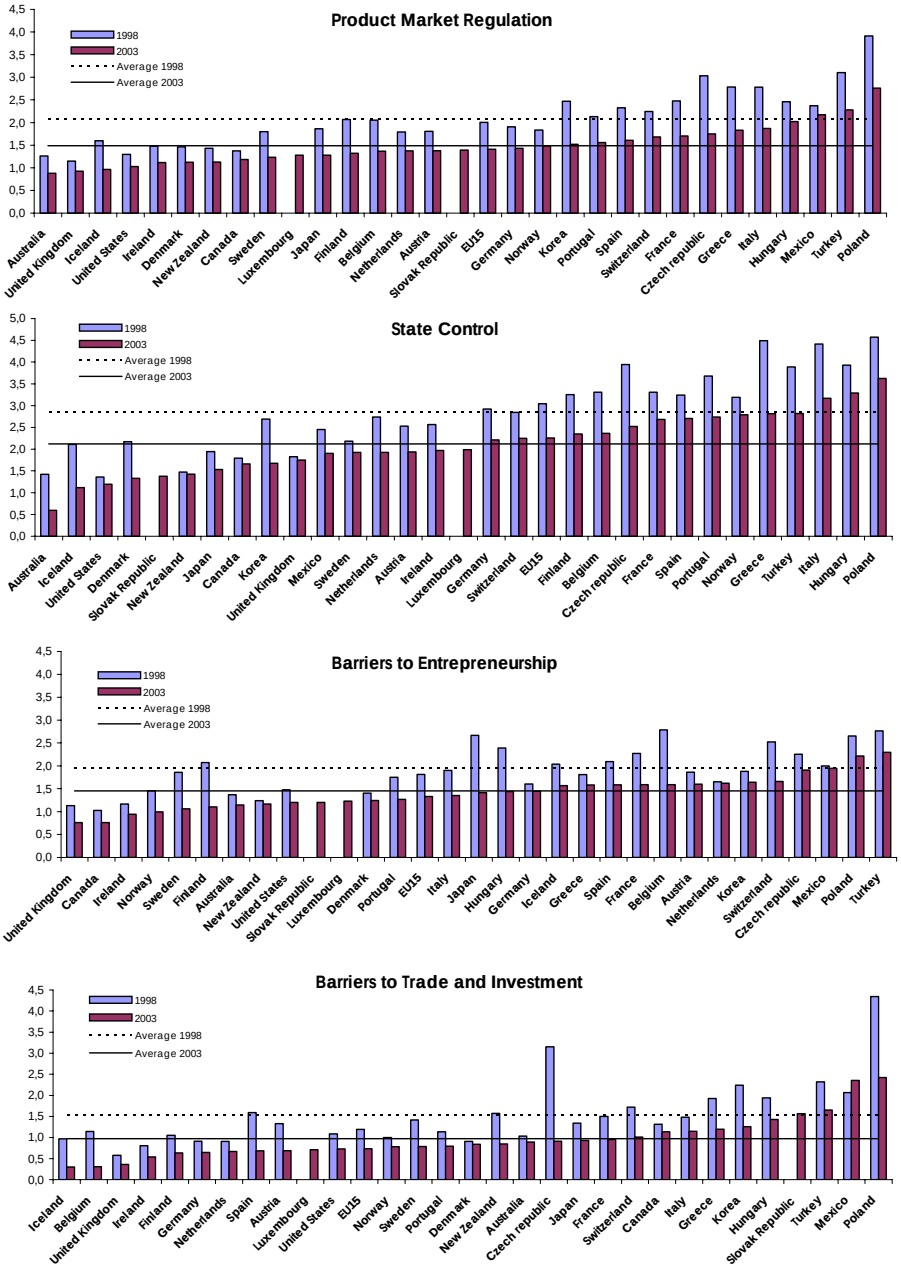
Source: Aghion et al. (2005).

Empirical evidence for the "inverted U" is quite broad and strong (e.g., *Scherer,* 1967, *Scott,* 1984, *Levin, Cohen and Mowery* 1985, *Caves and Barton* 1990, *Green and Mayes,* 1991, *Caves et al.,* 1992, *Aghion et al.,* 2005).

3. Product Market Regulation and Competition: Empirical Evidence for Austria

In recent years, a number of OECD and EU countries have implemented a wide range of structural and regulatory reforms which were based on the theoretical assumption that regulatory and structural reforms of product markets will increase multi factor productivity (MFP) growth. Meanwhile this hypothesis on the efficacy of (de)regulation on (productivity) growth has been substantiated by convincing empirical evidence (*Scarpetta et al.,* 2002, *Nicoletti et al.,* 2001; for a concise review see also *Ahn and Hemmings,* 2000).

Chart 4: Product Market Regulation and Its Components in the OECD



Source: Conway, Janod and Nicoletti (2005).

Structural and regulatory reforms include inter alia deregulation and liberalisation of product markets (particularly telecommunications, utilities and financial services) as well as privatisation of public enterprises (*Nicoletti et al., 2001*).

Despite several years of intense regulatory reforms, the "friendliness" of the regulatory environment towards product market competition still varies substantially across the OECD countries. The UK, Ireland, Australia and the U.S.A. appear to have the least restrictive overall regulatory environment, while the environment in Italy, Greece and Norway is still characterised by comparatively rigid regulations (*Nicoletti, Scarpetta and Boylaud,* 2000). In international country rankings of overall Product Market Regulation, Austria takes a place in the midfield with more or less average indicator scores (*Nicoletti and Scarpetta,* 2003). A decomposition of the overall OECD Product Market Regulation-Indicator (see chart 4) shows that in Austria substantial progress has been made between 1998 and 2003 in reducing the extent of state control as well as in lowering barriers to trade and investment. In the field of barriers to entrepreneurship, however, no substantial progress could be recorded. In particular administrative burdens for start-ups still remain a challenge for further deregulatory efforts in Austria (Cf. *Conway, Janod and Nicoletti,* 2005).

Furthermore, the general picture drawn by international comparisons shows that like in other small countries, concentration indices are generally above average in Austria (*OECD,* 2003).

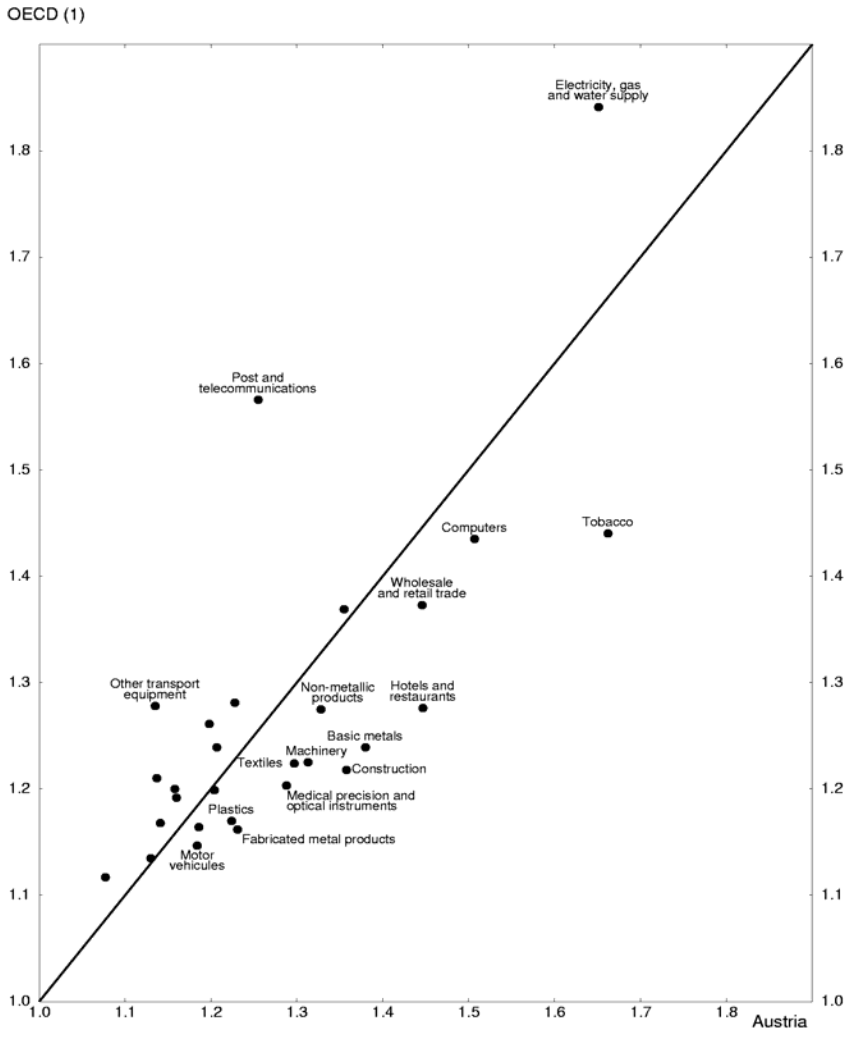
Price-cost margins are estimated to be higher in Austria than the average of a sample of OECD countries in some industries, but lower in others (see chart 5). Pronounced mark-up reductions attributed to Austria's participation in the Single Market since its EU accession in 1995 were only found in the three economic sectors mining and quarrying, wholesale and retail trade as well as financial and real estate services (*Badinger and Breuss,* 2005). Since competition increasing effects are also very limited in other EU Member States, this disappointing result points to a serious malfunction of the European Single Market (Cf. *Sapir et al.*, 2004).

Above-average mark-ups can be found mainly in non-manufacturing industries such as retail distribution, hotels and restaurants. In manufacturing, the steel and the tobacco industry are sectors with particularly high mark-ups. In the case of the steel industry above-average mark-ups are less an indicator for a low competition intensity on the home market than an indicator for the successful positioning of the former state-owned enterprises (VOEST Alpine, Boehler-Uddeholm) as quality suppliers on the world markets. On the contrary, the now privatised Austria Tabak is still protected by granted national monopoly rights in the retail distribution of tobacco products. The Austrian tobacco monopoly act prevents any competition on the retail level by fixing retail prices through wholesale prices which require approval by the Federal Ministry of Finance as well as legally granted margins for the retailers. This regime of simple fixed mark-up retail pricing does not provide

enough incentives for competitive pricing on the wholesale level which might at least partly explain the far above-average mark-ups of this sector in Austria.

Chart 5: Industry-Level Mark-ups – Austria versus OECD

From 1981 to the latest available year



Note: (1) Average of Austria, Belgium, Canada, Finland, France, Germany, Italy, Japan, the Netherlands, UK and U.S.A.

Source: OECD (2003), STAN database. OECD estimates based on the Roeger method.

For the lower than average mark-ups in some network industries (telecommunication, electricity, gas and water supply) there is no unambiguous interpretation.

On the one hand, below-average mark-ups in some network industries could be interpreted as empirical evidence of successful deregulation and liberalisation processes (*OECD,* 2003). Selected Eurostat structural indicators also confirm this story of successful deregulation in network industries. This is especially valid for Austrian energy and telecommunication markets where prices have initially decreased substantially, although one has to take into consideration that the starting price levels were amongst the highest in Europe (Cf. section 4).

On the other hand, low mark-ups are no compelling evidence for effective market competition. Instead they can also indicate low pressure for rationalisation and profit maximisation from the company owners a scenario which leaves plenty of room for managers to pursuing their own interests and maximising their rents at owners' costs. A scenario of public ownership which is "uninterested" in profit maximisation and instead gives "security" and "provision" of customers and employees top priority by willingly accepting excessively high costs, is an apt description of the actual situation in Austria where public utilities were too long protected by monopoly rights granting them unlimited market power. In the absence of profit orientation, high mark-ups were not necessary from the viewpoint of the monopolists, because consumer rents could easily be siphoned off by passing on excessive costs to consumers.

4. Challenges for Austrian Competition Policy in the Energy Sector

Following the analysis of the *OECD* (2003) three areas, namely public energy utilities, services and liberal professions, can be identified where plenty of room for the development of national competition and regulatory initiatives might exist in Austria. We will concentrate here on competition and regulation in Austrian energy markets (especially electricity), which will remain in our opinion the most important challenge for competition policy in Austria for some years to come.[1]

4.1 Economic Effects of Energy Market Liberalisation

Together with the UK, Italy, Spain, the Netherlands and Germany, Austria has been one of the very first EU Member States where both electricity (in Austria since 1 October 2001) and gas (in Austria since 1 October 2002) markets have been

[1] Business services provided by the liberal professions will be discussed by *Iain Paterson* in a separate essay in this volume.

fully liberalised long before the final deadline (1 July 2007) set by the European Commission (E-Control, 2003).

Industrial users as well as households were able to profit substantially from the liberalisation of Austrian energy markets, the former group, however, significantly more than the latter. By applying a partial analytic model for the evaluation of the economic effects of deregulation *Kratena* (2004) found for Austria that gross prices of electricity and natural gas are about 42% and 14%, respectively, lower for industrial users compared to a baseline scenario without liberalisation of energy markets. The corresponding price effects for households amount to less than 18% for electricity and just 4% for natural gas. This divergence in price effects might be taken as an indicator for different competition intensities in relevant markets for the respective consumer groups (table 1).

Table 1: Partial Analytical Study of Price Effects Produced by Energy Market Liberalisation in Austria

	Differences to the baseline scenario without liberalisation, in %
Electricity	
Gross price (including taxes and surcharges)	
Industry	–42.2
Private households	–17.5
Price index	–29.4
Natural gas	
Gross price (including taxes and surcharges)	
Industry	–14.5
Private households	– 4.0
Price index	– 9.3

Source: Kratena (2004).

Even though up to 2001 market concentration greatly increased in the Austrian electricity sector (see section 4.3), chiefly due to the merger of five regional suppliers into a market dominating enterprise (EnergieAllianz), prices of electricity have developed more favourably for both private and industrial end users than has been the case in many other EU countries. Against widely-held expectations, increasing market concentration, at least until 2003, did not result in rising electricity prices for households and industrial users.

However, since 2004, prices have been on a distinctive rise. Prices for natural gas in Austria emulated the pattern and are now roughly in line with the EU average. For both electricity and natural gas, and for private households as well as industries, the price time-series for Austria and those for the EU average show considerable correlation, i.e., energy prices in Austria move more or less in step

with those in the other EU countries (Cf. *Böheim,* 2006).[2] This development of prices is fully consistent with broad empirical evidence namely that deregulation and liberalisation of network industries lead to higher corporate efficiency, but only market competition can bring and sustainably secure lower prices (Cf. *Fraquelli and Vannoni*, 2000).

The recent energy sector inquiry by the European Commission made clear that the EU energy markets still remain mostly national in scope with high levels of concentration in generation, transmission and distribution which gives scope for exercising market power. According to the Commission analysis an integrated European energy market is still far from concrete realization.

The energy sector inquiry confirmed five main areas of electricity and gas market malfunctioning throughout the EU which can be deemed also as pending problems in Austria (Cf. *European Commission,* 2006):

- Wholesale markets generally maintain the high level of concentration of the pre-liberalisation period, creating scope for incumbent operators to raise prices.
- Consumers are denied choice due to the difficulties for new suppliers to enter the markets. Insufficient separation of infrastructure and supply functions prevents new entrants from reaching the final consumer.
- There is no significant cross-border competition. New entrants in gas are unable to secure transit capacity on key routes and integration in electricity is hampered by insufficient inter-connector capacity and long-term capacity reservations.
- New entrants cannot get the information they need to compete effectively. This lack of transparency benefits incumbents and undermines new entrants.
- Prices are often not determined on the basis of effective competition and many electricity users distrust the way prices are set.

Given these European framework conditions we will discuss below some the most pressing structural constraints of Austrian electricity markets which share the common characteristic that they could be challenged by national Austrian competition and regulatory policy.

4.2 Competitive Constraints 1: Structural Problems

The favourable development of electricity prices due to market liberalisation (compared to the alternative scenario without liberalisation; see table 1) should, however, not obscure the fact that competition in Austrian electricity markets is

[2] Whether the price increases over the last two years were finally due to "fundamental factors" (an increase in variable costs, e.g., the higher prices for crude oil) and/or the exercise of market power has not been fully clarified for Austria yet. A definite answer would require extended micro-econometric analyses which are not yet available for Austria thereby offering scope for further in-depth research.

still not working satisfactorily. Due to unresolved homemade structural problems, liberalisation has left incumbent electricity suppliers largely unchallenged in their positions as quasi-monopolists which enable them to still earn substantial monopoly rents in some markets, thereby thwarting liberalisation. This unsatisfactory situation has been further complicated by a substantial increase in market concentration caused by horizontal and vertical mergers of public utilities. Despite sector inquiries by the Austrian Federal Competition Authority these problems remain unchallenged.

Some specific structural features that have traditionally contributed to the high electricity price in Austria have proved especially detrimental to the establishment of functional competition and they constitute substantial barriers to entry for new competitors. They include the organisation of electricity transmission, conflicts of interest arising from public ownership and the price structure for electricity:

First, the organisation of electricity transmission is far too costly in Austria and leaves plenty of room for efficiency improvements. In spite of the country's small size the power grid in Austria is organised in three regulative zones, where a multitude of energy producers and network operators appears on the market. Any market participant which intends to supply electricity throughout Austria has to set up an individual balance group for each regulative zone which involves substantial investment and sunk costs. Furthermore the proliferation of players in the market makes co-ordination very costly, since no standard for co-operation between network operators and non-local energy suppliers has been implemented yet.

Second, the double role of the Bund and the Länder as both owners of public utility companies as well as legislative bodies responsible for the framework conditions for market liberalisation represents a substantial conflict of interest. While as public authorities they are obliged by Community law to foster market liberalisation which is directed towards margin decreasing competition, their interest as owners is to keep rents of the (former) monopolist suppliers high which demands protecting them from competition. This irreconcilable conflict of interests is the main cause for the delayed start of "unbundling", i.e., the separation of network operation and electricity supply (for more details see section 4.4). One way to solve this problem would be to privatise the energy supply part of public utility companies, while keeping public ownership of network infrastructure. The latter option would demand, however, legislative intervention at the level of the Austrian constitution, since the ownership structure (public authorities as majority shareholders) is protected by constitutional law.

Third, the prevailing price structure for electricity has to be regarded as a substantial barrier to entry for alternative non-local suppliers because the "pure" energy component which is subject to competition in liberalised markets constitutes only a small part of the total price paid by customers. Despite regulatory interventions the major part of the price for electricity still consists of network fees and taxes which are not subject to competition. An international comparison of

nine European states shows that Austria combines the lowest prices for the "pure" energy component with one of the highest charges for network fees (chart 2). This price structure enables integrated incumbent electricity suppliers to cross-subsidise energy supply through network operations, thereby deterring market entry of non-local suppliers. For the Austrian regulatory authority, the challenge is to define non-discriminatory network fees at a markedly lower level which will prove to be incentives for competition as well as for investments in the requisite infrastructure. It can be expected that this multi-dimensional challenge will be better mastered by the recently implemented incentive based regulatory regime which provides for ex-ante defined yearly reductions of network fees based on the electricity suppliers' individual corporate efficiency.

4.3 Competitive Constraints 2: Market Concentration

Market concentration is another pending problem in Austrian energy markets in general and the electricity market in particular. Growing market concentration and an increase of market power might put the economic benefits to be reaped from liberalising the energy markets seriously at risk. Some public utilities were successful not only in preserving their position as quasi-monopolists but also in extending it in their network area beyond market liberalisation through vertical and horizontal integration of their value chain – a development that regulatory as well as competition authorities in Austria have so far failed to interfere with.

Due to two major mergers in the electricity sector – the EnergieAllianz merger in 2001 and the Verbund/EnergieAllianz merger in 2003 both of which can be viewed as the result of a political effort to create "national champions" – market concentration in the relevant antitrust markets has increased substantially.

EnergieAllianz is designed as a joint venture integrating the electricity trading and distribution businesses of five regional energy suppliers from Vienna, Lower Austria, Upper Austria and Burgenland. In these regional markets the number of potential competitors and hence competition has been reduced substantially since electricity distribution is now organised centrally by EnergieAllianz rather than the five formerly independent suppliers. Market concentration as measured by the Herfindahl-Hirshman Index (HHI) virtually 'exploded' in the electricity market for households from around 1,300 to 3,300, while it more than doubled for industrial customers from about 1,150 to 2,700. Both HHI levels and delta values (i.e. changes in the HHI level) after the merger are lying far beyond the threshold values for mergers which give no concern for the creation of market power. Despite HHI and delta values significantly above critical threshold values the EnergieAllianz merger was cleared without remedies "in the Austrian way", i.e. by withdrawing from the application of a detailed phase-II investigation before the Austrian Cartel Court.

Table 2: Market Concentration in the Austrian Electricity Sector

	EnergieAllianz		Verbund/EnergieAllianz
	Before the merger (before 1 October 2001)	After the merger (after 1 October 2001)	After the merger (hypothetical)
Private households			
CR5[1]	62.29	74.67	74.67
HHI	1,330	3,287	3,289
Industry			
CR5[1]	67.6	86.7	92.3
HHI	1,153	2,680	3,918

[1]*Combined market share of the five largest companies.*

Source: Federal Competition Authority (2004).

The Verbund/EnergieAllianz merger (publicly known by its nickname as "Austrian Electricity Solution" was intended to further deepen co-operation between Austrian energy producers and distributors by vertically integrating the electricity trading business (including power generation) of Verbund with the energy supply to industrial users by EnergieAllianz.

As a direct consequence of this merger, Verbund was expected to withdraw from all markets for final customers (private households and – specifically – industry), which would have significantly increased market concentration in the electricity market for industrial users. In terms of the HHI, it would boost an already high value of around 2,700 to around 3,900 after the merger (cf. table 2). Considering that Verbund had engaged in only limited activities in the electricity markets for private households before the merger, the direct increase in market concentration due to the merger for this relevant product market would be comparably negligible. Nevertheless, the market-dominating position of the enterprises involved in the project would be further strengthened through their better access to power generation and trading markets which would in turn further reduce the already insufficient competition intensity in Austrian electricity markets.

Because of its severe impact on Austrian electricity markets, the European Commission cleared the Verbund/EnergieAllianz merger only under the assumption that the internal electricity market was about to transform itself from a mere vision to concrete reality. Against the background of actual developments in European electricity markets, it is, however, expected that insufficient integration between national markets will be the main obstacle to the successful implementation of a competitive market for several years to come. The energy sector inquiry confirms the expected substantial competitive restraints and

distortions in European electricity and gas markets which manifest themselves more or less in all EU Member States (see section 4.1).

Even though the "Austrian Electricity Solution" had already been approved by competition authorities, Verbund has increasingly shown signs of abandoning the original merger project. In the meantime several alternative merger projects have been presented and the original merger project, whose chances for realisation have diminished substantially, has been put "on hold". Since the European Commission is, however, made more sensitive to national market concentration in energy markets, it is likely that the notification of a new merger project would face stronger headwind from competition authorities.

Apart from these two mergers on national level, regional public utilities have also formed alliances. These joint ventures have also reduced the number of suppliers and contributed to a further concentration of markets. The potential anti-competitive effects of these joint ventures call for critical examination (Cf. *Federal Competition Authority,* 2004, 2005).

Special anti-trust problems also arise from the interplay of the "Austrian Electricity Solution" and the "Austrian Gas Solution" (Econgas) considering that EnergieAllianz is a player in both quasi-monopolists, which makes not just for vertical concentration in the value chain (production – sale), but also for a horizontal concentration of the two primary energy sources (electricity – natural gas).[3]

4.4 Competitive Constraints 3: Unbundling

Non-discriminatory access to the electricity network infrastructure (power grid) has to be deemed the essential prerequisite for implementing competitive liberalised electricity markets. Since the power grid features all the characteristics of a natural monopoly and constitutes an essential facility, access regulation is necessary.

The conflict of interest faced by public utility companies which act on the market both as network operators and energy suppliers could be avoided if network operations were separated from energy distribution ("unbundling"). International experience has found that only independent network operators which are not bound by the interests of electricity producers and/or suppliers seem to be able to sustainably guarantee efficient and equal network access for all market participants.

In line with the Electricity Directive 2003/54/EC legal unbundling[4], i.e., the complete legal separation of network operations from other business fields of

[3] The latter is especially problematic since natural gas is also used for electricity generation.

[4] Depending on the gravity of intervention, four levels of "unbundling" can be distinguished: unbundling of accounts, organisational unbundling, legal unbundling and ownership unbundling.

integrated public utility companies, was finally implemented in Austria with a delay of one and a half years on 1 January 2006. This long delay was due to the sustainable reluctance of the Länder to enacting the necessary laws which can be interpreted as "obstructive action" on the part of the Länder that can be clearly attributed to conflicts of interest due to their double role as owners of public utility companies and legislative bodies as described above (see section 4.2).

The original idea behind legal unbundling could, however, be easily thwarted since the Electricity Directive 2003/54/EC does not provide binding rules for implementation in practice. This legal loophole is readily exploited by some Austrian public utilities. It can be observed that some integrated utilities have chosen to comply only to the required minimum standards, i.e. setting up a separate network company with only a small permanent staff leaving the majority of the staff on the payroll of the mother company. The additionally needed human resources are then engaged by personnel leasing contracts from the mother company. From a competition policy viewpoint these legal constructions deserve further scrutiny since the involved personnel leasing contracts could be easily used as vehicles to shift costs between network and energy supply thereby undermining the "spirit of unbundling".

5. Conclusions

The answer to the initially posed question "Will further market integration and intensified competition lead to higher growth in Austria?" is principally affirmative. By concentrating efforts on existing windows of opportunity a growth-oriented competition policy in Austria seems to be feasible.

From our analysis the following five conclusions for Austrian competition and regulatory policy could be carved out.

1. Deregulation and liberalisation of energy markets have to be complemented by *pro-active competition policy* in order to sustainably secure prices that are the result of market competition. In highly concentrated markets like the Austrian energy markets – where quasi-monopolistic market structures are the result of mergers in the past – this practically means an unexpected "renaissance of abuse control" (*Böge,* 2006).
2. *Conflicts of interests* due to the triple role of the Länder as owners of public utilities, legislative entities responsible for the framework conditions as well as supervisory institutions for unbundling need urgently to be solved. This would imply on the one hand a privatisation of public ownership in energy utilities and on the other hand a strengthening of the energy regulatory authority (E-Control) concerning the supervision of unbundling.
3. Only *uncompromising legal unbundling* will deliver the expected competition intensifying effects. This implies that the unbundling rules have to be implemented according to their inherent spirit and not just according to their

wording. If energy utilities, however, are not willing to voluntarily renounce from taking advantage of existing loopholes in the rules of legal unbundling, policy makers have to reconsider the option of the so far refused implementation of ownership unbundling.

4. The recently adopted *incentive based regulatory regime* is expected to work better for both consumers and network providers. It can be expected that this multi-dimensional challenge of fixing non-discriminatory network fees at a markedly lower level which will prove to be incentives for competition as well as for investments in the requisite infrastructure will be better mastered by the new regulatory framework which provides for ex-ante defined yearly reductions of network fees based on the electricity suppliers' individual corporate efficiency. The new regulatory framework defines clear investment planning horizons for the sector with substantial efficiency-linked price reductions for consumers. A thorough analysis of the effects of incentive regulatory regime after the end of initial period (2006–2009) will bring to light if these premature praises were deserved.
5. Any merger of Verbund and EnergieAllianz that does not involve a full integration of all involved companies into a single corporation with a uniform strategy will certainly fall short of being a '*national champion*'. The already approved "Austrian electricity solution" (and the discussed variants thereof) will only result in a cartel-like entity that is too big for the small national homemarket in Austria, but still far too small for the proposed single European energy market. According to empirical evidence the negative competition distorted effects caused by alleged 'national champions' by far outweigh the potential synergetic effects of these kind of mergers. The common political euphoria about 'national champions' which is based mainly on rather weak industrial policy arguments has therefore to be viewed with considerable scepticism. (Cf. *Monopolkommission,* 2004).

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Comment on "Will Further Market Integration and Intensified Competition Lead to Higher Growth in Austria?"

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1. Introduction

The question posed by Michael Böheim was whether there is potential for enhancing Austria's economic growth by further market integration and intensifying competition and his answer was largely in the affirmative. He provides an overview of the recent literature on the relation between competition and growth and an interesting case study on the European and Austrian electricity industry.

I largely share the views expressed in his paper. Hence, my task here is not to challenge his conclusions, but to supplement his treatment of the topic by selected points I regard as particularly important. To provide some structure I group my arguments under three main headings:

- Integration and economic performance
- Integration and competition
- Competition and employment

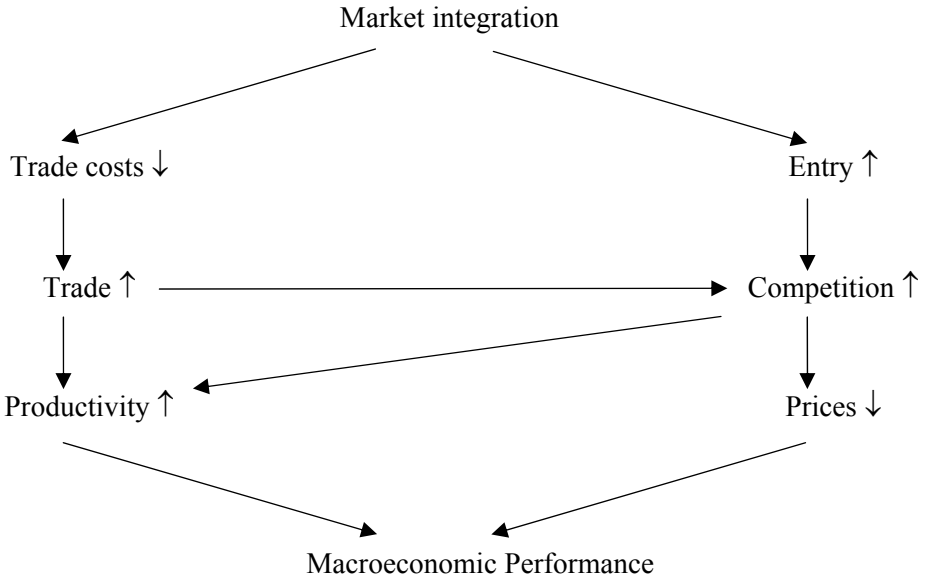
2. Integration and Economic Performance

The chart provides an overview of the main channels via which integration affects macroeconomic performance.[1] Michael Böheim focussed on the effects of enhanced competition, resulting from i) an increase in entry and the threat of entry due to the reduction of entry barriers and start-up costs, and ii) an increase in international trade (import competition) due to a reduction in trade costs. Ultimately, we expect the increase in competition to translate into higher

[1] FDIs are an important further channel, which I do not discuss here for space constraints.

productivity and lower prices, a point nicely formalized in the model by Melitz and Otttaviano (2005).

Chart: Market Integration and Macroeconomic Performance



It should be added that international trade affects productivity not only via the detour of enhanced competition, but also 'directly' through the increased potential for exploiting economies of scale (Balassa, 1961), international specialization according to comparative advantage, and an improvement of international knowledge diffusion (Coe and Helpman, 1995).

There is sound empirical support for the hypothesis that trade raises productivity. Frankel and Romer (1999) or Alcalá and Ciccone (2004) are two well known studies at the aggregate level (for GDP per worker) using large cross sections of countries; Badinger and Breuss (2006) obtain similar results, although smaller in magnitude, for a sample of OECD countries using industry level data from manufacturing.[2] Moreover, the results by Badinger (2006) suggest that the pro-competitive effect of trade accounts for less than one third of trade's total effect on productivity, emphasizing the independent role of trade in generating integration effects, which is illustrated in the left part of the chart.

[2] These findings do not carry over to services without qualification. While Badinger and Breuss (2006) identify an effect of trade on productivity for aggregate services (although less robust), this does not hold up for a disaggregated specification (Breuss and Badinger, 2006). This remains a puzzle, which deserves further investigation.

Table: Exports Plus Imports as Percent of Production, 2002

Industry	Austria	EU-5 [1)]	EU-14 [2)]
Total Manufacturing	126.9	137.0	106.7
Food products and beverages	62.2	57.5	42.7
Tobacco products	58.2	58.2	84.4
Textiles and textile products	191.8	293.2	200.4
Leather, leather products and footwear	243.3	748.5	457.4
Paper and paper products	105.3	115.9	93.3
Publishing, printing, reprod. of recorded media	52.4	23.2	20.5
Coke, ref. petroleum products, nuclear fuel	75.2	89.5	62.5
Chemicals and chemical products	221.2	191.1	153.8
Rubber and plastics products	129.8	138.6	104.2
Other non-metallic mineral products	52.5	59.2	45.0
Basic metals	115.4	155.3	141.4
Fabricated metal products	69.9	51.3	47.2
Machinery and equipment, nec	140.5	158.5	149.5
Electrical and optical equipment	201.1	279.3	210.8
Motor vehicles, trailers and semi-trailers	200.2	327.5	321.3
Other transport equipment	185.8	141.8	186.1
Manufacturing nec	99.4	143.1	94.3

Note: [1)] EU-5 (BE, DK, NL, FI, SE), [2)] EU-14 ("Old" EU members except Luxemburg), simple arithmetic averages

Source: OECD, Structural Analysis Database (STAN).

With a particular view to Austria, one could ask whether there is still room for increasing openness and trade and thus for gains from trade. From an aggregate perspective Austria is a fairly open economy. However, if we differentiate by industry and compare Austria's openness with that of other EU members, it becomes apparent that Austria is still lagging behind in several industries (see table above). Of course, a more disaggregated view would be more illuminating; but the crude overview given in the table already suggests that there are several industries in which Austria could increase openness by removing remaining barriers to trade and by supporting small and medium sized enterprises (the bulk of producers on Austria) in improving export performance.

3. Integration and Competition

Evidence on the pro-competitive effects of integration, even of the ambitious EU Single Market programme, varies strongly across countries and industries. Still, there are two points that can be made regarding the EU experience in the 1990s (see Badinger, 2005): i) In manufacturing, the Single Market appears to be working quite well, which is reflected in a substantial increase in competition (decrease in firms' markups over marginal costs) since the early 1990s. ii) In contrast, the Single Market for services is still more a vision than reality; competition seems to have even decreased in the 1990s, a finding that fits well with the European Commission's assessment of the Single Market for Services (European Commission, 2002): There are still many impediments to the cross border provision of services within the EU and firms appear to have developed anti-competitive defence strategies in response to the Single Market Programme. Given that the Single Market is only working in a small part of the EU economy, we should not be too surprised that its macroeconomic effects are modest so far.

The lesson we should learn from this is that *de jure* liberalization does not necessarily imply *de facto* liberalization. The implication for policy making is twofold: First, the design of legal provisions is crucial, and further attempts to enhance market integration should reflect this insight by an improved co-operation between lawyers and economists. Blacklisting may be less appealing from a legal perspective, but it may be way more effective from an economic perspective than few abstract principles, which have to be eked out ex-post before the (European) Court of Justice. Second, an active competition policy, both at the EU and national level is of fundamental importance: "The Single Market and active competition policy remain the cornerstone of efforts at EU level to improve European growth performance. They represent a foundation without which other efforts would be wasted." (Sapir et al., 2004, p. 130).

4. Competition and Employment

I conclude with some remarks on the relation between competition and employment, taking a positive relation between competition and productivity as given. Basically, there are two opposite effects of higher productivity (triggered by more competition) on employment. Higher labour productivity obviously reduces the amount of labour required to produce a given level of output. On the other hand, marginal costs go down (due to improved efficiency) as do firms' markups over marginal costs (due to enhanced competition), which leads to lower prices and an increase in demand for products and thus labour. Which of the two effects dominates will depend on the from of the production function (technology), the magnitude of the reduction in prices, the extent to which the price cut it is due to

lower markups, and the elasticity of demand. Ultimately, this question has to be answered empirically.

In an interesting study, Nordhaus (2005) investigates the sources of the productivity rebound and its implications for employment in U.S. manufacturing. Since the mid 1990s, productivity growth has accelerated after two decades of dismal performance in the 1970s and 1980s. At the same time, the largest declines in employment have occurred in manufacturing. This has partly led to the presumption that increased efficiency has been an important cause for the inferior employment performance. But correlation should not be confused with causality. Nordhaus finds that the rapid productivity growth has rather increased than reduced employment in U.S. manufacturing, a result that shows up particularly sharply for the period since 1998. Overall, rapid productivity growth has led to a reduction in prices, thereby increasing demand and employment, but the partial effect of rapid domestic productivity growth has been more than offset by even more rapid productivity growth and price declines of foreign competitors.

Hence, the recent U.S. experience suggests that more competition and enhanced productivity may rather be friends rather than foes of employment. Of course, this result does not necessarily carry over to EU or Austrian industries, for which comparable evidence is missing. Given its high policy relevance this is a serious gap in the literature and more comprehensive empirical work on the relationship between productivity and employment seems warranted.

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Regulation of Professional Services: Lawyers & Notaries, Accountants, Architects & Engineers, Pharmacists

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1. Background to the IHS Study

This paper outlines a study carried out by the Institute for Advanced Studies (IHS) on behalf of the European Commission, DG Competition from April 2002 to January 2003. The project team members included Iain Paterson, Niki Graf, Helmut Berrer (all IHS), Marcel Fink (University of Vienna), Anthony Ogus (University of Manchester and METRO, Maastricht), and, additionally, case-study contributors Joachim Merz and Felix Fink (University of Lüneburg).

The study presents a comparison of the legislation, regulations and codes of practice governing the practice of a range of professional services across Member States of the European Union. The professions covered by the study are legal services (lawyers and notaries), accountancy services (accountants, auditors and tax advisers), technical services (architects and consulting engineers) as well as pharmacy services (community pharmacists).

While there is a body of theory concerning regulation, in particular concerning the self-regulation of liberal professions, most comparative empirical studies of outcomes have been carried out in the context of state comparisons in the U.S.A. We distinguish between theories that give answers to the question 'why regulation of professional services (at all)?' and those that offer answers to the question 'why is there often too high a degree of regulation?' This distinction is made because a specific regulatory base exists for all the four professional services fields in all Member States, but the range of regulatory scope and intensity varies considerably throughout the European Union.

This fact gives rise to the basic research questions posed in the study, namely whether, to what extent, and in which areas, regulation differs between European countries, and in particular to identify the economic effects of different degrees of regulation in Member States. The approach used in the study is comparative, and draws on as much information about the liberal professions in Member States as exists and has been made available for the study. No adequate knowledge base of

regulations or outcomes was previously in existence, so questionnaires were sent to professional bodies in each of the fields covered in all Member States, and additionally to European professional umbrella organisations, as well as to some relevant Government departments. The questionnaires sought details of market entry and conduct regulation, recent changes in regulations, and basic economic data of the market for each profession. In addition, detailed accounts of the regulatory features and economic outcomes of specific professions in specific Member States are contained in the 17 case studies in the report (section 2).

1.1 (Self-)Regulation of Professional Services

Nearly all of the professions covered – lawyers, notaries, accountants, auditors, consulting engineers, architects, and non-clinical pharmacists – are subject to degrees of (self-)regulation to a greater or lesser extent. The 'self' in self-regulation is not used in the literal sense, but connotes some degree of collective restriction, other than constraints emanating from the government or state, to effect outcomes that would not be obtained by individual market behaviour alone.

Although some aspects of self-regulation have their origins in spontaneous ordering from within a profession, more often it may be regarded as a deliberate delegation of the state's law-making powers to an agency, whose membership is composed of representatives of the profession themselves. Such arrangements are particularly in evidence in EU Member States among lawyers, notaries, statutory auditors and pharmacists.

Licensing of professionals, based on laws and regulations strictly limiting the supply of services to authorised individuals, is a more stringent form of self-regulation than certification of members of a professional body, where the latter function is voluntary, and does not hinder access of non-certified individuals to the market.

1.1.1 Answers to the Question "Why Regulate Professional Services?"

The starting point for the pro-regulation theories is the listing of those characteristics that apply to the markets for professional services, and which differentiate these markets from the economist's ideal conception of perfect competition. In the equilibrium predicted under unrestricted competition the welfare of producers (producer surplus) can not be increased without a detriment to consumer surplus, or vice-versa. A common feature among liberal professions is often to be found: asymmetric information between the agent (lawyer, accountant, architect, pharmacist etc.) and the less-informed principal (the customer/client). This means that consumers may not be able to assess the quality of the service provided before purchasing, or even after consumption, due to the

information/knowledge deficit, (also lack of experience in making repeat purchases).

Two aspects of information asymmetry are considered as being potentially deleterious: first, an adverse selection resulting from declining quality of services. The argument runs that the opacity of the market services to customers could result in their only being prepared to pay an average price for an unknown (hence presumed average) quality, discouraging producers of higher quality services, who expect corresponding higher prices, to exit the supply side, thus reducing average quality supplied by those remaining in the market. The net effect would be a 'downwards spiral' of quality and prices.

Secondly, professionals are said to be faced with a moral hazard problem when their own income generating goals and practices run counter to the objectives of the client, and where the asymmetry of information on the price-quality relationship stands in the way of fair bargaining. In such a situation there is a risk that the professional over-supplies the service to the client, or supplies a higher quality than necessary satisfying the client's needs, so that higher prices are charged to the customer than he/she could have achieved were he/she fully informed. This line of argument is connected to the contention that many consumers are unable to make informed decisions and need to be protected against malpractice.

Among the remedies for coping with such market deficiencies, quality control, in the form of formal qualifications is the obvious first line of defence, encompassing, e.g., degree qualifications, training periods, professional examinations, or years of experience before licensing or certification. But we may continue to ask such questions as: Are price restrictions justified?; Are advertising bans justified?; Should forms of firm organisation be restricted?; Should inter-professional cooperation not be allowed?

1.1.2 Answers to the Question "Why Is there too Much Regulation of Professional Services?"

Theoretical private interest approaches postulate that professional bodies will advance their (members') interests beyond the minimum level required to the detriment of consumers – i.e. rent-seeking behaviour will occur. The term 'rent' is used in the sense of microeconomics to denote the difference between revenue and cost of producing services. The existence of competition dissipates rents in general market behaviour: on the other hand a decrease in levels of competition will lead to wealth transfer from consumers to producers. Restrictions on using advertising and of the choice to set tariffs in order to attract customers are regarded as deleterious to the beneficial effects of competition for services. Restrictions on forms of association (lawyers with accountants, for example) are also seen as imposing a

burden on consumers, who might otherwise benefit from economies of scope and 'one-stop shops'.

