

# **OECD Economic Surveys**

# **Switzerland**

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ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

## **ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT**

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*The economic situation and policies of Switzerland were reviewed by the Committee on 2 November 2005. The draft report was then revised in the light of the discussions and given final approval as the agreed report of the whole Committee on 25 November 2005.*

*The Secretariat's draft report was prepared for the Committee by Claude Giorno and Florence Jaumotte under the supervision of Peter Hoeller.*

*The previous Survey of the Switzerland was issued in January 2004.*

## BASIC STATISTICS OF SWITZERLAND

### THE LAND

Area (1 000 sq. km)	41.3	Major cities (1 000 inhabitants, 31.12.2003):	
Cultivated land, grassland and pastures (1 000 sq. km)	15.3	Zurich	342.8
Forests (1 000 sq. km)	12.7	Basel	164.8
		Geneva	178.5
		Bern	122.9

### THE PEOPLE

Population(thousands, 31.12.2004)	7 415	Civilian employment (thousands, 2004)	4 185
Number of inhabitants per sq. km (2004)	180	Agriculture (%)	3.7
Net natural increase (thousands, 2004)	12.9	Industry and construction (%)	23.7
Number of foreign workers (thousands, 2003)	1 046	Services (%)	72.6

### PRODUCTION

Gross domestic product, current prices (2004)		Gross fixed investment, current prices (2004)	
CHF billion	445.8	% of GDP	20.9
Per head (USD)	48 376	Per head (USD)	10 116

### THE GOVERNMENT

Public consumption (% of GDP, 2004)	11.9	Composition of Parliament (No. of seats)	National Council	State Council
General government (% of GDP, 2004)		Socialists	52	9
Expenditure	38.3	Central Democratic Union	55	8
Revenues	37.0	Radical Democrats	36	14
Debt	55.6	Christian Democrats	28	15
		Other	29	0
		Last elections : October 2003		
		Next elections : October 2007		

### FOREIGN TRADE

Exports of goods and services (% of GDP, 2004)	46.2	Imports of goods and services (% of GDP, 2004)	38.7
Commodity exports (billion CHF, 2004)	141.7	Commodity imports (billion CHF, 2004)	132.4
Distribution by area (% of total, 2004)		Distribution by area (% of total, 2004)	
To OECD countries	81.9	From OECD countries	91.6
To EU countries	59.5	From EU countries	81.1
To OPEC countries	2.9	From OPEC countries	1.6
Distribution by categories (% of total, 2004)		Distribution by categories (% of total, 2004)	
Raw materials and semi-finished goods	24.8	Raw materials and semi-finished goods	26.9
Capital goods	32.2	Capital goods	26.4
Consumer goods	42.7	Consumer goods	41.8
Energy	0.3	Energy	4.9

### THE CURRENCY

Monetary unit: Swiss franc		Currency unit per USD, average of daily figures	
		Year 2004	1.2427
		October 2005	1.2873

## Executive summary

**W**hile Switzerland is still a prosperous country, growth of per capita income has been weak and considerably below the OECD average for a number of years, mainly because of lacklustre productivity gains. In the absence of a significant pick-up in productivity, trend output growth will diminish further due to the ageing of the population, falling to as little as ½ per cent by 2020. At the same time, the dynamics of social spending are not sustainable in the long run. In this context, the authorities face two key policy challenges: raising growth performance and restoring better control over public spending.

**Structural reforms are necessary to raise potential growth.** The authorities, fully aware of this challenge, launched a growth package in 2004 which includes major advances, especially in the area of competition policy.

- In order to create a **competition** culture, it is important to go ahead with the package of measures proposed by the government, which includes a revision of the Domestic Market Act, eliminating regional and local obstacles to a unified domestic market, as well as reforms of the electricity and agricultural sectors. Reforms need to be accelerated in other domains, including telecommunications; and technical barriers to imports should be reduced by accepting products conforming to EU standards (the “Cassis de Dijon” principle). Finally, the resources of the competition authority should be increased and the political independence of its members ensured.
- **Innovation performance** needs to be maintained at its current high level to preserve the competitiveness of the economy. Key in this area is the improvement of framework conditions, including strengthening competition, simplifying administrative burdens, reforming the bankruptcy law and enhancing the efficiency of the university system. Efforts are also needed to better fulfil budget spending priorities on education and research and to bridge the gap between fundamental research and the market.
- Despite very high employment ratios, **labour utilisation** could be increased by reducing tax disincentives for mothers to work, developing early childhood education and care, better integration of the disabled by the reform of the invalidity insurance and removing disincentives to the participation of older workers.

