ÓNB

Focus on Austria
2 / 2003

This Issue's Special Focus:

Pension Finance Reform:
From Public to Financial Economics

Oesterreichische Nationalbank

Focus on Austria

2 / 2 0 0 3

Contents

Within a standard overlapping-generations model some consequences of the methods of how public pensions are financed can be formulated: Even if the rate of interest on capital is expected to be higher than the growth rate of the wage bill (which represents the internal rate of return of the existing pay-as-you-go system), any transition to a funded system makes at least one generation worse off. The gain of the members of the initial generation (who were granted a pension when the system was introduced, without having contributed in their working lives), determines the burden on later generations, caused by the pay-as-you-go method. As a reaction to the aging of the population, changes of the main parameters (contribution rate, pension level, age of retirement) will become necessary, which differ with respect to their effects on the intergenerational distribution. The introduction of a capital-based pillar may induce individuals to provide more for retirement, but does not reduce the burden of aging as such. Generally, the rationale for government interference into private old-age provision has to be discussed.

The role of the pension system in coordinated market economies such as Germany is investigated within the framework of the "varieties of capitalism" literature. Complementarities are identified between a bank-based financial system and pay-as-you-go pension finance, and between the mode of economic governance in coordinated market economies and the organizational embeddedness of most occupational pension plans, which limits the financial market effects of the "Riester" reform.

The opinions expressed in the section *"Studies"* are those of the individual authors and may differ from the views of the Oesterreichische Nationalbank.

Editorial

On December 6, 2002, the Economic Analysis Division of the Oesterreichische Nationalbank (OeNB) held a workshop entitled *From public to financial economics* to discuss pension finance reforms. The contributions of the experts who participated in this workshop have been compiled in this special issue of the OeNB's quarterly publication *Focus on Austria*. The volume concludes with a study about the effects of tax incentives in investment-based pension schemes on fiscal sustainability.

Not only has the pension reform debate been at the top of the economic policy agenda in the last years, it is apparently also undergoing a paradigm shift: In particular, the public finance burden caused by the problems financing public pay-as-you-go pension systems under the pressure of demographic developments has initiated a reorientation of the pension reform discussion toward the establishment of an investment-based social security system. As a result, old-age provision, once typically a social security *(public economics)* issue, is gradually becoming an investment *(a financial economics)* issue. One aspect of the impact of this paradigm shift on economic policymaking is that it presumes particular approaches to securing pension provision, e.g. privatization and individual responsibility for retirement saving. Accordingly, these approaches have guided the most recent reform measures to scale back the public pension system and to reinforce the second and third pillars, that is occupational pension schemes and individual retirement provision. Hence, to be able to develop a suitably flexible set of reform measures, it is crucial to comprehensively and carefully consider all aspects of pension finance.

This is especially true considering that despite the promises of some of their advocates, funded systems do not benefit everyone, as Johann K. Brunner, professor at the University of Linz, cautions: Different reform variants, including the (partial) replacement of the current pay-as-you-go system with funded elements, have different impacts on different generations and even on members of a single generation. Thus, the assessment of the distributive effects of these variants should represent the basis for deciding which measures to take. Logically, no single generation should be made to bear the brunt of the reform. Ultimately, not additional saving per se, but economic growth (resulting therefrom) is crucial to finance future pensions.

The important role that tax incentives play for the efficient operation of the life annuities insurance market (Susanne Pech, University of Linz) aptly demonstrates that the public sector is called on to play a role in boosting the share of private retirement provision. Tax incentives for life annuities may help alleviate one of the biggest problem the private insurance market has, namely adverse selection (because the demand for private retirement products is greatest among individuals with a high life expectancy, these products are more expensive than if demand were more evenly distributed). Tax incentives also encourage people with a lower life expectancy to purchase private retirement products, helping to reduce their price.

Sigurt Vitols (Social Science Research Center Berlin) pointed out the need to examine more thoroughly the links between pension systems and national financial and economic systems and to incorporate the insights gained in pension reform plans, basing his considerations on the example of the German "Riester-Rente" model (a subsidized private retirement scheme conditional on a number

of requirements). The German model is designed to support not just private retirement provisioning in general, but also to shift the financing of occupational pensions from a system based on the establishment of internal provisions to a financial market-based system. However, not only is regulation of retirement products under the Riester model fairly complex, which may explain why such products have remained relatively unpopular, but the model also gives established insurance companies an edge on mutual funds, which minimizes its contribution to strengthening the capital market.

E. Philip Davis (professor at Brunel University, London) underlines the close links between Economic and Monetary Union (EMU) and pension fund growth. EMU benefits this development in various ways: The elimination of the exchange rate risk facilitates international portfolio diversification, improving the risk/return tradeoff. In the event, the financial markets will come under greater pressure to deregulate, especially to ease the quantitative restrictions on the share of stocks in pension funds' investment assets. The deregulation pressure also extends to the removal of national barriers to marketing of retirement provision products, which also corresponds to the recently adopted EU directive on the activities and supervision of institutions for occupational retirement provision (IORPs).

Daniel Eckert (University of Graz) discusses the risk aspect inherent in the current pension reform debate. Although the current view of retirement provisioning as an investment issue should in fact accord risk a pivotal role, there is no consensus about how to evaluate the risk of funded systems, which makes such systems hard to justify for economic policymakers.

Alois Guger (Austrian Institute of Economic Research) provides an overview of the starting conditions for pension reform in Austria. Analyzing the discussion about demographic and hence fiscal pressures on the public pension system, Alois Guger concludes that the labor market is the key to financing the system – employment among older persons must be increased.

In an additional contribution, Daniel Eckert (University of Graz) and Doris Prammer (OeNB) examine the effects of tax incentives for private retirement provisioning on fiscal sustainability, which are frequently overlooked in the pension reform debate. On the basis of a study of the Economic Policy Committee (EPC) of the European Commission on the budgetary challenges of aging populations, the authors show that not only is additional tax-subsidized saving for retirement unable to counteract the impact of an imminent demographic shock on fiscal sustainability, it even compounds the shock in the medium term.

Such fiscal problems arising from the plans to introduce funded pension schemes clearly signal that the paradigm shift from public economics to financial economics in the pension reform debate raises a number of questions that can only be answered in an interdisciplinary fashion.

Daniel Eckert
Helene Schuberth

REPORTS

Austria

March 2003

28 *Mandatory share of stock investments by state-subsidized personal pension plans reduced from 60% to 40%.*

The federal law amending the 1988 Personal Income Tax Act, the 1994 VAT Act as well as the 1955 Inheritance and Gift Tax Act reduces the share of state-subsidized pension plan assets which must be invested in stocks which were initially listed at the stock exchange of an EEA member country from 60% to 40%; the stock market capitalization of the stocks initially listed in the respective EEA member country must not exceed 30% of national GDP.

European Union

February 2003

1 The *Treaty of Nice,* which foresees the institutional changes necessary for the enlargement of the European Union (EU), enters into force.

3 The *Governing Council of the European Central Bank (ECB)* unanimously approves a recommendation to adjust the voting modalities in the Governing Council (amendment to Article 10.2 of the Statute of the ESCB and the ECB) and submits it to the Council of the European Union, which will decide on the recommended adjustment.

The new voting system, which was developed in accordance with the enabling clause for the ECB contained in the Treaty of Nice, is to facilitate efficient decision-making in an enlarged euro area. As previously, all governors of the participating national central banks shall participate in Governing Council meetings; the total number of voting rights in the Governing Council, however, shall not exceed 21. Only the six members of the Executive Board shall retain a permanent voting right, while the number of NCB governors holding a voting right shall not exceed 15.

As soon as the total number of NCB governors exceeds 15, they will be allocated to groups according to a composite indicator of "representativeness," which is based on the aggregate GDP and the total assets of the aggregated balance sheet of monetary financial institutions of the respective Member State. The NCB governors will exercise their voting rights on the basis of a rotation system.

As regards the operation of the rotation system, two stages are foreseen: As from the date on which the number of governors exceeds 15, until it reaches 21, the NCB governors will be allocated to two groups. The five governors in the first group will share four voting rights and the remaining governors in the second group will share 11. As from the date on which the number of governors reaches 22, the NCB governors will be allocated to three groups; the five governors in the first group will continue to share four voting rights, the second group, which will be composed of half of the total number of governors (including the Austrian representative), will share eight and the remaining governors in the third group will share three voting rights. The rotation system is guided by five fundamental principles, i.e. one member one vote, ad

personam participation, representativeness, automaticity/robustness and transparency.

6 The *Bank of England* reduces its key interest rate by 25 basis points to 3.75%. This interest rate cut comes unexpectedly for the markets, leading to a slight depreciation of the pound sterling. The interest rate move was necessary as the sluggish growth of the global economy and the resulting lower aggregate demand in the United Kingdom had begun to endanger the inflation target.

6/7 At a meeting of the *European Convention,* President Valéry Giscard d'Estaing presents the first draft of the Constitutional Treaty (Articles 1 to 16) which outlines the definition, objectives and competences of the European Union as well as fundamental rights and Union citizenship.

7 The *European Commission* submits the General Agreement on Trade in Services (GATS) draft offer to the EU Member States and the European Parliament. The draft offer proposes to further open to foreign competition certain sectors such as, among others, the financial services sector. On the basis of this draft list of services, the European Commission has started negotiations with the Member States, which have to be concluded by March 31, 2003. The GATS negotiations are scheduled to be completed by January 1, 2005.

11 The *European Commission* agrees on its proposal for adapting the financial framework to meet the demands of EU enlargement. The proposal sets in motion the process of incorporating the ten new Member States into the EU budget. The Council of the European Union and the European Parliament will have to set the framework for the next three budgets on the basis of this proposal.

12 The *European Commission* announces that it will take adequate economic measures if there is a war on Iraq. The Stability and Growth Pact provides for easing the convergence criteria in case of extraordinary circumstances.

13 The *General Secretariat of the Council of the European Union* passes the preliminary final version of the Treaty of Accession for the ten new Member States to the Austrian federal government.

17 The *Austrian federal government* nominates Gertrude Tumpel-Gugerell, vice governor of the Oesterreichische Nationalbank (OeNB), as the Austrian candidate for the Executive Board of the ECB.
The *Eurogroup* meeting is overshadowed by the impending Iraq war. The finance ministers of the euro area countries discuss, inter alia, the proposal of the European Commission to ease the criteria of the Stability and Growth Pact on grounds of these extraordinary circumstances; their views on this issue are divided, however. Furthermore, the finance ministers discuss growth forecasts for 2003 as well as the increase in oil prices.

18 During the preparation of the European Council, the *Ecofin Council* discusses the voting modalities in the Governing Council of the ECB. The finance ministers agree to the reform agenda (with Finland and the Netherlands expressing their reservations) and urge the European Commission and the European Parliament to provide their opinions as

soon as possible. The Ecofin Council calls on the Permanent Representatives Committee (COREPER) to examine the recommendation to facilitate consensus among the finance ministers at the Ecofin Council meeting on March 7, 2003.

Also in the run-up to the European Council meeting in Brussels, the Ecofin Council debates the Lisbon strategy and the Broad Economic Policy Guidelines. On the basis of the European Commission's Spring Report and Implementation Report on the Broad Economic Policy Guidelines, the finance ministers conclude that although significant structural reform measures have been initiated, particularly in the financial markets, further and faster reforms are necessary, especially in the labor, product and capital markets.

Moreover, the Council and the Commission adopt a joint report on euro area statistics and indicators, which is forwarded to the European Council.

In the debate on how to strengthen the coordination of budgetary policies, a clear majority disagrees with the European Commission's proposal to tolerate, under certain circumstances, minor deviations from the deficit criterion provided in the Stability and Growth Pact. Regarding administrative cooperation in value-added tax matters (including insurance tax), the Ecofin Council reaches political agreement on the wording of the respective regulation and directive.

Moreover, the 15 EU finance ministers examine the implementation of the Stability and Growth Pact on the basis of the updated 2003 to 2006 stability and convergence programs of Belgium, Denmark, Spain, Ireland and the United Kingdom.

The Ecofin Council decides to establish a Financial Services Committee; as an interim solution the secretariat shall be provided by the General Secretariat of the Council.

During a hearing at the European Parliament, Willem Duisenberg, president of the ECB, states that while the economic implications of a war against Iraq are unpredictable, a war is very likely to entail downward risks for the economy. If it comes to it, monetary policy will have to react on an ad-hoc basis. Moreover, Duisenberg warns the EU to use the impending war as an excuse for deviating from the provisions of the Stability and Growth Pact.

19   The *European Commission* endorses the accession to the EU of ten candidate countries in accordance with Article 49 of the Treaty. The decision follows the successful conclusion of the accession negotiations at the European Council meeting in Copenhagen on December 13, 2002, and the finalization of the Treaty of Accession in the first half of February 2003. The respective decisions of the European Parliament and the Council of the European Union are scheduled for the first half of April, in due time for the Treaty of Accession to be signed at the informal European Council of Athens on April 16, 2003.

According to a judgement of the *Court of Justice of the European Communities,* the European Commission is entitled to charge penalty

interest to reestablish a level playing field for companies that have received unjustified subsidies.

20 The *European Commission* supports the reform of the voting modalities in the ECB Governing Council, requiring two amendments, however. The weighting of euro area countries should be based on GDP and the number of inhabitants (rather than the strength of the respective financial sectors). In addition, the Commission calls for further clarification with respect to rotation frequency and the sequence of assigning voting rights within each group. The European Commission must be consulted in this matter, but has no co-decision powers.

21 The *European Parliament* presents an alternative model for the voting procedures of the ECB Governing Council, which provides for the introduction of a double majority requirement: For a decision of the Governing Council, not only a majority of votes but also a share of 62% of the total EU population/GDP would be required. Furthermore, the Executive Board, enlarged from six to nine members, would be responsible for operational decisions, e.g. in the field of interest rate policy. The European Parliament has to be consulted in this question but has no decision-making power.

The *European Commission* plans to hire almost 3,500 new officials from the Central and Eastern European accession countries, above all for their interpretation and translation services.

Croatia submits its official application for *EU* membership to Konstantinos Simitis, prime minister of Greece and president of the EU Council.

24 The *European Central Bank* releases a report on the stability of the EU banking sector. The report was prepared by the Banking Supervision Committee of the ESCB. It concludes that bank profitability has declined as a result of increased provisions and weakened conditions in equity and other financial markets in 2001 and even more in the first half of 2002. However, the EU banking sector has the potential to withstand shocks.

24/25 The *General Affairs and External Relations Council* (GAERC) discusses, inter alia, the European Commission's second interim report on economic and social cohesion in the EU, which was adopted in January 2003 (Cohesion Report 2002). The Council agrees that cohesion policy be continued after enlargement, which will require sufficient funds to be successful, i.e. resources will have to exceed those of the EU-15 (currently 0.32% of the EU's GDP). Since the gap between the richest and poorest EU regions will double as a result of enlargement, the EU will have to allocate aid mainly to regions eligible for Objective 1 status.

25 According to Prime Minister Jean-Pierre Raffarin, the budget deficit of *France* exceeds the deficit limit of 3% of GDP; France will thus miss the budgetary stability target in 2002.

26 The *European Commission* proposes to gradually raise pre-accession financial assistance for Turkey from an annual average of about EUR 164 million for 2001 to 2003 to EUR 350 million per year for 2004 to 2006. EU aid mainly supports Turkey in institution building and in adopting the acquis communautaire.

27/28   The plenary meeting of the *European Convention* discusses the draft Articles 1 to 16 of the Constitutional Treaty, which were put forward at the beginning of February, including more than 1,000 proposed amendments and additions. Also, the draft Articles 24 to 33 of the Constitutional Treaty including provisions concerning legal instruments and the legislative procedure are presented.

March 2003

6   The *Governing Council of the ECB* decides to cut the minimum bid rate on the main refinancing operations of the Eurosystem, conducted as variable rate tenders, by 25 basis points from 2.75% to 2.50%. The interest rates on the marginal lending facility and the deposit facility are also reduced by 25 basis points each, to 3.50% and 1.50%, respectively. ECB President Wim Duisenberg says that the interest rate cut has become necessary to improve the outlook for the euro area economy; the ECB assumes a growth rate of 1% of GDP for 2003 and expects that slower economic growth will dampen inflationary pressures in the medium term.

The *Eurogroup* finance ministers discuss the weakness in economic activity in the 12 euro area countries and the budgetary situation in some of them. The spotlight is on France, where the 2002 deficit of 3.04% of GDP slightly exceeded the 3% ceiling and the 2003 deficit is expected to rise clearly above this level with 3.4% of GDP.

Danmarks Nationalbank reduces its key interest rate by 25 basis points to 2.5%. This interest rate cut follows the ECB's decision to lower interest rates.

7   At the *Ecofin Council meeting,* the EU finance ministers adopt the Key Issues Paper on the Broad Economic Policy Guidelines for 2003 and endorse the Economic Policy Committee Annual Report on structural reforms, the report on strengthening the coordination of budgetary policies, the joint Council-Commission report on adequate and sustainable pensions and the report on supporting national strategies for the future of health care and care for the elderly.

Furthermore, the finance ministers discuss the updated stability programs of Luxembourg and Portugal. In 2001, Portugal recorded a budget deficit of 4.1%; as a consequence, the European Commission opened the excessive deficit procedure (Article 104 EC Treaty) against Portugal on September 25, 2002. In 2002, Portugal reduced its general government deficit to 2.8% of GDP.

As to tax issues, the EU finance ministers agree that the new provisions on the taxation of savings shall enter into force on January 1, 2005, i.e. one year later than previously planned.

8   In a referendum, 53% of *Maltese* citizens vote in favor of an accession to the EU. The result of the referendum is not legally binding for the government.

10   The *European Commission* and the *ECB* agree on strengthening their cooperation on economic and financial statistics to promote high-quality

statistics at the Community level and to increase citizens' confidence in surveillance procedures for budgetary discipline in the euro area.

11   The *banking supervisory authorities and the central banks of the 15 EU Member States* agree on a Memorandum of Understanding (MoU) on high-level principles of cooperation in crisis management situations. The cooperation envisaged in the MoU, which entered into force on March 1, 2003, is aimed at pursuing the common objective of ensuring the stability of the financial system. Moreover, the central bank governors of seven EU Member States (Belgium, Germany, France, Italy, Austria, Portugal and Spain) sign an MoU on the exchange of information among central credit registers for the benefit of reporting institutions. This exchange of information among credit registers will begin within the next two years.

13   At its plenary session, the *European Parliament* rejects the planned reform of the voting procedures of the Governing Council of the ECB. As the European Parliament has no codecision powers in this matter, it can only issue a nonbinding recommendation.

17   *Eurostat* reports a 2002 government deficit ratio of 3.1% for France, which stands slightly above the 3% threshold laid down in the Stability and Growth Pact. Therefore, the European Commission launches the excessive deficit procedure against France.
Eurostat also reports that the aggregate euro area government deficit rose from 1.6% of GDP in 2001 to 2.2% of GDP in 2002, in the EU-15 Member States the deficit increased from 0.9% in 2001 to 1.9% in 2002.

17/18 At the E*uropean Convention* meeting, the presentation of the draft articles on finances, subsidiarity and the role of national parliaments within the EU figures prominently on the agenda.

18   *Sveriges Riksbank,* the central bank of Sweden, reduces its key interest rate by 25 basis points to 3.5%.

19   At an extraordinary *Ecofin Council* session in the course of the preparation of the European Council on March 20 to 21, 2003, the *EU finance ministers* discuss the planned savings taxation package and related issues. On account of Italy's reservation concerning the issue linkage with the solution of the milk quota problem, the EU tax package is not passed. The draft agreement for taxation of savings income with Switzerland can thus also not be finalized for the time being.
The EU finance ministers give their political agreement to the Directive on a Community framework for the taxation of energy products proposed by the Presidency, after Austria dropped its reservation regarding minimum tax levels. The Directive, which will enter into force on April 1, 2004, encompasses minimum tax levels for all sources of energy.

20   The *Governing Council* of the ECB adopts the Decision on the denominations, specifications, reproduction, exchange and withdrawal of euro banknotes as well as the Guideline on the enforcement of measures to counter non-compliant reproductions of euro banknotes and on the exchange and withdrawal of euro banknotes. Both sets of rules will enter into force on March 26, 2003.

20/21 At the 2003 Spring *European Council,* deliberations focus on Iraq as the military conflict begins and the Lisbon Strategy as the main issue on the agenda of each spring meeting.
As regards Iraq, the European Council agrees on future-oriented conclusions, i.e. it stresses the EU's commitment to political stability and full and effective disarmament of Iraq, its intention to actively engage in humanitarian affairs and to assist countries faced with refugee flows as well as its continued efforts to reinvigorate the Middle East Peace Process.
The conclusions on the Lisbon process, which have been prepared meticulously by the Ecofin Council and the General Affairs and External Relations Council, identify those subsectors within the three sectors of the Lisbon strategy, i.e. the economy, social affairs and the environment, in which concrete measures will be necessary for the further implementation of the strategy and specify a number of corresponding target dates. In terms of the tax package, which represents one of the key issues, the European Council has not reached agreement, however.
The EU Heads of State or Government agree to the Governing Council's proposal for reforming its voting modalities. The reform has to be ratified by the EU Member States.

23 A majority of 89.6% of Slovenian citizens vote in favor of *Slovenia's* accession to the EU. Support for joining the EU has never been greater in a referendum held in an accession country.

24 In his testimony before the Committee on Economic and Monetary Affairs of the European Parliament, Otmar Issing, chief economist of the *ECB,* states that the beginning of the war in Iraq constitutes no reason for another interest rate move. If the war is to end soon, the economy may recover faster than currently expected; a longer military conflict would cause an increase in oil prices and thus hamper private investment and consumption and drive up inflation.

26 The *European Commission* proposes a revised Accession Partnership for Romania, Bulgaria and Turkey as well as a significant increase in pre-accession financial assistance for Turkey.
The *European Commission* adopts the second annual report on the Stabilization and Association Process (SAP) for South East Europe. The report reiterates the prospect for Albania, Bosnia and Herzegovina, Croatia, Macedonia, Serbia and Montenegro of a closer relationship with, and ultimately membership of, the European Union.
The *European Convention* holds an additional session to discuss, inter alia, the revised draft articles on the EU's objectives.

April 2003

2 The *European Commission* launches an excessive-deficit procedure against France. In 2002, the general government deficit in France stood at 3.1% of GDP, thus exceeding the 3% ceiling stipulated in the Treaty on European Union. The breach of the deficit threshold can neither be viewed as exceptional nor as temporary; for 2003, the European Commission predicts a deficit of 3.7% of GDP.

4   At the *informal Eurogroup meeting* in Vouliagmeni near Athens, the twelve EU finance ministers ask ECB President Willem Duisenberg to remain in office until a successor has been appointed. President Duisenberg accepts this proposal.

5/6 At the *informal Ecofin Council* in Chania, Crete, the EU finance ministers are guardedly optimistic about the economic implications of the Iraq war. With oil prices remaining below USD 30/barrel, Economic and Monetary Affairs Commissioner Pedro Solbes expects average euro area growth to come to 1% in 2003 and to 2.25% in 2004. Structural reforms, notably in the labor market, are to raise the growth potential considerably.

     The EU finance ministers also pledge that the barriers to smooth EU cross-border clearing and settlement will be removed by 2005 at the latest.

     As to the reform of the Economic and Financial Committee (EFC), which has become necessary because of upcoming EU enlargement, the EU finance ministers agree that as of September 2003, central bank representatives will meet six times a year and will merely attend those EFC meetings that are of relevance to them.

7   The *EU* revises its Accession Partnerships with *Romania* and *Bulgaria.* The reform of both public administration and legal systems and the continuation of economic reforms remain the priority issues in these countries for the next one to two years comprise.

8   After the weak growth of the past quarters, the *European Commission's* Spring 2003 Economic Forecast envisages a moderate recovery for the second half of 2003. Euro area GDP growth is expected to run to 1% in 2003, after 0.8% in 2002, and to 2.3% in 2004. At 2.1%, inflation is predicted to slightly exceed the fall forecast in 2003, and to be somewhat lower than anticipated in 2004 at 1.7%. The unemployment rate is expected to climb to 8.8% in 2003 and to remain unchanged in 2004. The general government deficit is forecast to widen to 2.5% of GDP in 2003 and to exceed the 3% limit in Germany, France and Portugal in 2003 and in France, Portugal and for the first time in Italy in 2004.

     For *Austria,* the European Commission predicts GDP growth of 1.2% and 2.0%, an inflation rate of 1.8% and 1.7%, an unemployment rate of 4.5% and 4.4% and a budget deficit of 1.1% and 0.4% in 2003 and 2004, respectively.

     For the ten acceding countries, the European Commission expects GDP growth of 3.1% and 4%, and for all candidate countries of 3.5% and 4.3% in 2003 and 2004, respectively.

9   The *European Parliament* votes, by a large majority, to ratify the Treaty of Accession of the ten new Member States, after having reached agreement on how to finance enlargement the day before.

11   In preparation of *EEA* enlargement, the *EU* concludes negotiations with Iceland, Liechtenstein and Norway on their financial contributions. The solidarity contributions of the three EEA countries for the reduction of economic and social disparities within the EU are augmented from EUR

          24 million to EUR 233 million per year, with Norway bearing a share of some 97%.

12   In the referendum on EU accession in *Hungary,* 83.76% vote in favor of joining the EU. Voter turnout comes to 45.6%.

14   The EU *General Affairs Council* endorses the appointment of OeNB Vice Governor Gertrude Tumpel-Gugerell to the rotating ECB Executive Board to succeed Sirkka Hämäläinen from Finland.

16   The *informal European Council meeting* in Athens, in which the ten acceding states participate as well, is dedicated to the European Convention. The following five issues are on the agenda of the talks of the EU heads of state and government: the presidency system, the size and the composition of the European Commission, the nomination of the president of the European Commission, the installation of an "EU Foreign Affairs Minister," and the role of a new structure dubbed "European Congress." The majority is in favor of maintaining the current rotary system in the presidency of the European Council and of the president of the European Commission being elected by the European Parliament upon nomination by the European Council. All present and future Member States support the appointment of a European Foreign Affairs Minister, who would carry out the functions of both the CFSP High Representative and the Commissioner for External Relations ("double hat"). By contrast, the majority is against the creation of a European Congress. Opinions are divided on the future size and structure of the European Commission.

          After the informal European Council, EU leaders sign the *Treaty of Accession* of the ten new Member States.

17   In addition to the EU Member States, the ten acceding countries, the accession countries Bulgaria and Romania, the candidate country Turkey, the EFTA/EEA countries, the Western Balkans states, Ukraine, Moldova and Russia participate in the *enlarged European Conference.* The delegations welcome the New Neighbours/Wider Europe initiative with the aim to create a Ring of Friends surrounding the enlarged Union. European Council President Costas Simitis pledges that the accession process will continue after the upcoming round of enlargement.

24   The *Governing Council* of the ECB supports the EU Council's recommendation to nominate OeNB Vice Governor Gertrude Tumpel-Gugerell as member of the ECB Executive Board.

24/25 At its plenary session, the Praesidium of the *European Convention* presents a proposal on EU institutions, which suggests upgrading the European Central Bank to the rank of an EU institution.

29   After a hearing, the Committee on Economic and Monetary Affairs of the *European Parliament* unanimously confirms OeNB Vice Governor Gertrude Tumpel-Gugerell as candidate for the ECB Executive Board.

30   The *European Commission* adopts a recommendation to the EU Council on the updated Austrian stability program for 2003 to 2007. Economic growth is envisaged to accelerate from 1% of GDP in 2002 to some 2.5% in 2005. In three of the five years, the general government deficit is forecast to exceed 1% of GDP. At almost 68%, the public-sector gross

debt of 2002 is considerably revised upward. The stability program complies only in part with the Broad Economic Policy Guidelines and the Stability and Growth Pact, since it no longer targets a budget "close to balance."

Economic Outlook for Austria
from 2003 to 2005 (Spring 2003)

Gerhard Fenz,
Martin Schneider
and Martin Spitzer

Editorial close:
May 20, 2003

I Summary

According to the OeNB's spring 2003 economic outlook, the Austrian economy is likely to continue growing sluggishly in 2003 as it has done for the last two years. Real GDP growth was a mere 0.7% in 2001 and 1.0% in 2002 and is projected to be 0.7% in 2003. Economic activity is anticipated to increase to 1.6% in 2004 and to 2.5% in 2005.

Against the backdrop of an unfavorable international environment, the performance of the Austrian economy last year was marked by a pronounced weakness in domestic demand. High levels of uncertainty contributed to companies sharply reducing their investment activities. In addition, private consumption was dampened by poor real income trends, and so GDP growth was generated only due to the positive contribution made by net exports. Current economic indicators have yet to suggest that a recovery is around the corner. Although an upturn in the Austrian economy is expected to materialize towards end-2003 in line with the anticipated recovery of the world economy, growth will gather momentum only at a moderate pace. Its lackluster performance in the second half of 2002 and in the first half of 2003 means that GDP growth this year will fall short of last year's level[1]).

Despite the deterioration in price competitiveness as a result of the appreciation of the euro, exports will play a crucial role in the expected economic recovery. Although sluggish growth in the second half of 2002 means that exports are anticipated to grow by only 1.0% in 2003, the intrayear momentum indicates acceleration in the course of the year. Export growth is expected to accelerate to 4.5% in 2004 and to 6.6% in 2005.

Given moderate wage increases and declining employment, real household incomes last year registered minimal growth. This trend is likely to persist in 2003 as well. The projected 1.1% increase in real private consumption will therefore only come to pass if the saving ratio contracts further. Thanks to higher employment and improved purchasing power (on the back of falling inflation rates), private consumption will regain momentum and probably rise by 1.7% in 2004. It is expected to grow to 2.4% in 2005.

2001 (−2.2%) and 2002 (−4.8%) saw a significant contraction in gross fixed capital formation. This downturn's unusually long duration in historical terms implies a high demand for replacement investments. This is why − unlike the OeNB's fall 2002 outlook − investment activity is expected to bounce back at an earlier stage of the recovery. From mid-2003 the expected boost to exports is set to stimulate gross fixed capital formation. In addition, investment grants and public infrastructure measures are likely to fuel growth. Although investments will grow strongly during 2003, last year's negative statistical overhang will also dampen annual growth in 2003 (+0.7%). Accordingly, investment is estimated to expand by 4.0% in 2004 and by 4.9% in 2005.

Labor market trends in 2002 can be summed up as follows: Total employment (national accounts definition) shrank by 0.3%, and the unemployment rate rose sharply to 4.3% from 3.6% in 2001. Most labor market adjustments are thus likely to have already occurred last year. This is why employment is

---

1   *The present forecast has not, however, factored in the ECB's latest cut in interest rates, which should have a positive growth effect towards the end of the year.*

Table 1

OeNB Spring Forecast for 2003 – Key Results

	2002	2003	2004	2005
Annual change in % (real)				
Economic activity				
Gross domestic product (GDP)	+ 1.0	+ 0.7	+ 1.6	+ 2.5
Imports of goods and services	+ 0.0	+ 0.8	+ 5.7	+ 7.0
Exports of goods and services	+ 2.6	+ 1.0	+ 4.5	+ 6.6
Private consumption	+ 0.9	+ 1.1	+ 1.7	+ 2.4
Government consumption	+1.3	+ 0.5	+ 0.5	+ 0.2
Gross fixed capital formation	−4.8	+ 0.7	+ 4.0	+ 4.9
% of nominal GDP				
Current account balance	0.7	0.1	− 0.5	− 0.6
Percentage points of GDP				
Contribution to real GDP growth				
Private consumption	+ 0.5	+ 0.6	+ 0.9	+ 1.4
Government consumption	+ 0.2	+ 0.1	+ 0.1	+ 0.0
Gross fixed capital formation	− 1.1	+ 0.2	+ 0.9	+ 1.1
Domestic demand (excl. changes in inventories)	− 0.3	+ 0.9	+ 1.9	+ 2.5
Net exports	+ 1.4	+ 0.1	− 0.5	+ 0.0
Changes in inventories (incl. statistical discrepancy)	+ 0.0	− 0.3	+ 0.2	+ 0.1
Annual change in %				
Prices				
Harmonized Index of Consumer Prices	+ 1.7	+ 1.3	+ 1.3	+ 1.1
Private consumption expenditure (PCE) deflator	+ 1.8	+ 1.5	+ 1.2	+ 1.2
GDP deflator	+ 1.3	+ 1.1	+ 1.2	+ 1.3
Unit labor costs (whole economy)	+ 0.7	+ 1.2	+ 0.8	+ 0.4
Compensation per employee (at current prices)	+ 2.1	+ 2.0	+ 2.1	+ 2.2
Productivity (whole economy)	+ 1.4	+ 0.9	+ 1.3	+ 1.7
Compensation per employee (at 1995 prices)	+ 0.3	+ 0.5	+ 0.9	+ 1.0
Import prices	− 0.7	− 1.2	+ 0.3	+ 1.2
Export prices	− 0.9	− 1.4	+ 0.5	+ 1.3
Terms of trade	− 0.2	− 0.2	+ 0.2	+ 0.1
Annual change in %				
Income and savings[1])				
Real disposable household income	+ 0.5	+ 0.8	+ 1.8	+ 2.6
% of nominal disposable household income				
Saving ratio	7.1	6.8	7.0	7.3
%				
Labor market				
Unemployment rate (Eurostat definition)	4.3	4.4	4.4	4.2
Annual change in %				
Payroll employment	− 0.3	− 0.1	+ 0.3	+ 1.0
% of nominal GDP				
Budget				
Government debt	67.5	67.6	66.7	64.6
Budget balance (Maastricht definition)	− 0.5	− 1.2	− 0.9	− 0.6

Source: 2002: Statistics Austria, 2003 to 2005: OeNB Spring 2003 Forecast.
[1]) *2002: Own estimate.*

expected to stagnate in 2003, despite the continuing sluggishness of the economy. The labor market's usual lag behind the economy will not induce a further rise in employment until 2004. The jobless rate in 2004 will remain at this year's level (4.4%) due to the procyclical rise in labor supply. It is not expected to drop to 4.2% before 2005.

A current account surplus (+0.7% of nominal GDP) was generated last year for the first time since 1990. Stagnating imports (due to poor domestic demand) were the primary contributing factor. The OeNB expects a (more

or less) balanced current account in 2003 (+0.1% of GDP). However, since imports are anticipated to accelerate as the economy recovers, the current account is forecast to head into deficit as a result, deepening to –0.6% of GDP by 2005.

Inflation decelerated dramatically in 2002. The increase in the Harmonized Index of Consumer Prices (HICP) dropped to 1.7% from 2.3% in 2001. For the forecast horizon, both favorable trends in import prices due to the appreciation of the euro and the absence of demand and wage pressure on prices will result in a further declining inflation rate (2003: 1.3%, 2004: 1.3%, 2005: 1.1%). This gives Austria one of the most favorable inflation outlooks in the euro area.

In 2001 the general government managed to generate a budget surplus of 0.3% (Maastricht definition) of nominal GDP. Given the bleak state of the economy, a deficit of 0.6% was registered in 2002. For 2003-2005, the OeNB anticipates a deficit of 1.2%, 0.9% and 0.6% of GDP for each successive year.

2 Conditioning Assumptions

The OeNB compiled this forecast as its input for the Eurosystem's spring 2003 staff projections for macroeconomic trends in the euro area. The euro area countries prepare individual country projections under the coordination of the European Central Bank (ECB), which are finally aggregated to euro area totals. The individual forecasts are all conditioned on the same underlying assumptions about global economic developments over the forecast horizon and on uniform technical assumptions. In the case at hand, the forecast horizon ranges from the first quarter of 2003 to the fourth quarter of 2005. May 20, 2003 was the cut-off date for the underlying assumptions on global economic trends and for the technical assumptions on interest rates, raw material prices and exchange rates.

The OeNB used its macroeconomic quarterly model to prepare the projections for Austria. The key data source was seasonally adjusted data from Eurostat's national accounts.

2.1 The World Economy Outside the Euro Area

The recovery of the world economy, which began in early 2002, failed to gather further momentum in the second half of the year. Geopolitical tensions surrounding the Iraq crisis, deteriorating confidence indicators (reflecting high levels of uncertainty among consumers and businesses about future economic trends), increasing oil prices, low capacity utilization and the marked slump in equities led to domestic demand being seriously weakened in many countries. This trend continued in the first half of 2003.

The end of the war in Iraq, however, saw the disappearance of many of these obstacles to growth. For instance, the price of oil fell from more than USD 33 per barrel (Brent) in early March to some USD 25 per barrel. As expected, the negative effects of other factors such as uncertainty about future political and economic developments have been slowly fading during 2003. Other reasons for the world economy's recent modest growth will, however, remain entrenched for a longer period and dampen growth prospects. In this respect, continuing imbalances in the U.S., which built up in the period of strong growth persisting until 2000, can also be pointed out, as can low capacity

utilization and poor company profits and, last but not least, the still discernible consequences of the slump in equities. Real world GDP growth this year will therefore only just exceed last year's level by a very slight margin and only resume in 2004 and 2005 at a faster pace. Although growth will be essentially driven by Asia (excluding Japan), the U.S.A. and the transition economies will also post above-average growth. By contrast, the prospects of our key trading partners (Germany, Italy and Switzerland) look very grim, as does the unchanged outlook for Japan.

In 2002, the U.S.A. enjoyed a strong economic recovery, not least due its expansionary monetary and fiscal policies. Real GDP grew 2.4%, or 2 percentage points on last year. Towards the end of 2002 economic momentum slowed down significantly and failed to pick up speed in the first half of 2003. The tight labor market situation and the equity market losses have resulted in consumers resorting to greater precautionary saving. Private consumption cannot therefore support the economy to the extent it normally does. By contrast, new household debt incurred in the last few years can be primarily attributed to fixed-interest mortgage loans and, assuming real-estate prices remain stable, should not have any negative consequences for consumer behavior due to the low level of interest rates. The second half of 2003 will see a strong stimulus for private consumption coming from the planned tax cuts totaling USD 70 billion. Investment activity, however, will remain well below the levels of the 1990s due to low capacity utilization and high levels of corporate debt. Although U.S. exports are currently being driven by USD depreciation, weak export demand means there will be only marginal improvement to the current account deficit. The U.S. economy is still marked by considerable imbalances. In 2002 the current account deficit reached new record highs, the budget deficit deepened substantially, the personal saving ratio was increased minimally and continues to fall short of historical averages, and consumer and business debt remains high despite initial efforts of consolidation. The forecast for the U.S. is based on the slow and gradual easing of these imbalances. A sudden correction would have strong repercussions on U.S. growth and, via import demand and exchange rates, on the performance of the world economy as a whole.

An extremely poor first half of 2003 is expected for the *Japanese* economy and this is to be followed by only a tentative recovery. In the event of weak domestic demand, the upturn will be primarily driven by exports. Although current deflationary trends are waning slightly, they will persist in the near future. The fact that Japan's recovery depends on exports means that lower-than-expected demand from other Asian countries poses the main risk to its economy. Further uncertainties exist in connection with high levels of both government debt and the budget deficit as well as still unresolved structural problems in the banking sector. The economic region of *Asia excluding Japan* is becoming increasingly important as a pillar of economic activity for the world economy. Driven by robust export growth both inside and outside the region and by strong domestic demand, Asia without Japan will remain the fastest-growing economic area in the world over the entire forecasting horizon. In particular, China – the region's biggest economy – is contributing real GDP growth of 7% to 8% to this dynamic performance. Although the initial

economic repercussions from SARS are noticeable, they are fading fast as expected and will remain restricted to the first half of 2003.

The *transition economies* have been largely resistant to the global economic downturn and will significantly outperform the euro area in terms of growth over the forecasting horizon. In almost all these countries, the export economy remains the main engine for growth. Russia is expected to post above-average growth, which is being driven by dynamic domestic demand in addition to growing oil business revenues. In Poland, one of the EU acceding countries, the economy is set to recover markedly this year following a fairly long period of sluggish growth. Devaluation (in real terms) in 2002 and positive disinflationary effects are supporting exports and private consumption. As a result, investment will rebound following the slump in 2001 and 2002. On the other hand, the Hungarian and Czech economic cycles will mirror the euro area's more closely, with growth only accelerating in 2004 and 2005. For the EU acceding countries, a huge risk to foreign trade is posed by real appreciation. Short-term negative growth effects could also come from greater efforts to consolidate government debt in preparation for entry into the euro area.

In 2002 *Switzerland's* GDP stagnated. The strong Swiss franc is having a negative effect on the price competitiveness of the country's export industry. The tight labor market means that private consumption can barely provide any impetus to growth, and investment will not pick up before the second half of 2003. The Swiss economy will not be back on a more dynamic growth track until 2004.

Table 2

Underlying Global Economic Conditions

	2002	2003	2004	2005
	Annual change in % (real)			
Gross domestic product (GDP)				
World GDP growth outside the euro area	+ 3.5	+ 3.7	+ 4.5	+ 4.9
U.S.A.	+ 2.4	+ 2.3	+ 3.2	+ 3.3
Japan	+ 0.3	+ 1.1	+ 1.2	+ 1.6
Asia excluding Japan	+ 5.9	+ 5.6	+ 5.9	+ 6.2
Latin America	+ 0.0	+ 2.1	+ 3.8	+ 5.0
EU accession countries	+ 2.7	+ 3.3	+ 4.0	+ 4.5
Switzerland	+ 0.1	+ 0.8	+ 2.2	+ 2.8
Euro area	+ 0.9	−	−	−
Lower range[1]	−	+ 0.4	+ 1.1	−
Upper range[1]	−	+ 1.0	+ 2.1	−
World trade				
Imports of goods and services				
World economy	+ 2.3	+ 4.4	+ 6.2	+ 7.3
Non-euro area countries	+ 3.5	+ 4.5	+ 6.6	+ 7.6
Real growth of euro-area export markets	+ 2.8	+ 4.6	+ 6.9	+ 7.9
Real growth of Austria's export markets	+ 0.7	+ 4.1	+ 5.8	+ 7.3
Prices				
Oil price (in USD per barrel)	25.0	25.8	23.2	22.7
Three-month interest rate in %	3.3	2.5	2.4	2.4
Long-term interest rate in %	5.0	3.9	3.9	4.0
USD/EUR exchange rate	0.945	1.134	1.164	1.164
Nominal effective exchange rate (Euro area index)	89.65	100.56	102.38	102.38

Source: ECB.
[1]) *Results of the Eurosystem's Spring 2003 projections. The ECB presents the results in ranges based upon average differences between actual outcomes and previous projections.*

2.2 The Euro Area Economy

Economic activity in the euro area slowed down again at the end of 2002 and will almost stagnate in the first half of 2003. Consumer growth is declining again, primarily due to the bad state of the labor market. On balance, there will be a slight fall in euro area employment in 2003. In the years to follow, a gradual improvement in the labor market in 2004 and falling inflation rates will increase real household incomes and consumer spending. In addition, investment activity will remain slack in the first few months of this year. Weak demand and low capacity utilization will curb investment requirements. Poor corporate profits in recent years will also make the internal financing of investment projects more difficult. Against this backdrop, moreover, the ECB's significant easing of monetary policy since early 2001 has not yet been able to take full effect. In addition, the high losses on equity markets are hitting many companies' balance sheets and the assets of many households. This means the euro area's projected recovery from the second half of 2003 will be quite tentative initially. Investment over the entire forecasting horizon will not drive recovery to the usual extent via accelerator effects. A key stimulus to growth will come from the external sector. When external demand recovers from the third quarter of 2003 onwards and the negative effects from the appreciation of the euro peter out, exports should soar again. Compared to the fall 2002 forecast, the Eurosystem's macroeconomic projection exercise (MPE) for the euro area resulted in a considerable downward revision. Real GDP growth is expected to range between 0.4% and 1.0% in 2003 and between 1.1% and 2.1% in 2004.

The situation in *Germany*, Austria's main trading partner, remains particularly tight. At –1.4 percentage points, the contribution of domestic demand to GDP growth was well into negative territory in 2002. Whereas private consumption registered a slight drop, there was a massive slump in investment (–6.5%). Although 2003 is likely to see a further rise in unemployment, private consumer spending will increase somewhat thanks to a rise in real wages. In addition, investment activity will begin to stabilize slowly. The rise in domestic demand will however also be accompanied by import growth and the disappearance of extremely positive contributions to growth from net exports in 2002. This means only modest growth of well below 1% is expected in full-year 2003. Growth close to the growth potential will not be attained before the second half of 2004.

The picture in *Italy*, Austria's second-biggest trading partner, does not look much better. Despite fiscal incentives for car purchases and investment ("Tremonti Law"), business activity was only boosted by a mere 0.4%. In view of the discontinuation of these measures and the bleak environment of the external sector, growth will remain extremely modest and not exceed 1% in 2003. Real GDP growth will only climb back above 2% in the years to come.

2.3 World Trade

World trade developments are basically in sync with those of the world economy. International demand for euro area imports will not make a strong recovery until the second half of 2003 and accelerate steadily in the years to come. Demand for Austrian exports will be dampened by the economic downturn in Germany, Italy and Switzerland. This will however be offset by robust

growth of the EU acceding countries' economies and these countries' high demand elasticity of imports, and so demand for Austrian exports will increase marginally more than the average for the euro area.

2.4 Technical Assumptions

This forecast, which is based on the assumption that the monetary policy framework will remain unchanged, presupposes constant levels of both short-term nominal interest rates and the effective nominal exchange rate of the euro (euro area index) over the entire forecasting horizon. The underlying short-term interest rate is based on the three-month Euribor of May 20, 2003. Long-term interest rates, which are in tune with market expectations for government bonds with an agreed maturity of ten years, are 3.9% (2003), 3.9% (2004) and 4.0% (2005).

A constant exchange rate of USD/EUR 1.1644 is assumed for future EUR/USD exchange rate trends. Taking previous exchange rate trends into account, we arrive at an average rate for 2003 of USD/EUR 1.134. Accordingly, the euro appreciated by 20% year on year relative to the U.S. dollar in 2003. The appreciation of the euro against other currencies is weaker on average, and so the effective nominal exchange rate used for the euro area projection is only 12.2% higher in 2003 than in 2002.

For 2003 to 2005, we assume oil prices of USD 25.8, USD 23.2 and USD 22.7 per barrel (Brent) in each successive year. The assumed future trend in crude oil prices is based on forward rates. Compared with the 2002 spring forecast, oil prices in 2003 are now 10% higher than last year.

3 External Sector

Austrian export growth slowed from its historical high in 2000 of 13.4% (in real terms) to 2.6% in 2002, due to the downturn of the global economy. Indeed, the last three quarters of 2002 saw a successive decline in exports per quarter. This will give a high negative overhang in 2003, which will slow down the annual export growth rate.[1])

The euro area's sluggish economy is also checking the potential sales of Austrian exporters. Compared with 2002 when demand from the euro area slid by some 1% in real terms, the exports scenario will, however, improve despite persistently weak growth. As euro area growth in 2003 is being driven more strongly by domestic components, the imports of euro area countries will grow far more rapidly than last year. For instance, following the slump in German investment activity in 2002 (–6.5%), a slight rise is anticipated for this year – accompanied by an increase in imports. Euro area demand for Austrian exports will rise by 3.6% in real terms, while export demand from countries outside the euro area should grow by 4.9%. This will primarily come from the GDP

---

1   Preliminary national accounts data for the fourth quarter of 2002 indicate a strong decline in exports and a sharp increase in imports. Foreign trade data from both the OeNB's balance of payments statistics and Statistics Austria, however, rather suggest a further improvement in the balance of trade in the fourth quarter. We therefore expect an appropriate revision of the national accounts' data for both exports and imports. To account for the effect of such a revision on the annual growth figures of 2003 (smaller negative statistical overhang), this forecast assumes import growth rates for the first quarter of 2003 to be correspondingly lower and those for exports in the same period to be correspondingly higher.

Table 3

Growth and Price Trends in Austrian External Trade

	2001	2002	2003	2004	2005
	Annual change in %				
Exports					
Competitors' prices on Austria's export markets	+0.9	−2.7	−6.2	+0.1	+1.3
Export deflator	−0.4	−0.9	−1.4	+0.5	+1.3
Changes in price competitiveness	+1.1	−2.1	−5.0	−0.1	+0.1
Import demand on Austria's export markets (real)	+2.5	+0.7	+4.1	+5.8	+7.3
Austrian imports of goods and services (real)	+7.4	+2.6	+1.0	+4.5	+6.6
Market share	+4.9	+1.9	−3.1	−1.3	−0.6
Imports					
International competitors' prices on the Austrian market	+1.4	−1.6	−4.0	+0.3	+1.2
Import deflator	−0.2	−0.7	−1.2	+0.3	+1.2
Austrian imports of goods and services (real)	+5.9	+0.0	+0.8	+5.7	+7.0
Terms of trade	−0.2	−0.2	−0.2	+0.2	+0.1
Contribution of net exports to GDP growth[1])	+0.8	+1.4	+0.1	−0.5	+0.0

Source: OeNB Spring 2003 Forecast, Eurosystem.
[1]) *In % of real GDP.*

growth of EU acceding countries, in particular, which are outperforming the euro area by a wide margin in terms of economic growth. All in all, a rise in total export demand of 4.1% is expected in 2003. This should accelerate to 5.8% in 2004 and 7.3% in 2005.

The improvement in the Austrian export economy's price competitiveness over its key trading partners has led to Austria winning a significant slice of the market in the last few years. Since 1996 real exports have grown by an average of 2.5 percentage points more than demand in Austria's export markets, while the prices of competitors in those export markets have risen by almost 2.5 percentage points more than Austrian export prices. Around two-thirds of improved price competitiveness was due to moderate wage settlements (by international standards) combined with high productivity gains across many sectors of the economy. The remaining one-third was due to exchange rate fluctuations. Since 2002 price competitiveness has again been deteriorating slightly, attributable particularly both to very moderate price trends in Germany and the appreciation of the euro. Austrian exporters will therefore have to accept slight losses of market share over the forecasting horizon.

In full year 2003 real exports are projected to increase by 1.0%. In line with the growth of demand in Austria's export markets, export growth will pick up momentum (+4.5%) in 2004 and further accelerate (+6.6%) until the end of the forecasting horizon. As a result, the export economy will remain a key support to Austria's economy.

In 2002 real imports stagnated due to declining domestic demand, particularly the slump in import-intensive demand components such as investment in plant and equipment. In view of the predicted recovery of these components, however, import growth will accelerate faster than export growth. Based on last year's negative statistical overhang, an increase in real imports of a mere 0.8% is expected for full year 2003. With domestic demand further accelerating in 2004 and 2005, imports will also gain momentum (2004: 5.7%; 2005: 7.0%).

The contribution of net exports to GDP growth will fall from 1.4 percentage points in 2002 to 0.1 percentage point in 2003. In 2004 a negative contribution to growth of –0.5 percentage point is projected. A neutral growth contribution is forecast for 2005.

Despite the appreciation of the euro, the terms of trade are not projected to vary notably over the forecasting horizon. 2003 will see marginal deterioration (–0.2%), as there will be a greater fall in competitor prices in Austria's export markets than in competitor prices in the country's import markets. A slight improvement of 0.3% is anticipated for the remainder of the forecasting horizon.

4 Current Account

Two factors – unit wage cost trends that are still favorable by international standards and, above all, the decline in import-intensive domestic demand components – led to a considerably enhanced balance of trade (goods and services), which rose from 0.3% of nominal GDP in 2001 to 2.5% in 2002. The improvement in the goods balance was particularly pronounced, with the balance in the black for the first time since 1945 (1.6%). There are two reasons, however, why a further improvement in the balance of trade looks improbable. First, import growth is expected to accelerate far faster than export growth due to the recovery of demand for import-intensive domestic components. Second, the appreciation of the euro observable since mid-2002 will hit the price competitiveness of Austrian exporters. Since these negative effects occur with a time lag, they should also be expected to affect the balance of trade in the years ahead (irrespective of the assumption of constant nominal exchange rates). Although the balance of trade will remain positive over the entire forecasting horizon, its surplus will decrease from year to year.

In 2003 the goods balance of non-euro area countries will deteriorate more sharply than the euro area's due to the appreciation of the euro. In 2004 the reverse is expected owing to the euro area's high share of imports of semi-finished products and capital goods as well as to strong demand from the EU acceding countries. Unlike the goods balance, however, the services balance will continue to improve in 2003. As a vacation destination Austria is currently benefiting from geopolitical tensions and the fallout from SARS. As these effects peter out, the services balance will deteriorate slightly in the years ahead.

Table 4

Austria's Current Account					
	2001	2002	2003	2004	2005
% of nominal GDP					
Balance of trade	0.3	2.5	2.0	1.3	1.0
Goods balance	−0.7	1.6	0.8	0.1	0.0
Services balance	1.0	0.9	1.2	1.2	1.0
Euro area	−4.6	−3.2	−3.3	−3.8	−3.9
Non-euro area countries	4.9	5.7	5.3	5.1	4.9
Income balance	−1.6	−1.0	−1.1	−1.1	−1.0
Current transfers balance	−0.6	−0.8	−0.7	−0.7	−0.7
Current account	−1.9	0.7	0.1	−0.5	−0.6

Source: OeNB Spring 2003 Forecast.

The income balance improved unexpectedly in 2002. Since this was partly due to temporary effects in the area of other investment, the income balance will marginally deteriorate in 2003, despite the low level of interest rates and the current account surplus. In 2004 and 2005, a slight improvement will be brought about by income from direct investment in the EU acceding countries, among other factors. Constant current transfers, dominated by contributions to the EU budget, will come to –0.7% of GDP over the forecasting horizon. For the current account as a whole, this means it will gradually move into deficit, from 0.7% of GDP in 2002 to –0.6% in 2005.

5 Prices, Wages and Costs

5.1 Consumer Prices and Economic Deflators

Consumer price growth visibly decelerated during 2002. At 1.7%, inflation fell by 0.6 percentage point on a year-on-year basis. Whereas inflation in the services sector remained unexpectedly stubborn, the drop in oil prices, in particular, was responsible for the fall in consumer inflation. In the first quarter of 2003 inflation was still at 1.7%. From the second quarter onwards, however, it will slow down appreciably. The OeNB expects the HICP to rise by 1.3% in both 2003 and 2004. In 2005 inflation will slide back to 1.1%.

The pace of inflation will be largely determined by trends in oil prices. Although oil prices rose in the run-up to the war in Iraq, they started to decline again from the start of the war onwards. On the basis of the price information of forward contracts traded, oil prices are projected to continue falling for the remainder of the forecasting horizon. The direct effects of the rise in oil prices will peter out in the first half of 2004. On the other hand, the initial stage of tax reform in early 2004 will trigger another rise in energy prices due to the increase of tax on fossil fuels. In 2005, by contrast, a slight dip in energy prices is expected once more.

It was assumed in the forecast that wage moderation would continue over the forecasting horizon. During the upturn, price pressure is not expected to

Table 5

Selected Price Indicators for Austria

	2002	2003	2004	2005
	Annual change in %			
Harmonized Index of Consumer Prices (HICP)	+1.7	+1.3	+1.3	+1.1
HICP energy	−2.4	+3.0	+3.1	−1.0
HICP excluding energy	+2.0	+1.2	+1.2	+1.3
Private consumption expenditure (PCE) deflator	+1.8	+1.5	+1.2	+1.2
Investment deflator	+0.7	+0.9	+0.9	+1.2
Import deflator	−0.7	−1.2	+0.3	+1.2
Export deflator	−0.9	−1.4	+0.5	+1.3
Terms of trade	−0.2	−0.2	+0.2	+0.1
GDP deflator	+1.3	+1.1	+1.2	+1.3
Unit labor costs	+0.7	+1.2	+0.8	+0.4
Compensation per employee	+2.1	+2.0	+2.1	+2.2
Labor productivity	+1.4	+0.9	+1.3	+1.7
Collectively agreed wage settlements	+2.4	+2.3	+2.2	+2.3
Profit margins	+0.5	−0.1	+0.4	+0.8

Source: 2002: Statistics Austria, 2003 to 2005: OeNB Spring 2003 Forecast.

emerge from the demand side, as currently available capacity is barely utilized and the production gap is not expected to close until towards the end of 2005.

The appreciation of the euro will also ease price pressures, bringing import prices down for the third time in a row this year. Import deflator growth is expected to increase only moderately in 2004 and 2005. Private consumption expenditure (PCE) deflator trends are similar to those of the HICP. At the same time, investment deflator growth will be somewhat weaker due to the high import content of investments. The appreciation of the euro placed exporters across the euro area under increased pressure as early as 2002. This led to export prices falling, and this trend will also continue in 2003 before export prices start climbing back up slightly in 2004. The terms of trade will only improve slightly towards the end of the forecasting horizon.

5.2 Wages, Productivity and Corporate Profits

After payroll employment in 2001 was hit by wage losses of 0.5% in real terms, real wage growth per head in 2002 underperformed labor productivity growth by a wide margin. Falling inflation, modest productivity growth expectations and the rise in unemployment continue to suggest only moderate wage settlements.

In 2001 labor productivity stagnated since companies still attempted to maintain employment levels despite the bleak economic climate. In 2002 productivity rose owing to a decline in employment amid sluggish economic growth. As most labor market adjustments occurred in 2002, productivity will only accelerate at a slow pace during 2003 compared with previous recoveries. For the first time since 1993 business profit margins will tighten slightly this year. In 2004 and 2005 profit margins are expected to improve marginally on the back of increasing productivity growth, despite only modest price rises.

6 Domestic Economy

6.1 Consumption

Consumer confidence in Austria has visibly deteriorated in the last few months, as reflected in the decline of the consumer confidence indicator and in the low levels of the retail confidence indicator. General uncertainty about future income trends and the bleak situation in the labor market are dampening confidence. Moreover, the debates about reforming the pension system could cause consumers to resort to precautionary saving.

Against this backdrop, modest household income trends will also be reflected this year in extremely muted private consumption growth, as in 2002. In 2003 nominal disposable household income will grow only a tad above last year's rate. The tightening of the labor market is restricting employee compensation, due to a drop in employment and marginal wage growth. Mixed income and investment income are following economic trends and are posting below-average growth. The public sector, however, is providing a relatively positive stimulus to disposable household income due to the effectiveness of automatic stabilizers. All in all, the public sector in 2003 will make an above-average contribution to household income growth.

Despite the tight economic and labor market situation, real disposable household income in 2003 will grow by 0.3 percentage point on last year, as

Table 6

Determinants of Nominal Household Income in Austria

	2002	2003	2004	2005
	Annual change in %			
Compensation of employees	+1.8	+1.9	+2.5	+3.2
Payroll per employee	−0.3	−0.1	+0.3	+1.0
Wages per employee	+2.1	+2.0	+2.1	+2.2
Net mixed income of the self-employed and investment income	+3.5	+2.3	+3.7	+4.8
Net transfers minus direct taxes[1]	−1.9	−0.1	−1.5	−2.2
	Contribution to disposable household income in percentage points			
Compensation of employees	+1.6	+1.6	+2.1	+2.6
Net mixed income of the self-employed and investment income	+1.1	+0.7	+1.2	+1.5
Net transfers minus direct taxes[1]	−0.3	+0.0	−0.2	−0.3
Disposable household income (nominal)	+2.3	+2.3	+3.0	+3.8

Source: OeNB Spring 2003 Forecast, Statistics Austria.
[1] Negative values indicate an increase in (negative) net transfers minus direct taxes; positive values indicate a decrease.

inflation is likely to fall sharply once the various supply-side shocks subside. Marginal price growth is therefore becoming a crucial support to private consumption. However, current uncertainties (pension reform, joblessness), which are preventing households from stabilizing consumption levels due to a sharper reduction in the saving ratio, are having a discouraging effect. All in all, private consumer spending will increase by 1.1% in 2003.

In the course of 2004, the labor market should see a gradual easing and household income is likely to take a more positive turn again. Stubbornly low inflation rates will further strengthen purchasing power, and consumer confidence should also recover. Private consumption growth will therefore accelerate to 1.7% in 2004 and 2.4% in 2005, despite a slight rise in the personal saving ratio. The growth outlook for real government consumption remains subdued over the entire forecasting horizon, running at 0.5% in 2003, 0.5% in 2004 and 0.2% in 2005.