According to 'public choice' lines of argumentation professional bodies are in a strong position to lobby governments in order to influence the outcomes of regulations and statutes. Since elected politicians seek re-election they have to address the attentions of influential interest groups, particularly those composed of important opinion leaders in society. Self-regulation itself may represent the ultimate form of regulatory 'capture', and professional bodies can in practice be acting the part of a legitimised cartel, with wide ability to determine or influence the regulatory framework to the main benefit of producers.

Arguably the strongest single measure that can affect outcomes in professional services markets is the existence of licensing requirements from self-regulating bodies. Not only entry is directly under licensing control, but the lobby effect of a licensed profession to influence conduct regulation is greatly increased. For this reason, private interest theories would expect more favourable outcomes (here, from a consumer's point of view) in professions following the certification model of self-organisation.

Many economists have preferred arrangements of certification to licensing systems because consumers are in the position of being able to orientate their market decisions by reference to certified producers, but may choose to purchase from non-certified practitioners, especially when lower quality needs are served by lower purchase price.

Finally, the suggestion that formation of several self-regulating bodies, in competition with each other (for professional members) has been put forward: under conditions of competition, the economic rents will be dissipated or, at least, reduced. Such a situation exists in practice in some Member States under models of certification, but not where self-regulation is conducted in a licensing mode.

2. Types of Regulations – Market Entry and Conduct Regulations

One may distinguish between regulation in a broad sense and regulations in the narrow sense. Regulations – in the wider sense of the word – include rules that are applicable to all participants in the economy. Such rules are, for example, general regulations on consumer protection or the general labour law. Such regulations are not part of our analysis. Here we concentrate on regulations in the narrow sense, which are rules that are directly, and in most cases solely, applicable to the liberal professions or professional services. In a first step one can differentiate in this respect between two large groups of regulations. These are:

- regulations on *market entry*
- regulations on so-called "market behaviour" or *conduct.*

2.1 Market Entry Regulations

There are different types of market entry regulations that can be distinguished. In the field of personal preconditions: for a long time in many professions citizenship played an important role (this has changed in the meantime due to EU-legislation). Other personal preconditions to enter a market may for example be a minimum age or good personal reputation. Typically some negative conditions apply here, e.g. not having been convicted of a criminal offence.

Preconditions in the field of qualifications are often formal certificates of qualification (i.e. university degrees), additionally with respect to practising experience or professional examinations. Some other preconditions may encompass economic needs tests (i.e. ostensibly to answer the question of whether a new entrant is required regionally or nationally), registration or membership in a professional body.

At the same time one or more areas of reserved practice for liberal professions very often exist. This means that there are exclusive rights for one (or sometimes more) professions to offer specific services or goods on the market.

These kinds of regulations lead – amongst other factors – to a certain degree of potential competition on a specific market, within the parameters set by the regulations. Together with the so-called market-behaviour or conduct regulations, they influence the actual degree of competition.

2.2 Conduct Regulations

Regulations on market behaviour take different forms of professional and standards quality controls. They influence price-, quality- and product-competition. Typical regulations on market-behaviour are:

- regulation of prices and fees (fixed prices, minimum and/or maximum prices etc.),
- regulation of advertising and marketing,
- regulation of location and diversification (geographical restrictions on offering services, restrictions on establishing branch offices),
- restrictions on interprofessional co-operation, restrictions on forms of business (e.g. whether incorporation is allowed and under what preconditions),
- other regulations (regulations on continuing education, rules on specialisation or a certain kind of indemnity insurance etc.).

2.3 Sources of Regulation

Both forms of regulation (market entry and market behaviour regulation) may derive from different sources. It is not only the provisions of (EU member) state

law that is relevant here, but also rules that are issued by professional bodies. In general the following types of regulations appear as most relevant:

- national state law
- regional state law,
- rules issued by compulsory professional bodies (licensing),
- rules issued by voluntary professional bodies (certification model),
- regulations by the European Community (treaties, directives, decisions of the European Court of Justice).

Such regulations are issued and implemented under different forms of professional organisation:

- in models with licensing via state / public authorities,
- in models with licensing via professional bodies – often with compulsory membership in a professional association,
- in models with pure certification (no licensing).

In the second case the licensing may be implemented by only one professional body, or, as is apparent for some professions in some jurisdictions, there are alternative (and therefore to some extent competing) professional bodies.

In the last case, there often exist civil law professional bodies without compulsory licensing, and professionals do not have the exclusive right to offer one or different kinds of service. Also there is no market entry regulation in the narrow sense in this case - however it very often appears that there are some basic market-behaviour regulations.

The easiest distinction in this respect – apart from the question of whether there is any binding regulation at all – is the one between self-regulation and regulation via the state/public authorities. However, it occurs relatively often that a regulatory system is in fact a hybrid between these two categories. Elements of self-regulation are mixed with elements of regulation by the state. There may be for example a public regulator but with only residual regulatory authority, overseeing the practices of the self-regulatory agency. There are also cases where representatives of other (often partly self-regulated) professions are involved in the implementation of the rules of the profession (that is not their own profession). The latter form is called interprofessional co-organisation.

2.4 Assessing the Degree of Regulation

In a first step we provide tables on different fields of regulation and try to distinguish different regulatory groups of countries. In a second step, several regulation indices for each profession are constructed.

An example of the data collected is shown in the "compendium table" for *Conduct Regulation in Legal Services* (lawyers) in EU-15 Member States. The dark boxes indicate where regulation exists ("Y"), or not ("N"), shaded in light grey.

Table 1: Conduct Regulation in Legal Services (Lawyers)

Country	Profession	Regulation of prices			Advertising forbidden?			Regulation on location	Regulation on diversification	Incorporation. forbidden?	Interprofessional co-operation forbidden?				Compulsory indemnity. insurance?	Compulsory continuing. education?
		Min. price	Max. price	Reference price	All	Most	Some				Any	Incorporation in general	With non lib. prof.	Incorporation. with non lib. prof.		
Austria	Rechtsanwalt (Lawyer)	(Y)	N	Y	N	Y	Y	N	(Y)	N	Y	Y	Y	Y	Y	Y
Belgium	Adcocaat /Advicate)	N	N	N	N	*N*	Y	N	Y	*Y*	N	*Y*	*N*	*Y*	Y	Y
Denmark	Advokat (Attorney at Law)	N	N	Y	N	N	Y	N	N	N	*Y*	*Y*	Y	Y	Y	N
Finland	Advocate	N	N	N	N	N	*Y*	N	N	N	N	N	N	N	Y	Y
France	Avocat	*N*	*N*	*N*	*N*	*Y*	*Y*	*Y*	*(Y)*	*N*	*N*	*Y*	*N*	*Y*	*n.a.*	*n.a.*
Germany	Rechtsanwalt (Attorney at law)	(Y)	N	N	N	N	Y	N	Y	N	N	N	Y	Y	Y	Y
Greece	Dikigoros (Adcocate)	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y
Italy	Accoccato (Lawyer)	Y	Y	N	N	Y	Y	N	N?	Y	Y?	N?	Y	Y	Y?	N
Ireland	Barrister	N	N	N	Y	Y	Y	N	N	Y	Y	Y	Y	Y	n.a.	n.a.
	Solicitor	N	N	N	N	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y
Luxembourg	Avocat (Advocate)	N	N	N	N	(Y)	Y	N	Y	N	Y	Y	Y	Y	Y	Y
Netherlands	Advocaat (Attorney at Law)	N	N	N	N	N	Y	Y	N	N	N	N	Y	Y	Y	Y
Portugal	Advogado	*N*	*N*	*Y*	*Y*	*Y*	*Y*	*N*	*N*	*Y*	*N?*	*Y*	*Y*	*Y*	*n.a.*	*n.a.*
Spain	Abogado	*N*	*N*	*Y*	*N*	*Y*	*Y*	*N*	*N*	*Y*	*N*	*Y?*	*Y?*	*Y?*	*n.a.*	*n.a.*
	Precurador	*N*	*N*	*Y*	*N*	*Y*	*Y*	*N*	*N*	*Y*	*N*	*Y?*	*Y?*	*Y?*	*n.a.*	*n.a.*
Sweden	Advokat (Advcate/avocat)	N	N	(Y)	N	N	(Y)	N	N	N	N	Y	N	Y	Y	N
United Kingdom	Solicitor	N	N	N	N	N	Y	N	N	N	N?	Y	N	Y	Y	Y
(Engl.+Wales)	Barrister	N	N	N	N	N	Y	N	N	Y	Y	Y	Y	Y	Y	Y

The study uses such tables of regulation, which were distilled from the stage of empirical research (including the returns from professional bodies of the survey questionnaire), as an input for determining the degree of regulation in each profession. Indices of regulation are derived from this information, where the degree of information is assessed on a scale of 0 (no regulation) to 6 (maximum regulation), together with a weighting of the importance of each kind of regulation. Since the weightings sum to one, an overall index of regulation on a scale of 0–6 is obtained. An example of the coding process underlying the index derivation for *market entry* is shown in the following table.

Table 2: Definition Tree for the Index of Regulation (Market Entry)

	Category/Variables	Coding	Scale	Weighting1	Weighting2
ER	**Entry regulation (general)**	**ERLC*0.40+ ERED*0.40+ ERQT*0.20**	**0 to 6**		
ERLC	**Licensing** Number of exclusive and shared exclusive tasks	0 = 0 1 = 1.5 2 = 3 3 = 4.5 4 or more = 6	0 to 6		40%
ERED	**Requirements in education**/does only apply in cases of licensing; if no licensing: "0"	ERED1*0.30+ ERED2*0.40+ ERED3*0.20+ ERED4*0.10	0 to 6		40%
ERED1	Duration of special education/university or other higher degree	0 to ≥ 6 years	0 to 6	30%	
ERED2	Duration compulsory practising	0 to ≥ 6 years	0 to 6	40%	
ERED3	Number of professional exams	(0 to ≥ 3)*2	0 to 6	20%	
ERED4	Number of entry routes to profession (inv. scale)	(0 = 4 or more routes; 1=3 routes; 2=2 routes; 3=1 route)*2	0 to 6	10%	
ERQT	**Quotas/economic needs test**	0=no 6=yes	0 or 6		20%

Note: In the above coding table it may be observed that the regulation categories are related in a tree-like-structure.

Source: IHS.

Table 3: Definition Tree for the Index of Regulation (Conduct Regulation)

	Category/Variables	Coding	Scale	Weighting 1	Weighting 2
CR	**Conduct Regulation (general)**	**MCPR*0.25+ MCAD*0.15+ MCLOC*0.15+ MCDIV*0.20+ MCIC*0.25**	0 to 6		
MCPR	**Regulations on prices and fees**	0 = no regulations 1 = non binding reference prices on some services 2 = non binding reference prices on all services 3 = maximum prices on some services 4 = maximum prices on all services 5 = minimum prices on some services 6 = minimum prices on all services	0 to 6		25%
MCAD	**Regulations on advertising**	0 = no spec. regulations 2 = some forms forbidden (like comparative price advertising, direct mailing etc.) 4 = most forms are forbidden (advertising only in very narrow margins allowed) 6 = all forms of advertising are forbidden	0 to 6		15%
MCLOC	**Regulations on location**	0 = location not restricted 6 = location restricted	0 to 6		15%
MCDIV	**Regulations on diversification**	0 = no specific regulations 3 = diversification under specific preconditions allowed (branch office head is a professional, maximum number of branch offices etc.) 6 = diversification not allowed in any case	0 to 6		20%
MCIC	**Regulations on form of business and form of professional co- operation (general)**	MCIC1*0.5+ MCIC2*0.5	0 to 6		25%
MCIC1	**MCIC1 Regulations on form of business**	0 = all forms (incl. incorporation allowed in any case) 2 = partnership allowed, incorporation only allowed in specific cases (regulations on ownership etc.) 5 = incorporation forbidden in any case 6 = partnership and incorporation forbidden in any case; only sole practitioners etc. allowed.	0 to 6	50%	
MCIC2	**MCIC2 Regulations on interprofessional co-operation**	0 = all forms allowed 3= with all professions but no incorporation; or only with comparable professions in all forms allowed etc. 4.5 = only with comparable professions and no incorporation 6=generally forbidden	0 to 6	50%	

Source: IHS.

2.4.1 An Example of the Regulation Indices (Legal Services)

Table 4 shows the regulation indices that are derived for legal services (lawyers) with regards to market entry and conduct regulation. Each of these are on a scale of 0 to 6. Because the relative weightings of importance used in each both cases are considered compatible and consistent, a combined overall index of regulation is obtained by adding the market entry and conduct indices. The overall index thus appears on a scale of 0–12.

Table 4: Regulation Indices for Legal Services (Lawyers)

	Entry	Conduct	Total	Rank
Greece	3.5	6.0	9.5	1
Austria	4.1	3.3	7.3	2
France	3.9	2.7	6.6	3
Luxemburg	3.8	2.8	6.6	3
Germany	3.7	2.8	6.5	4
Spain	3.4	3.1	6.5	4
Italy	2.6	3.9	6.4	5
Portugal	3.5	2.2	5.7	6
Belgium	2.5	2.1	4.6	7
Ireland	2.4	2.1	4.5	8
England&Wales	2.9	1.2	4.0	9
Netherlands	2.1	1.8	3.9	10
Denmark	2.1	0.9	3.0	11
Sweden	2.0	0.4	2.4	12
Finland	0.0	0.3	0.3	13

Note: EU-15 countries (Legal System of Scotland is not included) are ranked from highest overall regulation (Greece) to least (Finland).

Source: IHS.

2.5 Overall Indices of Regulation

The combined market entry and conduct indices are shown in table 5 for each liberal profession and country. In order to highlight respective degrees of regulation the professions in countries with the highest relative degrees of regulation are shown in black, those with least regulation are shown in light grey, and cases in-between are in grey.

Table 5: Overall Indices of Regulation for EU-15 (Market Entry and Conduct)

	Accountants & Auditors	Lawyers/ Advocates	Notaries	Architects	Engineers	Pharmacists
Austria	**6.2**	**7.3**	**9,6**	**5.1**	**5.0**	**7.3**
Belgium	**6.3**	**4.6**	**9,3**	**3.9**	**1.2**	**5.4**
Denmark	**2.8**	**3.0**		**0.0**	**0.0**	**5.9**
Finland	**3.5**	**0.3**		**1.4**	**1.3**	**7.0**
France	**5.8**	**6.6**	**10.0**	**3.1**	**0.0**	**7.3**
Germany	**6.1**	**6.5**	**11.0**	**4.5**	**7.4**	**5.7**
Greece	**5.1**	**9.5**	***n.a.***	***n.a.***	***n.a.***	**8.9**
Ireland	**3.0**	**4.5**		**0.0**	**0.0**	**2.7**
Italy	**5.1**	**6.4**	**10.7**	**6.2**	**6.4**	**8.4**
Luxembourg	**5.0**	**6.6**	***n.a.***	**5.3**	**5.3**	**7.9**
Netherlands	**4.5**	**3.9**	**6.3**	**0.0**	**1.5**	**3.0**
Portugal	***n.a.***	**5.7**	***n.a.***	**2.8**	***n.a.***	**8.0**
Spain	**3.4**	**6.5**	**9.4**	***n.a.***	**3.2**	**7.5**
Sweden	**3.3**	**2.4**		**0.0**	**0.0**	**12.0**
UK	**3.0**	**4.0**		**0.0**	**0.0**	**4.1**

Source: IHS.

Overall the spectrum of regulation intensity is broad in all professional fields. In general regulations on conduct are less restrictive than those concerning entry, and it is this former area that the most significant moves towards liberalisation have taken place in recent years. Nearly half of the Member States in the EU can be said to have very restrictive regulations governing entry and conduct to the legal professions. Accountancy services are only slightly less restrictive regarding entry in a similar number of countries, the level of conduct regulation being at a general lower level.

The general level of regulation in the technical services is lower than in legal services and accounting services, but a relatively high level still exists in nearly half of all states. In absolute terms, the pharmacy professional services are the most highly regulated of the professions covered in this study, many regulations stemming from rules made at state governmental level. Correspondingly, this profession is to a lesser extent self-regulated.

3. An Economic Benchmarking of Professional Services

A comparative analysis of nearly all EU Member States in terms of key economic variables and indicators was undertaken. For a few countries and professions no comparable data has been found, and for this reason they are missing from the analysis. Unfortunately from an analytical point of view, comparable data, i.e.

statistical data collected for groups of services on an identical basis, exists only, and then again sparingly, at the 4-digit level of the NACE classification system. Thus our results are grouped into four professional service areas for analysis as follows, whereby aggregated data for certain professions are included (shown in brackets):

- Legal professional services (lawyers and notaries)
- Accountancy Services (accountants, statutory, but also book-keeping*and tax advising*
- Technical professions (consulting engineers (various sub-classifications) and architects)
- Pharmacists

The inclusion of economic activities like book-keeping and tax-advising (marked with *) in a 4-digit category poses a problem for the analysis: these occupations, inasmuch as they may be carried out by persons who are not included as professionals in our scope of professional services as 'liberal professions' also contribute to the economic statistics. Due to lack of an alternative (which would filter out these activities) the analysis of 'accounting services' is carried out as if the activities were within the scope of our professional definitions. The possible resulting contamination of the data and the corresponding analysis is mitigated by the observation that such activities as tax-advising are also within the domain of professional accountants. Due to the over-proportionate contribution to economic output of large and medium-sized accountancy firms, the possible distorting effect on turnover statistics is likely to be less than the effect on employment. Such observations will be true for all Member States, sometimes to slightly varying degrees. Nevertheless, within the 'broad brush' approach of our analysis the deleterious effects on consistency are assumed to be minimal.

3.1 Description of the Dataset

Basic data on the number of firms (F), turnover of the 4-digit branch (T) and employment (E) are presented for the year 2000, or alternatively, when this data was not available, for the nearest year to 2000. At the time of the study data for 2001 was only available in a few cases, so 2000 was chosen as the base year. Employment figures include both paid employees and also 'unpaid persons', i.e. self-employed and assisting spouses. The definitions are based on EUROSTAT definitions, which are unified for EU Member States. Data definitions from national data which differ from the EUROSTAT definitions were taken into account: in some cases a correction to the data could be justified; in some few cases the data from the Member State statistical office could not be used to augment the dataset because of incompatibility.

Key indicators are ratios that are calculated based on the variables F, T and E, and their relation to the population (Pop) and GDP of each Member State in the survey. The following units are used:

- F: Number [Firms]
- T: Million EUR (or ECU as appropriate) [Turnover] (- TS: Turnover Share)
- E: Number [Employment]
- Pop: Millions [Population]
- GDP: Million EUR (or ECU as appropriate) [Gross Domestic Product]

A further key variable associated with each branch is the number of practising professionals. The following definitions were used:

- Legal Professions: Total number of qualified registered lawyers, notaries in practice, excludes patent lawyers (relatively small in number)
- Accountancy Professions: Total number of professional accountants (for example registered in the 'Chamber' or 'Chartered'/'Certified' and equivalents) and statutory auditors in public practice (note: usually qualified with academic degree but with some exceptions), auditors, but excluding 'only tax advisors'
- Architects and Engineering Professions: Number of academic (university, polytechnic degree) practising consulting engineers and architects
- Pharmacy Profession: Academically qualified registered, non-clinical pharmacists

3.2 Economic Trends – Implications

The "snapshot" comparison of the branch structure of each of the four professional fields studied in or near to the year 2000 was interpreted in conjunction with the respective indices of regulation. Because data are aggregated over (related) professions, and because of existing differences in systems (and in business, governmental and professional culture) between different countries, the effects of regulation cannot be expected to be regular throughout the EU. Nevertheless it has been possible to distinguish basic trends associated with highly regulated professions in Member States, and trends associated with professions in countries that are subject to a low degree of regulation.

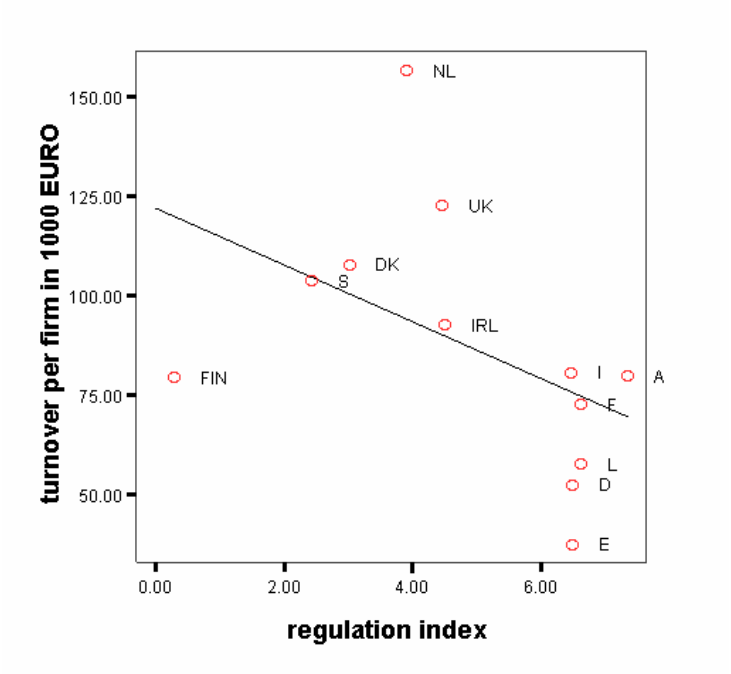
The analysis of economic data in conjunction with the regulation indices showed that there are:

- (relatively) lower numbers of practising professionals in the most regulated states; examples in the legal profession are Austria, France.
- lower levels of turnover in the most regulated states (but high turnover per professional!), and that
- productivity (volume per person employed) is negatively correlated with level of regulation in the legal profession

- market "shake-outs" – there are moderate concentration processes in countries with lower levels of conduct regulation: Legal examples – Netherlands, Denmark.

An example of the relationship between business activity (turnover volume per firm) and degree of regulation is shown in the chart: less regulation tends to be associated with relatively higher levels of business activity.

Chart: Volume of Business vs. Degree of Regulation



Source: IHS.

In summary the results indicate that excessive regulation in the liberal professions studied leads to lower employment and lower wealth creation.

The implications for Austria are clear: Austria scores high on the degree of regulation index for all the liberal professions studied. The adoption of reforms that would result in lower degrees of regulation would be expected to be beneficial in terms of economic welfare for consumers, in line with a previous (1998) study carried out by the IHS into liberal profession in Austria. These benefits would arise in part from easier entry to the market, with formation of some larger firms capable of taking advantage of scale economies, and partly through the potential for alternative organisational forms and innovations released in a more competitive environment.

4. Post-Study Developments in the EU

The results of the IHS study have been made available on the website of the Competition Directorate General since March 2003. In 2003, the EU Commission undertook a "stock-taking exercise" which invited comments from professional associations, consumer groups etc. and a round of discussions with national competition authorities on regulation of the liberal professions was initiated. The Competition Directorate-General hosted a Conference in October 2003, at which many parties aired views on regulation. In 2004 the Commission issued its Report on Professional Services.

The general principle has been enunciated that Professional Services are basically subject to general freedoms and restrictions that apply to all types of services industries, and that reasons for regulatory exceptions must be demonstrated:

"*Ultimately, in the Commission's view, in all scrutiny of professional regulation a proportionality test should be applied. Rules must be objectively necessary to attain a clearly articulated and legitimate public interest objective and they must be the mechanism least restrictive of competition to achieve that objective. Such rules serve the interests of users and of the professionals alike*."

At the same time responsibility for overseeing developments begins in each Member State:

"*From an enforcement perspective from May 2004 onwards, the national competition authorities and the national courts will have a more prominent role in assessing the legality of rules and regulations in the professions. To the extent that competition restrictions have their centre of gravity in a Member State, administrative enforcement of the EC competition rules in the liberal professions will then be mainly the task of national competition authorities.*"

The position outlined in the report of the Commission calls for a general removal of fixed and minimum prices for professional services, adding that function of recommended prices can also be carried out by surveys of consumer organisations. (possible exceptions here may be Latin notaries). Likewise the report favours the removal of restrictions on advertising of professional services.

The Commission believes that there is scope for reducing reserved tasks – pointing out that liberalised conveyancing among real estate agents in Australia, UK and in Netherlands led to lower prices.

Whereas non-excessive qualitative entry restrictions may be useful, if these ensure the quality of service provided, the report is generally not in favour of quantitative entry restrictions to the professions.

Regarding forms of business, the position adopted is that business structure regulations appear to be least justifiable in cases where they restrict the scope for collaboration between members of the same profession. Collaboration between

members of the same profession would appear less likely to reduce the profession's independence or ethical standards.

4.1 Extension of the IHS Study to 10 New EU Member States

The EU Commission has applied the IHS regulation Indices (c.f. section 2 above) to the same set of liberal professions (accountants/auditors, lawyers/advocates, notaries, architects, engineers, pharmacists) in each of the 10 new (since 2004) Member States. The results show many similarities and some differences with the EU-15 Member States. For example, for legal professions, there are high entry requirements (education, practice, compulsory membership after examination) and price regulation is not completely free, while advertising is heavily regulated.

Table 6: Overall Indices of Regulation for EU-25

	Accountants & Auditors		Lawyers/ Advocates	Notaries	Architects	Engineers	Pharmacists
Austria	6.2		7.3	9,6	5.1	5.0	7.3
Belgium	6.3		4.6	9,3	3.9	1.2	5.4
Denmark	2.8		3.0		0.0	0.0	5.9
Finland	3.5		0.3		1.4	1.3	7.0
France	5.8		6.6	10.0	3.1	0.0	7.3
Germany	6.1		6.5	11.0	4.5	7.4	5.7
Greece	5.1		9.5	*n.a.*	*n.a.*	*n.a.*	8.9
Ireland	3.0		4.5		0.0	0.0	2.7
Italy	5.1		6.4	10.7	6.2	6.4	8.4
Luxembourg	5.0		6.6	*n.a.*	5.3	5.3	7.9
Netherlands	4.5		3.9	6.3	0.0	1.5	3.0
Portugal	*n.a.*		5.7	*n.a.*	2.8	*n.a.*	8.0
Spain	3.4		6.5	9.4	*n.a.*	3.2	7.5
Sweden	3.3		2.4		0.0	0.0	12.0
UK	3.0		4.0		0.0	0.0	4.1
Czech R.	1.4	5.4	6.2	9.0	3.7	*n.a.*	6.9
Cyprus	3.5		6.5			*n.a.*	
Estonia	0.0	3.8	6.0	10.5	3.6	3.6	5.0
Hungary	--	4.0	4.4	10.0	4.1	4.4	3.6
Latvia	0.0	3.8	7.8	8.2	4.4	3.5	2.9
Lithuania	0.0	3.8	5.0	7.9	4.1	3.8	6.2
Malta				5.4			6.4
Poland	3.3	3.9	4.9	8.8			4.9
Slovakia	3.7	4.2	5.3	11.1	4.4	3.7	5.5
Slovenia	0.0		6.1	9.2	4.0		5.2

Note: Legend for new Member States: blank fields = not received response, n.a. = missing value (answers to particular questions)
-- = accountants in Hungary do not have a professional association.

Source: IHS.

On the other hand, there are lower levels of regulation concerning business structure (opening of branch offices, creation of corporations and other types of business entity) and there are restrictions on inter-professional co-operation in only a few Member States. A comparison of overall indices is shown in the table 6.

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Growth, Human Capital and the Quality of Schools: Lessons from International Empirical Research

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1. Economic Growth and the Quality of Schooling

Human capital in the form of education is one of the driving forces in the long-run economic growth of countries. Importantly, it is less the mere *quantitative* educational attainment in terms of average years of schooling that drives economic performance – although this is certainly of importance, as demonstrated by de la Fuente (2004). What is even more important is the *quality* of schooling, as measured by performance on cognitive achievement tests, which has been shown to exert an even stronger impact on long-run economic growth and the level of economic development (Hanushek and Kimko, 2000; Barro, 2001; Wößmann, 2003d; Hanushek, 2005).

Chart 1, taken from Barro (2001), depicts the significantly positive effect of international test scores of student achievement on growth rates of real gross domestic product (GDP) per capita between 1965 and 1995 (for all countries with international test-score data), after other effects such as those of the initial level of GDP, government consumption, the rule of law, international openness, fertility, investment and others have been controlled for. The results reveal that, while both the quantity and the quality of schooling matter for economic growth, quality is much more important. Similarly, Wößmann (2003d), building on Gundlach et al. (2002), finds that once the quality of schooling in terms of test-score performance is taken into account, the share of cross-country variation in levels of economic development, measured by output per worker in 132 countries in 1990, that can be attributed to international differences in human capital rises from 21% to 45%

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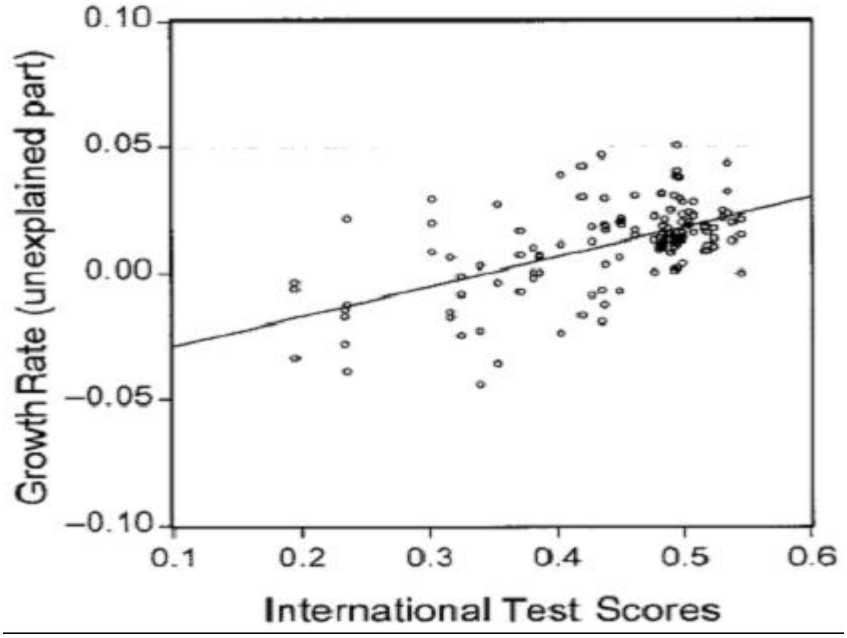
(chart 2), and to over 60% in samples with reasonable data quality. Thus, the quality of schooling seems to be a crucial part of the human capital of a country.

Chart 1: Student Achievement and Economic Growth



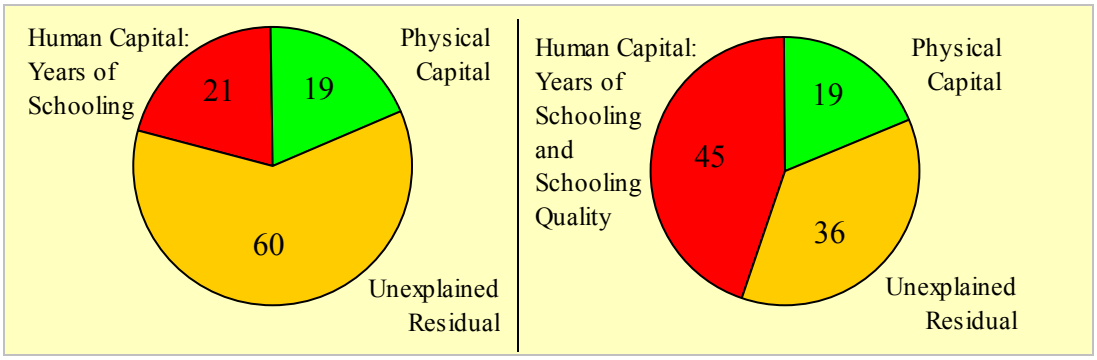
Source: Barro (2001).

How, then, can the quality of schooling be positively affected? Educational administrators and policymakers often argue that more *resources* would be needed for students to acquire more competencies. However, ample evidence shows that just increasing spending within current education systems is unlikely to improve students' performance substantially. Overwhelming evidence shows that expansions on the input side, such as simple physical expansion of the educational facilities and increased spending per student, generally do not seem to lead to substantial increases in children's competencies and learning achievement.[2] The same pattern also holds across countries: Students in countries with higher spending levels or smaller classes do not tend to perform better than students in less well equipped countries (cf. Wößmann, 2002, 2003a; Fuchs and Wößmann, 2004b, 2006). Even the equipment with computers in the classroom is not

[2] For evidence on the lack of substantial resource effects in general, and class-size effects in particular, cf., e.g., Gundlach et al. (2001), Hanushek et al. (1994), Hanushek (2003), Wößmann (2002; 2005c) and Wößmann and West (2006).

significantly associated with students' learning achievement (Fuchs and Wößmann, 2004a).[3]

Chart 2: Decomposition of International Differences in Output per Worker



Source: Based on results in Wößmann (2003d).

The lack of resource effects leaves open the question how we can improve the quality of schooling. Are there more constructive policy conclusions? Economic theory suggests that the performance of a system is affected by the *incentives* that actors face. That is, if the actors in the education process are rewarded for producing better student performance, and if they are penalized for not producing high performance, this will improve performance. The incentives to produce high-quality education, in turn, are created by the *institutions* of the education system – all the rules and regulations that set rewards and penalties (or fail to do so) for the people involved in the education process. Therefore, we might expect that institutional features have important impacts on student learning.

Recent research shows that such institutional features are indeed very important, suggesting that institutional reforms of the education system itself seem to be required to face the challenge of providing high-quality education effectively. Three institutional features that may be part of a successful system providing students with capabilities are the competition introduced by private-sector participation, decentralization of responsibilities that gives autonomy to schools and features such as centralized exams that make schools accountable to citizens and administrators (cf. Wößmann, 2004). If rightly pursued, all these institutional reforms can focus attention on learning achievement by directing stakeholders' incentives towards creating competencies for students.

[3] By contrast, all studies on international educational performance find strong family-background effects on educational performance, with students from better-educated homes with a higher socio-economic status performing substantially better (cf., e.g., Wößmann, 2003a; Fuchs and Wößmann, 2004b, 2006; Schütz et al., 2005). Unfortunately, these family-background features are not subject to easy policy control.

However, *evidence* on the effects of such institutional features is hard to come by, particularly because systemic features such as competition, autonomy and accountability usually do not vary much within individual countries. For example, central exams, which are one mechanism to introduce accountability, tend to be a national feature, so that they are either present in the whole country or not at all.[4] Furthermore, choice and accountability can often be expected to exert their impact in a systemic way, affecting not only individual schools but the whole system. For example, the prevalence of private schools may not only affect the performance of students in these private schools, but also the performance in public schools that are located nearby and exposed to the competition of the private schools. Take the Dutch school system as an example. The fact that three quarters of Dutch students attend privately managed schools may exert systemic effects for the whole Dutch school system, relative to school systems with small shares of private schools. Another problem with evidence from within individual countries is that where such within-country institutional variation exists, it is often not random but purposefully introduced by choices of individuals who may also differ along other lines, thereby confounding any empirical identification of the actual effects of the institutional features.[5]

Therefore, the research reported in this paper looks at a different kind of variation in the prevalence of competition, autonomy and accountability: The variation that exists *across* countries. For example, it asks whether students perform better in terms of their educational knowledge in countries where parents have a lot of choice to send their children to privately managed schools. To answer this kind of questions, the paper uses data from several recent international student achievement tests, which provide information on students' educational achievement that is comparable across many countries. Thereby, the research jointly looks at as many countries as possible, in order to analyze what countries can learn from each other in terms of the effects of competition, autonomy and accountability.

In section 2, the paper briefly sketches the theoretical argument why institutions should matter for the educational achievement of students, argues in favor of international variations to estimate the effects of institutions and briefly describes the four international student achievement tests that provide the data for the analyses discussed. Section 3 then discusses the evidence on the effects of different institutional features on the quality of schools, as measured by students' educational performance. It starts with evidence on competition from private schools. Next, it looks at decentralization of the education system, including the

[4] Exceptions are Canada and Germany, where central exams are a regional feature.

[5] Recent examples of studies based on the kind of variation in competition, autonomy and accountability that exists within countries, and which attempt to make sure that the estimates are not confounded by other effects, will be discussed in the appropriate sections below.

effects of devolving authority away from central authorities to local providers and of participation of parents and local communities in the supervision of schools. Finally, it discusses evidence on the effects of making schools accountable, ending with evidence on the complementarity between external exams (as accountability devices) and school autonomy (in decentralized school systems). Section 4 sums up the lessons from international empirical research on how to improve the quality of schools, which – as an advancement of a country's human capital – could foster long-run economic growth.

2. The Quality of Schools and Institutions of the Education System

2.1 Why Should Institutions Matter?

Why would we expect, from a theoretical point of view, that institutions that introduce competition, autonomy and accountability might have an effect on student learning?[6] The background of these considerations is that in the private business sector, market competition tends to discipline firms to work effectively because they would otherwise fail to profit. Inefficiency leads to higher costs and higher prices – practically an invitation to competitors to lure away customers.

However, all over the world, countries finance and manage the great majority of their schools publicly (cf. Pritchett, 2002). This relative lack of competition in the compulsory education sector tends to dull incentives to improve quality and restrain costs (cf. Hanushek et al., 1994). Moreover, in the public system, the ability of parents and students to ensure that they receive a high-quality education is often constrained by enormous obstacles to leaving bad schools.

This is the reason why institutions that ensure choice between autonomous schools and accountability of these schools may be expected to improve school quality in terms of student performance. Such institutions create incentives for school personnel to use their resources in ways that maximize performance, so that they may ultimately improve student learning.[7]

The choice and accountability that different institutions can introduce is not limited to the choice for parents in terms of the availability of privately managed schools. It also includes, for example, choice for schools and teachers in terms of their ability to make autonomous decisions. Likewise, accountability may be aimed at schools or at students, through such institutional features as external exit examinations and regular monitoring of student progress by tests and exams.

[6] Sections 2 and 3 draw from Wößmann (2005b) in many parts.

[7] Cf. Bishop and Wößmann (2004) for a more elaborate theoretical model of institutional effects in education.

2.2 How to Get Evidence on the Effects of Institutions?

How can we test whether these hypothesized effects of competition, autonomy and accountability prevail in the real world? And how can we estimate how large the effects are? To get evidence on the institutional effects, one needs *variation* in the institutional factors. For example, you want to compare whether somebody who has choice performs differently from somebody who does not have choice. Lacking such variation, one obviously cannot provide evidence on the effects: Comparing two persons who both have choice, or two persons who both do not have choice, cannot answer whether choice (or the lack thereof) had an effect on their performance.

Variation in institutional factors such as competition, autonomy and accountability are often not given *within a single country*: You either have it or you don't. This is most apparent in the case of system-wide central exams, which are either given for all students in the system or for none. If so, there is no way to provide evidence on the performance effect of this institution from within a country, because one can only compare persons who are all "treated" by central exams or only persons who are all not "treated". Because most of the existent research tends to focus on individual countries, the potentially important effects of choice and accountability tend to be missed in most empirical studies of the determinants of educational performance.

So, how can we then get evidence on institutional effects? The road taken in this paper is: There is institutional variation *across countries*. Some countries have central exam systems, others not. People in some countries are free to choose their schools, while people in other countries are not. This paper uses this kind of variation to see which institutional factors are related to better student learning, and which not. For example, it estimates whether students show better educational performance in countries where parents and schools have a certain kind of choice relative to students in countries where parents and schools do not have this kind of choice.

2.3 The Data: International Student Achievement Tests

The data that enable this cross-country identification of institutional effects are international student achievement tests. These tests quantify the educational performance of students in subjects such as math, science and reading by using the same test items in all participating countries. Thus, they provide measures of educational performance which are directly comparable across countries. Furthermore, by using representative sampling methods to draw random samples of schools, all the international student achievement tests used in this paper provide representative samples of students in each participating country.

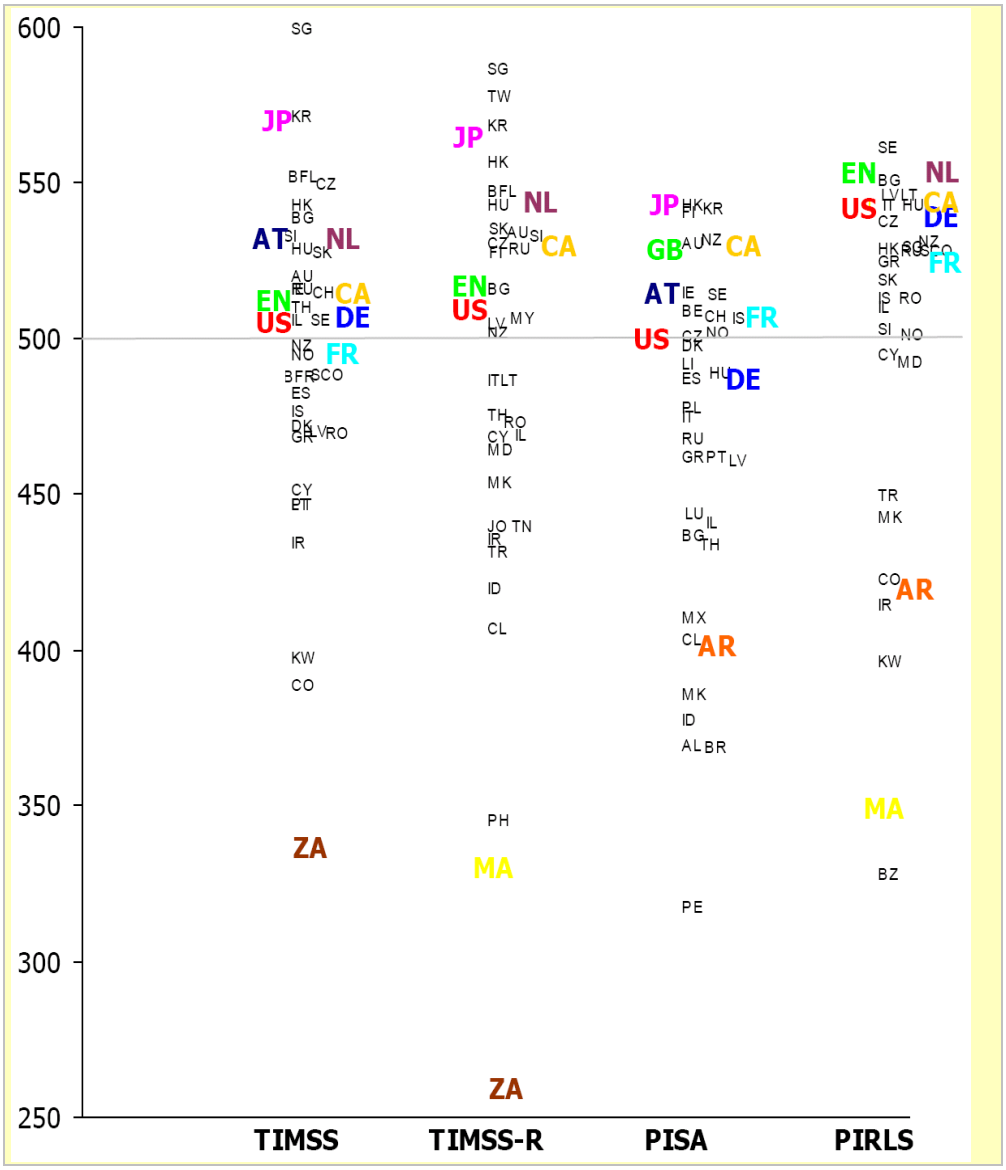
In particular, the research summarized in this paper uses data from four different recent international student achievement tests. The first one is the Third International Mathematics and Science Study (TIMSS), conducted in 1995 with data released in 1997. TIMSS was conducted by the International Association for the Evaluation of Educational Achievement (IEA), an independent cooperation of national research institutes and governmental research agencies. TIMSS targeted representative samples of students in the two adjacent grades with the largest share of 13-year-olds (usually 7th and 8th grade). For the analyses conducted in this paper, TIMSS yielded internationally comparable data for 266,545 students from 6,107 schools in 39 countries (for details, cf. Wößmann, 2003a and the references therein). Second, the IEA replicated the TIMSS test in 1999 under the name TIMSS-Repeat, with data released in 2001. TIMSS-Repeat targeted the upper of the two grades tested in TIMSS (usually the 8th grade), covering 180,544 students in 38 countries (cf. Wößmann, 2003b and the references therein). The sample of participating countries differed considerably between the two tests, so that the pooled TIMSS/TIMSS-Repeat database contains 54 different countries (447,089 students).