Reforms are also required to **restrain public and mandatory social spending growth**, especially in the medical, disability and old age schemes, to put an end to the sharp rise in taxation and mandatory contributions recorded over the last decade.

- Greater **transparency of the fiscal policy framework** would enhance the understanding of problems and raise the population’s awareness of the need for reform – crucial in a system of direct democracy. This will require disentangling the finances of the Confederation, of the cantons and of the social insurance system while including all levels of government in a fiscal policy framework extending to the medium and long term.
- An **overhaul of welfare programmes** is also needed to stop the sharp rise in mandatory social spending. Plans to reform the disability scheme, which would intensify early screening and help



people to get back to work, should be implemented rapidly. A tighter control of medical spending will necessitate a deep reform of the health care system. This could be achieved by a range of measures instilling greater competition among providers and improving provider payment methods. Finally, ensuring the funding of basic pensions, including beyond 2020, will require inter alia an increase in the average number of years spent in activity, in view of the likely continued increase in longevity.



## Assessment and recommendations

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*Maintaining Switzerland's high living standard will require boosting trend growth and better control of public spending*

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Switzerland is still a prosperous country, but it is stuck in a low-growth trap and faces growing fiscal policy problems. While economic activity is affected to some extent by unfavourable conditions in Europe, low trend growth has structural roots. Indeed, growth of production and per capita income has been among the lowest in the OECD for many years, largely reflecting weak productivity gains. In the absence of a significant pick-up in productivity, trend output growth will decline further due to population ageing, inducing growing fiscal pressures. In this context, the authorities face two key policy challenges:

- *Raising growth performance.* The most immediate challenge is to nurture the recovery, following the recent weakening of activity. In the longer run, raising potential growth will require improving labour utilisation and, more importantly, boosting productivity through better functioning product markets and stronger competition in sheltered sectors. Maintaining a strong innovation performance will also be key for preserving high living standards.
- *Restoring better control of public spending.* The insufficient control over public spending since the early 1990s first triggered a sharp rise in public debt and was then followed by a marked increase in taxes and mandatory social security contributions which has helped to keep the deficit down to currently 1¼ per cent of GDP. Problems to be tackled with priority include a lack of efficiency in the health sector, insufficient control of social spending in disability insurance, and deficiencies in the medium to long-term fiscal framework.

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*The Swiss economy weakened in 2005*

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The economy has been hit by a renewed cyclical weakening since the end of 2004 and is expected to expand by only 1¼ per cent in 2005. This is the third such episode in less than five years, even though this one has not turned into recession. A lull in exports, against a backdrop of rising oil prices, interrupted the economy's fragile recovery, which had been driven by a resumption of exports and housing investment. While enjoying favourable competitiveness and profitability, along with a low cost of credit, businesses have remained cautious in hiring due to uncertainties about economic prospects. In this context, private consumption has expanded only moderately in 2004 and 2005. Employment growth has been modest, and the jobless rate has been steady at about 4% since 2003 – its highest level since 1997, although it remains low in international comparison. With tame wage developments reflecting a negative output gap of about 1%, inflation has remained very moderate despite sharply rising oil prices: it has hovered just

above 1¼% on an annualised basis between January and October 2005, whereas underlying inflation was only ¼ per cent in October 2005.

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*An expansionary monetary stance is needed until the recovery is firm*

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Given low inflation and sluggish activity, the Swiss National Bank (SNB) has pursued an expansionary monetary policy. The three-month LIBOR has been kept at 0.75% since the autumn of 2004 and has been negative in real terms for about three years. Lower inflation than in main trading partners and a stable exchange rate of the Swiss franc against the euro have implied currency stability in real terms, despite the fall of the dollar until the end of 2004. Benefiting from easy monetary conditions and some improvement in the external environment, the economy seems to be picking up in the second half of 2005, and GDP could increase by 1¼ per cent in 2006 and 2007, thereby exceeding the economy's estimated growth potential of about 1¼ per cent. Unemployment should start to decline in 2006, without generating inflationary pressures, even if oil prices stay high. Nevertheless, heightening tensions in the oil market and another setback in the European recovery could delay the recovery once again and limit its strength. *Keeping monetary policy easy is therefore necessary, until there are clear signs that a solid recovery is under way. Monetary conditions will eventually have to move towards a neutral stance. But the SNB, which enjoys substantial credibility that moderates inflation expectations, can afford to act very gradually.*