Table 7

Private Consumption in Austria

	2002	2003	2004	2005
	Annual change in %			
Disposable household income (nominal)	+2.3	+2.3	+3.0	+3.8
PCE deflator	+1.8	+1.5	+1.2	+1.2
Disposable household income (real)	+0.5	+0.8	+1.8	+2.6
Private consumption (real)	+0.9	+1.1	+1.7	+2.4
	% of disposable household income			
Saving ratio	7.1	6.8	7.0	7.3

Source: OeNB Spring 2003 Forecast, Statistics Austria.

6.2 Investment

Investment, the strongest correction-sensitive demand component, has been showing a negative trend since the start of the economic downturn in 2001. After a 2.3% contraction in investment activity in 2001, a dramatic drop to –4.8% followed. The investment ratio fell by more than 2 percentage points from 23.9% of GDP in 2000 to 21.8%. The contribution to growth from gross fixed capital formation was –1.1 percentage points in 2002. Investment in plant and equipment, which shrank by a total of some 13% in 2001 and 2002, was particularly hit. There was an absence of demand-side stimulus. Export growth, in particular, has slowed significantly since 2001. In addition, the situation is being worsened by Austria's pronounced business pessimism on the economy. Although in the last few months current indicators for the order book and capacity utilization in industry have stabilized or even improved marginally, a clear uptrend is yet to be seen. Last but not least, corporate profits have also suffered from the sluggish state of the economy in the last few years. Growth stimulus is likely to come from the investment allowance (granted until end-2003) of 10% of investment above the 2000-2002 average and from reconstruction investment following the floods (even though to a lesser extent than assumed in fall 2002). In addition, once the uncertainties about future economic growth have receded, favorable external financing terms should unleash fully their investment-stimulating effect.

In 2003 investment will be the first domestic component to pick up significantly. For the time being, replacement investment will prevail due to low capacity utilization and the need to catch up due to the protracted contraction in investment volumes. Businesses will only reinvest to expand capacity if the economic recovery appears to be making progress. The revival of investment will also be facilitated by the expected acceleration of export growth. Despite high intra-year momentum due to the negative statistical overhang, growth of gross fixed capital formation is likely to be 0.7% in 2003. Although the pick-up of investment activity will be somewhat diminished when the investment-stimulating measures of the two economic packages and the flood relief lapse at the end of 2003, for the year as a whole growth of gross fixed capital formation of 4.0% is expected (2005: 4.9%). As a result, the investment ratio in 2005 will rise to 22.6% of GDP. The growth of total investments will be driven particularly by investment in plant and equipment, which is projected to climb by 0.7% in 2003, 5.5% in 2004 and 7.0% in 2005. However, construction investment is also registering positive modest growth again. Civil engineering is currently benefiting primarily from more active public sector investment (restructuring and construction projects in the area of public sector infrastructure). In residential construction, the rundown of surplus capacity should come to an end and for the first time in seven years lead to an increase in building activity in 2003. Initial signs of a recovery are to be seen in rising real estate prices.

Inventory changes indicate a procyclical pattern over the forecasting horizon. Businesses will step up inventory building during the upturn in 2003 and 2004. In 2005, however, these will be again run down to some extent. Between 2003 and 2005, inventory changes (excluding statistical

discrepancy) will contribute 0.1, 0.2 and 0.1 percentage points to GDP growth in each successive year.

7 Labor Market

The economic slowdown commencing in early 2001 impacted employment with the customary time lag. Although businesses in 2001 initially tried to maintain employment levels, their weak earnings position led them to lay off employees during 2002. In 2002 total employment (national accounts definition) contracted by 0.3%. The picture in Austria thus differs from that in the euro area where employment rose by 0.4% despite a marginally lower growth rate in 2002. Labor market figures for the first quarter of 2003 show that the rise in unemployment fell on a year-on-year basis. This means labor market adjustments are now likely to be complete. However, employment growth is not expected to increase until 2004 (+0.3%) due to weak economic growth expected in the first half of 2003. A further rise (+1.0%) is anticipated in 2005.

The number of self-employed has been on the wane for decades, due to the decline in self-employment in agriculture. Although this trend is slowing down, it will persist over the forecasting horizon. The number of other self-employed has been climbing steadily in the last few years, indicating a slightly procyclical pattern. All in all, there will be a slight drop in the number of self-employed over the forecasting period, which will lead to stagnation in 2005. The number of public sector employees has been declining since 1995. The steepest decline (–3.2%) was posted in 2001. In 2002 there was a slower decline (–0.7%). Stagnation is anticipated in 2003, while the numbers are expected to decline yet further by 0.6% in both 2004 and 2005.

Table 8

Labor Market Trends in Austria				
	2002	2003	2004	2005
	Annual change in %			
Total employment	− 0.3	−0.2	+0.3	+0.8
of which:				
Payroll employment	− 0.3	−0.1	+0.3	+1.0
Self-employed	− 0.5	−0.4	−0.2	+0.0
Public sector employees	− 0.7	+0.0	−0.6	−0.6
Registered unemployment	+12.4	+3.3	−0.1	−3.5
Labor supply	+ 0.3	+0.0	+0.2	+0.5
	in %			
Unemployment rate (Eurostat definition)	4.3	4.4	4.4	4.2

Source: OeNB Spring 2003 Forecast, Eurostat.

Although labor supply is likely to stagnate in 2003, the two following years should see a further slight increase (2004: +0.2%, 2005: +0.5%). This can be explained by both economic and structural factors. Compared with other countries, labor supply in Austria reacts with great sensitivity to the economic situation. The growth of marginal employment, the slight increase in foreign labor supply and greater labor force participation by mature workers rank among those structural factors that expand the labor supply. In the short term, labor supply will not come under pressure from demographic growth. Until 2008 the number of people of job-seeking age will continue to grow. This will then be followed by stagnation and/or decline.

The increase in unemployment, which commenced in early 2001, accelerated in 2002 (+12.4%). The jobless rate rose from 3.6% in 2001 to 4.3% in 2002. In 2003 a further slight rise to 4.4% is expected. Given the lag between employment and both production and demand levels, a visible improvement in the labor market is not expected before the second half of 2004. The jobless rate will not come down again until 2005 (4.2%).

8 Risks to the Forecast and Alternative Scenarios

8.1 Forecast Risks and Uncertainties

The current economic situation is still marked by great uncertainty. This is primarily due to the duration of the economic downturn. Whereas economic growth after previous periods of weakness has returned to growth potential within a few quarters, the current phase of sluggish growth has persisted since 2001 (with a brief respite in the first half of 2002). This unusually long duration means that many variables are likely to change over time, making the present forecast subject to even greater uncertainty. For instance, a smaller increase in labor productivity is anticipated due to employment growth starting earlier in the upturn because of the high number of job cuts in 2002. Furthermore, it is assumed investment will perk up at a relatively early stage due to the need for replacement investment as a result of the previous marked decline.

In addition to this forecast's basic scenario mirroring the most likely trends from the OeNB's perspective, other alternative trends are also conceivable. Most of these represent a downside risk and are basically related to future trends in the confidence of economic agents in the further development of the economy. For instance, the expected rapid stabilization of the geopolitical situation could be delayed, which could dampen the recovery of the global economy significantly. A sudden correction of current imbalances in the U.S. economy – in particular, the huge current account deficit – could lead to a further massive depreciation in the U.S. dollar with dire consequences for the international economy. High levels of consumer and corporate debt in many industrialized countries combined with the poor earnings position of companies in the euro area represent a further downside risk to the forecast. One upside risk to the forecast is, in particular, uncertainty about the strength and speed of recovery of the economic climate following the end of the war in Iraq. The positive effects from resolving geopolitical uncertainties could be stronger than assumed and thus contribute to an accelerated global economic recovery.

In Austria, the current debate about pension reform and (related) higher precautionary saving can be identified as a downside risk for the forecast. Continuing uncertainties could block the expected sharp rise in investment activity in the second half of 2003 and reduce consumption. The second stage of tax reform in 2005 was not included in the forecast, as key reform details have yet to be announced. Consumer spending, in particular, and, in due course, investment activity could also benefit from lowering the tax burden. However, it cannot be ruled out that the tax cuts may have a procyclical effect.

8.2 Alternative Scenarios

To estimate the quantitative implications of two important external forecast risks, the OeNB calculated two scenarios using its macroeconomic model. In

the first, the effects of resolving geopolitical uncertainties more quickly were examined. The second scenario is concerned with the risks arising from a correction of the current imbalances in the U.S.A. and with the related weaker growth of the U.S. economy.

8.2.1 Scenario I:
Faster Resolution of Geopolitical Uncertainties

The baseline scenario of the forecast assumes that geopolitical uncertainties related to the war in Iraq will gradually fade away during the second quarter of 2003. Resolving these uncertainties could result in the immediate improvement of the economic climate with positive effects on consumption, investment and equities in all industrialized countries. The fairly speedy stabilization of the geopolitical situation could also result in the appreciation of the U.S. dollar.

This scenario was implemented as follows: To simulate the effects of greater consumer confidence, a decline in savings of 0.3% was assumed, as a result of which consumption increased commensurately. Investment rising on the back of greater business confidence was implemented by reducing the risk premium by 10%. In parallel, we assumed that prices would rise by 10% on equity markets. In due course, this scenario assumes the U.S. dollar will appreciate by 5.3% relative to the euro and that oil prices will drop more sharply. The simulations were carried out in two stages. First, the effects of these assumptions on the world economy were simulated using the NiGEM world model. The effects of these new international conditions on Austria and the direct effects of the assumptions were simulated using the OeNB's macroeconomic model.

In this scenario, the stronger recovery of the world economy leads to a rise in demand for Austrian exports. The depreciation relative to the baseline scenario also enhances Austrian exporters' price competitiveness. A lesser domestic propensity to save directly increases consumer spending. Lower oil prices fuel further growth. All in all, 2005 sees cumulated GDP growth of 1% compared with the baseline scenario, with the strongest growth effects occurring in 2004 (additional growth of +0.7 percentage points). In cumulative terms, prices are 0.5% higher until 2005, due to both demand and higher import prices as a result of the appreciation of the euro.

Table 9

Key Results of Alternative Scenarios						
	Speedier resolution of geopolitical uncertainties			Weaker growth in the U.S.		
	2003	2004	2005	2003	2004	2005
	Deviation from baseline scenario in %					
Real GDP	0.2	0.9	1.0	−0.2	−0.7	−0.8
HICP	0.0	0.2	0.5	−0.1	−0.3	−0.5
Private consumption (real)	0.2	0.5	0.5	0.0	0.0	0.0
Private investment (real)	0.3	1.8	3.2	−0.2	−1.0	−1.6
Exports (real)	0.1	0.4	0.4	−0.2	−0.6	−0.6
Imports (real)	0.0	0.1	0.4	0.0	0.1	0.0
Employment	0.1	0.4	0.7	−0.1	−0.3	−0.5

Source: OeNB Spring 2003 Forecast.

8.2.2 Scenario II:

Weaker Growth and Partial Correction of Current Imbalances in the U.S.A.
The U.S. economy is currently marked by several imbalances. In addition to high levels of household debt and the fast-growing budget deficit, the huge foreign trade deficit, in particular, and the related risk of a sudden depreciation of the U.S. dollar are giving cause for concern. All these factors could weaken the U.S. economy's potential growth in the long run. In this scenario we first assumed that overall U.S. factor productivity would be reduced by a total of 1 percentage point within a single year. In addition, a gradual increase in the U.S. household saving ratio (+1.2 percentage points) was assumed. Finally, we assumed the U.S. dollar would appreciate by 8% relative to the euro due to the large foreign trade deficit. This means an effective nominal appreciation of the euro of 5.3%.

The effect of this scenario on Austria is, first and foremost, the deterioration in the country's foreign trade price competitiveness. Austrian businesses would lose market share in both import and export markets. On balance, however, imports do not grow in real terms, as the effects of price competitiveness are offset by generally lower levels of import demand. Lower import prices depress domestic prices, increase real interest rates and hence the user cost of capital, as a result of which investment contracts. In addition, weaker exports curb corporate investment. In cumulated terms, Austria's GDP in this 2005 scenario is 0.8% below that of the baseline scenario.

9 Comparison of Forecasts

9.1 Comparison with 2002 Fall Outlook

The international economic outlook for 2003 has considerably darkened since the 2002 fall outlook. Uncertainties in the run-up to the war in Iraq placed a brake on the world economy. Oil prices rose temporarily. Export opportunities are being dampened by the appreciation of the euro. Only long-term interest rates (down by about one percentage point on last fall) are now providing stronger growth stimuli. As a result, the projected upturn will be delayed by another six months. The real GDP forecast for 2003 had to be downgraded by 0.9 percentage point and by 0.6 percentage point for the 2004 forecast.

Table 10

Breakdown of Forecast Revisions				
	Gross Domestic Product		Harmonized Index of Consumer Prices	
	2003	2004	2003	2004
	Annual change in %			
Spring 2003 Forecast	0.7	1.6	1.3	1.3
Fall 2002 Forecast	1.6	2.2	1.8	1.6
Difference	−0.9	−0.6	−0.4	−0.3
Due to				
New data[1])	−0.2	0.0	−0.4	0.0
External assumptions	−0.8	−0.4	−0.3	−0.3
Other[2])	0.1	−0.2	0.3	0.0

Source: OeNB Spring 2003 and Fall 2002 Forecasts.
[1]) *Effect of new and revised historical data.*
[2]) *Different assumptions about trends in domestic variables such as wages, government consumption and rating changes.*

Table 10 shows a breakdown of the reasons for the revised forecasts. The GDP and HICP revisions are broken down into three categories: (a) Effect of new data; (b) Effects of new external assumptions; and (c) Other. In the case of GDP, the effect of new data records the amended statistical overhang arising in 2003 annual growth due to the availability of new data for the third and fourth quarters of 2002 as well as to revisions for the second quarter of 2002. For the HICP, the months already available for 2003 are also included. The effects of the new external assumptions were simulated using the OeNB's macroeconomic model.

The item 'Other' comprises various assumptions about the performance of domestic variables such as government consumption and changes in assessment. It appears that revisions of GDP in 2003 and 2004 can be largely explained by changes in the international environment. Some of the revisions for 2003 are due to the trends in the second half of 2002, which are unfavorable compared with the fall outlook. For 2003, 'Other' reflects an assessment of investment activity that is somewhat more optimistic compared with the current bleak economic situation. For 2004, higher precautionary consumer saving (due to jitters about the debate on pension reform) was assumed.

Inflation will fall by 0.4 percentage point in 2003 and by 0.3 percentage point in 2004. The revision of 2003 consumer prices can be explained by three factors: favorable consumer price trends seen so far in 2003, new external assumptions and a reappraisal of price persistency. The revision for 2004 can be fully explained by the change of external assumptions.

9.2 Comparison with Other Forecasts

The OeNB's estimate of real GDP growth for 2003 lags behind the forecasts of other institutions (1.1% to 1.5%). Except for government consumption, the forecasts of March and April 2003 are far more optimistic in all demand aggregates than the OeNB's forecast. The biggest difference lies, first, in a comparatively pessimistic assumption about the growth of Austria's export markets and, second, in more recent exchange rate assumptions reflecting the current appreciation of the euro. This justifies the OeNB's export growth forecast, which is more than 2 percentage points lower than those of other institutions.

This also gives far more prudent forecasts for real household income and private consumption as well as for the anticipated slower growth of gross fixed capital formation. The OeNB, however, assumes government consumption for 2003 is somewhat higher than that of WIFO and IHS. The OeNB's estimate of the HICP inflation rate in the years ahead is considerably lower. This is due to two factors: the OeNB's lower growth assumptions and its differing external assumptions about exchange rates.

Table 11

Comparison of Current Economic Forecasts for Austria

Indicator	OeNB May 2003			WIFO March 2003		IHS March 2003		OECD April 2003		IMF April 2003		European Commission April 2003	
	2003	2004	2005	2003	2004	2003	2004	2003	2004	2003	2004	2003	2004
	Annual change in %												
Key results													
GDP (real)	0.7	1.6	2.5	1.1	1.7	1.5	2.5	1.1	2.0	1.5	2.4	1.2	2.0
Private consumption (real)	1.1	1.7	2.4	1.4	1.9	1.6	2.3	1.3	1.9	×	×	1.2	1.9
Government consumption (real)	0.5	0.5	0.2	0.0	0.5	0.3	0.3	0.5	0.7	×	×	0.5	0.5
Gross fixed capital formation (real)[1]	0.7	4.0	4.9	2.0	3.3	2.1	4.1	0.8	2.9	×	×	1.6	3.1
Exports (real)	1.0	4.5	6.6	3.6	6.7	3.2	5.7	3.0	6.4	×	×	4.3	7.1
Imports (real)	0.8	5.7	7.0	3.9	7.2	3.2	5.7	3.0	6.4	×	×	4.5	7.5
GDP per employee	0.9	1.3	1.7	1.0	1.4	1.4	1.8	×	×	×	×	×	×
GDP deflator	1.1	1.2	1.3	1.3	1.7	1.4	1.6	1.7	1.1	1.3	0.5	1.1	1.5
CPI	×	×	×	1.9	1.4	1.6	1.7	1.4	1.0	1.5	1.4	×	×
HICP	1.3	1.3	1.1	2.0	1.4	×	×	×	×	×	×	1.8	1.8
Unit labor costs	1.2	0.8	0.4	1.0	1.0	×	×	×	×	×	×	1.1	1.1
Payroll employment	−0.2	0.3	0.8	− 0.1	0.3	0.1	0.7	×	×	×	×	0.0	0.4
	%												
Unemployment rate[2]	4.4	4.4	4.2	4.2	4.2	4.2	4.0	5.9	5.9	4.5	4.1	4.5	4.4
	% of nominal GDP												
Current account	0.1	− 0.5	− 0.6	− 0.9	− 0.8	− 0.7	−0.8	0.2	0.3	− 0.8	− 1.1	− 0.3	− 0.6
Government surplus/deficit	− 1.2	− 0.9	− 0.6	− 1.2	− 1.0	− 1.3	−0.8	− 1.3	− 1.1	− 0.6	×	− 1.1	− 0.4
External assumptions													
Oil price (in USD per barrel)	25.8	23.2	22.7	29.0	23.0	28.0	25.0	26.0	25.0	28.0	23.5	27.6	23.5
Short-term interest rate in %	2.5	2.4	2.4	2.2	2.6	2.9	3.3	2.3	2.3	×	×	×	×
USD/EUR	1.13	1.16	1.16	1.08	1.08	1.06	1.06	1.1	1.1	1.1	1.1	1.07	1.07
	Annual change in %												
Euro area GDP (real)	0.4−1.0	1.2−1.6	1.1−2.4	1.1	1.8	×	×	1.0	2.4	1.1	2.3	1.0	2.3
U.S. GDP (real)	2.3	3.2	3.3	2.3	2.8	2.8	3.0	2.5	4.0	2.2	3.6	2.4	2.5
World GDP (real)	3.4	4.1	4.6	×	×	×	×	×	×	3.2	4.1	3.2	3.7
World trade	4.4	6.2	7.3	5.5	6.3	6.5	7.0	5.9	8.8	4.3	6.1	5.4	6.6

Source: OeNB, WIFO, IHS, European Commission, IMF, OECD.
[1] *For IHS: Gross investment.*
[2] *Eurostat definition; for OECD forecasts: OECD definition.*

Annex

Table 12

Demand Components (Real Prices)

at 1995 prices

	2002	2003	2004	2005	2002	2003	2004	2005
	EUR million				*Annual change in %*			
Private consumption	112,913	114,080	115,965	118,765	+0.9	+1.1	+1.7	+2.4
Government consumption	37,503	37,695	37,884	37,956	+1.3	+0.5	+0.5	+0.2
Gross fixed capital formation	43,785	44,034	45,787	48,052	−4.8	+0.7	+4.0	+4.9
Changes in inventories (incl. statistical discrepancy)	492	342	668	779	×	×	×	×
Domestic demand	194,692	196,151	200,303	205,553	−0.3	+0.6	+2.1	+2.6
Exports of goods and services	109,840	110,794	115,769	123,453	+2.6	+1.0	+4.5	+6.6
Imports of goods and services	103,794	104,688	110,620	118,388	+0.0	+0.8	+5.7	+7.0
Net exports	6,047	6,106	5,149	5,065	×	×	×	×
Gross domestic product	200,739	202,258	205,452	210,618	+1.0	+0.7	+1.6	+2.5

Source: 2002: Statistics Austria; 2003 to 2005: OeNB Spring 2003 Forecast.

Table 13

Demand Components (Current Prices)

	2002	2003	2004	2005	2002	2003	2004	2005
	EUR million				*Annual change in %*			
Private consumption	124,961	128,126	131,825	136,644	+2.8	+2.6	+2.9	+3.7
Government consumption	41,449	42,355	43,251	44,144	+2.2	+2.2	+2.1	+2.1
Gross fixed capital formation	47,139	47,918	50,252	53,395	−4.1	+1.6	+4.9	+6.3
Changes in inventories (incl. statistical discrepancy)	687	164	259	321	×	×	×	×
Domestic demand	214,236	218,564	225,587	234,504	+1.1	+1.8	+3.2	+4.0
Exports of goods and services	113,038	112,787	118,416	127,910	+1.7	−0.4	+5.0	+8.0
Imports of goods and services	110,443	110,429	117,001	126,701	−0.7	−0.4	+6.0	+8.3
Net exports	2,595	2,357	1,416	1,210	×	×	×	×
Gross domestic product	216,831	220,921	227,003	235,714	+2.3	+1.8	+2.8	+3.8

Source: 2002: Statistics Austria; 2003 to 2005: OeNB Spring 2003 Forecast.

Table 14

Demand Components (Deflators)

	2002	2003	2004	2005	2002	2003	2004	2005
	1995 = 100				*Annual change in %*			
Private Consumption	110.7	112.3	113.7	115.1	+1.8	+1.5	+1.2	+1.2
Government consumption	110.5	112.4	114.2	116.3	+0.9	+1.7	+1.6	+1.9
Gross fixed capital formation	107.7	108.8	109.7	111.1	+0.7	+0.9	+0.9	+1.2
Domestic demand (excl. changes in inventories)	110.0	111.5	112.9	114.4	+1.4	+1.4	+1.2	+1.3
Exports of goods and services	102.9	101.8	102.3	103.6	−0.9	−1.4	+0.5	+1.3
Imports of goods and services	106.4	105.5	105.8	107.0	−0.7	−1.2	+0.3	+1.2
Terms of trade	96.7	96.5	96.7	96.8	−0.2	−0.2	+0.2	+0.1
Gross domestic product	108.0	109.2	110.5	111.9	+1.3	+1.1	+1.2	+1.3

Source: 2002: Statistics Austria; 2003 to 2005: OeNB Spring 2003 Forecast.

Table 15

Labor Market

	2002	2003	2004	2005	2002	2003	2004	2005
	1,000				*Annual change in %*			
Total employment	4,060.6	4,054.1	4,064.2	4,095.9	−0.4	−0.2	+0.3	+0.8
Private sector employment	3,550.8	3,544.4	3,557.5	3,592.3	−0.4	−0.2	+0.4	+1.0
Payroll employment (national accounts definition)	3,313.6	3,310.6	3,322.1	3,353.9	−0.3	−0.1	+0.3	+1.0
	%							
Unemployment rate (Eurostat definition)	4.3	4.4	4.4	4.2	×	×	×	×
	% of real GDP							
Unit labor costs (whole economy)[1]	68.2	69.0	69.5	69.8	+0.7	+1.2	+0.8	+0.4
	at current prices, EUR 1,000							
Labor productivity (whole economy)	49.4	49.9	50.6	51.4	−2.6	+0.9	+1.3	+1.7
Real compensation per employee[2]	30.5	30.6	30.9	31.2	−3.2	+0.5	+0.9	+1.0
	at current prices, EUR 1,000							
Gross compensation per employee	33.7	34.4	35.1	35.9	−6.0	+2.0	+2.1	+2.2
	at current prices, EUR million							
Total gross wages	111,792	113,924	116,739	120,424	+1.9	+1.9	+2.5	+3.2

Source: 2002: Eurostat; 2003 to 2005: OeNB Spring 2003 Forecast.
[1] Gross wages as a ratio of real GDP.
[2] Gross wages per employee divided by the private consumption deflator.

Table 16

Current Account

	2002	2003	2004	2005	2002	2003	2004	2005
	EUR million				*% of nominal GDP*			
Balance of trade	5,495.8	4,347.7	2,885.3	2,464.5	2.5	2.0	1.3	1.0
Goods balance	3,501.8	1,688.9	216.8	19.1	1.6	0.8	0.1	0.0
Services balance	1,994.1	2,658.8	2,668.4	2,445.4	0.9	1.2	1.2	1.0
Euro area	−6,970.9	−7,272.8	−8,636.9	−9,155.4	− 3.2	− 3.3	− 3.8	− 3.9
Non-euro area countries	12,466.7	11,620.5	11,522.2	11,619.9	5.7	5.3	5.1	4.9
Income balance	−2,253.5	−2,527.6	−2,399.4	−2,368.9	− 1.0	− 1.1	− 1.1	− 1.0
Transfers balance	−1,681.0	−1,537.8	−1,606.4	−1,602.9	− 0.8	− 0.7	− 0.7	− 0.7
Current account	1,561.3	282.3	−1,120.5	−1,507.3	0.7	0.1	− 0.5	− 0.6

Source: 2002: OeNB; 2003 to 2005: OeNB Spring 2003 Forecast.

Table 17

Quarterly Forecast Results

	2003	2004	2005	2003 1st qu.	2nd qu.	3rd qu.	4th qu.	2004 1st qu.	2nd qu.	3rd qu.	4th qu.	2005 1st qu.	2nd qu.	3rd qu.	4th qu.
Annual change in %															
Prices, wages and costs															
HICP	+1.3	+1.3	+1.1	+1.8	+1.2	+1.1	+1.3	+1.5	+1.5	+1.3	+0.9	+0.9	+1.0	+1.2	+1.4
HICP (excl. energy)	+1.2	+1.2	+1.3	+1.5	+1.2	+0.9	+1.1	+1.4	+1.1	+1.2	+1.0	+1.2	+1.3	+1.3	+1.4
PCE deflator	+1.5	+1.2	+1.2	+1.9	+1.8	+1.4	+0.9	+1.0	+1.2	+1.3	+1.4	+1.2	+1.2	+1.2	+1.2
Gross fixed capital formation deflator	+0.9	+0.9	+1.2	+1.9	+0.7	+0.7	+0.4	+0.5	+0.8	+1.0	+1.1	+1.2	+1.2	+1.3	+1.4
GDP deflator	+1.1	+1.2	+1.3	+1.0	+1.3	+1.1	+1.0	+1.1	+1.1	+1.1	+1.2	+1.0	+1.2	+1.4	+1.5
Unit labor costs	+1.2	+0.8	+0.4	+1.0	+1.4	+1.3	+1.0	+0.9	+0.8	+0.7	+0.7	+0.5	+0.4	+0.4	+0.4
Nominal wages per employee	+2.0	+2.1	+2.2	+2.0	+2.0	+2.0	+2.2	+2.1	+2.1	+2.1	+2.1	+2.1	+2.1	+2.2	+2.3
Productivity	+0.9	+1.3	+1.7	+1.0	+0.6	+0.7	+1.2	+1.2	+1.3	+1.4	+1.4	+1.6	+1.7	+1.8	+1.8
Real wages per employee	+0.5	+0.9	+1.0	+0.0	+0.2	+0.6	+1.3	+1.1	+0.9	+0.8	+0.7	+0.9	+1.0	+1.0	+1.0
Import deflator	−1.2	+0.3	+1.2	−1.3	−0.7	−1.0	−1.8	−0.9	+0.0	+0.9	+1.1	+1.1	+1.3	+1.2	+1.1
Export deflator	−1.4	+0.5	+1.3	+0.0	−0.3	−2.0	−3.2	−1.2	+0.4	+1.2	+1.5	+1.4	+1.3	+1.2	+1.2
Terms of trade	−0.2	+0.2	+0.1	+1.3	+0.4	−1.0	−1.4	−0.3	+0.4	+0.3	+0.4	+0.3	+0.1	+0.0	+0.1
At 1995 prices, annual and/or quarterly changes in %															
Economic activity															
GDP	+0.7	+1.6	+2.5	+0.2	+0.2	+0.3	+0.4	+0.3	+0.4	+0.5	+0.6	+0.7	+0.7	+0.7	+0.7
Private consumption	+1.1	+1.7	+2.4	+0.0	+0.1	+0.2	+0.4	+0.4	+0.5	+0.6	+0.6	+0.6	+0.6	+0.6	+0.6
Government consumption	+0.5	+0.5	+0.2	+0.4	+0.1	+0.1	+0.0	+0.2	+0.2	+0.2	+0.1	+0.0	+0.0	+0.0	+0.0
Gross fixed capital formation	+0.7	+4.0	+4.9	+0.6	+1.0	+1.4	+1.4	+0.7	+0.7	+0.8	+1.0	+1.3	+1.4	+1.4	+1.5
Investment in plant and equipment	+0.7	+5.5	+7.0	+0.8	+1.3	+1.9	+2.4	+0.5	+1.0	+1.2	+1.7	+1.8	+1.9	+1.9	+1.9
Residential construction investment[1]	+0.4	+1.3	+1.4	+0.2	+0.1	+0.4	+0.3	+0.3	+0.3	+0.2	+0.3	+0.4	+0.4	+0.4	+0.4
Exports	+1.0	+4.5	+6.6	+1.8	+0.5	+0.8	+1.0	+1.1	+1.2	+1.4	+1.5	+1.7	+1.7	+1.8	+1.8
Imports	+0.8	+5.7	+7.0	−0.5	+0.8	+1.2	+1.3	+1.4	+1.5	+1.5	+1.6	+1.7	+1.8	+1.9	+1.9
Contribution to real GDP growth in percentage points															
Domestic demand	+0.9	+1.9	+2.5	+0.2	+0.3	+0.4	+0.5	+0.4	+0.5	+0.5	+0.6	+0.6	+0.7	+0.7	+0.7
Net exports	+0.1	−0.5	+0.0	+1.2	−0.2	−0.2	−0.1	−0.1	−0.2	+0.0	+0.0	+0.0	+0.0	+0.0	+0.0
Changes in inventories	−0.3	+0.2	+0.1	−1.2	+0.1	+0.0	+0.0	+0.0	+0.1	+0.0	+0.0	+0.0	+0.0	+0.0	+0.0
%															
Labor market															
Unemployment rate (Eurostat definition)	4.4	4.4	4.2	4.4	4.4	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.2	4.2	4.2
Annual and/or quarterly changes in %															
Total employment	−0.2	+0.3	+0.8	+0.0	+0.0	+0.0	+0.0	+0.1	+0.1	+0.2	+0.2	+0.2	+0.2	+0.2	+0.2
thereof private sector	−0.2	+0.4	+1.0	+0.0	+0.0	+0.0	+0.0	+0.1	+0.1	+0.2	+0.2	+0.3	+0.3	+0.3	+0.3
Payroll employment	−0.1	+0.3	+1.0	+0.0	+0.0	+0.0	+0.0	+0.1	+0.1	+0.2	+0.2	+0.2	+0.3	+0.3	+0.3
At 1995, annual and/or quarterly changes in %															
Additional variables															
Disposable household income	+0.8	+1.8	+2.6	+0.4	+0.4	+0.5	+0.5	+0.3	+0.4	+0.5	+0.6	+0.7	+0.7	+0.7	+0.8
% of disposable real household income (saving ratio) and % of real GDP (output gap)															
Saving ratio of private households	6.8	7.0	7.3	6.5	6.7	7.0	7.2	7.1	7.0	7.0	7.0	7.1	7.3	7.3	7.5
Output gap	−1.3	−1.2	−0.2	−1.1	−1.3	−1.4	−1.3	−1.3	−1.3	−1.2	−0.9	−0.6	−0.3	0.0	0.3

Source: OeNB Spring 2003 Forecast. Quarterly data are seasonally adjusted.
[1]) Excluding other construction investment and other investment.

Money and Credit
in the First Quarter of 2003

Ralf Dobringer
and Margarita
Schandl-Greyer

Highest Increase in Total Assets since March 2000

As far as the development of total assets was concerned, the first three months of 2003 went rather well for banks operating in Austria. After a significant decline in December 2002, total assets rose by EUR 11.85 billion (2.1%) to EUR 585.12 billion in the first quarter of 2003. Compared with the same period in previous years, this was the highest increase since March 2000, whereas growth during the first three months of 2002 had been only EUR 1.18 billion or 0.2%. While external assets (mainly loans to foreign banks) were considerably expanded to counteract the weak lending situation, refinancing occurred largely through deposits (particularly favorable for banks) and through increased external business.

Asset Growth of Domestic Banks

EUR billion / Annual change in %

- Annual change (right-hand scale)
- Total assets (left-hand scale)

Source: OeNB.
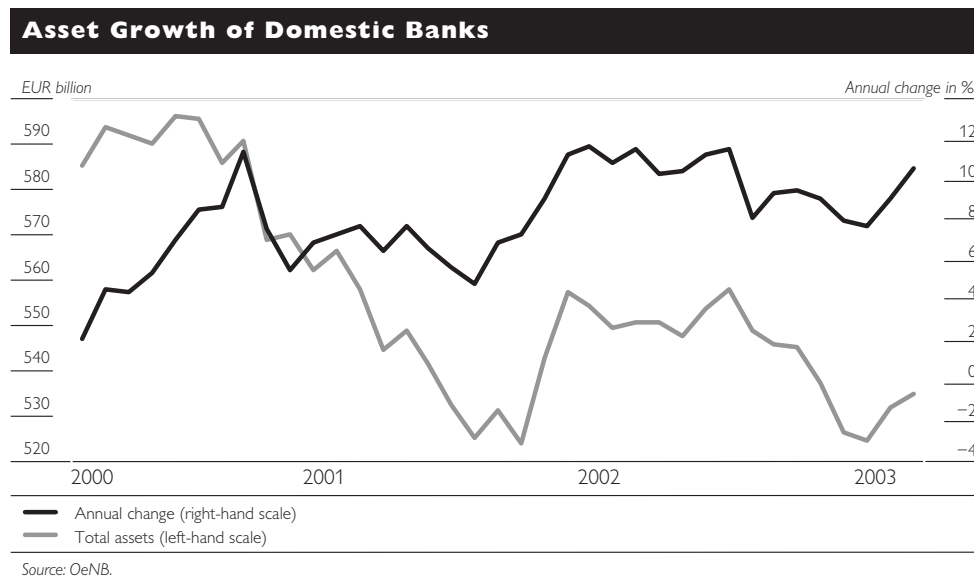
Broken down by sectors, the Volksbank credit cooperatives posted the highest asset growth at 6.9%, followed by the state mortgage banks at 4.3%, the joint stock banks at 3.0%, and the special purpose banks at 2.0%. This sector also includes the nine severance funds[1] which have been subject to reporting requirements for the first time. The savings banks were below average at 1.6%, as were the Raiffeisen credit cooperatives at 0.6% and the building and loan associations at 0.5%.

In a regional breakdown,[2] asset growth was particularly strong in the case of Upper Austrian banks at 2.9% and Carinthian banks at 2.8%, whereas the local banks in Vorarlberg and the Tyrol recorded a decline in total assets of 0.9% and 0.8% respectively.

The five largest individual banks in total assets were Bank Austria Creditanstalt, Erste Bank der oesterreichischen Sparkassen AG, Bank für Arbeit und Wirtschaft AG, Raiffeisen Zentralbank AG and Oesterreichische Kontrollbank. Compared to December 2002, their market share stagnated at 45.9%.

---

1   *Banks authorized to take in and invest severance contributions.*

2   *Comparisons between provinces do not include the offices of supraregionally operating banks. These are always allocated to the head office location (BA-CA is, for instance, allocated to Vienna).*

Number of Banks Continues to Fall

Broken down by sectors, the number of banks in Austria subject to reporting requirements as of December 31, 2002, and March 31, 2003, developed as follows:

Number of Banking Offices in Austria

	Joint stock banks and private banks		Savings banks		State mortgage banks		Raiffeisen credit cooperatives		Volksbank credit cooperatives		Building and loan associations		Special purpose banks		Total		Total number of head offices and branch offices
	H	B	H	B	H	B	H	B	H	B	H	B	H	B	H	B	
December 31, 2002	59	534	64	1,509	9	165	609	1,719	70	481	5	59	81	4	897	4,471	5,368
March 31, 2003	58	528	64	1,487	9	165	609	1,715	70	480	5	58	90	4	905	4,437	5,342
Change[1])	−1	−6	–	−22	–	–	–	−4	–	1	–	−1	9	–	8	−34	−26

Source: OeNB.
H = Head offices.
B = Branch offices and bureaux de change.
[1]) Changes are traceable to new offices, closing of offices and mergers.

During the first quarter of 2003, the number of banking offices in Austria thus fell by a total of 26. In the special purpose bank sector, nine severance funds have become subject to reporting requirements.

Loan Growth Slowed Sharply

After the decrease in euro-denominated loans in 2002 had been compensated by a substantial increase in foreign currency loans, the loans to domestic customers experienced a marked decline in the first quarter of 2003 (by EUR 1.76 billion or 0.7%) – the sharpest drop in the first quarter of any year since March 1996. In the first three months of 2002, overall loans had been practically stagnating with a decrease of EUR 0.03 billion. While foreign currency loans fell only slightly during the first quarter of 2003 (by EUR 0.08 billion or 0.2%), euro-denominated loans shrank by EUR 1.68 billion or 0.9%. In the comparable

Share of Foreign Currency Loans in Total Loans
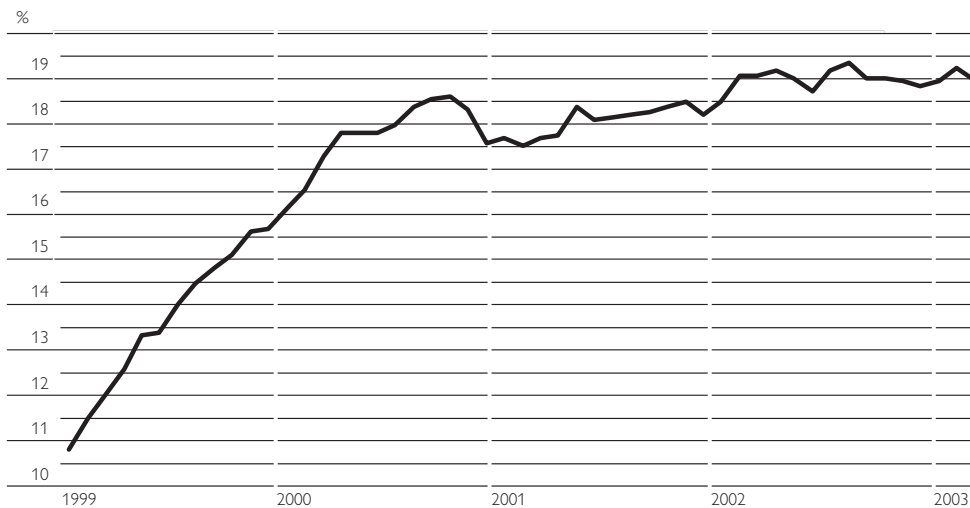
Source: OeNB.

period in 2002, growth of foreign currency loans was still at EUR 2.07 billion (4.9%), while euro-denominated loans had fallen by EUR 2.10 billion (1.1%).

The share of foreign currency loans in total loans has increased by 0.1 percentage point to 18.9% since January 2003. In a regional breakdown, the share was highest in Vorarlberg (44.2%), followed by the Tyrol (37.0%). Some banks in Vorarlberg and the Tyrol even recorded a share of some 65%.

A breakdown by bank sectors reveals that the share of foreign currency loans in overall loans was highest for the Volksbank credit cooperatives at 24.7%, followed by the savings banks at 21.8% and the joint stock banks at 20.9%.

In March 2003, an average euro-denominated loan (including overdrafts on current accounts) came to EUR 31,196, while an average foreign currency loan was some 4.7 times higher and amounted to EUR 145,937. Overall, a total of 6,128,131 euro-denominated loans and 304,029 foreign currency loans were outstanding.

Loans Denominated in Swiss Francs Highly Popular Again

As opposed to last year's trend, lending in Swiss francs[1]) boomed again in the first quarter of 2003, partly because of the currently attractive exchange rate and the favorable yield differential to the euro. Since December 2002, the share of Swiss franc-denominated loans in total foreign currency loans has jumped up by 8.4% to 59.7%, whereas Japanese yen-denominated loans were no longer in high demand and retreated by 13.3% against December 2002. This decline was partly attributable to the yen/euro exchange rate, which fell by some 4%. For the first time since 1998, the share of loans denominated in Japanese yen decreased noticeably to 32.3%. The highest share to date was recorded in June 2002 at 42.0%.

CHF/JPY Share of Foreign Currency Loans

Source: OeNB.

---
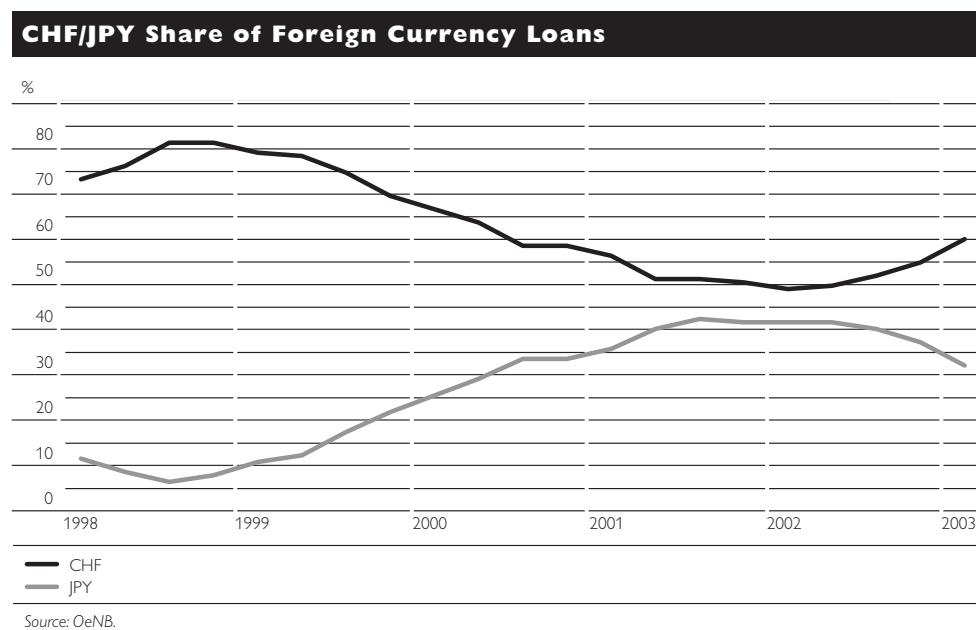
1   The data on the currency breakdown are based on banking data compiled as input to euro area aggregates.

As of December 2002,[1]) Austria's share of total loans outstanding in the euro area was at some 3%, whereas loans denominated in Swiss francs accounted for 31.2% and Japanese-yen denominated loans for even 42.8%.

Across economic sectors, lending to nonfinancial corporations – despite continually decreasing interest rates[2]) – has fallen by EUR 1.19 billion (0.9%) since December 2002, while loans to households have risen slightly by EUR 0.20 billion (+0.3%). This trend was even more noticeable in the same quarter of 2002, when loans to nonfinancial corporations had declined by EUR 1.29 billion or 1.0% and household borrowing had increased by EUR 1.04 billion (1.7%). As of March 31, 2003, the share of foreign currency loans in overall lendings ran to 19.0% for nonfinancial corporations (stagnating), while foreign currency loans to households accounted for 25.1% (continued growth).

Share of Foreign Currency Loans

% of total loans

General government sector
Nonfinancial corporations
Households

Source: OeNB.
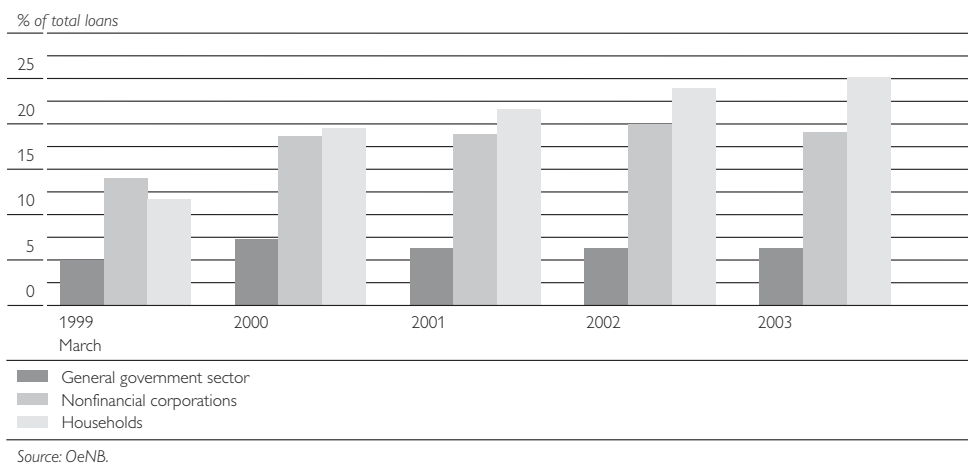
In March 2003, value adjustments to claims on nonbanks reached a peak of 3.57%, a figure last seen in March 1997, whereas in March 2002, only 3.38% had been posted.

Within the bank sector, Volksbank credit cooperatives recorded the highest adjustments at 5.34%, followed by Raiffeisen credit cooperatives at 4.37% and savings banks at 4.03%. At the end of the spectrum were building and loan associations (0.54%).

1   At the time of the editorial close, the data for March 2003 were not yet available.
2   The average interest rate for commercial loans has decreased by 0.26 percentage point to 5.35% since January 2003. In March 2003, the average interest rate for loans to households was at 6.17% (–0.34 percentage point compared to December 2002).

Value Adjustments

% of claims on nonbanks

— Banking sector total
— 4-period moving average (banking sector total)
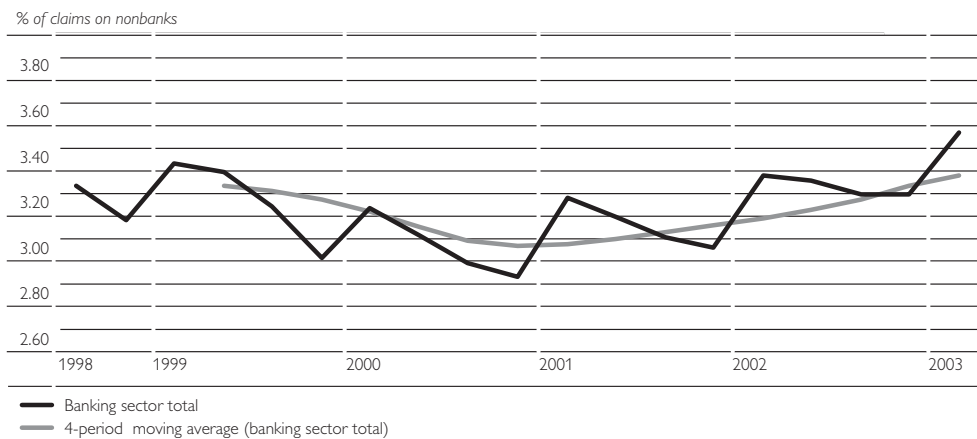
Source: OeNB.

Securitized Loans

Compared to December 2002, securitized loans rose by EUR 0.72 billion (3.7%). Half of this growth resulted from federal treasury bills and other public sector debt instruments. In the same period of 2002, the increase had been a mere EUR 0.01 billion or 0.1%.

Dynamic Growth in Deposits

After a weak first quarter 2002 (–EUR 0.75 billion or –0.4%), deposits grew by EUR 2.01 billion or 1.0% in the first quarter of 2003. While special purpose banks and Volksbank credit cooperatives posted an above-average rise in deposits at 20.5% and 5.1% respectively, savings banks, by contrast, recorded a 0.6% drop in deposits.

Given the difficult stock market environment, savings deposits were again very popular despite interest rates that continued to drop (2.21% for savings deposits with a term of more than 12 months; –0.2 percentage point in comparison with December 2002). Since December 2002, the volume of savings deposits has already gone up by EUR 1.59 billion or 1.2%, the largest first-quarter increase since the beginning of the 1990s, whereas in the corresponding quarter of 2002, they had only risen by EUR 0.25 billion or 0.2%. Compared to these figures, the mutual fund assets[1] of investment companies operating in Austria grew by only EUR 0.70 billion (0.7%) during the first quarter of 2003 – less than half of the growth in savings deposits.

At EUR 1.26 billion (+3.0%), demand deposits recorded a much more significant increase in the first quarter of 2003 than in the same period of 2002 (+EUR 0.75 billion or +1.9%), whereas time deposits fell – albeit not as severely as in the last year – by EUR 0.84 billion or 3.8%.

---

1   *Source: Vereinigung österreichischer Investmentgesellschaften (VÖIG).*

Savings Deposits and Mutual Fund Assets

EUR billion

Savings deposits
Funds assets

Source: OeNB, VÖIG.
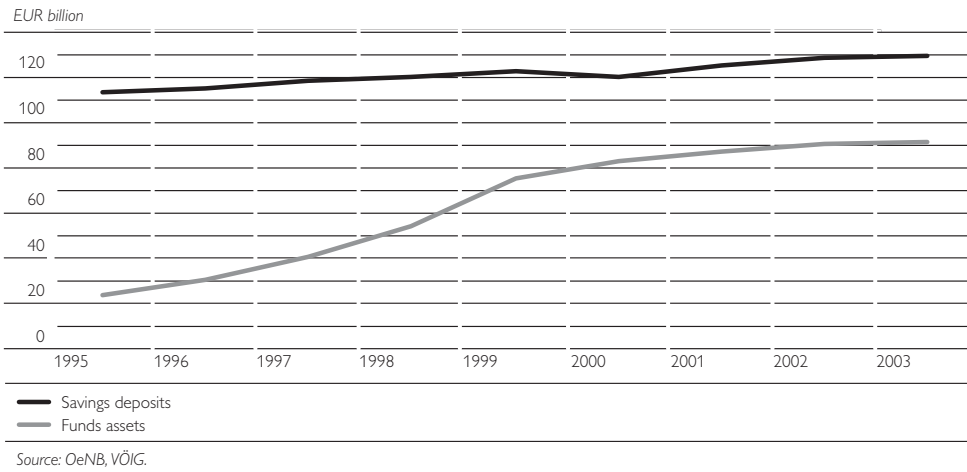
Direct Domestic Issues

Contrary to savings deposits, refinancing by Austrian banks through direct domestic issues slipped by EUR 1.98 billion or 3.7% during the first three months of 2003. The first quarter of 2002 had still experienced growth of EUR 1.18 billion (2.2%).

External Business Improving Markedly

As during the last year, the first three months of 2003 saw a massive push by Austrian banks to expand external business, particularly external interbank transactions, bringing an increase of external assets by EUR 13.79 billion (8.9%) in 2003. Claims on foreign banks alone climbed by EUR 12.81 billion or 17.1%, while in the first three months of 2002, growth had been at EUR 2.84 billion (3.5%). Claims on nonbanks rose by only EUR 0.30 billion or 0.6%. In 2002, by comparison, they had fallen by EUR 0.64 billion or 1.3%

On the assets side, external business thus accounted for 28.9% of total business, while on the liabilities side, the share of external business in total business was 29.5%.

A breakdown of assets by country shows that as of December 31, 2002,[1]) 17.8% of the external assets were attributable to Germany, followed by the United Kingdom at 11.5%, the United States at 5.5% and Italy at 5.1%. As the first EU acceding country, Poland, with a share of 4.5%, was already in fifth place.

The EU acceding countries – with the exception of the three Baltic states – recorded the largest growth. Between the third and fourth quarters of 2002, the largest increase in loan volume was attributable to Malta at EUR 0.39 billion, followed by loans to Hungary (+EUR 0.18 billion) and Slovenia (+EUR 0.17 billion).

---

1   *Source: Bank for International Settlements regional statistics. More current data were not available at the time of editorial close.*

While the external liabilities of the banks operating in Austria did not rise as sharply as the external assets during the first quarter of 2003, the gain of EUR 6.22 billion or 3.7% over the previous year (–EUR 0.17 billion or –0.1%) was nevertheless considerable. On the liabilities side as well, it was largely business with foreign banks that resulted in the increase of EUR 5.65 billion or 8.2%.

Derivatives Transactions Continue to Grow

The volume of derivatives transactions has boomed since December 2002 with an increase of EUR 625.46 billion or 45.1% compared to a drop of EUR 36.66 billion (3.3%) in the same period in 2002. As in the previous periods, the growth during the first quarter of 2003 resulted almost exclusively from interest rate contracts, which soared by EUR 599.78 billion or 52.4%. As of the end of March 2003, the ratio of derivatives transactions to total assets was 344%.

Banks' Capital Base Going Down

The capital base stagnated during the first three months of 2003 at EUR 41.52 billion, while in the same quarter of 2002, the banks operating in Austria had still recorded some growth (EUR 0.96 billion or 2,3%). The (unconsolidated) equity capital base as a percentage of the assessment base stalled at 14.1%.

Operating Profit Improved Over First Quarter of 2002

At EUR 1.07 billion in the first quarter of 2003, the unconsolidated operating profit of the banks operating in Austria was EUR 0.05 billion or 4.7% above the figure for the same period in 2002. In a sectoral breakdown, we can observe that the Raiffeisen credit cooperatives (+8.2%), state mortgage banks (+8.1%), special purpose banks (+1.9%) and Volksbank credit cooperatives (+0.9%) all raised their operating profit, while the building and loan associations experienced a decline in operating profit. As already stated, the period-to-period comparison of joint stock banks (–21.3%) and savings banks (+29.2%) is of limited substance because following the merger of Bank Austria AG and Creditanstalt, the income and expenses of Creditanstalt have moved from the joint stock bank sector to the savings bank sector. Set in relation to average total assets, operating income came to 0.19%, a slight increase over the same period in 2002. The ratio of operating profit to the assessment base as stipulated by Article 22 (2) of the Austrian Banking Act[1]) ran to 0.36% in the first quarter of 2003 and thus remained almost unchanged compared to the same period in 2002.

In the first three months of 2003, banks operating in Austria reported a rise in operating income by EUR 0.08 billion or 2.3% to EUR 3.40 billion. Operating expenses showed a somewhat smaller increase by EUR 0.03 billion or 1.2% to EUR 2.33 billion. Consequently, the cost/income ratio improved by 0.7 percentage point against the same period in 2002 and came to 68.6% at the reporting date.

---

1   *This ratio is calculated by dividing operating profits by the sum of weighted assets, weighted off-balance sheet activities and weighted special off-balance sheet financial operations.*

Cost/Income Ratio

EUR million

Source: OeNB.
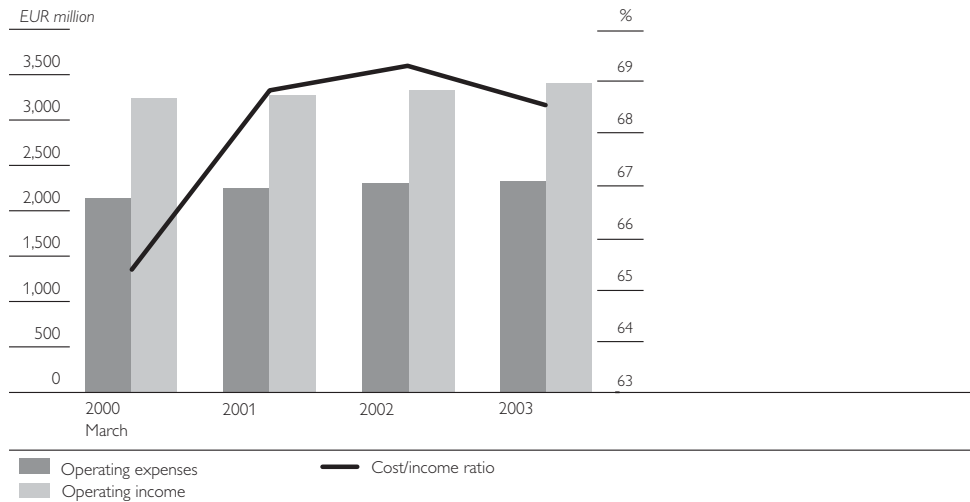
Broken down by sectors, the cost/income ratio of special purpose banks (57.2%), state mortgage banks (59.5%), Raiffeisen credit cooperatives (64.6%) and Volksbank credit cooperatives (67.9%) was better than the average of all banks operating in Austria. The ratio of joint stock banks (69.1%), savings banks (74.2%) and building and loan associations (84.2%) lagged behind the average in the Austrian banking sector. Set in relation to average total assets, operating income increased by 0.02 percentage point and operating expenses by 0.01 percentage point. The ratio of operating income to the assessment base as stipulated by Article 22 (2) of the Austrian Banking Act ran to 1.16% in the first quarter of 2003 and thus remained unchanged compared to the same period in 2002.

Structure of Operating Income

Percentage shares

Source: OeNB.
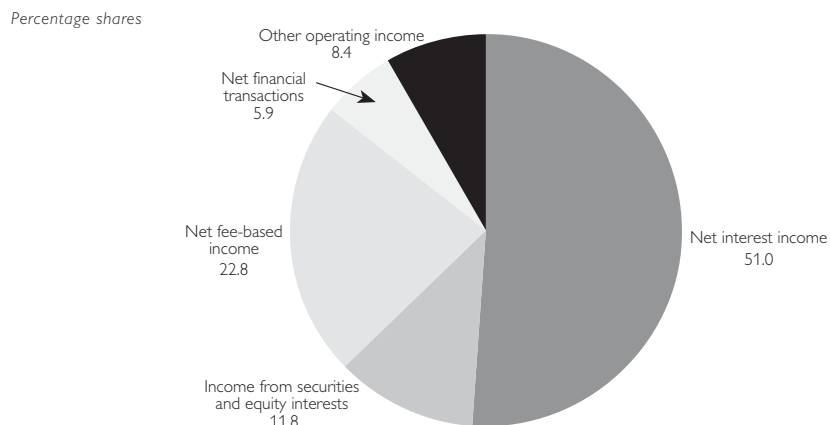
In a sectoral breakdown, an analysis of the structure of operating income reveals that the ratio of net interest income to total operating income came to 69.1% with state mortgage banks, to 61.5% in building and loan association, to 55.4% with Volksbank credit cooperatives, to 54.0% for Raiffeisen credit cooperatives and to 51.1% with savings banks. The ratio of fee-based income to total operating income of joint stock banks stood at 25.5%, that of savings banks at 24.7%, that of special purpose banks at 23.6% and that of Volksbank credit cooperatives at 23.3%.

Net Interest Income Giving Slightly

In the first quarter of 2003, net interest income amounted to EUR 1.74 billion, thus having fallen EUR 0.02 billion or 0.9% behind the figure recorded in the same period in 2002. The ratio of net interest income to total operating income came to 51.0%, 1.6 percentage points less than in the first three months of the previous year. The ratio of net interest income to average total assets was 0.30% and remained unchanged compared to the same period in 2002. At EUR 5.42 billion, interest receivable and similar income remained EUR 0.50 billion or 8.5% below the comparable 2002 figures (first quarter of 2002: EUR 5.92 billion or –18.3%). At the same time, interest payable and similar charges fell by EUR 0.49 billion or 11.7% to EUR 3.68 billion, somewhat lower than the corresponding income (first quarter of 2002: EUR 4.17 billion or –25.6%). In a sectoral breakdown, we can observe that state mortgage banks (+7.6%), special purpose banks (+3.4%), Volksbank credit cooperatives (+4.8%), building and loan associations (+0.8%) and Raiffeisen credit cooperatives (+0.1%) all raised their net interest income in the first quarter of 2003. Savings banks' surge of net interest income by 17.9% and joint stock banks' plunge of net interest income by 30.2% must be regarded against the backdrop of the BA-CA merger.