Third, the Organisation for Economic Co-operation and Development (OECD) conducted the Programme for International Student Assessment (PISA) in 2000, with data released in 2002, which targeted fifteen-year-old students. The PISA database covers 175,227 students in reading (96,855 in math, 96,758 in science) in 32 countries (cf. Fuchs and Wößmann, 2006 and the references therein). Fourth, in 2001 the IEA conducted the Progress in International Reading Literacy Study (PIRLS), with data released in 2003. While the focus of the previous studies was on secondary schools, PIRLS tested the reading performance of 140,626 primary-school students in 35 countries (cf. Fuchs and Wößmann, 2004b and the references therein). The target population of PIRLS was the upper of the two grades with the highest share of 9-year-olds of a country (usually the 4th grade).

Chart 3 provides a plot of the aggregate performance of the countries participating in each of the four tests. Each test was scaled so as to yield an international mean performance of 500 among the countries participating in the respective test, with an international standard deviation of 100.[8] As is evident from chart 3, Austria performed on a quite respectable level in TIMSS and PISA, although the results in the 2003 cycle of PISA were significantly lower than in the 2000 cycle depicted in chart 3.

[8] In PISA, the mean of 500 was scaled for the group of OECD countries only. As a consequence, the mean of all countries participating in PISA is somewhat lower than 500.

Chart 3: Aggregate Performance on International Student Achievement Tests



Note: The two-letter acronyms are the ISO codes of participating countries as coded by the International Organization for Standardization. Examples: AT = Austria; AR = Argentina; CA = Canada; DE = Germany; EN = England; FR = France; GB = Great Britain; JP = Japan; MA = Morocco; NL = Netherlands; US = United States; ZA = South Africa.

Source: Author's depiction based on data from the four tests.

The question addressed in this paper is whether, on average, the countries performing better than Austria on these tests feature an institutional set-up of their education systems that gives a bigger role to competition, autonomy and accountability, after holding constant other influence factors such as parental background, the development level of a country and the mean educational expenditure per student of a country. Given that the Netherlands (the country with the largest share of privately managed schools) and Japan (the country with the largest share of private schools that are also financially independent from government funding)[9] are two countries that perform consistently better than the mean, there seems to be some preliminary indication that choice might matter for student performance.

However, the research presented in this paper goes far beyond comparing the aggregate performance across countries. Rather, it analyzes performance at the level of the individual student, using individual student-level data not only on educational performance in math, science and reading, but also combining it with extensive background information on other potential influence factors. These include dozens of indicators of family background, mostly taken from student background questionnaires (and parental background questionnaires in the case of primary-school PIRLS); several indicators of the resource endowment of the specific class or school, mostly taken from teacher and school background questionnaires; and several indicators of institutional features of the school systems, mostly taken from school background questionnaires. Among the latter are several indicators of the extent of competition, autonomy and accountability in the specific school of each tested student.

3. International Evidence for Institutional Effects on Schooling Quality

To estimate the effects of institutions that introduce competition, autonomy and accountability, the research summarized in this paper employs econometric techniques that control for differences in family background and the level of resources devoted to education.[10] What do these studies of international achievement tests find out in terms of the effects of the different institutions introduced above on the quality of schooling?[11]

[9] Here, financial independence is measured as receiving less than 50% of the core funding for basic educational services from government agencies.

[10] For methodological details, cf. Wößmann (2003a, 2003b) and Fuchs and Wößmann (2006).

[11] The results are only briefly summarized here. For considerably more detail, cf. Wößmann (2002, 2003a) for the results using TIMSS data, Wößmann (2003b, 2003c) for TIMSS-

3.1 Competition from Privately Managed Schools

The first institutional feature analyzed is the availability of privately managed schools, which provide competition for public schools and choice for parents. Economic models of industrial organization suggest that competition and choice create incentives that further performance. Theoretical applications to the market for education are numerous, often with differing focuses and conflicting predictions in terms of distributional consequences.[12] However, the basic thrust of these models in terms of the efficiency of the education system is that choice and competition in education can create incentives for cost containment and performance-conducive qualitative innovation, as customers (parents) get involved in choosing those suppliers that promise best performance.

The bottom line of the evidence from international achievement tests on competition from private schools is that students perform better in countries where more schools are privately managed. For example, students scored 10 test-score points better in TIMSS math, and 9 in science, if the share of enrollment in privately managed schools of a country was 1 international standard deviation (or 14 percentage points) higher (cf. Wößmann, 2003a).[13] Considering that one grade-level equivalent (the average performance difference between 7th and 8th grade) on average was roughly equal to 40 test-score points on the TIMSS test, this is a very large effect indeed. Put differently, students in countries that had a private school sector that was 28 percentage points larger (as measured by the enrollment share) on average performed better by the equivalent of half a year's learning.

In addition to private enrollment, students in countries with a higher share of public educational spending going to private institutions performed better. If the share of public funds going to independent private schools rose by 1 percentage point (or 1 international standard deviation), there was a 10 test-score point increase in math achievement. In sum, student performance seems to be higher in education systems where taxpayers' money is allocated by private schools rather than by the public schooling system.

The evidence discussed so far, using TIMSS data, is based on country-wide measures of the extent of private schooling. This does not allow for a direct assessment of the relative performance of public and private schools, because TIMSS does not provide school-level data on whether individual tested schools are public or private. However, measuring the system-level effect of private school

Repeat, Fuchs and Wößmann (2006) and Wößmann (2005d) for PISA, Wößmann (2005a) for all three and Fuchs and Wößmann (2004b) for PIRLS.

[12] Cf., e.g., Chubb and Moe (1990), Shleifer (1998), Epple and Romano (1998), Nechyba (2000) and Gradstein et al. (2004).

[13] These results refer to the OECD countries participating in TIMSS, for whom consistent data on the share of private schools are available.

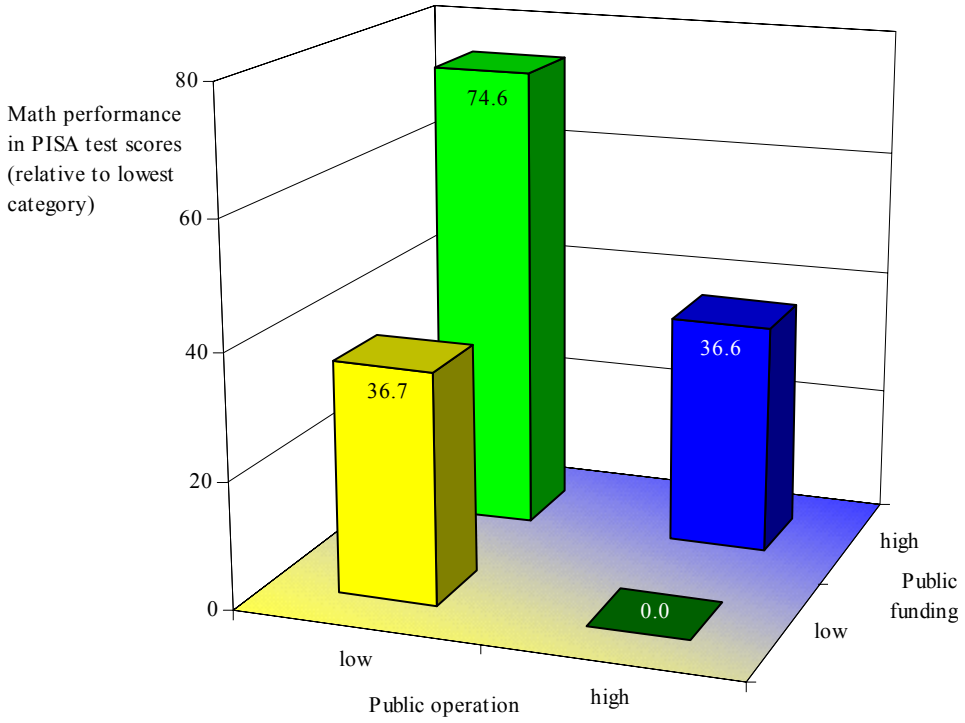
management may be the appropriate way to estimate the general systemic effect of the competitive environment prevailing in the different education systems, because increased competition from private schools may also positively impact on the effectiveness of resource use in nearby public schools.

By contrast, PISA for the first time provides specific school-level data on public versus private management and financing. In particular, in PISA there is information for each tested school both on whether the school is privately or publicly managed and on how large its share of public funding is. Public school management is defined as schools managed directly or indirectly by a public education authority, government agency or governing board appointed by government or elected by public franchise, whereas private school management is defined as schools managed directly or indirectly by a non-government organization, for example a church, trade union, businesses or other private institutions. The share of public funding is defined as the percentage of total school funding coming from government sources (at different levels), as opposed to such private contributions as fees and donations.

Looking across all countries, the result is that students perform better if their specific school is privately managed. The size of the performance difference between privately and publicly managed schools is between 16 and 20 PISA test-score points in the three different subjects (Fuchs and Wößmann, 2006). When interpreting these results based on micro-level variations within countries, one should be cautious, though, because there may be self-selection of students with different capabilities into private versus public schools. While many features of self-selection will be held constant by the extensive family-background controls that the analyzes contain, there cannot be final confidence about whether some self-selection bias remains due to unobserved heterogeneity of students.

Wößmann (2005d) provides a more in-depth analysis of the effects of private vs. public management and financing of schools in PISA, mostly measuring these features at the country level. This approach allows to capture systemic effects where both private and public schools may perform at a higher level because of the existence of private competition. By contrast, if public schools behave differently because there are private schools nearby, then there may be effects of private involvement even though the performance between individual private and public schools may not differ at the level of schools. The results show again that countries with a larger share of privately managed schools perform better. At the same time, across countries, larger shares of public funding (as opposed to management) are associated with better student outcomes. This pattern is depicted in chart 4, which shows that countries which combine relatively high shares of private operation with relatively high shares of public funding do best among all possible operation-funding combinations, while countries which combine public operation with private funding do worst.

Chart 4: Effects of Private versus Public Management and Financing of Schools



Source: Wößmann (2005d).

Furthermore, at the school level the advantage of privately operated schools over publicly operated schools is particularly strong in countries with large shares of public funding. This suggests that public funding may increase the set of choices of poor families. Without public funding, poor families may be constrained in their choices because they do not have the financial means to opt for private schooling. In these cases, public funding may help families to exert their choices in terms of privately managed schools, so that the positive effect of public funding may be another aspect of the skill-enhancing capacity of school choice and competition. Keeping the caveat in mind that studies based on observational data have limits in terms of causal interpretations, the international evidence suggests that school systems based on public-private partnerships where the state finances schools but contracts their operation out to the private sector seem to be the most effective school systems in terms of fostering students' educational performance.

This evidence on positive performance effects of school choice from the international tests is consistent with other evidence from within countries.[14] The evidence provided by Neal (1997) suggests that the choice of private Catholic schools leads to higher performance of inner-city students in the United States. Hoxby (2003b) summarizes ample evidence from recent policy experiments in the United States showing that school choice and school competition, among others in the form of vouchers and charter schools (relatively autonomous public schools that give parents additional choice), improve the performance not only of these schools, but also of the public schools that face their competition. Howell et al. (2002) provide evidence from several randomized field trials in the United States showing that school vouchers substantially increased the academic performance of African Americans who were enabled to switch to a private schools. Within the system of public schools, increased competition among U.S. public schools has also been shown to improve student performance (Hoxby, 2000).

Outside the U.S.A., Bradley and Taylor (2002) and Levaĉić (2004) find similar positive effects of school competition on the performance of English schools. Sandström and Bergström (2005) and Björklund et al. (2004) provide evidence on significant positive effects of competition from privately operated schools on the performance of public schools in Sweden. Filer and Münich (2003) show that the introduction of a voucher-type system in the Czech Republic led to the creation of private schools in areas where public schools are doing badly and that the public schools facing private competition improved their performance in obtaining university admission for their graduates. The benefits of a program that provided vouchers for the attendance of private schools in Colombia have been found to clearly exceed its cost, which was similar to providing a place in public schools (Angrist et al., 2002).

All this shows that competition from private schools can have positive effects on students' academic achievement. Obviously, there are also important caveats to keep in mind with implementing competition in the education field. Critics particularly fear sorting and adverse effects on disadvantaged students (e.g., Burgess et al., 2006; Cullen et al., 2003; Ladd 2002), although the evidence sometimes even points in the opposite direction of equalizing effects (e.g., Hoxby, 2003b; Nechyba, 2000). Others argue that a universal voucher system may bear considerable administrative costs (Levin, 1998). While much more research is needed before we understand fully the working of competition in education and the circumstances which determine its effects, the available evidence strongly suggests that the use of competition from private educational providers, combined with public funding of schools, can increase the efficiency with which students receive necessary competencies.

[14] Cf. Hoxby (2003a) for a collection of recent research on the economics of school choice.

3.2 School Autonomy

A second set of institutional features analyzed is the extent of autonomy that schools have, depicting the extent to which schools and teachers can make their own choices. Economic models of the centralization or decentralization of school operation suggest that larger autonomy can lead to increased efficiency of public schools (cf., e.g., Bishop and Wößmann, 2004).

The general pattern of results on school autonomy from the international tests is that students perform better in schools that have autonomy in process and personnel decisions (Wößmann, 2003a; Fuchs and Wößmann, 2006). These decisions include such areas as deciding on the purchase of supplies and on budget allocations within schools, hiring and rewarding teachers (within a given budget) and choosing textbooks, instructional methods etc. That is, there are positive performance effects of choice for schools in these specific decision-making areas. This general result is found both in the secondary- and in the primary-school international tests (Fuchs and Wößmann, 2004b).

Similarly, students perform better if their teachers have both incentives and powers to select appropriate teaching methods (Wößmann, 2003a; Fuchs and Wößmann, 2006). In this sense, there are also positive performance effects of choice for teachers – as long as they are held accountable for what they do (see section 3.4 below).

3.3 Accountability through External Exams

Principal-agent models of educational production predict that setting clear performance standards and providing performance information can tilt incentives in favor of superior student performance (cf., e.g., Costrell, 1994; Betts, 1998). In particular, by signaling student performance to potential employers on the labor market, external school-leaving exams increase students' rewards for learning as well as parents' scope for monitoring the education process, which should ultimately improve student performance (cf., e.g., Bishop and Wößmann, 2004; Bishop, 2006). The accountability introduced by external exams can help to face the challenge for the institutional set-up of school systems to create a set of incentives that encourages school personnel to behave in ways that do not necessarily further their own interests, but rather the interest of best student learning. For instance, without the right incentives, teachers may avoid using the most promising teaching techniques, preferring to use the techniques they find most convenient. If a country assesses the performance of students with some sort of external exam and uses this information to monitor teachers, teachers may put aside their other interests and focus mainly on raising student achievement. In sum,

testing performance can make students and educational providers accountable for what they learn and teach.[15]

The evidence from the international student achievement tests shows exactly that. Students perform substantially better in countries that have external exit-exam systems than in countries without external exit-exam systems. This is true in TIMSS, in TIMSS-Repeat and in PISA (cf. Wößmann, 2003a, 2003b, 2005a; Fuchs and Wößmann, 2006), as well as in other previous international achievement tests (cf. also Bishop, 1997, 2006). By and large, the evidence suggests that the effect may well be larger than a whole grade-level equivalent. That is, student performance is immensely higher where schools and students are held accountable by external exams.

Similarly, students perform better where parents take interest in teaching matters, suggesting positive effects both of parental choices and of parents holding schools and children accountable (Wößmann, 2003a). Also, students perform better where teachers place a lot of emphasis on monitoring student progress by regular tests and exams (Fuchs and Wößmann, 2006). This is additional evidence that accountability for students increases their educational performance. Furthermore, this is the case in primary school (PIRLS) just as well as in secondary school (Fuchs and Wößmann, 2004b).

In the two national education systems where the existence of external exams varies within countries because some regions feature them and others not, Canada and Germany, it has similarly been shown that students perform better in regions with external exams (cf. Bishop 1997; Jürges et al., 2005). In a related literature, Figlio and Lucas (2004) report U.S. evidence on positive effects of grading standards on student achievement. Another means to increase accountability are explicit school-focused accountability systems, which have been shown to increase students' learning achievement in the United States (Carnoy and Loeb, 2003; Hanushek and Raymond, 2004; Jacob, 2005). One institutional set-up that combines accountability with parental choice are systems which give students in schools that repeatedly do badly on the accountability test a voucher to attend private schools. In Florida, the threat of becoming subject to private-school choice if failing on the test has been shown to increase school performance particularly for disadvantaged students (West and Peterson, 2006).

It should be borne in mind, though, that designing proper accountability systems that hold actors accountable for only those outcomes for which they are really responsible is not an easy task. External exit examinations can introduce incentives for students if they produce signals of accomplishment that have real consequences for students. Bishop (2006) suggests that a well-designed system of external exit examinations should be curriculum-based, define achievement relative to an

[15] Two recent collections of work on accountability are Evers and Walberg (2002) and Peterson and West (2003).

external standard, measure the full range and signal multiple levels of achievement, and cover the vast majority of students.

By contrast, accountability systems that aim to create proper incentives for schools require a value-added approach which tests the learning gains (rather than levels) of each individual student (cf. Kane and Staiger, 2002; Ladd and Walsh, 2002). School-focused accountability systems can also lead to strategic responses on part of teachers and schools, for example by increasing placements of low-performing students in special-education programs which are outside the accountability system or by pre-emptively retaining students (Jacob, 2005). High-stakes testing may also introduce incentives for cheating (Jacob and Levitt, 2003). Thus, in implementing accountability systems, it is crucial to provide means that keep strategic responses and fraud to a minimum. By contrast, worries about the direct costs of implementing accountability systems should not be overstated, as the costs of the accountability programs implemented in several U.S. states that include comprehensive external testing have been shown to be minuscule (Hoxby, 2002).

3.4 External Exams as the "Currency" of Decentralized School Systems

So far, school autonomy and external exams were considered as unrelated institutional features. However, there are reasons to expect that external exams and school autonomy are complementary, in the sense that the one is particularly effective if the other is also in place (cf. Wößmann, 2005a for details). Put differently, external exams are a pre-requisite for decentralized, choice-based systems of autonomous schools to function properly. In this sense, external exams are the "currency" of decentralized school systems (Wößmann, 2003c).

In the economic system, money is an institutional feature that allows one to value and compare different objects. This kind of price system creates knowledge that no single person can gather. External exams can provide such "price information" to the education system. The important feature is that the exams are instituted as standardized tests by independent institutions and in a manner external to the individual school, so that they provide independent and comparable information on how the school performs. Parents can use this information created by external exams to make proper choices. This is the core of the idea of accountability: It creates competition where beforehand no comparable yardstick was available to make informed choices. Once this "price system" is in place, a system of decentralized, autonomous schools can be expected to work much better than any centralized system could, both because the autonomous schools can use their superior local knowledge about how to best teach their students and because competition provides them incentives to focus their efforts on student learning.

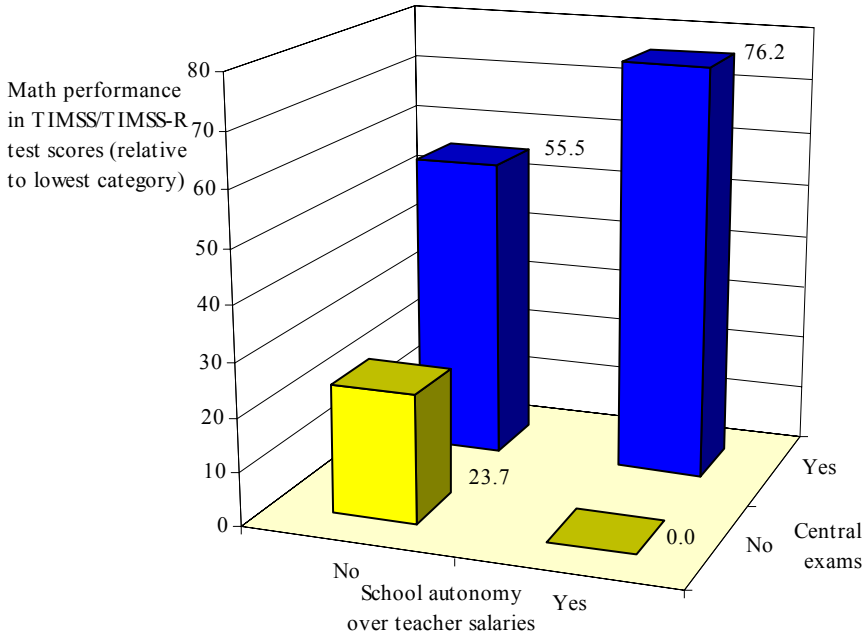
This assertion can be corroborated by evidence from the cross-country pattern of student performance. The results show that external exit exams improve educational performance, and at the same time that school autonomy is more beneficial in systems with external exams (Wößmann, 2003c, 2005a; Fuchs and Wößmann, 2006). In several decision-making areas, external exams even turn an initially negative autonomy effect around into a positive effect.

One such case is depicted in chart 5, which plots students' math performance in TIMSS and TIMSS-Repeat under the four conditions resulting from the presence and absence of central exams and school autonomy over teacher salaries: The performance of students in schools without salary autonomy in systems without central exams; with autonomy but without central exams; without autonomy but with central exams; and with both autonomy and central exams. Performance is depicted relative to the condition with the lowest performance, which is the condition of salary autonomy without central exams.

As chart 5 shows, school autonomy regarding teacher salaries has a *negative* effect on student performance in systems without central exams. In systems with central exams, student performance is generally higher than in systems without central exams, both in the case with and without school autonomy. In addition, however, it is striking that the effect of school autonomy is turned completely around in systems with central exams: Salary autonomy of schools has *positive* effects on student performance in central-exam systems.

This is strong evidence of complementarity between accountability and decentralized choice. Without the accountability introduced by central exams, schools behave opportunistically because their local opportunistic behavior cannot be externally observed and thus cannot be sanctioned. Hence school decision-makers do not feel obliged to set teacher salaries so as to contribute to enhancing student performance, but can use their decision-making autonomy to promote other interests. In contrast, central exams provide information about whether the schools perform well or not, so that parents and supervisory authorities can draw possible consequences from school behavior that weakens performance. This creates incentives for decision-makers in schools not to exploit their autonomy in setting teacher salaries in an opportunistic way, but to use it in order to effectively promote student performance. The benefits of superior local knowledge then come into effect, as school decision-makers ought to know better than any central authority which teachers deserve to be rewarded for good work.

Chart 5: External Exams, Salary Autonomy and Learning



Source: Wößmann (2005a).

That is, the accountability introduced by the "price information" of external exams creates competition, which brings the beneficial effects of local school choices to the fore. The very same effects of school autonomy over teacher salaries with and without central exams are found not only in TIMSS and TIMSS-Repeat, but also in PISA (Fuchs and Wößmann, 2006). Likewise, similar cases where external exams turn a negative autonomy effect around into a positive effect have been found for such decision-making areas as school autonomy in determining course content and teacher influence on resource funding. More generally, in several additional decision-making areas the general pattern of the evidence suggests that school autonomy is better for student performance when external exit exams are in place (cf. Wößmann, 2005a for details).

In sum, external exams can be regarded as the "currency" of school systems: They are a measure of value which prevents decentralized opportunism. As such, they are a precondition for decentralized education systems to achieve high student performance. Efficient education policies would thus combine external exams with school autonomy, setting and testing standards externally but leaving it up to schools how to pursue them.

4. Summary and Conclusion

Without doubt, fostering the human capital of the population will have to be part of any successful growth strategy in today's knowledge-based economy. But how can we improve the quality of schools that produce this human capital? The conclusion that can be drawn from the evidence based on four extensive international student achievement tests is clear: Institutions matter! In particular, institutional features that ensure choice, autonomy and accountability in the school system are key to high student performance. The different institutional effects add up to a huge aggregate effect. For example, their effects in TIMSS add up to more than 200 test-score points, compared to an international standard deviation of 100 test-score points and to a grade-level equivalent of 40 test-score points (Wößmann, 2003a). Similarly, about a quarter of the total international variation in educational performance in PISA can be accounted for by international variation in the institutional features (Fuchs and Wößmann, 2006). That is, the institutional effects are very large indeed.

The lessons that school policy can learn from the cross-country evidence include that students perform better:

- in countries with more *competition* from privately managed schools;
- in countries where *public funding* ensures that all families can make choices;
- in *schools* that have *autonomy in process and personnel decisions*;
- if their *teachers* have both incentives and power to select appropriate *teaching methods*;
- where *parents* take *interest* in teaching matters;
- where student progress is monitored by regular *testing*;
- where *schools* are held *accountable by external exams*; and
- where external exams and school autonomy are combined.

The evidence based on international comparisons across numerous countries allows all countries to learn from each other in terms of what works best in the education system. No single country in the world has the single "first best" education system that does everything right. The cross-country perspective taken in this paper enables the exploitation of institutional variations between all the participating countries. Thereby, it allows both to analyze the underlying reasons for differing performance and to learn from each other in terms of revealed best educational practice.

It is clear that this international evidence can only provide the "big picture" of results, revealing broad patterns but not specifics of implementation details. Surely, implementation is crucial with any of the institutional features discussed, and more detailed research is needed to learn how to implement competition, autonomy and accountability in different circumstances. But by depicting the "average" effect of these institutions as implemented in the real-world education systems across the

countries, the cross-country results can reveal some of the main driving forces of success in the education system.

Also, looking at competition, autonomy and accountability is not an exhaustive treatment of the relevant institutional features of education systems. For example, monetary incentives for teachers based on their students' performance have been shown to improve student learning in Israel immensely (Lavy, 2002, 2004). Similarly, Atkinson et al. (2004) find that the introduction of performance-related pay had a substantial positive impact on student achievement in England.[16] Teacher incentives are particularly crucial because arguably, apart from the students themselves, teachers constitute the most important "input" in the education process, in terms of both cost and content (cf. Rivkin et al., 2005). Another institutional feature with possibly important implications for educational performance is the extent of tracking of students into different types of school, which has been shown to be associated with increased inequality of student achievement across countries (Hanushek and Wößmann, 2006). Likewise, the extent of the pre-school education system can have large impact on students' later learning achievement (Schütz et al., 2005). Thus, interventions at early ages may be particularly relevant, given the importance of early childhood investments for later human capital investments over the life cycle (Carneiro and Heckman, 2003; Cunha et al., 2006).

When asking how education policies can create the competencies and learning achievements required for citizens and societies to prosper in the future, the binding constraint seems to be institutional reforms, not resource expansions within the current institutional systems. For educational investments to translate into student learning, all the people involved in the education process have to face the right incentives that make them act in ways that advance student performance. The international evidence summarized in this paper suggests that institutional structures that create performance-conducive incentives by introducing competition, autonomy and accountability stand a good chance of improving the quality of schools which is crucial for long-run economic growth.

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[16] Atkinson et al. (2004) provide a survey of additional studies on performance-related teacher pay, the more rigorous of which also tend to find a positive relationship between financial teacher incentives and student outcomes.

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Does the Entrepreneurial Economy Need an Entrepreneurial University?

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A quiet and virtually unnoticed revolution is transforming public policy. Where policy to ensure economic growth and job creation once looked to fiscal and monetary stimulation on the one hand, and the large corporation on the other, a new approach has emerged focusing on promoting the spillover of knowledge through university entrepreneurship. What once seemed as an anathema to economic efficiency and prosperity in the post-war era – the entrepreneurial university – has apparently become a key player in generating economic growth and job creation, not just in one economy, but spanning a broad spectrum of national, regional and local contexts.

Following the decade of Europe's worst economic performance since the Second World War, including record unemployment, it may not have been surprising when a bold new strategy to spur economic growth was unveiled. However, the focus of this new European growth policy would have seemed unimaginable only a few years earlier. With the 2000 Lisbon Proclamation, Romano Prodi, the then President of the European Commission committed Europe to becoming the knowledge and entrepreneurship leader in the world by 2020 in order to ensure prosperity and a high standard of living throughout the continent.

Similarly, at the 2006 Spring Summit of the European Government Leaders, igniting economic growth and reducing unemployment in Europe was the main focus of the Summit. The main policy strategy identified at the summit was entrepreneurship. According to the Chancellor of Austria and President of the European Council Wolfgang Schüssel, recently urged, "The Member States of the European Union must finally realize that they have to undertake everything possible to facilitate the creation of new jobs and economic growth. There would be ten million new jobs created in the European Union by 2010, if the member

countries were prepared to implement the necessary reforms, and especially reduce bureaucracy in order to promote entrepreneurship."[1]

Romano Prodi and the European Union were not alone in turning to entrepreneurship to provide the engine of economic growth. The entrepreneurial policy mandate mirrored similar efforts throughout the developed world. Public policy spanning a broad spectrum of national, regional and local contexts has been turning to university driven knowledge entrepreneurship to replace old jobs which were being lost to outsourcing and globalization, while at the same time to harness the potential that remained largely dormant from significant long-term investments in knowledge, such as universities, education and research institutions.

Only a few years earlier the policy debate focusing on growth and employment had looked to the macroeconomic instruments of fiscal and monetary policy on the one hand, and the size and scale economies yielded by the large corporation on the other. Writing in the post-war era, Solow was awarded the Nobel Prize for his model of economic growth based on what became termed as the neoclassical production function. In the Solow model two key factors of production – physical capital and (unskilled) labor were econometrically linked to explain economic growth. Growth policy, or economic policy for growth, if not shaped by the Solow theoretical growth model, certainly corresponded to the view that inducing investments in physical capital in particular was the key to generating economic growth and advances in worker productivity. Both the economics literature and the corresponding public policy discourse was decidedly focused on which instruments, such as monetary policy versus fiscal policy, or interest rates versus capital depreciation allowances, were best suited to induce investment in physical capital and ultimately promote growth. While these debates may never have been satisfactorily resolved, their tenacity reflects the deep seated belief about the primacy of capital investment as the fundamental source of economic growth.

If physical capital was at the heart of the Solow economy, knowledge capital replaced it in the Romer economy. While the policy goals remained relatively unchanged, economic growth, the Romer model reflected the emergence of a new emphasis on a strikingly different policy mechanism, knowledge capital, involving very different policy instruments.

The new policy instruments corresponding to the knowledge-driven economy, or the Romer Model, generally involved inducing investments not necessarily in physical capital but rather in knowledge capital. While the concept of knowledge capital seemed to be vaguer and less conducive to measurement than did the traditional factor of physical capital, it clearly involved knowledge augmenting investments in human capital and research and development. Such instruments

[1] Schüssel: „Zehn Millionen Arbeitsplätze bis 2010: Der Ratspräsident ruft die EU-Staaten zu Reformoffensive auf – ‚Mittelstand fördern, Entbürokratisierung vorantreiben", *Die Welt*, March 18, 2006, p. 1.

were strikingly different than their counterparts corresponding to the Solow economy. These instruments included, but were not limited to, education at all levels, public research support, tax and subsidy incentives to encourage private R&D, and investments in education and research at universities.

In the Solow economy investment in universities was not necessarily viewed as an instrument promoting economic growth in the capital-driven economy. After all, it was not at all clear how the output of universities, students and research, would contribute to augmenting investments in capital. While there was an important case to be made for investing in universities for political, social and even moral reasons, the case was less compelling for economic reasons, and particularly for economic growth. It was indeed possible to view investments in universities as actually detracting from economic growth, in that they diverted resources away from physical capital. But no one can dispute the primacy of investment in universities in the Romer economy. Investments in new knowledge were expected to be particularly potent because of the assumption that knowledge spills over from the firm or research organization creating that knowledge to other firms for commercialization, thus resulting in increasing returns in terms of economic growth.

Thus, just as the enormous investment in physical plant and equipment propelled Europe and North America to unprecedented post-war prosperity in the Solow economy, both scholars and policy makers have been looking towards the unrivaled investment in research and knowledge to generate economic growth, employment and competitiveness in the era of globalization.

But how does this knowledge created at universities spill over for commercialization in the market? Does it simply not fall, but perhaps blow over, like Robert Solow's famous *manna from heaven,* ripe for commercialization by the private sector? There are compelling reasons to think that it is not so easy or automatic. Certainly there is a long tradition of a wall between the university and the community. A barrier divided the university from the rest of society. This wall may have been invisible but it was keenly felt by those on each side. Professors and students were proudly and certainly gladly cut off from society and isolated in the ivory tower afforded by the gates of the university. Those on the outside peered at a distance, typically with disdain and curiosity, if not hostility towards this ivory tower.

Much has been made about the so-called *European Paradox*, where high levels of investment in new knowledge exist from both private firms as well as public research institutes and universities. Countries such as Sweden rank among the highest in terms of investment in research, at least as measured by the ratio of R&D-to-GDP. Similarly, levels of human capital and education in Sweden as well as throughout many parts of Europe, rank among the highest in the world. Yet, growth rates remained stagnant and employment creation sluggish throughout the 1990s and into the new century.

Thus, it is now recognized that investment in scientific knowledge and research alone will not automatically generate growth and prosperity. Rather, such knowledge investments must penetrate what Audretsch et al. (2006) term as *the knowledge filter*, in order to contribute to innovation, competitiveness and ultimately economic growth. In fact, the knowledge filter impeding the commercializing of investments in research and knowledge can be formidable. As the American Senator Birch Bayh warned, "A wealth of scientific talent at American colleges and universities – talent responsible for the development of numerous innovative scientific breakthroughs each year – is going to waste as a result of bureaucratic red tape and illogical government regulations…"[2] It is the knowledge filter that stands between investment in research on the one hand, and its commercialization through innovation, leading ultimately to economic growth, on the other.

Certainly seen through the eyes of Senator Bayh, the magnitude of the knowledge filter is daunting, "What sense does it make to spend billions of dollars each year on government-supported research and then prevent new developments from benefiting the American people because of dumb bureaucratic red tape?"[3]

In this case there will be no knowledge spillover. Investments were made in creating new knowledge, both privately from the firm, but also publicly, if generation of the new knowledge utilized any type of public knowledge emanating from research at universities or publicly provided investments in human capital. However, in the absence of knowledge spillover, such investments will not be appropriated either by he firm or by society. It must not be forgotten that the social investments of education and research are also expected to generate a return in terms of growth and employment.

Thus, the spillover of knowledge that exists by assumption in the Romer (1986), Lucas (1993), and Krugman (1991) models, may, in fact, not be so automatic.

In an effort to penetrate such a formidable knowledge filter, the Congress enacted the Bayh-Dole Act in 1980 to spur the transfer of technology from university research to commercialization.[4] The goal of the Bayh-Dole Act was to spur the commercialization of university science. Assessments about the impact of the Bayh-Dole Act on penetrating the knowledge filter and facilitating the commercialization of university research have bordered on the euphoric[5], "Possibly

[2] Introductory statement of Senator Birch Bayh, September 13, 1978, cited from AUTUM (2004, p. 5).

[3] Statement by Birch Bayh, April 13, 1980, on the approval of S. 414 (Bayh-Dole Act) by the U.S. Senate on a 91-4 vote, cited from AUTUM (2004, p. 16).

[4] Public Law 98–620.

[5] Mowery (2005, p. 2) argues that such a euphemistic assessment of the impact on Bayh-Dole is exaggerated, "Although it seems clear that the criticism of high-technology startups that was widespread during the period of pessimism over U.S. competitiveness was overstated, the recent focus on patenting and licensing as the essential ingredient in

the most inspired piece of legislation to be enacted in America over the past half-century was the Bayh-Dole Act of 1980. Together with amendments in 1984 and augmentation in 1986, this unlocked all the inventions and discoveries that had been made in laboratories through the United States with the help of taxpayers' money. More than anything, this single policy measure helped to reverse America's precipitous slide into industrial irrelevance. Before Bayh-Dole, the fruits of research supported by government agencies had gone strictly to the federal government. Nobody could exploit such research without tedious negotiations with a federal agency concerned. Worse, companies found it nigh impossible to acquire exclusive rights to a government owned patent. And without that, few firms were willing to invest millions more of their own money to turn a basic research idea into a marketable product."[6]

An even more enthusiastic assessment suggested that, "The Bayh-Dole Act turned out to be the Viagra for campus innovation. Universities that would previously have let their intellectual property lie fallow began filing for – and getting patents at unprecedented rates. Coupled with other legal, economic and political developments that also spurred patenting and licensing, the results seems nothing less than a major boom to national economic growth."[7]

University entrepreneurship can contribute to economic growth by serving as a mechanism that permeates the knowledge filter. It is a virtual consensus that entrepreneurship revolves around the recognition of opportunities along with the cognitive decision to commercialize those opportunities by starting a new firm. If investments in new knowledge create opportunities that are asymmetric, in that they are more apparent or valued more highly by economic agents (potential entrepreneurs) than by the incumbent firms themselves, the only organizational context for commercializing that new idea will be a new firm. Thus, by serving as a conduit for knowledge spillovers that might otherwise not exist, entrepreneurship permeates the knowledge filter and provides the missing link to economic growth. Audretsch, Keilbach and Lehmann (2006) show that those regions in Germany with the greatest amount of entrepreneurial activity also exhibit the highest growth rates.

Shifting to a policy focus on knowledge capital involving instruments to induce investments in knowledge capital has clearly been successful in generating economic growth in many regions. However, as the knowledge spillover theory of entrepreneurship suggests, investments in knowledge capital such as university research and education may be a necessary but not a sufficient condition to ensure that such investments are actually commercialized and generate economic growth.

university-industry collaboration and knowledge transfer may be no less exaggerated. The emphasis on the Bayh-Dole Act as a catalyst to these interactions also seems somewhat misplaced."

[6] "Innovation's Golden Goose," The Economist, December 12, 2002.

[7] Cited in Mowery (2005, p. 2).

The existence of a severe knowledge filter will impede the spillover and commercialization of investments in new knowledge, thereby choking off the potential for economic growth.

From the perspective of the singular or effectively closed economy at the turn of the last century may have led Schumpeter (1911) to conclude that the contribution of entrepreneurship is through the destruction of the status quo by displacement by new firms, or creative construction. However, in the globalized economy of the twenty-first economy, the destruction comes from global competition. *Creative construction* of new possibilities and sources of growth comes from sources such as university entrepreneurship.

There is no patent recipe for public policy to create an entrepreneurial economy. But the effort to do so has resulted in the emergence of a distinct new public policy approach to generate economic growth – entrepreneurship policy. While the goals remain the same, economic growth and employment creation or at least maintenance, the mechanism used, entrepreneurship, and accompanying instruments, are strikingly different.

In response to the new consensus that the old university model no longer suffices, Germany introduced a bold new policy to move towards the entrepreneurial university. This new public policy approach is a striking rejection of the post-war policies of homogeneity and standardization, with the concomitant result of curbing competition across institutions. Rather, this new policy approach injects competition across universities through the introduction of a policy instrument called the "*Exzellenzinitiative"*, or Excellence Initiative. Over a five year period, starting in 2005, the German government is investing EUR 1.9 billion to explicitly create what is termed as "Elite Universities". These funds will be awarded to those universities that have developed at least the potential for excellence in research in particular research fields.[8] After years of perhaps admiring in particular the top American Universities, but writing them off as another example of American elitism and exclusivity, to the disadvantage of those not afforded access to such universities, the Germans have radically reversed directions and are now embracing "elite" universities. The old approach would have been to spread the funding around, in a virtual quota system, where each region got its share. But under this new policy, instead, these new elite universities are concentrated particularly in the state of Bavaria, where several universities, including the Ludwig-Maximillian University of Munich and the Technical University of Munich were selected along with eight other German universities to be targeted for becoming "elite."

[8] "Der Triumph des Südens", Focus, No. 5, January 30, 2006, 48–49.

Why has Germany reversed its policy towards higher education and research? Because it recognizes that in the global economy, the old, traditional Humboldt University, which is cut off from society, does not suffice. Rather, Germany, like countries around the globe is now committed to create the entrepreneurial university. Germany spent too many years on the sidelines, saddled with a policy approach inhibiting not just state-of-the art research and scholarship, but also their commercialization and application in the economy. It has turned out that the investment that the United States has made in universities and research was not just an extravagant expenditure but rather the foundation for generating growth and competitiveness in the global economy.

Georg Winckler, President of the European Conference of University Presidents, emphasizes that in this new century, "The higher is the level of education and human capital of citizens, the higher will be the standard of living. Human capital and education are the most important source of a high standard of living. Europe is suffering from a clear deficit of such human capital and education. In contrast to the United States there is too low of a share of the European population with a degree in higher education."[9]

One thing has become clear from the recent and startling revolution that is now beginning to shake up the sleepy European universities. The entrepreneurial university has emerged as a central institution and source of not just scientific and knowledge but also cultural and social in helping to create the entrepreneurial economy.