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*Fiscal policy is broadly in line with cyclical requirements*

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The budget deficit of the general government, while moderate in international comparison, has widened since 2000 to 1¼ per cent of GDP in 2003 and 2004. As the deterioration is partly structural, particularly at the federal level, the authorities developed a medium-term consolidation strategy to eliminate the Confederation's structural deficit, estimated at ¾ per cent of GDP in 2003, in accordance with the debt containment rule. This rule, which was supposed to apply as of 2003, is intended to keep the federal accounts permanently in structural balance. In view, however, of the impossibility of applying it to the letter without running the risk of penalising activity, the consolidation programme aimed first at stabilising the federal structural deficit and then at eliminating it progressively between 2005 and 2007, with the debt containment rule applying strictly thereafter. The initial implementation of this plan was broadly in line with expectations. A slight reduction of the structural deficit was even recorded in 2004 at the federal level, though the main impact of the federal plan was not expected to be felt before 2005. However, overall, the fiscal stance was roughly neutral in 2004 due to a slight structural deterioration in the social security accounts, and it is likely to have remained so in 2005. Beginning in 2006, it is due to turn slightly restrictive following the implementation of the federal consolidation programme.

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### *Yet, control over underlying government spending trends is insufficient*

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The move in federal finances towards balance seems unlikely to be reversed by financial trends at other levels of government. However, this prospective improvement of government accounts should not divert attention from long-term difficulties in controlling public spending, which have led to a sharp rise in the tax burden and indebtedness. While still moderate in international comparison, government debt has increased by more than 25 percentage points of GDP over the past 15 years. Taxation has risen by about 4 percentage points of GDP since 1990, and in addition the mandatory contributions to private insurance schemes have increased by 2 percentage points of GDP. Together, these amount to one of the steepest increases in the OECD. All levels of government have increased their spending more rapidly than GDP, but the sharpest rises concern social programmes, and the pressures in that area will intensify from 2010 onward because of population ageing. In response, the federal council's consolidation strategy also includes structural reforms of the disability and health insurance schemes that go in the right direction. Nevertheless, reforms could be more ambitious in a number of areas, and further improvements in the fiscal framework are called for.

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### *The federal fiscal policy framework should be improved*

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The debt containment rule does not formally anchor federal spending in the medium term. The medium-term outlook, as outlined in the Confederation's 2007-09 financial plan, would seem optimistic on several counts, and it does not guarantee the respect of the rule over the coming years. In the first place, the plan is based on favourable growth assumptions. In addition, it does not include fundamental reforms that would guarantee the long-term sustainability of the federal budget. Some expenditure-raising measures, for instance stemming from the new infrastructure fund are excluded. Conversely, to finance disability insurance the plan relies on a 0.8 point VAT hike in 2008, which will entail a referendum and faces substantial opposition. Repeated recourse to consolidation programmes, which would impair the rule's credibility, cannot be ruled out in the future. *Hence, it would be desirable to give more prominence to the debt containment rule and the associated risks in communicating medium-term financial plans, given numerous projects for additional spending or tax cuts and the lack of short-term flexibility of the federal budget. One could also extend the use of financial referenda to the Confederation, allowing citizens to decide on proposals to increase spending in excess of a specific threshold.*

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### *Fiscal management needs to be more comprehensive and transparent*

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The high degree of budgetary interdependence between the various levels of government is a serious problem not only because it impairs transparency but also because it undermines implementation of the rule at Confederation level and thereby complicates consolidation efforts. The separation of the accounts of basic old age and disability insurance from those of the cantons as foreseen by the new fiscal equalisation project is a welcome movement in this direction. Transparency is especially important in the context

of direct democracy to give the population a better grasp of the choices to be made and to garner the necessary support for social reforms, which has been lacking so far. *Consideration should be given to linking the Confederation's transfers to its revenues, rather than to the spending of the insurance schemes.* While such a reform would have redistributive effects which may increase the difficulties of finding sufficient political support, it would on the other hand reduce the crowding-out of the most productive outlays (education, research, investment) that has to some extent been observed in recent years. It would also underscore the urgent need for social security reform. In addition, a more comprehensive approach to budgetary issues should be formulated. Because of the federal structure of government and the fact that certain social outlays are administered by compulsory contributions to private insurance schemes, it is difficult to gain a coherent view of overall budget trends and prospects. At the national level, discussions focus mainly on the federal finances, which account for only one-third of the total budget. Also, because the accounts of the Confederation, the cantons, the communes and public and private social insurance schemes are interdependent, decisions taken at one level of government may affect spending of other levels of government, forcing ad-hoc cuts elsewhere to meet the deficit targets. *Regular formulation of consolidated medium- and long-term plans for all administrations, including compulsory private social insurance schemes, would make it easier to spot and rank problems and to convey policy priorities to the population. This would entail stepping up efforts to enhance the timely availability of standardised statistics and other information on budget policies. Even if cantonal budget policies are framed independently, it would be useful to evaluate them through a peer review system that would spur consolidation efforts.*