Ratio of Net Interest Income to Operating Income

Net interest income
Operating income
Ratio of net interest income to operating income

Source: OeNB.
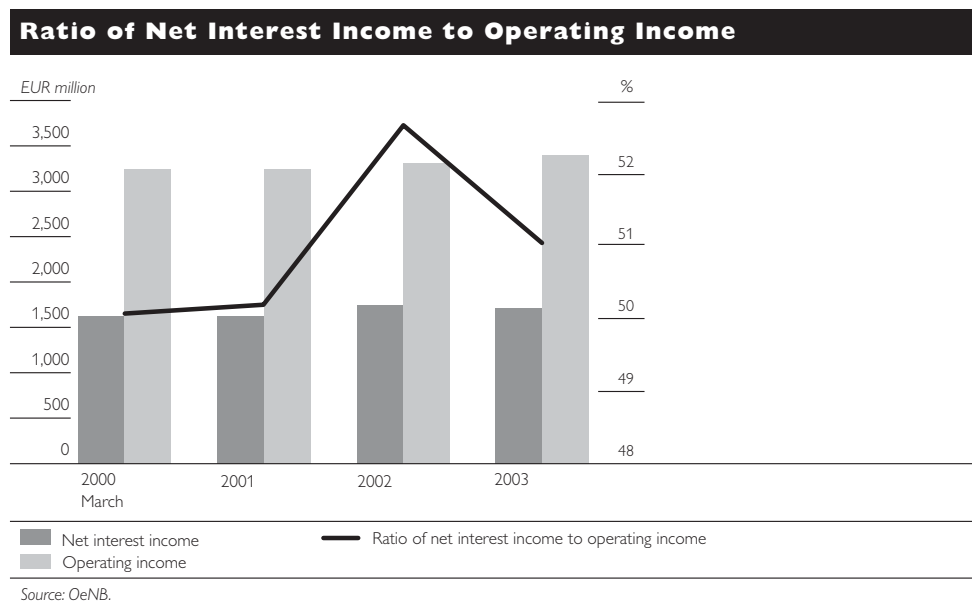
Income from Securities and Equity Interests Significantly Higher

During the first quarter of 2003, income from securities and participating interests came to EUR 0.40 billion, a pronounced increase of EUR 0.05 billion or 14.5% over the same period in 2002. Especially income from equity shares in affiliated enterprises picked up (+EUR 0.04 billion), but a more detailed analysis shows that this gain is attributable to higher income from foreign affiliated enterprises. Growth was also recorded for income on shares and other equity as well as variable rate securities (+EUR 0.01 billion).

Balance on Commissions Nearly Unchanged

The balance on commissions came to EUR 0.78 billion and, at +0.1%, remained almost unchanged in comparison to the same period in 2002. The performance of the individual segments was varied: Whereas fee-based income from payment systems (+EUR 0.02 billion) and lending (+EUR 0.01 billion) picked up, fee-based income from securities lost ground (–EUR 0.04 billion). As far as commission expenses were concerned, the securities segment experienced a marked decline (–EUR 0.01 billion). The ratio of fee-based income to total operating income stood at 22.8%, showing a reduction of 0.5 percentage point compared to the first quarter of 2002.

Ratio of Fee-Based Income to Operating Income

Source: OeNB.
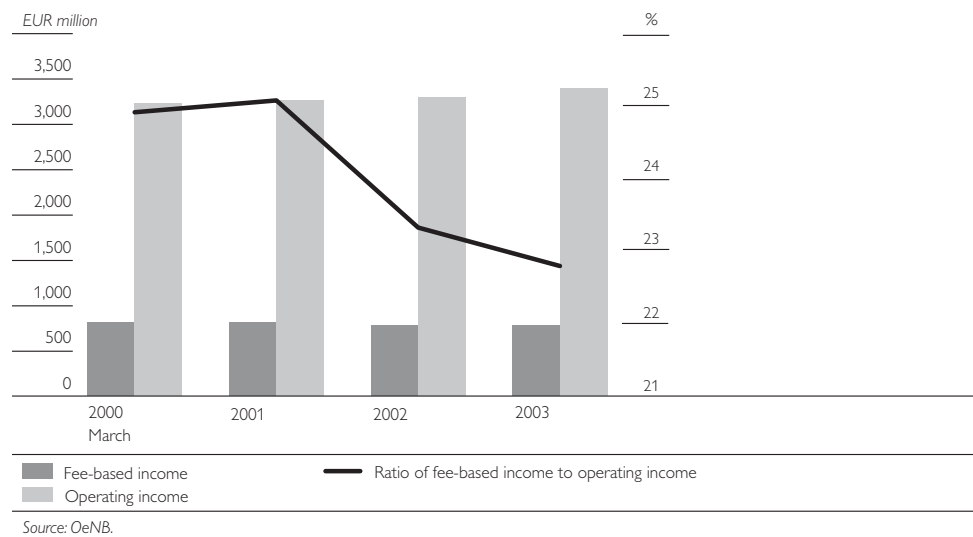
Substantial Gains in Net Income from Financial Transactions

At EUR 0.20 billion in the first quarter of 2003, net income from financial transactions experienced a boost of EUR 0.06 billion or 44.7% and thus significantly contributed to the income posted in the period under review – an upward trend in proprietary trading stemming from all income segments. Net income on securities other than financial fixed assets (+EUR 0.02 billion), net income on trading in foreign exchange, currency, and precious metals

(+EUR 0.02 billion) and net income on other financial transactions (+EUR 0.02 billion) posted an increase over the comparable period in 2002. The share of proprietary trading in total operating income came to 5.9%, a distinct rise by 1.7 percentage points.

General Administrative Expenses Climb More Moderately

General administrative expenses climbed much more moderately by EUR 0.04 billion or +1.9% than in the like period of the previous year (first quarter of 2002: +EUR 0.05 billion or +2.9%). Staff costs went up by EUR 0.02 billion or 1.8% to EUR 1.20 billion. The ratio of staff costs to total operating expenses rose by 0.3 percentage point to 51.3%.

Ratio of Staff Costs to Total Operating Expenses

Source: OeNB.
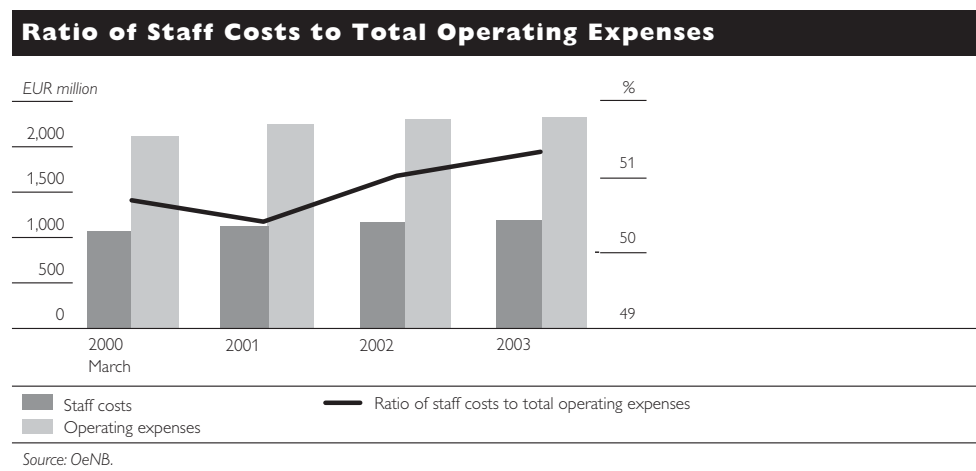
Other administrative expenses climbed by EUR 0.02 billion or 2.0% to EUR 0.76 billion in the first quarter of 2003 – a somewhat more marked increase than during the same period in 2002 (first quarter of 2002: +EUR 0.01 billion or +1.4%). The ratio of staff costs to total operating expenses stood at 32.6%, against 32.4% in the analogous 2002 period.

Ratio of Other Administrative Expenses to Total Operating Expenses

Source: OeNB.
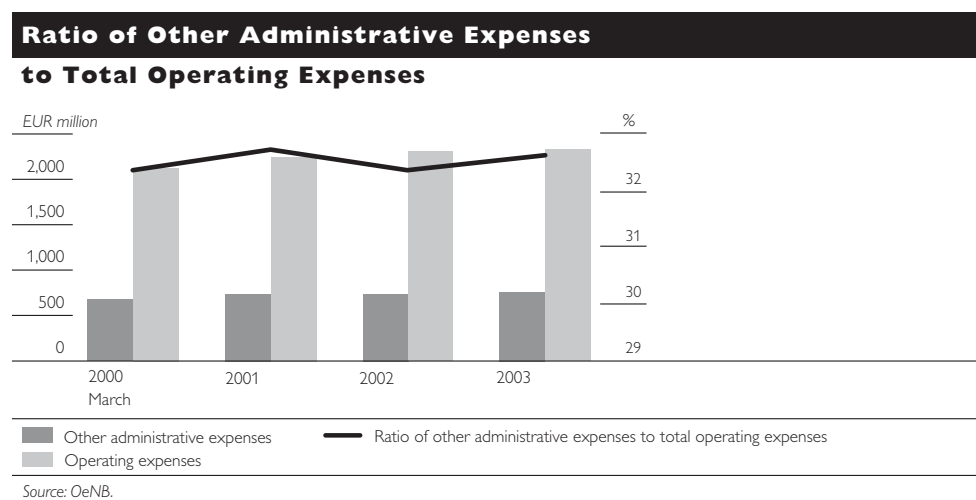
Outlook for Full-Year 2003 Results

For the 2003 business year, banks operating in Austria expect unconsolidated operating profits in the amount of EUR 3.93 billion, which falls short of the estimated result for the same period of 2002 by EUR 0.28 billion or 6.7%. As data for periods after the first quarter can only give a rough indication for the performance in 2003,[1]) the estimate becomes more precise as the year progresses.

The requirements for loan loss provisioning have been estimated at EUR 1.76 billion, which falls short of the comparable projection for 2002 by as much as EUR 0.13 billion or 6.8%. Loan loss provisions primarily include anticipated write-downs of claims on nonbanks (EUR 1.78 billion). Although these write-downs are below the corresponding 2002 figure, they are still considerably higher than the figures of the comparable quarters in 2001 and 2000.

Loan Loss Provisions

EUR million
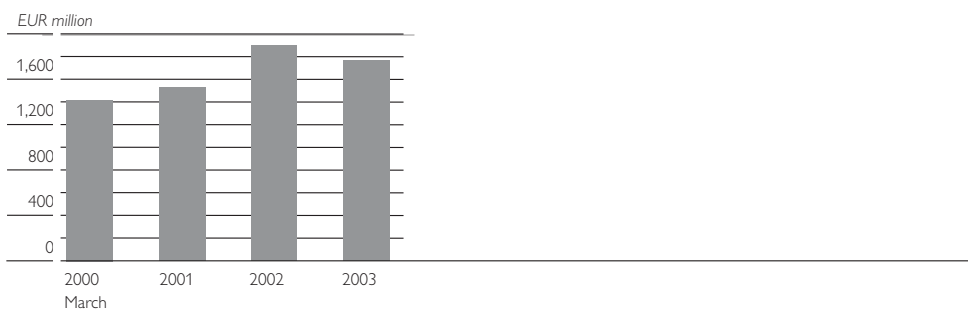
Source: OeNB.

In 2003, more provisions for securities and participations will have to be created than can be cancelled, so that the anticipated balance of EUR 0.03 billion (+EUR 0.01 billion or +51.6%) will have to be expensed. This is primarily attributable to the EUR 0.02 billion decline in gains realized on the sale of balance-sheet asset items 5 to 8 (securities, shares, participating interests and equity shares in affiliated enterprises).

With risk provisions and value adjustments accounted for, the projected income on ordinary activities for 2003 runs to EUR 2.14 billion, an assessment that falls EUR 0.16 billion or 6.9% below that of the same period in 2002. Extraordinary expenses for 2003 are forecast at EUR 0.06 billion, a EUR 0.08 billion drop compared to the 2002 figures (first quarter of 2002: EUR 0.07 billion). Anticipated tax liabilities come to EUR 0.38 billion, which is EUR 0.02 billion or 4.5% less than the figures for the same period in 2002. Hence, the unconsolidated annual surplus of banks operating in Austria is projected to amount to EUR 1.70 billion, falling behind the comparable 2002 figure of EUR 1.84 billion by EUR 0.14 billion or 7.5%.

1   *In 2002, for instance, the projections for the annual operating profits produced on the individual reporting dates were as follows: first quarter: EUR 4.21 billion; second quarter: EUR 4.00 billion; third quarter: EUR 3.95 billion; fourth quarter: EUR 4.18 billion. Final results for the full year 2002 are not yet available because they will be transmitted to the OeNB upon finalization of year-end audits in the fifth quarterly report of banks operating in Austria.*

Transfer from/to Provisions for Securities and Participations

EUR million

| | 2000 | 2001 | 2002 | 2003 |
| March | | | | |
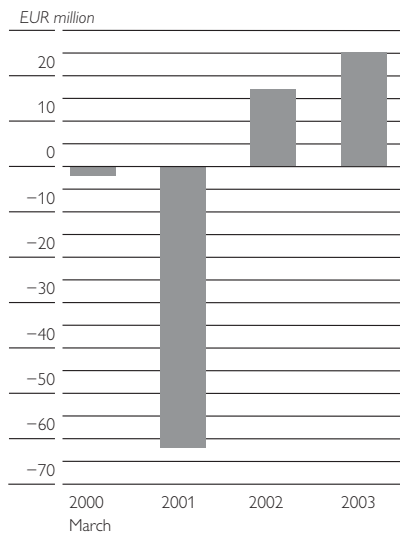
Source: OeNB.

Projected Annual Surplus

EUR million

| | 2000 | 2001 | 2002 | 2003 |
| March | | | | |
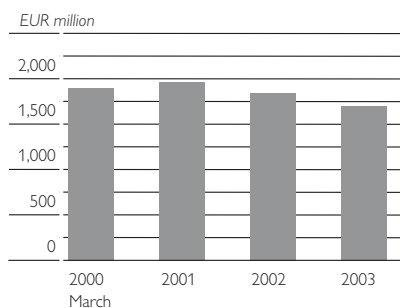
Source: OeNB.

Balance of Payments in the Year 2002[1])

I Current Account

René Dell'mour,
Matthias Fuchs,
Patricia Walter,
Isabel Winkler
and Robert Zorzi

— For the first time in ten years, Austria reported a current account surplus.
— The balance of trade improved substantially thanks to rising exports and declining imports.
— The switch to a surplus was also supported by lower income outflows.

The economic revival expected for 2002 did not materialize, neither in Austria nor in the euro area as a whole. The Austrian GDP posted a real growth of 1.0%, thus lagging behind 2001 results. Besides receding gross investment in plant and equipment, this is largely traceable to subdued consumer demand.

Against this economic backdrop, Austria reported a current account surplus of EUR 1.6 billion or 0.7% of GDP for 2002 — the first surplus since 1991. The main reason why the current account turned into surplus was a marked improvement in the balance of trade; but receding net investment income outflows also contributed to this result (see annex, table 1).

Chart 1

Austria's Current Account[1])

EUR billion

Source: OeNB.
[1]) Up to 2000: final data; 2001: revised data; 2002: provisional data.

The turning of the current account balance in Austria was in line with general euro area developments. For the first time since 1999, the euro area current account closed with a surplus again, which ran to over EUR 60 billion or 1% of GDP. Again, the balance of trade had the decisive impact. All told, eight out of twelve Member States, most notably Germany, improved their current account balance. In absolute terms, Austria ranges third with an improvement by EUR 5.5 billion.

The Austrian current account improved both against the euro area and the rest of the world. But the current account balance with euro area countries still remained clearly negative at –EUR 5.4 billion (after –EUR 8.1 billion in 2001),

---

1 Based on transactions. Editorial close: May 6, 2003. Contrary to the monthly cash balance, whose purpose is to provide a quick overview, the transaction balance is based on a calculation model requiring period adjustments and other adjustments. The transaction balance confirms the tendencies which the cash balance had already reflected for the full year 2002.

Chart 2

Austria's Current Account Broken Down by Regions[1])

EUR billion

Non-euro area
Euro area

Source: OeNB.
[1]) Up to 2000: final data; 2001: revised data; 2002: provisional data.
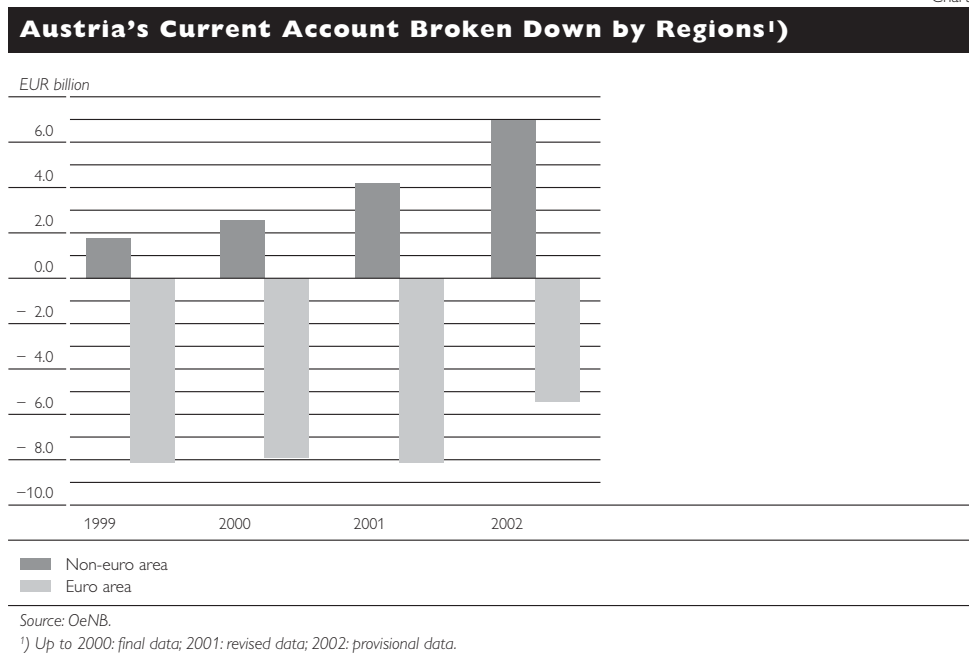
whereas the surplus vis-à-vis non-euro area countries augmented to EUR 7 billion (after EUR 4.2 billion in 2001).

1.1 Goods and Services

In 2002, Austria's surplus on goods and services climbed from EUR 0.7 billion in 2001 to EUR 5.5 billion. Whereas the surplus on services almost stagnated at the level of 2001, the balance on goods improved by EUR 4.9 billion.

1.1.1 Goods

The marked improvement in the balance of trade had a decisive impact on the current account in 2002. For the first time since the establishment of the Second Republic in 1945, the balance of trade was in surplus. In the period under review, Austrian exports picked up 4.1%, whereas the value of imports sank by 2.2%, as domestic consumption was lackluster and fixed capital formation declined. This development mirrored the euro area trend, where exports augmented by 2.4% and imports went down 3.4%. Austrian exporters thus gained market shares vis-à-vis their euro area competitors.

Domestic exports focused on the areas of medical and pharmaceutical products, gas and electricity, transport equipment, office machines and wood and paper products. The Austrian export ratio came to 36% against 35% in 2001.

The Middle East crisis had little influence on the balance of trade. In contrast to the 1970s and 1980s, energy imports nowadays have a much smaller impact. Although energy imports rose slightly in 2002, energy expenditures reached just EUR 5.5 billion. An analysis of oil imports, the single biggest item, shows that despite higher import volumes, somewhat lower average prices and especially the U.S. dollar exchange rate translated into a reduction of expenses for oil imports.

In a regional breakdown, the euro area, and in particular Germany, were the key Austrian sales markets (see annex, table 2). But we would also like to stress the importance of the acceding countries[1]) because of their above-average momentum and geographical closeness.

Chart 3

Austrian Trade with Acceding Countries[1])

% of total foreign trade
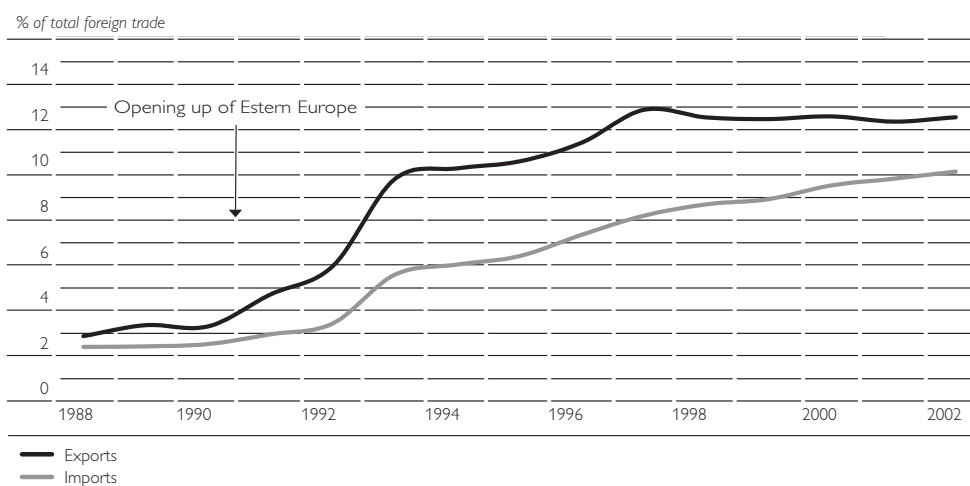
Source: Statistics Austria.
[1]) Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, the Slovak Republic, Slovenia; 2002: provisional data.

Austrian Trading Partners

Ranking		Share in total exports in %		Ranking		Share in total imports in %	
1	Germany	32.0		1	Germany	40.3	
2	Italy	8.5		2	Italy	7.1	
3	Switzerland	5.3		3	U.S.A.	4.8	
4	U.S.A.	5.2		4	France	3.9	
5	United Kingdom	4.7		5	Hungary	3.3	
6	France	4.4		6	Switzerland	3.3	
7	Hungary	4.3		7	Netherlands	3.3	
8	Spain	3.0		8	Czech Republic	2.9	
9	Czech Republic	2.9		9	United Kingdom	2.7	
10	Netherlands	2.3		10	Japan	2.1	
14	China	1.5		12	China	1.8	
18	Japan	1.2					

Source: Statistics Austria.

The share of exports into acceding countries in total exports illustrates the growing importance of these countries as sales markets for Austrian products. From 4% at the time Eastern Europe was first opening up it has by now climbed to 12%. At 5.7%, exports to this region again grew much more strongly in 2002 than, for instance, exports to EU countries at 3.1%. A breakdown by individual acceding countries, however, reveals rather mixed developments for 2002. Whereas exports to Hungary stagnated, those to the Baltic states soared.

1   The acceding countries are: Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, the Slovak Republic and Slovenia.

And although the momentum of trade with the Czech Republic slowed down, export growth rates were still about average.

Non-European export markets also showed dynamic developments: The 2002 growth rate of exports to China stood at 38%; in absolute terms, they exceeded the threshold of EUR 1 billion for the first time at EUR 1.2 billion. Even before Japan, China is therefore Austria's main export country in Asia.

1.1.2 Services
1.1.2.1 Travel

After the tragic events of September 11, 2001, tourism experts expected 2002 results to be weak all over the world. Initial data for 2002 of the World Tourism Organization, however, indicate a surprisingly robust growth of 3.1% in the number of international tourist arrivals. At 2.3%, Austria also recorded a surge in international tourist arrivals.

The number of *foreign tourist bednights* in Austria picked up for the fifth time in a row in 2002, rising by 2.1 million or 2.5% to 85.8 million bednights. Strikingly, it was not only the number of bednights in the winter season that posted gains. After a decade of almost continual sharp declines in the summer, the summer season 2002 also saw a substantial rise in bednights. Austria seems to have benefited from its reputation as a safe destination and its geographic proximity to the countries where the bulk of its visitors come from. After all, according to the balance of payments compiled by the Deutsche Bundesbank, Austria has been newly gaining market shares as a destination for German tourists since the middle of 2001, largely at the expense of overseas destinations. Nonetheless, summer tourism still lags 30% behind its peak figures, whereas domestic tourism and international winter tourism are close to their historical highs.

Foreign currency travel receipts including international passenger transport developed in tandem with the number of bednights. In the past year, they picked up EUR 650 million or 4.8%, reaching some EUR 14.0 billion (see annex, table 3). At an increase in tourist export prices of 2.4%, receipts per bednight merely rose 2.3% to EUR 164 per bednight. This is probably attributable to the unfavorable economic conditions in most countries of origin, although the trend towards high-quality accommodation continued with a 3.3% increase of bednights in four- and five-star hotels.

The consequences of September 11, 2001, continued to show in the countries of origin statistics (see annex, table 4). Substantial drops were recorded for visitors from distant markets, notably the U.S.A., but also Japan, Taiwan, the Middle East, Australia and South Africa. As in 2001, increases were reported above all in the number of tourists from Germany, the Netherlands, the United Kingdom, Switzerland and Italy, i.e. the traditional, geographically close markets. Bednights of visitors from Central and Eastern Europe also continued to gain momentum: A ten-year comparison shows that the region has become the most important and fastest growing travel origin market. In 2002, Hungary, Poland, the Czech and the Slovak Republics together accounted for a total of 2.65 million bednights, which greatly exceeds overnight stays of American or French tourists and more or less corresponds to the importance of Italian

visitors. The domestic tourist industry is likely to benefit substantially from the rising level of prosperity in the accession countries.

In 2002, Austrian travel expenditure (including international passenger transport) retreated marginally to EUR 10.8 billion. Travel expenditure (excluding international passenger transport) accounted for EUR 9.9 billion thereof, and international passenger transport for EUR 0.9 billion. As a result of the described foreign currency receipts and expenses, the travel surplus widened by EUR 800 million to EUR 3.2 billion.

The regular survey of 12,000 households commissioned by OeNB and Statistics Austria has yielded only moderate changes in the expenditure structure of Austrians. Business travel expenditure lost some importance in favor of private travels. Shopping expenses during trips abroad showed a somewhat disproportionate growth in 2002.

The survey clearly illustrates the sinking attractiveness of overseas destinations. Despite a decline by EUR 200 million, Italy remained the favorite foreign travel destination with expenses in the amount of EUR 1.9 billion or 18% of total expenditure. Next in the ranking of Austrian travel destinations is Germany at 13%, with business travels, incidentally, accounting for almost half the expenses. Further Mediterranean destinations follow with Greece at 9% and Spain at 6%. All neighboring countries have an above-average share in shopping expenses, with the Czech Republic and Hungary topping the list. Besides Germany, high shares of business travels are notably recorded for Switzerland and Eastern Europe.

Data Collection for the Travel Account

The introduction of euro notes and coins rendered foreign currency exchange unnecessary for travels within the euro area as of January 1, 2002. What is a welcome improvement for the citizens of Europe, has rendered the compilation of balance of payments statistics more difficult, since the amount of money exchanged to or from foreign currencies used to be an essential source of data for the travel account. The OeNB continues to collect data on the exchange of non-euro area currencies and on all noncash payment flows (credit cards, teller machine withdrawals, transfers of funds), but it has no adequate means of compiling data on euro area cash payments. Thus, new sources had to be found from which to compile the travel account: Surveys at border crossings, as carried out in the U.K., Italy or Finland, were no option for the Schengen member country Austria with its multitude of street border crossings. The solution was a household survey dealing with Austrians' travel expenses abroad that is carried out by a market research institute. The new source for travel expenditure data has not revealed any changes in the amounts of travel expenditure, but the distribution of these amounts throughout the year has changed significantly. Whereas the (formerly used) cash flows − advance payments to travel agents or subsequent settlements of credit card accounts − were distributed rather evenly throughout the year, the new survey links expenditure with the time of the trip. As a result, travel expenses are concentrated much more strongly on the months of July and August. Cash flows are still in use for travel revenues and are complemented by an estimate for the subcategory of receipts from euro area tourists.

1.1.2.2 Other Services

Besides travel, it was largely transport services that posted any noticeable increase. The 2001 surplus in the amount of EUR 1.7 billion widened to EUR 2.3 billion in 2002.

1.2 Income

In Austria, gross income receivable from nonresidents came to EUR 13.9 billion in 2002, the highest value in ten years. Investment income accounted for EUR 12.9 billion or 92% thereof, the remaining billion was generated from the compensation of employees.

By contrast, gross income payable to nonresidents stood at EUR 16.2 billion, thus falling EUR 900 million behind the 2001 figure. Investment income again dominated at a share of 97%.

The resulting net outflows to nonresidents ran to EUR 2.3 billion, a decline by EUR 1.1 billion against 2001. Given the improvement in the balance of trade, the income account has become the biggest negative item of the Austrian current account – despite some change for the better. Today, the volume of income flows already exceeds that of travel.

Chart 4

Components of Austria's Investment Income[1])

Balances in EUR million

- Income on portfolio investment
- Income on direct investment
- Income on other investment

Source: OeNB.
[1]) 1999 to 2000: final data; 2001 revised data; 2002: provisional data.
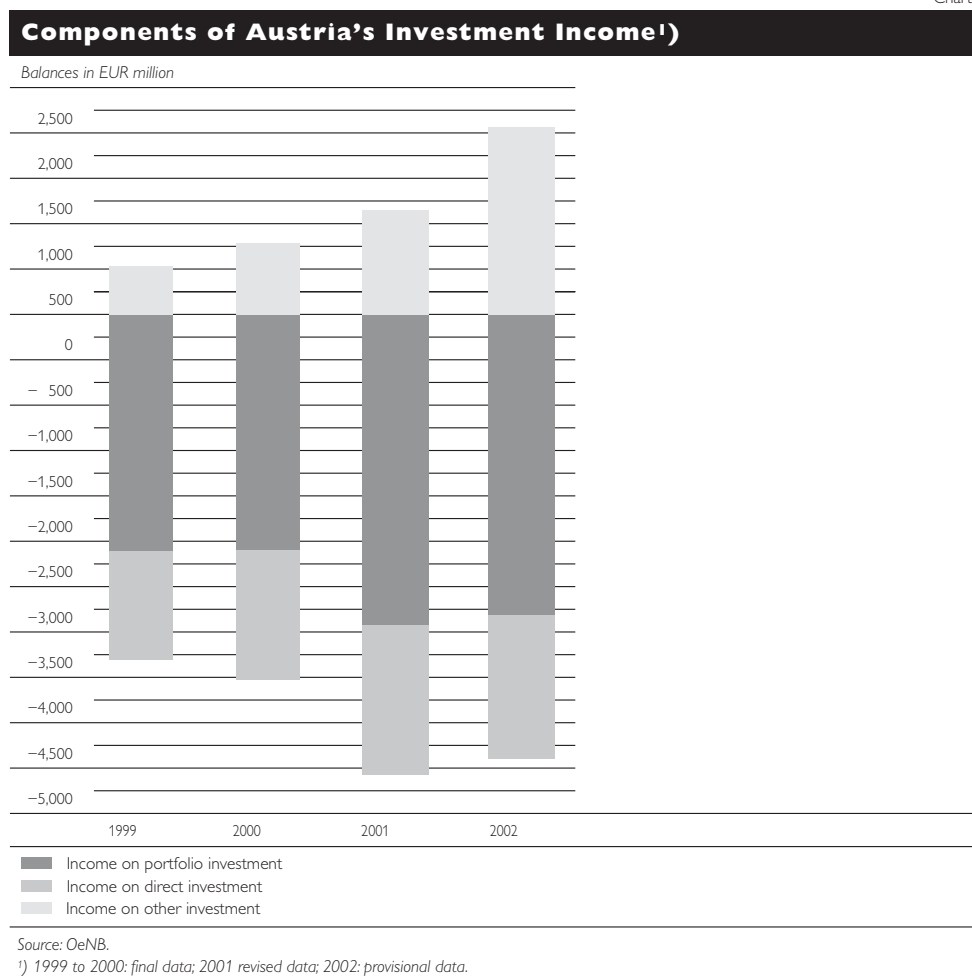
Whereas income on both direct and portfolio investment recorded almost unchanged deficits against 2001, the growing surplus from income on other investment (loans, bank deposits, reserve assets) noticeably contributed to reducing the current account shortfall.

Like in 2001, the balance of *direct investment income* closed with a deficit of EUR 1.6 billion. The high profit distributions of direct investment companies, which have been observable since 2000, continued in 2002: Profit distribution inflows to Austria came to EUR 1.0 billion, profit outflows to EUR 1.8 billion. Available income estimates show that outward reinvestment, i.e. profits remaining abroad, amounted to EUR 1.0 billion, inward reinvestment to EUR 1.8 billion. This results in a distribution ratio of 50% for both outward and inward foreign direct investment (FDI).

Because of the regional distribution of outward and inward FDI – outward FDI largely concentrates on Central and Eastern Europe, notably the acceding countries; inward FDI mostly on Germany and other EU countries – income flows also show a pronounced and relatively stable regional allocation. In the past decade, Austrian direct investment enterprises transferred some 40% of distributed profits to Germany, almost 20% to the Netherlands and less than 10% to the United Kingdom and Switzerland each.

At the same time, Germany is the chief source of direct investment profit transfers to Austria (30%); Central and Eastern European countries have increasingly been gaining importance. In many cases, the period of start-up losses is over, and although dividend payments from EU countries plummeted by 40% to EUR 320 million in 2002, profit transfers from Central and Eastern Europe tripled to EUR 230 million.

In a regional breakdown, the balance of inflows and outflows of dividends and other profit distributions reveals a permanent deficit vis-à-vis EU countries (in the amount of EUR 1.2 billion at the latest count) and continuous profit inflows from the acceding countries (of EUR 230 million of late).

The direct investment income deficit is a stable structural component of the Austrian current account. At least since 1979, the income statement has always been in deficit, since 2000 this deficit has been fairly stable at close to EUR 1.5 billion per year. This is largely ascribable to the fact that Austrian businesses did not start to launch subsidiaries abroad or to take over foreign companies until the 1990s. In addition, outward Austrian FDI flows yield lower average profits than inward FDI. In 2000, the mean return on equity (median) of outward FDI stood at 5.0%, but that of inward FDI at 6.8%. This is mostly traceable to the lower average age of Austrian FDI projects abroad, as investments often incur start-up losses at the beginning.

After years of widening deficits, *income on portfolio investment* remained nearly unchanged in 2002 against the previous year at –EUR 3.3 billion. There are two reasons for this encouraging and maybe surprising development: First, the nominal interest rate level continued to go down, which considerably reduced interest expenses of Austrian borrowers. Second and more importantly, claims of Austrian creditors picked up much more strongly in 2002 than the corresponding liabilities. The trend reversal had set in at the beginning of the year; given accrual accounting, its effect on profits was observable in the transaction balance already in 2002.

In the reporting period, Austrian investors raised their income on foreign securities by EUR 710 million to EUR 5.6 billion. By contrast, foreign investors' income on Austrian securities almost stagnated at the level of 2001 at EUR 8.9 billion.

Fixed-interest securities are by far the most important component of portfolio income and ran to EUR 5.2 billion on the assets side and to EUR 8.6 billion on the liabilities side in 2002. Income on equity securities, by contrast, was of comparatively little importance, both on the assets and the liabilities side.

Like overall Austrian foreign trade, portfolio income focused on EU countries and notably Germany. In terms of income inflows, Germany ranked first at almost 30%; the U.S. capital market's high capital requirements and great attractiveness in recent years was illustrated by its share of 11%. As much as 4% of total income were generated in acceding countries.

The euro area was the recipient of 55% of outgoing interest (and profit) payments. Particularly high shares went to renowned financial markets, such as the United Kingdom (24%) and Switzerland (12%), whereas the U.S.A. was less important and the acceding countries were virtually insignificant in this context.

A breakdown by regions shows income outflows of EUR 3.2 billion to EU countries (Austria has net liabilities vis-à-vis the EU) and income inflows from acceding countries in the amount of EUR 160 million.

Chart 5

Net Investment Income on Portfolio Investment

by Selected Regions¹⁾

Source: OeNB.
¹⁾ 1999 to 2000: final data; 2001: revised data; 2002: provisional data.
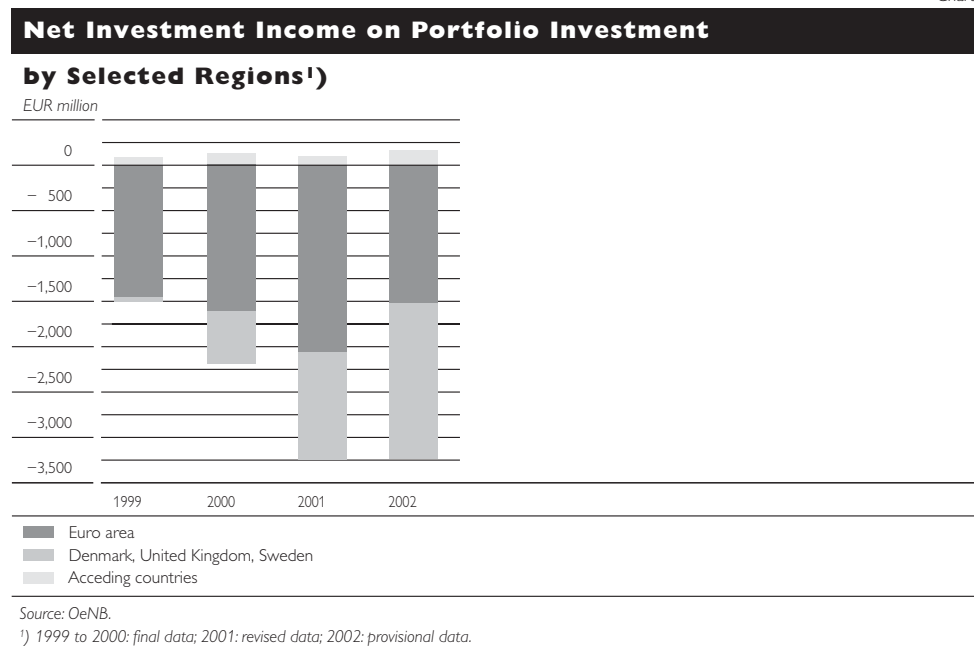
In 2002, the *Austrian income surplus on other investment* – cross-border loans, deposits and reserve assets – almost doubled and came to just over EUR 2 billion. The positive trend of this income component has already been observable since 1999. From Austria's point of view, expenditure declined much more strongly than revenues year on year (see annex, table 5).

The favorable development of income on loans and deposits was largely traceable to commercial banks, the cross-border net income surplus of which had already picked up in 2001 and tripled in 2002. After the peak in 2001, their income on loans surplus receded, but their deficit on deposits narrowed significantly. As U.S. dollar-denominated deposits are of great importance for Austrian banks, U.S. interest rate declines in combination with a reduction in liabilities translated into lower interest expenses.

In a regional breakdown, Austria was a net recipient of income on other investment in 2002, both vis-à-vis the euro area and the ten acceding countries.

1.3 Current Transfers

In the review period, the shortfall on current transfers ran to EUR 1.7 billion, an increase by EUR 340 million. Other sectors' transactions were mostly accountable for the rise in capital outflows. EU transactions dominated the general government sector's current transfers. In 2002, Austria's contributions to the EU budget came to EUR 2.1 billion and its receipts to EUR 1.6 billion, which resulted in a net payment of EUR 420 million.

2 Capital Account

The capital account subbalance closed the year 2002 at a slightly lower deficit of EUR 560 million than in 2001 (–EUR 600 million).

General government capital transfers in kind resulted in net outflows of some EUR 170 million, with receipts from EU infrastructure projects going down from EUR 60 million to EUR 15 million.

Other sectors' capital transfers in kind mostly comprised capital inflows from immigration effects of EUR 410 million and outflows on account of debt remissions in the amount of EUR 760 million.

In terms of volume, capital transfers in cash only play a minor role in Austria's balance of payments.

3 Financial Account

– For the first time in ten years, Austria has again become a country of net capital exports in the amount of EUR 5.7 billion.
– Austrian outward FDI almost reached its historical high, whereas inward FDI slumped.
– In 2002, Austrian investors purchased almost twice as many foreign securities as in 2001.

In 2002, financial markets were mainly characterized by tremendous uncertainty: Since the stock exchange slump in the middle of 2000, events such as the terrorist attacks of September 11, 2001, and (mostly U.S.) accounting scandals have contributed to greatly disconcert investors. Private investors, funds, but also banks and insurance companies struggled with an enormous depreciation of their stock holdings. Safe forms of investment, such as debt securities, gained ground.

The balance of the Austrian financial account reversed from capital imports of EUR 4.4 billion in 2001 to capital exports of EUR 5.7 billion in 2002. This development was ascribable to net outflows from direct and portfolio investment as well as to net inflows from other investment (see annex, table 6).

At EUR 5.7 billion net, Austrian direct investors spent EUR 1.8 billion more in 2002 than in 2001. Inward foreign direct investment, by contrast, slumped: The invested amount of EUR 1.8 billion corresponds to 26% of the comparable 2001 figure of EUR 6.8 billion.

Domestic cross-border portfolio investment grew vigorously: At EUR 25.6 billion, Austrian investors purchased twice as many securities as in 2001. By contrast, the EUR 20.0 billion of domestic securities sold abroad only slightly exceeded the 2001 level of EUR 18.7 billion. Bonds and notes continued to dominate both receipts and payments.

In 2002, the subbalance other investment reversed from capital exports in the amount of EUR 6.6 billion to capital imports of EUR 2.2 billion, a development that was largely traceable to banks' short-term capital flows, especially deposit and lending transactions.

Chart 6

Austria's Financial Account (Selected Net Subaccounts)

in 2002

Source: OeNB, provisional data.
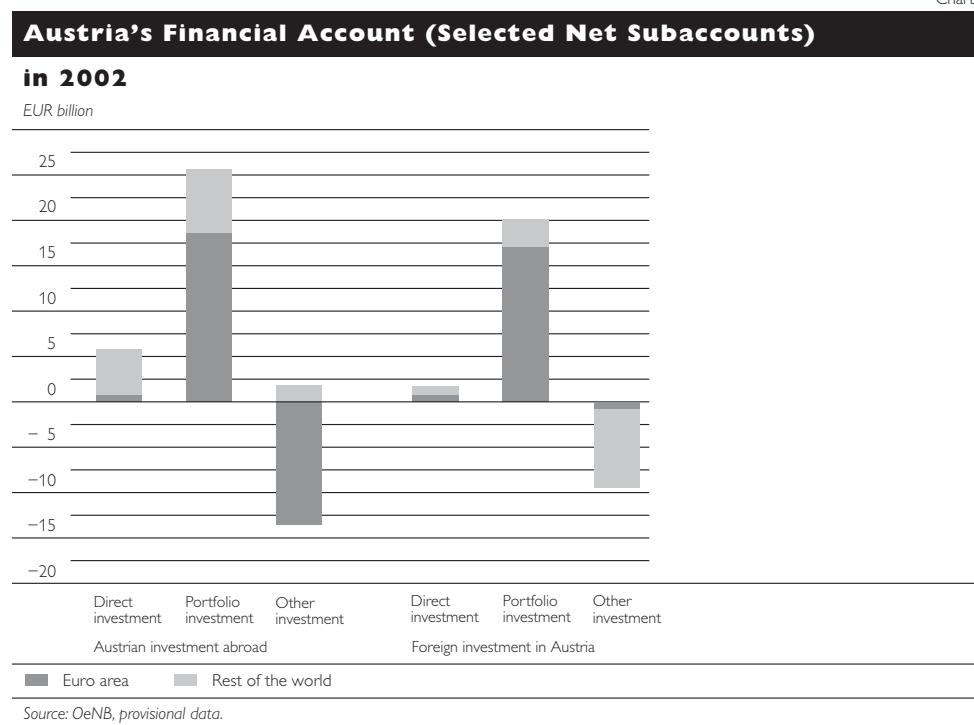
As in almost all economies, households are *the* net lending sector also in Austria, whereas the corporate and general government sectors are net borrowers. Throughout the last decade, external borrowing helped close the gap between funds raised and investments made. But in 2002, this situation changed radically: For the first time after quite a long period, household savings plus the financial sector's surplus exceeded the net financing requirements of the corporate and general government sectors. Whereas the general government closed at a deficit — which was largely ascribable to the weak economy — corporations considerably reduced their financing requirements by cutting back on investment. In 2002 Austria thus recorded a net creditor position vis-à-vis the rest of the world.

Chart 7

Net Borrowing or Lending of Domestic Sectors¹)

EUR billion

Households²)
Nonfinancial corporations
Finance sector
General Government
Net financing requirements/surplus vis-à-vis nonresidents
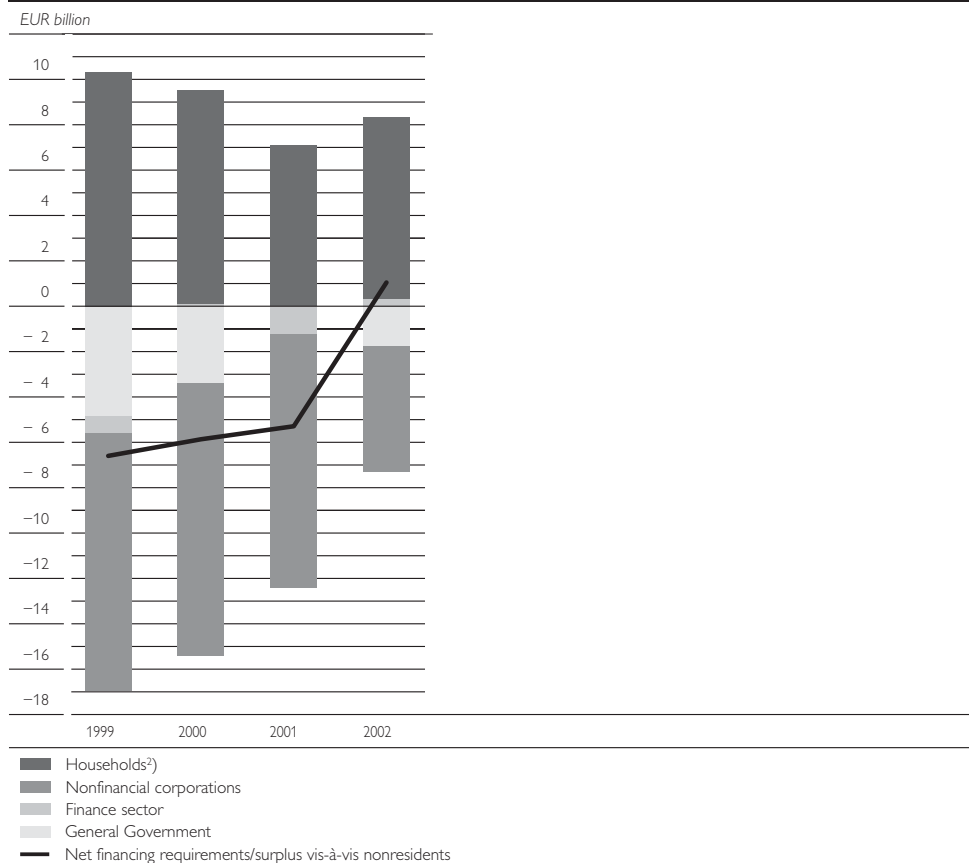
Source: OeNB.
¹) 2002: provisional data.
²) Including nonprofit organizations.

3.1 Direct Investment

Direct investors had to face considerable disappointment of late: As stock prices continue to be low, many equity shares seem, in retrospect, like expensive investments. What is more, their low valuation makes the financing of further expansions even more difficult. In general, a further decline was to be expected after global volumes contracted by 50% in 2001. UNCTAD forecast a drop by some 25% for 2002. Euro area direct investment also plummeted in 2002, with outward direct investment falling much more strongly (by 40%) than inward FDI (by a "mere" 15%). Austrian developments deviated from this pattern: In Austria, outward FDI surged to the second-highest level ever recorded; but foreign net investment in Austria slumped.

In 2002, Austrian net capital exports in the form of outward FDI came to EUR 5.7 billion, a 47% increase against 2001 and more than 90% of the peak reached in 2000. Net equity capital flows (including properties and buildings) in the amount of EUR 4.5 billion were the result of gross new investment of EUR 5.6 billion and gross disinvestment of EUR 1.1 billion. On the basis of estimated annual profits and the observed profit distributions, reinvested earnings

amounted to EUR 1.0 billion. By expanding their claims against affiliated companies, Austrian investors contributed EUR 240 million to the rise in outward direct investment.

As in 2001, outward FDI focused on Eastern Europe (EUR 3.25 billion) and acceding countries (EUR 2.5 billion) in the reporting period. The lion's share fell to the Czech Republic at EUR 890 million. In Poland, the restructuring of a large banking group led to investments of EUR 760 million. Croatia saw extraordinary investment volumes of EUR 450 million. Hungary, Slovenia and the Slovak Republic were among the ten main recipients of Austrian direct investment at EUR 350 million, EUR 300 million and EUR 190 million, respectively. EUR 100 million each were invested in Bosnia, Serbia and Montenegro.

In 2002, EU countries accounted for EUR 1.1 billion or 20% of direct investment, with Germany ranking first at EUR 560 million. Slightly more than 20% of direct investment were made in non-European countries. Over half of these EUR 1.3 billion went to Caribbean offshore financial centers, with one large investment being in turn linked to Eastern Europe.

The finance sector (banks and insurance companies) was particularly active in 2002. Its engagement ranged from traditional targets, such as the Czech and Slovak Republics and Poland, to Croatia, Bosnia and even to Bulgaria and Belarus. The fields of activity were greatly diversified, including the mineral oil and telecommunications sectors, trade, transport and travel.

Foreign direct investment in Austria shrank drastically. The financial account value of EUR 1.8 billion is the lowest since 1995. Nonetheless, a total of some 400 companies made new direct investments in Austria or expanded existing ones through capital injections. Most of these projects, however, were relatively small, only about 30 participations reached the two-digit millions. After the

Chart 8

Direct Investment by Regions[1])

EUR billion at year-end

1989 1991 1993 1995 1997 1999 2001
Austrian direct investment abroad

1989 1991 1993 1995 1997 1999 2001
Foreign direct investment in Austria

- ■ Rest of the world
- ■ Accession countries
- □ Euro area

Source: OeNB.
[1]) 2001: revised data, 2002: provisional data.
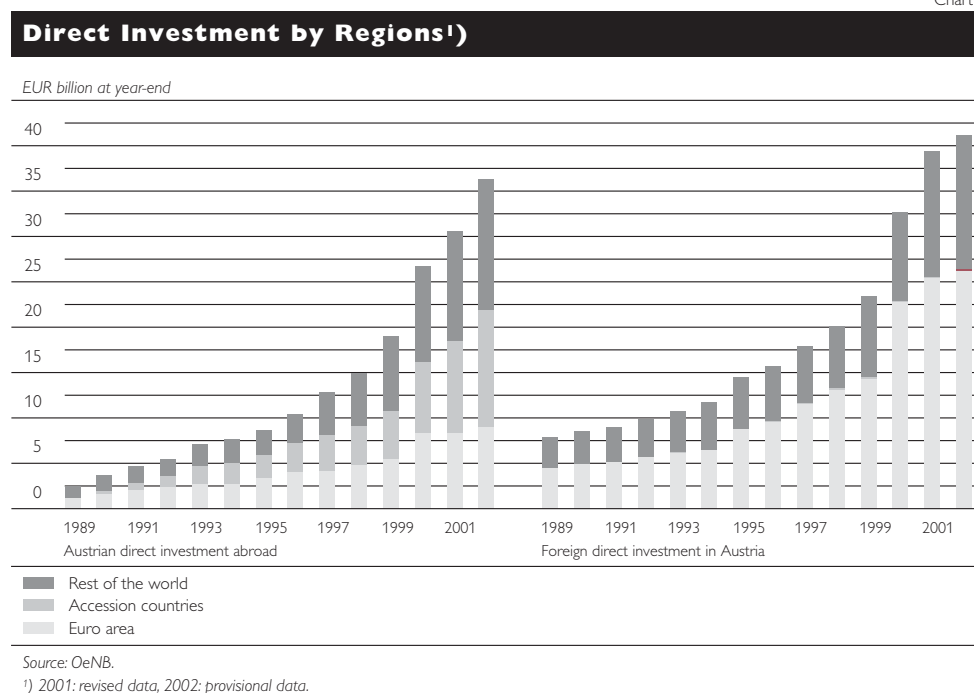
large-volume transactions of 2000 (Bank Austria AG) and 2001 (Austria Tabak), the year 2002 also saw a number of disinvestments. In terms of volume, Telekom Italia's partial retreat from Austria had an impact.

Outward FDI in the amount of EUR 1.8 billion was the result of gross new investment in equity of EUR 2.2 billion and disinvestment to the tune of EUR 2.2 billion. Taking into account the fact that nonresidents' purchases of properties in Austria, which are included in equity, ran to EUR 230 million net, almost no new equity capital was invested in Austria. But still, inward FDI seems to have increased thanks to reinvested earnings of some EUR 1.8 billion. Net redemptions of internal group loans contributed EUR 180 million to the low 2002 result.

From experience we know that the regional concentration of inward FDI is substantially higher than that of outward FDI. As is the case almost every year, Germany was again the most important investor in 2002 at EUR 1.3 billion, followed by Switzerland at EUR 380 million and the U.S.A. at EUR 350 million.

3.2 Portfolio Investment

In 2002, the balance of outward and inward foreign portfolio investment resulted in capital exports of EUR 5.5 billion. An analysis of gross values shows that the figures on both the assets and the liabilities sides exceeded those of the like period of 2001. Gross portfolio investment in shares, debt securities and money market instruments continued to dominate the financial account in the reporting period. Both on the assets and the liabilities sides, debt securities accounted for over 85% of the transaction volume.

A sectoral breakdown of portfolio investment abroad shows that other sectors – mainly institutional investors – made 51% of investments, followed by banks with 37%. The majority of foreign investors bought securities issued by the Austrian government (53%) and by banks (35%).

Both on the assets and the liabilities sides, over 70% of all transactions were conducted with euro area counterparties (see annex, table 7), with purchases of euro area securities by Austrian investors surpassing purchases of Austrian securities by euro area investors by EUR 1.5 billion. At the same time, the portfolio investment position vis-à-vis the rest of the world also recorded net capital exports of EUR 4 billion.

3.2.1 Portfolio Investment in Foreign Securities

In 2002, Austrian investors acquired foreign securities to the tune of EUR 25.6 billion, that is almost twice as much as in the year before. Half of the investors belonged to other sectors – which mostly comprise mutual funds and insurance companies, but also corporations and households – whereas banks accounted for over one-third of the transactions. Almost 75% of investments were made in the euro area, notably Germany. A mere 10% of funds were invested in U.S. securities, whereas acceding country issues already accounted for 5% of investments.

Only 15% of new foreign investments were made in stocks and mutual fund shares. EUR 3 billion of the total of EUR 3.8 billion were invested in stocks, a ratio that was also observed in past years. The 2000 and 2001 results were

Breakdown of Austrian Investors' Foreign Securities Portfolios[1])

EUR billion

- Money market instruments
- Debt securities
- Equity securities

Source: OeNB.
[1]) 1997 to 2000: final data; 2001: revised data; 2002: provisional data.
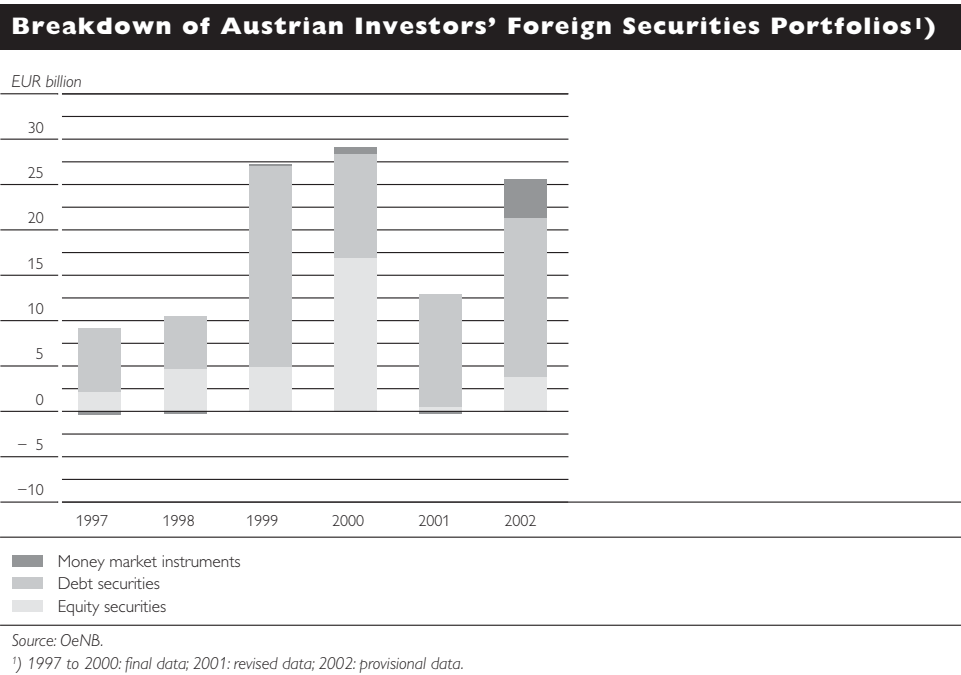
exceptional: The year 2000 was dominated by a single big transaction (HVB-BA), and in 2001 investors were extremely cautious. Austrian investors still focus on debt securities: at 69%, bonds and notes were the most attractive type of securities.

Investors preferred euro area debt securities (82%), which also illustrates their desire for security. At a share of one-third of the investment volume, Austrians favored German issues. U.S. dollar-denominated issues lagged far behind at 6% and equaled the share of acceding country issues. A comparison with 2001 yields noteworthy results: In 2002, twice as many euro area debt securities were purchased as in 2001, whereas the investment volume of debt securities issued in the U.S.A. dropped by half year on year.

Breakdowns by regions and by currencies are closely interrelated. As the euro plays a dominant role as nominal currency, exchange rate risks are low. At a share of 3%, U.S. dollar-denominated bonds range among the "exotic currencies," such as the Polish zloty (2%), the Danish krone (2%), the Hungarian forint or the Czech coruna (1% each).

The unusually high investment in money market instruments also seems to be a reaction to insecurity and instability. OeNB, general government and banks have never before made as many short-term investments as in 2002. Mostly they purchased euro area issues (60%), followed by issues made in the United Kingdom (21%) and the U.S.A. (6%).

3.2.2 Portfolio Investment in Domestic Securities

At EUR 20.0 billion, foreign investors only slightly increased their purchases of Austrian securities in 2002 against the EUR 18.7 billion in 2001. Mainly the general government at 53% and Austrian banks at 35% sold securities abroad. In terms of volume, corporate bonds remain of little importance in Austria,

Chart 10

Breakdown of Nonresident Investors' Austrian Securities Portfolios¹)

EUR billion

Legend:
- Money market instruments
- Debt securities
- Equity securities
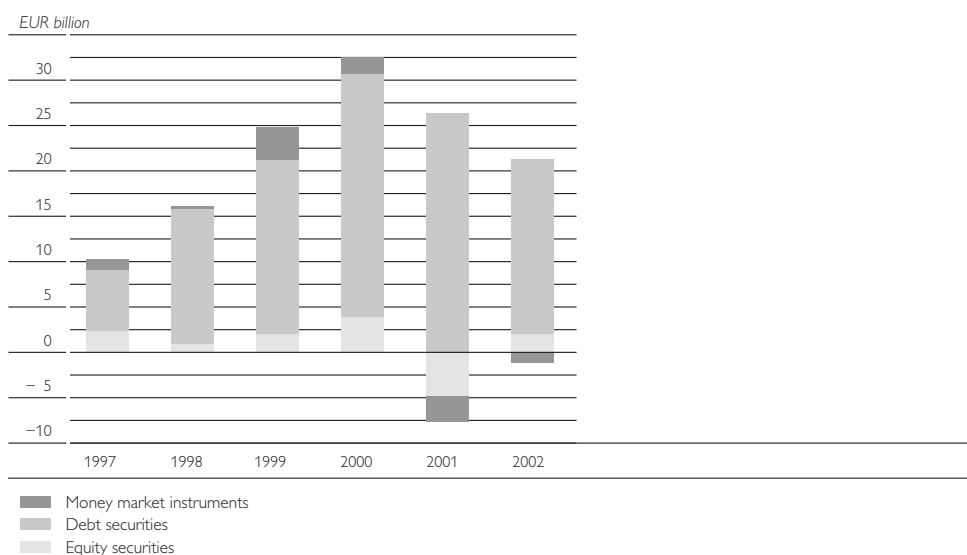
Source: OeNB.
¹) 1997 to 2000: final data; 2001: revised data; 2002: provisional data.

although the year 2002 saw a slight growth. In the medium run, however, this market segment is likely to gain momentum also in Austria. The Basel II Accord might provide some incentives for such a development; but mostly quasi-public, market-oriented issuers will play a more prominent role in the future given the Eurostat decision that intermediary funding – the issuing of government bonds to finance quasi-public enterprises ("Rechtsträgerfinanzierung") – does not comply with the Maastricht criteria.