As first the capital-driven Solow model and more recently the knowledge-driven Romer model have not delivered the expected levels of economic performance, a mandate for entrepreneurship policy has emerged and begun to diffuse throughout the entire globe. Whether or not specific policy instruments will work in their particular contexts is not the point of this paper. What is striking, however, is the emergence and diffusion of an entirely new public policy approach to generate economic growth – entrepreneurship policy. It is becoming increasingly the case that it is upon this new mantel of entrepreneurship policy that *Standorte*, ranging from communities to cities, states and even entire nations hang their hopes, dreams and aspirations for prosperity and security.

[9] "Entscheidend ist die Bereitschaft neues Wissen anzunehmen," *Frankfurter Allgemeine*, March 11, 2006, p. 12.

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Comment on "Does the Entrepreneurial Economy Need an Entrepreneurial University?"

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Let me start with two remarks referring to the previous speaker. First, regarding the public service tradition in American higher education. Mr. Audretsch pointed out that U.S. universities are much less hesitant to cooperate with business firms, whereas in Europe the tradition of the ivory tower is still alive. And he has retraced this phenomenon back to the 19th century, when the Morrill Act kicked off the development of the land grant universities. These were higher education institutions, with the deliberate mission to enhance the productivity in agriculture and trade. Many public universities in the U.S.A., some of which host Nobel price winners today, go back to this tradition.

I would like to add one point: Why have the American colleges – one could hardly speak about universities at that time – been so responsive to the practical requirements of business and the society as a whole? In the first place, because they were deprived of support by social classes, to whom the patronage of "high culture" was a social obligation – noblesse oblige. For the European universities church, aristocracy, and monarchy, in later times the political elites of democratically elected governments provided (and provide) such subsidies. The relationship between universities and their patrons were by no means free of conflict, but on the whole, those subsidies guaranteed a sufficient subsistence of European universities. Since higher education institutions in the U.S.A. lacked such patronage, they had to prove their usefulness to society in order to get funded. This was no easy task in the 19th century, when the U.S.A. still predominantly was an agrarian society. Only in the course of industrialization and with an increased knowledge based economy, American universities attained the amount of economic relevance and social status, which allowed them to develop academic excellence and to finally achieve a top position worldwide.

One could call the practical and service orientation of the American universities as a kind of "preadaptive advance" (Luhmann, 1998), a result of social evolution, which initially brought no advantage in relation to the European counterpart. Only later, under changed environmental conditions did it become a "selection advantage". Now the attitude of the ivory tower is a competitive disadvantage for

the European universities which, however, cannot be abandoned easily since it is so deeply embedded in the academic tradition of Europe.

The second remark refers to the Bayh-Dole act of 1980 (Slaughter and Leslie, 1997). Mr. Audretsch appreciates this act without reservation as positive. The new law permitted universities to gain financially from their research, even if it was funded with public money. No doubt that this caused innovative impulses and strengthened the relations between universities and the economy. As a consequence, many start-up firms by academics were founded, and this is evaluated as generally positive.

In addition, universities increasingly behaved as economically motivated actors, most significantly by a tremendous increase in their patenting activities. Opinions are divided, whether or not this is a beneficial development. The critics of this development are not restricted to those who defend the ivory towers ideology (Bok, 2003, Kirp, 2003). Two critical points should be considered:

- From an economic view the increased patenting activities for the universities are a double-edged sword. They impose enormous costs and are very risky. For many universities this gamble was rather a loss than a gain.
- By increasing emphasis on their economic benefits as owners of patents, universities undermine the trust of the public into their non-profit character. However, this non-profit status is essential, because even when American universities earn a large share of their income on markets, the majority of their funding does not come from markets, but from public subsidies and private donations. The willingness of private donors and of taxpayers to subsidize higher education would decline if universities get the reputation that they are primarily concerned with the maximization of their own economic advantages (Winston, 1992).

So far, I have directed my comments to the paper of Mr. Audretsch. I was invited by the organizers of this workshop to make also some general remarks about the reforms that are presently implemented in Austrian higher education. Let me focus on this question: what measures are required so that Austrian universities can play the role of a catalyst of economic growth better than they do that at present? There is broad consensus that American universities in this regard are more successful than Austrian - and European - universities in general. However, substantial differences exist on how this should be appraised. Policy makers - on the national and on the European level – emphasize the need for reforms. They want the economic role of the universities to be strengthened. This policy goal has existed for approximately 40 years. Whether governments take the right actions to achieve that goal is another question, but the goal is clear.

Opinions among academics are split. Some of them – an increasing number – agree that reform is needed, but these researchers usually suggest reform measures other than policy makers. However, a substantial part of the academic community would not deny that American universities when compared with their European

counterparts have stronger links with the economy, but they do not see this as a virtue. They would rather argue that the core functions of a university are weakened if too much emphasis is placed on the economic needs of society. Hence, these academics (predominantly in the humanities and soft social sciences) are strongly opposed to any ”commercialization” and “Americanization” of the European university.

I will now go in greater detail into two areas of change, one at the national, the other refers to the European level of policy making.

(1) On the national level we can observe a paradigm shift in the governance of universities. Universities in most European countries used to be state agencies. Now, due to the impact of the “New Public Management” (NPM) model, they have been transformed into public enterprises. This transformation is very difficult in countries with the tradition of the “Kulturstaat” – a government that has high esteem for elite culture and respects its autonomy. The very essence of the Humboldtian model is the obligation of the government to be a benevolent patron to universities. That requires much more than public financing of higher education, which of course continues under the conditions of NPM. The “Kulturstaat” remains in the background and does not interfere into the area of the academe, because it basically trusts academic work. This policy is based on the conviction that society and governments are served best if they unconditionally respect the autonomy of universities. No direct economic benefits are expected by academic research.

In the 19th century and still up to the middle of the 20th century it was relatively easy to sustain a reasonable amount of trust between governments and universities. This was before the adventure of “Big Science” when research was a relatively cheap activity of individual scholars. Enrolment at universities was low, it rarely exceeded 1–2% of the age cohort. The system was thus small and homogeneous and required comparatively low funds. At the end of the 1950s, expenditures for higher education in Austria were about 0.2% of GDP. Such a small system was easy to monitor by policy decision makers.

During the 2nd half of the 20th century these conditions changed very quickly. Accelerated growth of enrolled students and of the magnitude of research conducted at universities made it increasingly difficult to sustain the traditional pattern of patronage by the “Kulturstaat”. The enormous increases in expenditures had to be justified. A new policy paradigm emerged during the 1960s which required universities to make a contribution to the public welfare. Since then, it has been the long-lasting goal of policy makers to move universities in this direction.

Policy makers tried to achieve this goal through two very different strategies (Pechar 2005a). During the 1960s and 1970s, governments had the ambition to micromanage universities. A perfect illustration of this attitude is the interpretation to the study act of the 1960s (Allgemeines Hochschulstudiengesetz, AHStG), which severely restricted the scope for discretion of the full professors with respect to teaching and set up a dense net of study regulations. It reads as follows:

education and training at universities is meanwhile too important, in social and economic terms, to leave it completely in the hands of academics (Götz, 1993). Instead, policy makers and public administrators had to guarantee the social relevance of higher education. However, this attempt to micromanage failed. There were always enough loopholes for academics to enable them to undermine the goals of policy makers.

Starting from the 1990s governments employed a different strategy and adopted the NPM approach to higher education. For many years, universities had called for more autonomy. Now the government increased their autonomy significantly, but not exactly in the way universities had requested. In the context of NPM, autonomy was not merely defined in the traditional sense of academic freedom, but it was combined with institutional autonomy, which goes along with economic responsibility. All higher education reforms since the early 1990s (Fachhochschulen, private universities, introduction of tuition fees, deregulation of study acts) can be interpreted in the framework of the NPM approach. The culmination of this policy is the new University Act (UG 2002) which grants full legal entity to universities and transform them from state agencies to public enterprises. Universities are being transformed into "hybrid organizations" that combine characteristics of organizations acting within the public sphere and within the dictates of the markets.

A large part of the academic community rejects these reforms uncompromisingly, an opinion which I do not share. There are, however, some deficiencies and some open questions.

- It is not yet clear how the state will allocate its global budgets to the universities in the future. It will be assigned 20% of it on the basis of indicators, which are already defined by the Federal Ministry of Education. However, the remaining 80% of the public expenditures for universities will be assigned on the basis of performance contracts (Zielvereinbarungen), and it remains a mystery on what basis these contracts can be negotiated since the Federal Ministry of Education is opposed to any quantitative definition of performance. One fears that the Federal Ministry of Education intends to keep its huge discretionary powers in allocating its budget.
- The legal framework for the regulation of academic careers is unsatisfactory. The UG 2002 keeps the traditional academic hierarchy of European universities which divides academics into two "estates": the higher ranks of full professors and the lower ranks of junior academics (Mittelbau). This goes along with a long phase of personal dependence of junior academics on their academic mentors. A regularized promotion of junior faculty to full professorship (as a result of individual academic success) is not possible. Usually they can only be promoted if they apply for a position at another institution. One precondition for the success of American universities is that they have a tenure track system which avoids this divide of the academic

profession and does not bind the productivity of the new academic generation (Pechar 2005b).

(2) At the European level, attempts are being made to create a "European higher education and research space" in which a structural harmonization is supposed to facilitate the mobility of students and cooperation in research (Haug, 2000). That is not a simple task as education and culture is a responsibility of the national governments who are very sensitive to any step which could limit their authority. The extent of difficulties in the relationship between the European Commission and higher education policy at the national level has become obvious recently when the European high court has convicted Austria of discriminating against citizens of the EU with its admission policy for universities.

That being said, there is a broad consensus that a common European higher education and research space would increase the competitiveness of European vis-à-vis their American and Asian competitors. A comparison with the U.S.A. is instructive because this country clearly has a common higher education space, although education is a responsibility of the states (of course the U.S.A. does not face the problems which exist in Europe, because there are neither language barriers nor different national traditions of education). The elite segment of the American universities recruits its students and the academic personnel from this enormous space. This is one of the reasons for the strong position of American universities, beyond their international attractiveness and their ability to attract world-wide talented students and researchers.

Today, Europe would be quite happy to have elite universities. That is new, because until recently higher education policies in most European countries had a strong egalitarian orientation and were strictly opposed to elite segments. These policies were meant to advance the opening and modernization of an outdated "elite system" with a high degree of social selection. Today there is a broad consensus that mass and elite higher education are not mutually exclusive alternatives, but that it possible to combine them.

But how do we get there? Many European governments have now developed a policy to create national elite institutions. However, elite universities can not be established by a government decree; they are the result of competition for students, researchers, and research funds. It is doubtful whether the nation state is the appropriate framework for that competition. It is more likely that elite segments will emerge at the European level. It would then be the task of national research policy to strengthen the position of Austrian centres of excellence, by for example providing proper funding.

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The Austrian Labor Market: Model of Success or Increased Need for Reforms?

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1. Introduction

Due to persistently high unemployment rates, the labor market found itself again at the center of political attention in the 1990s. Strategies and recommendations in terms of economic policy were developed to reduce unemployment and to increase employment rates. In this context, the Organisation for Economic Co-operation and Development (OECD) Jobs Strategy and the European Employment Strategy have to be mentioned. Both approaches are comprehensive reform strategies aiming at a sustainable increase in employment and reduction of unemployment. At the Lisbon Summit (March 2000), the European Union developed a new economic policy strategy with the goal of increasing Europe's competitiveness and innovative power as well as generating sustainable economic growth entailing more and better jobs and greater social cohesion. Goals are to raise the general employment rate in the EU to 70% and to increase the proportion of women in employment to 60% by 2010. In 2005, the Lisbon Strategy was revised and the goals of stronger and sustainable growth as well as the creation of additional and better jobs became the new focus. From that time on, employment guidelines have been presented in connection with macroeconomic and microeconomic guidelines and together form the basis the EU's Lisbon Agenda and National Reform Programs.

In the international literature[1], several European countries can be found as examples of successful reform efforts (U.K., Netherlands, Denmark, Ireland). Thus, for example, the OECD identifies Denmark, Finland, and the Netherlands as successful countries which have carried out consistent and comprehensive reform programs in the last few years (cf. Brandt et al. 2005). The different approaches in those reform strategies notwithstanding, all those countries managed to significantly reduce previously high unemployment rates. Austria is also regarded as one of the countries showing comparatively favorable job market performance, and – in contrast to the countries mentioned above – it has managed to keep its

[1] Cf. for example Nickell and van Ours (2000), Auer (2000).

unemployment rate at a relatively low level, even if this rate has been increasing slightly but continuously over the last 25 years.

Pichelmann et al. (1998) identify, among other things, the following “"success factors” which have contributed to Austria’s favorable labor market performance:

- Economic policy focusing on macroeconomic stability
- High degree of macroeconomic real wage flexibility
- The dual system of apprenticeship training for adolescents
- Not overly generous system of unemployment benefits (with the exception of the problem of cross-subsidies in seasonal industries)
- Elastic reaction of labor supply to cyclical fluctuations in employment

The goal of this contribution is the discussion of the development of the Austrian labor market, in particular its problem areas, as well as new challenges against the backdrop of the economic policy recommendations issued by the OECD and the European Commission. A comprehensive evaluation of the OECD Jobs strategy and the Lisbon Strategy, even from an Austrian perspective, would go far beyond the scope of this contribution. Instead, I will focus on the OECD’s economic policy recommendations to the extent they concern the labor market as well as on the EU’s evaluation of the Austrian reform program under the Lisbon Strategy, and I will discuss the challenges of the Austrian labor market from my own personal point of view. I concentrate on the “pure” labor market recommendations, which by no means, however, implies that growth, macroeconomic environment as well as the promotion of entrepreneurship should not have an impact on the labor market. On the contrary, labor market oriented strategies are only apt to increase employment or reduce unemployment if companies offer additional jobs. This has to be borne in mind for all statements that follow.

Section 2 shows Austria’s labor market situation in an international context. Section 3 looks at the recommendations and implementations of the OECD Jobs strategy and discusses the European Commission’s most recent recommendations concerning the Austrian implementation of the Lisbon Strategy. Section 4 discusses the development of unemployment by education level as well as the cyclical elasticity of labor supply. The last section then deals with weaknesses and new challenges of the Austrian labor market.

2. Development of the Austrian Labor Market

By international comparison, the current situation of the Austrian labor market can be described as favorable. If one takes the indicator of unemployment, Austria shows an unemployment rate of 5.2% for 2005 according to Eurostat, compared to 7.8% and 8.5% for the EU-15 and the euro area, respectively. Over time, the performance of the Austrian labor market is less favorable (see table 1), but it is

important to take into account certain statistical effects here[2]. In the reference year of 1997, Austria still ranked first among the EU-15, according to Eurostat. In 2005, Austria with its rate of 5.2% is still among the leading countries, but has slipped to fifth position, with the gap to the top performers (with the exception of Ireland), however, being no bigger than 0.5%. Taking the OECD's structural unemployment rate (NAIRU) as a reference, there is no deterioration in absolute terms, while the positive gap in relation to the EU average has decreased by about a half percentage point (see chart 1).

Table 1: Unemployment Rates EU-15 1997 and 2005

Austria	4.4	Ireland	4.3
Netherlands	4.9	U.K.	4.6
Denmark	5.2	Netherlands	4.7
Portugal	6.8	Denmark	4.9
U.K.	6.8	**Austria**	5.2
Germany	9.1	Sweden	6.3
Belgium	9.2	Portugal	7.3
Greece	9.8	Italy[1)]	8.0
Ireland	9.9	Finland	8.3
Sweden	9.9	Belgium	8.4
Italy	11.3	Spain	9.2
France	11.5	Germany	9.4
Finland	12.7	France	9.5
Spain	17.1	Greece[1]	10.5

[1)] 2004: Greece, Italy.

Source: Eurostat.

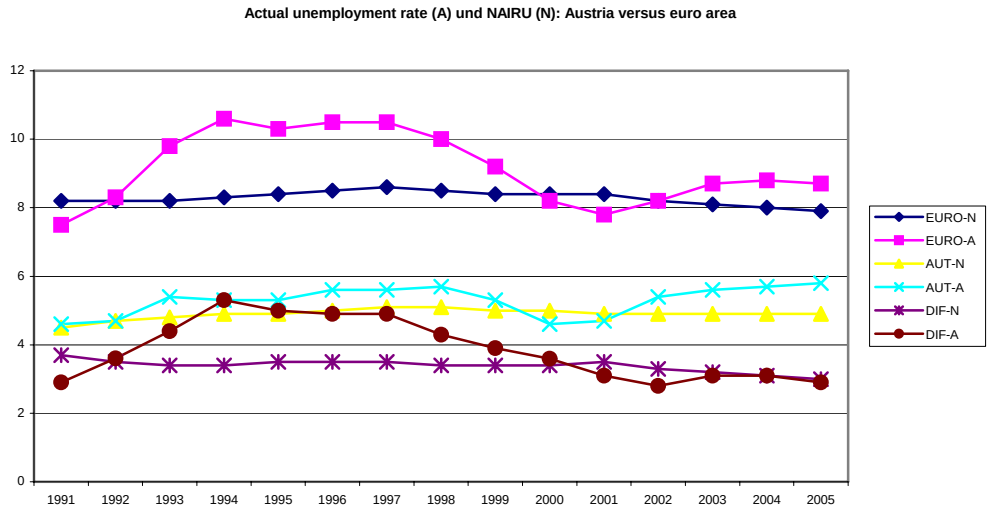
For the domestic discussion, the development of the unemployment rate pursuant to the national definition is used (see chart 2). If this is adjusted by seasonal and cyclical factors[3], a similar, albeit slightly worse picture emerges. From a more long-term perspective, a steady increase in the number of reported unemployed can be stated. Only in the second half of the 1990s did that number, due to the booming economy, decline significantly. With the economy starting to stagnate at the beginning of this century, the trend in unemployed persons has shifted upwards

[2] The changes in methods in the labor force survey (microcensus) of 2004 (cf. Kytir and Stadler, 2004), e.g., sample design and survey period, led to a time-series break. It is reasonable to assume that unemployment within the microcensus was underestimated prior to 2004. This always has to be borne in mind for long-term comparisons.

[3] In terms of methodology, the trend component was determined based on the Hodrick-Prescott (HP) filter.

again. Compared to 1997, the current unemployment rate has increased by about a half percentage point. If the "extended unemployment rate" according to the IHS definition[4] is examined, a slightly stronger increased can be noted. Overall, however, all definitions suggest that Austria continues to hold a good position by international comparison, even if a negative tendency can be stated at least for the national rate.

Chart 1: Actual and Structural Unemployment Rate (NAIRU): Austria and Euro Area



Source: OECD.

The absolute increase in dependent employment can be seen as favorable. According to the Association of Social Insurance Providers, the number of people in active dependent employment (excluding recipients of maternity leave or child-care benefits as well as persons fulfilling their compulsory military service) has risen by about 155,000, or 5.2%, since 1997, with almost the entire increase being accounted for by female employees (148,000 people, or 12%).

[4] The numerator was extended by participants in training courses, while from the denominator recipients of maternity leave or child-care benefits as well as persons fulfilling their compulsory military service were excluded. The unemployment rate is calculated as the ratio between unemployed and course participants on the one hand and unemployed, course participants and actively employed on the other. This rate must, by definition, be above the national unemployment rate.

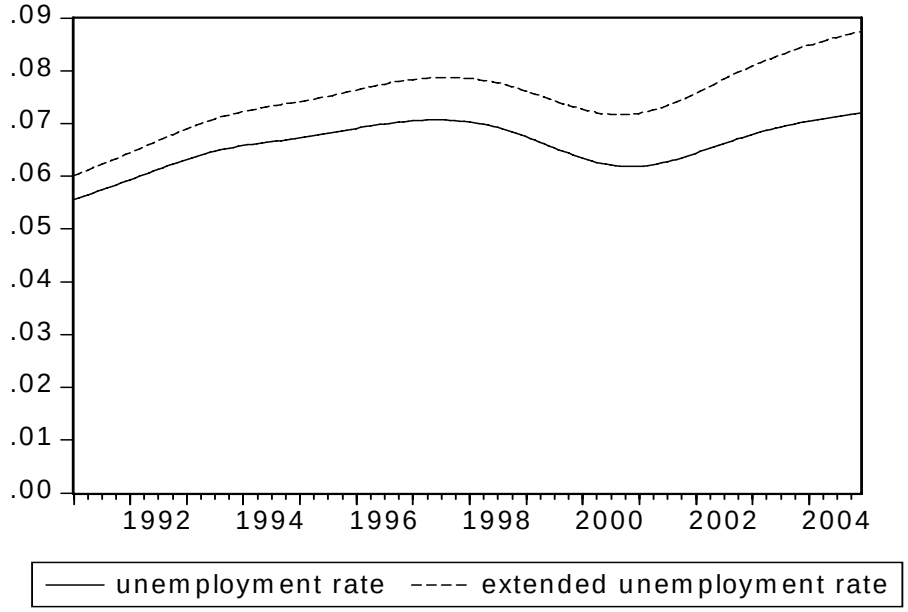
At 67.8%, the employment rate for 2004 was above the EU-15 average of 64.7% according to Eurostat (see table 2). The employment situation for people over 55 is still not encouraging, with the corresponding rate of 28.8% being far below the EU average of 42.5%. What is positive, however, is the situation regarding long-term unemployed with a rate of 1.2%, which is unchanged from 1997, while this rate has decreased from 4.8% to 3.4% in the EU-15. A significant deterioration was noticeable for youth unemployment, with that rate rising from 6.7% to 9.7%. At this rate, Austria is still far below the EU-15 average of 16.6%, but the structural problems regarding youth employment are becoming ever more transparent.

Table 2: Labor Market Indicators Austria and EU-15

	Austria		EU-15	
	1997	2004	1997	2004
Unemployment rate	4.4	4.8	9.9	8.1
youth 15–24	6.7	9.6	20.7	16.7
Employment rate	67.8	67.8	60.7	64.7
older employees 55–64	28.3	28.8	36.4	42.5
Long-term unemployment rate	1.3	1.3	4.8	3.4
Women				
Unemployment rate	5.4	5.3	11.8	9.3
Employment rate	58.6	60.7	50.8	56.8
older employees 55–64	17.0	19.3	26.1	33.2
Long-term unemployment rate	1.6	1.4	5.9	4.0
Men				
Unemployment rate	3.6	4.4	8.4	7.2
Employment rate	77.1	74.9	70.6	72.7
older employees 55–64	40.3	38.9	47.2	52.2
Long-term unemployment rate	0.9	1.3	4.0	3.0

Source: Eurostat.

Chart 2: Structural Unemployment Rate in Austria (National Definition)

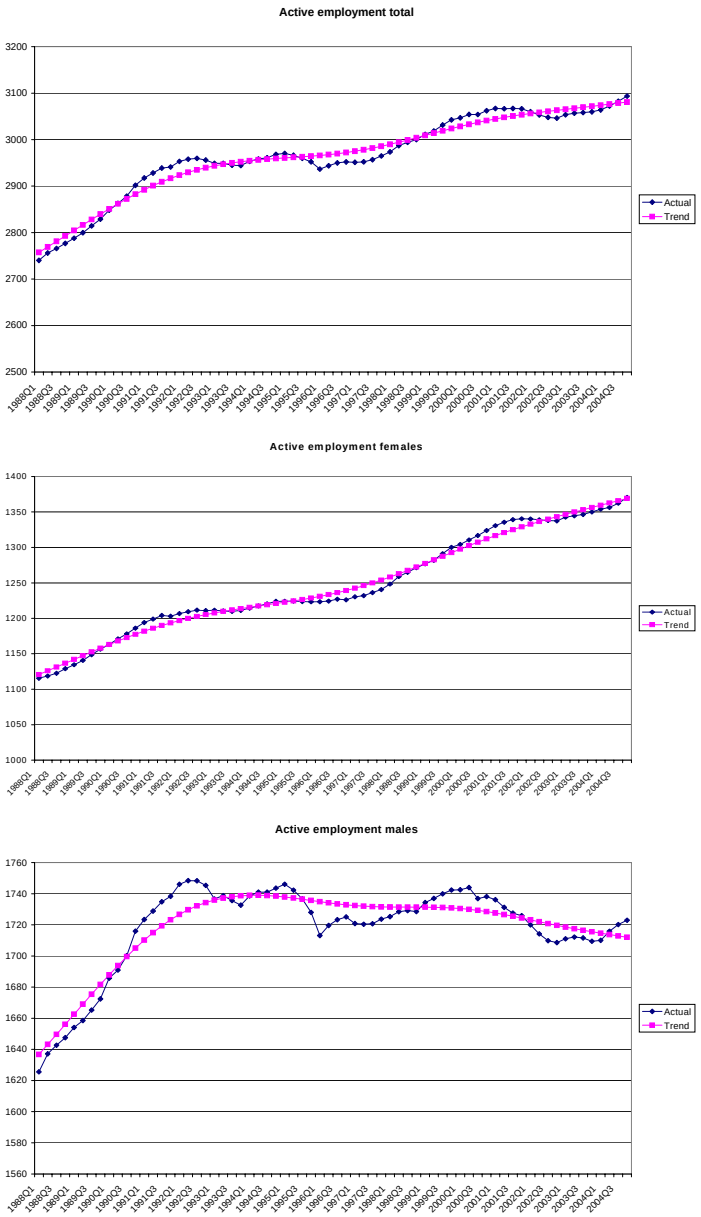


Source: Author's calculations.

Chart 3 shows the long-term development of employment in Austria. In order to outline the trend in employment independent of short-term cyclical fluctuations and institutional changes, the development concerning dependent actively employed and the corresponding trend (adjusted for cyclical fluctuations) is shown. Looking at the period starting from the mid-1990s, trend employment has been rising continuously. However, the employment situation has developed completely differently if looked at in terms of gender. While employment among men has been stagnating or even slightly declining, women have experienced a marked increase in employment. A significant share of this increase was accounted for by part-time positions[5]. According to the micro-census, already a third of all female employees were working a maximum of 30 hours per week in 2003. This represents an increase in the part-time rate among women of 7.3 percentage points from 1997 to 2003 (cf. Hofer et al., 2005).

[5] In this context, "part-time" covers all employment agreements between 1 and 30 hours per week.

Chart 3: Active Employment Trend and Actual Employment by Gender



Source: Association of Social Insurance Providers, compiled by the author.

3. Economic Policy Recommendations by OECD and EU Commission

3.1. The OECD's Jobs Strategy

The OECD's Job Study (1994) examines the reasons for the high and persistent unemployment in the late 1980s and early 1990s of the 20th century. Based on those analyses, a number of comprehensive economic policy recommendations were formulated to improve the labor market situation. These recommendations aim at increasing the abilities of economies and societies to cope with structural change by improving their adaptive and innovative capacities. The economic policy guidelines encompass ten broad areas, namely economic policy on a macro level, innovation and diffusion of technology, favorable entrepreneurial climate, promotion of competition in product markets, increase of the human capital potential of employees, as well as various aspects concerning the labor market. These 10 broad economic policy guidelines with a total of 70 detailed recommendations form the so-called OECD's Jobs Strategy (cf. Brandt et al., 2005).

In the following, I would like to concentrate on the areas directly related to the labor market and discuss the recommendations and their implementations for Austria. Specifically, these are the following guidelines:

- Increase working time flexibility;
- Make wage and labor cost more flexible in such a way that wages correspond to local conditions and the employees' level of education and training, in particular for young employees;
- Reform employment protection legislation (EPL) if such legislation hinders an increase in employment in the private sector;
- Raise the significance of active labor market policy and increase its effectiveness;
- Increase the technical skills and expertise of employees by means of reforms in the education and training system; and
- Reform unemployment and related benefits systems – while taking into account interactions with the tax system – in order to reach goals of social equality with only minor disruptions to the efficiency of the labor market.

Brandt et al. (2005) provide an overview of reform efforts in the OECD countries within the last 10 years and discuss to what extent they conform to the recommendations of the OECD's Jobs Strategy. This shows that many states have implemented reforms, with comprehensive reform efforts to be found in particular in Denmark, France, and the Netherlands. Only few reforms, however, have been implemented in the Czech Republic, Iceland, Japan, Mexico and Switzerland. One needs to bear in mind, however, that the need for reforms depends strongly on the

starting position of the individual countries. According to the OECD scale, Austria ranks eighth in terms of its reform efforts.

The reforms of the OECD countries are spread unevenly across individual political areas. Governments have primarily lowered labor taxes, deregulated temporary employment contracts, and taken measures to activate unemployed people. On the other hand, there were hardly any reforms concerning standard employment contracts or the unemployment and related benefit systems.

As for Austria, increased reform efforts can be noted in terms of taxes and social security contributions as well as the pension sector. A comparatively high level of reform activity can also be found in the field of unemployment insurance, while there were virtually no reforms in the wage-formation process (cf. Brandt et al., 2005).

It is interesting to compare Austria's reform efforts to the OECD's recommendations (cf. Brandt et al., 2005, annex 2). It can be noticed that there are a number of political areas where reforms were carried out without country-specific recommendations from the OECD. However, there are also areas where no reforms were initiated despite such recommendations.

The efforts to reduce labor taxes are regarded as positive, even if there was no country-specific recommendation by the OECD in this area.

As for EPL, there were recommendations concerning the reform of dismissal protection regulations and temporary employment contracts. There were two reforms in the first area affecting older employees. While the introduction of a penalty upon dismissal (1996) was rated as negative, the extension of the waiting period after commencing employment for increased employment protection from 6 months to a year (2001) is in line with the OECD's Jobs Strategy. Positive reactions were triggered by the introduction of "Severance Pay – New", loosened regulations for temporary employment in tourism and agriculture, as well as the permission for private job agencies to act as temporary work agencies.

In the field of active labor market policy, the extension of the relevant programs is in conformity with the recommendations. The increased target group orientation (youth programs) was also evaluated positively, although no recommendation was given in that area.

From the OECD's point of view, reform efforts in the field of unemployment insurance were seen as positive. In this context, the OECD mentions changes in the calculation of the replacement rate as well as the tightening of the provisions governing acceptability of jobs, even if there were no recommendations in these fields. Allowing brief employment periods during unemployment without negative financial consequences is in conformity with the recommendations. The same is true for the pension reform.

Recommendations were issued for the areas of industrial relations and wage determination as well as the increase in work time flexibility, but hardly any reforms were carried out. This applies to the field of wage formation in accordance

with education, training, experience and productivity, the use of opt-out clauses and flexibility in terms of part-time employment.

I would now like to deal with the labor-market related recommendations in the OECD Country Report for Austria (2003 and 2005) and comment on them. In the area of raising flexibility of wage and labor cost, the OECD recommends an increased application of opening clauses in the wage formation process as well as better consideration of the specific situation of older employees. Macroeconomic real wage flexibility[6] is still high in Austria, but there are indications of rigid relative wage structures (cf. Hofer et al., 2001), such as returns to education as well as industry and gender-specific wage differentials. Furthermore, relative wage mobility[7] is comparatively low in Austria (cf. Hofer and Weber, 2002). Thus, an increase in wage flexibility on a company level, in particular in line with productivity, might yield positive effects.

As regards working time flexibility and employment protection, the OECD suggests abolishing the part-time allowance for older workers. Partial retirement regulations only make sense if they allow older employees to remain employed for longer by reducing their working hours. As subsidizing early retirement pensions is not approved of, the possibility to frontload work in the phased retirement program should be eliminated altogether.

As for the reduction of incentives for early retirement, the OECD demands a review of the entitlement conditions for invalidity pensions. The government's efforts so far in terms of extending life working time must be viewed as absolutely positive. The current pension reform has not led to a significant increase in the unemployment rate among 50 to 65-year-olds. However, the strong increase in invalidity pension must be regarded as problematic, entailing the necessity of a reform of invalidity pensions. However, it will also be necessary to rethink tasks that are demanding on the health of employees. Thus, the OECD requires incentives also for employers to reduce the probability of industrial injuries as well as occupational diseases. Measures to prevent invalidity must set in at an early stage. Applications of the active aging concept (e.g. reduced shift work) are to be viewed as positive and should be expanded. More flexibility in terms of job mobility is also required (e.g. from construction worker to receptionist).

The OECD has expressed some skepticism as regards the extent to which seasonal workers claim unemployment insurance. In general, Austria is marked by a very high level of seasonal unemployment, which can to some extent be put down to the design of unemployment insurance (cf. Felderer et al., 1999). This is not limited to the construction and tourism industries but affects other economic

[6] This denotes the reaction of real wages to external or internal supply shocks. The direct impact of unemployment of wage formation may be taken as an indicator, for example.

[7] Wage mobility measures the changes in relative income positions of an employed person within a certain period of time.

sectors as well. From my point of view, therefore, consideration should be given to introducing experience rating in the unemployment insurance system.

In addition, the OECD suggests the reduction of effective marginal tax rates for low incomes. Furthermore, it demands the introduction of employment-based transfers in conjunction with more pronounced wage differentiation. Austria is also faced with the problem that unemployment is highest among least-qualified workers, while the activity rate is low at the same time. A reduction of social security contributions for low-income earners could improve their chances of employment. It must be taken into account that distribution goals can be achieved more easily through the tax system rather than by direct market intervention, which might entail negative consequences on employment. In the long run, subsidizing or creating a low-wage sector most be seen as problematic, however, as this would lead to a reduction in the incentives to acquire human capital.

Furthermore, the OECD recommends a modernization of the dual vocational training system, but is skeptical in terms of financial subsidies. The OECD wants to ensure that the apprentice foundations convey qualifications that are sought after by the market. I consider a further modernization of the apprentice system to be necessary. In the short, it would be possible to generate additional apprenticeship positions by massive financial subsidies (Blum bonus), but such a system would not be financially viable in the long run. Rather, it is necessary to increase efforts to improve the technical and social skills of apprenticeship seekers.

3.2 Lisbon Process and European Employment Strategy

The European Employment Strategy (EES) was initiated in 1997 with the goal of significantly reducing unemployment in Europe within five years. Originally, the EES was based on four pillars (employability, entrepreneurship, adaptability, and equal opportunities). Using employment policy guidelines as a starting point, the Member States developed national action plans for employment (NAP), which were evaluated by the Commission and the Council in so-called Joint Employment Reports (JEP).

Those JERs evaluate the measures to implement the country-specific employment policy recommendation and discuss challenges for the employment policy of the individual Member States. In general, the Employment Reports consider the Austrian strategy to be in conformity with the EU's central employment policy issues. Weaknesses seen to exist in Austria include the low employment rate and above-average unemployment rate for older people, which are put down to deficits in the area of life-long learning and the traditional policy of early retirement (JER 1999, 2000, 2001). Gender-specific differences in terms of labor force participation rate and income are addressed on several occasions. The low labor force participation rate among women is put down to a lack of child-care facilities (JER 2000, 2004/5). Similarly, attention is drawn to the big gender-

specific wage differences (JER 2000, JER 2001, JER 2003/4, JER 2004/5). Furthermore, the insufficient integration of migrants is criticized (JER 2000). The expansion of active labor market policy (JER 2002) and the pension reform (JER 2003/04) are evaluated as positive. The 2004/05 JER regards the reform efforts in terms of a comprehensive active-aging strategy as generally positive, but at the same time demands further measures to prevent early retirements (e.g. invalidity pension, public sector). The lack of incentives regard further education of low-qualified workers and immigrants is also criticized.

In 2005, the Lisbon Strategy was thoroughly revised and the goals of stronger and sustainable growth as well as the creation of additional and better jobs became the new focus. From that time on, EES guidelines have been presented in connection with macroeconomic and microeconomic guidelines. The integrated guidelines under EES read as follows:

- Focusing employment policies on achieving full employment, improving quality and productivity at work, and strengthening social and territorial cohesion;
- Promoting a lifecycle approach in employment policy;
- Creating inclusive labor markets, enhancing work attractiveness, and making work pay for jobseekers – including disadvantaged people – and the inactive;
- Improving the matching of labor market needs;
- Promoting flexibility combined with employment security and reducing labor market segmentation, with due regard to the role of the social partners;
- Ensuring employment-friendly labor cost developments and wage-setting mechanisms;
- Expanding and improving investments in human capital; and
- Adapting education and training systems in response to new competence requirements.

Based on the integrated guidelines of the Lisbon Strategy for higher growth and employment, the Member States developed National Reform Programs (NRPs).

I would now like to deal with the evaluation of Austria's National Reform Program (NRP) (Austrian Federal Government, 2005) by the EU Commission (EU Commission 2006). The Austrian Program identifies seven important policy areas: Sustainability of public finance, R&D and innovation, infrastructure, international competitiveness, labor markets, employment, and education and training. In general, the EU Commission regards the Austrian strategy as consistent, while rather short-term oriented. Whereas specific targets are stated for tax ratio (40% of GDP by 2010) and expenditure on R&D (3% of GDP by 2010), there is no specific figure for the employment rate targeted. There is also criticism concerning the missing reference to improving competition intensity in the service sector.

With regard to employment policy, the NRP shows a focus on raising the employment rate, promoting active aging, and reforming education and training activities. Increases in expenditure on active labor market policy, strengthening the

AMS (Public Employment Service Austria), and the measures to reform the apprenticeship system are viewed positively. Criticism is directed at the lack of attention to availability of child-care slots and the integration of migrants in the labor market. Furthermore, the high gender-specific wage differences are pointed out, and there is a call for an adequate balance between flexibility and security regarding the fast development of new forms of employment.

In the area of education and training, the EU Commission commends Austria's good position, but increased efforts to raise the standards in reading, mathematic and sciences are still considered to be necessary.

A final evaluation identifies three strengths and two weaknesses:

- A consistent strategy to promote innovation and environmental technology
- Adequate measures (increase in funds for active labor market policy and decrease in non-wage labor cost) to raise the employment rate;
- Attempts to modernize and promote apprentice training;
- There is a deficit in terms of competitive incentives in the service sector;
- There is a need for additional measures to increase the employment rate of older employees and increased investment in the vocational training of adults.

From my point of view, the state's increased support of research and development must be regarded as positive, but it must be ensured that the financial incentives for the promotion of R&D trigger new activities and are not just taken as windfall profit. Therefore it is necessary to evaluate the promotion measures.

Ex ante the link between higher expenditure on R&D on the one hand and higher growth and thus less unemployment on the other is not granted. From my point of view, efforts to improve the R&D ratio, and thus ultimately strengthen the economy's ability to innovate and to raise its growth potential, are necessary to safeguard Austria's position as a high-wage location. Increased labor productivity should ultimately also lead to more employment. This will only be true, however, if the qualification of the labor force corresponds to the requirements of such new jobs, but at the moment many unemployed lack adequate qualifications.

I am fully in favor of channeling labor market policy expenses to active measures, but such measures need to evaluated on a continuous basis and adapted if necessary. What is also needed is a more long-term planning horizon for those measures. This is the only way to ensure that the jobless are offered adequate programs to improve their skills and qualifications.

As already mentioned in connection with the OECD's Jobs Strategy, I have some reservations as to whether the current efforts in the field of apprentice training will have positive economic effects in the long term. While tackling youth unemployment is necessary, an international evaluation of active labor market policy measures reveals modest success among youth at best (cf. Grubb and Martin 2001).

In conclusion it can be stated that the OECD's Jobs Strategy and the EU Commission's Lisbon Strategy lead to similar recommendations. The problems of

the labor market are put down mainly to rigidities which impede the adaptation to changing economic conditions[8]. The promotion of an economy's adaptability and innovative power should foster growth and exploit existing employment potentials.

4. Two Factors Influencing Unemployment

Unemployment and its development cannot be interpreted in a monocausal manner. Rather, a number of factors (flexibility of labor and product markets, wage formation process, qualification, education system, design of tax and transfer system, reaction to macroeconomic shocks etc.) interact in their effects on unemployment. In the following, I want to focus on only two factors, i.e. qualification and the cyclical reaction of labor supply to fluctuations in the business cycle.

The risk of unemployment and its development over time cannot be regarded independently of the skill level of the population. Like other countries, Austria also shows a negative interrelation between the risk of unemployment and the level of human capital (see tables 3 and 4). In 2004, 40% of the unemployed had completed only compulsory school education, while 5% had not even reached that level (see table 3). Roughly every third unemployed person has completed apprentice training. About 5% graduated from a vocational school, and roughly 10% of all unemployed had passed their *Matura* (high school diploma qualifying graduates for university-level studies). The share of university graduates among the unemployed is 4%. If unemployment rates are calculated for the individual levels of education[9], the results are similar. The unemployment risk is significantly higher for less qualified employees. Thus, for example, the unemployment rate among people with no education beyond compulsory schooling is twice as high as the national average[10]. In 2003, the rate for people in this group was 15.6%, while the rate for university graduates stood at only 2.3%. At 6.3%, even the rate for persons who had completed apprentice training was below the national average of 7%.

[8] For critical remarks see, e.g., Blanchard (2006) or Freeman (2005).

[9] The data provided by the Association of Social Insurance Providers do not allow for a breakdown of employment by level of education. Therefore, the education structure of employment from the labor force survey is applied to the data from the Main Association. However, changes in the labor force survey in 1994 and 2004 led to disruptions in the qualification structure of employment.

[10] The unemployment rates according to the 2004 labor force survey show a very similar picture. According to these statistics, the overall unemployment rate was 4.9%. While the unemployment rate of persons with compulsory education was 9.5%, the rate for persons with completed apprentice training was 4.2%. University graduates find themselves in the most favorable position with a rate of 3%, followed by graduates of vocational schools with 3.7%. The rate for graduates of general-education or vocational high schools was 4.4%.

Table 3: Unemployment by Qualification Level

	2004		2003		Change 2003–2004
	Number	Share of unemployed	Number	Share of unemployed	Development of unemployment (relative)
Unemployed women	*103,618*	*100%*	*100,362*	*100%*	*3.2%*
no school education completed	*5,329*	*5.1%*	*4,946*	*4.9%*	*7.8%*
compulsory school education	44,346	42.8%	43,020	42.9%	3.1%
apprenticeship	29,075	28.1%	28,622	28.5%	1.6%
vocational school	9,736	9.4%	9,812	9.8%	-0.8%
general-education high school qualifying	3,894	3.8%	3,750	3.7%	3.8%
vocational high school	6,224	6.0%	5,868	5.8%	6.1%
academy of higher education, university	4,540	4.4%	4,006	4.0%	13.3%
Unemployed men	*140,262*	*100%*	*139,717*	*100%*	*0.4%*
no school education completed	6,073	4.3%	5,530	4.0%	9.8%
compulsory school education	55,161	39.3%	54,486	39.0%	1.2%
apprenticeship	59,453	42.4%	60,746	43.5%	–2.1%
vocational school	4,463	3.2%	4,374	3.1%	2.0%
general-education high school qualifying	3,640	2.6%	3,566	2.6%	2.1%
vocational high school	6,506	4.6%	6,502	4.7%	0.1%
academy of higher education, university	4,458	3.2%	4,145	3.0%	7.6%

Source: AMS and Association of Social Insurance Providers, compiled by the author.