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*The financial viability of the disability and basic old age insurance schemes needs to be ensured*

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A better fiscal policy framework is, however, no substitute for wide-ranging reforms in the old age, disability and health insurance systems, which are three key areas underlying the sharp rise in public spending. Because of population ageing, a deficit in the basic old age system (AVS) will emerge between 2007 and 2010, reaching around 1½ per cent of GDP by 2020 and probably more than 3% of GDP by 2040. After the overhaul of the AVS was rejected by a referendum in May 2004, deep reforms were put off until 2008 or 2009. Lowering benefit levels, an extension of years of work – which is not incompatible with making the retirement age more flexible – and recourse to additional funding cannot be avoided. *Linking years of work at least partly to life expectancy would limit the extent to which replacement rates need to be cut while at the same time ensuring that the burden of adjustment is shared equitably between generations. It is important not to delay enacting reforms so as to allow enough time for the insured to adjust.* A late decision could also pose problems of fairness if the ageing-related rise in the average age of the electorate would marginalise younger generations in the democratic decision-making process.

An even more urgent reform, currently being discussed, involves disability insurance, which is accumulating deficits. To stem the sharp rise in the number of beneficiaries, the proposal seeks to intensify early detection of people at risk of becoming long-term beneficiaries and to facilitate their return to work. These proposals are a step in the right direction, even though their limited short-term effect makes supplementary financing inevitable. In fact, most of the deficit is due to the entitlements of current pensioners which cannot be reviewed and a better control of the inflow has only a long-term effect.

The additional resources should not substitute for efforts to keep spending under control, which would be assisted by a strict separation of disability insurance financing from that of the basic old age system and of other administrations. The effectiveness of the proposed measures will depend on how they are implemented. *Since the difficulties leading to disability often have non-medical causes, the already existing case-by-case approach has to be strengthened using a multidisciplinary approach entailing enhanced co-operation amongst the various social services (disability, health, employment).* Since 2002, firms have become more and more aware of the costs of invalidity pensions. Reacting to the evolution of the financial markets, private and mutual institutions running pension funds started to charge firms with experience-rated contributions largely based on the risk of invalidity (as was already the case before for the daily allowances in the sickness insurance). *Incentives to firms to avoid invalidity pensions are useful to the extent that firms have a strong influence on access to disability pensions, but they need to be applied in such a way as to avoid discouraging the recruitment of persons with health problems.*

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*Occupational pension funds need to be consolidated and should not encourage early retirement*

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Occupational benefit funds have improved their financial position since 2002, thanks to rebounding financial markets and the various measures taken, such as greater flexibility in minimum yield rates. Yet further reforms are still needed. *The recently decided cut in the rate for converting retirement savings into annuities for people in the compulsory second-pillar scheme would not seem sufficient, given longer life expectancy and the likelihood of low nominal yields in a low inflation environment. A further cut in this rate seems necessary. The growing use of early retirement financed by second-pillar funds, contributions to which are tax deductible, should also be curtailed.* To avoid misuse of the tax benefits attaching to such pensions, the minimum age for receiving second-pillar early retirement pensions was raised from 55 to 58. *These measures could be complemented by a decrease in the ceiling on tax breaks.* The budgetary cost of the subsidies cannot be justified by their positive effect on private saving, since the effect on national saving is likely to be minimal. Furthermore, the tax breaks are regressive because of the progressiveness of the tax schedule and constitute implicit government financing of early retirement for the wealthiest workers, which spurs similar demands from those of more modest means. *At the same time, the conditions favouring the employment of older workers should be improved. Reducing the progressive nature of contributions to the second pillar of the pension system, which now rise as a function of age, would be welcome, but transitional issues are difficult to overcome.*

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*Health system costs should be better controlled*