In 2002, foreign investors acquired Austrian securities to the tune of EUR 2 billion, with mutual fund shares and stocks accounting for about 50% each. On the domestic stock market, two-thirds of nonresidents were interested in bank stocks (increase of Erste Bank AG issues) and one-third in corporate stocks, mostly of Telekom Austria.

Nonresidents showed by far the greatest preference for bonds and notes at EUR 19 billion. Their interest focused on government bonds. Given the vigorous net sales in 2002, over two-thirds of the government bonds outstanding have by now been bought by foreign investors.

Government Bond Syndication and Tender Offers in 2002¹)

		ISIN	External transactions
			EUR million
5.0%	Federal government bond 2002–2012/1/144A	AT0000385356	6,026
5.875%	Federal government bond 1996–2006/7	AT0000383518	816
5.5%	Federal government bond 2000–2007/144A	AT0000384953	3,192
4.0%	Federal government bond 1999–2009/2	AT0000384821	553
Total			10,587

Source: OeNB.
¹) Transaction values: + = sale abroad.

Almost 70% of debt securities sold abroad were denominated in euro, followed at some distance by the U.S. dollar and the Swiss franc.

In the face of the continuing uncertainty on financial markets, money market instruments gained momentum: In the first half of the year, the Republic of Austria for instance almost entirely issued financial instruments abroad. In the second half of 2002, however, a countermovement set in, during which redemptions and buybacks predominated. On a full-year basis, the general government paid down its debt from money market instruments vis-à-vis non-residents by some EUR 700 million, banks reduced theirs by about EUR 300 million.

3.3 Other investment

A rather striking development in 2002 was the sharp reduction of Austrian banks' external transactions by EUR 10 billion each on both the assets and the liabilities sides. In the course of the year, domestic banks withdrew funds from their currency and deposit accounts abroad, and foreign banks reduced their deposits in Austria at the same time.

New foreign lending was exclusively restricted to long-term loans; in the short-term range capital repayments, reflecting basically commercial banks' activities, prevailed. A breakdown by debtor countries reveals two opposing developments: there were considerable capital receipts or redemptions from the euro area, whereas the lines of credit vis-à-vis acceding countries reached new peaks of EUR 1.7 billion.

The Austrian economy augmented its loan liabilities abroad by nearly EUR 2.5 billion, that is almost as much as in 2001 and about half the transaction volume of 2000. The euro area and the three EU Member States outside the euro area accounted for 40% each of Austrian borrowing.

All told, other investment capital transactions, that is loans and deposits, resulted in capital inflows to Austria in the amount of EUR 2.0 billion.

3.4 Financial Derivatives

The financial derivatives position basically includes options, futures contracts and swaps, which are either based on capital products (e.g. foreign exchange assets, securities) or on interest rate products. On the one hand, transaction values refer to the buying and selling of securities-based financial derivatives and, on the other, to transactions resulting from option payments (including premiums) in the course of OTC deals and/or from variation margin payments for futures contracts and swap payments.

In 2002, the financial derivatives position closed with net capital exports of EUR 250 million.

3.5 Reserve Assets

In 2002, Austrian reserve assets declined by EUR 1.8 billion as a consequence of profit-optimizing transactions. At year-end 2002, the OeNB held reserve assets in the amount of EUR 12.4 billion, a drop by some EUR 5 billion year on year. The difference between transaction values and changes in total holdings is traceable to balance sheet restructuring and to valuation changes following the appreciation of the euro.

Annex

Table 1

Balance of Payments Summary

	2001[1])	2002[2])	Annual change
	EUR million		
Current account	−3,939	+1,561	+ 5,500
Goods, services and income	−2,583	+3,242	+ 5,825
Goods and services	+ 729	+5,496	+ 4,767
Goods	−1,403	+3,502	+ 4,905
Services	+2,132	+1,994	− 138
Travel	+1,421	+2,091	+ 670
Other services items	+ 711	− 97	− 808
Transportation	+1,729	+2,333	+ 604
thereof international passenger transport	*+1,016*	*+1,142*	*+ 126*
Construction services	+ 233	+ 122	− 111
Financial services	+ 42	+ 91	+ 49
Royalties and license fees	− 527	− 771	− 244
Other business services	+2,194	+1,773	− 421
thereof merchanting	*+1,337*	*+1,214*	*− 123*
Other services	+ 310	+ 500	+ 190
Unclassified transactions	−3,270	−4,145	− 875
Income	−3,312	−2,253	+ 1,059
Compensation of employees	+ 583	+ 544	− 39
Investment income	−3,894	−2,797	+ 1,097
Current transfers	−1,356	−1,681	− 325
General government	−1,161	− 871	+ 290
Other sectors	− 194	− 810	− 616
Capital and financial account	+3,808	−6,291	−10,099
Capital account	− 595	− 557	+ 38
General government	− 108	− 166	− 58
Other sectors	− 442	− 395	+ 47
Acquisition/disposal of nonproduced, nonfinancial assets	− 45	+ 4	+ 49
Financial account	+4,403	−5,733	−10,136
Direct investment	+2,862	−3,982	− 6,844
Portfolio investment	+5,964	−5,506	−11,470
Other investment	−6,643	+2,195	+ 8,838
Financial derivatives	+ 154	− 250	− 404
Reserve assets[3])	+2,067	+1,810	− 257
Errors and omissions	+ 132	+4,729	+ 4,597

Source: OeNB.
[1]) *Revised data.*
[2]) *Provisional data.*
[3]) *Oesterreichische Nationalbank: Gold and foreign exchange, reserve position in the Fund, SDRs, etc.; increase: − / decrease: +.*

Table 2

Merchandise Exports and Imports

as Recorded in the Foreign Trade Statistics

Goods by geographic area[1])

	2002					
	Exports		Imports		Balance	
	Annual change	Share of total exports	Annual change	Share of total imports		Annual change
	%				EUR million	
EU	+3.1	60.2	− 1.6	65.8	−4,099	+2,206
Euro area	+3.0	53.7	− 1.6	61.3	−5,623	+1,972
thereof:						
Germany	*+2.2*	*32.0*	*− 2.8*	*40.3*	*−6,324*	*+1,418*
Italy	*+3.7*	*8.5*	*− 3.5*	*7.1*	*+1,110*	*+ 429*
France	*−0.4*	*4.4*	*− 7.3*	*3.9*	*+ 415*	*+ 222*
Non-euro area countries	+5.3	46.3	− 3.2	38.7	+5,939	+2,784
thereof:						
Switzerland						
and Liechtenstein	*+4.3*	*5.6*	*− 0.1*	*3.4*	*+1,727*	*+ 182*
Eastern Europe[2])	*+6.8*	*17.7*	*+ 2.1*	*13.8*	*+3,030*	*+ 650*
U.S.A.	*+1.6*	*5.2*	*−11.8*	*4.8*	*+ 280*	*+ 557*
Japan	*−0.1*	*1.2*	*− 6.0*	*2.1*	*− 746*	*+ 103*
Total	+4.1	100.0	− 2.2	100.0	+ 316	+4,756

Source: Statistics Austria.
[1]) *Geographic areas as defined by WIFO.*
[2]) *Albania, Belarus, Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Russia, Slovak Republic, Ukraine, countries of the former Yugoslavia.*

Table 3

Travel and International Passenger Transport

| | 2001[1]) | 2002[2]) | Annual change | |
	EUR million		%	
Travel				
Receipts	11,453	12,025	+ 572	+ 5.0
Expenditure	10,032	9,933	− 99	− 1.0
Balance	1,421	2,091	+ 670	+47.1
International passenger transport				
Receipts	1,944	2,020	+ 76	+ 3.9
Expenditure	929	878	− 51	− 5.5
Balance	1,016	1,142	+ 126	+12.4
	1,000		*%*	
Foreign tourist bednights	*83,669*	*85,792*	*+2,123*	*+ 2.5*

Source: OeNB, Statistics Austria.
[1]) *Revised data.*
[2]) *Provisional data.*

Table 4

Foreign Tourist Bednights by Country of Origin

	2002			
	Overnight stays	Annual change		Share
	1,000		%	
Germany	53,521	+ 735	+ 1.4	62.4
Netherlands	8,226	+ 545	+ 7.1	9.6
United Kingdom	3,241	+ 204	+ 6.7	3.8
Belgium, Luxembourg	2,389	+ 123	+ 5.5	2.8
Switzerland, Liechtenstein	3,285	+ 193	+ 6.3	3.8
Denmark	980	+ 28	+ 2.9	1.1
Italy	2,812	+ 128	+ 4.8	3.3
France	1,562	+ 118	+ 8.2	1.8
Sweden	649	− 2	− 0.3	0.8
Spain	438	− 31	− 6.7	0.5
Poland	841	+ 50	+ 6.3	1.0
Hungary	860	+ 72	+ 9.1	1.0
Czech Republic	788	+ 28	+ 3.7	0.9
Croatia	257	+ 3	+ 1.3	0.3
C.I.S.	526	+ 60	+12.9	0.6
Slovenia	197	+ 7	+ 3.9	0.2
Slovak Republic	165	+ 4	+ 2.8	0.2
U.S.A.	1,341	− 239	−15.1	1.6
Japan	482	− 46	− 8.6	0.6
Other countries	3,232	+ 141	+ 4.6	3.8
Total	85,792	+2,123	+ 2.5	100.0
Memorandum item: Austrian tourists	*31,013*	*− 429*	*− 1.4*	*x*

Source: Statistics Austria.

Table 5

Investment Income

	2001[1]	2002[2]	Annual change
	EUR million		
Net investment income[3]	− 3,894	− 2,797	+1,097
Investment income receipts	12,698	12,895	+ 197
Investment income payments	16,593	15,693	− 900
Net direct investment income[3]	− 1,638	− 1,572	+ 66
Income on direct investment abroad	1,642	2,091	+ 449
Income on direct investment in Austria	3,280	3,663	+ 383
Net portfolio investment income[3]	− 3,404	− 3,281	+ 123
Income on foreign equity securities	167	383	+ 216
Income on domestic equity securities	290	316	+ 26
Income on foreign bonds and notes	4,616	5,118	+ 502
Income on domestic bonds and notes	7,696	8,378	+ 682
Income on foreign money market instruments	99	90	− 9
Income on domestic foreign market instruments	301	179	− 122
Net other investment income[3]	1,148	2,056	+ 908
Other investment income receipts[4]	6,174	5,213	− 961
Other investment income payments	5,026	3,157	−1,869
Investment income on foreign interest-bearing investment[5]	10,967	10,483	− 484
Investment income on domestic interest-bearing investment[6]	13,025	11,717	−1,308
Investment income on foreign venture capital-oriented investment[7]	1,731	2,413	+ 682
Investment income on domestic venture capital-oriented investment[7]	3,567	3,976	+ 409
Memorandum item: Financial derivatives based on interest rate contracts[8]	*640*	*1,704*	*+1,064*

Source: OeNB.
[1] *Revised data.*
[2] *Provisional data.*
[3] *Income on outward foreign investment less income on inward foreign investment.*
[4] *Income on deposits, loans and reserve assets.*
[5] *Income on debt securities, deposits, loans and reserve assets.*
[6] *Income on debt securities, deposits and loans.*
[7] *Income on direct investment and equity securities.*
[8] *Included in the financial account, financial derivatives.*

Table 6

Financial Account

	2000[1])	2001[2])	2002[3])
	EUR million, net		
Financial account	4,679	4,403	− 5,733
Assets	−52,276	−23,062	−18,134
Liabilities	56,955	27,466	12,401
Direct investment	3,365	2,862	− 3,982
Direct investment abroad	− 6,230	− 3,902	− 5,735
Equity capital	− 5,388	− 3,140	− 4,474
Reinvested earnings	− 129	− 676	− 1,017
Other capital	− 713	− 86	− 243
Direct investment in Austria	9,595	6,764	1,753
Equity capital	8,494	4,238	114
Reinvested earnings	944	1,576	1,823
Other capital	156	950	− 184
Portfolio investment	3,229	5,964	− 5,506
Portfolio investment in foreign securities	−29,167	−12,712	−25,590
Equity securities	−16,959	− 561	− 3,754
thereof mutual fund shares	− 5,745	− 727	− 719
Bonds and notes	−11,441	−12,413	−17,618
Money market instruments	− 767	261	− 4,218
Portfolio investment in domestic securities	32,395	18,677	20,084
Equity securities	3,857	− 4,830	2,049
thereof mutual fund shares	1,205	1,004	1,055
Bonds and notes	26,738	26,279	19,202
Money market instruments	1,801	− 2,773	− 1,167
Other investment	− 2,489	− 6,643	2,195
Assets	−17,187	− 8,561	11,655
Trade credits	− 2,234	309	− 161
Loans	− 9,948	− 8,132	− 3,737
Currency and deposits	− 4,994	13	15,233
Other assets	− 11	− 752	320
Liabilities	14,698	1,918	− 9,461
Trade credits	502	− 711	− 481
Loans	4,302	2,026	2,427
Currency and deposits	9,686	595	−11,036
Other liabilities	208	9	− 371
Financial derivatives	− 263	154	− 250
Reserve assets[4])	838	2,067	1,810
Memorandum item: Interest-bearing investment	*13,760*	*8,160*	*− 354*
Assets	*−29,900*	*−18,322*	*− 8,768*
Liabilities	*43,660*	*26,482*	*8,415*
Sectoral breakdown: **Banks (including the OeNB)**	18,191	− 1,856	− 1,391
Assets	−17,532	−11,138	1,337
Liabilities	35,723	9,281	− 2,728
General government	8,465	10,878	9,361
Assets	− 2,948	− 377	− 789
Liabilities	11,413	11,256	10,150
Other sectors	−21,976	− 4,619	−13,707
Assets	−31,796	−11,548	−18,683
Liabilities	9,820	6,929	4,976

Source: OeNB.
[1]) *Final data.*
[2]) *Revised data.*
[3]) *Provisional data.*
[4]) *Oesterreichische Nationalbank: Gold and foreign exchange, reserve position in the Fund, SDRs, etc.; increase: − / decrease: +.*

Table 7

Financial Account by Region[1])

	Investment in/ from the euro area		Investment in/ from non-euro area countries	
	2001[2])	2002[3])	2001[2])	2002[3])
	EUR million, net			
Financial account	920	10,245	3,483	−15,978
Assets	− 6,018	− 6,188	−17,044	−11,946
Liabilities	6,938	16,433	20,528	− 4,032
Direct investment	2,705	104	157	− 4,086
Direct investment abroad	40	− 707	− 3,942	− 5,028
Direct investment in Austria	2,665	812	4,099	941
Portfolio investment	7,265	− 1,546	− 1,301	− 3,960
Portfolio investment in foreign securities	− 4,484	−18,639	− 8,228	− 6,951
Portfolio investment in domestic securities	11,749	17,094	6,928	2,990
Other investment	−10,394	12,676	3,751	−10,481
Assets	− 2,659	13,513	− 5,902	− 1,858
Liabilities	− 7,735	− 837	9,653	− 8,624
Financial derivatives	1,077	− 990	− 923	740
Reserve assets[4])	×	×	2,067	1,810

Source: OeNB.
[1]) *While for foreign direct investment in Austria and other inward investment it is possible to establish the identity of the foreign investors, in the case of portfolio investment one can only determine the country via which the transaction has been effected.*
[2]) *Revised data.*
[3]) *Provisional data.*
[4]) *Oesterreichische Nationalbank: Gold and foreign exchange, reserve position in the Fund, SDRs, etc.; increase: − / decrease: +.*

Austria's Portfolio Investment Position at End-2002

1 International Capital Market Developments in 2002

Isabel Winkler

In 2002, the global economic environment was extremely difficult. After a strong recovery early on, the world economy slowed down significantly during the course of the year. Against the backdrop of increasing geopolitical tensions, the continued high degree of uncertainty among businesses and consumers as well as the pessimism of investors had a dampening effect on economic activity.

In 2002, the environment in which monetary policy operated was characterized by considerable uncertainty.

In the first five months of 2002, the money market rates in the *euro area* continued to climb – a trend that had been apparent since the end of 2001 and which came to a halt around mid-May. During the second half of 2002 the money market rates slowly went down again. Ultimately, in the last quarter of 2002, short-term money market rates were expected to decline – a notion that, by and large, anticipated the reduction of ECB key interest rates by 50 basis points, which the Governing Council of the ECB decided on December 5, 2002 in its only interest rate move in the reporting year. At the end of 2002, the slope of the money market yield curve was slightly negative.

During the course of the year, stock market prices in the euro area fluctuated widely. Not only did prices go down sharply, but the average daily fluctuations of the broad stock price indices were generally much more pronounced in 2002 than in previous years. After only slight changes in 2001, long-term government bond yields slipped in 2002, both in the euro area and in the U.S. The stock market turbulences prevailing in this period were most likely among the key factors behind this bond market development, as they prompted flight-to-safety portfolio shifts from stock markets into bonds.

After remaining relatively stable in the first quarter of 2002, the nominal effective exchange rate of the euro surged to a level substantially above the 2001 average. This development took place against the backdrop of increased uncertainties about growth prospects for the most important economic areas worldwide as well as of major slumps in the international stock markets. Overall, the nominal effective exchange rate of the euro at end-2002 was almost 6.5% higher than at the beginning of the year and almost 9% above the average level in 2001.

The economic development in the *U.S.* supported global economic activity, with monetary and fiscal policies providing noticeable growth stimuli. Toward the end of the year, growth slowed as a result of increasing uncertainties in view of the looming Iraq war and markedly declining stock market prices. Interest rates remained at a historic low in 2002. Stock prices continued their downward trend, which had started in March 2000, for the third consecutive year and lost more ground in the course of 2002. At year-end, they fell to a level last seen in the wake of the financial crisis in the fall of 1998.

During the first months of 2002, government bond yields picked up slightly, as market participants began to take a more optimistic view on growth perspectives. However, starting in mid-May, confidence among market participants gradually faded, and bond yields began to erode as a result of portfolio shifts from stock markets to the less volatile bond markets – a flight to safety triggered, among other factors, by the disclosure of a series of accounting irregularities in major U.S. corporations. Increased tensions in the Middle East

and weaker than expected economic data also contributed to lower bond yields. At the beginning of October 2002, U.S. ten-year nominal bond yields fell to their lowest level since 1958. Later in the same month, when the stock market situation improved somewhat and investors shifted funds back into the stock market, bond yields edged up again.

While the exchange rate of the U.S. dollar against the euro had remained more or less unchanged in late 2001 and early 2002, the U.S. currency lost quite some ground against the euro in the period between April and end-July 2002. The weakening of the U.S. economy's growth prospects was probably one of the reasons for the depreciation of the U.S. dollar. After the subsequent period of relative stability at a fairly high level, the U.S. currency again began to decline against the euro toward the end of the year. This was related to a number of factors, such as the growing negative interest rate differential against the euro area, market participants' concerns about the imbalance in the U.S. current account, the looming U.S. budget deficit and the uncertainty about U.S. growth prospects. At year-end, the exchange rate of the euro against the U.S. dollar came to USD 1.05.

Chart 1

US Dollar/Euro Closing Exchange Rate

Source: OeNB.
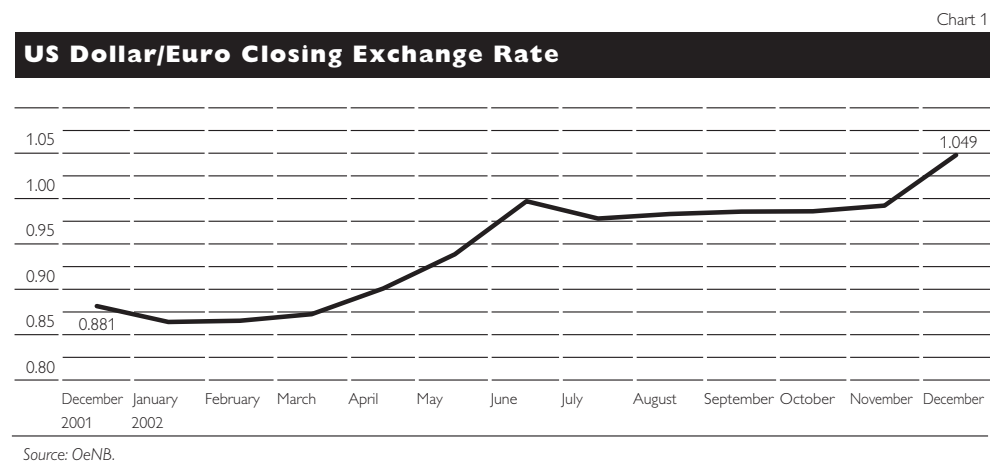
In *Japan,* growth impulses also faltered, as major structural problems, particularly in the banking sector, continued to put pressure on the economy.

During the first half of 2002, stock market prices went up, partially as a result of government measures to tighten the restrictions on short sales of stocks. As of the third quarter of 2002, however, global influences began to take prominence, and high uncertainty led to safe-haven portfolio shifts from stock to bond markets, which in turn drove down stock prices. The downward pressure in Japan continued until end-2002, because domestic factors such as increasing concerns about the fragility of the financial market and the need to solve the problem of nonperforming bank loans again weighed on Japanese stock market prices.
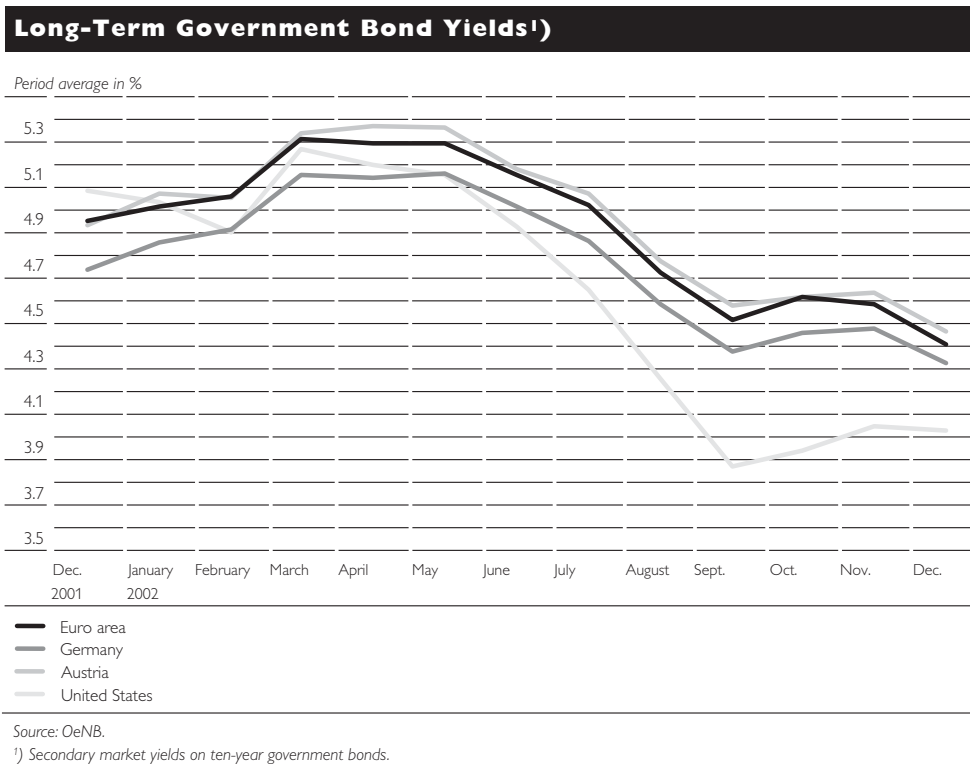
Long-term government bond yields remained more or less decoupled from global developments in 2002. While remaining essentially stable at 1.4% during the first half of 2002, ten-year government bond yields went down more or less

continuously during the second half of the year to settle at around 0.9% at end-2002.

After having depreciated against the euro in late 2001, the Japanese yen remained relatively stable over long periods in 2002. In the last quarter of the reporting year, the yen depreciated again, which is partly ascribable to uncertainty about the growth prospects in some of Japan's most important export markets and to concerns about how to solve the problems within the Japanese financial sector.

After the economic slump in 2001, real economic growth in *Austria* remained rather low at 1% for the entire year 2002. The quarterly development of the ATX in 2002 has been very similar to that in previous years. Again, the first and fourth quarters showed positive results, while the second and third quarters turned negative.[1]) As of the beginning of the second quarter of 2002, yields on the Austrian bond market moved downward in parallel to international stock market trends. The stock market recovery in October 2002 did not last long, so that yields for government bonds with a ten-year residual maturity did not reach their low until the end of the year. Moreover, given that the general government budget took a significantly more favorable course in Austria than in Germany, the yield differential between Austrian and German government bonds contracted during the course of the year.

Chart 2

Long-Term Government Bond Yields[1])

Period average in %

Legend:
— Euro area
— Germany
— Austria
— United States

Source: OeNB.
[1]) Secondary market yields on ten-year government bonds.

1   *Source: Wiener Börse AG, Jahrbuch 2002.*

While being considerably smaller than the market for loans, the Austrian bond market outperforms the domestic stock market by far in terms of market capitalization (total value of bonds or shares outstanding). Still, it remains one of the smaller European markets as measured by its absolute size[1]), with the prime issuer being the Republic of Austria.

2 Portfolio Investment Position Data for Austria[2])

### 2.1 Domestic Holdings of Foreign Debt Securities (Portfolio Assets)

At end-2001, Austrian holdings of foreign debt securities came to EUR 92.6 billion, the lion's share of which exclusively consisted of bonds and notes (EUR 91 billion). During 2002, domestic investors purchased foreign debt securities to the tune of EUR 21.8 billion. Benefiting from positive valuation effects, domestic holdings of foreign debt securities thus increased by EUR 24.8 billion to EUR 117.4 billion by end-December.

A sectoral breakdown of domestic holdings of foreign debt securities at the end of December 2002 reveals that as in previous years, Austrian institutional investors[3]) were the largest group of investors (49%), followed by the banking sector (OeNB and banks), holding a share of 44%. From January through December 2002, these two groups of investors were also the leading players on the capital market, purchasing foreign debt securities to the amount of some EUR 20 billion. Households were selling foreign securities at the same rate as in 2001.

Chart 3

Domestic Holdings of Foreign Debt Securities – Regional Breakdown

at End-December 2002

%
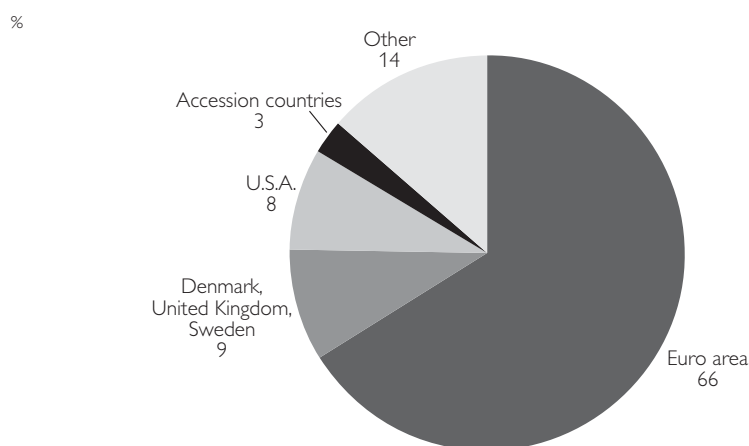
Source: OeNB.

---

1   Source: Oesterreichische Kontrollbank AG, Der österreichische Rentenmarkt, May 2003.

2   More detailed data on Austria's portfolio investment position are available on the OeNB's website
    (http://www.oenb.at/stat-monatsheft/englisch/tabellen/711_p.htm)
    or in Focus on Statistics, Table 7.1.1.

3   This sector comprises insurance companies, pension funds and other financial institutions, such as mutual funds.

At end-2001, 62% of foreign debt securities held by Austrian investors had been issued by euro area residents, with securities issued in Germany accounting for the lion's share, followed, by a large margin, by bonds and notes issued in the Netherlands, Italy and France. As to debt securities issued by non-euro area residents, Austrians primarily opted for securities issued in the U.S.A. and the United Kingdom. Net new investment of Austrians in the reporting period was chiefly in the form of securities issued by euro area residents, with Germany accounting for some 40% thereof. Taking into account valuation effects, domestic holdings of bonds and notes issued by euro area residents came to EUR 73 billion at the end of 2002. At the same time, Austrian investors' had bonds and notes issued by other nonresidents to the tune of EUR 39 billion in their portfolios, with debt securities issued by residents of the EU accession countries accounting for some EUR 3.4 billion thereof.

Foreign short-term debt securities display the following pattern: At end-2001, money market instruments issued by euro area residents accounted for 40% of money market instruments in Austrian investors' portfolios. Net new investment, particularly in the first half of the year, drove up this percentage to 51% (some EUR 3 billion) by the end of December 2002. At the same time, investors purchased money market instruments issued by non-euro area residents. These holdings came to EUR 2.8 billion by the end of 2002, with purchases occurring primarily during the first and fourth quarters.

A breakdown by currency of domestic holdings of foreign debt securities reveals that by the end of 2001, 74% of Austrian holdings of debt securities issued by nonresidents were denominated in euro. New investment in 2002 pushed this share to 77%. Euro-denominated debt instruments accounted for 96% of the stock of foreign bonds and notes held by general government sector. In the other sectors (banks, institutional investors, nonfinancial corporations and households), this share came to some 70%. Also, domestic investors stepped up their holdings of foreign money market paper denominated in euro from EUR 0.7 billion (60%) at end-2001 to EUR 4.8 billion (84%) at the end of December 2002. Euro-denominated money market paper made up almost 100% of the short-term foreign debt securities held by the general government, Austrian corporations and households. Institutional investors display a somewhat different pattern as more than 50% of their foreign portfolio consists of U.S. dollar-denominated money market instruments.

Concerning the regional and currency allocation of foreign portfolio assets, a cross classification analysis provides the following picture for Austrian investors at year-end 2002:

— The majority of Austrian investors purchased euro-denominated debt securities issued by euro area residents; in addition, portfolio holdings benefited from positive securities price effects.

— Even though Austrian investors sold minor volumes of foreign currency-denominated (i.e. not euro-denominated) issues by euro area residents, their holdings of bonds and notes increased owing to positive price and exchange rate effects.

— Austrian investors purchased euro-denominated debt securities issued by foreign (i.e. non-euro area) residents and thus also benefited from positive securities price effects.

– As a result of new purchases, Austrian investors raised their holdings of bonds and notes issued by other foreign residents in other currencies.

Thus, Austrian investors' portfolios comprised the following holdings at the end of December 2002: 62% of Austrian holdings of foreign debt securities were issued by euro area residents and denominated in euro, 15% were euro-denominated securities issued by non-euro area residents, no more than 4% were issued by euro area residents and denominated in a foreign currency, and 20% were issued by non-euro area residents.

### 2.2 Foreign Holdings of Austrian Debt Securities (Portfolio Liabilities)

At year-end 2001, foreign investors held Austrian fixed-income securities worth EUR 178 billion, with debt securities accounting for 96% (EUR 170 billion). In the course of 2002, they purchased debt securities worth another EUR 18 billion. Owing to adverse exchange rate effects, foreign holdings of Austrian fixed-income securities came to a mere EUR 194 billion at the end of December 2002.

Chart 4

Foreign Holdings of Domestic Debt Securities

Broken Down by Sector of Austrian Issuer

at End-2002

%

Institutional investors or corporations
10

Banks
40

General government
50
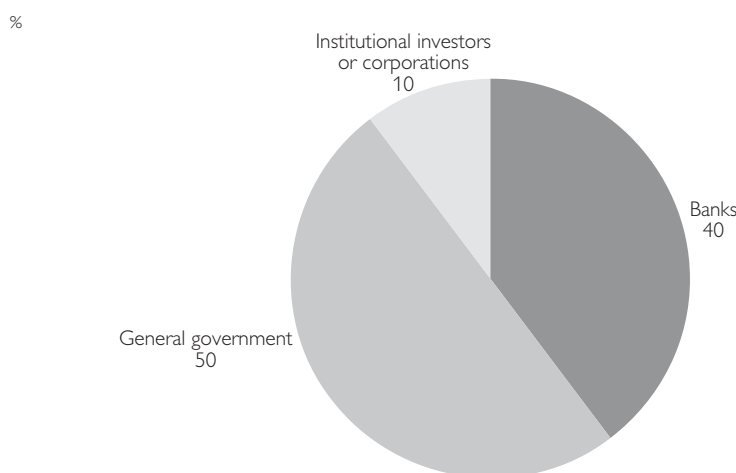
Source: OeNB.

As in previous years, issues by general government entities were highest in demand among foreign investors. At the end of 2001, nonresidents had held public sector issues to the tune of EUR 84 billion. Further net purchases in 2002, more than half of which occurred in the first quarter, and mostly positive price effects pushed these holdings to EUR 97 billion or 50% of nonresident creditors' holdings of Austrian fixed-income securities.

The foreign currency share of securities issued by Austrian banks is far higher than that of public sector issues, which becomes obvious in the following breakdown of domestic bank issues: At year-end 2001, foreign investors held securities issued by banks worth EUR 75 billion. Between January and December 2002, foreign investors made net purchases of securities issued by Austrian

banks to the amount of some EUR 6 billion. Owing to adverse exchange rate effects, which could not be compensated by positive price effects, foreign holdings of securities issued by Austrian banks stood at only EUR 77 billion at end-2002.

A breakdown by currency of foreign holdings of domestic debt securities reveals that by end-2001, 68% (EUR 116 billion) of domestic debt securities held by nonresidents were denominated in euro. Thanks to new investment in the reporting period and to positive securities price effects, foreign holdings of euro-denominated Austrian bonds and notes amounted to EUR 130 billion at the end of December 2002, thus accounting for a share of 69%. Foreign investors also made net purchases of debt securities denominated in foreign currencies (EUR 6.3 billion). However, owing to adverse exchange rate effects, Austria's external liabilities in the form of bonds and notes denominated in foreign currencies came to some EUR 58 billion.

Between January and December 2002, and primarily in the first quarter, foreign investors also purchased Austrian money market paper denominated in euro while selling or redeeming domestic money market instruments denominated in other currencies, primarily during the second half of the year. At year-end 2002, foreign holdings of domestic money market paper denominated in euro stood at EUR 2.9 billion, while foreign holdings of short-term debt securities denominated in foreign currencies came to EUR 3.7 billion.

Financial Investment
and Financing of the Nonfinancial Sectors
of the Austrian Economy in 2002
Analysis of Financial Accounts Data

Michael Andreasch

1 Measuring the Financial Transactions and Financial Assets of an Economy – The Role of the Financial Accounts

The system of national accounts (SNA) displays the entire sequence of accounts in an economy from the production of goods and services to the distribution of income to the consumption or investment of assets and hence also the financing of individual sectors of the economy. The financial account of the SNA is compiled with a financial accounts matrix, which provides a uniform framework for reflecting both transactions and amounts outstanding. Financial assets and liabilities are shown in a two-way classification: by sectors and by types of financial transactions. The various types of transactions are classified according to liquidity and legal characteristics,[1] with the most important categories analyzed being:
– deposits,
– securities (securities other than shares; shares and other equity, such as mutual fund shares),
– loans,
– life insurance and pension fund reserves.
   From a financing perspective, the sectors of the economy are broken down into
– lenders (typically households[2]) and
– borrowers (essentially nonfinancial corporations and the public sector).
   The financial sector works as a the financing hub of the economy. In a long-term perspective, the Austrian economy as a whole has typically had a net debtor position. The classification by types of transaction and sectors is based on the European System of National Accounts (ESA 95), which is binding for all EU Member States.
   Put briefly, the financial accounts indicate how much was invested in currency or in financial instruments in a given period, and how much investors borrowed to finance these transactions. The volume of transactions and the resulting stocks of assets or liabilities, as adjusted for valuation effects, are key economic indicators. They facilitate the assessment of how financing conditions or the demand for, and supply of, financial assets may develop in the individual sectors of the economy. In addition, the financial accounts display how the different sectors of the economy interact, i.e. which sectors provide and which sectors receive financial assets.
   Euro area aggregates can be used to deduce relationships – and hence substitution effects – between financial assets that are used as a measure of the money supply and any other, typically longer-term financial assets.
   To allow for a timely analysis of developments throughout the year, the European Central Bank (ECB) worked out, jointly with the national central banks (NCBs), a framework for publishing a quarterly overview of financial

---

1   Source: ESA 95, 5.20.
2   Please note that in the empirical analysis, it is currently the convention in EU Member States to classify nonprofit institutions serving households (such as trade unions, political parties, churches and private foundations) among households.

Financial Investment
and Financing of the Nonfinancial Sectors
of the Austrian Economy in 2002
Analysis of Financial Accounts Data

transactions and amounts outstanding. The Austrian contribution to the financial accounts of the euro area is compiled by the Oesterreichische Nationalbank.

Against this background, the OeNB is also gradually expanding its quarterly reporting on the financial accounts. This report contains selected quarterly results on the financial assets and liabilities of households in the form of charts.

2 Framework Conditions for Financial Investment and Financing in the Austrian Economy in 2002

At the beginning of 2002, economic forecasts expected investment and consumption to accelerate in Europe as well as in the United States. At the time, financial markets were likewise anticipating positive developments, as reported for instance by the Bank for International Settlements (BIS) in its Quarterly Review of March 2003.[1]) Yet, the factors stimulating economic growth did not remain in force throughout 2002. The initially positive sentiment became negative as both economic and geopolitical events took their toll. As a result, the fundamentals for 2002 were much worse in the end than expected, as selected indicators show:

Real GDP grew just 0.8% in the euro area in 2002, private consumption expenditure increased only 0.6%, and the volume of gross capital formation even dropped by 2.6%. The EURO STOXX stock price index slumped by around 33% in 2002, after already having plunged 22% in 2001.[2])

3 Financial Investment and Financing of the Nonfinancial Sectors in 2002[3])

The financial investment of nonfinancial corporations, general government entities and households totaled EUR 23 billion in 2002, roughly 10% less than in 2001. Capital invested with domestic or foreign financial institutions – in the form of deposits, through purchases of mutual fund shares or under life insurance and pension fund plans – as well as increases in currency holdings accounted for more than half of this sum. About EUR 11 billion were invested in roughly equal parts in debt securities and in shares.

An analysis of the euro area reveals that the strong growth of euro area monetary aggregates in 2002 was significantly influenced by portfolio reallocation effects that accompanied moderate overall growth of financial investment. While investment in shares decreased, the annual growth rate of currency and deposits increased by more than 5% in 2002. With regard to capital tied up over a longer horizon, mutual fund shares as well as life insurance and pension fund instruments[4]) attracted the bulk of investment in 2002.

As in 2001, the amount of cash held by the private, nonfinancial sectors still reflected the introduction of the euro in 2002. After households and nonfinancial corporations had temporarily deposited their remaining national currency holdings or spent on consumption in 2001, they held larger amounts of coins

1 The report contains indicators such as "profit warnings" and "macroeconomic surprises."
2 Source: ECB, Monthly Bulletin 2003.
3 The cutoff date for financial accounts data presented in this report was April 28, 2003. The next update of data is due in September 2003.
4 Source: Press release of the ECB on the financing and financial investment of the nonfinancial sectors in the fourth quarter of 2002 and in 2002 as a whole of May 21, 2003.

and banknotes again in 2002. In Austria this increase corresponds to roughly EUR 4 billion.

How the Nonfinancial Sectors' Cash Holdings

Have Been Measured Since the Introduction of the Euro

Until 2001 cash holdings were measured with a so-called residual method: The national currency in circulation was first adjusted for cash held by the financial sector (as reported), nonresidents (as estimated on the basis of balance of payments data) and the general government. Based on estimates, the remaining currency in circulation was then allocated to households and nonfinancial corporations.

Since the cash changeover to the euro, banknotes have been issued by the Eurosystem and coins by the competent national authorities for the euro area as a whole. With the euro serving as a transnational currency, currency in circulation has become a transnational aggregate. To facilitate calculation of the amounts of cash that the private, nonfinancial sectors of each Member State hold, the ECB and the NCBs developed the following formula: Euro area currency in circulation is first adjusted for euro cash held by nonresidents (calculated from national balance of payments data on cash delivered by banks), the financial sector and the general government sector. The balance is then allocated to the private nonfinancial sectors of the individual Member States in relation to the development of MFI currency and deposits as well as GDP growth. An analysis of actual distribution patterns from 1995 to 2000 helped refine this formula.

In 2002, the financing needs of the nonfinancial sectors totaled EUR 22.4 billion, which is roughly 25% below the figure of 2001. While the general government relied heavily on debt securities (net issuance volume of EUR 7.3 billion in 2002) for financing, nonfinancial corporations and households took out loans worth EUR 15 billion.

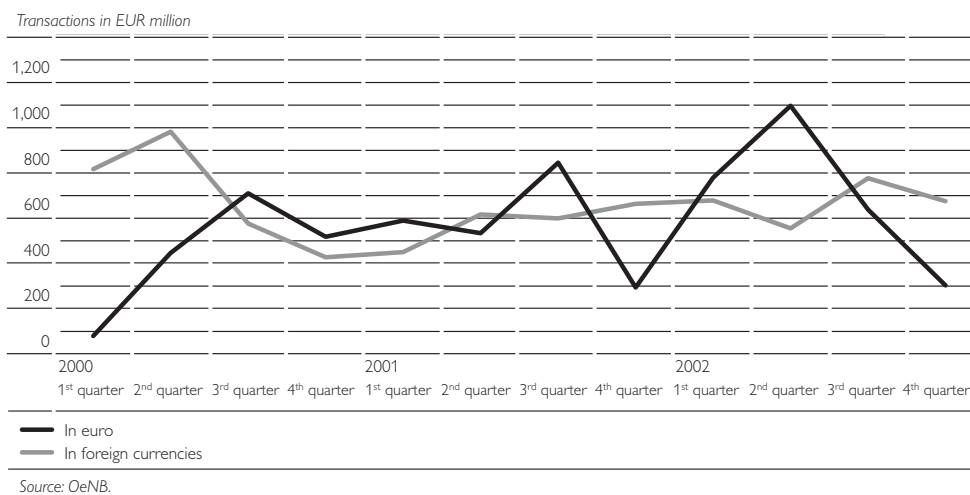## 4 Financial Investment and Financing of Households in 2002

The financial investment and financing behavior of households in 2002 reflects both economic uncertainties and adverse developments in financial markets.

According to preliminary calculations, the net disposable income of households grew by 3% at the utmost in 2002 in nominal terms – a rate that is somewhat higher than the figure for 2001 (2.4%) but nonetheless relatively low by comparison with the average for the 1998 to 2000 period.[1]) Against the background of a weak economy and mounting unemployment, private consumption rose by 2.7% in nominal terms (2001: 3.5%).

Household loan demand remained as high as in 2001. Households tended to borrow mostly from domestic banks. New loans totaled EUR 4.6 billion, with consumer loans accounting for a share of more than 40%. In the field of home loans, foreign currency borrowing continued to be popular with households; new foreign currency-denominated loans totaled EUR 2.7 billion. Euro-

---

[1] *According to the March 2003 forecasts of the Institute for Advanced Studies (IHS) and the Austrian Institute of Economic Research (WIFO), income evidently grew by 1% in 2002. The OeNB's corresponding spring 2003 economic outlook puts income growth at a mere 0.5% (in real terms).*

Financial Investment
and Financing of the Nonfinancial Sectors
of the Austrian Economy in 2002
Analysis of Financial Accounts Data

Bank Loans to Households

Transactions in EUR million

In euro
In foreign currencies

Source: OeNB.

denominated financing also includes purchases of state governments' housing loan receivables, notably in the first and final quarters of 2001 and in the first two quarters of 2002.

The low consumer demand resulted in higher saving in 2002. According to preliminary calculations, the saving rate, i.e. net saving as a percentage of net disposable income[1]) evidently inched up to 7.5% as forecast (2001: 7.4%).[2])

Households invested a majority of their savings in financial assets in the reporting year.

On balance, household financial investment totaled about EUR 12.6 billion in 2002, which is roughly 14% higher than in 2001. Investors tended to be risk-averse in their choice of instruments.

Instruments offered by banks accounted for as much as one-third of household financial investment, including deposits to the tune of about EUR 3.4 billion and bonds worth EUR 1.1 billion. In the case of bank bonds, tax-subsidized housing bonds that are convertible into equity were most popular. Bundesschätze (federal treasury bills available only on the Internet) generated sales of slightly more than EUR 100 million.

Capital deposited or invested in debt securities apart, households increased their cash holdings by roughly EUR 3.6 billion in the review year, after having dissolved schilling holdings equivalent to EUR 3 billion in 2001.

Other financial assets developed as follows: While in 2001 households had purchased stocks and mutual fund shares worth EUR 3.8 billion, they invested just EUR 900 million in such instruments in 2002. This reflects above all the very low demand for domestic mutual fund shares. While in 2001 households had bought about 30% of the volume of net newly opened mutual funds, the share of such purchases dropped to just 5%[3]) in 2002.

1 Income including adjustment for the change in net equity of households in pension funds.
2 According to the OeNB's most recent forecast (spring 2003), the saving rate declined to 7.1% in 2002. According to the March forecasts of IHS and WIFO, the saving rate remained unchanged at 7.5%.
3 For reference purposes the net change in the volume of mutual funds has been used, as adjusted for valuation changes and transaction-based changes in mutual fund companies' own holdings.

Financial Investment
and Financing of the Nonfinancial Sectors
of the Austrian Economy in 2002
Analysis of Financial Accounts Data

Currency Holdings and Domestic Bank Deposits of Households

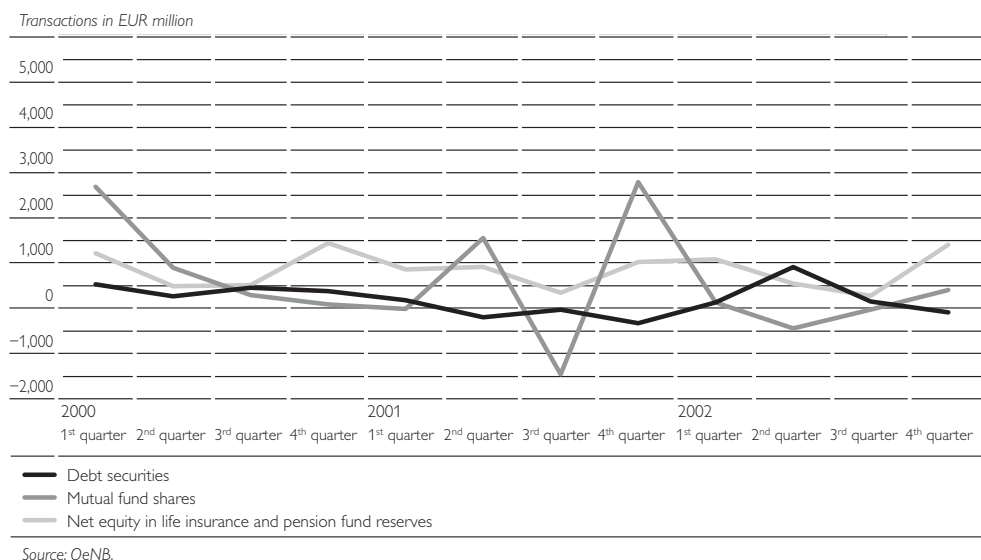*Transactions in EUR million*

Currency holdings
Deposits with domestic banks

Source: OeNB.
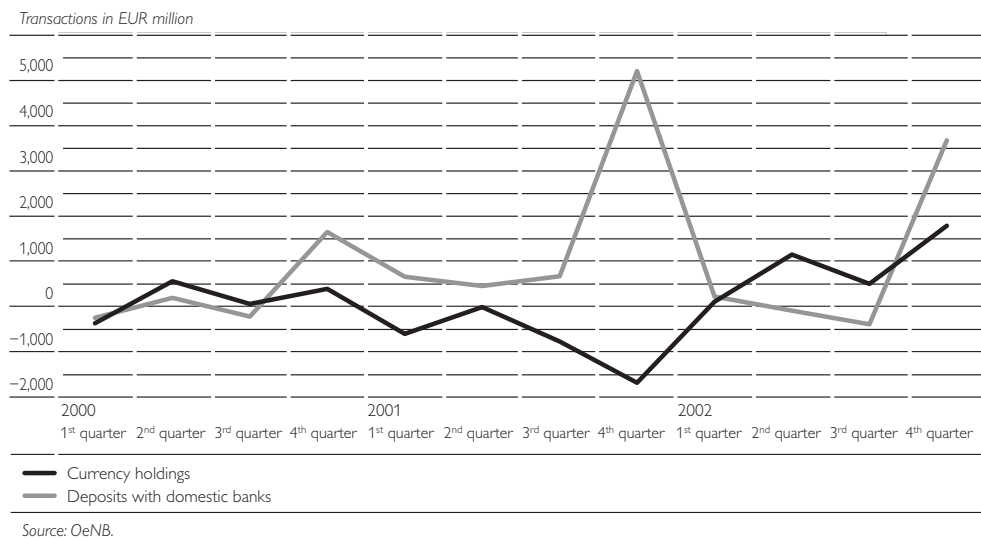
By contrast, retirement saving in the form of life insurance and pension plans continued to post steady growth rates in 2002. Out of a total of EUR 3.7 billion invested in life insurance and pension plans, the former accounted for roughly three quarters, just as in 2001.

Main Long-Term Financial Assets of Households

Transactions in EUR million

Debt securities
Mutual fund shares
Net equity in life insurance and pension fund reserves

Source: OeNB.

Financial investment minus financing yields net borrowing or lending. Households recorded a surplus, i.e. net lending, of EUR 8 billion in 2002 (2001: EUR 7.1 billion). In the review year, the positive balances of households and of the financial sector were higher than the net borrowing needs of non-financial corporations and general government entities. As a result, the Austrian economy was a net lender in 2002, for the first time in a decade, on the order of EUR 1.1 billion.

All told, the financial assets of households reached EUR 290 billion (2001: EUR 281 billion) at December 31, 2002, which is more than double the disposable income of this sector. While outstanding assets expanded due to financial investment, investment portfolios were hit by valuation losses. In particular, the downturn in international stock markets depressed the market value of mutual fund shares and stocks held by households. Unrealized losses were calculated to have totaled approximately EUR 3.5 billion in 2002.

Finally, the indebtedness of households increased from EUR 85.3 billion to close to EUR 90 billion.

5 Financial Investment and Financing of Nonfinancial Corporations in 2002

Corporate profitability was evidently on the decline in 2002. According to estimates for the manufacturing industry, manufacturing companies reported a cash flow of 9.8% of turnover. In 2001, the cash-flow rate had still been as high as 11.3%, despite unfavorable economic conditions.[1]) Equity financing by foreign direct investors also contracted in 2002. The transaction value of direct investment flows to Austria came to just EUR 1.4 billion in 2002, down from approximately EUR 5.4 billion in 2002.

Nonfinancial corporations markedly pared down their gross capital formation, notably investment in plant and equipment, which contracted by 9.2% (in nominal terms) compared with 2001.

Financing incurred by nonfinancial corporations in 2002 totaled EUR 12.1 billion in 2002. Nine-tenths thereof were raised in the form of loans. This compares with a financing volume of EUR 21 billion reported for 2001.

The domestic MFIs used to dominate lending to nonfinancial corporations. Between 1999 and 2001 they accounted for 40% of total financing and 60% of financing through loans. Initial findings for the review year show that banks in Austria exercised very cautious lending policies in 2002. This development evidently reflects a change in risk assessment that has been observed throughout the euro area. On balance, banks' loan portfolios shrank by EUR 2.3 billion through net repayments. At the same time, the volume of loans financed in foreign currency expanded by approximately EUR 500 million.

Quasi-public companies obtained credit in part through intermediary funding by the central government, which extended loans totaling EUR 2.3 billion to state-owned corporations in 2002. These loans were typically refinanced by the government through the issuance of debt securities.

Another major financing form is credit obtained abroad, either through intracompany cash management or intercompany loans or from foreign MFIs. In the reporting year, external loans exceeded the sum of EUR 10 billion.

Financing through the issuance of debt securities was influenced by two offsetting developments. On the one hand, domestic companies, particularly in the food and car industries, raised approximately EUR 1.4 billion by launching long-term bonds denominated in euro in the Austrian capital market. On the other hand, issuers of foreign currency bonds, above all quasi-public companies,

---

1   Source: WIFO, Monatsberichte 3/2003.

Financial Investment
and Financing of the Nonfinancial Sectors
of the Austrian Economy in 2002
Analysis of Financial Accounts Data

redeemed securities in 2002. In the bottom line, financing through long-term debt securities therefore played just a minor role in 2002.

The liabilities on the balance sheet in the sector of domestic nonfinancial corporations summed up to EUR 271.2 billion at December 31, 2002 (2001: EUR 261.4 billion). Approximately three quarters thereof were debt finance instruments, of which, in turn, 90% were attributable to credit obtained from banks.

At the same time, nonfinancial corporations expanded their financial assets by EUR 6.6 billion in 2002. Most of this increase (EUR 3.1 billion) was attributable to direct investment abroad.

Annex

Table 1

Financial Investment and Financing of Households[1])

	2000	2001	2002[2])
	EUR million		
Financial investment			
Currency	692	− 3,004	3,597
Sight and time deposits	1,448	7,020	3,452
Debt securities	1,829	− 374	1,170
Shares and other equity	1,672	957	765
Mutual fund shares	4,000	2,916	114
Life insurance and pension fund reserves	4,186	3,512	3,708
Loans and other assets	189	0	− 237
Total financial investment	14,016	11,028	12,570
Financing			
Short-term loans	− 769	49	619
Long-term loans	5,316	3,915	3,699
Other liabilities	94	6	279
Total financing	4,641	3,970	4,597
Net lending	9,375	7,058	7,973

Source: OeNB.
[1]) *Including nonprofit institutions serving households.*
[2]) *Preliminary data.*

Table 2

Financial Investment and Financing of Nonfinancial Corporations[1])

	2000	2001	2002[2])
	EUR million		
Financial investment			
Currency	77	− 1,112	344
Sight and time deposits	766	1,689	880
Debt securities	503	234	732
Shares and other equity	3,862	6,042	3,590
thereof foreign direct investment	*4,145*	*2,870*	*3,144*
Mutual fund shares	2,276	821	0
Loans and other assets	2,502	1,034	1,046
Total financial investment	9,985	8,709	6,592
Financing			
Short-term loans	4,376	− 1,034	1,907
Long-term loans	13,657	12,589	8,776
Debt securities	2,116	576	− 179
Shares and other equity	4,361	8,960	1,848
thereof foreign direct investment	*2,308*	*5,414*	*1,357*
Other liabilities	− 2,544	− 183	− 228
Total financing	21,966	20,909	12,124
Net borrowing	−11,981	−12,199	− 5,532

Source: OeNB.
[1]) *Preliminary data.*

Pension Finance Reform:

From Public to Financial Economics

Welfare Effects of Pension Finance Reform

Johann K. Brunner[1]

1 Introduction

It has become a commonplace that the social security systems, which in most countries are organized according to the pay-as-you-go (PAYG) method, are severely affected by population aging. I would like to mention just one number to illustrate this point, namely the ratio of people over 64 to those aged between 20 and 64. This ratio was 0.25 in Austria in 2000 and will increase to 0.53 by 2050 according to recent demographic forecasts. Similar numbers are to be expected for most industrialized countries. As is well known, the two factors responsible for this development are an increase in life expectancy (about six years for women and seven years for men until 2050) and a decrease in fertility.

This fact has prompted numerous discussions among both academics and politicians on how to adequately reform the social security system. Proposals range from rebuilding the whole system to changing some parameter values. In order to assess these proposals, it helps to consider them within a unifying framework that makes the specific characteristics of various changes visible. Accordingly, the intention of the present contribution is to analyze the properties of the social security system and of suggested reforms from a common perspective, as it has emerged within the last decades. Following a public economics approach, the focus is on welfare effects stemming from changes in real variables such as consumption; I do not deal with monetary and financial market effects.

Of course, this paper does not provide a comprehensive survey of all aspects relevant for pension reform, which are reflected in a vast amount of literature on that topic. Rather, this contribution will be confined to some basic issues that are at the heart of any reform proposal.[2] It will also not deal with political-economic questions, such as the increasing political power of the older generations, which obviously are very important for public decision-making on social security systems.

As a first step it is interesting to ask why pensions are a field of public activity in the first place[3] – bearing in mind that we tend to see public interference in a market economy to be justified only by some important efficiency or distributive target that free markets fail to achieve. The standard answer is that mandatory pension systems are necessary because otherwise individuals would not provide sufficiently for old age. The two main reasons typically mentioned are: (1) individuals might act as free-riders, relying on public assistance schemes when old; (2) individuals might be myopic, that is, at the age of 20 or 30 many people are unable to identify their future needs. A variant of the latter argument is that individuals tend to act inconsistently over time, that is, though they are basically willing to provide for the future, they keep postponing saving for retirement. In any case, this argument is clearly based on a paternalistic position, which in general is considered problematic among economists and should be invoked with particular care only because it conflicts with the axiom of consumer sovereignty. Similarly, the free-rider

---

1   Johannes Kepler University of Linz, Department of Economics.
2   For a broad and careful investigation of the effects of pension reform see for instance the recent study by Lindbeck and Persson (2003).
3   According to Mulligan and Sala-i-Martin (1999), 166 countries have some kind of public old-age pension.

argument warrants only a modest size of the public pension system, to the extent that is sufficient to prevent old-age poverty.

Nonpaternalistic arguments for a mandatory pension system may refer to limitations in the financial markets, such as asymmetric information problems, or to the target of inter- and intragenerational redistribution. Some of the latter will be discussed in further sections.

2 Pay-As-You-Go Versus Funding

In this section we formulate some basic relations describing the functioning of the pay-as-you-go (PAYG) pension system, within a simple overlapping-generations model. Let N_t, $t = 0, 1, ...$ denote the number of (identical) individuals arriving and working in period t and being retired in period $t + 1$. Let τ_t be the contribution rate to PAYG in period t and w_t the wage rate. With x_t denoting pension benefits per capita we have the PAYG budget equation in $t + 1$

$$\tau_{t+1} w_{t+1} N_{t+1} = x_{t+1} N_t \tag{1}$$

or

$$x_{t+1} = \tau_{t+1} w_{t+1} \frac{N_{t+1}}{N_t}$$

Comparing this with the contribution of an individual born in period t, who receives x_{t+1} in retirement, we have

$$\frac{x_{t+1}}{\tau_t w_t} = \frac{\tau_{t+1}}{\tau_t} \frac{w_{t+1}}{w_t} \frac{N_{t+1}}{N_t} \tag{2}$$

That is, the profitability of PAYG depends on the growth rates of the contribution rate, of wages (i.e. on productivity growth) and of the labor force. For constant contribution rates and with $\hat{w}_{t+1}$, $\hat{N}_{t+1}$ denoting growth rates, the internal rate of return i_{t+1} of PAYG is implicitly determined by the relation

$$1 + i_{t+1} = (1 + \hat{w}_{t+1})(1 + \hat{N}_{t+1}) \approx 1 + \hat{w}_{t+1} + \hat{N}_{t+1} \tag{3}$$

that is, it equals the growth rate of the wage bill, determined by productivity and population growth. If we compare this with the market rate of return r_t an individual would have earned by investing the same amount on the capital market instead of contributing to PAYG, we arrive at the well-known Aaron condition:

$$r_{t+1} \gtrless \hat{w}_{t+1} + \hat{N}_{t+1}$$

Contributing to PAYG decreases/increases lifetime income compared to investing on the capital market (in other words: compared to private saving or to contributing to a fully funded system), if the rate of interest is larger/lower than the growth rate of the wage bill. The usual opinion is that the first of these possibilities holds in the long run, because otherwise the economy is characterized by so-called dynamic inefficiency, which means that reducing capital would increase welfare.[1])

---

[1]   It should be noticed that we take the interest rate as exogenously fixed (small, open economy). Most statements hold for an endogenous interest rate as well.