The available data shows not only a markedly higher unemployment risk for less skilled persons but also a relative deterioration for this group over time. Thus, while the unemployment rate overall has risen by about 0.5% since the mid-1990s, the rate for persons with no more than completed compulsory school education

increased from 11% to 15.5% (see table 4). The increase for this group already accounts for almost the entire rise in the unemployment rate[11], as the rate had remained more or less constant for all other groups. However, unemployment rose from 3.1% to 3.5% also among high school graduates. Overall, the unemployment data according to level of education suggests that there are significant problems especially in the field of less qualified employees. The job prospects for persons with no more than completed compulsory school education have worsened significantly over the last 10 years.

*Table 4: Unemployment Rate by Level of Education**

	Overall	Compulsory school	Apprenticeship	Vocational school	High school	University
1990**	5.4%	9.2%	4.5%	3.0%	2.8%	2.2%
1995	6.6%	11.0%	6.5%	3.7%	3.1%	2.2%
1996	7.0%	12.4%	6.7%	4.0%	3.4%	2.5%
1997	7.1%	13.3%	6.6%	4.0%	3.5%	2.4%
1998	7.2%	13.6%	6.7%	4.3%	3.4%	2.3%
1999	6.7%	13.0%	6.2%	4.0%	3.1%	1.9%
2000	5.8%	11.9%	5.5%	3.2%	2.6%	1.6%
2001	6.1%	13.2%	5.6%	3.1%	2.7%	1.7%
2002	6.8%	15.1%	6.2%	3.6%	3.2%	2.2%
2003	7.0%	15.6%	6.3%	3.6%	3.5%	2.3%
2004**	7.1%	17.2%	6.7%	2.8%	3.7%	2.1%

** Employed persons according to the Association were classified based on the microcensus information on highest level of education completed.*

*** Disruption in the qualification structure of employed persons 1994 and 2004.*

Source: Microcensus, Association of Social Insurance Providers, AMS, compiled by the author.

An international comparison shows that countries with less pronounced cyclical fluctuations in their unemployment rates ceteris paribus also have lower levels of unemployment (cf. Elmeskov and Pichelmann, 1994). Several factors influence the

[11] Between 1997 and 2003, the number of registered unemployed increased by 6,730, with the number of unemployed with no more than completed compulsory school education rose by 5,547.

extent of cyclical variability of the unemployment rate over the business cycle. Ultimately, changes in the unemployment rate are the result of the dynamic interaction of the flows into/out of employment, unemployment and non-participation in the labor market. From a purely mechanical point of view, the extent of cyclical fluctuations of output, the reaction of labor demand to output fluctuations and the cyclical variability of labor supply interact in their effects. Finally, also the cyclical reactivity of real wages mitigates fluctuations in production and employment.

Pichelmann et al. (1998) argued that it was especially the high elasticity of labor supply with regards to changes in job prospects, which helped to keep unemployment low in Austria. In the following, indicators for the cyclical response of employment to output fluctuations[12] as well as the reaction of labor supply to fluctuations in employment are estimated for the period from 1988 to 2004.

The reaction of unemployment to cyclical fluctuations in GDP was 0.53 for the period from 1988 to 2004 (see table 5). Thus, changes in the economic situation are not fully reflected in the employment rate, but are also mitigated by pro-cyclical changes in labor productivity. This link cannot be directly equated to the phenomenon of labor hoarding in recession, short-time work and other working time reactions. The relatively high flexibility of real wages and the less business cycle-sensitive employment expansion in the field of private and public services also had a major impact on this cyclical stabilization. Compared to the period from 1970–1996 (0.47), employment reaction increased moderately at best.

In terms of the extent of cyclical labor supply responses in Austria, Pichelmann et al. (1998) reported a value of 0.83, and even 0.93 for the period from 1984 to 1996. As can be seen from table 5, the labor supply response has decreased over time. It was only 0.68 for the period from 1988 to 2004, which is, however, still high by international comparison.

[12] Simply speaking, these result from a regression of the cyclical component of employment to the cyclical component of output, with the cyclical components each being generated by the HP filter. In the same manner, the cyclical component of labor supply is regressed on employment.

Table 5: Cyclical Reactivity in the Labor Market

	Response of employment to fluctuations in output	*Response of labor supply to fluctuations in employment*
1970–1996	0.47	0.83
1984–1996	0.70	0.93
1988–2004	0.53	0.61
Women	0.62	0.68
Men	0.48	0.55

Source: Pichelmann et al. (1988) for 1970–1996; Hofer et al. (2005) for 1988–2004.

The causes for this decline can only be speculated upon. One might argue, for example, that the cyclical character of labor migration has decreased, or that the degree of controllability via administrative measures has decreased significantly. Another possible explanation might be that women are integrated more strongly in the employment system and no longer leave the labor market in unfavorable economic situations. Furthermore, the extension of active labor market policy may have caused people to be less likely to withdraw from the labor market temporarily. Moreover, early retirement has been made more difficult.

5. Concluding Considerations and Challenges in the Austrian Labor Market

Finally, I would like to look at weaknesses in the Austrian employment system and future challenges. As has been shown, a deterioration was noticed especially with respect to less skilled workers. This development is also found in other countries and can be explained by skill-biased technological change or globalization. There is absolutely no indication of a change in this trend in the future. Austria's human capital potential will be central to the further development of its economy. Therefore, I would like to focus especially on the group of low-skilled employees. For this group, it is also necessary to take into account that it will be exposed to increased adaptational pressure in the near future as a result of the expiry of transitional provisions governing the freedom of labor for the new EU Member States. Measures of active labor market policy to improve qualifications are necessary and sensible. However, international evaluations show rather mixed results, in particular in terms of success with respect to youth employment. Coupled with this, Austria also shows clear weaknesses in its system of dual

vocational training. There are significant problems in the labor market integration of people after finishing apprenticeship, and the supply of apprenticeship places falls clearly short of demand. Therefore, measures should be taken at an early stage, i.e. already in the education sector.

A second trend is the aging of society. In order to maintain prosperity and secure financing of the pension system, it will be necessary to raise the labor force participation rate considerably, in particular, but not only, among older employees. Occasionally, it is argued that the (relative) decline in the working population will almost automatically entail a drop in the unemployment rate. This will only be possible, however, if the labor force becomes more flexible. The aging process will bring about changes in the structure of consumer demand. Furthermore, the active aging strategy must be employed at a younger age already. Life-long learning is also necessary to handle the changing demands of the labor market.

5.1 Erasing Education Deficits in the School Sector

One significant goal for the improvement of qualification structures is the pre-emptive support to improve the necessary basic qualifications. This improvement will have effects in the short, medium and long run by reducing academic failure and repetition as well as drop-out rates when vocational qualifications are acquired, and the basic level of competence is improved overall. These measures will also have an impact on PISA results by reducing the share of students with insufficient basic skills.

A more detailed evaluation of the PISA results as well as evaluations of information based on school statistics make it possible to come up with a rough definition of the scope of the target group for such support measures. According to the 2003 PISA study, in the areas of mathematics and reading, 19% and 20%, respectively, of all students – that is about 19,000 youth per year, or about 171,000 children and youth, if extrapolated to the entire compulsory school population – fall into that risk group which reaches only competence level 1. This group is exposed to a great risk that the lack of fundamental knowledge and skills may impede their future participation in business and social life. In particular, students with a migrant background or a disadvantaged social background produce significantly worse results.

A promising instrument can be found in the form of individualized promotion of specially qualified persons or services working on remedying specific problems, such as measures for German as a second language as well as various forms of consulting, accompanying or supporting teaching staff. Some of these support measures could be offered by external services.

It was not possible to further reduce the share of youth who drop out of school early, and is now – according to the European key indicator based on a labor force survey – at roughly 9% (EU average: 17%) for 18 to 24-year-olds. Thus, about

8,900 youth per year leave the education system at secondary level II without any diploma, resulting in a total number of about 60,000 people if extrapolated to the entire age group.

5.2 Improvement of Continuing Education and Life-Long Learning

In an international context, there is a rather low level of organizational activities in continuing education, and SMEs – due to a number of factors – are less active in this field than larger companies. In addition to tax incentives, the European Social Fund (ESF) promotes measures aiming at improving the qualification of employees directed at the target groups of labor market policy (low-skilled or older employees, women), e.g. by means of financial support for participation in qualification measures. Older and less qualified employees, as well as small (less than 100 employees) and very small (less than 10) enterprises are underrepresented.

Synthesized results of the impact of further education and training show that such measures rather tend to lead less qualified and older employees to stay with the company for longer. At the same time, there are certain factors working against the employment of older people, in particular the gap between income development and productivity.

Strategies to promote life-long learning are required, even though success has been limited so far. Activities in further education and training tend to be concentrated on more highly qualified employees also on an international level. Thus, low-skilled employees must be offered additional incentives to increase their human capital and improve their skills and education level on a continuous basis.

5.3 Job Incentives for Women

Against the backdrop of an aging society, it is necessary to exploit the labor force potential; in particular, it would be possible to increase the employment rate among women. What is required here is an improved work-life balance. Women are faced with problems when reentering the professional life which get more pronounced the longer they had been absent from the labor market. Child care commitments represent a major obstacle to mobility in the labor market. For this reason, it would appear necessary that the state should contribute more generously to financing child care services for working mothers. It would be necessary to improve the coordination of working hours with operating hours of child care facilities. Also, the regulation of maternal leave times has a rather significant impact on the labor supply of mothers (cf., for example, Lalive and Zweimüller 2005). Thus, if the employment rate of women is to be increased, reforms concerning child care benefits (e.g. reducing the period of entitlement) are well worth considering.

What should also be subjected to a critical review in this context are the high gender-specific wage differences. However, measures to reduce these gaps always have to take into account the underlying reasons. To the extent such gaps are due to differences in productivity, a reduction would affect the employment chances of women negatively. Wage differences that are based on discrimination (cf., for example, Böheim et al. 2005) reduce the efficiency of the labor market and need to be removed.

5.4 Unemployment Insurance and the Integration of the Tax/Transfer System

By international comparison, the Austrian unemployment insurance system is not particularly generous. Therefore, a reduction of the net replacement rate is not recommended. Attempts to activate labor market policy in recent years have to be viewed as positive efforts. A successful labor market policy should aim at providing financial security to unemployed persons. In return, however, it is necessary to require a willingness in terms of taking part in further education and training, increasing search efforts and taking up employment. Against this backdrop, innovative labor market policy measures such as "*Kombilohn*" wages subsidized by the state) are certainly worth considering.

Frictional and/or seasonal unemployment are highly relevant in Austria, both in an international comparison and in terms of their relative share in overall unemployment. Roughly one fifth of total unemployment is accounted for by this component. The introduction of an experience-based element in the unemployment insurance system might thus lead to a reduction in unemployment which takes effect fast and is sustainable.

The current system of social welfare must be regarded with caution. As some provinces still force employees to repay benefits, there are incentives to withdraw from the labor market permanently. Thus, a closer integration of "*Notstandshilfe*" (assistance for persons no longer eligible for unemployment benefits) and social welfare should be considered.

5.5 Reduction of Non-Wage Labor Cost Especially in the Low-Wage Sector

Numerous studies prove the negative impact of labor taxes (tax wedge) on the development of the labor market. For this reason, it seems sensible and necessary to further relieve non-wage labor cost for labor market policy reasons. High marginal tax rates keep people from taking up employment, which is especially true for low-skilled employees. Thus, a reduction of social security contributions is worth considering for that group.

5.6 Wage Formation Process

By international comparison, the macroeconomic real wage flexibility is still high. In their wage negotiations, the social partners focus on macroeconomic goals, which helps keep unemployment low. However, the rigidity of relative wage structures (education, industry, gender) and low wage mobility must be reviewed. Furthermore, a company's specific situation should be taken into closer consideration in wage formation, e.g. by making use of opening clauses in bargaining agreements. The introduction of minimum wages which has been discussed for a while, however, should be regarded with caution, as distribution goals can be reached in a better way by means of the tax and transfer system.

5.7 Strategies for Active Aging

I consider the reform steps taken in the field of pension insurance positive, but there are still problems in employing older people. A reform of invalidity pensions is due. However, the promotion of life-long learning and the increased participation in continuing education measures are not the only factors necessary to increase the labor-force participation rate of older employees; it is necessary to take measures already at an earlier stage. Possibilities include, for example, incentives for employers to reduce the probability of industrial injuries as well as occupational diseases. Measures for active aging (e.g. reduced shift work, early retraining following heavy labor, health prevention) are required.

5.8 Making Working Hours More Flexible

Globalization and strong competitive pressure require increasing flexibility from both, companies and employees. Here, the main problem will be the design of intelligent working time models which fulfill operational requirements on the one hand and do not put employees at a disadvantage on the other hand, either.

The increase in part-time work must be viewed as positive in this context. However, it must be ensured that part-time workers are not excluded from corporate training and education measures.

5.9 Eastern Enlargement and Freedom of Labor

The EU's eastern enlargement will put even more pressure on less skilled employees. This would appear to make it necessary to increase efforts to improve the skills of less qualified Austrian employees or foreign employees already resident in Austria. The experience of the early 1990s has shown that the Austrian labor market is not in a position to fully absorb labor supply shocks. Therefore, transitional provisions do make sense, but it would be necessary already at this

point to loosen restrictions or gradually open the labor market, for example by defining quotas, in order to avoid a massive labor supply shock when the transitional provisions expire.

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How to Raise the Employment Rate of Women in Austria

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1. Introduction

The employment rate of women reflects the social organization of labor, notably the division of labor between (paid) market work and (unpaid) household work, and between the formal and the informal sectors of the economy. As a rule, female labor market participation rates are low in countries where only a small share of home production has switched to market production and where the informal sector accounts for a high share of value added (Biffl, 1996b, 2002). This relationship explains why the share of female employment differs strongly across the EU. In 2004, the proportion of women in employment averaged 62.5% in the EU-15 and 62% in the EU-25 (for workers aged between 15 and 64). Denmark reported the highest rate at 76.2%, and Italy the lowest rate at 50.6%. Austria ranked in the upper middle range at 64.2%, a few notches below Germany (65.8%). In this respect it is interesting to note that in the Nordic countries, the United Kingdom and the Netherlands, a larger share of household activities, above all childcare and long-term care, has been shifted to market providers than in Central European countries such as Austria. In Southern European countries, finally, the switch from household to market production has been least pronounced, while their informal sectors account for some of the highest shares in value added among OECD countries (Enste, 2003). It is not surprising for the above reasons that the participation rates of women in the labor force differ by as much as 25 percentage points among the EU-15. In contrast, the gap between male employment rates is not even half as big, with Belgium reporting the lowest rate (73.4%) and Denmark the highest rate (84.0%) in the EU-15 (see table 1, chart 1).

Given that the large differences in female labor force participation across the EU reflect different approaches to organizing social reproduction, this phenomenon is most pronounced in the prime working age. Yet the unequal division of paid and unpaid labor

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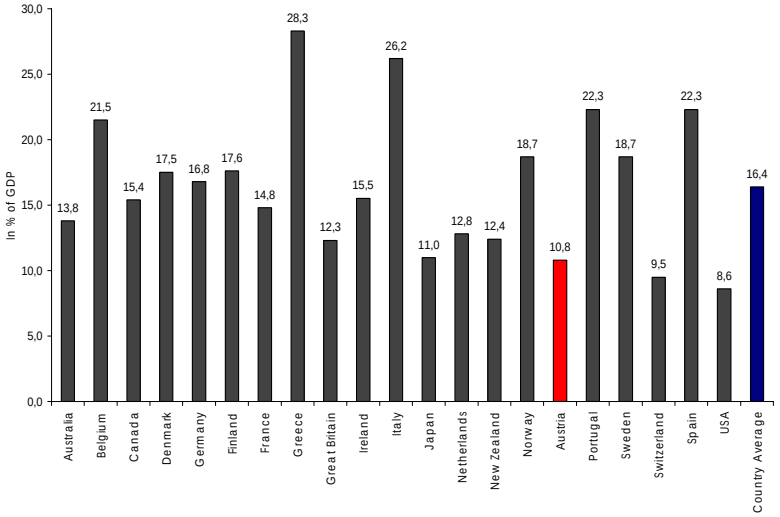
among men and women also affects (1) the gender-specific educational choices they make and (2) whether or not they retain their jobs up to a higher age. Thus, different education systems and the interaction of these systems with the labor market influence the employment rate of young people (Biffl, 2005); the traditional gender division of paid and unpaid work has an impact on employment rates in the middle age groups; and early exit regimes/ pension systems affect the participation rate of older workers (OECD, 2005) (chart 2). In Austria, the share of youth employment (age group 15–24) is actually comparatively high by international standards, above all because many young people serve an apprenticeship (and thus qualify as employees) while only few go to university.[2] At the same time, Austria has one of the lowest employment rates of older men and women.

Table 1: Employment Rates of Men and Women in the EU-25 (2004), Eurostat

	Men	Women	Total
Belgium	73.4	58.2	65.9
Denmark	84.0	76.2	80.1
Germany	79.2	65.8	72.6
Estonia	74.4	66.0	70.0
Finland	76.4	72.0	74.2
France	75.2	63.9	69.5
Greece	79.0	54.1	66.5
Ireland	79.9	59.0	69.5
Italy	74.9	50.6	62.7
Latvia	74.3	65.3	69.7
Lithuania	72.8	65.6	69.1
Luxembourg	74.8	54.3	64.7
Malta	80.4	36.0	58.3
Netherlands	83.9	69.2	76.6
Austria	78.5	64.2	71.3
Poland	70.1	57.9	64.0
Portugal	79.1	67.0	72.9
Sweden	79.1	75.2	77.2
Slovak Republic	76.5	63.0	69.7
Slovenia	74.5	65.0	69.8
Spain	80.4	56.8	68.7
Czech Republic	77.9	62.2	70.0
Hungary	67.2	54.0	60.5
United Kingdom	82.0	68.6	75.2
Cyprus	83.0	62.9	72.6
EU-25	77.5	62.0	69.7

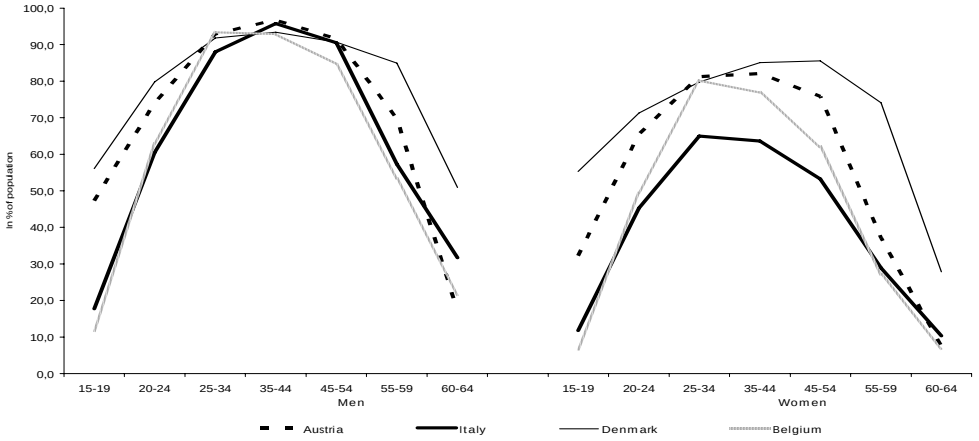
[2] The low share of tertiary education students in a cohort reflects the small number of high school graduates and the high significance of vocational high schools in Austria. With the latter providing education for employment, graduates from such institutions seldom go on to university (Biffl and Isaac, 2002). Moreover, as many students work while studying, Austrian students tend to take rather long to graduate by international standards.

Chart 1: The Informal Economy in % of GDP in Selected OECD Countries (2002/03)



Source: Institut der deutchen Wirtschaft, Cologne.

Chart 2: Activity Rates of Men and Women by Age (2004)



Source: OECD, Labour Force Statistics.

Taking the gender gap of labor force participation (activity rates) in the various age groups as a starting point, it is possible to define strategies for raising female employment in line with the Lisbon Agenda.

2. Weak Rise in Female Labor Force Participation in Austria in Recent Decades

Compared with the majority of the EU-15, female labor force participation in Austria has risen at a rather weak pace in recent decades, starting from a relatively high level in the 1960s.[3] This reflects not only the comparatively small improvements made in terms of raising the educational attainment level of women and widening their occupational deployment but also their particular employment behavior. To care for children and other dependents, Austrian women tend to leave paid employment or opt for part-time work more often and for longer periods than women in other EU-Member States. Especially women in Nordic and Anglo-Saxon countries, or even in France and the Netherlands tend to leave the labor force or switch to part-time work less often when they start a family. This reflects a higher career orientation, as a result of which these women also tend to keep working until higher ages than Austrians (charts 2 and 3).

The fairly low labor force participation rate of Austrian women is linked with the comparatively low degree of tertiarization of the Austrian economy. This situation appears to be a case of two-way causality, i.e. resulting from both supply-side and demand-side reasons: as women are less career oriented, taking the high proportion of part-time work as an indicator, they provide goods and services within the household sector, which in other countries (especially in Northern Europe) tend to be provided by the market sector – very often public services, also there largely provided by women (see table 2).

Table 2 shows that while the service sector is the single largest employer of women also in Austria, the share of services in overall employment (66% in 2003) was significantly below the corresponding share in Anglo-Saxon and Nordic countries (over 70%). In Austria, the manufacturing industry and the agricultural sector employ more men and women than the corresponding sectors in other Western industrialized economies.

[3] The high female labor force participation rate in the 1960s was largely attributable to the high significance of the consumer goods industry and the agricultural sector, where the majority of employees are women. For more details see Biffl (1996a).

Chart 3: Development of Female Labor Force Participation Rates in an International Comparison (Age Group 15–64)

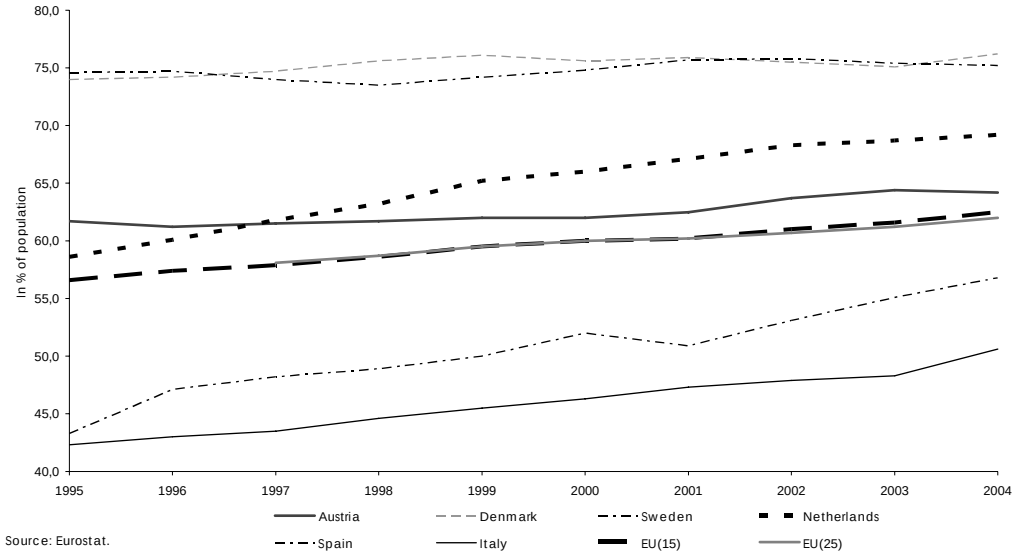


Table 2: Share of Service Sector Employment in the EU-15 (2004)

	Men	Women	Total
Finland	55.0	84.8	69.4
Ireland	51.7	86.0	66.1
United Kingdom	72.0	91.6	81.3
Netherlands	–	–	78.2
Belgium	67.6	89.4	77.2
Germany	60.2	84.3	71.3
Luxembourg	68.9	91.4	77.5
France	64.9	87.2	75.3
Portugal	–	–	–
Spain	51.7	83.9	64.4
Italy	58.0	79.6	66.6
Austria[1)]	53	81	66
Greece	56.3	73.6	62.9
Sweden	61.8	89.2	75.1
Denmark	64.0	87.3	74.8
EU-15	61.2	85.1	71.9

1) 2003.

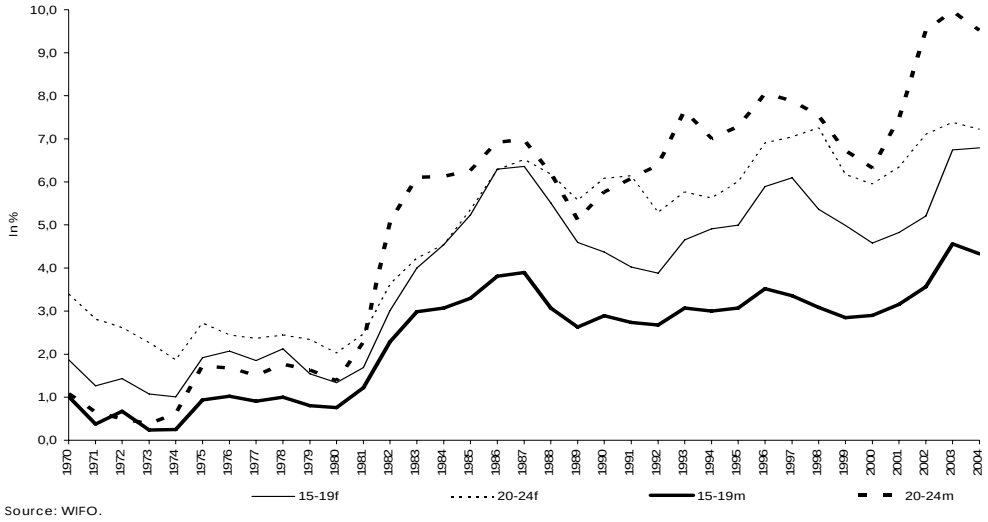
Source: Eurostat (Employment in Europe).

3. Structural Problems Underlying Female Employment in Austria

Even though the national employment rate of women slightly exceeds the EU average, certain structural patterns imply that the job and income opportunities of women in Austria are not very favorable from a medium- to long-term perspective. First, the comparatively high employment rate is a result of the above-average youth employment rate. Here, the ongoing rise in (especially female) youth unemployment (chart 4) reflects trouble looming in the business areas that have typically provided jobs for young people.

Second, the rather large gender pay gap in Austria is not only attributable to the above-average share of women in part-time positions – wage and salary gaps are significant even for females working full time. Judging from developments in the pay gap (as a composite indicator of the quality of jobs) since the mid-1990s across the EU, the position of women seems to have slightly improved in the Austrian labor market (table 3), while remaining at the higher end of the gender pay gap in the EU.

Chart 4: Development of Youth Unemployment



Source: WIFO.

Table 3: Gender Wage Gap in the EU-15 (1995 to 2003)

	1995	1996	1997	1998	1999	2000	2001	2002	2003
EU-15[1])	17	16	16	16	15	16	16	16	16
Belgium	12	10	10	9	11	13	12	–	–
Denmark	15	15	13	12	14	15	15	18	18
Germany	21	21	21	22	19	21	21	22	23
Greece	17	15	13	12	13	15	18	17	11 [2])
Spain	13	14	14	16	14	15	17	21	18
France	13	13	12	12	12	13	14	13	12 [2])
Ireland	20	21	19	20	22	19	17	–	14 [2])
Italy	8	8	7	7	8	6	6	–	–
Luxembourg	19	19	19	18	17	15	16	17	15
Netherlands	23	23	22	21	21	21	19	19	18
Austria	22	20	22	21	21	20	20	–	17 [2])
Portugal	5	6	7	6	5	8	10	8	9
Finland	–	17	18	19	19	17	17	20	–
Sweden	15	17	17	18	17	18	18	17	16
UK	26	24	21	24	22	21	21	23	22

[1]) Estimated figures.
[2]) Break in time series.

Note: Difference in average gross hourly wages of men and women in % of men's gross hourly wages.

Source: Eurostat.

Table 3 depicts the development of gender-related pay discrepancies in the EU between 1995 and 2003, based on the difference between average gross hourly wages of men and women in percent of men's average gross hourly wages.[4] The choice of gross hourly wages allows taking into consideration quantitative differences, but it does not reflect gender-specific differences such as skill levels and occupational patterns. According to these data, the Austrian gender pay gap exceeds the EU average. Eurostat estimated the gender wage gap at 15% on average in the EU-25 in 2003 (EU-15: 16%), which means that it has narrowed slightly since 1995 (EU-15: 17%). In the period 1995–2001, the gender pay gap declined from 22% to 20% in Austria. The data for 2003 – the first year in which data were compiled on the basis of the EU's statistics on income and living

[4] The international comparison is based on a range of data sources, including the European Community Household Panel (ECHP), the EU statistics on income and living conditions (SILC) and national sources, all for people aged between 16 and 64 working at least 15 hours a week. While the EU requires Member States to compile and publish data on the gender pay gap, the choice of data sources as a basis of calculation is up to the individual countries.

conditions (EU-SILC) for Austria (as well as for Greece and Ireland) – indicate a narrower gender pay gap; but given the statistical break with the previous years, the 2003 figure should be interpreted with caution.[5]

In the case of Austria, it is actually rather difficult to narrow the gender pay gap down conclusively to a single figure. Various data sources imply that the median income of women comes to between 75% and 82% of the male median (based on the same number of hours worked). However, according to income and expenditure patterns derived from the consumer survey of 1999/2000, the gender gap of average wages is likely to be much wider (Biffl and Leoni, 2006).

4. Occupational Segregation Exacerbates Gender Pay Gap

Men and women tend to work in different occupations, different industries and companies of a different size. This segregation has hardly changed in Austria since the 1960s. The fact that more women are working these days can be largely traced to the rise in public sector jobs. The share of female employment has risen above all in the education sector (primary and secondary schools), in health and long-term care and in the field of social services. Female employment has also increased in the banking and insurance sectors, but not in the high-growth and wage sector of legal and business services. In the goods production sector, women are concentrated in the production of consumer goods; in the services sector in sales occupations (retail trade, tourism, etc.) and in personal services (education, care work, social services, etc.); these occupational and industry clusters imply that job and income opportunities are unfavorable for women and will remain so for a number of reasons.

Charts 5 and 6 show the gender segregation by occupations (ISCO 88 classification)[6] and industries (NACE classification)[7] in Austria compared with the EU-15. For a better understanding of the graphs: the sum of the gender differences of employment shares in the various occupations/ industries are taken as a proportion of total employment. In the

[5] Note that Statistics Austria cautions that the first-year results of this new EU survey are preliminary and may be subject to further quality adjustments. SILC data for Austria are significantly lower than the corresponding ECHP data: 17% as opposed to 20% for the period from 2001 to 2003; no data are available for 2002. Initial SILC data (2003) on the gender pay gap in Greece and Ireland are also below the corresponding ECHP data. In Greece, the gender pay gap is shown to be 6 percentage points lower in 2003 than in 2002 (11% and 17%, respectively); in Ireland, for which no 2002 data are available, the difference between 2001 and 2003 is 3 percentage points (14% and 17%, respectively). For attempts to explain the gender gap see Böheim et al. (2005).

[6] International Standard Classification of Occupations (88) established by the International Labor Organization (ILO).

[7] Nomenclature générale des activités économiques: EU standard for classifying economic activities.

case of Austria, both the coefficient of occupational concentration (with 27.7% of total employment) and industrial concentration (with 23.3%) exceed the EU-15 average of 25.1% and 17.7% respectively. This is to say that gender segmentation by occupation and industry is more pronounced in Austria than the EU, only surpassed by the Nordic countries, where household production has been transferred to the market more than elsewhere, providing more jobs for women than men.

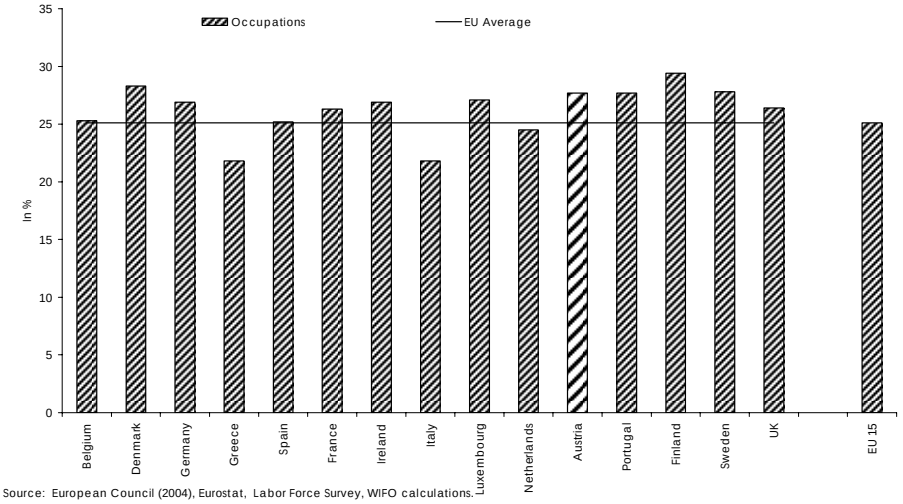
Additional perspectives of the job situation of Austrian women in an EU comparison are provided by the EU Labor Force Survey and the ECHP (European Community Household Panel).[8] Accordingly, the share of middle and top management positions held by women was lower in Austria with 8.1% of all jobs in 2002 than in the EU-15, where it was at 12.9%. Judging from the qualification pattern, Austria has an above-average share of women who completed secondary education and apprenticeships (59.1% compared with 46.5% for the EU-15). At the same time, the share of women workers with low qualifications (21.0%) is below the EU average (25.9%), but the gender gap for low-skilled workers is higher than in any other EU country.[9]

In the face of the inertia of occupational patterns by gender, employment and income prospects of women are not promising. Amid the rising internationalization of the economy (globalization of markets), Austria has lost competitiveness in those traditional production areas (agriculture, consumer goods, medium-technology companies in the electronics industry) in which the share of women has typically been high. However, it is not only the loss of international competitiveness by many low- and medium-technology companies in the labor-intensive primary and secondary sectors which reduces the job and income opportunities of women, but also the fiercer competitive pressure in those service industries which typically hire women, such as retail trade and tourism. Furthermore, tight public sector funds are in view of limited rationalization of personal services no good omen for women, as the public sector is one of the most important providers of good and well paid jobs in the higher skills segments.

[8] See European Commission (2003).

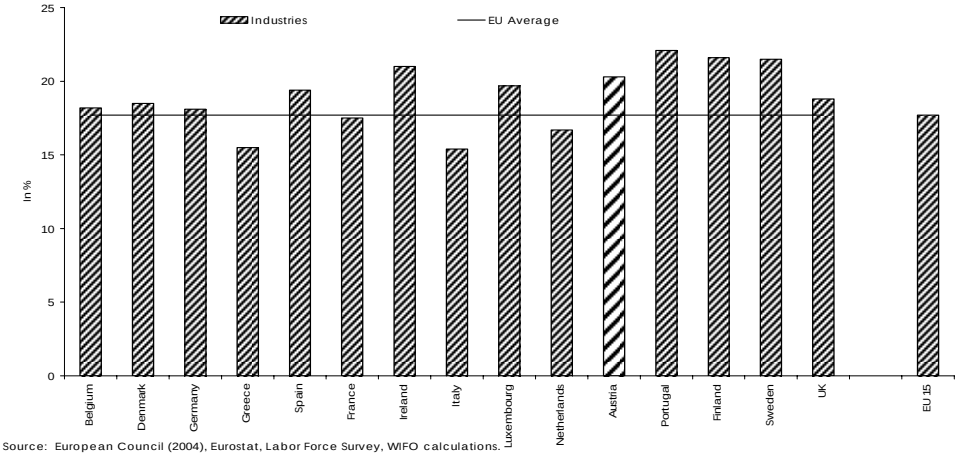
[9] At 21.0%, the Austrian share of low-skilled women (those who have not completed secondary education) exceeds the corresponding share of men (12.6%) by almost 10 percentage points. In the EU average, by contrast, men tend to have a lower skills level than women.

Chart 5: Gender Segregation by Occupations (2002)



Source: European Council (2004), Eurostat, Labor Force Survey, WIFO calculations.

Chart 6: Gender Segregation by Industries (2002)



Source: European Council (2004), Eurostat, Labor Force Survey, WIFO calculations.

While wages in business oriented services can keep pace with wages in the high-technology goods production sector, because the information and computer technologies on which they rely secure rapid productivity growth, this is not the case for personal services. In the case of personal and consumer oriented services it is hard to increase productivity; as a result, these services tend to become more expensive in relation to business services and/or wages paid for such activities deteriorate (low-wage industries). In view of the occupational segregation of jobs and the perpetuation of pronounced gender differences in post compulsory education, women are particularly affected by increasing wage pressures.

One mechanism by which business oriented services become cheaper relative to consumer oriented services is that they may be standardized, mechanized and streamlined like goods production in the industrialization phase. This makes it possible to define and achieve productivity gains (lowering of input requirements for the same output) through economies of scale much like in the production of goods. Continued productivity gains allow companies to raise wages and/or reduce prices without damaging profits.[10]

This microeconomic productivity concept can hardly be applied to personal social services, such as childcare and care for the elderly, long-term care and other social services. Caretaking/nursing requires the active involvement of both care receivers and givers; the room for rationalization is limited, and increasing the nursing ratio will adversely affect the quality of care at some point. In other words, there is a "productivity barrier" imposed by non-economic education/caretaking standards. Given the small room for productivity gains in the microeconomic sense, wage increases in the consumer oriented services sector will push up the cost (price) of the services in question. Since price increases may make such services prohibitively expensive for many people, they are provided by the private sector only to a limited extent. Basically, they are provided by welfare institutions, the state, clandestine workers, the informal sector and households.

In a nutshell, the gender pay gap is the result of a number of factors, including divergent education and training tracks by gender, occupational and industrial segregation, gender differences in working hours and limited career opportunities of women. The gender pay gap is always higher on the basis of average income than on the basis of median income, given the limited number of women holding top wage-earning jobs, quite in contrast to men (charts 8 and 9).

Last but not least, the gender pay gap is increased by a larger number of commuting men than women. Austria is not highly urbanized, as a result of which commuting is widespread, especially among men. Given their family obligations, women tend to be

[10] Already in 1967, Baumol identified the "cost disease of labour intensive services which are resistant to rationalisation," implying that such services are becoming more expensive relative to other goods and services if wages are to keep pace with industrial wages (Baumol, 1967).

less mobile and more dependent on the local job market. Consequently, more women than men work in small and medium-sized enterprises (SMEs) in rural areas. Since bigger companies can typically pay higher wages, this is one more factor that adds to the gender pay gap.[11]

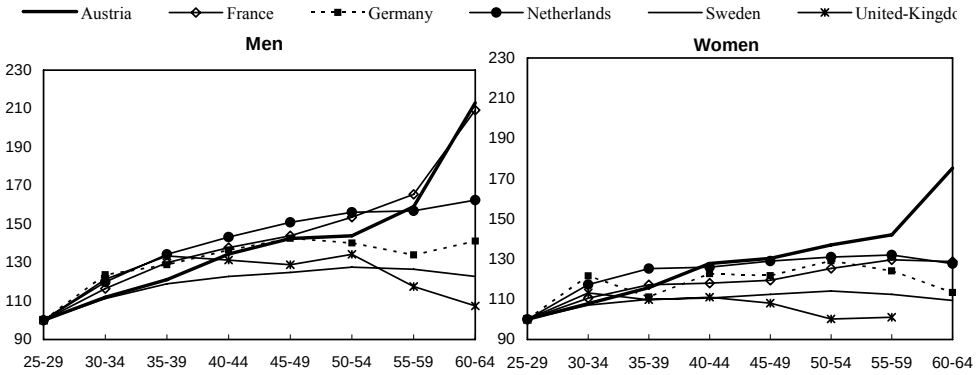
5. Low Employment Rate of Mature Women Due to Low Educational Attainment Level

A life-cycle comparison of the income paths of men and women shows that the wages and salaries of female employees aged 50+ are rising more slowly than the wages of their male counterparts. Apart from gender differences, the age differences in wages in Austria are amongst the highest in OECD countries (OECD 2005, p. 129). Wage increases are fairly low for middle aged workers in Austria, especially for women; this is a result of the great importance of seniority rules in wage agreements of white-collar workers and civil servants (chart 7).

The sharp pay increase of employees aged 55+ in Austria reflects, among other things, the early age, by international standards, at which people with low income prospects leave the labor force, mostly as a result of low or increasingly inadequate qualifications and/or weak physical and mental skills, who avail themselves of the opportunity to take early retirement or get disability pensions with a comparatively low income setback. This leads to an above-average reduction of the employment rate of women and men aged 50+ with low qualifications or blue-collar skills, and to a disproportionate rise of average income in the higher age brackets as the high earners tend to retain their jobs (table 4). The latter are typically highly skilled white-collar workers and civil servants, working full time and receiving substantial seniority increments. In other words, the phenomenon described above also reflects a selection effect (for more details see OECD, 2005, chapter 4).

[11] The example of Upper Austria shows that the most peripheral districts tend to have a low share of female commuters and at the same time the highest gender pay gap figures (Biffl and Leoni, 2006).

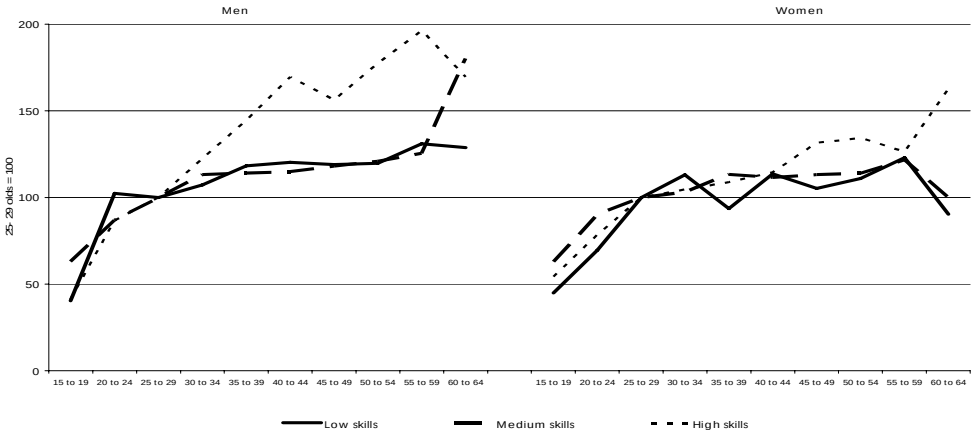
Chart 7: Age-Earnings Profiles in Austria and Selected OECD Countries (2000[a])



a) 2001 for Austria

Source: Austria: Micro census and Wage Tax Statistics; France: DADS; Germany: German socio-economic panel; Netherlands: Statistics Netherlands; Sweden: Statistics Sweden; United Kingdom: Labour Force Survey.