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There is consensus on the need to reform the health care system. But implementing changes is difficult, as shown by the failure to overhaul the health insurance system in late 2003. Yet the *status quo* is not tenable from the financial point of view, and it would seem necessary to adopt a set of coherent measures, even if some of these entail limitation of choice. In this spirit, the government has presented Parliament with a large number of reforms, which usefully clarify the logic of the system in terms of regulated competition, even though international experience suggests that deeper reforms should be envisaged in



some domains. This would strengthen incentives to control prices and the supply of health care. This is especially so in the case of the proposed abolition of the requirement to contract with all health care providers, which would give insurers greater ability to negotiate medical fees with individual providers and to control the number of medical acts, whereas, at present, the number of medical acts is not subject to an effective control. *Collusive practices during fee negotiations, between both suppliers and insurers, have to be excluded to ensure effective competition. The latter would be strengthened if the market was better integrated by removing barriers induced by the canton-based organisation of both health supply and insurance, which narrows the scope for effective competition. The shift to a prospective hospital financing system based on Diagnosis Related Groups from a retrospective one based on bed days should also prompt cost consciousness. Nevertheless, the continuation of joint hospital financing by the insurers and by the cantons limits the incentives for each party to rationalise the supply of hospital care, cut costs and increase the use of outpatient care. A shift to cantonal subsidies allocated directly to funds could probably overcome some of these difficulties, provided that it is combined with efficient freedom to contract for health insurers also in the area of hospital services. A lowering of high drug prices will entail reducing the obstacles to imports. Generic drugs that have been authorised for sale in the European Union should be made more readily available, for example based on the simplified admission procedure foreseen in the law on medical products and medical devices. High drug prices having been widely criticized, the government intends to obtain price decreases of existing reimbursed drugs by revising them more frequently (15 years after initial admission, 2 years after patent expiration date). An extension of the panel of reference countries is discussed, by adding additional countries which have a pharmaceutical research capacity. Mindful that prices received by companies across all markets have an effect on research and development expenditures and ultimately, the number of new drugs coming on line, the need for incentives for research and development by pharmaceutical companies will be taken into consideration in the pricing process. Achievements in R&D can be reflected in an innovation surcharge being added to the daily treatment cost of the reference drug although calibrating this surcharge remains delicate. Such decisions are taken after consultation with the Swiss Drug Committee where the pharmaceutical industry is represented. Targeting co-payments better on the most price-elastic demand for care (drugs, outpatient care) would also help to contain spending.*

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*The effectiveness of government action should be strengthened*

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Efforts have been made to modernise the administration and enhance the effectiveness of government action. Foremost amongst these is the renovation of federalism, which aims at ensuring that those who decide on outlays also fund them. Rapid implementation of this project, which has been under way for several years, is desirable since it would foster more effective use of public funds thanks to a better division of tasks between the Confederation and the cantons, and better budgetary relations between levels of government. Also, the recent initiative to develop a “culture of effectiveness” in the federal government will help. *This initiative should be coupled with increased use of benchmarking of the cost and effectiveness of government programmes at lower levels of government. For example, the publication of government employment and pay statistics at the federal and cantonal levels, and for major cities, by area of spending would probably help to moderate operating costs. Efforts to catch up in the development of e-government would be another way to foster effectiveness.*

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*A boost to productivity would help halt the relative erosion of living standards*

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Increasing the potential growth rate of the economy, which is among the lowest in the OECD, is the most important and a well-understood challenge. Even taking account of the revenue generated by investment abroad, and of positive terms-of-trade effects, the standard of living has declined in relative terms when compared with Austria, the United States and the average of the large euro area countries at a rate of between ½ and 1% per year over the past 15 years. The lack of dynamism cannot be attributed to a chronic lack of demand as slow growth is a long-standing feature. Rather the phenomenon has structural roots, and it stems above all from meagre productivity growth, even though hours worked by females is also low in international comparison. However, since labour resources are better used than in most other OECD countries, it is primarily faster productivity gains that would halt the erosion of the advantage of Switzerland in terms of living standards.

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*Competition policy has moved up the policy agenda*

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The main reasons for sluggish productivity growth are a lack of competition in sheltered sectors, inefficient product market regulations and high costs of services delivered by the public sector or financed by compulsory contributions. Consumers pay a high price for the lack of competition, with a general price level that is some 40% above the EU average. In the past, reforms aimed at improving the competition framework were narrow and the pace of reform slow. Initiatives were often taken in reaction to developments in the European Union, and reform attempts have sometimes been blocked by popular vote. Potential gains from changes, are, however, likely to be substantial, and competition policy has appropriately moved up the policy agenda. The new Cartel Law gives the Swiss competition authorities important new means to combat restraints and has been brought closer to international standards.