However, even if one accepts this argument (see e.g. Abel et al., 1989), theory does not tell us how big the difference between r and $\hat{w} + \hat{N}$ is. In concrete projections, productivity growth is usually assumed to lie between 0.015 and 0.025, while estimates for the real market rate of return range from 0.02 to 0.1, with the last number referring to investment in risky assets and including a risk premium.

Thus, if a person was free to choose a system for old-age provision, according to the Aaron condition he or she would probably opt for investing on the capital market. However, the decision has been taken, and it was taken in favor of PAYG, and thus in favor of the first generation, allowing individuals retired in period 0 to receive a pension x_0 without ever having contributed to the system. That is, for them PAYG was advantageous irrespective of the Aaron condition.

It is interesting to relate the profit of the first generation to the losses of later generations, given that $r_t > i_t$. In doing this, we assume, for simplicity, that the interest rate r and the growth rates $\hat{w}$ and $\hat{N}$ remain constant over time, and thus i as well. We start with considering the discounted loss, caused by the contribution to the PAYG system, instead of a capital market investment for a generation entering in t:

$$\frac{\tau w_t N_t (r - i)}{(1 + r)}$$

Adding the present value of these losses up to infinity we get

$$\sum_{t=0}^{\infty} \frac{\tau w_t N_t (r - i)}{(1 + r)(1 + r)^t}$$

which can be expressed, using growth rates and (3), as

$$\frac{\tau w_0 N_0}{1 + r}(r - i) \sum_{t=0}^{\infty} \frac{(1 + i)^t}{(1 + r)^t} = \tau w_0 N_0 \tag{5}$$

That is, the gift to retirees in period 0 ($x_0 N_{-1} = \tau w_0 N_0$) equals exactly the present discounted value of the losses of all later generations (Spremann, 1984; Sinn, 2000; Lindbeck and Persson, 2003).[1])

This relation gives us an indication for the answer to a question that has puzzled economists and noneconomists for some time: given $r > i$, switching from PAYG to a funded system obviously produces a profit for later generations. However, one or more generations in transition lose, because they receive no or only an unexpectedly small pension out of the PAYG system although they contributed when working. Should it not be possible to tax away some of the profits of later generations, and to compensate generations in transition? In other words, is a switch possible where no generation loses? The answer is "no" (Breyer, 1989) and it has to do with formula (5): With an existing PAYG system, some total amount and a time path of losses is determined; any change of the system could only change the time path (not the total amount of losses), making some generations worse off and some better off.

---

1   *Obviously, the same holds for pension claims in later periods as well.*

3 The Deadweight Loss of Contributions to the Pay-As-You-Go System

Now we briefly turn to another idea how a Pareto-improving transition from a PAYG to a funded system could be managed (Homburg, 1990; Breyer and Straub, 1993). It starts from an extension of the above model, which used the assumption of a fixed labor supply $l = 1$. With variable labor supply, the financing of public activities through taxes causes a deadweight loss. If the contribution to the PAYG system can also be seen as a kind of tax, then removing it through a switch to the funded system would also remove the deadweight loss and, thus, create a surplus, which could be used for compensating the generations which otherwise would lose in the process of transition.

With variable labor supply l, the discounted available labor income (gross income minus contribution plus discounted pension) for an individual, given PAYG with $r > i$, can be written as (remember (4))

$$w_t l_t (1 - \tau \frac{r - i}{1 + r}) \tag{6}$$

where $\tau(r - i)/(1 + r)$ represents the effective tax rate. It is at least conceivable that abolishing the tax indeed creates additional welfare, the money equivalent of which can be used to compensate potential losers.

However, one should be aware that in reality distorting taxes instead of lump-sum taxes exist for a certain reason, which is: differences between individuals. In a world with identical individuals, as it was modeled in the foregoing section, it does not make sense to have distorting taxes; one could always use a head tax, which does not cause any deadweight loss. Thus, in order to discuss the above idea adequately, one has to depart from the assumption of identical individuals, that is, in the present context, of identical wage rates.

With differing individuals, (at least) two different versions of PAYG systems are possible concerning the way benefits are allocated to pensioners: either there is a single lump-sum benefit x_{t+1} for every individual, or benefits differ according to prior contributions, that is to labor income. In case of the latter, when benefits are strictly proportional to own contributions (which could be termed an individually "fair" system), formula (6) still describes the marginal tax rate where w_t^k and I_t^k should both be indexed by k to indicate differing individuals. In case of the former, however, this is no longer true. Because of the strong redistributive element, τ in fact represents the effective marginal tax rate, as the benefit x_{t+1} is a lump sum independent of labor income. It is clear that in such a system the associated deadweight loss is much larger.

The important point now is that, with either system, some given distribution of contributions, benefits and deadweight losses among individuals is associated. Any attempt at downsizing the PAYG system in order to decrease the deadweight loss can only mean a reduction of the contribution rate and an introduction of a lump-sum element. It is true that this reduces the deadweight loss, but at the same time it changes the distribution of taxes and benefits. One can show that except in specific cases,[1] it is not possible to design a change of

---

[1] Essentially: when with the existing PAYG system contributions are collected in an inefficient way. Obviously, this inefficiency could also be removed without changing the system.

contributions such that the deadweight loss is indeed reduced while enough revenue is collected to finance the pensions of the retired, without making some of the individuals worse off (Brunner, 1994, 1996). That is, redistribution within a generation occurs.

4 Reactions to Aging

So far we have discussed two main ideas how to transform a PAYG system to a funded system without making some individual or generation worse off. Unfortunately, it turned out that these ideas do not really work. In the literature, other proposals for a painless transformation were made, but it seems fair to say that these do not provide realistic alternatives, either.

Given this insight, what should then be an adequate reaction in view of the expected aging of the society?

First of all, the nonexistence of a Pareto-improving reform obviously does not preclude any reform. However, as any reform implies specific redistributive effects across (and probably also within) generations, these effects should be made visible and they should be justified by some accepted norm. Moreover, as was mentioned in the introduction, a main argument for establishing a mandatory system in the first place is based on a paternalistic view and should therefore not be applied on a large scale.

As can easily be seen in our simple model in section 2, the consequence of a decline in population growth in period $t+1$ is a fall of the internal rate of return of the PAYG system (unless an increase in productivity growth offsets this effect, but there is no convincing reason to assume this to occur). There are three obvious possible reactions:

(a) accept the fall of the rate of return, that is, the lower pension x_{t+1};
(b) increase the contribution rate τ_{t+1} in order to keep the rate of returns i_{t+1} at the level of the period before the decline of labor force growth;
(c) force individuals in period t to save an additional amount by collecting a contribution to a newly established funded system, such that the (low) PAYG benefit x_{t+1} and the benefit from the new funded system are roughly equal to the PAYG pension benefit that could have been granted if population growth had not fallen.

What can be said concerning the welfare effects of these alternatives? First, it is clear that with the first alternative the burden due to a fall of $\hat{N}$ is laid on the generation born in t, while this generation profits from the second.

However, returning to formula (5) above, one observes immediately that this profit goes at the costs of later generations: the present value of the sum of their losses from a participation in the PAYG system increases.

Whether variant (a) or variant (b) is preferred depends on value judgments and cannot be decided by an economist. The answer is certainly not clear-cut, as the following example indicates: given the assumption of future technological progress, the Rawlsian criterion might suggest to lay some additional burden on future generations, who will be better off anyway (Breyer, 2000). However, one should surely be reluctant to suggest this solution, as it appears unfair to burden future generations.

Second, a further observation concerns the third alternative mentioned above: it is difficult to see how (c) could be superior to (a), because in addition

to the acceptance of the lower internal rate of return of the PAYG system it implies forced saving, which certainly does not increase the welfare of the affected generation, at least not in our standard economic model of household behavior. One has to invoke additional arguments (myopia, imperfect financial markets, etc.) in order to justify this measure. From a liberal point of view, one might say that, as long as the existing PAYG system will, even at a reduced internal rate of return, provide a sufficient minimum pension, an additional mandatory system can hardly be justified. What seems to be more important is a clear and timely projection of future payments out of the PAYG system, enabling individuals to adapt their own provisions.[1])

Finally, it should be mentioned that in our simple overlapping-generations model with only two periods it is not possible to investigate a further possible reaction to a decrease of population (growth), namely an increase of the retirement age. In principle, this measure is not too much different from alternative (a) above, because in a way it replaces the burden of a lower rate of return by that of a longer working time, without higher benefits. Obviously, how these alternatives are ranked, depends on the relation between the marginal disutility of labor at retirement and the marginal utility of income in retirement. The most preferable way seems to be to give individuals a choice between working longer or receiving a lower benefit. However, defining appropriate incentives for this choice is not a straightforward task.

5 Macroeconomic Considerations

In the last section we turn to a discussion of some macroeconomic questions which are related to pension reforms. We start with the well-known and much criticized Mackenroth thesis, which states that in every period the consumption of the retired must come from the GNP of that period. Taken literally, this statement is certainly true, but does it mean that the method of how the pension system is organized does not matter? Sometimes it is interpreted in that way.

Obviously, Mackenroth's thesis is valid for a given level of production in every period. However, the question is actually whether the pension system influences the level of production in an economy in the course of time. The theoretical line of argument goes as follows: if, in the period the PAYG system was introduced, the contributions of the working generation had been saved instead of giving them to the retired for their consumption, this would have raised the available stock of capital, as a result of which production (and income) in the following periods would have been larger (see e.g. Homburg, 1988). Again, we see that the profit of the initially retired generation comes from losses of later generations.

Similarly, it follows from this argument that any attempt to introduce more funding into the pension system – through mandatory saving or saving incentives – has a real positive effect only if it leads to a larger available income in the future. Otherwise it may have an influence on the share of consumption of the old and the young, respectively, but an expansion of each reduces that of the other.

---

1   It is of course also a possibility to induce additional savings through tax incentives instead of a mandatory contribution. This way of government intervention needs to be justified by specific arguments as well.

Consequently, there are two questions one has to ask:

First: Does additional mandatory (or tax-credit induced) saving indeed increase macroeconomic savings? It does not seem very realistic to assume that a one-to-one increase takes place; part of the additional savings for pensions will simply replace other forms of holding wealth (compare e.g. Mitchell and Zeldes, 1996). This again seems to suggest that measures to establish additional funding should be confined to guaranteeing a minimum necessary pension, in order to avoid free-riding and myopia.

Second: Does additional macroeconomic saving indeed produce higher income in the future? Obviously, it is not saving but some form of real investment that is decisive. Of course, from a (neo-)classical perspective, the answer to this question is clearly "yes": saving is a prerequisite for investment. However, from a Keynesian perspective, things are not so clear, because increased saving means less aggregate demand: savings may mean less production instead of more investment. Usually it is argued that in the long run – which is the appropriate horizon for pension reforms – the classical perspective is the relevant one. However, an appropriate view could also be that the long run consists of a sequence of short runs and it is the short runs which matter.

Whatever the true view may be, the consideration of these macroeconomic aspects certainly sheds additional light on the question of funding the pension system. In particular, it makes clear that it is not investment of money in some investment fund which ultimately determines future available income, but how this affects the real economy variables such as investment and production.

References

Abel, A. B., N. G. Mankiw, L. H. Summers and R. J. Zeckhauser. 1989. Assessing Dynamic Efficiency: Theory and Evidence. Review of Economic Studies 56. 1—20.

Breyer, F. 1989. On the Intergenerational Pareto Efficiency of Pay-As-You-Go Financed Pension System. Journal of Institutional and Theoretical Economics 145(4). 643—658.

Breyer, F. 2000. Kapitaldeckungs- versus Umlageverfahren, Perspektiven der Wirtschaftspolitik 1(4). 383—405.

Breyer, F. and M. Straub. 1993. Welfare Effects of Unfunded Pension Systems When Labor Supply is Endogenous. Journal of Public Economics 50. 77—91.

Brunner, J. K. 1994. Redistribution and the Efficiency of the Pay-As-You-Go Pension Scheme. Journal of Institutional and Theoretical Economics 150. 511—523.

Brunner, J. K. 1996. Transition from a Pay-As-You-Go to a Fully Funded Pension System: The Case of Differing Individuals and Intragenerational Fairness. Journal of Public Economics 60. 131—146.

Homburg, S. 1988. Theorie der Alterssicherung. Berlin: Springer.

Homburg, S. 1990. The Efficiency of Unfunded Pension Schemes. Journal of Institutional and Theo-retical Economics 146. 640—647.

Lindbeck, A. and M. Persson. 2003. The Gains From Pension Reform. Journal of Economic Literature 61. 74—112.

Mitchell, O. S. and S. P. Zeldes. 1996. Social Security Privatisation: A Structure for Analysis. American Economic Review 86. 363—367.

Mulligan, C. B. and X. Sala-i-Martin. 1999. Social Security in Theory and Practice I: Facts and Political Theories. Working Paper 384, Department of Economics, University Pompeu Fabra.

Sinn, H.-W. 2000. Why a Funded Pension System is Useful and Why It Is Not Useful. International Tax and Public Finance 7. 389—410.

Spremann, K. 1984. Intergenerational Contracts and Their Decomposition. Zeitschrift für National-ökonomie 44(3). 237—253.

Discussion of
"Welfare Effects of Pension Finance Reform"

Thomas Steinberger[1]

Johann Brunner's paper offers a very insightful perspective on the economics of public pension provision. Within the framework of an overlapping generations (OLG) model, the intertemporal aspect of pension provision and the intergenerational links created by an unfunded pay-as-you-go (PAYG) system are captured well. The rigorous mathematical approach and the use of a stylized theoretical model make it possible to convey deep insights into the overall welfare effects of social security systems. The main insight presented by J. Brunner is the proposition that *changing or abolishing an existing unfunded PAYG system is unlikely to yield a Pareto improvement[2])* and that *social security reform will rather be to the disadvantage of some generations while benefiting others.* The most intriguing aspect is that this statement holds even if the rate of return of a funded system is strictly higher than the implicit rate of return of the unfunded system, which would make the society at large better off with a funded pension system.

Like any theoretical proposition, this result of course depends on the particular set of assumptions that are implicit in the model. Here we will discuss only the two most relevant ones for the result above. The first crucial assumption, addressed partly by Johann Brunner, concerns the elasticity of labor supply with respect to the social security tax rate. The standard model assumes that this elasticity is zero and households supply a fixed amount of labor. Since the economy is further assumed to be in a steady state with an optimal capital-labor ratio and technological progress is exogenous, this assumption implies that current and future output is unaffected by the design of the pension system. It follows that increased output from a reduction in the social security tax rate cannot be assumed to represent a source of welfare gains in the model. With a positive elasticity, however, an increase in labor supply in response to a reduction in the social security tax rate will raise future output, thus creating scope for a Pareto improvement. As correctly pointed out by Johann Brunner, whether a Pareto improvement can actually be achieved also depends on the policy instruments for redistribution available to the government. If the government does not have full information about the marginal productivity of households, problems related to *intra*generational redistribution could destroy the Pareto-improving character of the policy measure.

The second important assumption necessary to derive the result concerns the absence of capital income taxation. If there is a tax on capital income τ^{cap} the after-tax market rate of return on capital $r^{eff} = (1 - \tau^{cap})r$ rather than the marginal product of capital r equals the discount rate ρ. This implies that there is too little capital in the economy and that an increase in private savings raises future output levels. To make this clear it is useful to look at the expression capturing the contribution of the young generation at the time when the system is created (time 0).[3]) It is given by

---

2   A policy measure is called Pareto-improving if after the policy measure has been enacted each party (each generation in our case) is at least as well off as before.

3   It should be pointed out here that all arguments are valid also for extending the scope of an already existing pay-as-you-go system, since the extension can also be viewed as the creation of an incremental new system.

$$\bar{L}_0 = -\tau w_0 N_0 + \frac{(1+r)\tau w_0 N_0 - (1+i)\tau w_0 N_0}{1+\rho})$$

The appropriate discount rate ρ is now smaller than r. Summing the losses of all generations up to infinity yields

$$L_0 \sum_{t=0}^{\infty} \frac{(r-i)\tau w_t N_t}{(1+\rho)(1+\gamma)^t} > \sum_{t=0}^{\infty} \frac{(r-i)\tau w_t N_t}{(1+r)(1+r)^t} = \tau w_0 N_0$$

Hence, also in this case the losses of future generations exceed the gain of the initial generation. If we continue to assume that Aaron's condition is valid and $r > \gamma$ then the deadweight loss of a PAYG pension system can be quite sizable. In fact, simulations reported by Feldstein and Liebman (2002) suggest that the deadweight loss associated with labor supply distortions is much smaller than the one associated with capital taxation, with the latter amounting to about twice the gain of the initial generation.

Two further arguments should be mentioned which suggest that the reform of current social security systems could have a positive effect on social welfare. The first point concerns the age-independence of the social security contribution rate. If households are subject to liquidity constraints and cannot borrow against future lifetime income, welfare can be raised by allowing for flexible social security contributions. After all, if income increases with age, young households would like to borrow initially and prefer the contribution rate to rise as they get older. The increasing contribution rate makes it possible for them to pay contributions in accordance with their age-income profile. The second point addresses the fact that social security contributions to a PAYG system are subject to special risks. These risks are mainly related to the future stability of the system and the rate of increase in the contribution base (mainly real wage and employment increases). While these nonstandard risks make PAYG pension wealth an interesting asset for diversification purposes, concentrating a large part of individual wealth in a single asset generally is a suboptimal strategy. Risk-averse households prefer to avoid situations in which rates of return are low for some states of the world and high in others. Diversifying the pension wealth portfolio to include capital assets that provide claims on foreign capital and wages is therefore likely to improve overall welfare.

Within the basic OLG framework such considerations are not relevant, however. In this model, the possibility of Pareto-improving social security reform depends crucially on the scope for output expansion. Hence, the main issue for a Pareto-improving transition is whether additional private saving will increase future output levels. Whether such an increase will actually be realized is still subject to debate in the literature, though. While theoretically the arguments presented above might favor the conclusion that there is scope for output expansion, empirical work has not been able to provide reliable estimates for the magnitude of such an effect.

References

Campbell, J. and M. Feldstein (eds.). 2001. Risk Aspects of Investment-Based Social Security Reform. Chicago: University of Chicago Press.

Feldstein, M. and J. B. Liebman. 2002. Social Security. NBER Working Paper 8451.

Varieties of Capitalism and Pension Reform: Will the "Riester-Rente" Transform the German Coordinated Market Economy?

Sigurt Vitols[1]

1 Varieties of Capitalism and Pension Systems

One approach to comparative political economy that is rapidly growing in popularity is the "varieties of capitalism" (VOC) perspective advanced by Hall and Soskice (2001). This approach makes a number of strong claims about the way advanced industrial economies function. The first claim is that the national institutional framework is a key determinant of how firms operating within this framework are organized and behave. The second claim is that economies can be analytically broken down into a number of discrete subsystems, such as financial systems, training and education systems, industrial relations systems, and R&D/technology transfer systems. The third claim is that there are strong complementarities between these subsystems. Economies with well-matched institutional subsystems will enjoy comparative advantages, whereas an institutional mismatch can adversely affect the operation of the economy. Finally, from a VOC perspective, advanced capitalist economies fall into two broad groups: liberal market economies (LMEs), such as the U.S.A. and the U.K., in which markets play a dominant role in economic governance; and coordinated market economies (CMEs), such as Germany, Japan, and Austria, in which nonmarket mechanisms play a particularly strong role in economic governance. LMEs are considered to offer a particularly hospitable institutional environment for radical product and process innovation, e.g. in the high-tech industry, whereas CMEs are supposed to be better at fostering incremental innovation in medium-tech industries such as automobiles or machine building.

A key difference between CMEs and LMEs is how they finance their business. LMEs are characterized by market-based financial systems, where financial markets (in particular the stock market) play a critical role in the governance of the firm. CMEs in contrast are characterized by bank-based financial systems, with banks dominating the financial system and stock markets playing a less significant role in corporate governance than in the case of LMEs. Bank-based systems appear to have a comparative advantage in providing long-term debt finance to both large firms and small and medium-sized enterprises (SMEs); this kind of finance is particularly important for capital-intensive manufacturing. LMEs in contrast are better at providing the higher-risk finance (equity through venture capital and growth-oriented stock markets such as Nasdaq) needed for radically innovating startups and larger firms.

Though relatively little research within the VOC framework has been done on pension systems, a number of general statements have been made on this topic (Jackson and Vitols, 2000). First, pay-as-you-go (PAYG) public pension systems support bank-based financial systems, since they do not prompt people to accumulate large amounts of financial assets supporting financial markets, e.g. through investing in company shares. Conversely, capitalized pension systems provide major support for large and liquid financial markets in CMEs. Second, the effect of PAYG public pension systems can be reinforced by so-called "embedded" company pension systems. In this type of system, companies establish provisions for future pension liabilities in their accounts rather than transferring funds to independent pension funds. The shift from a PAYG to a capitalized pension system, the aim of many recent reforms, could therefore be

1   Social Science Research Center Berlin, Germany.

Varieties of Capitalism and Pension Reform:
Will the "Riester-Rente" Transform the
German Coordinated Market Economy?

expected to have important implications for the sustainability and stability of CMEs such as Germany.

2 The Case of Germany

The German pension system has long been known as one of the systems most dependent upon the "first pillar" of social security, that is, state pensions. A very high percentage of retirement income is provided by state pensions. In the mid-1990s the target replacement rate for the German public pension scheme was 70%, as compared with much lower figures for other large industrialized countries. Although somewhat dated, according to one estimate, in the 1980s public pension benefits came to about 10% to 11% of GDP, compared with 6% to 7% for the U.S.A./U.K. and 4% for Japan. In practice, public pensions account for about 80% of retirement income in Germany (Jackson and Vitols, 2000).

Furthermore, the public pension system is financed on a PAYG basis, almost exclusively from social contributions from the (as a rule monthly) paycheck. Deficits are made up by government transfers, but the contribution rate, which is fixed as a percentage of wage and salary income, is adjusted regularly with a view to striking a rough balance between income and expenditures.

As a result, the state pension system generates only a negligible level of investments, mainly in very liquid financial instruments when there are temporary cash surpluses (in the past, surpluses typically were limited to roughly one to two months of income).

Legislation on the "second pillar" of social security used to give companies four options of how to provide for occupational pensions, as outlined below. Jackson and Vitols (2000) have characterized the German system of company pensions as "organizationally embedded" rather than "market based" because firms tend to play a more important role as a financial basis for pensions than market-based instruments:

— Direct pension promises (*Direktzusage,* 59% of assets in 2000) are the most common form of occupational provision for retirement. Pensions are paid out directly by the company, which accounts for the accruing liabilities by establishing provisions. In other words, the pension promises are backed only by assets which are part of the company's own balance sheet. This system was developed during postwar reconstruction in large part to help companies retain income and reinvest within the company. This worked well as long as employment was expanding, but with slowing economic growth in the 1990s and the aging of the population the problems with this kind of system have increased.

— Support funds (*Unterstützungskassen,* 7% of assets) are funded internally through deductions from paychecks but managed externally. These schemes may be backed by reinsurance plans but are not supervised by the federal insurance agency and are typically underfunded.

— Pension funds (*Pensionskassen,* 21% of assets) are also externally managed funds maintained to provide benefits under pension plans sponsored by the company. They are generally distinguished from Anglo-American-type pension funds due to the very high restrictions on types of assets that may be held. Pension funds may make loans of up to one-third of assets

to the sponsoring firm. Like support funds, they are not covered by the federal insurance agency, and are frequently underfunded.

– Direct insurance plans (13% of assets) offered by insurance companies are used mainly by small firms, which typically find the administrative costs of running their own plans too high, and by the public sector.

In 1990 occupational pension plans were overwhelmingly (98%) organized as defined benefit rather than defined contribution plans. Coverage was fairly high at the time (35% of firms employing 65% of the workforce) but falling throughout the 1990s due to the increasing costs of these plans.

Until recently, the "third pillar" of the social security system, private pension provision, lacked explicit tax-deductible retirement saving vehicles along the lines of U.S. or U.K. schemes. Against this background, endowment insurance *(Kapitallebensversicherung),* which is tax deductible, has been popular with individuals wishing to save for their retirement. These plans typically run for six years, i.e. generally not until retirement, but it has become common practice to renew these plans successively. As a result, "informal" individual pension provision used to be concentrated in the insurance sector.

One of the consequences of (1) the overwhelming importance of the pay-as-you-go public pensions and (2) the degree to which company pension plans are "embedded" is that a major source of finance for capital markets in LMEs has been lacking in Germany. Stock market capitalization in Germany has been particularly low (27% of GDP compared with over 100% for countries such as the U.S.A. and the U.K. in 1996) and bank finance has predominated for industry (Deutsche Bundesbank, 1997).

3 The 2001 Pension Reform and the Introduction of the "Riester-Rente"

In 2001 the German parliament approved legislation introducing a major reform in the pension system. The new vehicles for retirement saving created by this reform are commonly known as the "Riester-Rente," named after the Minister for Labor and Social Affairs initiating the reform.

The direct motivation for the reform was the growing crisis of the public pension system. As a result of (1) the aging of the population (low birth rate plus longer life expectancy), (2) the increasing importance of early retirement, and (3) the high unemployment rate, employer/employee contributions to the system had been rising, and would have had to rise even further to maintain the target payout rate of 70% of final income. At the same time, the new government had set as one if its main goals the reduction of the costs of employment benefits (health insurance and unemployment insurance, in addition to social security) to less than 40% of wage costs (the level has been around 41% for the past few years). As one of the main blocks in these supplementary wage costs, public pension contributions would have to be lowered, or at the very least held constant, to achieve the overall goal of a reduction to below 40%.

Although the main impetus for the reform was to deal with the crisis in public pension funding, a secondary goal (and in fact the primary hope of many policymakers and financial services providers) was to create a new source of funding and liquidity for Germany's capital markets. In particular the stock market has been seen as needing more finance in order to support (1) IPOs for

Varieties of Capitalism and Pension Reform:
Will the "Riester-Rente" Transform the
German Coordinated Market Economy?

"new economy" firms and (2) the conversion of traditional "Mittelstand" private limited companies (GmbHs) into publicly traded companies. The retirement of tens of thousands of postwar founders of companies and the reduction in the equity base of many of these companies is expected to drive the conversion trend.

In practice the Riester-Rente legislation (the formal title is the Altersvermögensgesetz or Retirement Savings Law of 2001) is a complex package of changes in the legal regulation of the pension system.

The first element is the gradual reduction of the target retirement rate of 70% to 67% over the next years. This is anticipated to stabilize the supplementary wage costs contribution rate. At the same time it is acknowledged that this reduction in the first pillar of the pension system will create a (or, according to some, increase the size of the) "retirement savings gap." Therefore action needs to be taken to strengthen the second and third pillars of the system.

Most public attention has focused on the attempt to strengthen the third pillar through the introduction of personal pension plans starting in 2002. These involve both a tax deduction component and a state contribution element. In 2002 and 2003 up to 1% of income may be contributed by individuals, but this level will climb by 1% every two years, up to 4% in 2008. The individual must take the initiative and apply for a plan through a financial services provider. The plans can be offered by a variety of financial services firms, and must be registered with the Federal Regulatory Agency for Financial Services. Up to now somewhat more than 3,000 plans have been approved. There are two main variants, (1) the conventional "retirement insurance" variant, which offers a minimum guaranteed return (plus stating an expected return) over the saving period, and (2) the "mutual fund-based" variant, which offers a potentially higher return but also comes at a higher risk cushioned by a "no loss" guarantee (i.e. must guarantee at least repayment of the amounts contributed by the individual and the state). Finally, an important component of the personal pension plans is that the state contribution is also available for the unemployed, students, and those on parental leave.

A third element is the strengthening of the company pension pillar through (1) defining a legal right for employees to set aside a portion of their wage income for retirement savings, and (2) creating a fifth vehicle for company pensions, namely Anglo-American-style pension funds *(Pensionsfonds)* — i.e. privately capitalized pension funds, providing retirement pensions on either a defined benefit or defined contribution basis, that are not subject to any investment restrictions. Reflecting the "friendliness" of the labor minister and the red-green government to organized labor, an important part of changes in this pillar is the requirement that schemes be negotiated between employers and trade unions.

4 Public Reaction to and Initial Impact of the Riester-Rente

Though there was concern in some quarters that lower-income households would suffer through the reduction in the importance of public pensions, in fact a fairly good balance was struck between the different interests. The reduction from a 70% to a 67% replacement rate is fairly modest, and a number

Varieties of Capitalism and Pension Reform:
Will the "Riester-Rente" Transform the
German Coordinated Market Economy?

of steps were taken to protect lower-income households. These include enhanced possibilities for vesting credit for public pensions despite lack of full-time work, state contributions for all plan participants for personal pensions, and the inclusion of trade unions in negotiating company pension plans. Due to the widespread recognition that the public pension system needs to be reformed there has been general agreement with the basic principles of the reforms.

Most public attention, however – as well as most criticism from financial services providers and some interest groups – has focused on the regulation of the personal pension plans. For instance, there are eleven specific regulations on these new products, which have rendered them complex and difficult to understand. In particular, the requirements for (1) guaranteed returns (minimum returns for retirement insurance products and the no-loss guarantee for fund-based products) plus (2) the payment of a lifetime annuity after retirement seems to have generated rather complex products, particularly when it comes to fund-based products. The latter typically involve different allocations between stocks and bonds, which change according to the age of the individual and, often, at the discretion of the fund manager based on his/her evaluation of different stock market conditions.

As a result of this complexity, and also due to the relatively small size of initial contributions (up to 1% of income in 2002 and 2003) the annual management fees for these plans are reported to be running at 2% to 3% of personal plan assets. These are far removed from the simple mutual funds that are often used e.g. in the United States, which offer (1) much more flexibility in post-retirement drawdown and in reallocation during the saving period, (2) more transparency in terms of investment policy, and (3) lower management fees, particularly for index-tracking funds.

Consequently, many investment advisers recommend that only low-income persons, particularly those with children, sign up for the personal Riester-Rente plans. For these persons the state contribution (individual and child contributions) can be quite large relative to the individual contribution, thus offsetting some of the disadvantages noted above. For higher-income persons, the investment advisers have recommended looking closely at alternatives, such as company pensions and endowment insurance, which quite typically are more attractive than the personal pensions.

A second problem is that, due to the small sums involved, the personal Riester-Rente is not really attractive for financial services providers from a profit standpoint. Up to now financial services firms have been offering (or, in the case of some providers, even marketing quite aggressively) these plans in the hope that they can open the door to new customers with these products, and thus sell them more lucrative products afterwards. If this expectation is severely disappointed, however, financial services firms may withdraw from offering the personal pension plans.

Another consequence is that, since the reform favors annuity-type products, relatively little new money flows into capital markets, particularly the stock market. Stock funds would allow 100% investment in stocks. Insurance companies by contrast can allocate a maximum of 35% of assets to equities.

Varieties of Capitalism and Pension Reform:
Will the "Riester-Rente" Transform the
German Coordinated Market Economy?

It is therefore perhaps not surprising that the take-up of the personal Riester-Rente has not been overwhelming to date. It is thus advisable to consider further reforms which would simplify the products offered, particularly encouraging savings in mutual funds, and also position them better relative to established competing products.

The other leg of the Riester reforms, the strengthening of company pensions, has not received as much attention in public, but could in the long run become much more significant than the personal pensions. One reason is that employers and trade unions had to negotiate plans, and this has taken up a good part of 2002 in many cases. However, given the continuing importance of industry-wide collective bargaining in Germany and the relatively small number of unions, agreement has been reached on plans for a large proportion of the workforce. The marketing of these plans has begun in earnest in the last few months, and a big push was made to sign up members before the end of 2002.

Moreover, complaints about restrictive regulations have been less widespread in this area. One problem, namely the requirement that pension funds had to provide pensions as lifelong annuities, has already been addressed. Now, it is possible to have a draw-down pension, with the option of a one-off payment of 20% of the accumulated capital.

It is interesting, however, that by the end of 2002 only 18 pension funds had been approved by the Federal Regulatory Agency for Financial Services. Most collective bargaining agreements have been on plans involving consortia of insurance companies. Thus many of the same points made with regard to the personal plans also hold here, i.e. that only a fraction of the retirement savings accumulated here will find their way into the stock market.

5 Conclusion: Implications for the German CME

In principle the introduction of the Riester-Rente in 2002 represents a major step in reforming the German pension system. In its present form, however, the effects of the Riester reform on the financial system are likely to be limited, and will not lead to a wholesale transformation from a bank-based to a market-based system. The reasons for this are twofold.

First, in accordance with the nature of the German political system, where compromise is often chosen over radical change, the shift away from the first (state pension) pillar towards the company and individual pillars will be gradual and limited. A maximum of 4% of income by 2008 will be eligible for retirement saving under the Riester-Rente framework, a relatively modest proportion in comparison with LMEs such as the U.S.A. and the U.K. Furthermore, the take-up to date has been limited (about one-quarter of eligible individuals) and more than a third of individuals surveyed say they have no interest in participating. The overall flow of funds through the Riester vehicles can thus be expected to be small.

Second, the specific regulations of the Riester reform require a no-loss guarantee and annuity-type products. These regulations favor existing financial services providers and a continuation of their current practices. In particular, insurance companies are likely to be the big winners of the Riester reform, rather than independent fund groups or independent pension funds. Insurance companies have traditionally invested the bulk of their resources in bonds, with

Varieties of Capitalism and Pension Reform:
Will the "Riester-Rente" Transform the
German Coordinated Market Economy?

debentures issued by banks playing a particularly important role. Investment in equities in contrast has been limited to 35% of assets, with actual investment being far below this level (and decreasing in the past few years). Thus the portion of Riester-related funds flowing into equities will be quite modest and will have limited impact on the financial system. The Riester reform therefore illustrates the existence of major political and economic barriers to fundamental transformation of CMEs such as Germany.

References

Deutsche Bundesbank. 1997. Shares as a Financing Instrument. Monthly Report, January. 27–40.

Hall, Peter A. and David Soskice. 2001. Varieties of Capitalism: The Institutional Foundations of Comparative Advantage. Oxford: Oxford University Press.

Jackson, Gregory and Sigurt Vitols. 2000. Pension Regimes and Financial Systems: Between Social Security, Market Liquidity and Corporate Governance. In: Ebbinghaus, Bernhard and Philip Manow (eds.). Varieties of Welfare Capitalism. London: Routledge.

Discussion of
"Varieties of Capitalism and Pension Reform: Will the 'Riester-Rente' Transform the German Coordinated Market Economy?"

Helene Schuberth[1])

So far, the controversy about whether countries should move towards a more market-based financial system has tended to revolve around issues of allocative efficiency. But there are many other issues involved. In their seminal work, Peter Hall and David Soskice (2001) argue that, in coordinated market economies, the prospect of further financial market deregulation might also affect key institutional features of the economy. This involves issues such as *social security, individualization of risks and degree of corporatism.* Hence, it is argued that the ongoing transformation of the financial system in Europe should not be assessed against its implications for economic efficiency alone.

In his pioneering work Sigurt Vitols shows that there are *complementarities between the pension system, the financial structure and corporate governance* – namely that investment-based pension finance reform stressing private (occupational and personal) pension provision favors the evolution towards a market-based financial system, and that this effect is stronger for private schemes that are large and externally administered. Furthermore, funded pension systems increasingly favor shareholder value-oriented corporate governance.

What can we gain from the idea of *complementarities* of institutions (which is also stressed in Sigurt Vitols' paper)? There are two aspects, a positive and a normative one:

— From a positive point of view, we gain useful insights regarding the prospects of convergence of financial systems in Europe: If complementarities of institutions are essential there should be either *no convergence* – given path dependence – or, at the other extreme, *abrupt convergence* (e.g. caused by a regulatory shift) towards the market-based system. If the latter materializes, incoherences with other institutional features might result in instabilities and coherence would be hard to restore. The recent Japanese experience provides a case in point.

— From a normative point of view, concerning pension systems, it can be argued that, if complementarities are essential, decisions concerning the concrete choice of parametric or structural reform should not only take account of its immediate implications for welfare, efficiency and fiscal sustainability, but consider political issues as well. The impact of structural reforms of the pension system on the financial and political system of disintermediation in coordinated market economies is twofold.

First, transition towards funded systems will boost capital markets, thereby weakening the role of banks in monitoring firms. The increased role of shareholder value furthermore mitigates the role of long-term employment contracts and favors noncooperative industrial relations.

Second, and most importantly, when converging towards the Anglo-Saxon model, major traditions and principles of solidarity, social justice and protection (by transferring risks to the retiree) may be sacrificed in order to achieve financial objectives which may, or may not, contribute to adequate retirement incomes. An approach completely neglected so far is to look at the complementarities between pension system, financial system and *distribution of income and wealth* and its feedback on coalition formation between different income classes. Here Sigurt Vitols has made an important contribution, by mentioning

---

1 *Oesterreichische Nationalbank, Vienna.*

the likely impact of pension systems on political alliances between different income groups. This work could be extended by empirically investigating one further feature, namely *inequality* of income and wealth distribution (which is part of the institutional coherence), and which, according to my prior guess, is closely related to funded pension systems and market-based financial structures.

References

Hall, Peter A. and David Soskice. 2001. Varieties of Capitalism: The Institutional Foundations of Comparative Advantage. Oxford: Oxford University Press.

Pension Finance Reform, Tax Incentives for Life Annuities and the Problem of Adverse Selection

1 Introduction

Susanne Pech[1]

In many industrialized countries the ageing of the population, that is, the increasing ratio of elderly people to those of working age due to declining birth rates and longer life expectancy, is putting growing pressure on social security systems organized according to the pay-as-you-go method. In order to cope with the expected effects on the social security systems, pension finance reforms have been proposed and initiated. In the first place, these reforms aim at changing the parameters of the social security system in order to solve the financial difficulties. The main policy instruments are an increase of the retirement age and a cut in social security benefits. In addition or alternatively, there may be a need to increase contribution rates.

As a further element, many reforms include tax incentives for the purchase of private life annuities. The common argument of politicians for stimulating the demand for life annuities through tax incentives is to prevent a "gap in old-age provision and old-age poverty, which might otherwise arise as a result of the intended reduction of social security benefits. This reasoning is in line with the merit-good argument that individuals are myopic and consequently discounting future consumption too much. It has apparently become conventional wisdom among policymakers that offering state subsidies to encourage the purchase of life annuities is a good way to remedy this situation. However, the question whether such incentives actually produce the desired effect has still not been resolved in the literature.

The first aim of this paper is to clarify this issue. For this purpose, we focus on a pension finance reform that includes the following measures: tax incentives for life annuities, a cut in social security benefits and an increase in contribution rates. In a simple model with uncertainty about life expectancy we study how such a reform influences annuity demand and consumption behavior over individuals' working and retirement periods. This analysis allows us to conclude whether tax incentives for life annuities serve their purpose, that is, whether they can indeed reduce the gap in old-age provision.

This analysis is, however, based on the assumption of a constant annuity price. Against this background, the second and more complex issue addressed in this paper concerns the effect of the three reform instruments on the problem of adverse selection in the private annuity market. Adverse selection arises due to asymmetric information of the demand and supply side, which means that individuals have more information about their life expectancy than the insurance companies. The consequence is an inefficiently high equilibrium price, which is generally regarded as a key explanation why annuity demand is observed to be weak in many countries. Obviously, reforming governments that try to stimulate the purchase of private life annuities by state subsidies should be aware of the fact that such incentives will only be effective if the pension finance reform does not exacerbate the problem of adverse selection and thus does not increase the equilibrium price for life annuities.

This paper is as organized as follows. In section 2 the basic decision model for an individual is developed and the effects of the three reform instruments on annuity demand and consumption behavior over his or her lifetime are

---

1   *Johannes Kepler University Linz, Department of Economics.*

discussed. Section 3.1 describes the phenomenon of adverse selection given two differing risk types and explains how it prevents the efficient working of the private annuity market. Finally, in section 3.2 we analyze how adverse selection is affected by a pension finance reform.

2 Can Tax Incentives for Life Annuities Indeed Prevent a "Gap in Old-Age Provision"?

In this section we ask whether tax incentives for the purchase of life annuities are indeed stimulating private old-age provision and, thus, mitigating the effects of a cut of the social security benefits or an increase in the contribution rate. To this effect, we formulate a simple model of the decision-making of individuals about their consumption behavior over their lifetimes: Consider an individual who lives for a maximum of two periods $t = 0, 1$. In the working period 0, he or she earns a fixed labor income w, eventually retiring at the end of the working period 0. Whether the individual actually reaches the retirement period 1 is uncertain and occurs with probability $\pi, 0 < \pi < 1$.

Provision for future consumption is guaranteed by a social security system organized according to the pay-as-you-go method. Individuals pay a proportional social security tax rate τ on income and receive an income-dependent benefit $S(w)$. To smooth consumption over the uncertain lifetime appropriately, individuals can save for retirement themselves so as not to rely on the public social security system alone. The annuity market offers individuals a payoff in the retirement period 1 (conditional on survival), which they can purchase for a price Q per unit of the payoff. For simplicity, it is assumed that the individuals have no bequest motive, which means that saving is not an attractive strategy for them to provide for old age. This follows from the fact that the rate of return offered by annuities is higher than the interest rate on savings, as annuities allow people to avoid (and redistribute) unintended bequests.[1])

Individuals may receive a tax incentive for the purchase of life annuities. In this case, the price Q paid to the annuity companies differs from the consumer price R, which is defined by $Q(1–b)$ with b as the subsidy rate. In this section we take the producer price Q as constant; adjustments of the equilibrium price are left to the next section. The budget constraint in each period $t = 0.1$ reads (when A denotes the amount of insurance bought by the individual)

$$c_0 = w(1 - \tau) - RA \tag{1}$$

$$c_1 = A + S \tag{2}$$

Preferences individuals have for lifetime consumption are represented by an expected utility function with per-period utility u, depending on consumption.

---

[1] The intuition for this result, which goes back to Yaari (1965), is the following: In case an individual provides for old-age consumption through wealth accumulation, he or she leaves unintended bequests if dying young. In this case, the deceased's wealth is distributed to the heirs. If, by contrast, the individual puts his or her wealth into life annuities and dies young, this wealth (i.e. the annuity expenditures) can be distributed as annuity payouts to the surviving annuitants. This explains why annuities can offer a higher rate of return than riskless bonds.

That is

$$U = u(c_0) + \frac{\pi}{1+\alpha} u(c_1) \qquad (3)$$

where α denotes the rate of time preference. The higher α, the more the individual values the present relatively to the future and discounts future consumption. Note that myopia can be interpreted in such a way that the individual has too high a rate of time preference. As usual, decreasing marginal utility of per-period consumption is assumed.

The individual decides on his or her consumption plan over the uncertain lifetime by maximizing lifetime utility (3) subject to budget constraints (1) and (2). The first-order condition is

$$Ru'(w(1-\tau) - RA^*) = \frac{\pi}{1+\alpha} u'(A^* + S) \qquad (4)$$

which determines the individual's annuity demand $A^*(R, \pi, \alpha, \tau, w, S(w))$.[1] A^* increases when tax incentives are introduced for life annuities (i.e. R decreases) and when social security benefits S are cut. In contrast, annuity demand diminishes when the contribution rate τ is raised. This can be seen formally from the optimality condition (4): For example, consider that S decreases. Given unchanged annuity demand A^*, consumption in the working period will drop as well. Consequently, the right-hand side of (4) increases due to the assumption of a decreasing marginal utility of per-period consumption. In order to restore equality between the left-hand side and the right-hand side of the optimality condition (4), annuity demand A^* has to increase. The effects of the other two reform instruments follow from similar considerations.

But how do these adjustments in annuity demand affect consumption behavior over lifetime? Do individuals react to each of the three reform instruments by increasing or decreasing consumption in each period of life?[2] First consider a cut in social security benefits. Since this reform measure causes annuity demand to rise, it is obvious from the budget constraint (1) that the consumption level c_0 of individuals drops in the working period. Although individuals purchase more annuities, this increase in private pension provision does not compensate completely for the cut of the social security benefits, i.e. $\Delta A < |-\Delta S|$. Thus, consumption c_1 in the retirement period is reduced as well (see (2)). In the same way individuals adjust consumption due to an increase in the contribution rate τ: Individuals choose a lower level of annuities and, thus, a lower consumption level c_1 in the retirement period. They also consume less in the working period, since the reduction in annuity demand does not offset the decrease in net income.

The intuition for this adjustment in the consumption behavior is the following: Both reform instruments decrease the disposable lifetime income, which consists of the labor income less the contributions for social security, $w(1-\tau)$, and the social security benefits S. In order to smooth consumption over the

---

1　However, note that in case individuals receive (more than) enough social security benefits to provide for old-age consumption, they will not buy life annuities. In the following this boundary solution will not be considered.

2　See Pech (2002) for the formal derivation of the subsequent results.

lifetime appropriately, individuals redistribute their lower lifetime income by consuming less in both periods of life.[1])

On the other hand, tax incentives for life annuities reduce the relative price of old-age consumption. The individual purchases more annuities and thus consumes more in old age. Note, however, that it is of relevance for the size of this effect how the tax incentives are financed. In case the subsidies for the purchase of life annuities are financed by a tax on income (which would reduce disposable lifetime income), the positive effect on old-age consumption is lower compared to the case where the subsidies are financed by a reduction of the expenditures of other public goods and services.

The effect on consumption in the working period is ambiguous and depends on the negative substitution effect relative to the positive income effect.[2]) The individual may also choose a higher consumption level in the working period 0 if annuity demand was already sufficiently high and thus consumption in the working period was already sufficiently low, before the introduction of the tax incentive for life annuities. However, the opposite occurs if originally annuity demand was sufficiently low.

Summing up, it may be said that a tax incentive for life annuities increases consumption in the period of retirement, while cutting social security benefits and raising social security contributions reduces consumption in old age. Thus, when looking at the combined effect of a pension finance reform consisting of these measures we can conclude the following: Tax incentives for life annuities stimulate annuity demand and indeed counteract the negative effects of the other two reform measures on old-age consumption that may be required to solve the financial difficulties of the social security system. Thus, when assuming that myopic individuals have too high a rate of time preference α and therefore discount future consumption too much, tax incentives for private life annuities can be regarded as a suitable measure of a pension finance reform.

Some empirical studies have tried to answer the difficult question whether this short-sightedness actually induces individuals to save too little for retirement. In a survey, Disney (2000) concludes that there is some evidence from the U.K. and the U.S.A. confirming this proposition. Especially for low-income earners, saving rates are below those required for smoothing lifetime consumption appropriately according to the life-cycle hypothesis. Recent studies for Great Britain confirm these findings (Disney et al., 2001a; Disney et al., 2001b). In contrast, there is opposite evidence for Germany: Börsch-Supan et al. (1999, 2001) and Schnabel (1999) find individuals to continue saving even in retirement, although less than while working. This indicates that at present elderly people have (more than) enough retirement income at their disposal. Finally, the fact that in 2002 only 10% of those entitled to sign up for a so-called "Riester-Rente," the state-subsidized life-annuity insurance launched in Germany that year, can be interpreted as confirming this view.

---

1   *This is equivalent to the statement that consumption in both periods of life is a normal good.*
2   *Note that the opportunity costs of consumption in the working period increase due to the introduction of tax incentives for life annuities.*

3 The Problem of Adverse Selection in the Private Annuity Market

3.1 Theoretical Model and Empirical Evidence

In the previous section we focused on the demand side and analyzed the consumption behavior of an individual, for a given selling price Q. Now we introduce the supply side to study the equilibrium outcomes, i.e. how the price of annuities adjusts in order to make demand and supply decisions compatible, paying attention to the fact that there is asymmetric information between the economic agents. This means that the individuals are able to assess their own life expectancy on the basis of private information, while insurance companies cannot distinguish the individuals according to their risks.[1]

The fact that the individuals have more information about their life expectancy than the insurance companies leads to the problem of adverse selection: Individuals with a long life expectancy buy more life annuities than individuals who expect a short life. This overrepresentation of high-risk individuals among aggregate annuity demand is taken into account by the insurance companies. In order to avoid losses, they offer a price that is higher than the actuarially fair price based on the average survival probability of the population. The inefficiently high price induces individuals, especially those with a low life expectancy, to decrease their demand or to drop out of the market. The phenomenon of adverse selection is regarded as a main explanation why annuity demand is observed to be weak in many countries.[2]

To illustrate the consequences of asymmetric information, we extend the model introduced in the previous section by the following assumptions: First, consider that the otherwise identical individuals are divided into two groups $i = L, H$ that are characterized by different longevity risks, i.e. by different probabilities of survival $\pi_H > \pi_L$. Let γ denote the share of the high-risk and $(1 - \gamma)$ the share of the low-risk individuals, with $0 < \gamma < 1$. The probabilities π_i and γ are public information, known by the annuity companies. But whether a given individual is a low-risk or a high-risk type, i.e. his or her probability of survival, is private information.

Further, we assume that there is price competition among the annuity companies. In other words, the annuity companies fix only the price and the individuals can buy as many annuities as they want. As it is well known, in this framework only a pooling equilibrium is possible, with all individuals paying the same price per unit of annuity payoff.[3] Finally, let the interest rate be zero and, initially, the subsidy rate for life annuities zero, too. The latter implies that the

---

1   For empirical evidence see the studies of e.g. *Hamermesh (1985), Hurd and McGarry (1995).*

2   *Besides, the bequest motive and the existence of a generous public pension system are considered in the literature as two other major reasons for weak annuity demand: In case that individuals receive (more than) enough social security benefits to provide for old-age consumption, they will not buy life annuities. If individuals have preferences to pass wealth on to relatives, they will opt for financial assets other than life annuities to provide for old age.*

3   *The analysis of annuity markets is usually based on the assumption of price competition (see Pauly, 1974; Abel, 1986; Brugiavini, 1993; Walliser, 2000; Brunner and Pech, 2000, 2002). It appears to be a more plausible assumption for the annuity market than price and quantity competition, which requires that individuals can buy only one insurance contract. Note however that price and quantity competition is appropriate for many non-life insurances, like e.g. accident and indemnity insurance, and generates the possibility of a separating equilibrium, as shown by Rothschild and Stiglitz (1976) and Wilson (1977).*

producer price Q does not differ from the consumer price R. Both assumptions do not affect the qualitative results and simplify the analysis.

First note that due to asymmetric information the first-best outcome where the survival probability determines the price each risk type ($i = L, H$) pays, i.e. $Q_i = \pi_i$, cannot be realized. This so-called "individually fair" price would guarantee that for each individual i the expected payouts $\pi_i A_i$ are equal to the annuity expenditures $Q_i A_i$. In case that the insurance companies would offer these prices but cannot distinguish the two risk types, all individuals would buy annuities at the lower price Q_L, and the insurance companies would suffer a loss. Thus, they rather charge a single price to all individuals. Since this single price must be a weighted average of the two individual fair prices, individuals with a high life expectancy are better off und those with a low life expectancy are worse off (compared to a situation where each risk-type pays his/her respective individually fair price).

Since the annuity companies behave perfectly competitive, the expected profits for annuities, which are purchased at a price Q by all types of individuals, must be equal to zero. This means that the total revenues $Q(\gamma A_H^* + (1-\gamma)A_L^*)$ must be equal to total expected payouts $\gamma \pi_H A_H^* + (1-\gamma)\pi_L A_L^*$. Thus, the equilibrium price $\tilde{Q}$ is given by

$$\tilde{Q} = \frac{\gamma \pi_H A_H^* + (1-\gamma)\pi_L A_L^*}{\gamma A_H^* + (1-\gamma)A_L^*} \tag{5}$$

The effect of adverse selection can be described as follows: The equilibrium price $\tilde{Q}$ is higher than the actuarially fair price, characterized by $\bar{Q} \equiv \gamma \pi_H + (1-\gamma)\pi_L$, which is the average survival probability. The reason for this is that when all individuals pay the same price Q, an individual with a high survival probability demands more annuities than an individual with a low survival probability, i.e. $A_H^* > A_L^*$.[1] Due to the higher annuity demand of the high-risk types compared with the low-risk types, the former are overrepresented in aggregate annuity demand. As a consequence, the insurance companies, in order to avoid losses, charge a price above the actuarially fair price, which corresponds to the average survival probability.[2]

Note that this result is also valid when allowing for many different risk types (instead of two only) or when extending the model by a bequest motive of individuals (see e.g. Abel, 1986). Moreover, the adverse-selection problem persists when allowing for heterogeneous income of the individuals in case income has a positive influence on life expectancy (see e.g. Walliser, 2000;

---

1   *This can be seen immediately from the individual optimality condition (4): If the survival probability π increases, then annuity demand has to increase in order to restore equality between the right-hand side and the left-hand side of (4).*

2   *To proof that $\tilde{Q} > \bar{Q}$, we determine the difference $\tilde{Q} - \bar{Q}$. We obtain after some calculations*

$$\tilde{Q} - \bar{Q} = \frac{\gamma(1-\gamma)(A_H^* - A_L^*)(\pi_H - \pi_L)}{\gamma A_H^* + (1-\gamma)A_L^*}$$

which is positive, since $\pi_H > \pi_L$ and $A_H^* > A_L^*$.

Pech, 2002), which is in accordance with empirical evidence.[1]) In this extended framework, annuity demand is higher for the high-risk types when social security benefits do not increase more than proportionally with income. Probably every existing social security system has this property. Altogether, these studies give a strong theoretical indication for the existence of the phenomenon of adverse selection in the annuity market.

However, how relevant is the problem of adverse selection in the real world? Empirical studies for the well-developed U.S. annuity market give evidence that prices are about 7% to 15% above the actuarially fair price due to adverse selection (Walliser, 2000; Mitchell et al., 1999; Friedman and Warshawsky, 1988, 1990).[2]) Finkelstein and Poterba (2002) find that adverse selection exists to some similar extent in the voluntary annuity market of the United Kingdom. But for most European countries, no empirical studies exist. In these countries private annuity markets are very weak due to a generous social security system (see e.g. Brunner and Pech, 2001). Nevertheless one can infer from handbooks with calculation advice for insurance companies that they are aware of the problem of adverse selection and consider this in their premium calculation for life annuities (Winkler and Mattar, 1999; Fessel, 1997). Altogether, one can conclude that the phenomenon of adverse selection is a common and relevant problem of the private annuity market, which leads to inefficiently high prices, which in turn depresses demand for life annuities, especially for individuals with a low life expectancy.

3.2 The Effect of a Pension Finance Reform on Adverse Selection

Finally, we examine the effect of a public pension reform, as considered in section 2, on the problem of adverse selection in the private annuity market.[3]) Clarifying this issue is important not just for reasons of efficiency. Moreover, it is of great relevance for a pension finance reform that reduces social security benefits and aims at encouraging individual saving for retirement: If the reform instruments aggravate the problem of adverse selection, annuities will become an even less suitable strategy to provide for old-age, i.e. even fewer life annuities will be demanded.

For the impact of the pension finance reform on adverse selection in the private annuity market, it is crucial to which extent the different risk-types adjust their annuity demand, since this affects the profitability of the annuities and, in turn, the equilibrium price. To understand this relation, remember from

---

1   *Empirical evidence for a positive influence of income on life expectancy was found by e.g. Attanasio and Hoynes (2000), Lillard and Panis (1998), Lillard and Waite (1995), Menchik (1993).*

2   *These studies find that besides adverse selection, high prices also reflect overhead costs due to administration, taxes and monopoly profits. Overhead costs contribute about the same percentage points to the inefficiently high price level as the problem of adverse selection.*

3   *This section is based on Pech (2002), which includes a precise analysis and the formal arguments. Related papers that deal with private annuity markets in the presence of a social security system are Walliser (2000) and Abel (1986). Walliser computes the effects of a privatization, i.e. the elimination, of the social security system on the equilibrium price in a calibrated 75-period life-cycle model. He shows that the elimination of the social security system reduces adverse selection by some small proportion. On the other hand, Abel investigates the effect of a public fully-funded system, which can offer an actuarially fair rate of return, based on population average mortality. In an overlapping-generations model, Abel shows that the introduction of a fully-funded social security exacerbates adverse selection.*

the foregoing section that it is the overrepresentation of the high-risk individuals that is responsible for the inefficiently high equilibrium price. Hence, if the share of these high-risk types in aggregate annuity demand increases due to a pension finance reform, the adverse-selection problem is aggravated, i.e. the equilibrium price would increase further.[1]) On the other hand, by the same argument adverse selection is alleviated, i.e. the equilibrium price falls, if the share of the high-risk individuals in aggregate annuity demand decreases. Finally note that the equilibrium price remains unchanged if the shares of all risk types remain unchanged too.

But how does the introduction of the three reform instruments influence the composition of aggregate annuity demand? This question is analyzed in a framework similar to that introduced in the previous sections, but extended to N types of individuals who differ in their life expectancy and may differ in their income, where both are taken to be not negatively correlated. For a specific but broad class of per-period utility functions, namely those which exhibit a constant Arrow-Pratt coefficient of relative risk aversion,[2]) the following clear-cut results are obtained: With an increase in the social security tax, the percentage decrease of annuity demand of the low-risk types is higher than the percentage decrease of annuity demand of the high-risk type; thus the overrepresentation of the high-risk individuals increases. This, together with the above considerations about the effect on the profitability of life annuities, implies that the equilibrium price rises. On the contrary, a cut in social security benefits induces a higher percentage increase of annuity demand of the low-risk types than that of the high-risk types, causing the composition of aggregate annuity demand to shift towards the "profitable" short-living individuals. It follows that the equilibrium price decreases. The same applies for a tax incentive for the purchase of private life annuities if the individuals are not too risk-averse.[3])

For the size of the last effect it is crucial whether the subsidy for life annuities is financed by a reduction of public goods and services or by an increase in income taxes. The alleviating effect on adverse selection is lower when an income tax is chosen, the reason being that a proportional income tax would have the same effect as the proportional social security tax. A progressive income tax, however, has a weaker aggravating effect on adverse selection than a proportional income tax, given a positive correlation between life expectancy and income: The percentage decrease in net income would be higher for the long-living (and rich) individuals, which would result in a lower increase of

---

1   Note that for an unchanged equilibrium price, this shift in the composition of aggregate annuity demand towards the high-risk types would lead to a loss in profits. In order to restore the zero profits, the equilibrium price must increase.

2   Such a per-period utility function has the form

$$u(c_{ti}) = \frac{c_{ti}^{1-\rho}-1}{1-\rho}$$

with ρ as the constant coefficient of relative risk aversion, $\rho \equiv -c_{ti}u''(c_{ti})/u'(c_{ti})$ for $t = 0, 1$. Since individuals are assumed to be risk averse, $\rho > 0$.

3   The constant coefficient of risk aversion must not exceed a critical value ρ^*, which is greater than 1. However, numerical simulations show that in most cases ρ^* is far above 5.

their share in aggregate annuity demand (compared to a proportional income tax).

Thus we can conclude: A cut in social security benefits alleviates the adverse selection problem in the private annuity market. The same applies for a tax incentive for the purchase of private life annuities if individuals are not too risk-averse. But in case the subsidy for life annuities is financed by an income tax, this tax would reduce the alleviating effect of the subsidy on adverse selection. By contrast, an increase in the contribution rate exacerbates the problem of adverse selection.

These results suggest that for reasons of efficiency of the private annuity market, governments should rather cut social security benefits than increase the social security tax when a reform is required to solve the financial difficulties of the social security system. Till now, such considerations have hardly entered into the political debate. However, they should be of special interest in view of the recent trend at the political level to stimulate the purchase of private life annuities by state subsidies. Reforming governments should be aware of the fact that such incentives will only be effective if the pension finance reform does not exacerbate the problem of adverse selection and thus does not increase the annuity price.