Chart 8: Development of Average Net Income of Full-Time Employees by Age Groups and Qualification Level (1999/2000)



Source: Statistics Austria, Austrian Institute of Economic Research (WIFO).

Table 4: Employment Rates by Age Group, Gender and Skill Level in Selected European Countries (2002)

		Men		Women		Total	
		25–49	50–64	25–49	50–64	25–49	50–64
		Employees in % of the population					
Austria	Low	88.4	49.2	68.8	30.4	76.2	37.2
	Medium	94.9	58.9	82.4	40.0	89.0	49.9
	High	97.0	74.0	90.1	61.7	93.9	70.1
Belgium	Low	87.1	43.5	57.4	21.0	73.1	31.5
	Medium	95.4	63.0	79.0	37.9	87.5	50.7
	High	97.2	71.4	90.4	54.2	93.6	63.8
Switzerland	Low	89.7	81.4	73.2	52.7	80.6	63.4
	Medium	95.3	83.4	81.3	63.7	87.6	72.5
	High	99.4	89.4	87.2	79.0	95.1	86.5
Germany	Low	88.8	55.4	62.8	35.9	74.0	42.2
	Medium	93.5	63.9	80.9	50.5	87.2	57.2
	High	97.4	77.8	88.5	67.7	93.6	74.5
France	Low	91.0	55.7	67.7	44.3	78.9	49.3
	Medium	96.6	67.5	82.5	57.5	89.9	63.0
	High	95.4	81.6	88.5	68.9	91.6	75.5
United Kingdom	Low	74.0	57.4	51.6	49.6	61.4	53.5
	Medium	93.3	76.0	77.5	72.6	85.7	74.7
	High	96.9	79.6	89.0	80.8	93.0	80.1
Netherlands	Low	88.0	60.5	60.5	32.0	74.1	43.5
	Medium	95.5	71.1	81.2	51.9	88.4	62.8
	High	97.9	81.4	89.5	65.9	94.0	75.6
Sweden	Low	84.1	73.2	72.2	60.3	79.1	67.3
	Medium	91.6	80.0	86.7	76.8	89.2	78.4
	High	91.5	88.1	88.6	87.0	89.9	87.5

Source: OECD Education at a Glance – OECD Indicators, OECD (2005).

6. Slow Educational Expansion and Pronounced Gender Segregation

Even though Austria has witnessed a significant educational expansion since the 1970s, it is still lagging behind other industrialized nations, particularly as far as higher education is concerned. Furthermore, gender segregation has increased in Austria. The strong and increasing gender divergence of education paths runs counter to international development trends and may hamper integration of women into well-paid jobs in high-growth areas. The PISA surveys (OECD program for international student assessment) show that in Austria the gender performance gap is large in all disciplines – mathematics, reading, writing and natural sciences. The marked differences would imply that old role models continue to influence school choices and teaching methods. The gender segregation in the education system subsequently shows up in the job market. The preference of boys for market oriented work in the technical and engineering type jobs

and the preference of girls for commercial and sales training as well as teaching and caring jobs promote the development of divergent income and career perspectives.

Table 5: Highest Educational Attainment Level of 25–49 Year Olds and of 50–64 Year Olds in Selected OECD Countries (2002)

		Men		Women		Total	
		25–49	50–64	25–49	50–64	25–49	50–64
Austria	Low	13.4	23.1	22.4	39.4	17.8	31.4
	Medium	69.6	60.2	63.4	53.1	66.6	56.6
	High	17.0	16.6	14.2	7.5	15.6	12.0
Belgium	Low	33.2	51.8	30.1	58.5	31.7	55.2
	Medium	37.3	25.5	35.4	24.0	36.4	24.7
	High	29.5	22.7	34.4	17.4	31.9	20.1
Switzerland	Low	11.4	15.7	14.4	25.4	12.9	20.6
	Medium	53.8	52.3	66.7	62.7	60.2	57.6
	High	34.7	32.0	18.9	12.0	26.9	21.8
Germany	Low	12.4	13.9	17.0	28.9	14.7	21.4
	Medium	60.1	56.7	61.9	56.9	61.0	56.8
	High	27.5	29.3	21.0	14.1	24.3	21.7
France	Low	27.9	43.1	29.7	53.2	28.9	48.2
	Medium	46.4	39.0	40.9	31.0	43.7	35.0
	High	25.6	17.9	29.3	15.8	27.5	16.8
UK	Low	10.9	22.0	14.3	30.4	12.6	25.6
	Medium	59.8	55.1	57.0	49.6	58.4	52.8
	High	29.3	22.8	28.7	20.1	29.0	21.7
Netherlands	Low	27.7	35.3	29.1	53.5	28.4	44.3
	Medium	44.8	39.4	45.9	30.7	45.3	35.1
	High	27.5	25.3	25.0	15.8	26.3	20.6
Sweden	Low	14.0	31.2	10.6	26.9	12.3	29.1
	Medium	53.0	43.2	50.8	44.6	51.9	43.9
	High	33.1	25.5	38.5	28.5	35.7	27.0
U.S.A.	Low	13.2	14.1	10.8	14.3	12.0	14.2
	Medium	49.5	46.3	48.7	52.4	49.1	49.5
	High	37.3	39.6	40.5	33.3	38.9	36.4

Source: OECD (2005) – Reference year 2002.

7. Professional Day Care for Children Not Widespread

In its 2004 recommendations on employment strategy, the European Council praised Austria for its high overall employment rate and its relatively high female labor force participation rate. On the negative side, the European Council noted the low participation rate of older persons and low investment in human capital, singling out in particular deficits in lifelong learning and in the training of low-skilled workers, as well as the big gender pay gap. In particular, the Council recommended Austria to "take action to

remove the causes of the gender pay gap, increase the availability and affordability of childcare facilities and evaluate the impact of the present childcare allowance scheme on the level and quality of female employment." In the Joint Employment Report 2004/05 endorsed in March 2005, the EU noted some progress in raising the employment rate of older workers but insufficient progress in the provision of childcare facilities and training for low-skilled workers. Likewise, the policies addressing the gender pay gap were found to have been too weak.[12]

Before discussing measures to create well-paid jobs for women, it is advisable to look into the reasons for the large gender pay gap and the low number of day care facilities for children.[13] One reason may be that the state does not provide enough facilities. Yet the fact that more women opt for home care may also reflect:

- low income opportunities for women on the labor market; and/or
- high costs of professional day care (in the wider sense, i.e. including travel costs, limited flexible opening hours, etc.);
- or institutional framework conditions and/or values that make Austrian women less likely to opt for a full-time job when they have children.

Whatever the main reason may be, the simple economic rationale is that the opportunity cost of household work is lower in Austria than in many other EU countries. Put differently, net hourly wages are low compared with the marginal return of household production (childcare costs saved, high social value of home care). Furthermore, tax credits for one-income families cause the equivalent income of single-income households to be fairly high in Austria, and generous transfer payments for child home care raise the opportunity cost of working in the labor market. It follows that simply on account of the income effect, women have a lower incentive to take on a job.[14]

The cross-section data of the consumer survey of 1999/2000 document that married women, who can earn very little in (blue collar) jobs, will take on such jobs mostly when the household income (equivalent income) is low. The higher the equivalent income, the lower is the incentive for low-skilled women with low earnings power to work full-time. This at least partly explains the trend observed in the 1990s, when more and more un- and semi-skilled women took on part-time jobs.

The logic of the income effect also explains why the labor supply of women with children (volume of working hours) declined after the reform of the child care benefit system in 2000: Fewer women resumed their full-time jobs after maternity leave, more women switched from full-time to part-time and women postponed reentry into the labor market as the new benefit system raised the equivalent income of households with small children (due to higher transfers as a result of a longer entitlement period and a higher

[12] Council of the European Union (2005).
[13] For a survey on the underlying reasons of the low fertility rate in Austria in relation to other OECD countries, see OECD (2003).
[14] On the theory of individual job supply and household-related supply as well as calculations for Austria, see Biffl (1994b, p. 82–100).

on earnings allowance). Lutz (2004) documents for Austria that, following the child care benefit reform, only 28% of the women who had been employed before they had a baby were back in a job after 24 months – compared with some 50% under the old parental leave scheme. After 33 months, as many as 41% of previously employed mothers were still without a job, compared with 35% under the old scheme.

Women who had not been employed before having a baby were not enticed to enter the work force: 33 months after the birth of a child, 69% of previously unemployed women were still without a job – compared with 65% in the old benefit scheme (table 6).

Table 6: Impact of the New Child Benefit Regime on the Decision to Resume Work after Childbirth (1999 and 2004)

	Old parental leave regime		*New regime*	
	Previously employed women	*Previously unemployed women*	*Previously employed women*	*Previously unemployed women*
No re-entry into work	*Share in %*			
after 24 months	50.1	23.0	27.8	12.2
after 33 months	34.9	64.6	41.3	69.1
Previous gross pay				
Up to EUR 850[1])	46.5		49.2	
Above EUR 2,000[1])	17.3		23.3	

[1])1999.
Source: Lutz (2004). Payroll employment above the marginal earnings threshold.

With regard to explaining a woman's choice to resume work after the birth of a child, one other aspect should be mentioned: the lower the wage income before childbirth, the lower is the probability of rejoining the workforce after maternity leave. The reformed child benefit scheme has strengthened this trend. While under the old regime 46.5% of women with low-paying jobs (less than EUR 850 per month) were out of the labor force 33 months after giving birth, this figure increased to 49.2% after the regime change. Also women with well paying jobs have become less likely to rejoin the labor force after the regime change. Of the women earning EUR 2,000 or more before childbirth, 23.3% had not returned to work after 33 months, compared with 17.3% under the old regime.

8. Need for Social Innovation

The goal of the Lisbon Agenda, which was endorsed in 2000, to raise the employment rate of women and older persons and to enhance the competitiveness of Europe is a challenge in many policy areas. In order to substantially raise female labor force participation it will not suffice to combat the discrimination of women in the labor market by removing existing disadvantages. Much rather, it will take strategies that tackle the problem at its root, i.e. address the reasons for the poor labor market prospects of women (Pimminger, 1999; Aufhauser et al., 2003). In order to resolve the issue one

has to focus on the interdependence between the market, the household and the public sector and redesign the incentive system at the interface. It does not imply that women should catch up with men in terms of activity rates, but rather that they should have the right to good jobs and personal career opportunities and self-determination comparable to men.

Society, politics and economic theory alike tend to underestimate the pervasive character of households and their systematic linkage with all other elements of socio-economic systems. It follows that traditional theories and methods fail to satisfactorily explain the current process of economic and social change, which goes hand in hand with a change in the traditional gender- and age-specific division of labor, working hours, population structure (lower fertility, ageing society, immigration and increasing cultural diversity) as well as a change of the institutional frameworks. This process has gained a momentum of its own, and we cannot hope to control it with traditional social and economic policy instruments without jeopardizing social justice and equity. The state is also taking on a new role in this process of change: It must step in where society used to rely on unpaid work by the traditional family, that is to say the housewife.

As the traditional behavior patterns of women change, the question arises as to whether a new segregation of labor will evolve. In other words, can a change in the labor market supply structures contribute to the formation of new labor market segments? The academic discourse on this question has yet to evolve. Conversely, the segregation of labor markets in response to demand-side structural change has already received great attention. The case of the Nordic countries shows that redesigned incentive systems, especially new tax and wage policies (individual taxation, solidarity wage principle), can help raise the employment rate of women in the long term. At the same time, the reallocation of major household activities (child and long-term care, etc.) to market providers – the state, nonprofit institutions and the private sector – has created new occupational fields. Yet, it is not only jobs that have been created: This change has also provided education incentives, which add to economic and productivity growth in the long term.

Austria, too, needs such social innovation, by applying advanced technical innovation to social services, e.g. virtual nursery homes, which in effect establish social networks on a local level (Biffl, 1994). In order to raise the employment rate of women and enhance productivity in a sustained manner, a re-deployment of labor between young and old workers, and between male and female workers is called for, most of all, however, a major transfer of household production to market production ("age diversity management"; see OECD, 2005, p. 124). In this sense the EU Council stressed that "current demographic trends already suggest that the growing number of highly educated women provides a hitherto insufficiently exploited source of skills and innovative capacity which will have to be developed and used more intensively" and confirmed "that if the internal market is to continue to develop dynamically and notably if new jobs are to be created, positive measures in particular will have to be taken to promote equal

opportunities between men and women."[15] With the definition of the so-called Lisbon objectives, issues of equal opportunities gained momentum in an economic policy context.

Thus one might say that the postindustrial society with its demographic, social and economic changes also requires a redefinition of women's participation in the labor market and, implicitly, a redefinition of the social division of labor. The moral proposition of gender equity (Biffl, 1993) receives broad attention in EU policymaking. Equal opportunities on the labor market are a precondition for social equality of men and women; equal opportunities are crucially linked to the right to earn one's own living.[16] Council Directive 2000/78/EC puts this as follows: "Employment and occupation are key elements in guaranteeing equal opportunities for all and contribute strongly to the full participation of citizens in economic, cultural and social life and to realising their potential."[17]

9. Proposal for a Combination of Social and Economic Policy Measures

Before endeavoring to change the world, one should identify the major reason for the glass ceiling Austrian women are faced with, namely the unequal division of paid and unpaid work among men and women and the great role of home production for the well being in Austrian society. The big weight of home production is, among others, attributable to the comparatively small number of both day care and after-school care facilities. The tax system (tax credit for single-earner families) and the current child and long-term care benefit systems help postpone the (re)entry of mothers and caretakers into the labor market. The current policies (family policy, social and long-term care policies, childcare policy, tax system) are consistent in that they promote the provision of services in the household. Other EU countries, especially the Nordic countries, but also the Netherlands and the Anglo-Saxon countries, promote the transfer of such activities to market providers (the state and/or nonprofit institutions) through the social and tax regime (earned income tax credit or employment tax credits). The Austrian model is, incidentally, no less expensive for the state (Biffl, 2004), as many of the services provided at home are not actually "unpaid" in the narrower sense of the word, since they

[15] See "Resolution of the Council of the representatives of the Governments of the Member States meeting within the Council of 6 December 1994 on equal participation by women in an employment-intensive economic growth strategy within the European Union", Official Journal C 368, 23/12/1994 P. 0003– 0006.

[16] See "Resolution of the Council of the representatives of the Governments of the Member States meeting within the Council of 6 December 1994 on equal participation by women in an employment-intensive economic growth strategy within the European Union," Official Journal C 368 , 23/12/1994 P. 0003 - 0006.

[17] Council Directive 2000/78/EC of 27 November 2000 establishing a general framework for equal treatment in employment and occupation.

are paid for by the state through transfer payments (such as child and long-term care benefits). In other words, persons assuming particular tasks at home de facto earn a "household wage," which does not, however, entitle them to social security benefits in their own rights but preserve the traditional family ties and dependence upon the main income earner. These transfer payments are an incentive for women to stay at home, above all for women with comparatively low employment and income opportunities, i.e. women with a low educational attainment level. Their opportunity costs are small, because at certain stages in the life cycle they can earn hardly more in a paid job than they do by assuming household responsibilities (through their husband's tax credit and child or long-term care benefits). By staying at home, these women moreover keep their household's travel or nursing costs lower than they would otherwise be. Thus, the threshold for entering the labor market is high or, put differently, the marginal tax rate for taking up a job is prohibitively high for low-skilled women.

These considerations imply that women with small children or other dependent family members have not really gained more room for manoeuvre through the reformed childcare system (2000) and the benefit system introduced for persons in need of long-term care (1993). Raising the supplement earnings limit for persons eligible for childcare benefits did not prompt more women with low incomes to continue to work full time; perhaps unexpectedly, a greater number of female high income earners opted for part-time work than before, not least because the childcare reform did not go hand in hand with an expansion of institutional care. The response pattern shows that childcare was not transferred to market providers to a larger extent; much rather, the reform reinforced the provision of services at home, or perhaps even prompted a revival of child care at home.

Had the reform aimed at helping women balance work and career, policymakers would have had to provide an incentive – higher childcare benefits or benefits in kind – for entrusting children to professional childcare facilities. The same holds for the delivery and funding of long-term care (benefits). By making transfer payments conditional on the use of professional care facilities (benefits in kind), policymakers would help create jobs and free women/ mothers for taking up jobs in the labor market.

Switching from transfer payments to benefits in kind might trigger off a shift from home production to market services, and thus contribute to the professionalization in certain services and at the same time provide efficiency gains which can be passed on to consumers through cost cuts. This would be a key pillar for reorganizing social services. The reallocation of services from the household to the market cannot be the responsibility of individuals alone, as they are ill-placed to judge the extent and variety of regional/ local needs. It takes an institutional solution, embraced by the social partners and regional governments, to create the framework conditions in which nonprofit organizations (associations, social undertakings, NGOs, etc) may establish facilities that create local jobs (with social security coverage) and deliver the kind of services that have so far been mostly provided by women at home. Organizing these tasks is complex and requires not only the use of modern technologies but also the development and expansion

of social networks. This would make it possible to achieve a degree of innovation in the organization of society that uses the technological and social potential of the region and creates stable local jobs, thus strengthening not only the economic power of the regions but also reducing the exit from rural regions and even promoting fertility rates.

A major obstacle for raising female employment in Austria is the difficulty of balancing a career with a family. Long (traditional) working hours geared to industry jobs in combination with a high degree of commuting make it difficult for full-time employees to combine an occupation with family work. As a result, men have typically specialized in paid work and long hours, while women have concentrated on doing the housework and topping up the family income with a part-time job. Thus, market work and house work are two mutually dependent dimensions of the same phenomenon: given their household responsibilities, women are available for jobs only up to a limited degree, and given their limited job opportunities (especially relative to their partners), they have a stronger incentive to keep work in the household. This relationship affects the education paths of men and women, whose length and career orientation are characterized by social habit and even norms.

Given this complex relationship it follows that only a mix of measures will suffice to create more equal opportunities for women. Changes are required in the tax and transfer system, the education system (initial training and career development), working hours policy, competition policy (regional economic structure and transport policy), governance structures and industrial relations (wage policy, gender mainstreaming). A reform policy that extends to all these areas sees gender mainstreaming as a horizontal issue that will require a reorientation on many different levels and portfolios. It is thus advisable to opt for a gradual approach combining short-, medium-, and long-term strategies guided by a long-term vision.

The remainder of this article offers further details in this respect in a number of areas, without attempting to provide an exhaustive overview. It should also be noted that a reform of statutory regulations, framework conditions and strategies needs to go hand in hand with a public discourse, i.e. it should entail transparency and the commitment of the media, society and social partners; after all, we are hoping for social change that may only materialize if it is embraced and supported by the society at large.

- *Tax and transfer system:* as mentioned above, policymakers should consider replacing transfers with benefits in kind in childcare, care for the weak and elderly and health care, and they should consider abolishing the tax credit for single-earner families. The latter should be replaced by an earned income tax credit, which provides an incentive to work as it reduces the tax burden for people earning more than marginal earnings. One way to promote female labor force participation might be to copy the Finnish model[18] of making purchased household services tax deductible. This system, which Finland introduced in 1997, has increased employment in such service

[18] As presented in an article of the Austrian daily newspaper Die Presse on February 6, 2006 (Kombilohn neu: Steuerabzug statt "Almosen" in Finnland).

facilities, reduced informal sector work and alleviated the double burden on women of waged work and and household responsibilities. One reason for the rapid take-up of the new system is the low administrative burden.

- To promote the *replacement of transfers with benefits in kind*, ideally, an information platform should be put in place to allow individual households/ women to organize professional local (child and long-term) care facilities, for instance through nonprofit organizations, in which skilled staff could cooperate with persons who learn on the job. In other words, it would not be necessary to establish public day care, senior housing/residential care and nursing homes in every village; what is important is to create a support system that allows parents and caretakers to be employed with social security coverage. Many of the activities will be services originally provided by family members. Such a system would create comparatively stable jobs, which would, among other things, considerably improve the income security of households. A stabilization of employment and income security would improve not only the quality of life for individuals, but contribute to economic growth impact positively on fertility/population growth.
- In this respect, *working hours* also play a crucial role. It is important to break the fatal link of long hours worked by men and short hours worked by women. The strategy to change this dichotomy should aim above all at enabling women to work 30 to 35 hours (as many women do in the Netherlands or in the Nordic countries) rather than half-time. This would make it easier for them to pursue a career and deal with any remaining house work (activities not outsourced to the market). Organizing care and nursing in the rural area through benefits in kind, delivered by nonprofit organizations would create stable local jobs while at the same time enabling women to commute longer distances to take on better-paying jobs. Such a system depends on the availability of qualified part-time jobs and their integration into professional development programs and career paths.
- Apart from the above, additional factors need to be taken into consideration with a view to *facilitating mobility/reconciling career and family*. It is important to create more childcare and elder care/nursing facilities. The unsatisfied demand is especially high for qualified day care facilities for children, but there is also a huge need for long-term care facilities. With regard to the latter, virtual nursing opens up opportunities for health care in private households, i.e. mobile services and expert advice through electronic linkage of households with nursing homes. Companies, too, have a need for advice and coaching when it comes to making staff development more women-friendly and to responding to specific needs of women (e.g. developing tailor-made working hour models). At the same time, it is important to persuade businesses to specifically consider the (potential) input of female workers in strategic planning and work processes so as to promote careers of women, not least through further education and training (to prevent them from being locked into certain job segments). To increase the mobility of women in rural areas, it will be important to experiment

with innovative transportation concepts (e.g. transport exchanges) or to prevent local public transportation from being "thinned out" without any alternatives being created.

- In the *education* sector, too, a lot needs to be done: It is important to ensure (pre-school) training of children, taking adequate account of intercultural backgrounds (migrants) and the special needs of boys and girls to bridge skills gaps. Adequate education concepts pave the way to decreasing later segregation in the job market. Finally*, regional economic and structural policies* need to promote employment of women, e.g. by investing in light industries, art and design (rather than male-biased technical innovation policies), as Finland has done successfully, to enable women to identify themselves with Austria's development strategy. In this respect, it should also be noted that it is taking less and less bodily strength to handle the modern technologies, which should open up more jobs for women also in the manufacturing sector.

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Raising Older Workers' Employment Rates in Austria[♣]

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1. The Economic Challenge of Population Aging

For demographic reasons it is necessary to increase employment rates of older workers or – more generally – extend working lifes. This is part of a comprehensive strategy to cope with the fact of aging populations in European countries (European Central Bank, 2003). This is reflected in numerous economic policy guidelines and suggestions, for example in the growth strategy of the European Union, the so-called Lisbon Agenda which envisages increasing older workers' employment rates to 50% by 2010.

This survey argues that the pension reforms recently introduced by the Austrian government are important premises to reach this goal. However, it is not certain whether these measures – focussing mainly on reducing retirement incentives – are sufficient because the employability of older workers in the future is far from being assured.

The introductory section starts with some general remarks on population aging and stresses that this process is desirable in principle. However, there are fiscal and macroeconomic challenges to be met. Section 2 puts the current labor market participation of older workers in Austria in an international perspective. While older people worked considerably longer until the 1970s, at present Austria has a particularly low propensity of older people to remain in the workforce which is the effect of generous early retirement provisions introduced in the past decades.

Section 3 discusses the various pathways into retirement and the likely effects of the pension reforms. The literature is dominated by considerations of labor supply and retirement incentives. Section 4, however, deals also with labor demand issues and interactions of labor supply and demand. Section 5 summarizes the main points.

[♣] Translated and edited version of the German manuscript underlying the workshop presentation. I want to thank Walpuga Köhler-Töglhofer and Helmut Hofer for a number of critical remarks and clarifications. The views expressed here are those of the author.

1.1 Demographic Transition and Population Aging

Regularly, contributions on pension reforms older workers' employment incentives are motivated by the foreseeable changes in the population age structure. Almost always, this process of population aging is presented as a serious crisis. Often the underlying rhetoric is alarming and sometimes even apocalyptic.[1]

But we should not forget that the process of population aging is the result of a great progress in human history – the so-called demographic transition. *"Before the start of the demographic transition, life was short, births were many, growth was slow and the population was young. During the transition, first mortality and then fertility declined, causing population growth rates first to accelerate and then to slow again, moving toward low fertility, long life and an old population. The transition began around 1800 with declining mortality in Europe. It has now spread to all parts of the world and is projected to be completed by 2100."* (Lee, 2003). People do not only live longer they also remain longer in relatively good health (Fogel, 2005).

This process is not synchronized across countries. Whereby the rich countries (say, the OECD member states) are relatively old on average poor countries consist of considerably younger populations. Currently, the "youngest" countries (predominantly African states which are at the same time also among the poorest countries) have a median age of some 15 years whereas the median in the "oldest" countries (European countries which are also among the richest) is between 37 and 41 years.[2]

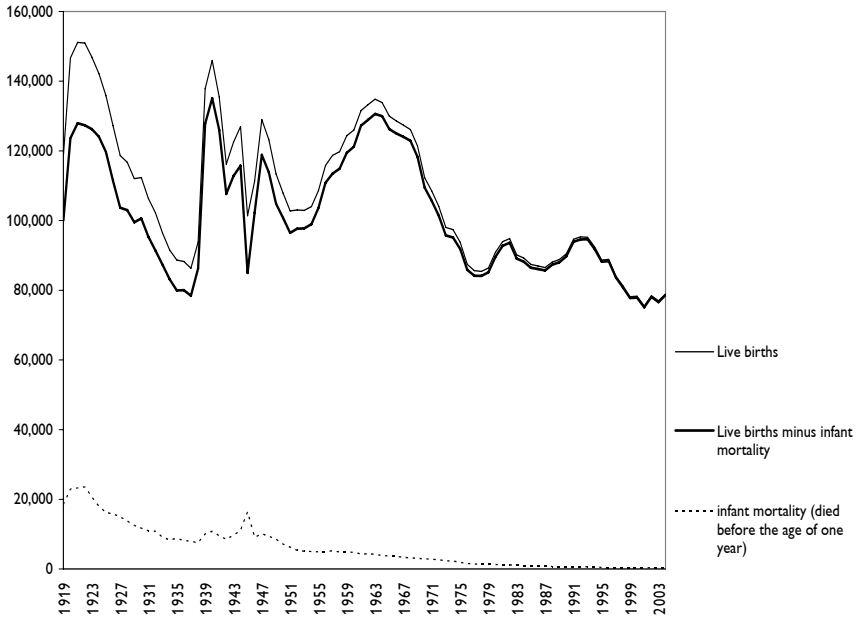
This clarification is not to deny that the demographic transition is no problem at all. In fact, we are going to face significant challenges in the coming decades which are the result of declining fertility rates, longer life expectancies and the large inflows into retirement when the large babyboom cohorts reach the corresponding age in the not so distant future. Chart 1 shows the declining number of births whereby the magnitude of the decline depends on the starting year. In any case, fertility rates have decreased and remain substantially below the demographic reproduction rate of 2.1.[3]

[1] The word "aging" is regularly accompanied by the adjectives "dramatic" or "rapid". In German, the use of "*Über*alterung" (*over*-aging) is almost as widespread as the neutral term "Alterung" itself, as a Google search reveals. ("Überalterung" is also used on the German Eurostat website on structural indicators). Politicians, feature-writers and labor statisticians are magnetized by the question in which particular year the population is going to *shrink* as if an ever increasing population were a key economic goal (cf. The Economist, January 7, 2006).

[2] In 2000, the five countries with the lowest median age were: Burkina Faso, Mali, Niger, Uganda and Yemen. Germany, Italy, Japan, Sweden and Switzerland had the highest median age (United Nations, 2004).

[3] Several features are quite noticeable: the large fluctuations, the sustained decrease from 1920 to 1938 (the First Republic), the sudden increase after the "Anschluss" (the annexation to the Third Reich) in 1938, the subsequent drop at the end of World War II and the distinctive "hump" of the babyboom generation (approximately those born between 1955 and 1970). The trend decline is weaker when the decrease in infant mortality is taken into account. (However,

Chart 1: Live Births in Austria 1919–2004



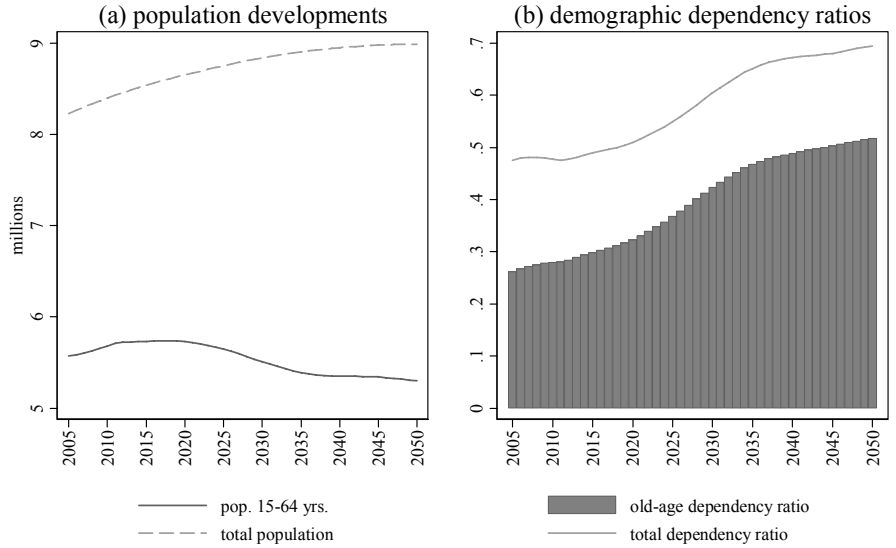
Source: Statistics Austria (Statistical Yearbook 2006, Tab. 2.21).

Even in the short time span since 1970 life expectancy at birth has increased from 70 to 78 years. Between 1960 and 2002, the life expectancy of a person aged 60 has increased by approximately five years. Moreover, while longer life expectancy and decreased fertility rates are rather gradually evolving processes, in the next three decades population aging will be accelerated when the baby-boom generation is going to retire.

As a result, the Austrian population will become older: The working-age population (those aged between 15 and 64 years) which is growing only slowly at present will start to decrease from the 2020s onward. According to the current population projections, the old-age dependency ratio will increase from 26% to approximately 46% in 2050 (chart 2).

one must also take into account that the total population has increased: It was 6.5 million at the beginning of the 1920s; currently it stands at 8.1million.) At present, there are approximately 80,000 births per year – a number which is extrapolated in the most recent population projection by Statistics Austria (Hanika, 2005).

Chart 2: Statistics Austria Autumn 2005 Population Projection



Source: ISIS database; author's calculations.

1.2 Fiscal Consequences of Aging Populations

The demographic developments will put pressure on social security systems, most notably healthcare and pension systems. This is evident in the case of the pay-as-you-go pension system where a growing number of older people in retirement is supported by payments of a shrinking working-age population.[4]

At the beginning of the 1970s, 1,000 employees were supporting 488 retirees. By 2004, this ratio has increased to 624 (+27.9%). There are several reasons for this development: Whereas the demographic developments (old-age dependency ratios were decreasing until the mid-1980s and have been increasing since then) and rising employment rates (especially of females) have long been favorable for the pension system, lower retirement ages and higher entry ages into employment were contributing to a deterioration of the support ratio.

Chart 3 shows that the average retirement age of both men and women has decreased by some three years since 1970 (left panel). In the past, rising pension expenditures were compensated by higher contribution rates. Since 1970, the pension contribution rate (which is a part of the total social security contribution rate) rose from 17 to 22.8%

[4] I do not want to suggest that pay-as-you-go systems are the only kind of old-age provision which faces a population-aging challenge (cf. Schmitz, 2005 on demographic problems of funded systems).

(+34.1%; right panel).[5] Further increases are probably not feasible in the light of increased unemployment and substantial competition from transition countries.

Chart 3: Trends in the Statutory Austrian Pension System 1970–2004

Source: Association of Social Insurance Providers, OeNB.

The Economic Policy Committee of the European Commission has repeatedly presented estimates on the fiscal consequences of population aging. According to the most recent report (Economic Policy Committee and European Commission, 2006) which takes into account the pension reforms enacted in the recent years total expenditures for statutory pensions are projected to decrease slightly as a percentage of GDP until 2050 (–1.2 percentage points from their initial level of 13.4%).[6] This welcome result hinges on the lower replacement rates of the new pension system as well as on the assumption of higher employment rates of both older workers and women in general.[7]

[5] Since 1960, contribution rates have roughly doubled. The last increase took place in 1988 (Source: OeNB documentation).

[6] Total expenditures continue to be covered mainly by pension contributions. Currently, approximately 22% of total expenditures for statutory pensions are financed by general tax revenues. This corresponds to 2.2% of GDP. According to an estimate by the social security administration this ratio is expected to increase to about 3% of GDP in 2050 (Stefanits and Königsreiter, 2005).

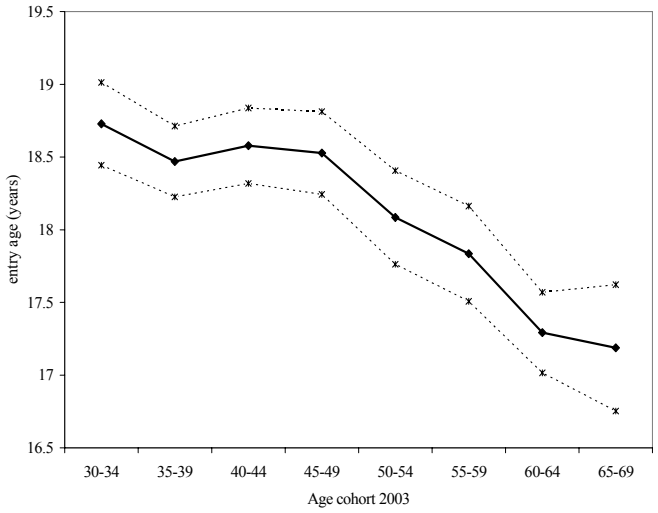
[7] The EPC projections are based on the assumption that the participation rate of older workers (15-64 years) will increase from about 30% to 42.5% in 2010 and to 54.4% in 2020.

1.3 Longer Working Lives

Older workers' employment rates were decreasing continuously during the past three decades. Especially at the end of the 1970s and the mid-1980s there was a deliberate policy to reduce labor supply in order to prevent unemployment from rising. Moreover, years of study have increased. Data from the EU Survey of Income and Living Conditions (SILC) suggest that the average entry age into employment has increased by approximately two years since 1970 (chart 4). This shortening of the working life "from both ends" can be tracked in a number of EU countries (European Commission, 2003; Brugiavini and Peracchi, 2005).

In the light of increasing life expectancies it is consequential to try to reverse the trend to shorter working lifes. As part of its Lisbon Agenda, the European Union wants to increase the employment rate of older workers (aged 15 to 64 years) to 50% by 2010 ("Stockholm target"). A complementary target is an increase of the average exit age into retirement by five years ("Barcelona target").

Chart 4: Average Entry Age into the Labor Force by Age Cohorts



Source: EU Survey of Income and Living Conditions 2003, author's calculations[8].

[8] Entry ages into employment of those being employed, unemployed or retired at the time of the survey as indicated by the respondents. In cases where the entry age were lower than the age when the first continuous formal education was compled the entry age was replaced by the latter variable.

Over and above these goals it is reasonable to think of ways to shorten educational periods and years of study (cf. Skirbekk, 2005a[9]). Otherwise rising numbers of labor market entrants with tertiary education (which are another explicit goal of economic policy) will tend to shorten working lives further.

Older workers with higher educational attainment tend to have higher employment propensities than workers with lower skills. Does this mean that the increasing numbers of university graduates will automatically solve the problem of low employment rates in higher ages? Vandenberghe (2005) shows that the theoretical impact of higher human capital on the length of working lifes is ambiguous. His empirical results show that high-skilled workers do not work *longer* than their medium- or low-skilled colleagues (although they tend to retire *later*).

From the perspective of fiscal sustainability of the pension system the newly enacted system does account for the length of the working life more strongly than in previous years (where times spent at the university were partly counted as times insured.)[10]

2. Labor Force Participation of Older Workers in Austria

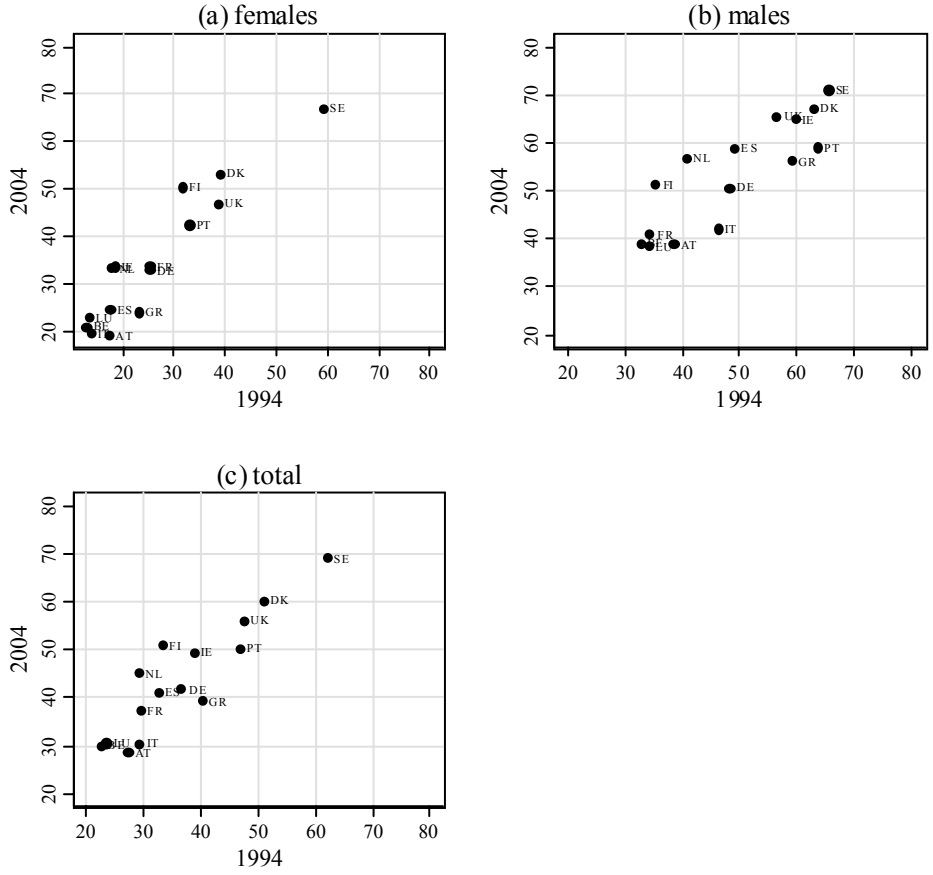
2.1 Austria Compared to Other European Countries

In 2004 the older workers' employment rate was 28.8%. This was the lowest figure of all EU-15 Member States (the EU-15 average was 42.5%). Women retire particularly early in Austria. One reason for that is the lower statutory retirement age (whereas in most OECD countries legal retirement ages are the same for men and women; cf. OECD, 2005b). But also men retire comparably early (see chart 5).

[9] This author stresses the positive consequences of shorter educational periods on productivity and fertility. Because of declining skills and learning capacities at older ages Skirbekk considers "starting earlier" as much more important than "stopping later". (See section 4 on more details on the age-productivity relationship.)

[10] For example, in 1993 higher secondary education (Gymnasium) was counted as 24 months of pension insurance. A university study was given credit of up to 48 months.

Chart 5: Employment Rates of Older Workers (2004 vs. 1994)



Source: European Commission (2005).

Similarly to Belgium, Luxemburg and Italy older workers in Austria do not remain in the workforce in large numbers. On the other hand, in Sweden, Denmark and the United Kingdom employment rates of the elderly do already exceed the Stockholm target. Moreover, while in most countries older workers' employment rates are on the rise, the corresponding figures are stagnant[11] for Austria (European Commission, 2005).

Low employment rates of the elderly may result from a variety of factors which is demonstrated subsequently with disaggregated data. As I do not dispose of the individual labor force survey data I use data from the new Survey of Health, Ageing and Retirement in Europe (SHARE), a multidisciplinary longitudinal study of the living conditions of people aged 50 or more in a number of European countries (of which 10 are Member States of the EU-15).

Table 1 shows the results of probit regressions of the participation (or employment) probabilities for men and women separately. Control variables are country dummies, age-class dummies as well as interactions between age classes and countries. In the following, I refer to the results for participation rates (results for employment probabilities are very similar).

There are substantial differences by age classes and gender. For older men, the participation propensity is lowest in Austria, Spain and Italy (the reference category is Sweden, a country with a particularly high participation rate of older workers). Older Austrian women are also less likely to participate in the labor market than their Swedish counterparts, but the difference is substantially higher in mediterranean countries like Spain, Italy and Greece. Some of the results for the interaction between country and age classes are quite interesting. These variables indicate deviations form the general tendency of country and age patterns. One can see easily that Danish men aged 55 to 59 have a very high participation rate whereas Austrian and French men in the age class 60 plus have a very low participation probability. When looking at Austrian women one detects that these have not only comparably low participation rates beyond 60 (which would not be surprising) but also between 55 and 59 years.

[11] However, the drop in the employment rate from 2003 to 2004 is due to a methodical change in the Austrian labor force. Prior to 2004, employment rates were overestimated somewhat (Kytir and Stadler, 2004).