In 2004, the government launched a package of 17 structural policy measures to be implemented during the current legislature in order to raise potential growth. These measures, which include significant advances in the area of competition, go in the right direction and should be implemented in a timely fashion. Major proposals currently examined by the Parliament concern the revision of the Domestic Market Act, which would eliminate the regional and local obstacles to a well-functioning national market and will guarantee the freedom of exercising a profession anywhere in the country. Reforms are also planned in the public procurement market and in network industries, especially in the electricity sector, where liberalisation has been very slow. Internal reform is complemented by the adoption of a comprehensive strategy in foreign economic policy through which deep integration of Switzerland in the world economy is sought. As one of the first elements of this strategy, the authorities are, for example, exploring the possibility of negotiating a free trade agreement with the United States, which would also bolster competition, given that the United States is Switzerland's second largest trading partner.

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*Efforts to strengthen competition should be resolutely pursued*

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There is still much scope to reduce protection and consolidate a culture of competition. In this regard, the adoption of the “Cassis de Dijon” principle to unilaterally eliminate technical barriers to imports is an important initiative, though it should not be undermined by the granting of exemptions. The provisions of the new Cartel Law should be applied vigorously, while the competition framework could be improved further by ensuring the political independence of the members of the Competition Commission and by raising its resources. In network industries, reforms have in general remained slow and their pace should be accelerated, especially in the postal services and the electricity and gas sectors. More rapid opening to international competition in agriculture, which is more heavily subsidised than in any other OECD country, would also help. Finally, price competition could be stimulated, for instance, by making competition of imports of patented products more effective.

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*Preserving a top position in innovation performance would underpin the competitiveness of the economy*

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Due to very high labour costs, Switzerland needs to maintain a top position in innovation performance to preserve its competitiveness and living standard. On balance, its innovation performance has been amongst the best. Among others, the country occupies a top position in knowledge-intensive market services which attracts many people trained in science and engineering and related to this it is also a heavy user of ICT. However, innovation performance has weakened somewhat in recent years. The weakening resulted to some extent from the protracted economic slowdown, but there are areas in which policy reform could strengthen innovation. The increased globalisation of R&D poses a challenge for Switzerland, as multinationals account for an important part of domestic R&D. Moreover, there are signs that innovativeness is lacking in small firms in sheltered service sectors. *Although maintaining the nation’s attractiveness for multinationals remains important, boosting the innovative capacity of SMEs and removing obstacles to their growth should move up the policy agenda. This would require improving conditions for entrepreneurship and better bridging the gap between fundamental and applied research.* Another challenge facing the Swiss innovation system is the growing knowledge economy and increased competition from emerging countries. Due to the emphasis on vocational education, participation in tertiary education is quite low in international comparison. *Efforts to reform the university system and further upgrade average educational attainment should be pursued steadfastly.*

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*Improving framework conditions for entrepreneurship would boost innovation, particularly in very small firms and sheltered sectors*

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Boosting product market competition would go a long way towards raising incentives to innovate, especially in sheltered sectors and by small firms. Moreover, the larger size of the domestic market, due to the removal of local barriers, could stimulate firms to grow in

some sectors. Administrative burdens are also an important obstacle to entrepreneurship, especially due to the lack of co-operation among cantons. The government's initiative to simplify administration goes in the right direction. But more should be done to modernise public administration by increasing the use of information and communication technology. A third obstacle to entrepreneurship is the bankruptcy law which in situations relevant for new undertakings extends *de facto* creditors' claims against a bankrupt entrepreneur indefinitely. Beyond its deterrent effect on the creation of businesses, entrepreneurs are less likely to take risks and may refrain from expanding their activities, in particular if it would require using bank credits. There is therefore a need to reform the bankruptcy law. Finally, equity financing and venture capital still play only minor roles in the financing of new ventures and innovation projects. Although this could reflect low demand, as entrepreneurs want to retain control of their business and refrain from risk-taking, there is room to improve framework conditions for such modes of financing. Current proposals to reduce the double taxation of dividends, and hence the cost of equity financing, could be more ambitious. The government's plan to introduce a tax-transparent company structure for venture capitalists goes in the right direction, while restrictions on pension fund investments in venture capital should be relaxed and initial public offerings facilitated.