References

Abel, A. B. 1986. Capital Accumulation and Uncertain Lifetime with Adverse Selection. Econometrica 54. 1079–1097.

Attanasio, O. P. and H. W. Hoynes. 2000. Differential Mortality and Wealth Accumulation. Journal of Human Resources 35 (1). 1–29.

Börsch-Supan, A., A. Reil-Held, R. Rodepeter, R. Schnabel and J. Winter. 1999. Ersparnis-bildung in Deutschland: Messkonzepte und Ergebnisse. Allgemeines Statistisches Archiv 83 (4).

Börsch-Supan, A., A. Reil-Held, R. Rodepeter, R. Schnabel and J. Winter. 2001. The German Savings Puzzle. Research in Economics 55 (1). 15–38.

Brugiavini, A. 1993. Uncertain Resolution and the Timing of Annuity Purchases. Journal of Public Economics 50. 31–62.

Brunner, J. K. and S. Pech. 2000. Adverse Selection in the Annuity Market When Payoffs Vary over the Time of Retirement. Working Paper 0030. Department of Economics. University of Linz.

Brunner, J. K. and S. Pech. 2001. Die dritte Säule der Altersvorsorge – Sparen und Versichern? Wirtschaftspolitische Blätter 48 (4). 401–411.

Brunner, J. K. and S. Pech. 2002. Adverse Selection in the Annuity Market With Sequential and Simultaneously Insurance Demand. Working Paper 0204. Department of Economics. University of Linz.

Disney, R. 2000. Reforming our Pension Systems, Declining Public Pensions in an Era of Demographic Ageing: Will Private Provision Fill the Gap? European Economic Review 44. 957–973.

Disney, R., C. Emmerson and M. Wakefield. 2001a. Pension Reform and Saving in Britain. Oxford Review of Economic Policy 17. 70–94.

Disney, R., C. Emmerson and S. Smith. 2001b. Pension Reform and Economic Performance in Britain in the 1980s and 1990s. Mimeo. March.

Fessel, M. 1997. Preferred Risks in der Lebensversicherung – Eine Untersuchung der Sterblichkeit 1958–1994. Zürich: Swiss Re.

Finkelstein, A. and J. Poterba. 2002. Selection Effects in the United Kingdom Individual Annuities Market. Economic Journal 112 (476). 28–50.

Friedman, B. M. and M. J. Warshawsky. 1988. Annuity Prices and Saving Behaviour in the United States. In: Zvi Bodie, John Shoven and David Wise (eds.). Pensions in the U.S. Economy. Chicago: University of Chicago Press. 53–77.

Friedman, B. M. and M. J. Warshawsky. 1990. The Cost of Annuities: Implications for Saving Behaviour and Bequests. Quarterly Journal of Economics 105. 135–154.

Hamermesh, D. S. 1985. Expectations, Life Expectancy and Economic Behavior. Quarterly Journal of Economics 99. 389–408.

Hurd, M. D. and K. McGarry. 1995. Evaluation of the Subjective Probabilities of Survival in the Health and Retirement Survey. Journal of Human Resources 30. 268–292.

Kotlikoff, L. J., K. A. Smetters and J. Walliser. 1998. Opting Out of Social Security and Adverse Selection. NBER Working Paper 6430.

Lillard, L. A. and C. W. A. Panis. 1998. Panel Attrition from the Panel Study of Income Dynamics: Household Income, Marital Status, and Mortality. Journal of Human Resources 33 (2). 437–457.

Lillard, L. A. and L. J. Waite. 1995. Till Death Do Us Part: Marital Disruption and Mortality. American Journal of Sociology 100. 1131–1156.

Menchik, P. L. 1993. Economic Status as a Determinant of Mortality Among Black and White Older Men: Does Poverty Kill? Population Studies 47. 427–436.

Mitchell, O. S., J. M. Poterba, M. J. Warshawsky and J. R. Brown. 1999. New Evidence on the Money's Worth of Individual Annuities. American Economic Review 89. 1299–1318.

Pauly, M. V. 1974. Overinsurance and Public Provision of Insurance: The Roles of Moral Hazard and Adverse Selection. Quarterly Journal of Economics 88. 44–62.

Pech, S. 2002. Tax Incentives for Private Life Annuities and the Social Security Reform: Effects on Consumption and on Adverse Selection. Working Paper 0209. Department of Economics. University of Linz.

Rothschild, M. and J. Stiglitz. 1976. Equilibrium in Competitive Insurance Markets: An Essay on the Economics of Imperfect Information. Quarterly Journal of Economics 90 (4). 630–649.

Schnabel, R. 1999. Vermögen und Ersparnis im Lebenszyklus in Westdeutschland. SFB 504 – Discussion Paper 99–43. University of Mannheim.

Walliser, J. 2000. Adverse Selection in the Annuities Market and the Impact of Privatizing Social Security. Scandinavian Journal of Economics 102. 373–393.

Wilson, Ch. 1977. A Model of Insurance Markets with Incomplete Information. Journal of Economic Theory 16. 167–207.

Winkler, M. and K. Mattar 1999. Was lange währt, wird schließlich teuer – Langlebigkeit und Rentenversicherungen in Europa. Zürich: Swiss Re.

Yaari, M. E. 1965. Uncertain Lifetime, Life Insurance, and the Theory of the Consumer. Review of Economic Studies 32. 137–150.

Discussion of "Pension Finance Reform, Tax Incentives for Life Annuities and the Problem of Adverse Selection"

Claudia Kwapil[1]

In her highly interesting and theoretically well-founded paper, Susanne Pech raises the question of what kind of effects selected pension reform instruments have on demand for private life annuities and thus on old-age consumption. According to an OECD study (Casey and Yamada, 2002), a majority of older people in the countries studied reach an income that amounts to about 80% of the income of the working population.[2] Considering that in the third phase of life, work-related expenses are no longer incurred, this is not regarded to constitute a dramatic decrease in living standards. Due to the aging of the population, which is causing problems with the financing of public pension systems in most of the industrialized countries, the objective of maintaining living standards in old age is becoming increasingly difficult to achieve. Providing for old-age consumption is generally regarded as a merit good (see, for example, Grufat, 1997), which explains why the government is expected to perform a key role in this field. For this reason, pension finance reforms are considered an important task in most industrialized countries. The European Commission (2001) compiled an overview of reform measures taken by all countries of the European Economic Area, which with regard to Austria recommends primarily strengthening fully-funded supplementary systems. Against this background, Susanne Pech's paper explores the question of whether or not selected reform instruments, including cuts in public pension benefits, an increase in contribution rates to the public pension system, and tax incentives for the purchase of private life annuities, will raise demand for private life annuities and thus provide financing for old-age consumption.

One core issue in this context is the problem of asymmetrical information, which evidently exists in the private life annuities market – considering that insurance companies are unable to determine whether an individual has a short or long life expectancy, while the individuals themselves are in possession of private information on what type of risk they are. Assuming further that price discrimination among buyers of life annuities is not possible, this information gap leads to adverse selection. This means that demand for life annuities from individuals with high life expectancies (bad risks for the insurance companies) increases. In extreme cases, the problem of adverse selection causes market failure (see Akerlof, 1970). Susanne Pech cites the "lemon problem" to explain why in many countries the market for life annuities is small and demand is weak. For this reason, it is important to identify the effects of pension finance reforms on the problem of adverse selection. If a reform instrument triggers different reactions among different risk types (long or short life expectancy), i.e. changes in relative demand, the problem of adverse selection may be exacerbated or alleviated. If, for example, tax incentives for life annuities induced more individuals with a short life expectancy to buy annuities, the effects of information asymmetry would be reduced and the market price for private life annuities would fall. This way, one would move one step closer to the political goal of maintaining living standards for retirees.

---

1   Oesterreichische Nationalbank, Vienna.
2   Casey und Yamada (2002) analyze the financial situation of elderly people in nine OECD countries, namely Canada, Finland, Germany, Italy, Japan, the Netherlands, Sweden, the U.K., and the U.S.A.

In the second section of her article, Susanne Pech takes a closer look at the problem of adverse selection. She formulates two alternative conditions and shows that meeting any one of these conditions is a prerequisite for the continued existence of the problem of adverse selection in the life annuities market.[1]) In other words, meeting any one of the assumptions alone would constitute a sufficient condition. Against this background, the two assumptions will be discussed below and their plausibility will be tested in the Austrian framework.

The first assumption is that during their working lives, all individuals earn the same income $w_i = w_j$, with w_i being the working income of individual i. A comparison of the median incomes of wage earners, salaried employees and civil servants, who in 2000 earned EUR 1,659, EUR 2,043 and EUR 2,339 per month, respectively (see Hauptverband der österreichischen Sozialversicherungsträger, 2002), shows that this assumption does not apply to Austria.

The second condition is assumption $\frac{S_i(w_i)}{w_i} \geq \frac{S_j(w_j)}{w_j}$, with w_i being again working income in the first phase of life and $S_i(w_i)$ public pension benefits depending on the level of working income. The assumption is less strict as it makes allowance for different levels of income. However, the level of pension benefits has to rise less than proportionately to the level of income. To test this condition for Austria, one would have to compare the sum total of the working incomes of those contributing to the social insurance system with the sum total of pensions received, grouped by income level. This would, however, go beyond the scope of this paper. Therefore, only examples are given to illustrate how the condition is met. Table 1, which shows final net incomes versus first net retirement pensions, can thus provide only some guidance in this regard but no full answer to this question.

Table 1

Final Net Income Versus First Net Retirement Pension

of Wage Earners

	EUR 253.08	EUR 1,169.40	EUR 1,972.73
40 years	83%	87%	85%
35 years	72%	78%	77%
25 years	52%	61%	61%

Source: Die österreichische Sozialversicherung in Zahlen (2003).

Table 1 shows three hypothetical cases, with the first person's income lying at about the marginal earnings threshold throughout his or her working life, the second person having earned an average income during the 15 years that are relevant for pension assessment, and the third person having drawn about the maximum taxable income for social security purposes during that period. In addition, the number of years for which social security tax was paid is also taken into account, even though this would not even be necessary for this purpose. A comparison of these three cases shows that a higher final net income not only leads to higher initial net pension benefits but also tends to result in a higher income replacement rate. In the above table, this is particularly obvious when

---

1   For a detailed technical discussion of these prerequisites see Pech (2002).

looking at incomes at the marginal earnings threshold and higher incomes, while in the cases of average income and maximum taxable income the increase in the income replacement rate based on contributions years is not so apparent. The second condition therefore seems to apply to specific income brackets, as for example to incomes above the maximum taxable income, but there are indications that it is not generally met and not without taking into account the number of years for which contributions were made.

By way of summary, it may thus be noted that Susanne Pech identifies two different conditions in her paper, any one of which must be met to prove the existence of the problem of adverse selection in the life annuities market. This commentary is confined to setting this theoretical finding against the practice of the Austrian state pension system. No statements are made with regard to other countries. Where Austria is concerned, neither of the two conditions appears to have unrestricted validity. But even though a discrepancy is shown to exist between the theoretical concept and empirical findings, one should not conclude that the problem of adverse selection does not exist in the Austrian life annuities market.

References

Akerlof, G. 1970. The Market for 'Lemons': Quality Uncertainty and the Market Mechanism. In: Quarterly Journal of Economics 84(3), August.

Bundesministerium für soziale Sicherheit und Generationen. 2002. Bericht über die soziale Lage 2001–2002 – Analysen und Ressortaktivitäten. Vienna.

Casey, B. and A. Yamada. 2002. Getting Older, Getting Poorer? A Study of the Earnings, Pensions, Assets and Living Arrangements of Older People in Nine Countries. OECD Labour Markets and Social Policy – Occasional Papers 60.

European Commission. 2001. Old-Age in Europe. Directorate General for Employment and Social Affairs.

Gruat, V. 1997. Adequacy and Social Security Principles in Pension Reform. OECD Aging Working Papers AWP 3.1.

Hauptverband der österreichischen Sozialversicherungsträger. 2002. Die österreichische Sozialversicherung in Zahlen. 12th edition, March.

Hauptverband der österreichischen Sozialversicherungsträger. 2003. Die österreichische Sozialversicherung in Zahlen. 13th edition, March.

Pech, S. 2002. Tax Incentives for Private Life Annuities and the Social Security Reform: Effects on Consumption and on Adverse Selection. Working Paper 0209. Department of Economics, University of Linz.

Pension Funds
and European Financial Markets[1])

E. Philip Davis[2])

1 Introduction

In this paper, we assess the relationship between the funding of pensions and the development of financial markets in Europe. Whereas funding of retirement income is most directly related to the development of pension funds, the broader growth of institutional investors such as mutual funds and life insurers may also link directly or indirectly to saving to meet income needs in retirement. In this paper, we show that institutional investor growth in Europe is an established trend, while pension fund growth in Europe is strong but unevenly distributed. Meanwhile, institutionalization and Economic and Monetary Union (EMU) are combining to revolutionize the financial markets of the European Union (EU), moving their structure and behavior towards the Anglo-Saxon paradigm. Some regulatory problems for EU pension fund investments remain unresolved – and pension reform options are not yet widely grasped despite upcoming difficulties of social security pensions. Finally, looking ahead, we show that important financial stability risks arise for EU retirement systems, particularly where reform is absent. This article summarizes the results of a range of research and analysis by the author and others, which can be consulted in more detail in the underlying reference material.

2 Long-Term Financial Developments in Europe

A salient feature of European financial markets in recent years – as well as elsewhere in the G7 – has been the growth of institutional investors (pension funds, mutual funds and life insurance companies) as a percentage of GDP (see Annex, table 1). Although part of the background to this phenomenon has been the sizeable growth in the overall financial sector (table 2), there has also been a compositional shift towards intermediated claims (table 3) and within this aggregate, to institutional investors as opposed to banks (table 4), leading to a long-term institutionalization of financial markets. Individuals have shifted away both from bank deposits and from direct holdings of securities into institutional investment. The large size of mutual funds and life insurance as well as pension funds are notable features of EU markets (table 5).

As in other financial markets, we can attribute the growth of institutions to a combination of supply- and demand-side factors (Davis and Steil, 2001). Supply-side factors suggest that institutions have offered their services relatively more efficiently than banks and direct securities holdings, thus fulfilling the functions of the financial system more effectively, while demand-side factors imply households have enhanced requirements for the types of financial functions that institutional investors are able to fulfill. In more detail, relevant advantages of institutional investors on the supply side include the ease of

---

diversification via institutional funds as well as the potential liquidity of claims, improved corporate control, benefits from deregulation, ability to take advantage of technological developments, and enhanced asset manager competition, as well as fiscal inducements and the difficulties of social security pensions. On the demand side, one may highlight demographic aspects (notably the funding of pensions and population ageing) and growing wealth. As noted above, pension funds are not the only institutional investors to benefit from ageing; particularly where funded pensions are less common, saving for retirement may occur via mutual funds and life insurance companies.

3 EU Pension Funds

Turning to European pension fund developments, long-term growth is in prospect: whereas assets were EUR 2,500 billion in 2000, forecasts suggest that they will come to EUR 3,500 billion in 2005, although this rise will mainly take place in countries where pension funds are already well established. Meanwhile, reflecting deregulation and competition in asset management, a long-term shift from bonds to equities is underway. Table 6 shows the current asset allocation of EU pension funds, which is much more equity-based than even five years earlier. In our view, this pattern is unlikely to be reversed more than temporarily by the current bear market in shares (Davis, 2003).

EMU is likely to stimulate further pension reform and pension fund growth for a number of reasons. One is the "Stability and Growth Pact", which will limit the fiscal deficits that may accompany unsustainable pay-as-you-go systems in the face of population ageing. Related to this situation are concerns of investors and rating agencies about long-term social security obligations in evaluating fiscal positions. EMU also facilitates a comparison between the costs of running businesses in different euro area countries, which leads corporations to put pressure on governments to avoid excessive tax burdens from social security contributions, with an implicit threat to shift production.

Meanwhile, companies with book-reserve pension obligations are seeking a reduction in book reserves to help improve their credit ratings in the growing euro area bond markets. EMU also improves conditions for existing pension funds; they benefit, for example, from a risk return trade-off that is better in pan-EMU markets than in narrow national markets, and from an easing of the incidence of currency matching regulations that used to limit portfolio holdings to national assets and are now broadened to the euro area. Furthermore, there is enhanced competition among asset managers owing to the shift in focus from domestic to euro area-wide investment (discussed further below), transparency in comparing costs and the growth of passive management.

The impact of these trends on the funding of pensions should not be exaggerated; as shown in table 5, despite reforms in a number of countries, pension assets and related growth remain concentrated in countries such as the U.K., Sweden, the Netherlands and Denmark. Reforms that have taken place e.g. in Germany are modest owing to the small size of contributions and low take-up, and will not generate a rapid build-up of assets; elsewhere (e.g. in France) little reform is on the horizon. On the other hand, as noted, the growth of life insurers and mutual funds in countries such as Germany and France may entail retirement saving as well as pension funds, either in formal systems or as

precautionary saving. Looking ahead, the data in table 5 also show that if countries currently dependent on pay-as-you-go developed pension fund and other institutional sectors comparable to the U.K., institutional assets could grow by as much as 100% of EU GDP.

Although currency matching is no longer a major constraint on investment, many countries retain restrictive portfolio regulations in terms of asset allocation (for example, insisting on large proportions of government bonds), which hamper performance (see Annex, table 7). Countries such as the U.K., the Netherlands and Ireland are the exceptions, having the more appropriate "prudent person rules" which allow investment flexibility and higher returns (Davis, 2002a); also, these countries already have large pension fund sectors. The recently adopted EU Pension Funds Directive on the activities and supervision of institutions of occupational retirement provision (IORPs) should mitigate their effects (as discussed below).

Meanwhile, investment is still dominated by oligopolistic domestic banks, which benefit from control of distribution, reputation and banking relationships with clients, and which charge relatively high fees owing to a lack of competition (also, there are often hidden fees). Barriers to market entry in asset management, drawn from a survey reported in Davis and Steil (2001), are highlighted in table 8, with control of distribution channels seen as a particularly important barrier. Besides these factors, lack of independent performance measurement may stand in the way of enhanced transparency and consequent cross-border competition amongst asset managers. As shown in table 9, in countries such as Spain, Italy and Portugal asset managers benefit from high profitability, which is suggestive of market power. Fees in Ireland and the Netherlands suggest strong competition while Switzerland may suffer from oligopoly (table 10).

4 Pension Fund Growth and the Evolution of EU Financial Markets

In assessing the relation between pension funding and EU market developments now and in the coming years, it is important to consider pension fund and institutional investor growth in combination with EMU as generating a cumulative effect together beyond that which each would have when viewed alone (Davis, 1999). Both have effects, inter alia, of increasing the role of securities markets, boosting cross-border investment, putting pressure on bank profitability, leading to a concentration of trading activity and helping to shift corporate governance to Anglo-Saxon modes (hostile takeovers and direct pressure on firms by institutional investors).

We go through two examples of such interaction – corporate governance and trading – in more detail. Growth of institutional investors such as pension funds leads to a shift from modes of corporate governance based on the primacy of banks (as creditors and shareholders) to the primacy of institutional shareholders. Increased competition among banks within EMU may weaken "relationship banking" links, and there is increased shareholder pressure on firms for adequate returns on equity in integrated EMU equity markets. Firms may seek to issue more equity in EMU to finance restructuring and increase robustness as banking links weaken, which will reinforce shareholder leverage. Meanwhile,

institutional trading is willing to relocate and favors markets offering liquidity for large transactions. Institutions are less concerned with investor protection than retail investors, while EMU leads to a potential concentration of trading in a smaller number of exchanges.

Drawing on experience since 1999, there is already ample evidence of these intertwined pension fund and EMU effects on the structure and behavior of EU capital markets. In the euro securities markets, we see a massive growth in corporate bond issuance, stimulated by institutional investor demand and the euro – and by low government deficits. There is also enhanced cross border investment, as shown by the fact that domestic equity mandates for asset managers across Europe fell by 60% over the period from 1999 to 2001, and domestic bond mandates by 92% (Davis, 2002d). Pension fund sectors are raising cross border investment, particularly in the euro area, where currency risk ceases to hold. "Sectoral investment" and indexation are becoming key strategies therein, reducing further the competitive advantage of domestic managers. From 1999 to 2000, 41 top asset managers operated in five or more countries; in 1996 only 17 firms were so widely active.

As regards banks' profits, there is a continuing squeeze on bank profitability in many EU countries, with narrowing interest margins, linked partly to competition from institutional saving but also cross-border competition as facilitated by EMU, and the disintermediation of financing via bond markets. Universal banks such as Deutsche Bank are shifting to an investment banking and asset management focus and disposing of equity holdings, thus reinforcing the development of institutional investors and securities markets as well as shifting away from relationship banking. The discussion of a "credit crunch" in Germany at the time of writing highlights the potential shift from relationship-based to transaction-based banking.

Trading activity witnesses privatization, mergers and prospective mergers of bourses, with the growth of alternative trading systems, given the "footloose" nature of pension funds and other institutional investors' trading. EMU, as predicted, facilitates such concentration of trading.

In terms of corporate governance, there has been a massive growth in merger activity in Continental Europe (Mannesmann, Olivetti, and Societé Générale-Paribas being key examples) where pension funds are major investors. Complementing this trend has been a growth in the share of equity in pension funds' portfolios. There are also increased direct corporate governance pressures on continental firms (in terms of performance, shareholder rights, management structure). The foreign share of equities in some continental markets is now quite high – in France foreigners held 20% of equities in 2000, and in Germany 16%. In this context, a strong effect on corporate governance is being exerted by U.S. funds, whose foreign assets are over USD 800 billion. CALPERS, the Californian public pension fund, in particular sets out corporate governance guidelines for international companies. Finally, book-reserve funding of pensions is in decline as firms seek to shift to external funding, owing to pressure on credit ratings and facilitated by tax reforms, as in Germany.

Wider macroeconomic effects may accompany the ongoing shift to institutional investment in the EU, according to research detailed in Davis (2002b). Econometric analysis suggests that growth of domestic and foreign institutional

investors' share of domestic corporate equity leads to higher dividends and productivity and lower investment than would otherwise be the case. Hence, besides enhancing shareholder value in terms of dividends, institutions improve economic efficiency via increased productivity, which may relate to pressure on company managers to maximize profits. The downward pressure on fixed investment need not be a negative aspect owing to the risk of wasteful investment of retained earnings where corporate governance is weak.

Given the ageing of the population and the accompanying growth of pension funds and other institutional investors, the effects set out above can only intensify in the future. Table 11 shows how the EU financial system would change if there were to be convergence with the U.S., using 1995 data. In terms of size, the sectors are comparable, but there would be major shifts in most EU countries away from banking and into securities and institutional investors. The shift would be even greater if there were to be convergence with the U.K. The incidence and benefits of such changes would be subject to the progress of pension reforms and an appropriate regulatory framework. It is to current EU regulatory issues that we now turn.

5 Regulatory Issues for Pension Fund Investment

The EU Pension Funds (IORP) Directive has some good points (Davis, 2001a); it enshrines prudent person investment rules (necessary for optimal investment) and, in particular, precludes the application at the national level of quantitative rules that would prevent pension funds from investing up to 70% in equities and corporate bonds and 30% in nonmatching currencies. These rules should benefit not only pension funds but also EU financial markets. But they also allow countries to impose quantitative restrictions, which could constitute a loophole. In effect they could allow governments to directly or indirectly force pension funds to invest mainly in public bonds, counter to the interests of their members. And the Directive sets out a minimum funding aspect, which will be particularly strict for cross-border defined-benefit funds and may discourage their development. In the Directive itself, there is no attempt to address vesting or taxation issues, which are major barriers to integration.

Tax barriers to cross-border occupational pensions are indeed still a major problem for pan-European pension funds, even if the IORP Directive is implemented. The Commission is currently seeking a common basis for taxation (exempting contributions and asset returns, so-called EET), which is needed for pan-European pension schemes. Pan-EU funds are of course essential for the efficiency of multinationals' pension arrangements. They are currently forced to have different administrative or even asset management arrangements in every Member State. Progress in tax harmonization is likely to be slow. On the other hand, the decision of the European Court of Justice in the Danner case gives hope for progress in the removal of tax discrimination for cross-border sales of financial services such as life insurance.

Concerning the Directive on Takeovers, it is wholly undesirable that this has been emasculated, thus giving poor protection to minority shareholders such as pension funds and undue protection for incumbent management, which will risk generating poor returns to beneficiaries. More recently there have been radical proposals from the Commission's Expert Group on a "squeeze-out" level

at which share voting limitations could be overridden – this could be a promising way forward (ESFRC, 2002), but faces strong opposition from the Nordic countries. A further issue is the proposed introduction of Basel II to European law. In the EU, unlike the U.S., Basel capital adequacy rules will also apply to asset managers as they are owned by banks. The initial proposal for "operational risk" capital requirements on asset managers of 20 basis points would have driven index managers owned by banks out of the EU.

Finally, barriers to competition among asset managers and institutional investors arise in domestic legislation in pension reforms and funded schemes. For example, German "Riester" pensions insist on the use of investment funds based in the home market or with unique features hindering cross-border sales (such as the minimum returns guarantee in Germany).

Although the above regulations are important to the further efficient development of pension funds in the EU, the most important policy aspect is pension reform itself, which we will deal with in the following section.

6 The Ageing Problem and EU Pension Reform

The issue of population ageing needs little expansion here. Suffice to say that there is expected to be a sharp increase in the proportion of the population aged 65 and over in the EU (table 12). This increase is largely a consequence of a decline in fertility to below replacement in most EU countries (notably in Southern and Central Europe), although it also stems from an increase in average life expectancy and a low level of net migration. With an unchanged retirement age, such a demographic shift will naturally lead to a rise in the scope of transfers in the context of pay-as-you-go pension systems (table 13). The problem is, however, compounded by the fact that social security pension promises even for higher earners are extremely generous in a number of EU countries, with, for example, the net social security replacement rates (pension/earnings at retirement) being typically more than 50% even for those on twice average earnings. The exceptions are Denmark, the Netherlands, Ireland and the U.K., which are also the countries where pension funding is most developed.

Consequently, although some progress has been made, projections of social security pension expenditure feature sharp and possibly unsustainable increases in a number of EU countries. As shown in table 13, Dang et al. (2001) projected that with unchanged pension policies, the share of GDP accounted for by social security pension costs would be 13% or more in 2040 in all EU Member States except for Sweden, Ireland and the U.K. These estimates may be a lower bound on future pension obligations, since the productivity estimates underlying the projections may be unduly high. Note that Austria is projected to have the highest level in 2040.

Recall that the "return" to funding is basically the return on financial assets times the passivity ratio (years of retirement divided by years at work) while the "return" to pay-as-you-go comprises the growth rate of average labor earnings times the dependency ratio (number of pensions divided by contributing workers) (Davis, 1997). The data on asset returns in some EU and non-EU OECD countries as against growth in average earnings underpin the argument that funding should be expanded to complement pay-as-you-go (table 14). In all

cases the return on pension funds and a 50:50 mix of bonds and equities is higher than the growth of average earnings, even before demographics – which affect pay-as-you go more than funding – are taken into account.

Two alternative approaches can be discerned in considering pension reform. One is major root-and-branch pension reforms, which substantively change the system of pension provision from defined benefit to defined contribution, or vice versa, or from pay-as-you-go to full funding, or vice versa (Schwarz and Demirguc-Kunt, 1999). The menu of choices includes first, the introduction of mandatory personal defined-contribution funds managed on a decentralized basis by insurance companies (as in Latin America and Eastern Europe); second, the use of mandatory personal defined-contribution funds invested centrally by public bodies (Hong Kong, Singapore); third, mandatory occupational defined-contribution funds (Australia, Switzerland); and fourth, a shift to defined contribution pay-as-you-go (Sweden, Italy, Poland) with pension indexed to life expectancy. The appropriate model depends on country circumstances (Davis, 1998a). For EU countries, we see benefits to the Swiss-Australian model of defined-contribution occupational schemes, given they charge lower fees than individual funds, offer more efficient investment than when the government takes charge (Davis, 1998b) and give a major role for funding unlike the pay-as-you-go defined-contribution schemes. There remain issues in defined-contribution occupational funds in that the employers controlling asset allocation may not have incentives to optimize investment, given workers bear the risk.

The other option is so-called parametric reform. In terms of pay-as-you-go, this could include raising the retirement age, changing the indexation rule, cutting the replacement ratio, increasing the contribution period and more generally lowering incentives for early retirement. Early retirement is a particular issue in the EU, since labor force participation of older cohorts is much lower than in the U.S. and Japan. Even merely obliging people to work up to the official retirement age would offer major benefits to the solvency of pay-as-you-go schemes. Cutting privileges for public employees and the disabled, and lower credits for higher education can also improve the situation for unfunded public pension schemes. A number of these avenues have been followed in EU countries in recent years, albeit in most cases without radically cutting the obligations of the pay-as-you-go systems. As regards funding, parametric reform could include the easing of portfolio regulations, increased tax privileges, and allowing opting out of earnings-related social security as in the U.K. and Japan, reducing the burden on the state. There could also be a "monopsony" of the public sector buying asset management services on behalf of private individuals as in Sweden, which markedly reduces fees while allowing individuals to choose their preferred fund, and a reserve fund for pay-as-you-go as mooted in France. But the last-named reform is only beneficial if invested in private assets. Reserve funds invested in government bonds, as in the U.S. and Japan, are more or less economically identical to pay-as-you-go.

A key issue in Europe is whether countries are willing to take sufficiently radical steps in major reform, which may be needed to avoid fiscal problems and financial instability when systems become unsustainable. Let us now turn to the future of pension systems and their implications for economic and financial stability.

7 EU Financial Markets and Pension Systems during Ageing

Ageing – which is most acute in Europe among OECD countries – will generate sharp changes in quantities and prices in EU financial markets. As discussed in Davis (2002c), a possible effect on financial stability can be traced for the "general case" of ageing, for countries where pay-as-you-go remains dominant and where funding is introduced. This is obviously of major interest to central banks. No system is likely to be unscathed, but issues are far more serious for pay-as-you-go.

Looking first at the general case of ageing, it may be anticipated that saving will rise in the next few years owing to the "baby boom generation" entering peak saving age. Then, like Japan in the 1980s and 1990s, the EU could face an external surplus and a loss of competitiveness with currency appreciation, aggravated by a home bias owing to uncertainty on the part of pension funds. This may in turn generate excess liquidity and loose macroeconomic policies (with a structural surplus being mistaken for a cyclical one). In turn, this could generate a financial bubble (as already observed in Japan), whose deflation entails financial instability. Later, as baby boomers retire, there could be a balance of payments deficit, with currency crises accompanying banking crises. Spillovers to emerging market economies from this process could be envisaged, driven by flows from EU pension funds and other institutional investors.

Risks in pay-as-you-go may be best traced in the extreme case of no reform. They will be attenuated to the extent that reform takes place as outlined above. One aspect is that the inevitable uncertainty about future pensions in unreformed systems will lead to heightened precautionary saving. If directed to banks, this may lead to an underpricing of risk in domestic credit or international interbank markets, again as in Japan. Life insurers could invest in high-yield bonds and property, and be vulnerable to credit cycles.

Turning to fiscal effects themselves, if there is tax finance when ageing occurs (i.e. a marked rise in contribution rates), there may be major economic difficulties generating credit losses and falls in asset prices, which are unlikely to be accurately anticipated. Underlying and accompanying these problems, capital as well as labor could translocate from the country concerned. In the case of bond finance, (i.e. whereby governments run deficits when there is strain on pay-as-you-go systems), one may expect a sharp rise in long-term interest rates, a loss of credit rating of the government, crowding-out, and a recession. Hence major credit losses for lenders may arise (we note that most past fiscal crises, such as in Italy, took place within unliberalized banking systems and hence do not allow for a sufficient prediction of likely consequences). In this context, the government's ability to recapitalize banks in difficulty would decline and ultimately there may be a fiscal-solvency crises, which could be contagious, "snowball" and give rise to a temptation to monetize or leave EMU. The pension issue is arguably the most intractable issue facing the single currency.

Despite being less marked than for pay-as-you-go, funding may also present some novel risks. As regards risks arising from institutional investors, a financial structure with a sizeable institutional sector should have strong stabilizing properties, including accuracy of asset pricing, liquidity, transparency and marking to market ensuring the early detection of solvency risks and a distance

from the safety net reducing moral hazard. Furthermore, the corporate sector benefits from "multiple avenues of intermediation" whereby bond markets can provide a substitute source of funds when banking crises occur (Davis, 2001b).

But some unfamiliar risks may arise in institutionalized and securitized financial systems about which regulators need to learn: One is extreme price volatility after a shift in expectations and asset allocations (such as the 1987 crash and ERM crisis). Another is a protracted collapse of market liquidity and issuance after similar portfolio shifts (as for Russia/LTCM). Both may involve a threat to emerging market economies, banks and the nonfinancial sector and possibly to institutions themselves given e.g. exposure to credit risk in real estate cycles.

There are also risks of asset price volatility arising from the process of asset accumulation and decumulation during ageing. Possible effects of institutional flows on equity market prices in the 1990s have already been discerned (Shiller, 1999). Bubbles in debt and property as well as equities are feasible in the future. In this context, emerging market economies are vulnerable, as noted, to destabilization from institutional flows emanating from OECD countries. Finally, there may be falls in asset prices during ageing, as shown in chart 1 (see Annex) in Davis and Li (2003), which projects past relationships in the U.S. between equity prices and demographic patterns for the period from 1950 to 1999 into this century. After 2020, with ageing, equity prices are set to fall while bond yields rise. This may link to lower real returns on capital with a shrinking labor force, lower saving (as the peak saving cohort shrinks in the "baby bust" generation) affecting real interest rates or risk premium, and a switch from equities to bonds. Emerging market economies whose populations will age later could in principle "buy" the shares and bonds decumulated in the OECD but may not be in a sufficient capacity to do so.

8 Conclusions

In conclusion, we have shown that pension fund growth and EMU are having a major effect on EU financial markets, moving them partly towards an Anglo-American system. Regulatory reforms are needed at EU level to facilitate funding, but more important, a major reform effort is needed at national level. There is a menu of reform options that need careful tailoring to national conditions. Upcoming financial risks linked to ageing underline the need to scale down pay-as-you-go, but be conscious of risks to funding. It is underlined that reforms should hence focus on creating a diversified system. Political and demographic risks of pay-as-you-go may balance the market risks of funding.

References

Bos, E. 1994. World Population Projections 1994—95. Washington D. C.: World Bank.

CEPS. 2003. Obstacles to Pan-European Asset Management. Report of a Task Force. Brussels: Centre for European Policy Studies.

Dang T. T., P. Antolin and H. Oxley. 2001. Fiscal Implications of Ageing: Projections of Age-Related Spending. Economics Department Working Paper 305. Paris: OECD.

Davis, E. P. 1997. Répartition, Capitalisation et Sécurité des Régimes de Retraite. Economie Internationale 72. 91—105.

Davis, E. P. 1998a. Policy and Implementation Issues in Reforming Pension Systems. London: European Bank for Reconstruction and Development. Working Paper 31.

Davis, E. P. 1998b. Investment of Mandatory Funded Pension Schemes. In: Turner, J. and D. Latulippe (eds.). Funding of Social Security Pensions. International Labour Office.

Davis, E. P. 1999. Institutionalisation and EMU. International Finance 2. 33–61.

Davis, E. P. 2001a. Presentation on the Proposed Directive on Institutions for Occupational Retirement Provision. Presented to the European Parliament Economic and Monetary Committee in February 2001, www.geocities.com/e_philip_davis/eu-pensions.htm.

Davis, E. P. 2001b. Multiple Avenues of Intermediation, Corporate Finance and Financial Stability. Working Paper 01/115. Washington D. C.: International Monetary Fund.

Davis, E. P. 2002a. Prudent Person Rules or Quantitative Restrictions? The Regulation of Long Term Institutional Investors' Portfolios. Journal of Pension Economics and Finance 1, 157–191.

Davis, E. P. 2002b. Institutional Investors and Corporate Governance. Economic Systems 26. 203–229.

Davis, E. P. 2002c. Ageing and Financial Stability. In: Herrmann, H and A. Auerbach (eds.). Ageing and Financial Markets. Springer Verlag – Deutsche Bundesbank.

Davis, E. P. 2002d. Le Secteur Européen de la Gestion des Pensions. Revue d'économie financière 68.

Davis, E. P. 2003. Comparing Bear Markets, 1973 and 2000. National Institute Economic Review 183. 78–89.

Davis, E. P. and C. Li. 2003. Demographics and Financial Asset Prices in the Major Industrial Economies. Brunel University Working Paper 03–07.

Davis, E. P. and B. Steil. 2001. Institutional Investors. MIT Press.

ESFRC. 2002. Takeover Bids in Europe. Statement Number 13 of the European Shadow Financial Regulatory Committee. Presented 4th February 2002 in Copenhagen.

McKinsey. 2000. Asset Management in Europe. The McKinsey Quarterly, Number 2: Europe. 8–11.

Schwarz, A. and A. Demirguc-Kunt. 1999. Taking Stock of Pension Reforms Around the World. World Bank Social Protection Discussion Paper 9917.

Shiller, R. 1999. Irrational Exuberance. Princeton University Press.

Watson Wyatt. 2000a. Global Investment Review 2000. Watson Wyatt Co.

Watson Wyatt. 2000b. Benefits Report Europe, U.S.A. and Canada. Watson Wyatt Co.

Annex

Table 1

Institutional Investor Claims as a Proportion of GDP

	1970	1980	1990	2000	Change 1970–2000
United Kingdom	0.42	0.37	1.02	1.93	1.51
U.S.A.	0.41	0.47	0.79	1.62	1.21
Germany	0.12	0.2	0.33	0.84	0.71
Japan	0.15	0.21	0.58	1.03	0.88
Canada	0.32	0.32	0.52	1.1	0.79
France	0.07	0.12	0.52	1.2	1.13
Italy	0.07	0.06	0.15	0.76	0.69
G7	0.23	0.25	0.56	1.21	0.99
Anglo-Saxon	0.39	0.39	0.78	1.55	1.17
Europe and Japan	0.11	0.15	0.4	0.96	0.85

Source: National Flow of Funds Balance Sheets.

Table 2

Size Indicator of Financial Structure

(Total Financial Claims as a Proportion of GDP)

	1970	1980	1990	2000	Change 1970−2000
United Kingdom	4.7	4.9	8.9	11	6.2
United Kingdom excluding euro markets	4.7	4.2	7.9	9.7	5.0
U.S.A.	4.1	4.1	5.9	8.4	4.4
Germany	2.9	3.6	4.7	7.9	5.0
Japan	3.8	5.1	8.5	11.9	8.1
Canada	4.7	5.1	5.8	6.6	2.0
France	4.4	4.8	6.9	11.4	7.0
Italy	3.4	3.9	4.3	7.1	3.7
G7	4.0	4.4	6.3	9.0	5.0

Source: National Flow of Funds Balance Sheets.

Table 3

Financial Intermediation Ratios

(Intermediated Claims as a Proportion of the Total)

	1970	1980	1990	2000	Change 1970−2000
United Kingdom	0.32	0.42	0.47	0.58	0.26
United Kingdom excluding euro markets	0.32	0.34	0.40	0.52	0.20
U.S.A.	0.33	0.37	0.34	0.44	0.11
Germany	0.44	0.45	0.43	0.45	0.01
Japan	0.39	0.42	0.42	0.52	0.14
Canada	0.29	0.34	0.37	0.47	0.18
France	0.34	0.62	0.41	0.39	0.05
Italy	0.36	0.32	0.31	0.35	−0.01
G7	0.35	0.41	0.38	0.45	0.10

Source: National Flow of Funds Balance Sheets.

Table 4

Bank and Institutional Intermediation Ratios

(Proportion of Intermediated Claims Held by Banks and Institutional Investors)

		1970	1980	1990	2000	Change 1970−2000
United Kingdom	Bank	0.58	0.64	0.55	0.44	−0.13
	Institutional	0.28	0.26	0.32	0.38	0.10
U.S.A.	Bank	0.58	0.58	0.42	0.21	−0.37
	Institutional	0.31	0.31	0.4	0.44	0.13
Germany	Bank	0.84	0.86	0.83	0.73	−0.12
	Institutional	0.10	0.12	0.17	0.23	0.14
Japan	Bank	0.45	0.36	0.38	0.24	−0.21
	Institutional	0.10	0.10	0.16	0.17	0.06
Canada	Bank	0.45	0.55	0.44	0.38	−0.07
	Institutional	0.23	0.19	0.25	0.35	0.12
France	Bank	0.94	0.68	0.82	0.65	−0.29
	Institutional	0.05	0.04	0.19	0.27	0.22
Italy	Bank	0.98	0.98	0.95	0.64	−0.34
	Institutional	0.06	0.05	0.11	0.31	0.25
G7	Bank	0.69	0.66	0.63	0.47	−0.22
	Institutional	0.16	0.15	0.23	0.31	0.15

Source: National Flow of Funds Balance Sheets.

Table 5

Relative Size of EU Institutional Sectors in 2000

	Pension funds	Investment funds	Insurance
	% of GDP		
Belgium	6	30	42
Denmark	24	20	78
Germany	16	12	43
Greece	4	25	1
Spain	7	30	13
France	7	55	61
Ireland	51	144	45
Italy	3	39	21
Luxembourg	1	3,867	117
Netherlands	111	25	65
Austria	12	40	24
Portugal	12	16	20
Finland	9	10	57
Sweden	57	34	90
United Kingdom	81	27	107

Source: CEPS (2003).

Table 6

European Pension Fund Asset Allocation in 2000

Countries	Equity	Fixed income	Real estate	Cash & STP	Other	Unallocated assets
Belgium	49.9	40.4	3.9	4.3	1.7	0.0
Denmark	32.4	47.9	4.4	1.7	13.7	0.0
Germany	6.6	12.7	1.2	0.3	0.0	79.3
Greece	12.2	54.6	7.7	25.5	0.0	0.0
Spain	12.5	36.1	2.7	11.1	7.2	30.4
France	14.8	34.7	4.0	1.3	1.1	44.0
Ireland	64.4	22.1	6.6	4.5	2.4	0.0
Italy	4.9	30.6	10.9	1.0	29.8	22.8
Luxembourg	27.4	48.5	0.2	23.8	0.0	0.0
Netherlands	42.0	47.0	10.1	0.9	0.0	0.0
Austria	9.7	19.4	0.3	1.3	1.6	67.6
Portugal	29.3	48.4	7.3	11.0	3.9	0.0
Finland	39.0	38.1	13.6	9.3	0.0	0.0
Sweden	34.0	42.2	6.2	0.6	0.1	16.9
United Kingdom	71.0	21.0	3.0	5.0	0.0	0.0
EU15	47.8	27.0	4.4	3.2	0.8	16.8
Switzerland	25.4	47.8	13.2	9.2	4.5	0.0

Source: European Federation for Retirement Provision.

Table 7

Portfolio Restrictions on EU and Swiss Pension Funds

Belgium	>15% in government bonds
Denmark	provisions of the EU's third life insurance directive, 80% currency matching
France	>50% EU government bonds
Germany	<35% EU equities, <25% EU property, <6% non-EU equities, <6% non-EU bonds, <20% overall foreign assets, >70% currency matching
Italy	<20% liquid assets, <50% nonlisted OECD securities, <5% non-OECD securities, >30% currency matching
Portugal	<40% in foreign equities
Switzerland	<50% real estate, <30% Swiss equities, <30% foreign loans, <25% foreign equities

Source: CEPS (2003); rules for Germany refer to insurance companies and Pensionskassen; new legislation has recently introduced the prudent man rule for a new type of pension funds.

Table 8

Asset Manager Competition – Barriers to Market Entry

Answers ranked from 1 (unimportant) to 5 (very important)	5	4	3	2	1	Mean	% of response
Reputation of existing firms	20	48	20	2	11	3.63	64
Existing firms' relationships with clients	29	38	18	4	11	3.69	64
Existing firms' distribution channels/selling networks	40	36	13	0	11	3.93	64
Existing firms' expertise/technical capabilities	7	33	35	13	13	3.07	64
Existing firms' lower unit costs	7	7	50	17	16	2.48	61
Capital or marketing costs	4	28	43	13	13	2.98	63
Existing firms' local information	15	38	28	6	13	3.36	65
Established investor preferences	11	38	34	9	9	3.34	65
Regulatory barriers	13	24	31	18	13	3.07	63

Source: Davis and Steil (2001).

Table 9

European Asset Manager Performance

	Operating profits	Net revenues	Net revenues	Memo: % of retail funds	Memo: equity fund management costs (bp)
Benelux	19	32	13	53	4.6
France	19	32	13	40	5.7
Germany	9	23	14	31	5.7
Iberia	42	53	11	74	3.7
Italy	35	48	13	94	5.8
United Kingdom	11	28	17	21	5.8

Source: McKinsey (2000).

Table 10

Fees for a USD 100 Million Balanced Mandate

	Fees (basis points)
Ireland	18
Netherlands	18
Germany	27
United Kingdom	27
France	32
Switzerland	40
Memo: U.S.A.	46

Source: Watson Wyatt (2000).

Table 11

Convergence of EU Financial Structure on the U.S.?

(USD billion/% of GDP)

	Equities (market cap)	% of GDP	Government bonds	% of GDP	Private bonds	% of GDP	Bank assets	% of GDP	Total	% of GDP	Institutional investors	% of GDP
EU15	5,093	62	3,298	40	1,963	24	−11,695	− 134	−1,223	− 14	5,962	71
EU11	5,733	82	2,846	41	1,828	26	− 9,246	− 133	0	0	5,890	86
Belgium	173	69	− 42	−17	15	6	− 657	− 253	− 522	− 201	234	87
Denmark	127	75	46	27	− 73	−43	− 65	− 36	32	18	135	78
Germany	2,024	88	1,253	57	315	14	− 2,893	− 127	433	19	2,395	99
Greece	104	95	7	6	59	60	− 15	− 12	173	143	n.a.	n.a.
Spain	528	80	353	53	341	53	− 554	− 99	320	57	605	107
France	1,278	80	802	51	382	24	− 2,235	− 132	271	16	1,082	70
Ireland	41	63	35	53	19	57	− 113	− 156	9	13	n.a.	n.a.
Italy	1,004	93	− 247	−23	249	23	− 1,173	− 96	49	4	1,394	125
Luxembourg	− 12	64	15	90	0	− 1	590	−3,552	− 592	−3,566	− 341	−1,797
Netherlands	51	14	146	40	154	42	− 498	− 131	− 171	− 45	− 52	− 13
Austria	224	102	131	61	58	27	− 354	− 160	38	17	258	110
Portugal	79	89	40	45	36	40	− 149	− 139	41	38	114	111
Finland	74	64	59	50	33	28	− 45	− 37	121	98	120	95
Sweden	50	20	90	36	− 13	− 5	− 79	− 32	− 2	− 1	67	29
United Kingdom	− 344	− 29	723	60	504	42	− 2,267	− 180	−1,399	− 111	− 188	− 17

Source: Davis and Steil (2001).
Note: n.a. = not applicable.

Table 12

Projections of Elderly Dependency Ratio

	2000	2020	2040
Belgium	28.1	35.6	51.3
Denmark	24.1	33.7	44.5
Germany	26.0	36.3	54.7
Greece	28.3	35.8	51.4
Spain	27.1	33.1	55.7
France	27.2	35.9	50.0
Ireland	19.4	24.5	36.0
Italy	28.8	39.7	63.9
Luxembourg	23.4	31.0	45.4
Netherlands	21.9	32.6	48.1
Austria	25.1	32.4	54.5
Portugal	25.1	30.3	43.1
Finland	24.5	38.9	47.4
Sweden	29.6	37.6	46.7
United Kingdom	26.4	32.0	47.0

Source: Bos et al. (1994).

Table 13

Projected Pension Costs

	2000	2020	2040	Change to peak	Memo: Replacement rate
	% of GDP				
Belgium	9.3	10.4	13.0	3.7	58−45
Denmark	10.2	14.0	13.9	4.5	45−43
Germany	10.3	10.6	14.4	4.3	93−37
Greece	n.a.	n.a.	n.a.	n.a.	70−48
Spain	9.4	10.2	16.3	8.3	94−63
France	12.1	15.0	15.8	3.9	67−51
Ireland	4.6	6.7	8.3	4.4	53−21
Italy	14.2	14.9	15.7	1.7	78−75
Luxembourg	n.a.	n.a.	n.a.	n.a.	87−76
Netherlands	7.9	11.1	14.1	6.2	76−31
Austria	14.5	15.7	17.0	3.1	70−70
Portugal	9.8	14.4	15.8	6.2	74−74
Finland	11.3	140.0	16.0	4.7	60−59
Sweden	9.0	10.2	10.7	1.7	63−50
United Kingdom	5.1	4.4	4.4	0.0	60−33

Source: Dang et al. (2001).
Note: n.a. = not applicable.

Table 14

Returns to Funding and Pay-As-You-Go: 1970–1995

	Real returns/ risk	50−50 bond equity	Global portfolio	Real average earnings
Australia	1.8	3.5	6.1	1.0
	−11.4	−17.5	−18.2	−3.4
Canada	4.8	4.0	7.1	1.3
	−10.0	−12.1	−14.7	−2.4
Denmark	5.0	6.1	3.7	2.4
	−11.1	−19.0	−18.5	−3.5
Germany	6.0	6.4	3.9	2.7
	− 5.9	−17.7	−18.4	−2.7
Japan	4.4	6.1	6.9	2.4
	−10.2	−16.9	−16.0	−3.0
Netherlands	4.6	5.5	4.8	1.4
	− 6.0	−18.3	−14.7	−2.6
Sweden	2.0	8.0	6.3	1.4
	−13.1	−20.1	−14.8	−3.5
Switzerland	1.7	2.4	3.7	1.5
	− 7.5	−18.1	−17.0	−2.1
United Kingdom	5.9	4.7	5.9	2.8
	−12.8	−15.4	−15.0	−2.3
United States	4.5	4.4	7.5	0.2
	−11.8	−13.3	−15.2	−1.9

Source: Davis (2002a).

Chart 1

Expected U.S. Asset Prices Applying Projected U.S. Demographics

Transactions in EUR million

[Chart showing US real share price projections from 50 to 50, with values ranging from -0.8 to 0.8, including a solid black line and dashed confidence interval lines]

- Projections of US real share prices (USDLRSPF)
- Dashes represent a 95% confidence interval.

Source: Davis and Li (2003).
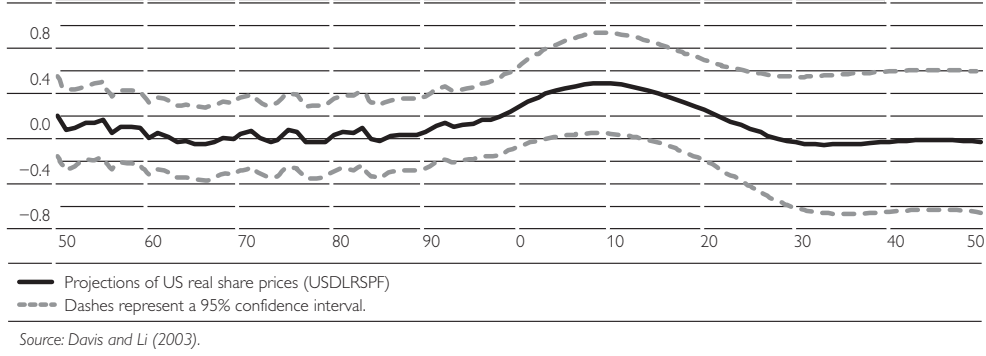
Discussion of "Pension Funds and European Financial Markets"

Josef Zechner[1])

My discussion is structured in the following way. I will first summarize some major results of E. Philip Davis's paper. Then I will make a few general remarks about his paper which are followed by specific comments on issues not directly addressed by the paper: (i) weaknesses in the product design of pension funds, (ii) poor corporate governance within pension funds, and (iii) problems with the regulation/supervision of pension funds.

Major Results

The first set of E. Philip Davis's results focuses on risks for nonfunded systems. The analysis distinguishes between three alternative scenarios: (i) no significant government action, (ii) tax financing of the resulting pension liabilities, and (iii) bond financing of the resulting liabilities. As pointed out in the paper, a major threat in scenario (i) is determined by adverse effects on the quality of banks' loan portfolios and life insurers' bond portfolios, since the no-government response scenario poses high risks for the economic development in general. A likely consequence of scenario (ii) will be the economy's loss of competitiveness, implying an increase in credit risk and a fall in asset prices. Finally, scenario (iii) creates the risk of interest rate increases, deterioration of credit ratings, crowding out and fiscal solvency crises.

Funded pension systems may face different risks owing to the aging of the population. The increased significance of institutional investors may lead to extreme price volatility after changes in expectations and a collapse of market liquidity due to herding. The transfer of savings to pension funds may also threaten the solvency of institutions such as banks and it may increase the possibility of bubbles in equity, debt and property markets followed by falls in asset prices during population ageing.

General Comments

E. Philip Davis's paper gives an extremely insightful and comprehensive analysis of the potential implications of ageing for EU financial markets. Thus, it deals with a highly relevant topic, which should be taken seriously by politicians and regulators. We can only expect to define policies which may be able to mitigate the possible threats posed by ageing once we have defined them. My comments below should not be interpreted as criticism of E. Philip Davis's paper but as supplementing it by identifying three potential weaknesses implicit in the funded system which, without doubt, will be an important pillar in any pension system of industrial nations. All those weaknesses result from the following agency problems within pension funds:
— weaknesses in product design,
— poor corporate governance within the institutions,
— problems with regulation/supervision.

Weaknesses in Product Design

Within funded pension systems we observe a strong trend toward defined contribution plans. This implies that the price risk is borne exclusively by the individual investors. Also, asset allocation decisions are increasingly made by the

---

1   *University of Vienna.*

individual investors. It is not at all clear that employees paying into a pension fund are optimally equipped to (i) bear the full financial market risk, and (ii) make their own asset allocation decisions. Modern portfolio theory has developed dynamic asset allocation models which can be designed to reduce risks for the investor, to include certain insurance components and to take behavioral characteristics such as habit formation into account. Most products offered by pension funds today are not based on such dynamic asset allocation models (for a discussion of such strategies, see Bodie 2003).

Poor Corporate Governance Within Institutions

Since the performance of pension fund managers is usually measured quarterly against benchmark indices, it tends to exhibit herding behavior. For example, simply because Vodafone took over Mannesmann, a lot of U.K. pension funds now indirectly hold original Mannesmann shares. Had the takeover resulted in Mannesmann taking over Vodafone, this would have not been the case.

Internal governance structures can currently not solve fund managers' incentive problems. A recent study on U.K. trustees who are responsible for overseeing the operation of funds and employing fund managers may illustrate this point. According to this study, 69% of all trustees had less than two days of training; 49% spend less than three hours to prepare for fund meetings (Franks et al., 2003).

Pension Funds and Domestic Investment

Pension funds invest mainly in securities represented in large, frequently international indices.

This has implications for investment in small and medium sized firms (see Mayer, 2001). Austria's "Mittelstand" is mainly bank-financed and thus, if pension funds are "crowding out" bank deposits, it is central that SMEs get access to retirement savings. Of course this raises difficult valuation issues since most SMEs will not be stock market-listed.

The Effect of Regulation

Finally, one needs to assess the effect of regulation on pension fund managers' behavior. Short-term strict enforcement of funding requirements and return guarantees may introduce adverse investment incentives, forcing pension funds into procyclical strategies, e.g. to sell stocks in bear markets. An interesting research question in this context is the analysis of the effects of accounting and valuation rules on portfolio management decisions.

Finally, I wish to emphasize that my comments should not be interpreted as a recommendation against introducing a funded pension system. The opposite is the case. In my view the future will give even more weight to pension systems which are funded and based on capital markets. This is precisely the reason why one needs to invest effort and resources to analyze the potential risks implicit in such systems.

References

Bodie, Z. 2003. Thoughts on the Future: Life Cycle Investing in Theory and Practice. Financial Analysts Journal 59(1). January/February 2003.

Franks, J., C. Mayer and L. Correia da Silva. 2003. Asset Management and Investor Protection: An International Analysis. Oxford University Press.

Mayer, C. 2001. Institutional Investment and Private Equity in the UK. Oxford Financial Research Centre Working Paper 2001-FE-10.

Investment-Based Pension Reform as a Solution to the Old-Age Crisis? Risk Issues in the Pension Reform Debate

1 Introduction

Daniel Eckert[1]

In the current pension debate, investment-based pension reform is widely presented as a solution to the problem of the fiscal unsustainability of public pension systems under the demographic pressure of population aging. Yet, the case for an investment-based pension reform is ultimately supported by a reformulation of the problem in the financial economics framework of risk diversification, as we show in section 2. In section 3 we explore the implications of this approach for the assessment of investment-based pension reform. In section 4 we extend this approach to the level of financial systems and to the issue of nondiversifiable risks.

2 Today's Pension Reform Debate

2.1 Retirement Provision as a Demographic and Fiscal Problem

The economic debate on pension reform has a long tradition that is centered on the issue of the efficiency of the typical public pension system as it was introduced or expanded in most countries around World War II. In this system, pensions to the retirees are financed on a pay-as-you-go (PAYG) basis by social security contributions of the working population (for a survey see Mulligan and Sala-i-Martin, 1999).

A historic starting point in the economic pension debate was the derivation of the implicit rate of return on social security contributions as the growth rate of the wage sum by Aaron (1966) (following a seminal paper by Samuelson, 1958). Since then, a whole strand of literature has explored the efficiency conditions of different pension systems. A major result in this vein which made its way into macroeconomics textbooks (see e.g. Romer, 2001) is the pareto superiority of a PAYG pension system over a funded system in case of dynamic inefficiency of the economy.[2]

At the same time, the limitation of the implicit rate of return from the PAYG system by the growth rate of the wage sum as compared with the usually higher rates of return on capital has always raised concerns about the efficiency of PAYG pension finance. These concerns have long nourished reform proposals aiming at financing pension provision through the buildup and investment of funds[3] (for a survey see Feldstein and Liebman, 2001).

However, well-established equivalence results put into question the gains from investment-based pension reform, as the present value of the income gains to all future generations can be shown to exactly match the income losses to the transition generation. Hence, there is a broad consensus that investment-based pension reform cannot achieve a Pareto improvement (for a survey see Lindbeck and Persson, 2002).

---

1   Institute of Public Economics, University of Graz. This paper was written while the author was a research fellow at the OeNB's Economic Analysis Division, the hospitality of which is gratefully acknowledged.

2   A dynamically inefficient economy is characterized by an overaccumulation of capital causing the real rate of return to be lower than the growth rate of GDP. In this case the implicit rate of return in a PAYG-financed pension system exceeds the real rate of return.

3   Though this form of pension finance is often simply termed funded, it seems more appropriate to call it investment-based to distinguish it in particular from a PAYG pension system augmented by a fund within the public budget, but invested in a nondiversified way exclusively in government bonds, such as the U.S. Social Security trust fund (for the relevance of the latter distinction see Geanakoplos et al., 1998).

Investment-Based Pension Reform
as a Solution to the Old-Age Crisis?
Risk Issues in the Pension Reform Debate

In the 1990s, the debate on investment-based pension reform was boosted by concerns about the fiscal sustainability of public pension systems under the demographic pressure of population aging, the so-called "old-age crisis" (World Bank, 1994; Holzmann and Stiglitz, 2001). Increasing life expectancy and decreasing fertility are expected to double the *old-age dependency ratio* (defined as the population aged over 65 as a percentage of the working age population) from 24% in 2000 to 49% in 2050 for the EU (EPC, 2001).

With the economic dependency ratio defined by $D = \#Retirees/\#Workers$, the simple algebra of PAYG pension finance determines the average pension benefit by $B = Cw/D$, where C is the social security contribution rate and w denotes the wage rate. In this simplified framework, the costs (measured in the required contribution rate) of providing any level of benefit vary directly with the economic dependency ratio.