Table 1: Labor Force Participation and Employment Probabilities of Men and Women Aged 50 to 64 in SHARE Countries

Probit regressions

	participation				employment			
	men		women		men		women	
Country								
(reference: Sweden)								
Austria	-0.307	(3.87)**	-0.197	(3.78)**	-0.293	(4.37)**	-0.202	(4.25)**
Germany	-0.098	(1.33)	-0.040	(0.84)	-0.228	(3.79)**	-0.085	(1.99)*
Netherlands	-0.229	(3.21)**	-0.251	(6.02)**	-0.155	(2.54)*	-0.228	(5.91)**
Spain	-0.307	(3.94)**	-0.329	(8.07)**	-0.248	(3.70)**	-0.315	(8.56)**
Italy	-0.304	(3.84)**	-0.324	(7.55)**	-0.244	(3.56)**	-0.285	(7.12)**
France	-0.197	(2.57)*	-0.115	(2.22)*	-0.157	(2.40)*	-0.119	(2.50)*
Denmark	-0.220	(2.85)**	0.087	(1.40)	-0.212	(3.27)**	0.019	(-0.34)
Greece	-0.158	(2.06)*	-0.358	(9.11)**	-0.053	(-0.79)	-0.317	(8.74)**
Switzerland	-0.167	(1.80)	-0.054	(0.84)	-0.109	(-1.33)	-0.064	(-1.09)
Age class								
(reference: 50-54 years)								
55-59 years	-0.286	(4.28)**	-0.063	(1.37)	-0.224	(3.85)**	-0.049	(-1.12)
60-64 years	-0.512	(8.06)**	-0.250	(5.63)**	-0.427	(7.68)**	-0.235	(5.67)**
Interactions country & age class								
55-59 years & Austria	0.034	(0.40)	-0.251	(3.84)**	0.045	(-0.54)	-0.243	(4.07)**
55-59 years & Germany	0.087	(1.09)	-0.114	(1.80)	0.157	(2.26)*	-0.145	(2.55)*
55-59 years & Netherlands	0.101	(1.40)	-0.079	(1.33)	0.075	(-1.05)	-0.078	(-1.4)
55-59 years & Spain	0.154	(2.07)*	-0.038	(0.57)	0.124	(-1.58)	-0.052	(-0.82)
55-59 years & Italy	-0.041	(0.47)	-0.158	(2.51)*	-0.076	(-0.92)	-0.17	(2.92)**
55-59 years & France	-0.025	(0.28)	-0.025	(0.34)	-0.074	(-0.87)	-0.06	(-0.9)
55-59 years & Denmark	0.191	(2.67)**	-0.074	(0.94)	0.132	(-1.71)	-0.095	(-1.36)
55-59 years & Greece	0.029	(0.34)	-0.097	(1.39)	-0.049	(-0.58)	-0.098	(-1.49)
55-59 years & Switzerland	0.209	(2.40)*	-0.136	(1.58)	0.221	(2.33)*	-0.098	(-1.21)
60-64 years & Austria	-0.292	(2.97)**	-0.409	(6.71)**	-0.315	(3.52)**	-0.358	(6.19)**
60-64 years & Germany	-0.107	(1.26)	-0.320	(5.95)**	-0.058	(-0.78)	-0.278	(5.53)**
60-64 years & Netherlands	-0.101	(1.23)	-0.236	(3.91)**	-0.214	(2.78)**	-0.204	(3.58)**
60-64 years & Spain	0.082	(1.04)	-0.055	(0.80)	-0.005	(-0.06)	-0.09	(-1.34)
60-64 years & Italy	-0.069	(0.78)	-0.305	(4.79)**	-0.173	(2.04)*	-0.28	(4.76)**
60-64 years & France	-0.364	(3.52)**	-0.224	(3.13)**	-0.45	(4.84)**	-0.253	(3.90)**
60-64 years & Denmark	0.055	(0.68)	-0.356	(5.62)**	0.074	(-0.95)	-0.284	(4.70)**
60-64 years & Greece	-0.006	(0.07)	-0.007	(0.10)	-0.111	(-1.29)	-0.05	(-0.7)
60-64 years & Switzerland	0.115	(1.25)	-0.144	(1.64)	0.097	(-1.01)	-0.114	(-1.36)
Observations	5279		6282		5279		6282	

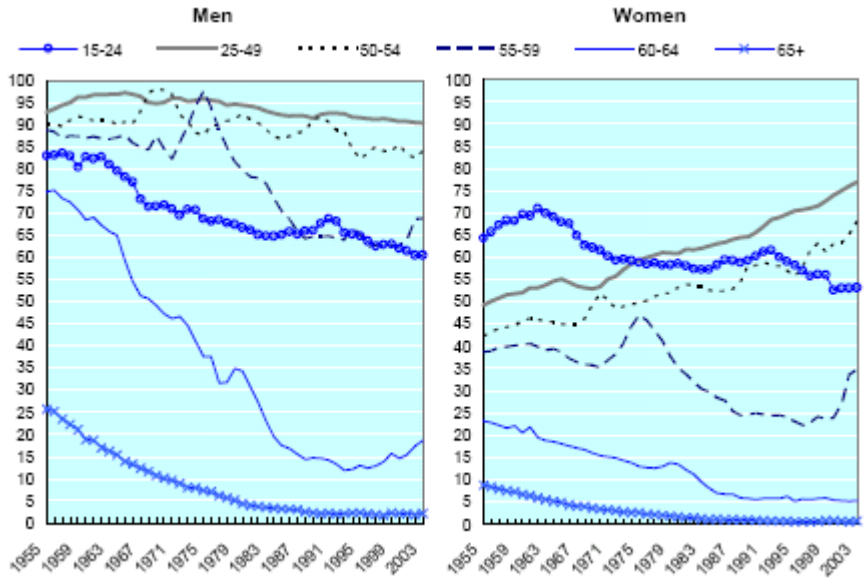
Marginal effects, unweighted data
Absolute value of robust t statistics in parentheses
* significant at 5%; ** significant at 1%

Source: SHARE-Data (release 1).

2.2 Long-Term Tendencies

It may be hard to imagine, but labor force participation in Austria was much more widespread in earlier decades (OECD, 2005a). Chart 6 shows that the participation rate of males aged 60–64 years decreased from over 75% to some 15%. Participation rates also declined in the age class of 55–59 years. For women, the trends are not unidirectional because the tendency towards earlier retirement ages is counterbalanced by higher employment rates of younger cohorts (which is well visible for prime-age women in chart 6.)

Chart 6: Labor Force Participation Rates by Age Classes and Gender 1955–2003



Source: *OECD (2005a).*

In previous decades, Austrian economic policy deliberately acted to "relieve" the labor market in times of low demand (recessions) or high supply (immigration). For example, during the recession in 1982/83 the entry into invalidity pensions was handled especially "generously". Despite these measures the structural unemployment rate – albeit on a low level – has been on the rise since the end of the 1970s. Moreover, a glance at the employment rates of older and younger workers does not suggest that older workers prevent younger workers from entering the labor market. If anything, the correlation between employment rates of older and younger workers is positive in the cross section. New entrants into the labor market are employed in different sectors and occupations than older workers (European Commission, 2005).

2.3 Employment and Unemployment Dynamics

The propensity of a job change, the probability of becoming unemployed and the the likelihood to find a new job decline with age. As a consequence, unemployment rates for older workers are higher than for prime-age workers and unemployment spells are longer (OECD, 2005a).

3. Pensions and Labor Supply

There is a large literature dealing with the labor supply and retirement incentives of the "first pillar" of pension systems (which is for most retirees the most important or sole source of income). Many studies have attempted to quantify these incentives which are in turn good predictors of retirement behavior (Gruber and Wise, 1999 and 2004; Blöndal and Scarpetta, 1999; Duval, 2003).

These empirical studies are complicated by the fact that there are quite a number of ways to retire as there are many early retirement or quasi-early-retirement schemes. Austria is a good example. These pathways into retirement are described subsequently. Then the main points of the recent pension reforms in Austria are described which aimed both at reducing retirement incentives in the statutory pension and at curtailing early retirement provisions.

3.1 Pathways into Retirement

The "normal", statutory old-age pension was not the most frequently used path into retirement. There were (and there still are) a number of provisions – usually termed as "early-retirement schemes".[12]

Especially men comparably rarely went into statutory retirement but rather used early retirement options. For both men and women on such provision – the early retirement due to long insurance record – has been of great importance. (Another scheme – early retirement due to long-term unemployment – was of minor importance and has been abandoned.)

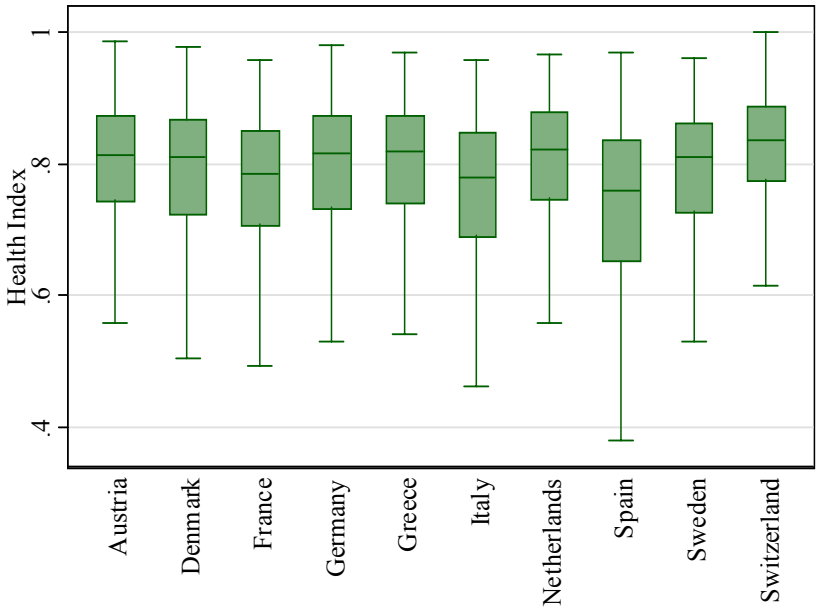
Invalidity pensions seem to be also very important. This holds both for the regular invalidity scheme but also for the so-called partial invalidity scheme which was in place between 1993 and 2003.

There seems to be a large degree of substitutability between the various schemes. For example, in 2004 – early retirement had been made more difficult just in the preceding year – the share of disability pensions in all pension entries exceeded 41% which means that disability pension was the most important way into retirement alltogether. These numbers suggest that the disability pension is regarded as a quasi-early retirement

[12] See OECD (2005a) and Hofer and Koman (forthcoming) on the importance of the various retirement options over time.

scheme and not as a provision for those only who are not able to work anymore. An international comparison reveals that in Austria the number of disability pension takeups increases dramatically from the age of 55 onward (whereas in other countries it is more equally distributed over age). Internationally comparable data on the health status do not suggest that older Austrians are less healthy than their counterparts in other countries. Quite the contrary seems to be the case according to both subjective and objective health indicators. Chart 7 reports SHARE results on objective health status which suggest that median health status is quite high and that the relatively good health conditions are spread quite evenly among the population.[13]

Chart 7: Aggregate Objective Health Indicator in SHARE Countries



Note: 1 = perfect health; 0 = very bad condition.

Source: SHARE, release 1.

[13] I want to thank Hendrik Jürges from the Mannheim Research Institute for the Economics of Ageing for providing me with the data on aggregate health (which are not included in release 1 of the SHARE data). This measure is based on a number of questions on the physical and mental health condition, on cognitive and physical ability tests. Its construction is described in more detail in chapter 7 of Börsch-Supan et al. (2005).

3.2 Retirement Incentives of the Austrian Pension System

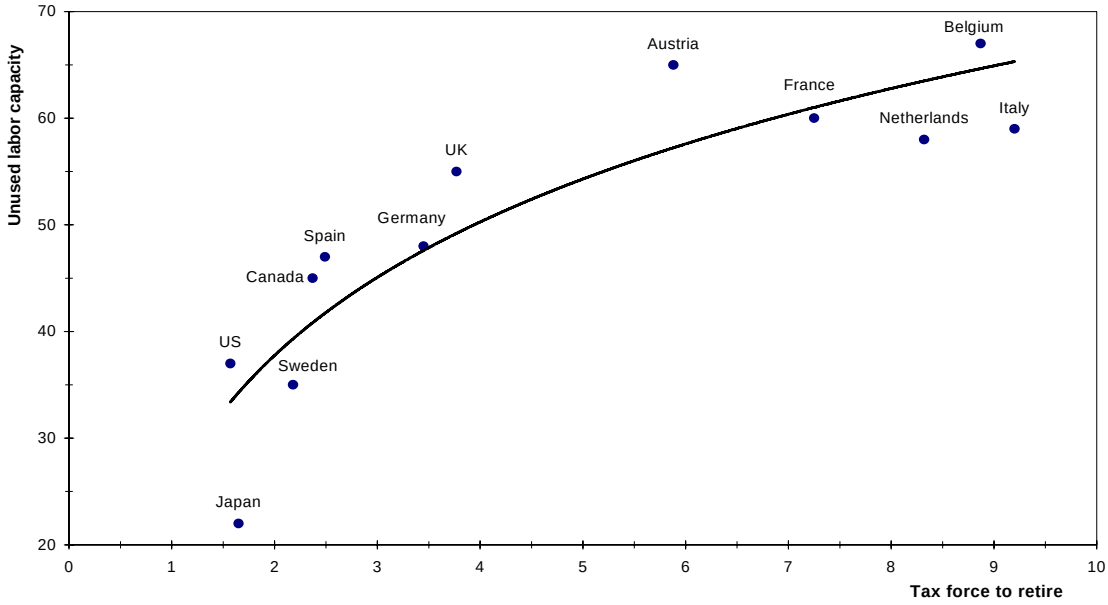
There are a number of formal structural models of labor supply in the life cycle and retirement (Lazear, 1986; Lumsdaine and Mitchell, 1999). But in general these models are not suited to study the incentives resulting from complex real-world pension retirement provisions. Instead, a number of applied studies are based on the calculation of the implicit social security wealth (SSW). When an individual decides whether to work for a further year or not he or she has the following considerations: At time t there is a certain social security wealth (present value of the expected future pension payments considering the expected life expectancy). One more year of work may change the SSW (pension payments start later but are likely to be higher). If a postponement of retirement until $t+1$ increases SSW then the system contains an implicit subsidy of continued work. If SSW decreases there is an implicit tax on continued work. Finally, if SSW is unchanged regardless of the timing of retirement, the pension scheme is actuarily fair from an individual perspective. In that case preferences (for leisure) are likely to be decisive for the retirement decision.[14]

The term "actuarial fairness" may be also used from a fiscal perspective. In this view, a system is actuarily fair when the present value of pension expenditures for those before the statutory age is matched by a reduction of expenditures beyond that age. It is likely that the necessary pension reductions for early retirement are lower from this perspective than from the perspective of individual labor supply (OECD, 2005).

Empirical studies suggest a strong positive relationship between the implicit tax on continued work and early exit from the labor force (Blöndal and Scarpetta, 1999 and Duval, 2003). Hofer and Koman (forthcoming) implement the methods adopted in the Gruber and Wise (1999) international comparison project on the Austrian pension system of 2000 (i. e. before the major reforms of 2003 and 2004). They calculate an aggregate incentive indicator ("tax force to retire") by summing up the implicit tax rates on continued work between the age of 55 and 69 years. Gruber and Wise show that a higher tax force is correlated with higher share of older workers not participating in the labor market ("unused productive capacity"). The results of Hofer and Koman fit well into the general picture (chart 8). In the meantime, the incentives to continue working have certainly increased. Unfortunately, there is no update of these results available (which would be quite complicated because of the various temporary arrangements and phased-in changes of the systems).

[14] Cf. Börsch-Supan (2004) for a more in-depth definition of actuarial fairness and related concepts.

Chart 8: Incentives of the Pension System and Unused Labor Capacity of Older Workers



Source: Hofer and Koman (forthcoming), Gruber and Wise (1999).

3.3 Long-Term Effects of the Austrian Pension Reforms on Labor Supply

The following short evaluation of the Austrian pension reforms considers only the likely effects on employment probabilities of older workers.[15] There were major pension reforms in 2000, and especially in 2003 and 2004. Below, I shall call the pension system that was in effect prior to 2000 as the "old system". By the "new system", I mean the law that is in effect for new entrants into employment since January 1, 2005. Because of time and space constraints I cannot address the issue of the transitional arrangements between the old and the new system which will affect a large part of the employed in the coming decades in detail.

[15] Of course, there are other important criteria to judge the reforms, for example the questions of intergenerational fairness and demographic sustainability (cf. Knell, 2004 and 2005), the questions of pension adequacy, the consequences for different types of workers etc. Moreover, only private-sector employees are considered because the pension provisions for farmers, the self-employed and the civil servants contain a number special regulations.

There were already important changes of the pension system in the 1990s. In 1992 a law was enacted to increase women's statutory pension age gradually from 60 to 65 between 2024 and 2033. Moreover, since the mid-1990s, there were adjustments such as the higher pension reductions in case of early retirement (OECD, 2005).

3.3.1 Lower Replacement Rates and Longer Averaging Periods

In the new system, pension contributions will be valorized with the growth rate of average earnings (up to the contribution ceiling). In the future, the pension will be based on the total earnings history of a worker (and not only on the "best" 15 years such as in the old system). This means that workers with steeper age-earnings profiles such as white-collar workers, civil servants and men will face stronger relative pension reductions than private-sector, blue-collar and female workers. These pension reductions will increase incentives to work longer.

The maximum earnings replacement rate of 80% of the valorized pension contributions is only attainable for a worker with a career of 45 contribution years of work (or substitute contribution periods, e. g. for childcare) at the age of 65. If there are fewer contribution years (e. g. because of tertiary education) or if the worker retires prior to the age of 65 the replacement rate will be lower.

3.3.2 Gradual Increase of the Eligibility Age for Early Retirement Age Due to Long Insurance Record

Since 2000, the eligibility age of early retirement due to long insurance record has been increasing gradually and will continue to do so until 2017 when it will have reached the statutory pension age. In the old system, the eligibility age was 55 for women and 60 for men, respectively. Currently, the eligibility age is increasing at a rate of one month every four months. For each year of retirement earlier than the statutory age there is now a pension benefit decrease of 4.2%. Only persons with an insurance record of at least 37 ½ years are eligible.

Higher benefit decreases and the gradual increase of the eligibility age will induce older people to work longer. Whether in the future all employees work up to the statutory age is an open question because new possibilities were introduced in the new system to retire earlier such as the pension corridor and special provisions for heavy workers (see below).

3.3.3 Pension Corridor

Similarly to early retirement due to long insurance, the new system provides the opportunity to retire before the statutory age (again, at least 37 ½ contribution years are necessary.) For each year of earlier retirement, there is a pension benefit reduction of

4.2%. However, in the new system one also has the opportunity to retire later (up to an age of 68). In this case, the retiree is granted a benefit increase of 4.2% for each year.

The OECD (2005a) argues that from an individual perspective of actuarial fairness, higher benefit decreases and increases are necessary (at some 6% p. a.). If that were true, many people would take the opportunity to retire at 62 and only few would work up to the statutory age let alone until 68. These effects would be amplified if older workers face difficulties in the labor market.

3.4 Have the Pension Reforms Already Had an Effect on Older Workers' Employment?

As mentioned, due to the methodical change in the EU Labour Force Survey in Austria, it is difficult to make statements about employment trends with these data. In any case, short-term increases of employment may also be attributable to improved cyclical conditions. Moreover, aggregate employment rates may show an upward trend because of the cohort effect of younger women being more likely to participate in the labor market. Administrative employment records are also particularly difficult to interpret. For example, there are many workers in the so-called old-age part time scheme (a provision where the public employment service subsidizes part-time employment of older workers but which is used frequently as an option to withdraw earlier from the labor market) who are counted as employed. This scheme may therefore also be conceived as an early retirement option (OECD, 2005a).

Table 2 shows average entry rates into old-age and invalidity pensions, published by the Austrian social security administration. If one considers old-age pensions only, there was an increase of more than two years for men and almost one year for women since 2000. However, the increased takeup of invalidity pensions (see above) meant that the average entry age hardly changed at all during the past five years.

Table 2: Average Pension Entry Age by Gender

year	All pensions		Invalidity pensions		Old-age pensions	
	men	women	men	women	men	women
1970	61.9	60.4	56.6	56.6	64.2	61.5
1975	61.8	60.1	56.6	56.5	64.3	61.5
1980	59.2	58.3	53.9	55.1	62.5	59.5
1985	58.3	57.9	54.3	54.8	62.1	59.5
1990	58.3	57.5	53.9	52.4	62.1	59.7
1991	58.3	57.6	53.8	52.5	62.3	59.8
1992	58.3	57.3	53.9	52.3	62.3	59.5
1993	58.8	57.8	53.6	51.9	62.8	59.8
1994	58.5	57.1	50.4	49.5	60.8	58.4
1995	58.1	56.7	49.4	48.8	60.4	58.0
1996	58.2	56.7	49.2	48.6	60.2	57.9
1997	58.4	56.8	49.9	48.1	61.0	58.2
1998	58.2	56.7	50.3	48.2	60.9	58.2
1999	58.4	56.7	50.4	48.3	60.6	58.0
2000	58.5	56.8	51.8	49.2	60.5	58.3
2001	58.7	57.3	53.4	50.4	62.2	59.4
2002	59.1	57.4	53.7	51.3	62.8	59.3
2003	59.0	57.3	54.3	51.3	62.7	59.0
2004	58.5	56.9	54.5	51.0	62.8	59.2

Source: Association of Social Insurance Providers.

3.5 Will the Stockholm Target Be Reached?

To reach an employment rate of 50% for older workers, their employment rate would have to increase by 4 percentage points per year. This seems not realistic. (The aforementioned EPC projections do assume a considerably lower employment rate for 2010, see above.)

A major reason is that the pension reforms contain many transitory arrangements. In 2010, the eligibility ages for early retirement due to long insurance record will be only 63 for men and 58 for women, respectively. Furthermore, those who were 50 or older by the end of 2004 were exempt from many of the new regulations. In the coming years there are additional possibilities to retire early with comparably lower pension reductions for "heavy workers" (the so-called "Hacklerregelungen").

4. Labor Demand and "Employability"

4.1 Early Retirement: Labor Supply or Labor Demand Phenomenon?

The applied economic literature considers early retirement as a pure labor supply issue. This also holds for most theoretical contributions.[16] Labor demand and interactions between supply and demand are rarely discussed.

Employers utilize early retirement provisions to shed older workers in times of weak demand or in times of restructuring. This, in turn, is considered as "fair" by employers, younger and older employees (Arnds and Bonin, 2002; Eichhorst, 2006). Dorn and Souza-Poza (2005) report survey results where a substantial share of early retirees indicates that early retirement was not voluntary. Depending on the country and time, this share varies between 8% and 62% (there are no survey results for Austria).

The question is not purely academic: If early retirement were driven predominantly by the labor supply-side then abolishing the early retirement options would ensure that participation rates of older workers would increase again to the high levels of the 1960s. The more the demand-side is important, the more important is it to ensure the employability of older workers which should not be taken for granted.

4.2 Productivity, Age and Earnings

There is an intensive discussion how productivity evolves with age. Probably worker productivity increases only up to the middle age in many professions. If wages deviate too strongly from productivity (e. g. because of collective agreements) than private enterprises may not be ready to employ and retain older workers.

4.2.1 Does Productivity Decrease with Age?

Skirbekk (2003) surveys the literature on the age-productivity relationship. According to this source, job performance starts do decline at an age of approximately 50 years. One has to distinguish between different skills and abilities. Not only physical ability declines with age, but also the ability to solve problems and learning speed decrease rapidly. On the other hand in tasks where experience and verbal skills are important the productivity decline is less pronounced.

Structural change in advanced economies towards services and the associated decreased demand for physical strength do not mean that the age-productivity profile becomes less important. Skirbekk (2005b) – by using the results of Autor, Levy and Murnane (2003) on the long-term shift in the demand for skills – shows that the currently

[16] An exception is the implicit contract model by Hutchens (1999) who takes into account the joint behavior of workers and employers.

demanded skill mix has a similar age-earnings profile to that of the skills mix demanded in 1960. Productivity increases rapidly between 25 and 34 and then only slowly up to an age of about 45. Then it starts to decrease. Assuming that experience is less important than in earlier times the age productivity profile decreases even more strongly.

In my view, these arguments are convincing. However, it is not clear how individual productivity translates into aggregate productivity. Börsch-Supan (2001) argues that the average age of the workforce would have to increase drastically to have a significant effect on productivity. (Cf. also the controversy between Skirbekk and Lindh in Vienna Institute for Demography, 2005.)

4.2.2 Are Austrian Age-Earnings Profiles too Steep?

Austrian earnings rise comparably strongly with age and do not decline at higher age (OECD, 2006). (See also the contribution by Biffl in this volume.) However, these results have to be interpreted with caution. Typically, average earnings are calculated with cross-sectional data for all employees in a particular age class. As those with high skills enter later and those with low skills tend to retire earlier there is a considerable selection bias in these empirical profiles. This problem is probably more severe in countries – such as Austria – where older workers' participation rates are very low. Moreover, cross sectional data may reflect past behavior and regulations. For example, for new entrants in firms the rules on seniority pay may call for smaller increases than in the past. Voluntary overpayments (i. e. salaries which are higher than set in the collective agreement) are probably also less important nowadays.

The concern for age-productivity profiles implicitly suggests that wages have to follow exactly productivity over lifetime. But even in countries where there is no statutory pay increase and where collective agreements are less important firms offer voluntarily earnings profiles that increase with age. In that case, earnings are below productivity first but increase steeper than productivity ("deferred compensation" schemes; cf. Lazear, 1986). Such schemes are useful in case of jobs where productivity is not easily observable as they enhance worker loyalty.

Despite these critical remarks it is likely that the current provisions in collective agreements include too strong seniority pay elements. From disaggregated tabulations of earnings data (e. g. Bauer and Lamei, 2003) we know that this increase is particularly strong for white-collar workers and civil servants. For these workers collective agreements contain rules according to which employees have predetermined income increases every year or every two years (over and above the wage increases agreed upon annually). Even if one does not believe in strong productivity declines with age it is plausible that firms accepted the current rules only because they knew that workers would retire considerably earlier than at the statutory pension age. If Austria wants to ensure that (most) workers remain in the workforce for a longer time a change of existing arrangements is probably necessary. The public sector could act as a role model by bringing earnings closer to the development of productivity over the working lifetime.

4.3 Lifelong Learning

"Lifelong Learning" is a catchword in economic policy papers. For example, it is mentioned in guideline no. 22 ("To expand and improve in investment in human capital") of the Integrated Guidelines for Growth and Jobs 2005–2008 by which the European Commission wants to implement the Lisbon Agenda. The discussion on the improvement of education in schools and universities is important. But we should be aware that continuous learning and reeducation will probably become even more fundamental.

In an international comparison there are huge differences in the extent of vocational training which is less widespread in continental European than in Anglo-Saxon countries (OECD, 1998). Longer time horizons, i. e. the knowledge that older employees will have to remain longer in the workforce, may increase the profitability of vocational training for both workers and employers. Probably, there is also a role for economic policy in encouraging such training. Learning may not start too late: When older workers do become unemployed training by active labor market policy measures does not help much (Eichhorst, 2006). The extent, but also the need for continuous training is distributed unevenly over occupations. For many highly-qualified continuous training is a regular characteristic of their jobs whereas for many lowly skilled service workers (e. g. in hotels and restaurants) there is almost no need for training (Enzenhofer et al., 2005).

4.4 Employment Protection and Employment Subsidies

Labor law and active labor market policy measures contain a variety of protective provisions for older workers. For example, the notice period for layoffs increases with job tenure. In general, employment protection measures have an ambiguous impact on employment: While on the one hand they reduce inflows into unemployment and may increase the profitability of investments in firm-specific human capital they are also likely to reduce hiring rates of firms (OECD, 2004). In Austria, the new system of severance payments has considerably reduced incentives of firms to retain older workers.

Already in 1996, an incentive scheme to employ older workers was introduced: A firm did not need to pay employer contributions to unemployment insurance if it hired a worker who is over 50 years old. On the other hand, higher contributions had to be paid if a worker over 50 (with a tenure of at least ten years) was dismissed. In 2003, the "56/58 Plus" regulation was introduced by which the reduction of social security payments was enhanced. This provision is used quite frequently (OECD, 2005).

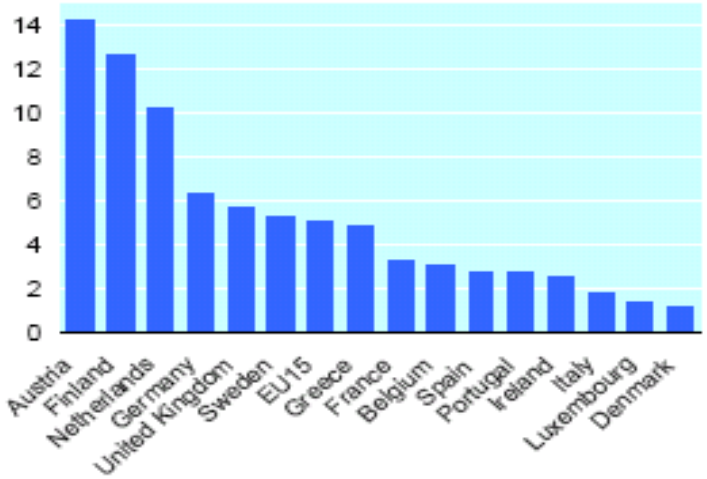
However, many active labor market policy measures are afflicted with deadweight and substitution effects. Regularly, hires are subsidized which would have occurred anyway. Moreover, other workers may be crowded out by such schemes. Especially when early retirement options are phased out these programs may be become very costly. Hence, they should be evaluated carefully. In the long run one has to consider that all

protective measures may have the perverse effect of intensifying existing prejudices against older workers (Eichhorst, 2006).

4.5 Further Aspects

Surveys among older workers show that they value recognition and respect highly (Enzenhofer et al., 2005). However, age discrimination appears to be widespread. According to an international survey by the European Foundation for the Improvement of Living and Working Conditions subjectively felt age discrimination was highest in Austria (chart 9).

Chart 9: Age Discrimination at Work (Percentages)



Source: OECD (2006). The proportion of all employees in 2000 who reported having directly experienced age discrimination or who report having witnessed age discrimination in their workplace during the previous 12 months.

The health status of older people is an important determinant of labor supply and the employability of older people (Kalwij and Vermeulen, 2005). Younger cohorts of workers have in general a better health status which is probably attributable to higher educational attainment and higher living standards (Börsch-Supan et al., 2005). The comparably good health status of older Austrians (see above) suggests that Austria may keep older people in the labor force more easily than other countries.

Finally, employers may contribute to productivity and health of their employees ("age diversity management" with flexible working hours, ergonomic measures etc. (Cf. OECD, 2005a, 2006 and The Economist, February 18, 2006).

5. Summary and Conclusions

- We should be happy about population aging because it means longer and more healthy lifes. However, the demographic developments make it necessary to reverse the trends towards shorter working lives to ensure the fiscal sustainability of the pension system and the welfare state in general.
- Currently, Austria's employment rate of older workers is the lowest of all EU-15 Member States. The examples of Sweden, Denmark, Switzerland and the United Kingdom demonstrate that it is possible to keep older workers much longer in the labor force.
- The pension reforms introduced in the last couple of years are a necessary condition for a later exit from the labor force. In the short run, the effects will be small. In the long run, the reforms provide strong incentives that people work longer. However, the comparably low benefit decreases may imply that most people use the pension corridor option to retire at 62.
- The widespread use of early retirement options should not be solely interpreted as a supply side phenomenon. Early retirement options are frequently used by both employers and employees to reduce the workforce in a socially acceptable way. There are a number of indications that older workers do have a problem of employability.
- In a market economy, firms must be ready to employ and retain older workers. Existing collective arrangements on seniority pay should be reviewed by the social partners to ensure that wages are compatible with age-related productivity and longer work lifes.
- Subsidizing the employment of older workers may become quite expensive in the long run. The existing measures should be evaluated carefully.
- Enterprises should be ready to take measures to facilitate longer working lives of their employees. Both policy makers and firms should be aware about a possible discrimination of older workers.
- The challenge of increasing older workers' employment rates is certainly not resolved by the recent pension reforms alone. The labor market status of older people should be monitored intensively in the coming years.
- Finally, to build a bridge to the workshop title: If we succeed to speed up economic growth in Europe, the aging problem and that of keeping older workers in the labor force will be more easy to be resolved.

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Comments on the Presentations on "Tapping the Employment Potential"

Johannes Schweighofer

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1. Introductory Remarks

Section IV of the workshop on "*Strategies for Employment and Growth in Austria*" organized by the Oesterreichische Nationalbank (OeNB) focused on how the employment potential could be more fully exploited. The larger question of which growth strategies are needed at the moment is obviously based on the idea that growth is currently inhibited, among other things, by unused labor reserves and by an undefined shortage of labor and skills. In my opinion, this presumption is questionable and was not – or, as in the case of Stiglbauer, only briefly – elaborated on.

Is the calling for an increased exploitation of the employment potential currently justified? A first look at the labor market suggests that the answer is no. The unemployment rate reached a historic high in 2005 (7.2%) and is unlikely to decline significantly until 2007. Labor supply will continue to increase within the next few years, either because of longer-term trends (e.g. women), because of recently taken political measures (older workers, pensions), or for other reasons (e.g. migration). In this context it seems advisable to explain the implied effects of additional labor supply (complimentary or substitutive?). In particular, the expected dampening effects on wages should be described. As mentioned before, this highly interesting question is merely touched upon in the papers presented. This is regrettable, as neither supporters nor opponents of supply-side measures have ever explicitly discussed this issue. The OeNB workshop would have provided an opportunity to do so.

Before discussing the individual papers, I would like to make the following remark: I fully agree with 90% of what Hofer, Biffl and Stiglbauer say in their papers. In the following, I will, however, focus on the remaining 10% to enrich the debate.

2. Ad Helmut Hofer

Helmut Hofer's topic – *The Austrian Labor Market: Success Model or Need for More Reforms?* – seems to cover more than just the question of how the employment potential can be tapped (obviously the organizers have asked Mr. Hofer to chose this broader approach). This in itself does not really present a problem. However, some of Hofer's arguments, such as the suggestion that Austrian labor market and employment strategies should focus on low-skill workers – a standpoint one may of course agree with – inevitably contradict the calling for increased employment potential: Unemployment is particularly high among low-skill workers. Additional supply (of equally unskilled workforce) would aggravate the problem.

Hofer's remark (see chart 1 and 2) on the fact that structural unemployment (NAIRU, trend unemployment) has remained at a constant level or even increased since 2000 requires following up: Does this increase indicate that the numerous reforms taken on the Austrian labor, products and services markets, for example within the Lisbon Agenda or the European Employment Strategy, have failed to bring about the desired results? Or should we be more sceptical when it comes to the types of methods used for measuring structural unemployment? Clear and reliable answers to these two questions are certainly needed, as they are a prerequisite for many discussions about the labor market and about labor market reforms.

In chart 3 Hofer convincingly demonstrates that the increase in active employment that has taken place since the beginning of the 1990's can almost exclusively be attributed to women. This seems to somewhat contradict Biffl's statements. To some degree this contradiction can be explained by the use of different data by Hofer and Biffl (social security data versus Eurostat survey data).

In the chapter on economic policy recommendations voice by the Organization for Economic Co-operation and Development (OECD) and the European Commission (EC) Hofer states that, interestingly enough, some of the political measures taken in Austria were not based on respective OECD or EC recommendations. On the other hand, some of the existing recommendations were not implemented. Unfortunately, Hofer fails to provide a conclusion, and the chapter thus somewhat lacks substance.

Hofer stresses two fundamental factors influencing unemployment: (1) Since 1988, migration, the rising number of women participating in the labor market, and the increased implementation of active labor market policies have reduced traditionally high cyclical labor supply responsiveness in Austria. In this context one has to inquire about the consequences these developments bring about: Do they cause a rise in the average level of unemployment? (2) The increase in unemployment since 1990 can almost exclusively be attributed to the near doubling of the unemployment rate among low-skill workers (having completed nine years

of compulsory schooling or less). Among all other educational groups the unemployment rate rose to a comparatively small extent. This fact certainly deserves an enormous amount of attention from policy makers.

Hofer mentions the problem of "apprenticeship education" several times, focusing in particular on the lacking long-term sustainable distribution of financial means, something I certainly agree with. However, Hofer fails to discuss alternative "*structural*" reforms.

3. Ad Gudrun Biffl

Gudrun Biffl concentrates on obstacles to employment for women. A look at the empirical evidence on how the number of employed women has developed over the past decades shows that employment among women has increased continuously, at least in terms of headcount. The title of Biffl's contribution thus seems somewhat unsuitable, as Biffl mainly seems to be concerned about the quality of female employment and not so much about increasing the number of female employees (as the title would suggest).

One of the key aspects in Biffl's paper is *"marketizing home production"*. Apart from the size of the two sectors affected by the distribution of home production (i.e. the informal and the services sectors) it is the distribution of home production itself that causes differences in employment rates among EU Member States. Freeman and Schettkat (Economic Policy, January 2005) use time allocation data to prove that women in the U.S.A. are generally engaged in market work 28.7 hours per week, whereas European women only do 20.7 hours of weekly market work. The former spend 30.1 hours on home production, and the latter 40.5 hours. The distribution of home production thus plays a key role when comparing U.S. and EU data. In this context Biffl argues – very much in line with the Lisbon Agenda – that female participation in the labor market must be increased: When looking at Sweden, on the one hand, and the U.K., on the other hand, one has to ask how "the Swedish way" is supposed to be financed as the current political situation does not seem to allow for tax increases and whether "British conditions", i.e. a more unequal distribution of income (which is necessary to enable higher-income households to employ cheap household staff), are really desirable.

In her paper Biffl switches focus several times. At one point she speaks about the employment rate, then again about the labor force participation rate. This shift causes distortions, especially when unemployment rates are high, and thus hampers the analysis.

When it comes to the gender pay gap in Austria it would be helpful to be able to break down the differences in gross monthly wages between men and women into the following categories: differences in working hours, educational level, occupational and sectoral segregation and pure discrimination. Then, respective policy recommendations could be made.

Concerning Biffl's argumentation on the segregation of women, one may wonder, when looking at Sweden, whether this unequal distribution is really all that bad for women, or whether it is just a certain form of segmentation.

Biffl reveals that marginal effective tax rates particularly restrain low-skill women workers from working, which is certainly true. However, a more differentiated analysis is necessary at this point in order to develop appropriate policies.

Unfortunately Biffl's concluding suggestions lack some of the scope that she provides in her profound analysis.

4. Ad Alfred Stiglbauer

Stiglbauer wonders whether Austria will (forever) remain the country of early retirement. He provides numerous interesting arguments and much empirical evidence but fails to give a clear answer at the end. In this context he rightly says that both a necessary (reduced access to early retirement, in particular to invalidity pensions) and a sufficient (additional older workers have to find employment) condition must be fulfilled to allow for a real trend reversal in the employment rates among older workers.

Given the large reforms of the pension system that were conducted in 2000, 2003 and 2004, the long transitional periods, and the uncertainty about how many of the additional older workers will actually find a job, Stiglbauer's empirical evidence (chart 3, table 3, table 2 and chart 7) does, after all, seem to indicate the beginning of a trend reversal.

Interestingly enough, the long-term forecast published by the Economic Policy Committee (EPC) and the European Commission, which Stiglbauer cites in his paper, presumes an increase in the employment rate among older workers in Austria to 54.4% (2020). After all, the EPC and the European Commission are commonly not known to downplay the retirement problem.

One can only agree with Stiglbauer when he criticizes the fact that the retirement debate is at times dominated by a "crusading" language ("demographic bomb"), which does not describe the issue appropriately.

Generally – and this is an aspect Stiglbauer does not mention – the appearingly so simple and thus seemingly sacrosanct demographic forecasts should be faced with more scepticism, as they often insufficiently take into account possible consequent changes in behaviour and political reactions – similar to the forecasts the Club of Rome published at the beginning of the 1970's on the use of natural resources.

Although additional government expenditure toward the first pillar of the pension system has become a central aspect in the retirement debate over the last few years, Stiglbauer only briefly mentions this issue. In their most recent calculations the EPC and the European Commission obviously find that overall

expenditure on state pensions will slightly decrease until 2050 (–1.2 percentage points). This contradicts the commonly voiced complaint that the state can no longer finance the pension system and is certainly a remarkable argument, which has so far not been attended to sufficiently.

With regards to corridor pensions, Stiglbauer draws the interesting conclusion that because of existing incentives, most people concerned are likely to retire at age 62. This is a thesis that can at least be verified!

Relating to the common argument that older workers are less productive, Stiglbauer actually cites empirical data. Other authors rarely do so.

Another interesting aspect Stiglbauer mentions is that older people seeking employment often face discrimination.

Finally, Stiglbauer makes the truly interesting remark that the depicted age-income profiles may underlie selection bias (low-income workers tend to leave the labor market more frequently).

Growth and Employment Strategies in Austria

Panel Discussion

Silvia Angelo

Vienna Chamber of Labor

It is certainly difficult to give a brief outline of how to foster growth and employment both in Austria and Europe. This is why I will concentrate on two possible starting points for our discussion:

1) The national level: The question we must ask here is whether the measures taken in Austria are sufficient to combat unemployment. In other words, is the Austrian National Reform Program (NRP) suited to tackle labor market problems?
2) The European level: One of the most pressing questions in this context is why EU policymakers do not utilize the existing room for budgetary policy maneuver to manage the economic cycle.

1. The National Level

The criticism leveled at the National Reform Program can be summed up as follows: It is not future-oriented, but primarily lists a series of measures, of which most have already been implemented. It does thus not provide any schedule or clearly defined goals, but is merely an unstructured catalogue of individual measures whose relevance for the labor market is not always obvious – see e.g. the ICT-supported school book campaign or the Sustainability Weeks initiative designed to promote sustainability in production and consumption. The NRP does not analyze existing problems (the rise in unemployment e.g. is not even included in the economic fundamentals), nor does it define an employment target. All in all, the message is that the NRP for Austria is nothing but a cumbersome paper exercise.

This approach stands in sharp contrast to reality: In fact, Austria is facing an increasing number of labor market problems. While the unemployment rate in the EU went down against the comparable figure of 2000, unemployment in Austria went up. Furthermore, it has increasingly become an issue for groups such as young people, who were definitely not at the center of attention a few years ago.

The official counterargument against this observation is that even though unemployment is increasing, employment is also on the rise. However, this statement needs to be put into perspective. While it is true that the number of employed persons has been rising, the volume of labor has not. Employment rates in Austria have been going up mainly due to an increase in part-time employment, which is characterized by a large proportion of female employees. While almost one-third (31.3%) of employed women in the EU-15 were working part-time in 1995, the figures for Austria (26.9%) were still clearly below the 30% threshold. In 2004, this trend reversed: The share of women in part-time employment reached 35.2% in the EU-15, but it jumped to 38.6% in Austria.

Part-time jobs are only unproblematic if people can make a living and if part-time agreements are entered voluntarily. More and more often, however, this is not the case. In the labor force survey for Austria, the majority of women working part-time (62.5%) do so because they have caretaking obligations or because of other family reasons. The negative consequences of spending shorter periods in paid employment (while spending more time doing mainly unpaid housekeeping work) range from a shorter average employment contracts to limited career opportunities and lower pensions. So there is clearly a trend toward precarity, but there are no political concepts to counteract it.