#### There is a need to improve tertiary level education

The quite low participation in tertiary education results in a limited domestic supply of scientists and engineers. This is compensated to some extent by large inflows of foreign scientists and engineers and substantial R&D activity in other countries. *However, if Switzerland is to keep its position in the global value chain, there is a need to expand tertiary education, especially at university level.* Significant efforts have already been made by upgrading vocational education at the secondary school level and creating universities of applied sciences which made it possible to conclude vocational education at university level. *This strategy should be pursued by further strengthening vocational curricula and continued reform within and among universities of applied science.* The authorities are currently preparing a reform of the whole university system, which will improve the quality and efficiency of university education – by reducing, for example, the time required to complete studies. Key elements include a consolidation and specialisation of the very fragmented university landscape, the introduction of a standard cost-related education subsidy per student in each field, and the development of quality assessments. While this reform faces resistance from universities, which may have to undergo restructuring, it is necessary nonetheless. The implementation of the Bologna process, which aligns the structure of studies with other European universities, will also put increased pressure on Swiss universities to raise the attractiveness of their studies to both Swiss and foreign students. *In addition to a more efficient use of public resources, more private resources could be tapped. Raising tuition fees for tertiary education should be studied, though the latter should be accompanied by a loan system with income-contingent repayments.* Tuition fees would also contribute to induce quality enhancements in the university system through pressures from students' choices. Another Swiss specificity is the under-representation of women in tertiary education, especially in sciences and engineering. *The incentives facing women to undertake tertiary education may be reduced by limited career prospects; adopting more favourable family-work reconciliation policies could help in this respect. However, specific efforts may also be needed to stimulate women's*

interest in sciences and engineering from an early age, since the share of women in these fields is extremely low in international comparison. Finally, more policy attention should be devoted to lifelong learning, which is key in a knowledge society. Measures such as promoting the recognition of qualifications, creating a time entitlement to adult education and training and providing some financial support would raise participation in such human capital development.

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*Innovation-specific policies are broadly adequate, though more could be done to prioritise resources and develop applied research*

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Switzerland stands out in not providing direct financial support for business R&D. This seems appropriate, given the already very high level of business R&D and hence the risk of large deadweight losses. The country also has a very strong basic research capacity, which is only partly funded by the public sector. One main source of concern is the availability of sufficient public resources for research and the difficulty in fulfilling spending priorities on education and research in recent budgets, due to fiscal consolidation and mandatory increases in social spending. Public funding is important to sustain basic research, which is widely available, and to support the transfer of technology between academics and businesses. To preserve the world-class research and education outputs of several tertiary education institutions in Switzerland, national public funding for research must be given a high priority. Enhanced co-operation at the international level should not endanger national research funding. Beyond this, there is a need to better bridge the gap between fundamental research and the market. This should be achieved through boosting the funding of R&D at public research institutions by substantially increasing the resources of the Commission for Technology and Innovation (CTI). CTI finances R&D for the business sector at Swiss public research organisations according to a public-private partnership model for innovation in products and services. The commission's bottom-up approach to strengthen technology transfers between academics and firms, its coaching services for start-ups as well as its nation-wide education programme for would-be entrepreneurs, go in the right direction.

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*Labour force utilisation could be increased by removing obstacles to female full-time work*

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Beyond efforts to boost productivity, a higher rate of labour utilisation would also raise potential output. Despite very high employment rates, the full-time participation of women in the labour market is hindered by a number of obstacles. Removing these would also help offset the expected decline in labour force growth due to population ageing. Factors that maintain female participation at a low level include the system of joint household taxation, which, combined with a very progressive tax schedule, creates heavy work disincentives for married women. A reform proposal to remove the marriage penalty, if accepted, would exempt 50% of the second labour income from taxation (with a maximum exemption of CHF 55 000). In the longer run, it would be even better to switch to a separate tax regime or at least offer the option of separate taxation, as is the case in most other OECD countries. The second major obstacle is the lack of affordable full-time childcare, both for pre-school and school-age children. Federal efforts to develop care facilities for young children, including out-of-school care, have produced mixed results. The provision of childcare facilities is hindered by the decentralisation of responsibilities to the municipal level,

where coordination is lacking and the economic and tax benefits from increased women's activity are only partly internalised. Similarly, the Confederation has little say on the age of compulsory schooling, the development of early childhood education and schooling hours, which are typically short and non-continuous. A recent proposal to give the Confederation the right to set uniform rules for compulsory schooling (and higher education) if the cantons cannot agree among themselves (and/or with the Confederation) could overcome coordination issues, but it would require a constitutional vote. *Greater involvement of the Confederation, especially by ensuring a better co-ordination across levels of government could also help overcome problems in the provision of early childhood education and care. Moreover, the supply and quality of childcare could be more effectively raised and the matching with parents' needs could be improved by redirecting part of the public funding for childcare from the suppliers to the parents. Efforts should focus on raising the provision of childcare rather than increasing child benefits further, since these tend to reduce labour supply by mothers and poverty levels are relatively low.*