Hence, a more generous public pension system will suffer a stronger impact from the aging process. Evidence for this effect can be seen in the contribution of the increase in the old-age dependency ratio to the change in public pension expenditure from 2000 to 2050 (table 1).

Mainly due to the rise of the old-age dependency ratio, public pension expenditures in the EU are expected to rise from 10.4% of GDP in 2000 to 13.3% in 2050. Hence, without a corresponding increase in the contribution rate, maintaining the current level of benefit will cause the deficit of the public pension system, and hence the public sector deficit, to increase.

Table 1

Public Pension Generosity, Dependency Ratio and Age Impact on Public Pension Spending, 2000

	Replacement rate	Dependency ratio 2000	Dependency ratio 2050	% of GDP 2000	% of GDP 2050	Age impact (in percentage points of GDP)
France	84.0	27.2	50.8	12.1	15.8[1])	7.6
Germany	72.0	26.6	53.2	11.8	16.9	6.4
Italy	90.0	28.8	66.8	14.2	13.9	10.0
Netherlands	43.0	21.9	44.9	5.2	10.0	3.8
United Kingdom	50.0	26.6	45.3	4.3	3.6	1.7
U.S.A.	54.6	21.7	37.9	4.4	6.2	2.4

Source: Dang, Antolin and Oxley (2001), Disney and Johnson (2001).
[1]) 2040.

Thus, it comes as no wonder that simple projection exercises for stylized EU and OECD countries show, by various indicators, fiscal unsustainability to arise in the second half of the projection period 2000-2050 as a result of increased age-related public expenditures (see EPC, 2001, and Dang et al., 2001). For a stylized EU Member State's average debt expenditure, projections show the budgetary position to exceed the 3% reference value in 2025, with government debt levels breaking the 60% reference level in 2035 (EPC, 2001). On the other hand, keeping debt constant under the budgetary pressure of increased age-related public expenditures would require sustained primary surpluses as high as 4.3% of GDP for Germany, 4.9% for Italy, and 5.9% for France (Dang et al., 2001).

2.2 Investment-Based Pension Reform as Risk Diversification

From the point of view of fiscal sustainability, "fundamental pension reform that involves a shift towards more pre-funding of retirement income appears to be the only way out of the pension crisis caused by demographic change" (Winter, 2002). Consequently a broad academic and political consensus ranging from the World Bank to the OECD and the EU advocates the diversification of sources of retirement income (World Bank, 1994; OECD, 2001; Mc Morrow and Roeger, 2002).

However, the simple algebra of PAYG pension systems in principle always allows for adjustments of the parameters determining the problem of PAYG pension finance (such as the age of retirement, which directly affects the economic dependency ratio). The latter has been demonstrated by recent simulation exercises (EPC, 2002), showing that a one-year increase in the effective retirement age can absorb on average 22.6% of the increase in pension expenditures in a sample of 10 EU Member States (table 2).

Table 2

Impact of Retirement Age Increase

	Germany	Denmark	France	Finland	Italy	Ireland	Nether-lands	Portugal	Spain	United Kingdom
Projected increase in pension expenditure as a percentage of GDP from 2000 to 2050	5.0	2.8	3.7	4.6	0.3	4.4	5.7	3.4	1.7	0.0
Impact of increase in effective retirement age by one year (in percentage points of GDP)	−0.70	−1.00	−0.90	−0.60	−0.10	−0.40	−1.10	−0.34	−0.30	−0.20

Source: EPC (2002).

Thus, the pretended uniqueness of the investment-based solution to the problem of the fiscal sustainability of public pension systems is likely to be the result of an implicit reformulation of this problem. Indeed, even if the starting point of the debate of investment-based pension reform is fiscal sustainability, substituting investment-based sources for publicly provided retirement income is rarely justified on fiscal grounds alone.

It could hardly be justified on these grounds, as the diversion of mandatory savings from social security contributions to private pension schemes cannot but increase the public sector deficit if obligations to current and future retirees are to be met (Mackenzie et al., 2001). On the contrary, the Stability and Growth Pact can even appear as an impediment to investment-based pension reform (Razin and Sadka, 2002) because it precludes the very reduction of social security contributions that could ease the transition to an investment-based pension system.

While motivated by fiscal sustainability considerations, the consensus for the *diversification of sources of retirement income* is thus essentially justified in terms of a *diversification of the corresponding risks:* "The principal advantage of a multi-pillar pension scheme lies in risk diversification" (Holzmann, 1999). If the substitution of investment-based sources for PAYG-financed sources of retirement income is being justified in terms of the risks involved, the pension reform debate is actually shifted from the fiscal level, at which the old-age crisis is formulated, to the financial economics framework, in which its preferred solution – investment-based pension reform – is embedded. The extent of this shift to the investment paradigm in the pension reform debate can be seen in

that the very problem is often formulated as a portfolio choice problem. Public pension claims are conceived as a particular type of assets, the demographic pressure of population aging is rephrased as "demographic risk" and the substitution of private retirement sources for public ones is hence conceived as a way of asset and risk diversification. Investment-based pension reform is then ultimately justified by the possibility to achieve a better risk-return combination (Holzmann, 1999).

This investment-oriented solution strategy raises two related issues. First of all, pension provision is reduced to retirement saving without taking into account other functions that pension systems might have, such as the deliberate distributional function of most PAYG pension schemes. As Mulligan and Sala-i-Martin (1999) have further observed, there does not even exist a theory of the PAYG pension system that encompasses all of its typical features. In the absence of such a theory, pension reforms are obviously hard to assess. At the same time, the investment orientation of the pension reform debate – which excludes migration on the ground of political unsustainability and pays little attention to the potential of parametric reforms – contributes to narrowing the number of potential strategies for solving the old-age crisis.

The main focus of our survey is to reconstruct the line of argumentation of the investment-oriented pension debate and to critically assess its arguments especially in view of the demographic problem to which investment-based pension reform is presented as the solution.

3 The Portfolio Approach to Pension Reform

3.1 Substitution of Retirement Income Sources as Asset and Risk Diversification

The superiority of investment-based over PAYG pension finance has long been justified by the rate-of-return differential between these two systems. A crude estimate of this differential for the four main industrialized countries can be obtained by comparing real wage growth as a proxy for the implicit rate of return on social security contributions and an average of annual returns on listed shares and government bonds as a proxy for the portfolio of a pension fund over the period 1953-1995 (table 3). With the exception of Japan, this comparison is also backed by historic pension fund performance.

Table 3

Historic Rates of Return on Alternative Retirement Assets, 1953–95

	Germany	United Kingdom	U.S.A.	Japan
Wages	4.80	3.60	1.00	5.20
"Portfolio"	7.00	6.35	6.05	7.30
Pension fund portfolios (1970–95)	6.00	5.90	4.50	4.40

Source: Holzmann (1999). Davis (2002b).

A whole strand of literature has tried to develop the intuitive idea that investment-based pension reform should be able to exploit the rate of return differential between investment-based and PAYG pension finance and in particular to capture to some extent the equity premium (see Feldstein and Liebman, 2001).

This is done by designing transition paths from existing PAYG to investment-based pension systems that satisfy two essential conditions:

Investment-Based Pension Reform
as a Solution to the Old-Age Crisis?
Risk Issues in the Pension Reform Debate

(a) that pension benefits never fall under the statutory level of benefits of the PAYG pension system,

(b) that the sum of contributions to the PAYG-financed and to the investment-based components of the pensions system never exceeds some upper bound which is significantly lower than the level of social security contributions required to keep the PAYG-financed pension system in balance.

As a typical example of this line of argumentation to which they have contributed major results, Feldstein et al. (2001) show for the United States the possibility of a path which supports the benefit level of the current PAYG pension system without exceeding a total of social security contributions and private retirement saving of 15% of taxable earnings. Ultimately the target level of benefit can be secured by saving just 4.25% of gross wages in a private retirement account. These results hold under the assumption of a 5.5% rate of return on investments in the private retirement accounts corresponding to the average post-war real portfolio rate of return on a 60:40 stock-bond portfolio after 0.4% allowance for administrative costs.

Similar results for Germany are obtained by Börsch-Supan and Brugiavini (2002), who show that freezing social security contributions at the level of 2000 and maintaining the public pension benefit level is consistent with additional private retirement savings never exceeding 3.25% of gross wages under the assumption of a rate of return of 4.5% in real terms.

Today it is, however, recognized (and spectacular failures of pension funds have made it obvious to the broad public) that risk considerations are essential for the very finance perspective that characterizes the ongoing pension reform debate. Recently, the literature on pension reform has incorporated risk considerations in its models. This is usually done by calculating shortfall probabilities. For their above-mentioned model of investment-based pension reform, Feldstein et al. (2001) compute a 10% chance that the pension benefits will fall short of the public pension benefit level by more than 50%.

Typically, risk issues in the debate on investment-based pension reform are addressed by introducing pension guarantees that secure the benefit level of the PAYG pension scheme. In the framework of Feldstein et al. (2001), a guarantee of the statutory PAYG benefit level implies a probability of 20% of needing any net funds to finance a transfer to retirees and only a 5% probability that the required net transfer would augment the sum of social security contributions and private retirement savings to a total burden of more than 10% of taxable income.

A strict financial economics approach would, however, require these risks to be priced. Hence, it might be more appropriate to consider minimum benefit guarantees as put options written by the government and to valuate them accordingly. The application of option theory to pension schemes advocated by Blake (1998) has the additional advantage of making the different types of pension schemes better comparable and of exploring their implications for pension fund management. The typical PAYG-financed pension is a *defined benefit* scheme insofar as the benefits are determined independently of the contributions payable and benefits are not directly related to the investments of the scheme, as opposed to a *defined contribution* scheme. From a financial economics point of view, a defined benefit scheme can now be replicated with

the help of a put option written by the scheme sponsor and exercised by the scheme member, combined with a call option written by the member that is exercised if the value of the member's pension fund assets exceeds the defined benefit. In this perspective, a minimum benefit guarantee can be considered as a put option written by the government and exercised if the benefits from investment-based pension finance fall below a threshold value. Application of this valuation procedure drastically reduces the fiscal benefits from investment-based pension reform, as the costs of such a guarantee now correspond to 87% of the implicit debt of the PAYG system (Smetters, 2001). Similar results are obtained by Miles and Timmerman (1999), who consequently suggest a tax scheme which replicates a combination ("bull spread") of these put options with call options of the same value in order to compensate for the costs of benefit guarantees by taxing high returns in investment-based benefits. In this framework a return guarantee of at least 2% would imply a return cap of about 5%.

Though the portfolio approach is crucial to the justification of investment-based pension reform as risk diversification, only few models systematically develop it. In fact, a portfolio choice model for pension design was first used by Merton (1983) to justify the introduction of a PAYG pension scheme: As the nontradability of human capital is a source of inefficient portfolio composition (with the young being too heavily invested in human capital and the old being invested too little), a PAYG pension system, by replicating an economy where human capital is tradable, improves welfare. Hence, this argument is often adduced as a justification of maintaining a PAYG component in any pension system.

The optimal split between the PAYG and the investment-based component of the pension system has also been addressed with portfolio choice models (Dutta et al., 2000). In the usual mean-variance framework, the optimal share of the investment-based component increases in the mean return on capital but decreases in its covariance with GDP growth (considered as a proxy for the implicit rate of return in the PAYG pension system). Applying this simple model to empirical data justifies the high share of investment-based pension schemes in the United States (due to high returns) and their low share in Japan (due to high covariance of GDP growth with rates of return). In this framework, a further justification for maintaining a PAYG component in the pension system results from the fact that in the absence of the risk hedge it provides, investment-based pension schemes are driven to invest to a larger extent in less risky, lower-return assets, such as government bonds. Based on a similar portfolio choice approach, Matsen and Thogersen (2001) have shown that even in the presence of extremely low rates of return in the PAYG pension scheme, as they are likely to result from population aging, negative correlations between returns on capital and growth can justify a PAYG-financed component of the pension system.

In a slightly different framework and allowing for real world financial market imperfections, such as the inefficiency of annuity markets, the optimal split of PAYG-financed and investment-based pension schemes has also been investigated by Miles and Cerny (2001). One of their major findings is the sensitivity of portfolio allocation to the existence of PAYG-financed public pension schemes. Investment in equity is encouraged by generous public pension

Investment-Based Pension Reform
as a Solution to the Old-Age Crisis?
Risk Issues in the Pension Reform Debate

schemes in the absence of which individuals are driven into low-yielding safe assets.

Given the importance of the risk diversification argument in the justification of investment-based pension reform, the relatively small number of publications which systematically explore a portfolio choice approach might be considered an indicator of intrinsic problems related to its application to the design of pension systems. An obvious problem consists in the fact that both the price and the amount of the public pension "asset" in individuals' portfolio are exogenously given through social security legislation, limiting the applicability of standard financial economics tools, such as the Capital Asset Pricing Model (Persson, 2000).

3.2 Investment-Based Pension Finance and Demographic Risk

If investment-based pension reform is presented as a solution to the old-age crisis, one has to ask how investment-based pension finance is likely to be affected by the determinants of the latter.

Whereas population aging, in the absence of dramatic increases in productivity, directly reduces the implicit rate of return of the PAYG system (the latter being the growth rate of the wage sum), it is also expected to negatively affect capital market returns. For this negative effect, several mechanisms are responsible.

As pensions are addressed in the finance-oriented pension reform debate under the exclusive viewpoint of retirement saving, it seems natural to apply to this issue the dominant life cycle model of saving, which essentially conceives saving as a device for intertemporal smoothing of consumption. For retirement saving in general, this model predicts intensive saving in the high-earnings middle life period and massive dissaving in retirement. In view of pension fund management, this model predicts risk aversion to increase with age and hence recommends that the share of bonds be increased as the pension fund matures.

Hence, as a result of these two assumptions related to retirement saving, on the supply side, the decumulation of financial assets held by retirees depresses the rate of return. A natural focal point in the discussion of this effect is the retirement of the baby boomers taking place around 2030, which motivates the asset meltdown hypothesis: Brooks (2000) establishes in a simulation model that during the baby boom an aggregate saving effect pushes up returns on financial assets, while during the bust the still relatively high level of aggregate saving pushes returns on financial assets down. Such a demographic shock also affects the return differential between stocks and bonds because of excess demand for riskless assets by a large cohort of employees near retirement.

It must here be noted that a tight fiscal stance as imposed by the Stability and Growth Pact is likely to reinforce this effect, since it reduces the supply of government securities, which is the most important category of riskless assets, as Schinasi et al. (2001) have argued for the United States.

Brook's additional observation of an inverse movement of wage income with the size of the labor force is shared by most of the literature on the effects of population aging on financial markets and is an independent source of concern. Factor price effects in favor of wages are not only reducing returns on financial

Investment-Based Pension Reform
as a Solution to the Old-Age Crisis?
Risk Issues in the Pension Reform Debate

assets, they are also likely to adversely affect saving motives and hence impede capital accumulation (Winter, 2002).

Factor price effects are also likely to reduce asset returns to the extent that an increasing capital-labor ratio will decrease demand for capital (Börsch-Supan and Winter, 2001). This effect is reinforced when population aging mitigates growth and hence reduces profitable investment opportunities.

4 Investment-Based Pension Finance, Financial Systems and the Allocation of Nondiversifiable Risk

We have seen that the substitution of investment-based sources of retirement income for PAYG-financed schemes, though propagated as a strategy of risk diversification, is far from being justified by a rigorous application of risk considerations. Under the risk management approach implicit in the justification of investment-based pension reform, the question remains as to how the transformations of financial systems induced by investment-based pension reform may affect the risk allocation capabilities of financial systems as such.

It is widely recognized that pension funds play a major role in the transformation of financial systems through the development of institutional investors (see Davis and Steil, 2001). Their impact, which not only corresponds to their size, but also to the international scale on which pension funds operate, makes pension reform a policy issue of utmost significance for national financial systems. Depending on the degree to which investment-based retirement sources are substituted for PAYG-financed pensions and depending on the speed of pension reform, the path of a country's financial system will change. This holds in particular for those economies where retirement savings are not yet channelled by institutional investors, such as France, Germany and Italy, and where the mere catching-up process of the pension fund industry to the level of the OECD average of 38% of GDP would imply the mobilization of resources in the magnitude of one-third of the respective national GDP.

The role of pension funds in the ongoing transformation of financial systems is, however, not uncontroversial. At a first look, empirical evidence suggests a close link between the structure of pension systems and the structure of financial systems (Tyrell and Schmidt, 2001). Economies with a dominant first pillar, which secures a large share of retirement income, and a correspondingly low size of pension funds also have less developed financial markets than countries with a substantial share of retirement provision through pension funds (table 4).

Table 4

Pension Systems and Financial Systems						
	Germany	France	Italy	Netherlands	United Kingdom	U.S.A.
Replacement rate of public pensions	72.0	84.0	90.0	43.0	50.0	54.6
Size of pension funds (in % of GDP)	3.0		4.2	112.6	85.1	74.7
Stock market capitalization (in % of GDP)	67.8	103.8	62.2	176.6	203.4	181.8

Source: Disney and Johnson (2001). OECD (2002). WDI (2001).

Investment-Based Pension Reform
as a Solution to the Old-Age Crisis?
Risk Issues in the Pension Reform Debate

However, empirical evidence for causality between pension fund growth and financial market development is still very weak. Only for less than half of 14 OECD countries investigated did Granger causality tests by Catalan et al. (2000) provide evidence of causality between size indicators of pension funds and financial market development as measured by stock market capitalization and value traded.

Hence, the financial-market-effects argumentation for investment-based pension reform often can only align pieces of theoretical and empirical evidence (heavily dwelling on results from the finance and growth literature) without explicitly modeling the economic impact that investment-based pension reform exercises. Two issues, however, can be retained as central nodes in this line of argumentation: corporate governance and financial stability.

Large investors such as pension funds have a superior leverage on the management of firms to improve profitability. Hence, investment-based pension reform, by improving corporate governance, should also increase capital productivity. This effect should be particularly strong in economies with a bank-based financial system, where the link between capital owners and firm managers is weakened by bank ownership, as is the case in Germany. Extending on previous cross-country and cross-industry comparisons by looking at long-run rates of return, Börsch-Supan and Winter (1999) adduce a persistent differential of rates of return between the United States and Germany as evidence for their claim that pension reform, by contributing to the transformation of bank-based into market-based financial systems, increases capital productivity through improved corporate governance.

A well-known drawback of institutional investors' leverage is, however, the risk of short-term-oriented decision-making compromising long-term performance. With performance evaluated against benchmark indices, fund managers face in-built incentives to short-termism, which can ultimately lead to herding behavior.

Risk considerations such as these ultimately raise the issue of the effect of investment-based pension reform on financial market stability. Whereas the effects of investment-based pension reform on the nonfinancial corporate sector are hard to assess, the arguments for the superiority of investment-based over PAYG-financed pension systems should in principle carry over to the issue of financial market stability through two major mechanisms of risk reduction:
1. Volatility should be damped by the increased liquidity generated by institutional investors (Davis and Steil, 2001), and
2. the impact of any crisis should be damped by the opportunities to risk diversification realized by institutional investors (Davis, 2002a).

The first argument has lost much of his appeal, as especially in highly liquid markets excess volatility was seen generated by herding behavior during some of the major crises of the 1990s (Davis, 2002a). This is all the more worrying as incentives to herding behavior are built into the very mechanisms designed to cope with principal-agent problems in fund management. Performance checks against the market benchmark are considered a major incentive to herding behavior to avoid performing significantly worse than the median fund.

The second argument for the beneficial effects of investment-based pension reform on financial market stability suffers from the major shortcoming to

ignore a category of risks which is crucial to the comparison between bank-based and market-based financial systems: nondiversifiable risks, i.e. risks that affect any asset in the same way at a given point in time, thus requiring intertemporal smoothing to reduce the impact of such risks on individual welfare (Allen and Gale, 2000). In the presence of financial market incompleteness such intertemporal smoothing cannot be achieved by financial markets but by long-lived financial institutions, such as banks, through their accumulated assets. Unfortunately intertemporal risk-smoothing by financial intermediaries is not viable in the presence of direct competition from financial markets because it requires that investors accept lower-than-market returns at times. By speeding up financial market development and hence increasing competition by financial markets to which the long-lived financial institutions involved in intertemporal risk smoothing are exposed, investment-based pension reform is likely to negatively affect the capacity of bank-based financial systems to smooth nondiversifiable risks.

5 Conclusion

A broad policy consensus supports investment-based pension reform as a solution to the problem of the fiscal unsustainability of public pension systems under the demographic pressure of population aging. The economic justification of this reform strategy can be shown to largely rely on the financial economics conception of the substitution of retirement income sources as a strategy of asset and risk diversification. When systematically applied to the pension debate, portfolio and risk considerations however do not convincingly back the claim of the superiority of investment-based pension finance with respect to risk.

1. While the probability that the increased risk from investment-based pension reform will result in dramatic shortfalls of pension benefits can be shown to be low, application of option-price theory nevertheless shows the costs of the required minimum pension guarantees to be so high as to almost completely mitigate the purported advantage of investment-based over PAYG pension finance.

2. Application of portfolio choice models to the determination of the optimal split of PAYG and investment-based sources of retirement income shows a substantial PAYG-financed component to be a necessary condition for investment in equity, because otherwise portfolios are tilted towards low-yielding safe assets.

3. As population aging is likely to reduce rates of return, investment-based pension finance is not necessarily superior in reducing exposition to demographic risk.

4. Doubts concerning the superiority of investment-based over PAYG pension finance emerge especially if the effects of investment-based pension reform on bank-based financial systems and their capabilities of risk smoothing are taken into account.
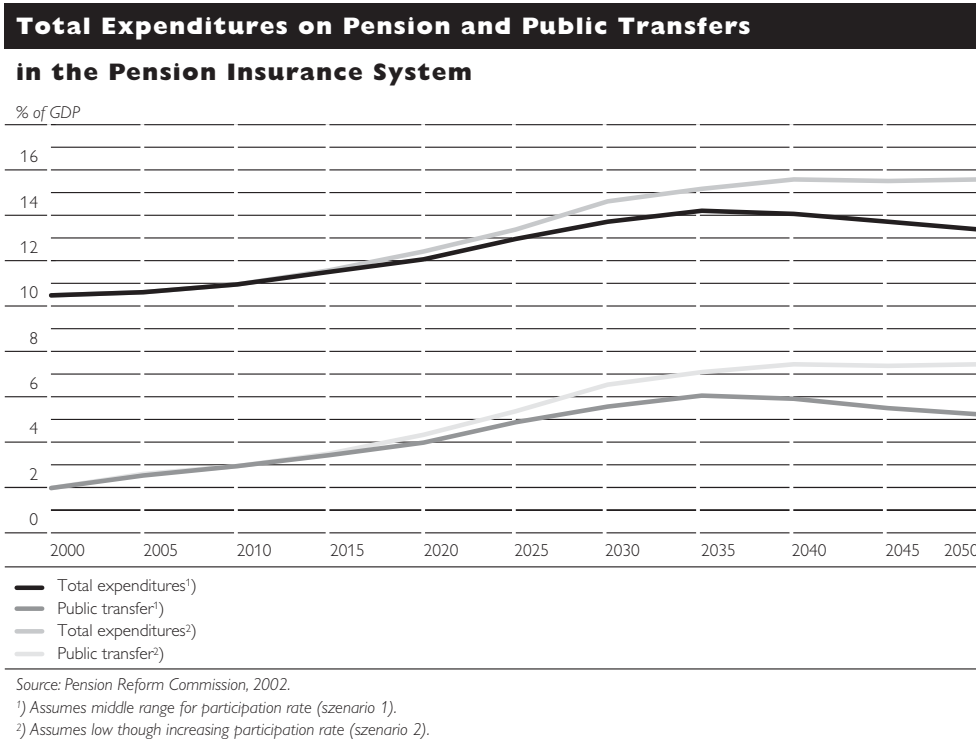
Investment-Based Pension Reform
as a Solution to the Old-Age Crisis?
Risk Issues in the Pension Reform Debate

References

Aaron, H. 1966. The Social Insurance Paradox. Canadian Journal of Economics and Political Science 33. 371–374.

Allen, F. and D. Gale. 2000. Comparing Financial Systems. Cambridge. MA/London: MIT Press.

Blake, D. 1998. Pension Schemes as Options on Pension Fund Assets: Implications for Pension Fund Management. Insurance: Mathematics and Economics 23. 263–286.

Börsch-Supan, A. and A. Brugiavini. 2002. Savings: The Policy Debate in Europe. Discussion Paper No. 18. Mannheim Research Institute for the Economics of Aging (mea), University of Mannheim.

Börsch-Supan, A. and J. Winter. 1999. Pension Reform, Savings Behaviour and Corporate Governance. Working Paper 99-48. Sonderforschungsbereich 504. Universität Mannheim.

Börsch-Supan, A. and J. Winter. 2001. Population Aging, Saving Behavior and Capital Markets. NBER Working Paper 8561.

Brooks, R. 2000. What Will Happen to Financial Markets When the Baby Boomers Retire? IMF Working Paper 00–18.

Campbell, J. Y. and M. Feldstein (eds.). 2001. Risk Aspects of Investment-Based Social Security Reform. Chicago: University of Chicago Press.

Catalan, M., G. Impavido and A. R. Musalem. 2000. Contractual Savings or Stock Markets Development: Which Leads? Working Paper. The World Bank.

Dang, T. T., P. Antolin and H. Oxley. 2001. Fiscal Implications of Ageing: Projections of Age-Related Spending. OECD Economics Department Working Paper 305.

Davis, E. P. 2002a. Ageing and Financial Stability. In: Auerbach, A. J. and H. Herrmann (eds.). Ageing Financial Markets and Monetary Policy. New York: Springer.

Davis, E. P. 2002b. Prudent Person Rules or Quantitative Restrictions? The Regulation of Long-Term Institutional Investors' Portfolios. Journal of Pension Economics and Finance 1. 157–191.

Davis, E. P. and B. Steil. 2001. Institutional Investors. Cambridge, MA/London: MIT Press.

Disney, R., Johnson. P. (eds.). 2001. Pension Systems and Retirement Incomes across OECD Countries. Cheltenham, UK/Northampton, MA: Edward Elgar.

Dutta, J., S. Kapur and J. M. Orszag. 2000. A Portfolio Approach to the Optimal Funding of Pensions. Economics Letters 69. 201–206.

EPC. 2001. Budgetary Challenges Posed by Ageing Populations. EPC/ECFIN/655/01-EN final.

EPC. 2002. Reform Challenges Facing Public Pension Systems: The Impact of Certain Parametric Reforms on Pension Expenditure. EPC/ECFIN/237/02 – final.

Feldstein, M. and J. B. Liebman. 2001. Social Security. NBER Working Paper 8451.

Feldstein, M., E. Ranguelova and A. Samwick. 2001. The Transition to Investment-Based Social Security When Portfolio Returns and Capital Profitability Are Uncertain. In: Campbell and Feldstein. 2001.

Geanakoplos, J., O. S. Mitchell and S. P. Zeldes. 1998. Would a Privatized Social Security System Really Pay a Higher Rate of Return? In: Douglas, A., M. J. Graetz and A. H. Munnell (eds.). Framing the Social Security Debate: Values, Politics and Economics. Washington, D.C.: Brookings Institution Press.

Holzmann, R. 1999. The World Bank Approach to Pension Reform. Working Paper. Pension Reform Primer.

Holzmann, R. and J.-E. Stiglitz (eds.). 2001. New Ideas about Old Age Security. Washington, D.C.: The World Bank.

Lindbeck, A. and M. Persson. 2002. The Gains from Pension Reform. Institute for International Economic Studies. Seminar Paper No. 712.

Mackenzie, G. A., P. Gerson, A. Cuevas and P. S. Heller. 2001. Pension Reform and the Fiscal Policy Stance. IMF Working Paper 01–214.

Matsen, E. and O. Thogersen. 2001. Designing Social Security – A Portfolio Choice Approach. Working Paper.

Mc Morrow, K. and W. Roeger. 2002. EU Pension Reform: An Overview of the Debate and an Empirical Assessment of the Main Policy Reform Options. European Commission Economic Papers 162.

Merton, R. C. 1983. On the Role of Social Security as a Means for Efficient Risk Sharing in an Economy Where Human Capital is not Tradable. In: Bodie, Z. and J. B. Shoven (eds.). Financial Aspects of the United States Pension System. University of Chicago Press.

Miles, D. and A. Timmerman. 1999. Costing Pension Reform. Economic Policy, October.

Miles, D. and A. Cerny. 2001. Risk Return and Portfolio Allocation under Alternative Pension Systems with Imperfect Financial Markets. CEPR Discussion Paper 2779.

Mulligan, C. B. and X. Sala-i-Martin. 1999. Social Security in Theory and Practice (II): Efficiency Theories, Narrative Theories and Implications for Reform, NBER Working Paper 7119.

OECD. 2001. Ageing and Income. Financial Resources and Retirement in 9 OECD Countries. Paris.

OECD. 2002. Institutional Investors. Statistical Yearbook. Paris.

Orszag, P. R. and J.-E. Stiglitz. 2001. Rethinking Pension Reform: Ten Myths about Social Security Systems. In: Holzmann and Stiglitz. 2001.

Persson, M. 2000. Five Fallacies in the Social Security Debate. Seminar Paper 686. Institute for International Economic Studies. Stockholm University.

Razin, A. and E. Sadka. 2002. The Stability and Growth Pact as an Impediment to Privatizing Social Security. NBER Working Paper 9278.

Romer, D. 2001. Advanced Macroeconomics. 2nd edition. Boston: McGraw-Hill.

Samuelson, P. A. 1958. An Exact Consumption-Loan Model of Interest With or Without the Social Contrivance of Money. Journal of Political Economy 56. 467-482.

Schinasi, G. J., C. F. Kramer and R. T. Smith. 2001. Financial Implications of the Shrinking Supply of U.S. Treasury Securities. IMF Working Paper 01/61.

Smetters, K. 2001. The Effect of Pay-When-Needed Benefit Guarantees on the Impact of Social Security Privatization. In: Campbell and Feldstein. 2001.

Tyrell, M. and R. H. Schmidt. 2001. Pension Systems and Financial Systems in Europe: A Comparison from the Point of View of Complementarity. Johann Wolfgang Goethe-Universität Frankfurt am Main, Working Paper Series: Finance and Accounting 65a.

WDI. 2001. World Development Indicators. World Bank.

Winter, J. 2002. The Impact of Pension Reforms and Demography on Stock Markets. Discussion Paper 21–2002. Mannheim Research Institute for the Economics of Aging (mea), University of Mannheim.

World Bank. 1994. Averting the Old Age Crisis: Policies to Protect the Old and Promote Growth. Oxford University Press.

Discussion of "Investment-Based Pension Reform as a Solution to the Old-Age Crisis? Risk Issues in the Pension Reform Debate"

Thomas Url[1])

The starting point of Daniel Eckert's paper is the implicit debt in the social security system and the main question he raises is whether a funded pension system is more capable of fending off pension cuts. To put his arguments in perspective, I would like to sketch out first the future development of the Austrian pension system based on current legislation and thereafter discuss his position.[1])

In 2000 state transfers to the public pension system amounted to 2% of GDP. This number does not include the state's pension liabilities for civil servants. Based on the current population forecast and under the assumption of a modestly increasing participation rate in the labor force, mainly among the elderly, government transfers to the pension system will increase towards a range of 5.1% to 7.5% of GDP. This corresponds to an increase by 3 to 5½ percentage points of GDP over the next 30 years (chart 1). A manageable figure, I think, though it requires government expenditures to be reshuffled further towards transfer payments.

Chart 1

Total Expenditures on Pension and Public Transfers

in the Pension Insurance System

Source: Pension Reform Commission, 2002.
[1]) Assumes middle range for participation rate (szenario 1).
[2]) Assumes low though increasing participation rate (szenario 2).

What are the alternatives to a tax-financed increase in pension payments? In my opinion, primarily parametric reforms within the pension system and a convergence of the civil servants' pension system towards the social security level. Now what kind of parametric reforms are at the disposal of the government?

---

1   Austrian Institute of Economic Research (WIFO), Vienna, www.wifo.ac.at. E-mail: thomas.url@wifo.ac.at.

— An increase in the contribution rate (to 31.5% up from 22.8% today), or
— an increase in the actual retirement age (to the age of 67 up from 59 today), or
— a deterioration in the pension calculation formula (to a replacement rate of 55% down from 75% today), or
— a worsening of the automatic pension adjustment formula.

The increase in contribution rates by now certainly faces limits because raising contribution rates will foster black market activity and at the same time shifts production sites into low wage areas. Thus a reduction in public pension obligations through one of the last three measures mentioned above is inevitable.

What does this conclusion imply for the claim of individual households to the public pension system?

— The mean internal rate of return on contributions to the public pension system will decline further.
— The standard deviation of the internal rate of return will increase as long as the government does not firmly put the system on a sustainable path.

Having sketched the starting point, I will now come to the main topic of Daniel Eckert's paper: Is it possible to improve the welfare of private households by switching from a public pay-as-you-go (PAYG) system towards a funded pension system?

Daniel Eckert provides a comprehensive tour through the arguments against widening fully funded pensions. Perhaps one point may be added to his list, namely the difficulties in correctly measuring long-run means, variances, and covariances of financial variables. However, if asked for a poignant comment on the paper, I would suggest something like:

"Doubt everything, especially economic advice."

Let me summarize his main arguments against funded systems:

— A substitution of PAYG by a funded pension system cannot Pareto improve the welfare of any economy because the gain from transition (spread between external and internal return on contributions) will be eaten up by the compensation of transition generations.
— The rate of return on capital will decline with the increase in the capital labor ratio unless the growth of labor measured in efficiency units keeps up with capital deepening.
— The rate of return depends on the saving pattern of cohorts. Returns will increase during the accumulation phase while they will decrease throughout the payout phase.
— Pensions in a funded system are subject to capital market risk and payouts may fall short of the current statutory pension level. Insuring against this shortfall costs a fortune.
— The Stability and Growth Pact will deny retirement savers the accumulation of riskless assets when they need them most (around the start of the decumulation phase in 2035).
— The link between high market capitalization and higher GDP growth is controversial.

Discussion of "Investment-Based Pension Reform
as a Solution to the Old-Age Crisis?
Risk Issues in the Pension Reform Debate"

— Corporate governance by pension funds may favor short-term-oriented decision making. Herding behavior by pension funds creates excess volatility in asset markets.

— The bank-based system will cease to exist due to the competition from more disintermediated financial services.

— Other objectives of the pension system cannot be achieved with a strictly funded system (redistribution, sharing biological risks).

Most of these points indeed highlight deficiencies of funded pension systems, some are overstressed, e.g. the disintegration of bank credits. Does the list of arguments really convince me that a widening of funded pensions in Austria should be completely scrapped? No, because a couple of findings against this conclusion are already mentioned in Daniel Eckert's paper:

— Europe's governments will not keep their pension promises, or quoting Daniel Eckert: "the simple algebra of PAYG pension systems in principle always allows for adjustments of the parameters determining the problem of PAYG pension finance." Pension reform is all about breaking past promises that cannot be financed in the future.

— Insurance against capital market risk is costly, but what would full insurance against a lower income replacement rate by the public pension system cost? Since there is no such product (except a few disappearing firm pension contracts), I am inclined to say that the price must be close to infinity.

— There is no argument put forward that contradicts the capacity of funded systems to diversify risks away from a purely wage-based PAYG system — especially, if the base scenario is one of falling and more variable internal returns in the public pensions system.

— In an international comparison you will find that funded or partially funded pension systems deliver almost identical income replacement ratios.

— Dynamically efficient economies always have a positive spread between the rate of return on capital and GDP growth, i.e. the interest rate is higher than the growth rate of wages.

— the equity premium lies in a range between 4% to 5%.

To summarize, given the perspectives of the public pension system, I am not convinced that a widening of funded retirement provision reduces the overall return of retirement savings (including contributions to the social security system) and that it will increase the overall risk of pension income (measured by its standard deviation).

On the contrary, the above list of expected reductions in pension obligations of the public sector creates a need for alternative sources or retirement income that are not as much prone to government intervention as is the public pension system. Thus the question arises, which alternative forms of income transfer from the working life period to the retirement period are actually at the disposal of private households? The only alternative to the PAYG system is a funded system, with capital of one or another sort accumulated over time and paid out over the retirement period.

This brings me back to a more fundamental point. Is the only motivation for widening funded pension systems really fiscal unsustainability under demographic pressures? I think the answer is somehow buried in the public pension

Discussion of "Investment-Based Pension Reform
as a Solution to the Old-Age Crisis?
Risk Issues in the Pension Reform Debate"

reform proposals. Each of the above-mentioned parametric reforms puts the burden of reform on different types of households.

— Increasing the actual retirement age shifts the burden on households still working, mainly those close to retirement.

— Deteriorating the pension calculation formula also shifts the burden on households still working, probably due to transition formulas mainly on the youngest ones.

— Decreasing pension adjustments shifts the burden on pensioners.

Which of these households finally end up carrying the burden is up to political struggle and it is very likely that the politically weakest or the least informed group ends up paying the bill. But one thing is for sure, under current legislation the aging of the population will increase the burden for a relatively small number of small-sized cohorts, i.e. the baby bust generation. Unless public policy responds in the form of premium smoothing over time, which implies accumulating capital in a pension fund, those small-sized cohorts are likely to suffer severe welfare losses. Thus for me the widening of funded pensions is more an issue of distributional equity among generations and the issues of efficiency or risk diversification are of second order importance.

Investment-Based Pension Reform for Austria — Or Boosting Employment and Growth?

Introduction

Alois Guger[1])

Public pension systems are in trouble in many developed countries. With an aging population, low labor market participation of women and declining participation of working-age men in paid work, existing pension arrangements may become too costly in the future. What is more, the financing of health care including long-term institutional care for the elderly, will increasingly burden public budgets. In Europe, public spending will have to be maintained at a level that is compatible with the Stability and Growth Pact.

A number of countries have taken steps to control the inevitable increase in retirement costs and to enhance fiscal sustainability. In Austria, the generosity of the pension system, including eligibility for a public pension, had been extended up to the late 1980s. However, since the early 1990s, when the Advisory Board for Economic and Social Issues (Beirat für Wirtschafts- und Sozialfragen) published a detailed analysis of the long-term effects of demographic developments and furnished proposals to improve long-term financial sustainability, pension reforms have meant retrenchment in Austria, too. In 1993, several proposals of the Advisory Board – such as the net adjustment principle (linking increases in pension payments to net wages) – were incorporated. In July 1997, the Federal Ministry of Labor, Health and Social Affairs presented a study on perspectives of old-age pension insurance in Austria (Rürup and Schroeter, 1997), which was used by the federal government to prepare a proposal for structural reforms to be achieved by gradually harmonizing current old-age pension systems and by curtailing early retirement. The reform package adopted in 2000 provided for the implementation of these measures at short notice: The age limit for early retirement was raised by one and a half years and the possibility to retire early on account of reduced capability to work was abolished.

In 2000, the Austrian government set up a pension reform commission with the task to prepare a comprehensive reform proposal that ensures – at least from today's perspective – long-run financial sustainability but, at the same time, provides for the harmonization of the various public pension arrangements, enhance inter- and intra-generational fairness, preserve the principle of solidarity and guarantee a reasonably high standard of living for pensioners. The commission unanimously suggested that the pay-as-you-go (PAYG) principle be preserved and presented the pros and cons for two alternative routes, which were either maintaining the existing defined benefit scheme or introducing a defined contribution scheme, like notional individual accounts. The only funded element in the proposal is a reserve fund that should increase confidence in the system, lighten the financial burden for future generations and increase the fiscal room for maneuver. The main elements of the proposal were (1) to separate invalidity pensions from the old-age pension system (2) to increase incentives to stay in work (by actuarial reductions or increments), (3) to extend the pension assessment base over the whole working life, and (4) to introduce newly regulated and separately financed contribution-free earned service credits (i.e. for parental leave or unemployment periods) together with plans for own right pensions for nonworking spouses.

---

1   Austrian Institute of Economic Research (WIFO), Vienna.

Unfunded Public vs. Investment-Based Pensions in Austria

From an international perspective, the public pension system is rather generous in Austria. In 2000, the ratio of public retirement costs to GDP was 14.5%,[1]) which is by far the highest value in the EU; Italy posted the second highest ratio 13.8%, whereas the EU average came to 10.4% (EPC, 2001). This large share of public pension expenditure is due to (1) early retirement, i.e. long pension receiving periods, (2) high replacement ratios and (3) the large size of the unfunded public pillar compared to very small funded pillars.

Table 1

Public Pension Expenditure in 2001

	As a percentage of GDP
Austria	14.5
Italy	13.8
Greece	12.6
France	12.1
Germany	11.8
Finland	11.3
Denmark	10.5
Belgium	10.0
Portugal	9.8
Spain	9.4
Sweden	9.0
Netherlands	7.9
Luxembourg	7.4
United Kingdom	5.5
Ireland	4.6

Source: Economic Policy Committee, October 2001.

Table 2

Retirement Income in Selected European Countries

	1st Pillar	2nd Pillar	3rd Pillar
	Share in %		
Spain	92	4	4
Austria	92	2	6
Germany	82	5	13
Italy	74	1	25
France	51	34	15
Netherlands	49	40	11
Switzerland	42	32	26

Source: Deutsche Bank Research (2002), WIFO.

In 2000, about 90% of total retirement income came from the public pension system, 1% from occupational pension schemes and about 9% from individual pension schemes (Url, 2003). Last year Deutsche Bank Research published data for some European countries which shows that only in Spain, the first pillar is of such great importance as in Austria. In Germany, the public pillar covers about 80%, in Italy 75% and in France and the Netherlands 50% each. Like in Austria, the second pillar plays only an inferior part also in Italy, while it covers one third of pension income in France and 40% in the Nether-

1   With about the same ratio in 1985, the social security pension of the private sector amounted to 10.8% in 1985 and 10.9% in 2000.

lands. In Italy and Switzerland, the third pillar is of much more importance than in Austria and other European countries.

One major reason why the first pillar plays such a dominant role in Austria is certainly the high income replacement rate of the public pension system, which reflects the importance attributed to ensuring a high standard of living for pensioners. A second reason may be the high overall personal saving ratios (which, in turn, may be traceable to anonymous personal savings accounts and the chance they offer to avoid taxes).

According to the latest data of the Association of Austrian Social Security Institutions, the net replacement rates for old-age pensions are between 82% and 87% for an insurance period of 40 years and between 72% and 80% after 35 years of insurance contributions. Even for invalidity pensions the last available value for 1998 was 74%. There are no recent comparable international data available, but according to data from 1994, higher replacement rates can be found only in a very small number of countries, e.g. in Iceland and Italy for qualified employees or in Israel and Luxembourg for the low-income brackets.

Thus, taking into account these rather high replacement rates in the first pillar, people's comparatively low interest in the other pillars seems quite reasonable from an individual point of view. But is it also in the public interest and reasonable from a macroeconomic point of view?

In light of the aging of the population, a debate has evolved centering on a pension reform and the desirability of a move towards private, funded pensions. Many economists and international organizations – let alone the banking business – strongly recommend to reduce the unfunded public pillar and to strengthen the funded pillars. In most countries, the build-up of privately funded pension assets is promoted by granting tax advantages, etc., but there are hardly any assessments of the public costs of this intervention for private provisions. Such estimates can be found only for Ireland and Australia: In Ireland, the cash costs of tax concessions for private provisions are about equal to the entire cost of Ireland's public pillar, and the Australian Treasury reckons that the cash costs of the Australian superannuation schemes amount to more than half of the costs of old-age pension itself (Littlewood, 2002).

In 1994, the Word Bank proposed a blueprint for pension reform, which recommends a multi-pillar pension system and highlights funding. Fostered by booming stock markets and high returns on financial assets, a number of developing countries and European transition countries have implemented reforms based predominantly on pre-funding, and in the EU, some countries have somewhat shifted the financial burden from the existing pay-as-go-pillar to investment-based components.

What are the arguments for moving towards more (private) funding? Leaving aside risk diversification, the heart of the matter comes down to the assertions that
- funding fosters growth (1) by increasing the overall saving ratio and (2) by creating less labor market distortions than the unfunded pay-as-you-go system, which is considered to be a form of taxation;
- the rates of return are higher in funded schemes; and that
- funded schemes are less vulnerable to demographic pressures.
    In the following, these arguments are discussed in detail.

Does funding foster saving?

Feldstein (1974) famously claimed that the U.S. social security system reduces personal saving; and, in fact, there is some moderate evidence for this assertion for the U.S.A., but "studies of other countries … have tended to be inconclusive … The upshot is that it is not possible to generalize across countries about the impact of the public pension system on saving" (Mackenzie, Gerson, and Cuevas, 1997).[1])

Enhancing saving through a funded pension system may be of importance in developing countries with a high propensity to consume but also in developed countries like the U.S.A. and Australia with traditionally low household saving ratios. The introduction or extension of investment-based pillars in countries with high saving ratios may increase the "warranted rate of growth" but would restrict effective demand and lower the actual rate of growth. Increased saving does not necessarily lead to new investment.

In Austria, the capital market has been a special matter of concern time and again. The capital market is often considered to be an important instrument to finance investment efficiently. Hence, the government hurriedly launched a new pension scheme before the last general elections to stimulate the "underdeveloped" capital market. But is financing through the capital market indeed so important for investment and growth? Franz Hahn (2002) looked at the facts, and in an OECD-wide empirical study he had to dismiss the hypothesis that stock market capitalization is positively related to growth; "new investments are financed first by retained earnings, then by loans, and only in the last instance by new share issues."

Does the unfunded public pension scheme create adverse incentives in the labor market?

Here we have to differentiate between distortions which are due to the existing tradeoff between redistribution and incentives on the one hand and distortions which are due to the actual design of the scheme on the other hand. In the first case, when the aim is to foster redistribution – after all, we are talking about a welfare system – then we usually have to take into account some costs of weakened incentives, but, as Diamond (1998) pointed out in this context, the expectation of large effects are overblown. However, on the other hand, the actual design of the pension scheme is of great importance: a close linkage between contributions and benefits reduces labor market distortions, such as evasion by escaping to the informal sector or early retirement. Thus, actuarial fairness is an important aspect in any pension reform discussion.

Are there higher returns in funded schemes?

At this point, I will not go into detail on an issue that was solved by Samuelson 45 years ago. Samuelson showed that the rate of return in the PAYG system was the growth rate of the payroll, namely the rate of employment growth plus the rate of wage growth per worker. Thus, when the payroll growth rate equals the interest rate (i.e. the rate of return of the funded scheme) the individual returns are the same in the PAYG and the funded scheme.

1   See also Atkinson, 1999; Barr, 2000; Orszag and Stiglitz, 2001.

Thus, the pay-as-you-go principle had been popular until the late 1970s, when interest rates were lower than wage increases; ever since the early 1980s, interest rates have been high and wage increases low so that the share of wages in national income is declining. In the medium run, a similar trend can be expected, but in the very long run, demographic shifts point towards a substantial change: Labor may well be in short supply in the second decade of this century, so that labor productivity and real wages will rise more quickly.

Does funding help insulate the system from demographic shocks?
The argument that funding opens a way to escape from the effects of demographic shocks mixes up two different issues, the nominal financial burden and the real economic burden. The inactive cohorts of society, children and pensioners, have to be nourished by the production of the active generation of the time being (Barr, 2001).

Let us suppose a model of two periods and assume a large generation of people in working age of period 1 is followed by a smaller generation in working age in period 2. So in period 2 the smaller generation has to support the larger generation of pensioners. To keep things simple we assume the number of people in working age halves and production does not change (static output). To keep the PAYG scheme in balance you can either halve the average pension and impose the entire burden of the demographic shock on the retired, thus breaking the implicit inter-generational contract and risk pensioner poverty, or – to mention the alternative extreme (non)option, too – you can double contribution rates, thus imposing the entire costs on workers, which may cause adverse incentive effects on work effort. Of course there are also options in between these extremes.

Would a funded scheme get around this problem? The difference is that the larger generation has built up savings (assuming equal saving and contribution rates), and since it is a large generation, there will be a large amount of savings around. Thus, if output does not change there will be excess demand in the goods market, and inflation will produce a balance (and/or excess supply in the asset market, and falling asset prices will produce the balance).

In summary, pre-funding offers a solution only in nominal or monetary terms but not in real terms. While most of the time the economics of pensions concentrates on finance, the essence of the matter is a problem of production, i.e. of economic growth (Barr, 2001).

Therefore, pension reform has to concentrate on measures which foster economic growth. In countries where saving ratios are low, more funding may have a positive impact on growth. However, the difference between PAYG and funding is of minor importance; rather, the key element of a pension reform is to keep production and growth in mind.

In Austria, the focus should be on
– a high level of employment and higher labor market participation, in particular of older workers and women;
– investment in education and qualification to improve the innovative potential and the flexibility of the labor force;
– the promotion of research and development; and
– a macroeconomic policy that fosters investment and growth.

Labor Market Perspectives and the Pension System[1])

Since its 1998 symposium "Towards a Society for All Ages" in Vienna, the European Commission has been regularly pointing out the importance of boosting labor participation in Europe in order to check the growth of old-age dependency ratios in spite of demographic aging (European Commission, 1998). In its "Report on Social Protection in Europe 1999" (European Commission, 2000a), the Commission states:

"So far, attention in most Member States has focused on curbing the growth of pension commitments and trying to ensure that there will be sufficient funds available to effect the transfers involved. While this is important, it is equally important to take account of the fact that a large proportion of people of working age are not, in practice, in employment and, therefore, play no role in generating the income from which pensions for those in retirement have to come."

Thus, at the EU level, great importance is attached to the labor market when it comes to measures to secure old-age pensions. The Lisbon European Council (March 2000) convened under the motto "employment and social security." It identified goals for labor force participation, which are to improve the financial sustainability of the pension systems. Participation is to be raised by about 10 percentage points in the EU Member States by 2010; this would mean a rise in the average EU rate from presently 61% to 70% by 2010. Particular emphasis is to be placed on women's participation in the workforce (Economic Policy Committee, 2000).

Starting from this focus and the latest demographic forecasts Mayrhuber and Guger (2001) aimed to analyze the impact of changes in labor force participation rates on pension dependency ratios and the financial sustainability of the Austrian pension system under the statutory scheme provided for by the General Social Insurance Act (ASVG). We ran simulations starting from the following two questions:

1. What would be the pension dependency ratio and the financial sustainability by 2030 if participation remained at its present level?
2. What would be the pension dependency ratio and the financial sustainability in 2030 if employment growth equaled employment growth between 1970 and 2000?

Demographic Perspectives

The demographic scenarios for Austria have changed substantially in recent years. While in its 1999 forecast, Statistics Austria predicted a 5% decline of the Austrian population by 2050, the scenarios of the mid-1990s, which were used in the study by Rürup, were even more pessimistic. In its latest forecast of 2001, Statistics Austria expected a continuous increase in population up to the early 2030s (by +3.7%) and then a decline; still, in 2050 the number of the Austrian population will be 1.3% higher than today.

---

1   This part draws freely from Mayrhuber and Guger (2002).

Chart 1

Population

Index 2000 = 100

Forecast 2001
Forecast 1999

Source: Statistics Austria.
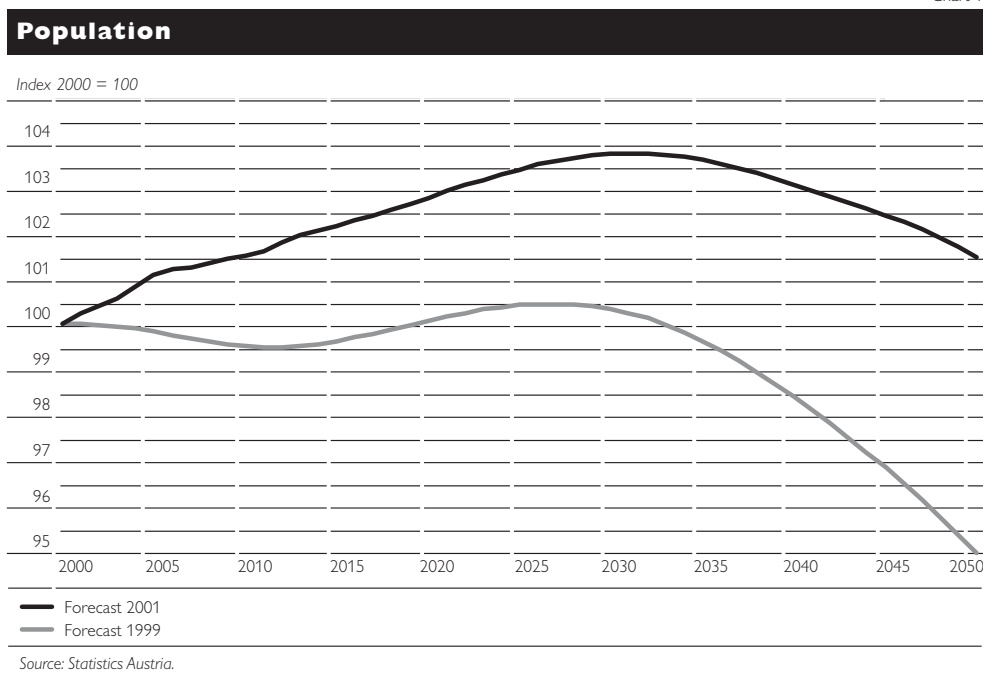
The projections clearly signal that Austria will see substantial demographic change over the next 50 years. Regardless of the variant used, the number of persons of working age will decline. In the main variant used here, the economically active population will shrink by almost 6% between 2000 and 2030 or by 12½% by 2050. If today's participation rates remained unchanged, the number of the gainfully employed would drop sharply. The change in the demographic distribution of the Austrian population therefore opens new perspectives as well as challenges for the labor market in the near future.

Chart 2

Working-Age Population

(aged 15 to 64 years)

Index 2000 = 100

Forecast 2001

Source: Statistics Austria.
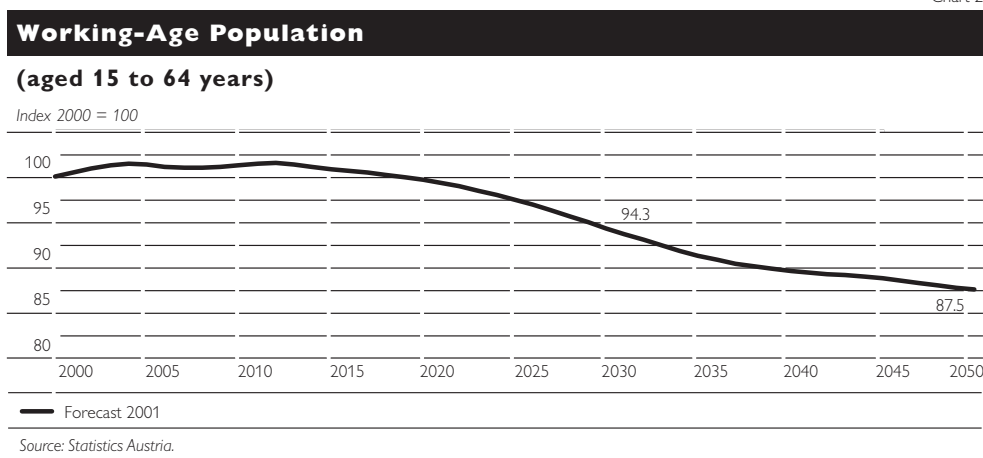
Since the mid-1970s, the old-age dependency ratio (the number of those aged 65 and over per 1,000 persons of working age, i.e. 15 to 64) has been fluctuating between 220 and 230, which was considerably lower than in the early 1970s (about 250). It will return to the latter level in the second half of

Chart 3

Old-Age Dependency Ratio

65+-year-olds per 1,000 15- to 64-year-olds

483

396

227

| | | | | | | | | | | |
| 2000 | 2005 | 2010 | 2015 | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |

— Forecast 2001

Source: Statistics Austria.
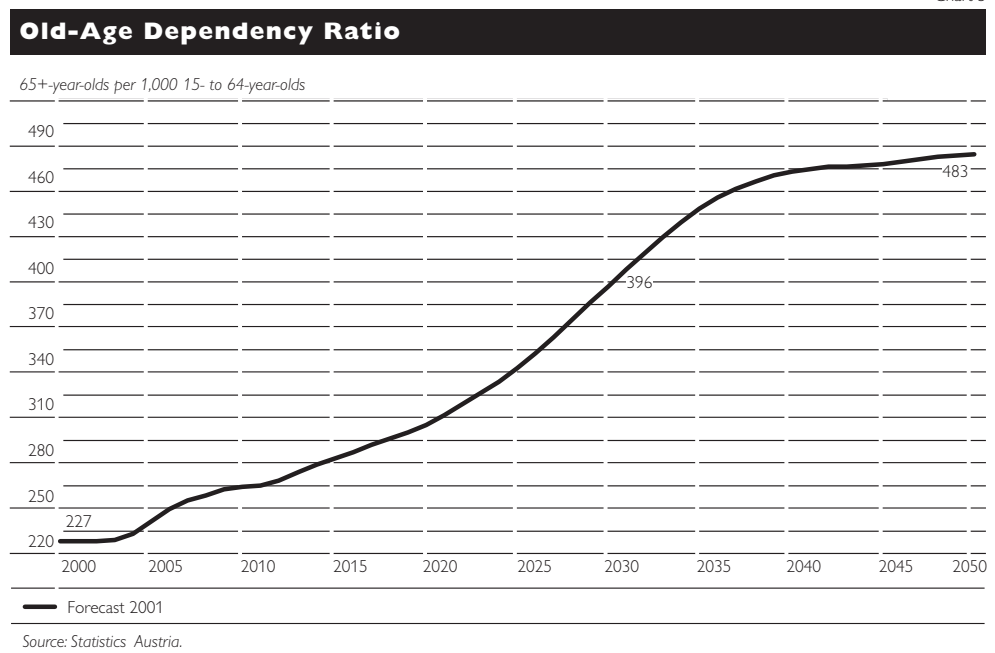
this decade. The main variant of the population projection (Statistics Austria, 2001) provides for its doubling over the next 30 years. While today there are 227 persons aged 65 and over for every 1,000 persons of working age, this ratio will increase to 396 in 2030 and to 483 in 2050, according to current demographic estimates.

Labor Market Trends

In the past, the structure of the – overall constant – labor force participation rate[1]) underwent considerable change in Austria. Between 1960 and 2001, the participation rate of men aged 15 to 64 fell from 87.3% to 75.0%; whereas during the same period that of women aged 15 to 60 rose from 52.9% to 64.5%. Today, overall participation is above the European average, which is primarily attributable to the increase in women's participation.

Longer education and training periods mean that gainful employment starts later: The participation rate of 15- to 20-year-olds dropped from 59.9% in 1960 to 43.9% in 2001. The change was even more dramatic among older persons: In the same period, participation of persons aged 55 to under 60 shrank by 17.3 percentage points to 44.4% and of persons aged 60 to under 65 by 31.1 percentage points to 10.1%. Due to gender differences in the early retirement age, participation of women aged 55 to under 60 was 26.8%, and that of men of the same age was 62.5% in 2001. In line with the gradual rise in the retirement age for women, the gap between the participation rates of older men and women should narrow.

---

1   *The labor force participation rate as defined by WIFO is below the rate published by OECD, which includes employees holding marginal jobs.*

Unless participation rates can be raised, the labor market will be faced with a significant shortage as early as in the next decade, which will be further aggravated in the 2020s and 2030s. The working-age population will plummet by 394,000 (798,000) between 2002 and 2030 (2050).

Shifts in the Effective Pension Dependency Ratio

Over the next 30 years, the working-age population (people aged 15 to 65) will decline by about 7%, whereas the population aged 65 and over will increase by 63%. Obviously, this will also cause changes in the pension dependency ratio, which is affected by demographic shifts as much as by shifts in employment behavior. Considering that not all persons of working age are actually working, that not all persons aged 60 or 65 and over receive an old-age pension and that some receive multiple pensions, the old-age dependency ratio naturally differs from the pension dependency ratio (chart 4).