Several additional arguments underscore that employment growth in Austria is not as high as it appears: First, employment growth is not particularly high in a comparison with other EU countries and second, it does certainly not suffice to reach the goals defined in the Lisbon Strategy. The Lisbon employment target for 2010 (an average employment rate of 70% and of 60% for women) does not mean that Denmark and Sweden will have to reduce their employment rates only because these rates are already higher than the Lisbon targets. It means that, every country will have to make its contribution on the basis of its own national growth rates. According to calculations made by the European Commission in 1999 this means that by 2005, Austria should have reached an employment rate of 71.3% – and that by 2010, it should come to 73.2%. The Austrian employment rate of 67.8% for 2004 lags far behind these values.

Of course, global economic developments are the major reason behind slow economic growth in Austria; however, the country has failed to set any corrective measures in its own right. One approach to remedy this situation would be to invest in infrastructure and education and to carry out a tax reform that really relieves the burden on persons with middle and (above all) lower incomes. Moreover, it will be necessary to expand childcare facilities to promote the reconciliation of work and family life.

From a structural point of view – more precisely from the perspective of labor market policy – a positive feature of the NRP is that in 2006 and 2007, more funds will be available for active labor market policy measures (employment promotion package). When set in relation to cyclical developments, however, these additional

funds are arriving late and come as somewhat of a surprise even for the management of the Austrian Public Employment Service. It remains unclear what should be done to eliminate the stop-and-go approach in labor market politics after 2007 (when, as an additional factor, funds from the European Social Fund are likely to be cut considerably).

2. The European Level

In the current political debate, EU economic policy seems to be unquestionable. This is all the more surprising as many uninvolved economists (in particular from the U.S.A.) have difficulties understanding the European approach which, instead of reacting to current developments in a pragmatic way, concentrates – rather one-sidedly – on structural policies. This is also reflected in the Broad Economic Policy Guidelines and implemented in the EU's monetary and fiscal policies.

It is an undisputed fact that constant deficits and the related high debt levels restrict the room for economic policy maneuver, and it is also clear that a monetary union needs certain rules to function. Still, it must be permissible to question the actual design of these rules – it is even mandatory to do so.

For a short time in 2004, there was hope that we might enter an open discussion on this topic. Unfortunately, since then – and in spite of necessary (and indeed interesting) ideas on how to reform the Stability and Growth Pact – the EU has returned to "business as usual". The latest example in this context is that the U.K. was given an early warning for its excessive deficit of 3.5%, as the country's public deficit will still be 0.1 percentage point above the 3% deficit limit in 2007 according to the European Commission. Considering, in particular, that economic growth in the U.K. came to 3.2% in 2004 (thus by far exceeding the EU average) and that the U.K. is likely to perform better than the other EU countries in the next few years, this move – to put it mildly – appears to be a mere formality that puts economic policy considerations second to inflexible rules of procedure.

In its monetary and fiscal policy, the U.K. has followed a different path than the euro area, focusing its policy considerations on achieving fiscal consolidation on the one hand and on increasing the scope of obtaining finance for necessary investments on the other. In 1997, the U.K. introduced the so-called "Golden Rule" of fiscal policy, according to which the deficit level may match the level of net investment. At the same time, a ceiling for public sector net debt was defined which is clearly below that of the euro area. These measures make fiscal policy decisions more transparent than decision-making within the Stability and Growth Pact.

At the EU level, however, there is no discussion on alternative fiscal policy rules. Instead, policymakers concentrate on how to save costs in key areas of social policy (e.g. pensions and health) and justify this course with considerations on the

quality of public finances. This approach certainly slows down economic recovery. Unfortunately, however, it appears to be an undisputable dogma of the prevailing European doctrine.

Going for Growth – Time to Move up a Gear

Panel Discussion

Karl Pichelmann

European Commission

Ladies and Gentlemen:

It was with great pleasure that I accepted the invitation to attend this workshop. Growth and employment are obviously an issue of utmost importance to our citizens. So the debate about appropriate strategies is highly welcomed and I appreciate the opportunity to take part in this panel discussion. The workshop also comes at a very good moment in the run-up to the Spring European council in Brussels. The Commission has suggested a number of key priorities for action:

- more investment in education, research and innovation to raise the game of industry and workers
- less regulation and more support for small and medium sized enterprises
- and, last but not least, getting more people into work

We do not start from scratch with our efforts: Since the original Lisbon Strategy was launched in 2000, we have made appreciable progress in re-engineering Europe to meet the challenges of the globalised economy. Not enough perhaps, patchy in parts maybe, and not fast enough for some, but nevertheless structural reforms are happening. Investment in R&D is rising, growth is heading upwards and we have come closer to our employment targets.

Current economic prospects for growth and jobs have indeed significantly improved and economic growth in the EU and the euro area is expected to gain further momentum in the course of this year. Fuelled by strong worldwide demand for our exports, our latest forecast projects an acceleration of economic growth to 2.3% in the EU and to around 2% in the euro area – somewhat more than ½ percentage point higher than in 2005. Investment spending is also expected to be dynamic given improved corporate profitability and competitiveness, as well as continued favourable financing conditions. With increasing consumer confidence and the expected improvements in the labour market, the outlook for disposable income and, accordingly, private consumption is also more positive.

Obviously, for the consolidation of the upswing and a continuation of sustainable faster growth we need to have the right framework conditions and policies in place. And the brighter outlook indeed provides a new window of opportunity to step up our reform efforts to increase Europe's growth potential and to make our economies more resilient and more adaptable to weather external challenges.

It is clear that the battle for more and better jobs – and sometimes it really is a battle – cannot be fought and won in the labour market alone. To enhance the EU's ability to create new jobs and foster productivity and innovation requires action along many dimensions. These encompass sound stability oriented macroeconomic policies, competition, further capital market integration, research and development and education. And it requires open markets, both internally - including services - and externally.

Indeed, the EU, being inextricable linked to the world economy, needs to be proactive in tackling the challenge from globalisation. Should we fail to fully participate in the newly emerging global division of labour, a fundamental engine of growth will sputter and it will become difficult, if not entirely impossible, to raise our living standards in open and fair societies.

Of course, we should not downplay the adjustment challenge. But resorting to protectionism and trying to shield jobs and industries from international competition, as contemplated by some – and Austria is here no exception – is simply not a viable option. It will only reduce economic efficiency, income and employment opportunities in the long run. Protectionism denies everyone in Europe the economic benefits of market integration, higher growth and more jobs.

Thus, the Commission stands firm to promote and defend the principles that underpin the internal market and the free flow of capital, goods, services and workers. Europe must enhance its ability to create new activities and jobs, and it needs to find new and better ways to support the inevitable adjustment process. This is what the renewed Lisbon Strategy, with its focus on employment and productivity, sets out to do.

The Commission's Annual Progress Report sends a message of careful optimism where we stand on the road to creating a new dynamism for growth and jobs in Europe. But it also points out that we still have to go some way to turn our ambitions into action – and now is the time to do so, it is a good time to move up a gear!

More Growth and Jobs in Europe through an Improved "Lisbon Governance"?[1]

Verena Farré Capdevila

Austrian Federal Ministry of Economics and Labour

„We all know what to do. We just don't know how to be re-elected once we've done it.", as J. C. Juncker[2] once stated. Against the background, that we all know *what* to do, this article considers *how* to improve the implementation of economic policy measures. In particular, I shall consider what impact can be expected from the renewed Lisbon Strategy (i.e. the so-called "Partnership for Growth and Jobs"), and whether improved governance could increase the chances of achieving the Lisbon targets. Issues of political economy – at least to my point of view – are the keys to the success of "Lisbon".

The Relaunched Lisbon Strategy …

A relaunch of the Lisbon Strategy was a necessary response to the failure of the old Lisbon Strategy (introduced at the year 2000 Spring European Council) to achieve its goals. This was primarily due to the fact that the first five years of the Lisbon Strategy were characterized by too many – and often conflicting – objectives and a lack of implementation that resulted from an absence of political will.

The Lisbon Strategy has therefore been revitalised as follows:

- refocused on growth and jobs, as the two overarching priorities (integration of the "Broad Economic Policy Guidelines" and the "Employment Guidelines" into the "Integrated Guideline for Growth and Jobs")
- increased responsibility and ownership for Member States through requirement for National Reform Programmes. In these National Reform Programmes, Member States themselves define their main challenges and outline policy measures in response that take their specific circumstances into account. This

[1] The views and opinions expressed are mine and should not be reported as representing views of the Austrian Federal Ministry of Economics and Labour.

[2] The Economist, Reform or Die, January 28, 2006, p. 38.

replaces a system in which, to an extent, Member States simply reacted to recommendations from the European Commission.
- replaced a "naming, shaming, blaming" approach with a partnership between the European authorities and the Member States
- future-oriented three year policy cycle
- greater involvement of stakeholders (including social partners, national and regional parliaments, local authorities, academia, media) to increase effective public ownership, acceptance, transparency and visibility
- the appointment of a "Mr. or Ms. Lisbon" in Member States to increase public awareness and (political) ownership

Overall these constituting elements of the renewed Lisbon Strategy seem to be a promising package.

… is Still Confronted with Implementation Problems …

But which problems remain around governance issues? Why do implementation-gaps persist and what are the main obstacles in overcoming the barriers to implementation? Should the European Commission return to its previous practice of addressing recommendations to Member States (the Commission did not do so in her recent Annual Progress Report, in which the 25 National Reform Programmes have been evaluated)? Should Member States themselves make additional commitments, such as naming a number of particular policy measures with targets and deadlines? Or do the National Reform Programmes already do this sufficiently? Could concrete targets – set according the respective framework and conditions in Member States – increase the likelihood of achieving of the Lisbon objectives? Would a sanction mechanism (despite the experience with the Stability and Growth Pact) be a way to make Lisbon a success? Or perhaps – rather than sanctions – introduce incentives for reform or an award mechanism (for example, awarding a cash award from the Community budget to Member States with the best measures in a specific policy area)? How could the partnership-approach be combined with the peer-pressure idea? Could lack of implementation stem from the complex distribution of competences within the European Union? Or from divergence between national interests and the Community interest (such as on tax policy, regional policy, budgetary policy)?

… Stemming from the Distribution of Competences …

In this context, let's shed some light on the question of competence within the European Union: The European Union does not have the sole competence in the field of economic policy, except certain policy areas, such as competition policy, monetary policy and trade policy. In other policy fields – e. g. research and

development, innovation, tax, social redistribution, labour markets, fiscal policy, industrial policy – Member States have the legislative power and the European Union's role is – to varying degrees – more that of coordinator. These divergent economic competences mean that different interests and different visions for target-setting are inevitable, particularly between Member States. In this regard, the Lisbon Strategy – a coordination mechanism and the overarching frame for national economic policies across Europe – can already be called successful, particularly if one considers the "great" targets (e.g. for R&D spending or employment rates), which once have been accepted by all Member States.

In the context of target-setting and target-achieving, a study by the Dutch CPB[3] (prepared for the European Commission) offers an interesting thought. It states: if the European Union reaches five of the main targets set out within the Lisbon-Strategy (i.e. the completion of the internal market for services, the reduction of administrative burdens, an improvement of human capital, the 3% R&D-target, and the 70% employment-target) Europe's Gross Domestic Product could increase by 12% to 23% and employment by about 11%. Economic and employment growth would for more than a decade lie at least 0.8 percentage points above the level it would have been without the targets. Against this promising background, why are the necessary measures for reaching these goals not being implemented immediately?

In order to answer this question we must recall that the necessary economic policy measures within the Lisbon Strategy lie primarily in the hands of the Member States. Member States are responsible for the achievement of the targets set out at European level and therefore for future growth and jobs. This fact was correctly taken into account in the relaunch of the Lisbon Strategy. However, what are now the reasons for the current insufficient implementation? Why do the National Reform Programmes differ so much with regard to their orientation (focus on future versus past, ambitious versus less ambitious, new strategies versus description of old strategies, etc.)?[4] In my view, there are in particular two reasons:

[3] CPB Netherlands Bureau for Economic Policy Analysis, The new Lisbon Strategy, An Estimation of the economic impact of reaching five Lisbon Targets (1/2006).

[4] For further information on National Reform Programmes see: European Commission, Annual Progress Report, January 25, 2006; Economic Policy Committee, Report on the Lisbon National Reform Programmes 2005, November 11, 2005; Polish Lisbon Strategy Forum / Gdansk Institute for Market Economics, National Reform Programmes: Key to Successful Future of the European Project?, January 2006; European Central Bank, Monthly Bulletin, January 2006.

… and Resulting from Quite Differing National Reform Programmes and Reform Efforts …

(1.) The level of ambition within a National Reform Programme, and the extent to which it focuses on the longer term, largely depend on national voting cycles. A Member State with imminent elections may either use its National Reform Programme – within the current Lisbon-timeframe of three years – to tie the hands of the next government (the government which adopts the National Reform Programme is not necessarily the one which has to implement it), or it can simply report on already adopted or implemented measures.[5] In general, I welcome the three-year-cycle of the renewed Lisbon Strategy. In my opinion, however, this inconsistency with national voting cycles and European economic policy-cycles represents a significant implementation problem.[6] The possibility of concerted Europe-wide implementation of reform programmes is severely disrupted by differing national dates for elections. Would a synchronisation of national voting-cycles (setting to one side for the moment the likely profound constitutional problems) make sense? If national legislative periods started at the same time as the Lisbon cycle, would this lead to improved coordination of Lisbon measures (as set out in the 25 National Reform Programmes) with respective national budgets and economic policy strategies?[7]

… and, Finally, Implementation Gaps Are also Due to Political Economy Aspects of Economic Reform.

(2.) The political economy aspects of reforms play a crucial role, because measures to spur growth and to increase the number of jobs are often supply-side and structural policy measures. Indeed, the Lisbon Strategy in particular comprises supply-side, structural policy measures. Via an improvement of production factors, these measures aim at boosting productivity, increasing the employment rate, and – in the long run – strengthening the growth potential. But – and this is the crux of the whole issue – supply-side measures take time to release their impacts, and may

[5] In Poland and Germany national elections coincided with the deadline for transmission of National Reform Programmes; in Sweden, Italy and Austria a possibly new government has to adopt the National Reform Programme.

[6] The same line of argumentation can be found in M.-J. Radlo, New Economic Governance for Reforms in the EU, in: Polish Lisbon Strategy Forum / Gdansk Institute for Market Economics, National Reform Programmes: Key to Successful Future of the European Project?, January 2006, p. 9 ff.

[7] The fact that there is hardly any reference in the National Reform Programmes to the national budgets was in many cases criticized. But, presumably, the missing link stems from the different timing of the two documents.

even yield negative impacts in the short term before their positive effects emerge (a classic J-curve). Moreover, time is exactly that what politicians – against the background of normally four to five years lasting voting-cycles – do not have.

In addition, the implementation of political measures also depends on the stage of the economic cycle (downturn or upswing) a Member State is in. Policy changes and reforms are the easiest at two distinct points in the economic cycle: (i) in a flourishing environment, when there is more money to compensate the losers of reform and when a growing economy offers more reemployment opportunities; and (ii) in times of deep economic recession, when public acceptance of reforms is high since "it can't get worse". Between these extremes, for instance in a stagnating environment, a lack of political will for reform and a low growth-rate can actually reinforce one another and lead to a severe crises; equally, economic reform during the early period of a recovery may have counter-cyclical effects. I. Begg[8] refers to a U-shaped curve in this context. On such a curve, might there be an optimal point for reform? What could this imply for timing of the reform measures within the Lisbon Strategy? Do structural reforms either generate best results in a deep recession or in booming times? Whatsoever, all Member States are (perhaps unfortunately) never at the same point of the economic cycle at the same time. As a consequence, economic reforms and the political will or opportunity to carry out successful reforms are extremely unlikely to coincide across the European Union.

Within the framework of the Lisbon Strategy, Heads of State and Government reached an agreement on common (in some cases quite concrete) targets and on the necessary reform measures. But national needs, ambitions to achieve targets and appetites to implement necessary measures all continue to vary. As outlined above, the two main reasons for this misery are time inconsistencies (national voting cycles are not necessarily congruent with the Lisbon cycle, and Member States do not face the same cyclical framework conditions) and the supply-side (and therefore time-intensive) nature of the necessary reform measures.

It Should be Concluded by Raising Some Questions

Could synchronisation of the formulation of the 25 national economic strategies with the Lisbon Strategy make sense? Would this have a positive impact on the implementation of Lisbon relevant reform measures? Or could a Lisbon Strategy consisting of 25 independent national economic policies (which are reflected in the 25 national government programmes and the 25 national budgets) also be successful?

[8] I. Begg, in: Polish Lisbon Strategy Forum / Gdansk Institute for Market Economics, National Reform Programmes: Key to Successful Future of the European Project?, January 2006, p. 15 ff.

Could an Europeanization of economic policy competences foster the implementation of economic policies? *„The most dangerous moment for a bad government is,* when *it starts to reform*“, according to Tocqueville. Could it be desirable, if the European Union – not having a *“government”*, therefore also not a *“bad government”* – itself starts to reform? Could an option be the installation of a “*government”* of the European Union with far-reaching economic policy competences?

A bundle of questions! Whatsoever, one thing seems to be clear: Time for implementation is now! No new strategies are necessary for that, but only the political will for reform. Beyond doubt, to come to a political decision on reform is not an easy task, as outlined above. But improved governance could ease both decision-making and subsequent implementation.

Some Insights on the Link between the Public Sector and Economic Growth and International Trade and Economic Growth

Panel Discussion

Ralf Kronberger

The Austrian Federal Economic Chamber

In the workshop the link between the public sector and economic growth was covered to some extent but not in depth. This comment will focus on some public sector issues such as fiscal federal relations, budgeting procedures and taxes affecting the supply side. The link between trade and growth has not been mentioned at all. This link will be discussed shortly which will provide the basis for the identification of further necessary applied research in this field.

1. The Public Sector and Economic Growth

1.1 Which Fiscal Federal Relations? Will Better Fiscal Federal Relations Help Growth?

The Organisation for Economic Co-operation and Development (OECD) recommendations by Wörgötter dedicate much room to the improvement of fiscal relations in Austria. Since the first Finanzausgleichsgesetz (Fiscal Equalisation Law) (Federal Law Gazette – BGBl. 45/1948) was stipulated in 1948 – this law regulates the redistribution of tax revenue shares across sub-national governments – it has undergone only minor changes in a period of more than 50 years. A large body of literature has already extensively covered the demand for reform and has reached similar conclusions: allocative efficiency has to be raised, expenditures and revenues should be linked at the same government level, co-financing should be reduced, and last but not least the revenue distribution mechanism should be simplified and made more transparent (compare inter-field Beirat, 1992, Staatsschuldenausschuss, 2005).

It could be expected that the OECD would formulate policy recommendations that are largely similar to the ones of the existing literature. On 30 June 2003, the Austrian Convention started with working out proposals for reforming the Austrian constitution. The resulting constitutional draft of January 2005 states in Article 279 that the sub-levels of government should strive for linking accountability, revenues and expenditures at the same government level. Political action for any kind of reform has not yet been taken. As is shown by this example: The central question for Austria is not which design of reform to choose but how to introduce the necessary reform.

A controversial issue in the literature as well as in the public discussion is whether and to what extent tax-setting powers of sub national governments should be strengthened. The OECD recommendation of allowing for a surcharge on personal income tax has to be viewed critically. First of all, it is not a contribution to the simplification of the tax system as the OECD simultaneously demands (compare Kronberger, 2006a). Second, labour supply in Austria is relatively expensive as a result of high non-wage labour costs. It could be counterproductive for a state to raise (the surcharge on) income taxes if unemployment is already at a high level. Therefore, the power of setting and collecting of property tax or motor vehicle tax should be transferred to lower levels of government.

The chosen topic for the workshop was "Strategies for Employment and Growth in Austria". Nonetheless, the link between fiscal federal relations and economic growth was not discussed. This is more important since theory and empirical evidence on this link yield ambiguous results. Theoretical arguments pointing to a positive link are: (1) Fiscal decentralization enhances Pareto efficiency provided that differentiated spending of local governments is needed to meet local demands. (2) Governments possibly behave as revenue-maximizers. In this case vertical and horizontal competition among different levels of governments may put a restraint on the size of the public sector, e.g. preventing an oversupply of goods. (3) Increased accountability for local governments may provide an incentive for them to innovate on the production of public services and public goods. (4) Fiscal decentralization brings about less concentration of power which in turn holds back vested interests on public policy; therefore, fostering democracy and long-term economic growth. The same number of arguments point to a negative link between fiscal decentralization and economic growth: (1) A high degree of fiscal decentralization possibly reinforces regional inequalities as was the case in Switzerland. (2) The smaller the government units are the fewer career opportunities are available and the more corruption is present. (3) The smaller government units are, the higher is the share of fixed costs. (4) Long-run economic growth may be hampered since cyclical stabilization as well as structural adjustment becomes more difficult. In conclusion, these theoretical arguments could not be tested satisfactorily, in the field, due to the difficulty of measuring fiscal decentralization. Thießen (2005) estimated the relationship between fiscal

decentralization and per-capita growth. He found a bell-shaped relationship. Accordingly, maximum economic growth can be attained by an intermediate degree of fiscal decentralization. Nevertheless, the author stresses the weakness of his results due to the sample size and deficient operators for fiscal decentralization. Thus, rather the design of fiscal federal relations and the redistribution mechanism for revenues should be improved within a determined scope than augmenting the degree of fiscal decentralization in Austria.

1.2 Will the New Multi-Annual Budgeting Framework Help Smooth the Cycle?

Wörgötter recommends in his OECD paper the implementation of a medium-term budgeting framework. Since February 2006, the draft for amendments of the budget law and corresponding amendments in the financial constitution is ready to enter the parliamentary process. They stipulate, inter-field, a medium-term expenditure framework which determines a general expenditure ceiling over four years with an annual rolling basis. Five broad categories are defined, each with separate binding ceilings (Steger, 2006). The draft contains a relatively weak form of a debt brake since the expenditure ceiling exclusively applies to the federal budget (Kronberger, 2006b). Sub-levels of government are exempt from the debt brake. The expenditure ceiling (of the framework not of the current budget) can be altered by a single majority in parliament. It is still to be seen whether this represents a strong enough binding. The draft does not indicate which level of expenditure path should be achieved nor does it contain any economic reasoning. Therefore, the expenditure path can easily be set too high, thereby forcing taxes to be raised which consequently can dampen the economic cycle. The original objective of a debt brake to avoid a strain on fiscal policy through budget consolidation would be circumvented as a consequence.

1.3 We Should Have Better Knowledge on the Link between the Supply Side of Taxes and Growth

In the workshop the discussion whether growth or employment is demand side or supply side driven was centered on the labor market. Little doubt remains regarding the question of whether lowering the non wage labor cost – this is reducing the cost of labor supply – will help employment, whereas the empirical knowledge of the effect of reducing corporate taxes in Austria is limited. The effects of the Austrian tax reform 2004/2005 have only been estimated with respect to the demand side (Breuss et al., 2004). The supply side effects have explicitly been left out, therefore, underestimating the growth effects resulting from the lower corporate income taxes. For coming tax reforms econometric models should be

ready to mimic corporate tax changes in order to provide adequate economic policy advice.[1]

2. International Trade and Economic Growth

2.1 How Does Export Growth Contribute to Economic Growth in Austria?

Since Austria joined the EU in 1995 the export share has risen from 24.5% of GDP to 38.3% in 2005. The import share has seen a similar growth. Presumably, the exchange of goods has gained importance with respect to Austrian economic performance. Seen from the perspective of the business cycle, recent economic growth in Austria and the EMU Member States was largely induced by export growth (in EMU investment growth has been an important factor, too) as stated by forecasts of Austrian economic research institutes (Marterbauer and Steindl, 2006; Felderer et al., 2006).

2.2 What Does Economic Analysis Tell Us on the Link between International Trade and Growth?

According to the economic mainstream increased trade openness brings about faster economic growth. Surveys on theoretical and empirical literature show that the evidence is mixed. Wälde and Wood (2004) criticize the current literature as policy instruments are either insufficiently considered or left out completely. Mostly, the relationship between trade volumes and the economic performance is analyzed. But to prove the effect of trade policy on growth the effects of trade policy instruments on growth have to be provided. For example, first the effect of reduced tariffs or non-tariff barriers on imports and the effect of export subsidies on exports should be shown. Given that this link is established, the link between volumes of exports/imports and growth could be shown. Little research has been done in this field. Hallak and Levinson (2004) point out the variety of available trade instruments as tariffs, quotas, import licences, and subsidized credit to exporters will operate through many channels in a particular environment. The outcome as such can rarely be shown by the typical trade and growth regression. These authors and also Winters (2004) ask for an investigation into particular microeconomic models that will give answers to more specific questions, such as the impact of trade on plant productivity – since enterprises trade goods and services and not entire states, the effect of foreign ownership on plant productivity or the role of trade on market discipline. Winters labels this approach as indirect

[1] A supply side oriented growth model computing the effects of a tax reform for Switzerland has been developed by Keuschnigg (2004).

evidence and sees the positive link by a number of empirical studies confirmed. Whatever the critique, there is no systemic evidence that trade restrictions stimulate growth (Rodriguez and Rodrik, 2001).

2.3 Much More Emphasis Must Be Devoted to Empirical Trade Analysis and Monitoring International Trade Policy

The research on trade policy and its economic effects particularly focusing on the Austrian economy is of limited scope. One reason could be the institutional setting due to the accession of Austria to the European Union. The sovereignty on trade policy has been transferred to the institutions of the EU. Decision-making has become more complex and the direct influence of the national government has declined. In addition, many decisions on trade policy are taken at the WTO level, which increases the complexity still further. Another reason is the increased variety of trade policy instruments, which are difficult to grasp with economic analysis. The various service sectors, for example, are highly regulated with differing regulations. Last but not least trade statistics – aside the traded goods statistics – are poor (services trade) or even non existent (e.g. FATS statistics) (Kronberger and Wörz, 2004).

Trade policy always has to be considered jointly with other policy areas as, for example, investment policy, education and research, competition policy, institutional aspects, etc. as was pointed out by Aiginger (2006) in his presentation. As such trade policy and the continental concept of "Standortpolitik" are complements and dependent on each other. As was indicated earlier in general, this is also true for Austria. More focused research has to be done in the field of services trade on a sector by sector basis. The effects of outsourcing and off shoring also must be analysed carefully for the goods and the services sector, also on a sector by sector basis. Both phenomena are strongly linked with "Standortpolitik". Moreover, a small open economy that forms part of an integrated economic area with a common external trade policy should provide enough resources to actively monitor supranational and international trade agreements and also actively formulate policy recommendations for these institutions. The Common European Trade Policy as well as the WTO agreements may have differing effects on the various EU Member States due to their still differing economic and legal environment.

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The Contribution of Public Finances to Growth and Employment: The New Quality Concept

Panel Discussion

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The "quality of public finances" gained higher attention both at national and EU levels against the background of fairly sluggish economic growth during the past four years. The Ecofin Council lately centred several discussions on quality issues of public finances. As a result, the reformed Stability and Growth Pact and the New Lisbon Strategy for Growth and Jobs, outlined in the new Integrated Guidelines (particularly referred to in Guideline 3 in the BEPG), explicitly took account of quality aspects.

While at the end 1990s the definition of quality was still "broader" and covering at least three aspects: (i) the size of the state sector in the economy, (ii) enhancing incentives to take up a job through tax-benefit reforms and (iii) more investment in physical and human capital, the recent EPC progress report based its (expenditure-oriented) concept on three pillars:

1. *The budgets should be refocused more on expenditures*, which are regarded to increase total factor productivity (i.e. the marginal productivity of capital and/or labour in the production function of an economy) inter alia, via a better educated/trained population, good infrastructure, sound environment, spill-overs from innovation and technological progress. Since the mid 1990s interest payments have been declining significantly in EU Member States, providing budgetary room for manoeuvre. Empirical evidence suggests that besides reducing deficits for achieving the Maastricht criteria, public consumption (especially health and education expenditure) and, in part, social transfers were increased in relative terms (see table). Data for investment show a mixed picture, influenced especially by changing institutional boundaries between the public and private sector and an already high stock of physical capital in many highly developed countries. Moreover, in view of future ageing populations, it may be expected that social transfers and health care expenditure will continue to rise, while the pace of falling interest payments is presumed to ebb down

markedly. This indicates that the room may be further reduced for those expenditure categories which are deemed to strengthen the future growth potential.

Table: Economic Classification of Public Expenditure (% of Total Expenditure)

	1970	*1980*	*1990*	*1995*	*2000*	*2004*
Consumption	43.9	44.2	41.5	40.3	43.6	43.6
Transfers	28.7	31.2	30.9	33.6	35.1	34.4
Interest payments	4.6	6.5	10.3	10.5	8.4	6.4
Public investment	11.2	7.1	6.2	5.2	5.0	5.0
Subsidies	3.9	4.5	3.5	3.2	2.8	2.5
Other	7.6	6.6	7.5	7.3	5.1	8.2

Source: Commission services. Countries included are BE, DK, DE, EL, ES, FR, IE, IT, LU, NL, AT, PT, FI, SE and UK.

2. *Financial resources must be used in the most effective and efficient way* in order to actually reinforce the medium and long-term growth and employment perspectives, c.f. also in education or R&D. The key question is here: how does the input impact on the output and finally on outcomes, such as productivity and employment, or as a concrete example, how do higher expenditures for R&D impact on the number of patents? This approach apparently refers to the definition of output objectives, the rationale for government intervention and the final evaluation of measures and programmes. The key bottleneck, however, is here the availability of reasonable data for adequate impact assessments. Notwithstanding these data problems, first striking empirical evidence in this EPC progress report reveals that:
    - in particular, private R&D are crucial for productivity gains in the economy and public R&D should subsequently concentrate on basis research rather than in business research

- and the growth potential of an economy depends, above all, on the quality of the education system rather than the level of public spending.

3. As a result, improving quality combining with efficiency and effectiveness must be embedded in an overall strategy of budgetary discipline and financial sustainability. This is intimately linked with the *role of fiscal institutions and fiscal rules* and goes hand-in-hand with a *coherent setting of economic policy and, consequently, public expenditure priorities.* In many countries, the focus of expenditure re-allocation has been in favour of R&D, education and public investment in recent years. First comparisons have also shown that countries which have introduced performance budgeting and have successfully established a medium-term (expenditure) framework were better off in terms of both growth and budgetary results. These countries have apparently been put in a better position trough improved priority setting and implementation of less myopic economic policies. In this respect, also the New Austrian Budget Framework Law will be fully anchored to performance budgeting and a medium-term expenditure framework (covering four years) and will, thus, be a highly crucial step to help public finances to be more conducive to growth and employment.

A Growth Cookbook

Panel Discussion

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This note is a collection of recipes (hence a cookbook) of policy possibilities to foster economic growth. Two caveats are in place at this moment. First, we need to distinguish between policies aimed at changes in potential output, or the production possibility frontier, and policies targeted at closing the gap between potential GDP and actual GDP. This note will focus on the prior. This should neither be understood as a valuation of relative importance, nor should it ignore the possibilities that links between policies aimed at potential and actual GDP exist. Indeed, this is still one of the few under-investigated fields in modern growth theory. Second, this proposal will focus on economic growth, and employment questions shall be considered only in association with growth policies. In the following, we will exploit three specific recipes to foster economic growth, before mentioning two caveats.

1. Growth Requires Innovators

It has become common knowledge that economic growth, at least for countries at or close to the global technological frontier can only grow if innovations in products or production processes, that can generate more output with the some amount of resources, take place. Innovations are created by innovators. These are different from other economic agents not only by their ability to generate good ideas, but also by their willingness to bear risk and their devotion to provide effort. Whereas policy can do little about the creativity of innovators (except for education, as discussed below), it can do a lot to alter the incentives to bear risk and devote effort.

More important than small innovators (the garage start-ups), particularly for this country with its large supply industry, but much less discussed, are big innovators, that is firms which are willing to acquire contracts because they are willing to

develop and deliver new products. Because only innovations, or a participation in a Schumpeterian competition justify profits and high wages of an advanced economy. The alternative is to remain at the technological status-quo, and compete more and more in a Walrasian competition with firms in other nations, where wages and input costs are lower, and ultimately even loose this competition. Even more difficult to find than innovative agents are innovative firms. This may be for two reasons. On the one hand, firms have become small bureaucracies, where hierarchies are more important than good ideas. On the other hand, managers are not rewarded enough when taking risks, but face reprisals. This is the reason why stronger dynamic competition is required to foster the innovative potential of existing firms.

2. Innovations Require Incentives

Whereas little can be done to create innovators, incentives can be set so that more people with the potential will actually pursue innovative activities. An important basis for innovation is certainly a sound educational base. However, must innovations are not the result of a sound general education, but result from very specialized education that very few universities can provide. Therefore, we do require additional funds to educate high potential highly qualified people, that are – and this is an important point – willing to transfer an idea to a marketable product. So far, the ratio of ideas that finally come to and succeed on the market is very low for top-qualified people in Austria, both with respect to medium qualified compatriots (applied university graduates and apprentices) and internationally, where universities such as Cambridge in England and Stanford or the MIT in the U.S.A. provide great examples of graduates that became important innovators in great numbers.

Apart from educational policy that supports the most talented, policy can be active through both tax and expenditure policy. On the expenditure side, it has become common knowledge that apart from educational expenditures, subsidies for research and development and infrastructure investment all have a major impact on economic growth. Less known is the fact that taxation contains strong disincentives to invest. Let me illustrate this with an example. Suppose that an innovation has a chance of 1:2 to succeed (which is an extremely high probability for most innovations), and suppose that in the case of success it yields five times its costs. In the absence of taxation, this innovation will be undertaken (even under some risk aversion on behalf of the agent), as the expected revenue is 67%. However, high tax distortions will change the calculation. Suppose the innovation requires predominantly labour inputs, as is the case for most IT innovations. Then revenue will fall by 20% due to VAT, and cost will increase due to social security contributions and income taxation by around 50%, implying a negative yield of

around 10%. Bar a negative income tax on the losses in case of failure, these tax distortions prevent many per se attractive innovations from being realized.

3. Innovations Require a Beneficial Environment

There are several dimensions along which the economic and legal environment can be beneficial for innovation and economic growth. First, the transmission of ideas from the "garage" to the market needs to be facilitated, which requires an easier access to markets both through changes in trade regulations and a reduction in barriers to entry which are supported by the chamber of commerce.

Second, reentry needs to be facilitated. It is the nature of innovative activities that they fail more often than not. Bankruptcies are therefore a common feature of innovative entrepreneurs, should no longer be stigmatized as much. Banning innovators from the market after an unsuccessful attempt may lead to an unwanted reduction of the innovative potential of the economy, hence a reform of bankruptcy legislation seems appropriate.

Third, financial markets need to be willing to undertake risky ventures, instead of focusing on financing traditional sectors with a sound (brick and mortar type) securitization of credits.

Forth, a larger number of ideas needs to be transmitted faster from universities to market activities. For this purpose, more important than the creation of a remote elite university is the creation of business centers on campus, ready to transmit ideas from universities to markets.

Finally innovations require a lot of economic stability, as investments today will have a return only several years later. This supports the role of a stable interest rate policy on behalf of central banks. Indeed, central banks that react prematurely because of price signals (which are signal of Walrasian competition), may fail to support a climate supportive of Schumpeterian competitors. Indeed, the famous ignorance of Alan Greenspan to Walrasian market signals may be one of the reasons for the innovative potential of the U.S. economy in the 1990s. This also suggests that long-term labour contracts (e.g. Ireland and the Netherlands) may be beneficial for innovation, as they reduce the uncertainty of future wage claims. Long term wage contracts are most beneficial for young workers (who benefit most from high future wage increases due to productivity gains) and entrant firms, whereas old workers and incumbent firms tend to loose or at best remain neutral. As the latter two groups are organized best within the social partnership, this also calls for a reform within the social partnership to generate a more innovation supportive business climate.

4. Dividing the Growth Dividend

Economic growth is no ends, but a means to ensure social welfare. And apart from average income, distribution is important for welfare. One would hope that the growth dividend gets divided fairly among various income groups. However, whilst it may be intrinsically consistent to support the highly skilled in order to foster economic growth, as modern arguments suggest, this has negative distributional consequences. If all workers are paid their marginal productivity, than investing into the skills of high-potential individuals implies increasing their wage earning potential even further. Whilst one can argue that the distribution which the market induces, where everybody gets paid her marginal product, is fair, this can no longer be valid when policy specifically interferes to change marginal productivities. Financing investments into the highly skilled should therefore not be (tax-)financed by the general population, but instead paid for by the recipients of the qualification. In this respect, the U.S. system of educating the highly skilled seems more fair. There, every student pays his/her own tuition, which can easily add up to USD 50.000. It is true that highly skilled individuals receive a relatively higher wage than the unskilled (and the skill bias is more pronounced in the U.S.A.). But in part, the higher skill premium is used to finance the private educational expenditures. Reproducing the elitist educational system of the U.S.A. implies that one should also be willing to reproduce their mode of financing.

5. Does Economic Growth Create Employment? Or Vice-Versa?

Just like distribution, employment is an important issue for welfare. And it has often been argued that jobs are created only through faster economic growth. This is not necessarily the case. Higher economic growth is the result of structural change, and therefore it will at least in the short run lead to job destruction as well as job creation. Similarly, the result is ambiguous when investigating the relationship from employment to economic growth. On the one hand, a larger number of employees implies ceteris paribus a larger number employees in innovative activities, and hence higher employment is related with faster economic growth. This relationship has been labelled the “resource constraint” in the literature. On the other hand, a high number of employees induces high wage pressures. These higher wages render innovative activities, where wages have to be forgone before revenues are realized, less likely. This “incentive condition” which indicates a negative relationship between economic growth and employment is a modern day variant of the Marxian reserve army.

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List of "Workshops – Proceedings of OeNB Workshops"

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		published
No. 5	Macroeconomic Models and Forecasts for Austria *Vienna, 11 to 12 November 2004*	5/2005
No. 6	Capital Taxation after EU Enlargement *Vienna, 21 January 2005*	10/2005
No. 7	The European Integration Process: A Changing Environment for National Central Banks *Vienna, 21 October 2005*	3/2006
No. 8	Price Setting and Inflation Persistence in Austria *Vienna, 15 December 2005*	4/2006
No 9.	New Regional Economics in Central European Economies: The Future of CENTROPE *Vienna, 30 to 31 March 2006*	6/2006
No 10.	Strategies for Employment and Growth in Austria *Vienna, 3 March 2006*	9/2006

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Monetary Policy & the Economy *quarterly*
This quarterly publication, issued both in German and English, offers analyses of current cyclical developments, medium-term macroeconomic forecasts and studies on central banking and economic policy topics. It also summarizes the findings of macroeconomic workshops and conferences organized by the OeNB.

Statistiken – Daten & Analysen *quarterly*
This publication contains brief reports and analyses focusing on Austrian financial institutions, cross-border transactions and positions as well as financial flows. The contributions are in German, with executive summaries of the analyses in English. The statistical part covers tables and explanatory notes on a wide range of macroeconomic and financial indicators. The tables and additional information and data are also available on the OeNB's website in both German and English. This series also includes special issues on selected statistics topics published at irregular intervals.

econ.newsletter *quarterly*
The quarterly English-language newsletter is published only on the Internet and informs an international readership about selected findings, research topics and activities of the OeNB's Economic Analysis and Research Section. This publication addresses colleagues from other central banks or international institutions, economic policy researchers, decision makers and anyone with an interest in macroeconomics. Furthermore, the newsletter offers information on current publications, studies or working papers as well as events (conferences, lectures and workshops).
For further details see *www.oenb.at/econ.newsletter*

Financial Stability Report *semiannual*
Issued both in German and English, the *Financial Stability Report* contains first, a regular analysis of Austrian and international developments with an impact on financial stability and second, studies designed to provide in-depth insights into specific topics related to financial market stability.

Focus on European Economic Integration *semiannual*
The English-language publication Focus on European Economic Integration is the successor publication to Focus on Transition (published up to issue 2/2003). Reflecting a strategic regional research priority of the OeNB, this publication is a channel for communicating our ongoing research on Central and Eastern European countries (CEECs) as well as Southeastern European (SEE) countries ranging from economic country studies to studies on central banking issues and related topics. One of the purposes of publishing theoretical and empirical studies in the Focus on European Economic Integration, which are subject to an external refereeing process, is to stimulate comments and suggestions prior to possible publication in academic journals.

Workshops – Proceedings of OeNB Workshops *three to four issues a year*
The *Proceedings of OeNB Workshops* were introduced in 2004 and typically comprise papers presented at OeNB workshops at which national and international experts, including economists, researchers, politicians and journalists, discuss monetary and economic policy issues. Workshop proceedings are available in English only.

Working Papers *about ten papers a year*
The OeNB's *Working Paper* series is designed to disseminate, and provide a platform for discussing, findings of OeNB economists or outside contributors on topics which are of special interest to the OeNB. To ensure the high quality of their content, the contributions are subjected to an international refereeing process.

Economics Conference (Conference Proceedings) *annual*
The *Economics Conference* hosted by the OeNB represents an important international platform for exchanging views and information on monetary and economic policy as well as financial market issues. It convenes central bank representatives, economic policymakers, financial market players, academics and researchers. The conference proceedings comprise all papers presented at the conference, most of them in English.

Conference on European Economic Integration
(Conference Proceedings) *annual*
This series, published in English by a renowned international publishing house, reflects presentations made at the OeNB's annual conference on Central, Eastern and Southeastern European issues and the ongoing EU enlargement process (formerly East-West Conference).
For further details see *ceec.oenb.at*

Annual Report *annual*

The *Annual Report* of the OeNB provides a broad review of Austrian monetary policy, economic conditions, new developments in the financial markets in general and in financial market supervision in particular as well as of the OeNB's changing responsibilities and its role as an international partner in cooperation and dialogue. It also contains the OeNB's financial statements.

Intellectual Capital Report *annual*

This report has been published in German and English since 2003 as a review of the OeNB's intellectual capital, business processes and services. To perform its tasks, the OeNB requires extensive specialized knowledge about core central banking activities and about the related infrastructure. The OeNB has been accumulating and managing this expert knowledge for many years to ensure that it remains in a position to fulfill its commitment to stability in a dynamically changing environment. An intellectual capital report is particularly well suited to recording information about the strategically important management of intellectual capital, in particular human and structural capital.