Chart 4

Pension Dependency Ratio and Old-Age Dependency Ratio

Source: Association of Austrian Social Security Institutions, Statistics Austria.
1) Pensions per 1,000 employment relationship.
2) Persons aged 60 and over per 1,000 persons aged 15 to 59.

— Pensions dependency ratio1)
— Old-age dependency ratio2)
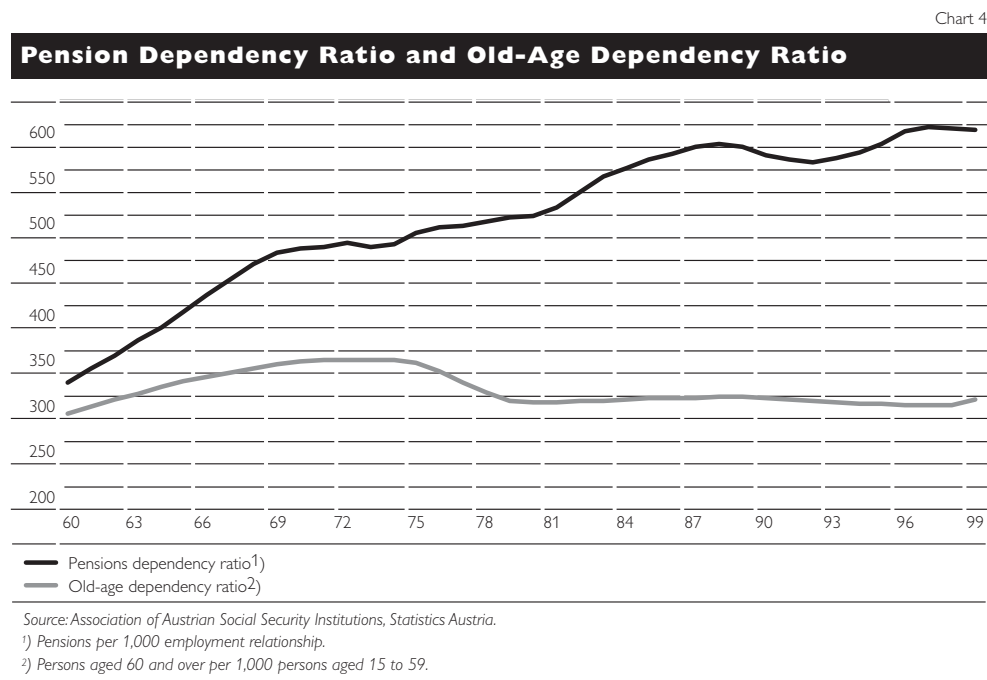
Whereas the demographic old-age dependency ratio fell or stagnated over the past two decades, the effective pension dependency ratio (i.e., pensions per 1,000 employment relationships) surged during that period from 487 in the early 1970s to 619 in 2001.

In 1960, the gap between the pension dependency ratio and the demographic old-age dependency ratio was 11%; subsequently, it climbed to 35% in 1970 and to 93% in 1999. The increase in pensions was caused primarily by the higher rate of own right pensions for women and the sharp rise in unemployment, which caused the retirement age to drop. If labor force participation were to be boosted, the effective pension dependency ratio could once again approach the demographic old-age dependency ratio.

The Pension Dependency Ratio Concept

In the public debate, the pension dependency ratio is frequently invoked as a criterion to evaluate the financial sustainability of the public pension insurance system. Nevertheless, the informative value of this figure is limited at best.

– Published pension dependency ratios do not compare the number of gainfully employed with the number of pensioners, but are based on the number of insurance relationships on either side. In other words, a pension dependency ratio of 619 (2001) means 619 pensions being paid for every 1,000 employment relationships subject to obligatory pension insurance. Since there are persons holding several jobs, actively employed persons receiving a pension, people receiving multiple pensions, the pension dependency ratio does not accurately reflect the "burden" that pensioners impose on the actively employed population. An adjusted comparison based on actual numbers of economically active persons and pensioners would result in a much lower ratio.

– The ratio includes all types of pensions – own right pensions, widow's and widower's pensions, orphan's pensions. Own right pensions account for only 416 per 1,000 employment relationships.

– The inclusion of all types of pensions in the figures distorts their value for assessing the financial sustainability of the public pension system. The average orphan's pension is much lower than the pension for widow(er)s, which in turn is markedly lower than the average own-right pension. A high pension dependency ratio based on a large number of orphan's pensions means less being spent on pensions than a low pension dependency ratio based on many own-right pensions. Even when the pension dependency ratio remains constant over time, the financial burden might still rise, since new pensions are generally higher than ceasing pension payments.

Altogether, we run the risk of considering the pension dependency ratio to be more conclusive than it actually is.[1]) Yet, indubitably, the ratio is of material[2]) as well as of psychological importance. Thus, Marin and Prinz (1999) view the ratio as an indicator for the future financial sustainability of the Austrian public pension system.

Looked at in this light, the pension dependency ratio is at the focus of this report. This index is excellently suited to demonstrate that labor market integration and pensions are two sides of the same coin. Nevertheless, no claim is made here that comments on the financial sustainability of the Austrian public pension system are solely based on the pension dependency ratio.

Any reform of the pension system is usually of the parametric type, i.e. it interferes directly with the pension law currently in force. Reforming the parameters on the benefits side generally affects the amount paid or the time for which payment is granted, which again affects the pension dependency ratio. Thus, raising the retirement age will extend the period of economic activity. If this actually entails longer employment, both the numerator and the denomi-

---

1   The same risk is incurred when interpreting the labor force participation rate: when it rises this does not necessarily mean that the work volume in a given economy has grown – it might simply have been more widely spread (more part-time jobs).

2   See Economic Policy Committee (2000), European Commission (2000a, 2000b).

nator of the ratio will change, and its rise will be decelerated. An increase in the number of jobs subject to social security contributions will similarly have a positive impact on the ratio. This last factor is at the center of the following simulations, which were based on the question of which labor market changes up to 2030 could counteract the effects of demographic aging, so as to keep the pension dependency ratio as low as possible.

Labor Market Scenarios

The estimate of future pension dependency ratios is not intended, first and foremost, to describe the most likely development; rather, it is to help examine the potentials offered by the labor market to check the growth of the ratio. It is based on the stock and structure of dependent and independent employment subject to public pension insurance and the stock of pensions covered by the various social security organizations in 2000. The pension dependency ratios published by the Association of Austrian Social Security Institutions do not include civil servants and their pensions, so that this sector is excluded in these deliberations.

The simulation comprises two scenarios:

(1) The "status quo scenario" assumes that labor force participation rates will remain constant up to 2030 at the level of 2000 (67.6%). This is a rather pessimistic scenario, which should show the development in the coming decades if, over the next 30 years, activating strategies fail.

(2) The "growth scenario" depicts a more likely development, assuming that the employment growth recorded over the past 30 years (0.4% per year) will continue in the coming 30 years.

The Status Quo Scenario: A Constant Labor Force Participation Rate

In 2000, the Austrian participation rate was 67.6% (77.2% for men and 57.8% for women). In the status quo scenario, this level remains unchanged up to 2030. Considering the decline in the population aged 15 to 64, a constant labor force participation rate over the next 30 years would imply a substantial decline in the number of economically active persons. Accordingly, the number of employment relationships (excluding civil servants) subject to pension insurance is assumed to decrease.

The labor shortage in this scenario causes the unemployment rate to decline from 5.9% in 2000 to 2.5% in 2030. Also, labor shortage reduces economic growth to 2% per year; between 2000 and 2030, real GDP increases by 81%. In the simulation productivity and income growth rates were assumed to be 2.2% p.a.

The Growth Scenario: Continuous Employment Growth

Based on the current employment situation, this scenario assumes continued growth of labor demand, which, at 0.4% p.a., was slightly below employment growth in the 1970 to 2000 period (0.5% p.a.). Due to employment growth, a real GDP growth rate of 2.4% p.a. is assumed; thus productivity and income increases will amount to 2.0% p.a.

At the same time, a decline in the unemployment rate (national definition) from 5.9% in 2000 to 3.0% in 2030 is assumed. Continuous employment

growth is accompanied by a rise in the labor force participation rate from 67.6% in 2000 to 79.9% in 2030. Under these conditions, the participation rate of Austria will reach the present level of Denmark, Norway or Sweden.

The extent to which this development will check the rise of the pension dependency ratio will depend on the age groups that will profit from additional demand for labor. If the participation rate rises among the young, the pension dependency ratio will fall less markedly than if older workers remain in the labor market longer. Under this scenario, it will mainly be the participation rate of those over 39 which will rise until 2015, followed by younger age groups, mainly women, which will profit from the growing demand for labor until 2030. Altogether, participation of the over 50-year-olds is greatly increased in this variant (50- to 64-year-olds: 45.1% in 2000 and 75.5% in 2030).

Pension Entitlements

In 2000, 92% of economically nonactive men and 70% of economically nonactive women aged 65 and over (excluding civil servants) drew a pension in their own right; the proportion is lower in older cohorts. For the period of simulation, the ratio of own right pensions as a share of the economically nonactive population aged 65 and over will be gradually raised. In the status quo scenario, the ratio will reach the level of 95% for men and 75% for women for all cohorts (technical assumptions); in the growth scenario, the ratio for women will increase to 80%. However, pension entitlements for women can be increased through active labor market policies. A higher share of own right pensions should then be expected by 2030.

The importance of widow's or widower's pensions is decreasing. This decline will be brought about by changing family structures (i.e. the trend towards single-parent families and single households, a growing number of divorces) and will be reinforced by the effects of the 2000 pension reform (which cut the replacement rates for widow's and widower's pensions to 0 to 60%). Owing to fewer marriages and more divorces, in 2030 only 20% of people over 65 will qualify for widow's or widower's pensions. To take this trend into account, the simulation assumes that the ratio of women or men over 59 years with a widow's or widower's pension will decline from 38% (4.5%) in 2000 to 21% (2.1%) in 2030.

Simulation Results 1:
Change in the Pension Dependency Ratio

Status Quo Scenario

The status quo scenario should be viewed as a worst-case scenario for a number of reasons: The pension law which became effective in 2000 provided for a rise in the early retirement age (to 56.5 years for women and 61.5 years for men). Furthermore, women's standard retirement age is to be gradually raised to the level applicable for men. As a consequence, a rise in the labor force participation rate among the 55- to 64-year-olds is expected. Based on this assumption, the pension dependency ratio will rise by 39.6% from 619 to 864 by 2030 (table 3).

Growth Scenario

In 2000, the Austrian labor force participation rate was slightly above the EU average (71.3% against 69.5%). In Europe, the rate is highest in Iceland (86.6% in 2000), Switzerland (81.8%), Norway and Denmark (80.7% and 80.0%, respectively) (OECD, 2001). The standard retirement age in Iceland and Switzerland differs considerably from that in Austria, therefore it does not appear useful to compare rates directly, especially at the level of older cohorts.

The structure of participation in Norway differs considerably from that in Denmark: In the 15 to 19 years age group, the rate is slightly higher than in Austria and thus markedly lower than in Denmark. On the other hand, 11.9% of the over 65-year-old Norwegians are still integrated in the labor market, whereas it is just 3.0% in Denmark. Assuming that in Austria the participation rates of the over 65-year-olds would be as high as in Norway, the pension dependency ratio for 2030 would fall below the calculated figure in this scenario. For the simulation, however, the Austrian standard retirement age was used,[1] so that employment of the over 65-year-olds increases only slightly.

If the labor force participation rate were to rise to the even higher 2000 level of Norway or even Switzerland by 2030, the pension dependency ratio would be reduced further.

Assuming increasing participation rates and additional own right pensions due to increased employment, in this growth scenario the pension dependency ratio rises to 669 in 2015 and to 716 in 2030 (table 3). This scenario assumes a growth in employment demand by 0.4% p.a. If employment growth were stronger, the pension dependency ratio would be correspondingly lower.

Table 3

Pension Dependency Ratio, Status Quo and Growth Scenarios

	2000	2010	2020	2030
Pensions per 1,000 employment relationships				
Status quo scenario	619	677	753	864
Growth scenario	619	654	687	716

Source: WIFO.

A comparison of the two scenarios shows that annual employment growth of 0.4% up to 2030 would result in a pension dependency ratio which is 148 below the rate of the status quo scenario. Such employment growth would result in a labor force participation rate of 79.9% by 2030. If employment of older workers grew continuously, the pension dependency ratio would be lower because it is more likely to be curbed by boosting the participation rate of older workers than by lowering the entrance rate among the young: Reducing education and training periods has hardly any effect on the pension dependency ratio.

Rürup and Schroeter (1997) projected a pension dependency ratio for Austria that is higher by almost 100 than the estimate of the status quo scenario presented here. The divergence results from differences in population projections and, above all, in labor market projections. The Rürup-Schroeter model is based on a decline in the number of actively employed persons by 6.3% from

---

1   *According to the current legislation, the harmonization of the standard retirement age of men and women will be completed in 2033; thus, the simulation is not subject to legal limitations.*

1995 to 2030, and an unemployment rate of 4.4% for 2030, which is high compared to our simulations. Rürup and Schroeter appear to have considerably underestimated employment dynamics: Their projection for 2000 is already markedly below actual values.

Simulation Results 2: Pension Expenditure Perspectives

The Austrian public pension scheme is regulated within the scope of the social insurance regime administrated by the social partners. For all employees with the exception of civil servants, it is financed by contributions from employees (10.25%) and employers (12.55%), which thus come to 22.8% up to the maximum contribution base (2002: EUR 3,300). Self-employed people pay 15.0% and farmers pay 14.5% to their respective insurance institution. Funds from the federal budget are added to these contributions; these funds, compensatory supplements[1]) included, made up 22.4% of expenditures on pension provision in 2000. These sums cover shortfalls due to noncontributory periods (parental leave, military service) and compulsory supplements. The latter are a minimum pension for all those who have the minimum number of qualifying years but whose pension is below the compensatory threshold (EUR 630 in 2002 for single households).

As this simulation is based on the employees' pension scheme only, the financial development has been calculated on the basis of two ratios: First, the yearly revenues as a percentage of the expenditures for the employees' pension insurance and second, the budgetary deficit – also for the employees' schemes – as a percentage of GDP.

Status Quo Scenario

In the base year 2000, 85.8% of pension expenditures were covered by pension contributions by the working population. If the labor force participation remains unchanged over the next 30 years, this rate would decline to 60.1% by 2030. The budgetary deficit in the employees' pension scheme would increase from 1.2% of GDP up to 5.6% of GDP in 2030 (table 4).

If no measures are taken to boost employment in the coming decades, the contribution margin of 85.8% can only be stable if the pension contribution rate is increased by 6.85 percentage points up to the rate of 29.65%.

Growth Scenario

If we assume that the economic and employment growth rates of the past 25 years (+2.4% and +0.4% p.a., respectively) will be maintained in the future, then, based on the latest population projection, labor force participation will rise from 67.6% today to 79.9% in 2030.

Assuming further an average per-capita rise in income of 2% in real terms, the contribution margin for pensions would decline to 78.2% in 2030. In this scenario, pension expenditures for dependently employed (ASVG), would, in

---

1   If the pension and any other incomes (including those of a cohabiting partner) of a pension recipient are below a specified income support threshold (the compensatory benefit threshold), he or she is entitled to claim the difference (compensatory supplement) from the social security fund.

Table 4

Pension Revenues and Pension Expenditures			
Employees' pension schemes			
	2000	2010	2020	2030
Revenues as a percentage of expenditures				
Status quo scenario	85.8	78.5	69.4	60.1
Growth scenario	85.8	84.1	80.8	78.2
Deficit as a percentage of GDP				
Status quo scenario	1.2	2.2	3.7	5.6
Growth scenario	1.2	1.5	2.0	2.5

Source: WIFO.

terms of GDP, be 11.4% in 2030, compared to 8.6% of GDP in 2000, and the budgetary deficit in the employees' pension scheme would increase from 1.2% of GDP in 2000 to 2.5% in 2030 (table 4).

Due to the increase in labor force participation, the contribution margin could be kept at the level of the year 2000 by raising the pension contribution rate by no more than 2½ percentage points to 25.2% in the next 30 years.

Summary

The discussion on reforming the old-age pension system focuses on changing the system parameters. The long-term financial stability of the system will depend not only on pension laws, but also on the economic environment and, in particular, the labor market. The higher the employment level, the higher will be the number of contributors and the lower the ratio of pensioners to workers. The activity rate, therefore, is a key factor for the sustainability of the old-age pension system. Thus, employment policy – also at the European level – has to focus more strongly on the interaction between the activity rate and the pension system.

References

Atkinson, A. B. 1999. The Economic Consequences of Rolling Back the Welfare State. London: CES, MIT-Press.

Barr, N. 2001. The Welfare State as Piggy Bank: Information, Risk, Uncertainty and the Role of the State. Oxford University Press.

Börsch-Supan, Axel. 2001. Labor Market Effects of Population Aging. NBER Working Paper 8640. December.

Diamond, P. 1998. Privatization of Social Security and the Labor Market. Delivered at the MIT Public Finance lunch.

ECFIN/EPC/117/2002. Annual Report on Structural Reforms 2002. Brussels.

ECFIN/228/2001. Empfehlungen der Kommission für die Grundzüge der Wirtschaftspolitik der Mitglied-staaten und der Gemeinschaft im Jahr 2001, ECFIN/228/2001, Brüssel.

EPC – Economic Policy Committee. 2000. Progress Report to the Ecofin Council on the Impact of Ageing Populations on Public Pension Systems. EPC/ECFIN/581. Brussels.

EPC – Economic Policy Committee. 2001. Budgetary Challenges Posed by Ageing Populations. EPC/ECFIN/655/01-En final. Brussels.

European Commission. 2000a. Report on Social Protection in Europe 1999. Brussels.

European Commission. 2000b. The Future Evolution of Social Protection from a Long-Term Point of View: Safe and Sustainable Pensions. Communication from the Commission to the Council, to the European Parliament and to the Economic and Social Committee. Brussels.

European Council. 2000. Conclusions of the Presidency. Lisbon.

European Commission. 1998. Towards a Society for All Ages. European Symposium. Vienna.

Feldstein, M. 1974. Social Security, Induced Retirement and Aggregate Capital Accumulation. Journal of Political Economy 82.

Guger, A. and C. Mayrhuber. 2001. Arbeitsmarktperspektiven und Pensionsfinanzierung bis 2030. WIFO-Monatsberichte 74(9). 553–565.

Hahn, F. 2002. The Finance-Growth Nexus Revisited. New Evidence from OECD Countries. WIFO Working Paper 176.

Haydn, R. 2000. Personenbezogene Statistiken 2000. Soziale Sicherheit 12. 988–996.

Littlewood, M. 2002. An Open Letter on "Pensions: Time to Grow Up" to the Economist. February 25.

Mackenzie, G., P. Gerson and A. Cuevas. 1997. Pension Regimes and Saving. IMF Occasional Paper 153. Washington: International Monetary Fund.

Marin, B. and C. Prinz. 1999. Pensionsreformen. Nachhaltiger Sozialumbau am Beispiel Österreichs. Vienna.

Mayrhuber, C. and A. Guger. 2002. Labour Force Participation and the Public Pension System in Austria. Delivered at the FISS-Conference in Segtuna, Sweden. June.

Myles, J. 2001. A New Social Contract for the Elderly? Paper to the Report "A New Welfare Architecture for Europe" prepared by G. Esping-Andersen, D. Gallie, A. Hemerijck, and J. Myles, submitted to the Belgian Presidency of the EU. October.

OECD Employment Outlook. 2001. Paris.

Orszag, P. R. and J. E. Stiglitz. 2001. Rethinking Pension Reform: Ten Myths About Social Security Systems. In: Holzman, R. and J. E. Stiglitz (eds.). New Ideas About Old Age Security. The World Bank.

Rürup, B. and I. Schroeter. 1997. Perspektiven der Pensionsversicherung in Österreich. Darmstadt. 1997.

Statistics Austria. 2000. Bevölkerungsprognose. ISIS-Datenbank, Bevölkerungsprojektion des Jahres 2000. Statistische Nachrichten 12.

Url, T. 2003. Die Entwicklung der betrieblichen Altersvorsorge in Österreich. WIFO-Studie im Auftrag des Jubiläumsfonds der Oesterreichischen Nationalbank und des Fachverbandes der Pensionskassen. Vienna.

Discussion of
"Investment-Based Pension Reform for Austria –
Or Boosting Employment and Growth?"

Peter Rosner[1])

In the pension debate, issues that should be kept apart often get mixed up. This is also what happened in Guger's paper. He proposes that people work longer and that Austria stick to the current pay-as-you-go system rather than switch to a funded system. Guger argues that if Austria manages to keep people working well into their mid-60s the current problems of Austria's pension system can be mitigated to such an extent that neither a sharp increase in contribution rates nor a drastic reduction in pension payments are necessary. Furthermore, he maintains that apart from creating problems for the pension system, the demographic shift will at the same time ease the problems of Austria's labor market within a couple of years. Thus, working longer without an increase in unemployment will become a realistic option.

It is obviously true that all problems of a PAYG system can be overcome if only people would work sufficiently long and thus draw on their pensions only for a short time. However, it is not clear what this implies for the choice of the pension system. Even if Austria had a funded pension system a retirement age as low as that of Austrians today could not be maintained. Regardless of whether the pension system is funded or unfunded, it is crucial to raise the retirement age to keep pensions at a high level.

Those who advocate a funded system arguing that the retirement age in Austria is too low tacitly assume that a switch to a funded system makes people work longer. That seems a natural byproduct of such a change because in a funded system people at all times can see the amount of pension benefits they have already accrued. It is assumed that compared to an unfunded system, a funded system is less prone to political interference.

It is rather the choice between a defined benefit system and a defined contribution system which Austria should consider. If the Austrian system were a defined contribution scheme based on PAYG financing, hardly anybody would choose to leave employment much below his or her mid-60s, provided that the pensions are ex ante actuarially fair. In Austria the question of a statutory retirement age arises only because the current system is a defined benefit system. A strictly defined contribution system can be kept in balance because benefits are fixed by previously paid contributions. In a defined benefit system an imbalance can easily arise since benefits can be fixed independently of previous contributions.

Nonetheless, I do not think that a pure defined contribution system is a viable political option. While economic analysis concentrates on the shifting of income over time as the sole purpose of a pension system, pension systems in fact serve other purposes as well, they provide, for instance, work disability insurance, or help prevent old-age poverty. Furthermore, certain aspects of perceived justice mandate not to have a pure defined contribution system comparable to a personal savings contract. For example, public pensions cannot depend on group-specific life expectancies, as that would imply lower pensions for women. It is very unlikely that a strictly actuarially fair pension system could be maintained for longer than a single government's term of office. Pension systems must have some redistributive effects. Thus, pension systems inherently create distortions, which, in turn, give rise to incentives to

---

1   *University of Vienna.*

retire early. Strict retirement age provisions cannot be avoided completely. For example, if there were provisions guaranteeing a minimum income after retirement and there were no minimum retirement age, people would retire very early.

But this does not imply that it is impossible to revamp the system in a way that makes it more like a fair insurance and savings system and to thus reduce the incentives to retire early. How far-reaching such reform measures can or should be – this is a purely political decision. Regardless of the type of pension system, in Austria the period of working life must be longer, whereas the period of retirement must be shorter if pensions are to remain fairly high and contributions (savings) are to remain within reasonable limits. Also, labor market problems have to be addressed. However, one cannot say that the rates of employment or unemployment are independent of the size of the active labor force. If people retire later, the ensuing increase in labor supply will not translate into an equally large increase in unemployment. It has always been typical of the Austrian labor market that the wage-setting process is responsive to the situation in the labor market. Thus, a rise in labor supply which is not matched by a rise in labor demand is likely to lead to lower wage growth. The increase in unemployment will be smaller than the increase in labor supply.

Besides providing better incentives to retire later, are there any advantages of a funded system over a PAYG system? The following propositions summarize the results of economic theory and are well established.

(i) When introducing a pension system, a funded system has a higher rate of return if the capital stock is increased – that is, neither should the public sector deficit be affected nor should the Ricardian equivalence hold (Blanchard and Fischer, 1989).

(ii) A funded system is not Pareto-superior to a PAYG system because the first generation's loss cannot be recouped (Breyer, 1989).

(iii) Transition from a PAYG system to a funded system improves welfare only if the loss of welfare due to price distortions is sufficiently large (Breyer and Straub, 1993).

(iv) Any funded system with redistribution within a cohort cannot avoid distortionary effects (Brunner, 1996).

As to the case of Austria, the claim that the capital stock would be higher if a funded system were in place is a strong proposition. First, Austria has always had a high savings rate. Rather, it can be assumed that for the Austrian economy the Ricardian equivalence is valid. Retired persons save in order to support their children and grandchildren, who in turn fund their parents' and grandparents' pensions. Second, Austria is a small open economy with open access to capital markets. The size of the Austrian capital stock is not limited to savings in Austria. As Austria has a PAYG system, and redistribution within a cohort is widely accepted, at least one generation would experience a decrease of welfare in case of a transition to a funded system.

Summing up, Austria can maintain the current system, provided it strongly increased labor market participation of those above 60. Promises that a funded system could safeguard retirement income without increasing retirement age are as reliable as Ponzi schemes.

References

Blanchard, Oliver and Stanley Fischer. 1989. Lectures on Macroeconomics. Cambridge (Mass): MIT Press.

Breyer, Friedrich. 1989. On the Intergenerational Pareto Efficiency of Pay-As-You-Go Financed Pension Systems. Journal of Institutional and Theoretical Economics 145. 643–658.

Breyer, Friedrich and Manfred Straub. 1993. Welfare Effects of Unfunded Pension Systems when Labor Supply is Endogenous. Journal of Public Economics 50. 77–91.

Brunner, Johann K. 1996. Transition from a Pay-As-You-Go to a Fully Funded Pension System: The Case of Differing Individuals and Intragenerational Fairness. Journal of Public Economics 60. 131–146.

Tax Incentives in Investment-Based
Pension Reform
and Fiscal Sustainability

Daniel Eckert[1])
and Doris Prammer[2])

1 Introduction and Motivation

The financial sustainability of public pension systems under the demographic pressure of population aging is widely recognized as a major policy issue (EPC, 2001; Dang et al., 2001; for Austria see Part, 2002; and Eskesen, 2003). Indeed, in the EU the number of elderly persons aged 65 and above is expected to rise from 61 million in 2000 to 103 million by 2050. Correspondingly, public pension expenditures are expected to rise from 10.4% of GDP on average to 13.3% by 2050. With the working age population (persons aged between 15 and 64) declining in the same time from 246 million to 203 million, the old-age dependency ratio will more than double in the first half of the 21th century from 24% to 49% (EPC, 2001).

As public pension systems are essentially financed on a pay-as-you-go (PAYG) basis, such increases in public pension expenditures, if not offset by increasing contributions, will put the sustainability of public finances under pressure. Simple projection exercises for a stylized EMU Member State by the EPC (2001) show that increasing age-related expenditures on public health and pensions will, even in case the criteria of the Stability and Growth Pact are initially satisfied, curb the process of fiscal consolidation and give rise to fiscal unsustainability by the second half of the projection period 2005–2050.

Hence, it comes as no wonder that investment-based pension reform is nowadays primarily advocated on fiscal grounds (whereas it was previously essentially justified on efficiency grounds, in particular with respect to the labor supply distortions that social security contributions are supposed to generate). Consequently, fiscal policy aims at incentivizing the substitution of private for public pension provision. In particular tax incentives for private pension schemes are part of almost any investment-based pension reform project.

In principle, retirement saving in private pension schemes can be taxed at three different points:
(a) when employers or employees contribute (contributions), or
(b) when investment income and gains accrue (returns), or
(c) when benefits are paid out (benefits).

Hence, e.g. the usual expenditure tax treatment of private pensions where only benefits are taxed and contributions and return are exempt is termed EET (for exempt, exempt, taxable). This taxation scheme is widely advocated because it is neutral in the allocation of consumption between working life and retirement. Moreover, this tax treatment is also neutral with respect to the fiscal position in the long run, because the tax deferral only affects the time path but not the present value of the government's net tax receipts. The tax expenditures it generates can, however, compromise the fiscal position in the short and medium run by hampering consolidation processes. Furthermore, in a progressive tax system, lower income levels in retirement lead to negative marginal tax rates under an expenditure tax treatment of retirement saving (Whitehouse, 1999). Another source of tax expenditures lies in the tax advan-

tages granted to pension funds over other forms of investment, when investment income is exempt from taxation.

Therefore effects of tax incentives for private retirement saving with respect to fiscal sustainability deserve particular scrutiny.

Austria is a case in point: In 1994 already it had the lowest marginal effective tax rate on retirement saving of all OECD countries (Whitehouse, 1999), but still has one of the smallest pension fund sectors, which only amounts to 3.9% of GDP. Recent reforms of the private pension system have further reduced marginal effective tax rates, as the reform of severance pay ("Abfertigung Neu") amounts to a regime of complete tax exemption of this new retirement saving scheme.

2 Model and Results

The analysis of the effect of tax-subsidized retirement saving on fiscal sustainability is carried out in the framework of the analysis of the sustainability of public finances under the impact of increases in age-related expenditures by the EPC (2001). Political indicators of sustainability can be directly derived from the Stability and Growth Pact, e.g. the 60% limit on public debt. As an economically more meaningful indicator, the EPC projection exercise also uses the difference between the projected primary surplus and the required primary surplus necessary to ensure a balanced budget over the entire projection period ("primary gap").

We consider the stylized "average debt" country of the EPC (2001) projection exercise where the initial level of public debt is 60% of GDP and a position of budget balance is assumed at the start of the projection period 2005-2050. In the EPC analysis non-age-related expenditures are assumed to be constant at 23%, whereas age-related expenditures are assumed to stay constant at 16% of GDP until 2010. Thereafter, a "demographic shock" of population aging increases these expenditures in a linear fashion by 5 percentage points of GDP to 21% of GDP in 2030, where they remain constant until the end of the projection period. The EPC exercise shows for an average debt country that in the mid of the projection period this demographic shock turns around a phase of fiscal consolidation into a development which ultimately leads to unsustainability with respect to the political as well as the economic indicators.

In the EPC projection exercise, public dept b and the budget balance d as shares of GDP are projected forward as

$$b_t = \frac{b_{t-1}}{1+y} + d_t \text{ and } d_t = \underbrace{g_t^A + \bar{g}_t^{NA} - t_t}_{s_t} + i\frac{b_{t-1}}{(1+y)}$$

where g_t^A denotes age-related expenditures and $\bar{g}^{NA}$ non-age-related expenditures; t is the tax burden and s denotes the primary balance (all expressed as shares of GDP). The nominal interest rate i is set at 0.06 and nominal growth of GDP y at 0.04.

To estimate the effect of tax-subsidized private retirement saving on fiscal sustainability we compare the EPC (2001) scenario with two scenarios representing different kinds of tax treatment of retirement saving. The first scenario assumes an EET tax treatment of private retirement saving. The second scenario

assumes complete tax exemption of private retirement saving (EEE). This scenario is selected as a polar case. It should however be kept in mind that the recent reform of severance pay in Austria amounts to the introduction of a pension scheme with complete tax exemption.

In both scenarios we assume constant private pension saving c equal to 1% of GDP beginning in 2005.

Total private retirement assets k as a percentage of GDP evolve according to

$$k_t = c + (1 + i) \left(\frac{k_{t-1}}{1+y} \right) - a \frac{k_{t-1}}{(1+y)}$$

where a denotes pension benefits paid as a percentage of total pension assets. In accordance to a similar exercise by Frederiksen (2001), we assume a value of $a = 0.033$, which corresponds to an average holding period of 30 years.

Additional retirement saving affects the fiscal position through the time path of pension-related net tax receipts it generates. In both taxation scenarios, the tax exemption of contributions generates yearly negative tax receipts in the exact number of basis points of GDP corresponding to the tax rate. (In our analysis the tax rate is assumed to be 40%.) With pension payments increasing with time these tax expenditures are increasingly compensated by the taxation of pension benefits yielding positive net tax receipts in the last decade of the projection period. This effect illustrates the fact that pure tax deferral alters only the time path of net tax receipts but not their net present value (which is easily shown to be zero by analogy to the case of a cash-flow tax on an investment project yielding the market rate of return).

Fiscal sustainability as measured by the debt level is however negatively affected as public debt is higher in both private retirement saving scenarios than in the EPC's reference scenario (see chart 1).

Chart 1

Debt Ratio

% of GDP

- Reference scenario
- EET
- EEE
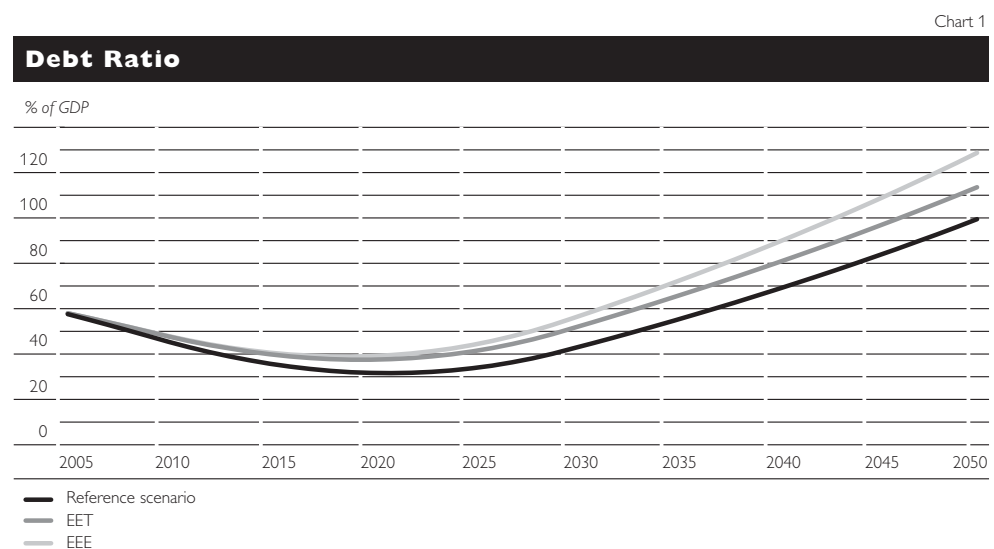
The tax expenditures for private retirement strongly reduce the speed of the initial fiscal consolidation process and slightly increase the speed of the ensuing debt accumulation that results from the demographic shock.

The effect on fiscal sustainability can best be estimated by looking on the difference between the required and the projected primary surpluses ("primary gap"). Corresponding to the time path of net tax receipts, the primary gap for the EET scenario exceeds the primary gap for the reference scenario until the last decade of the projection period. This is explained by the fact that the initially high negative net tax receipts for private retirement saving add to the negative fiscal effect of increasing public old-age expenditures (see chart 2).

Chart 2

Primary Gap

% of GDP

- Reference scenario
- EET
- EEE
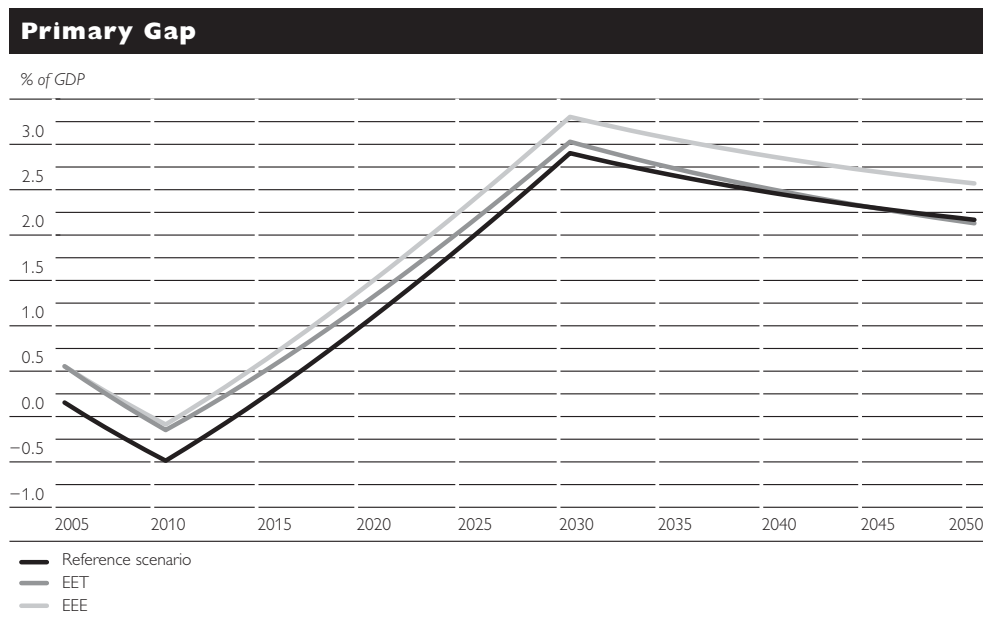
This simple projection exercise shows that the introduction of tax-incentivized retirement saving cannot dampen the effect of an imminent demographic shock.

References

Bernheim, B. D. 1999. Taxation and Saving. NBER Working Paper 7061.

Dang, T. T., P. Antolin and O. Oxley 2001. Fiscal Implications of Ageing: Projections of Age-Related Spending. OECD Economics Department Working Paper 305.

EPC. 2001. Budgetary Challenges Posed by Ageing Populations. Brussels.

Eskesen, L. L. 2002. Population Aging and Long-Term Fiscal Sustainability in Austria. IMF Working Paper 02/216.

Frederiksen, N. K. 2001. Pension Funding, Fiscal Sustainability and Government Debt. Typoscript.

Part, P. 2002. Finanzielle Auswirkungen der Bevölkerungsalterung. BMF Working Paper 8.

Whitehouse, E. 1999. The Tax Treatment of Funded Pensions. Pension Reform Primer Series. Social Protection Discussion Paper 9910. Washington, D.C.: World Bank.

Abbreviations

AMS	Arbeitsmarktservice Österreich (Austrian Public Employment Office)	GDP	Gross Domestic Product
ARTIS	Austrian Real Time Interbank Settlement	HICP	Harmonized Index of Consumer Prices
BWA	Bundes-Wertpapieraufsicht (Federal Securities Supervisory Authority)	IHS	Institut für Höhere Studien (Institute for Advanced Studies)
BWG	Bankwesengesetz (amendments to the Banking Act)	IIP	International Investment Position
		IMF	International Monetary Fund
CAD	Capital Adequacy Directive	NACE	Nomenclature générale des Activités économiques dans les Communautés Européennes (Statistical Classification of Economic Activities)
CEECs	Central and Eastern European Countries		
COICOP	Classification of Individual Consumption by Purpose		
CPI	Consumer Price Index	ÖCPA	Austrian Version of the Classification of Products by Activities
EC	European Community		
ECB	European Central Bank	OECD	Organisation for Economic Co-operation and Development
EEA	European Economic Area		
EEC	European Economic Community	OeKB	Oesterreichische Kontrollbank
EGVG	Einführungsgesetz der Verwaltungsverfahrensgesetze (Introductory Act to the Administrative Procedure Acts)	OeNB	Oesterreichische Nationalbank
		ÖNACE	Austrian Version of the Statistical Classification of Economic Activities
		RTGS	Real Time Gross Settlement System
EMU	Economic and Monetary Union	SDR	Special Drawing Right
EQOS	Electronic Quote and Order Driven System	SNA	System of National Accounts
		TARGET	Trans-European Automated Real-time Gross settlement Express Transfer
ERM	Exchange Rate Mechanism		
ERP	European Recovery Program	TEU	Treaty on European Union
ESCB	European System of Central Banks	WIFO	Österreichisches Institut für Wirtschaftsforschung (Austrian Institute of Economic Research)
ESNA	European System of National Accounts		
EU	European Union	WWU	Wirtschafts- und Währungsunion
Eurostat	Statistical Office of the European Communities		

Legend

− = The numerical value is zero
. . = Data not available at the reporting date
× = For technical reasons no data can be indicated
0 = A quantity which is smaller than half of the unit indicated
∅ = Mean value
_ = New series

Note: Apparent arithmetical discrepancies in the tables are due to rounding.

Official Announcements
of the Oesterreichische Nationalbank

Official Announcements
Regarding the Foreign Exchange Law

Please see the German-language publication "Berichte und Studien" for a list of all Official Announcements in German.

DL 1/91	Promulgation of the new Official Announcements regarding the Foreign Exchange Law; general provisions	Sept. 24, 1991	4/1991
	1. Issuance of new Official Announcements		
	2. Definitions		
	3. Fees		
DL 2/91	Granting of general licenses	Sept. 24, 1991	4/1991
	1. General license		
	2. Waiver of obligation to declare; release		
	3. Nonbanks		
	4. Banks not engaged in foreign business		
	5. Foreign exchange dealers		
	6. Exchange bureaus		
	7. Special banks and financial institutions		
	8. Provisions applying to both banks and financial institutions		
DL 3/91	Reporting requirements	Sept. 24, 1991	4/1991
	1. General provisions		
	2. Exemptions from the reporting obligation		
	3. General reports		
	4. Reports by banks		
	5. Reports by nonbanks and financial institutions		
	6. Special reports		
DL 4/91	Assets of nonresidents with residence (domicile) in Iraq	Oct. 29, 1991	4/1991
DL 2/93	Modification of the Official Announcement DL 3/91	May 5, 1993	2/1993
DL 1/95	Repeal of the Official Announcement DL 1/93; SC Resolution 1022 (1995) Concerning the suspension of the sanctions of the United Nations against the Federal Republic of Yugoslavia	Dec. 21, 1995	4/1995
DL 1/96	Modification of Official Announcement DL 3/91	Sept. 3, 1996	3/1996
DL 1/99	Modification of Official Announcements DL 2/91 and DL 3/91 to the Foreign Exchange Act	Dec. 21, 1998	4/1998
DL 2/99	Abrogation of Official Announcement DL 3/93 Sanctions of the United Nations against Libya	April 30, 1999	1/1999
DL 3/99	Modification of Official Announcement DL 3/91 with respect to the Foreign Exchange Act	Dec. 16, 1999	3/1999
DL 1/01	Modification of Official Announcement DL 3/91 with respect to the Foreign Exchange Act	June 19, 2001	2/2001

	Authentic German text published in the Official Gazette (Amtsblatt zur Wiener Zeitung)	Translation published in "Reports and Summaries" and "Focus on Austria" issue no

Official Announcements
Regarding the Foreign Exchange Law (cont.)

DL 1/02	Modification of Official Announcements DL 1/91 and DL 3/91 with respect to the Foreign Exchange Act	Feb. 25, 2002	1/2002
DL 2/02	Amendment to Official Announcement DL 2/91; UN Security Council Resolution No. 1373 (2001)	Sept. 2, 2002	3/2002
DL 3/02	Modification of Official Announcement DL 2/02	Jan. 20, 2003	4/2002

Council Regulations
of the European Communities

Minimum Reserve Regulations

No 2531/98	Council Regulation (EC) concerning the application of minimum reserves by the European Central Bank	Nov. 23, 1998
No 2532/98	Council Regulation (EC) concerning the powers of the European Central Bank to impose sanctions	Nov. 23, 1998
No 2818/98	Regulation (EC) of the European Central Bank on the application of minimum reserves	Dec. 1, 1998

List of Reports, Summaries and Studies[1]

1   *For a comprehensive list of reports, summaries and studies hitherto published please refer to issue no. 1/2003 of "Focus on Austria."*

Published in
"Focus on Austria"

Interest Rates

An International Comparison of Term Structures – Estimations Using the OeNB Model	1/1999

Austrian Capital Market

Venture Capital in Austria	2/2000
Austrian Stock Market Survey and Outlook	4/2000

Austrian Bond Market

Austrian Bond Market Developments	1/2001

Austrian Real Economy

Economic Background	1/1999
Financial Assets and Liabilities of Enterprises and Households in the Years 1995 to 1997	1/1999
Economic Outlook for Austria from 1999 to 2001	2/1999
Economic Background	2/1999
Economic Background	3/1999
Financial Accounts in Accordance with ESA 95 – Financial Assets and Liabilities of the Sectors of the Austrian Economy; First Release of Data for the Years 1995 to 1997	3/1999
Economic Outlook for Austria from 1999 to 2001 (Fall 1999)	4/1999
Impact of the Recent Upturn in Crude Oil Prices on Inflation in Austria – A Comparison with Historic Supply Shocks	4/1999
Economic Background	1/2000
Financial Accounts in Accordance with ESA 95 – Financial Assets and Liabilities of the Sectors of the Austrian Economy; Results for 1998	1/2000
Economic Outlook for Austria from 2000 to 2002 (Spring 2000)	2/2000
Economic Background	3/2000
Financial Accounts in Accordance with ESA 95 – Financial Assets and Liabilities of the Sectors of the Austrian Economy; Results for 1999	3/2000
Economic Outlook for Austria from 2000 to 2002 (Fall 2000)	4/2000
Economic Background	1/2001
Economic Outlook for Austria from 2001 to 2003 (Spring 2001)	2/2001
Updating the Calculation of the Indicator for the Competitiveness of Austria's Economy	2/2001
Economic Outlook for Austria from 2001 to 2003 (Fall 2001)	3–4/2001
Economic Background	3–4/2001
Financial Accounts in Accordance with ESA 95 – Financial Assets and Liabilities of the Sectors of the Austrian Economy; Results for 2000	3–4/2001
Economic Background	1/2002

Published in
"Focus on Austria"

Austrian Real Economy (cont.)

The Payment Habits of Austrian Households – Results of a Study on the Use of Payment Cards and the Structure of Payment Transactions in 2000	1/2002
Economic Outlook for Austria from 2002 to 2004 (Spring 2002)	2/2002
Economic Background	3/2002
Identification of Wage Rigidities in Microdata – a Critical Literature Review	3/2002
Financial Accounts in Accordance with ESA 95 – Financial Assets and Liabilities of the Sectors of the Austrian Economy; Results for 2001	3/2002
Economic Outlook for Austria from 2002 to 2004 (Fall 2002)	4/2002
Austria's Financial Accounts: Financial Investment and Financing Transactions of the Sectors of the Austrian Economy – Results for 2001	4/2002
Economic Background	1/2003
Economic Outlook for Austria from 2003 to 2005 (Spring 2003)	2/2003
Financial Investment and Financing of the Nonfinancial Sectors of the Austrian Economy in 2002 – Analysis of Financial Accounts Data	2/2003

External Sector

Austria's International Investment Position in 1997	1/1999
Special Survey on the Regional Allocation of Nonresident Securities Held by Residents as of December 31, 1997	1/1999
Balance of Payments for the Year 1998	2/1999
New Concept of the Austrian Balance of Portfolio Investment	2/1999
Austrian Outward and Inward Direct Investment at the End of 1997	2/1999
Balance of Payments in the First Quarter of 1999	3/1999
Austria's International Investment Position in 1998	3/1999
Balance of Payments in the First Half of 1999	4/1999
Austrian Outward and Inward Direct Investment in 1997 – Results of the 1997 Survey and Development of Selected Indicators	4/1999
1997 Coordinated Portfolio Investment Survey	4/1999
Balance of Payments in the First Three Quarters of 1999	1/2000
Balance of Payments in 1999	2/2000
Austrian Outward and Inward Direct Investment at the End of 1998	2/2000
Balance of Payments in the First Quarter of 2000	3/2000
Austria's International Investment Position in 1999 – The External Sector of the Financial Account	3/2000
Balance of Payments in the First Half of 2000	4/2000
Austrian Outward and Inward Direct Investment – Results of the 1998 Survey and Development of Selected Indicators	4/2000
New Statistical Framework for the Portfolio Investment Position	4/2000
Balance of Payments in the First Three Quarters of 2000	1/2001
Balance of Payments in the Year 2000	2/2001
Austrian Outward and Inward Direct Investment at the End of 1999	2/2001

List of Studies
on Focus on Austria Main Topics

Focus on Austria 3/2000:

On a New Capital Adequacy Framework as Proposed by Basel and Brussels

Regulatory Capital Requirements for Austrian Banks –
A Supervisory Tool Subject to Change
Supervisory Review
Credit Risk
Critical Evaluation of the Basel Committee's
and the European Commission's Proposals on the
Treatment of Other Risks in the New Capital Adequacy Framework
Interest Rate Risk in the Banking Book

Focus on Austria 2/2001:

The New Framework for Fiscal Policy

Fiscal Policy Design in the EU
Measures and Strategies for Budget Consolidation
in EU Member States
Distributive Aspects of Economic Policy in EMU –
An Analysis from an Employee Perspective
Problems Relating to the Taxation of Cross-Border Capital Income
Austria's Sovereign Debt Management Against the Background
of Euro Area Financial Markets
Cyclically Adjusted Budgetary Balances for Austria

Focus on Austria 3–4/2001:

Aspects of the Transmission of Monetary Policy

The Transmission Mechanism
and the Role of Asset Prices in Monetary Policy
Asymmetric Transmission of Monetary Policy
through Bank Lending –
Evidence from Austrian Bank Balance Sheet Data
Balance Sheet and Bank Lending Channels:
Some Evidence from Austrian Firms
Financial Innovation and the Monetary Transmission Mechanism
Transmission Mechanism and the Labor Market:
A Cross-Country Analysis
Monetary Transmission and Fiscal Policy
Principles for Building Models of the
Monetary Policy Transmission Mechanism

Focus on Austria 2/2002:

EU Enlargement to the East: Effects on the EU-15 in General and on Austria in Particular

The Impact of EU Eastward Enlargement on Wages
in the Current Member States with Special Reference to Austria
Institutional Implications of EU Enlargement
in the Area of Economic and Monetary Policies
The Banking System in the Accession Countries
on the Eve of EU Entry
The Integration of Eastern Europe –
Effects on Stocks and Bond Markets
Exchange Rate Strategies of the EU Accession Countries
on the Road to EMU: Impact on the Euro Area

Focus on Austria 3/2002:

Wage Formation in the Euro Area

EMU and European Wage Coordination
Employment and Wage Adjustment in the Euro Area's Labor
Market – a Bird's Eye View
Wage Setting and Strategic Interaction
With and Without a Monetary Union
The Role of Wage Policies in a Monetary Union

Focus on Austria 1/2003:

Finance for Growth

Finance for Growth, Finance and Growth, Finance or Growth . . .?
Three Perspectives on the Interaction of Financial Markets and the
Real Economy
Stock Markets, Shareholder Value and Investment
Financial Development and Macroeconomic Volatility:
Evidence from OECD Countries
A Financial Decelerator in Europe? Evidence from Austria
Banking Structure and Investment in Austria:
Some Empirical Evidence
Corporate Governance, Investment, and the Implications
for Growth
Panel Discussion: What Kind of Financial System Works Best
for Europe?

Focus on Austria 2/2003:

**Pension Finance Reform:
From Public to Financial Economics**
Welfare Effects of Pension Finance Reform
Varieties of Capitalism and Pension Reform: Will the "Riester-Rente"
Transform the German Coordinated Market Economy?
Pension Finance Reform, Tax Incentives for Life Annuities and the Problem of
Adverse Selection
Pension Funds and European Financial Markets
Investment-Based Pension Reform as a Solution to the Old-Age Crisis?
Risk Issues in the Pension Reform Debate
Investment-Based Pension Reform for Austria –
Or Boosting Employment and Growth?
Tax Incentives in Investment-Based Pension Reform and Fiscal Sustainability

Publications
of the Oesterreichische Nationalbank

Periodical Publications Published

Statistisches Monatsheft	monthly
Focus on Statistics	
(English translation of "Statistisches Monatsheft")	http://www.oenb.at
Leistungsbilanz Österreichs, revidierte Jahresdaten	
gegliedert nach Regionen und Währungen	annually
Berichte und Studien	quarterly
Focus on Austria (selected chapters from	
„Berichte und Studien")	quarterly
Focus on Transition	semiannually
Finanzmarktstabilitätsbericht	semiannually
Financial Stability Report	
(English translation of "Finanzmarktstabilitätsbericht")	semiannually
Geschäftsbericht	annually
Annual Report (English translation of "Geschäftsbericht")	annually
Volkswirtschaftliche Tagung	
(for a list of the topics discussed at the conferences,	
see below)	annually
The Austrian Financial Markets –	
A Survey of Austria's Capital Markets – Facts and Figures	annually

Other Publications

New Developments in Banking and Finance	
in East and West (Kranichberg 1989)	1990
Erfahrungen Österreichs beim Übergang von administrativer	
Regulierung zur Marktwirtschaft (Moscow 1990)	1990
Challenges for European Bank Managers in the 1990s	
(Badgastein 1990)	1991
From Control to Market - Austria's Experiences	
in the Post-War Period (Warsaw 1990)	1991
The Economic Opening of Eastern Europe	
(Bergsten Conference Vienna 1991)	1991
Erneuerung durch Integration –	
175 Jahre Oesterreichische Nationalbank	1991
Striking a Balance – 175 Years of Austrian National Bank	1991
Transparente Dispositionen – Liberalisierter Devisenverkehr	
unter Beachtung internationaler Publizitätsverpflichtungen	1991
Ausgeglichene Position – Die neue Präsentation	
der österreichischen Zahlungsbilanz	1992
Aktive Bilanz – Ein Jahr vollständig liberalisierter	
Devisenverkehr in Österreich	1992
Economic Consequences of Soviet Disintegration	
(Bergsten Conference Vienna 1992)	1993
Neuorientierung – Internationale Vermögensposition	
und Außenwirtschaftliche Investitionsbilanz Österreichs	1993
Bankwesengesetz 1993	1994

Other Publications (cont.)   Published

Internationale Vermögensposition 1992 –	
Die grenzüberschreitenden Forderungen	
und Verpflichtungen Österreichs	1994
International Investment Position for 1992 –	
Austria's Cross-Border Assets and Liabilities	1994
Western Europe in Transition:	
The Impact of the Opening-up of Eastern Europe	
and the Former Soviet Union	1995
Die Oesterreichische Nationalbank als Unternehmen	1996
Monetary Policy in Central and Eastern Europe:	
Challenges of EU Integration	1996
Monetary Policy in Transition in East and West	1997
Die Auswirkungen des Euro auf den Finanzmarkt Österreich	1997
Die Bank der Banken	1997
Die Zukunft des Geldes: Auf dem Weg zum Euro	
Grundlagen – Strukturen – Termine	1997
Geld & Währung	1997
Kompendium von Texten zur Wirtschafts- und Währungsunion	1997
Nationalbankgesetz 1984 (as of January 1999)	1999
Information literature on banknote security	recurrently

Videos

Wie Mozart entsteht (banknote security)	1990
The Evolution of W. A. Mozart	
(English version of "Wie Mozart entsteht")	1995
Bank der Banken (tasks and functions of the OeNB)	1991
The Banks' Bank (English version of "Bank der Banken")	1991
Fenster, Tore, Brücken: Eurogeld aus Österreich	1997
Das Geld von Morgen	1997
Der Euro stellt sich vor	2001

List of the Topics Discussed at the Economics Conferences (Volkswirtschaftliche Tagungen)

1975 Die ökonomischen, politischen und sozialen Konsequenzen der
Wachstumsverlangsamung

1976 Störungsanfällige Bereiche in unserem ökonomischen
und sozialen System

1977 Fiskalismus kontra Monetarismus

1978 Wirtschaftsprognose und Wirtschaftspolitik

1979 Technik-, Wirtschaftswachstums-, Wissenschaftsverdrossenheit:
Die neue Romantik – Analyse einer Zeitströmung

1980 Probleme der Leistungsbilanz in den achtziger Jahren

1981 Systemkrisen in Ost und West

1982 Forschung und Wirtschaftswachstum

1983 Ausweg aus der Krise –
Wege der Wirtschaftstheorie und Wirtschaftspolitik

1984 Der Weg zur Welthandelsnation

1985 Weltanschauung und Wirtschaft

1986 Vollbeschäftigung, ein erreichbares Ziel?

1987 Vollendung des Binnenmarktes in der Europäischen Gemeinschaft –
Folgen und Folgerungen für Österreich

1988 Sand im Getriebe – Ursachen und Auswirkungen
der Wachstumsverlangsamung in Österreich

1989 Banken und Finanzmärkte –
Herausforderung der neunziger Jahre

1990 Wettbewerb und Kooperation im Finanzbereich

1991 Wirtschaftliche und politische Neugestaltung Europas –
Rückblick und Perspektiven

1992 Zukunft regionaler Finanzmärkte in einem integrierten Europa

1993 Europäische Währungspolitik und internationaler Konjunkturverlauf

1994 Neue internationale Arbeitsteilung – Die Rolle der Währungspolitik

1995 Die Zukunft des Geldes – das Geld der Zukunft

1996 Auf dem Weg zur Wirtschafts- und Währungsunion –
Bedingungen für Stabilität und Systemsicherheit

1997 Die Bedeutung der Unabhängigkeit der Notenbank
für die Glaubwürdigkeit der europäischen Geldpolitik

1998 Wirtschaftspolitik 2000 – Die Rolle der Wirtschaftspolitik
und nationaler Notenbanken in der WWU

1999 Möglichkeiten und Grenzen der Geldpolitik

2000 Das neue Millennium – Zeit für ein neues ökonomisches Paradigma?

2001 Der einheitliche Finanzmarkt –
Eine Zwischenbilanz nach zwei Jahren WWU

2002 Wettbewerb der Regionen und Integration in der WWU
(Competition of Regions and Integration in EMU)

List of the Topics
Discussed in the Working Papers[1])

Published

1 *For a comprehensive List of the Topics Discussed in the Working Papers please refer to issue no. 12/2002 of "Statistisches Monatsheft."*

Addresses
of the Oesterreichische Nationalbank

	Postal address	Telephone	Telex
Head Office			
Otto-Wagner-Platz 3	P. O. Box 61	+43-1/404 20, ext.	(1) 114669 natbk
A 1090 Vienna	A 1011 Vienna	Fax: +43-1/404 20 2398	(1) 114778 natbk
Internet: http://www.oenb.at	Austria		
Branch Offices			
Bregenz	P. O. Box 340	+43/5574/49 61, ext.	
Anton-Schneider-Straße 12	A 6901 Bregenz	Fax: +43/5574/49 61 99	
	Austria		
Eisenstadt	P. O. Box 60	+43/2682/627 18, ext.	
Esterhazyplatz 2	A 7001 Eisenstadt	Fax: +43/2682/627 18 99	
	Austria		
Graz	P. O. Box 8	+43/316/81 81 81, ext.	
Brockmanngasse 84	A 8018 Graz	Fax: +43/316/81 81 81 99	
	Austria		
Innsbruck		+43/512/594 73, ext.	
Adamgasse 2	A 6021 Innsbruck	Fax: +43/512/594 73 99	
	Austria		
Klagenfurt	P. O. Box 526	+43/463/576 88, ext.	
10.-Oktober-Straße 13	A 9010 Klagenfurt	Fax: +43/463/576 88 99	
	Austria		
Linz	P. O. Box 346	+43/732/65 26 11, ext.	
Coulinstraße 28	A 4021 Linz	Fax: +43/732/65 26 11 99	
	Austria		
Salzburg	P. O. Box 18	+43/662/87 12 01, ext.	
Franz-Josef-Straße 18	A 5027 Salzburg	Fax: +43/662/87 12 01 99	
	Austria		
St. Pölten	P. O. Box 5	+43/2742/313 483, ext.	
Julius-Raab-Promenade 1	A 3100 St. Pölten	Fax: +43/2742/313 483 99	
	Austria		

Representative Offices

Oesterreichische Nationalbank +44/20/7623 6446
London Representative Office Fax: +44/20/7623 6447
5th floor, 48 Gracechurch Street
London EC3V 0EJ, United Kingdom

Oesterreichische Nationalbank +1/212/888 2334 (212) 422509 natb ny
New York Representative Office +1/212/888 2335
745 Fifth Avenue, Suite 2005 Fax: +1/212/888 2515
New York, N. Y. 10151, U.S.A.

Permanent Mission of Austria to the EU +32/2/285 48 42, 43
Avenue de Cortenbergh 30 Fax: +32/2/285 48 48
B 1040 Bruxelles, Belgium

Permanent Mission to the OECD +33/1/53 92 23 39
3, rue Albéric-Magnard +33/1/53 92 23 44
F 75116 Paris, France Fax: +33/1/45 24 42 49