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*The authorities should be careful not to reduce labour market flexibility*

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The signing of an agreement for the free movement of persons with the EU and its extension to new member countries should allow Switzerland to reduce labour shortages during cyclical peaks, and import high- and low-skilled labour complementary to the domestic labour force, thereby somewhat reducing the risk of delocalisation of firms. However, the opening will be gradual and until at least 2014 Switzerland retains the right to re-impose quotas. Because of this, and because incentives to migrate will diminish as living standards in Eastern European countries catch up, the agreements are not expected to lead to large migration inflows. However, even though only small inflows are expected, measures were introduced to avoid social dumping, such as the possibility to impose minimum wages and/or extend collective agreements. *The various measures protecting incumbents should be used with care in order not to undermine the flexibility of the labour market.*

## Chapter 1

# Key policy challenges

Switzerland suffers from low growth in production and per capita income and has to confront medium- to long-term fiscal management issues. This situation is only partly related to poor cyclical developments in Europe as trend growth has also been slowing. Moreover, in the absence of a significant pick-up in efficiency, trend output growth will diminish further due to population ageing, inducing growing fiscal pressures. In this context, the authorities face two key policy challenges: i) Raising growth performance. The most immediate challenge is to foster the recovery, following the recent weakening of activity. In the longer run, raising potential growth will require improving labour utilisation and, more importantly, boosting productivity. Increasing competition is essential, while maintaining a strong innovation performance, which has weakened somewhat, is also important. ii) Controlling public spending better. The inadequate control of public spending since the early 1990s has triggered a sharp rise in taxation and rising public debt. Problems to be tackled include deficiencies in the fiscal framework, insufficient control of social spending and a lack of efficiency in some other government programmes.

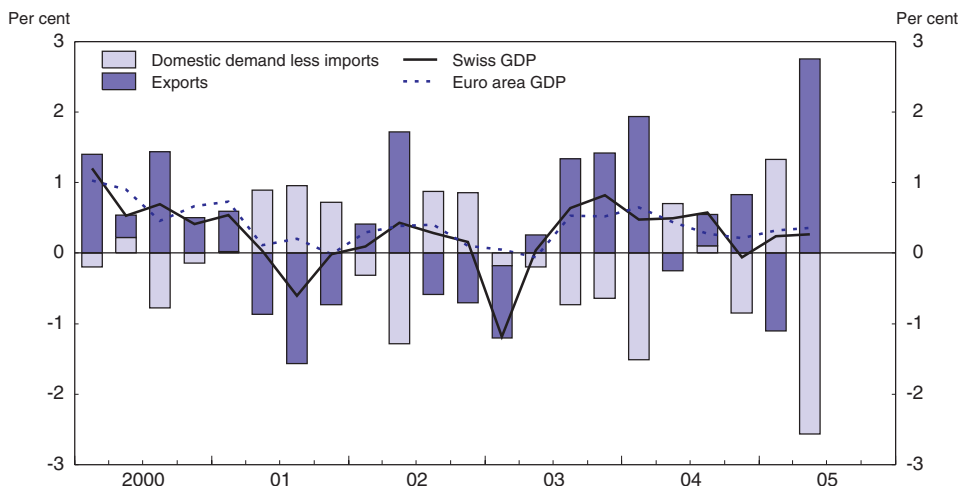
The government has acknowledged the need to boost growth performance. A wide-ranging reform programme, called “Series of reforms to boost growth” (Annex 1.A1) was launched in early 2004 and is currently being implemented. Stronger growth would ease fiscal management problems, but would not be sufficient as government spending dynamics are very strong. While there are also reforms underway concerning social programmes and initiatives taken to raise government efficiency, there is less of a holistic approach and the public is less aware of the need for deep reforms. This chapter reviews recent macroeconomic performance and prospects and assesses the macroeconomic policy stance. It then highlights the medium-term fiscal policy challenges. Finally, the main structural policy challenges relating to closing the productivity gap and raising labour utilisation are considered.

## Recent trends, short-term prospects and macroeconomic policy

### ***With the economic situation in Europe weakening, the recovery came to a halt***

Since the last quarter of 2004, the Swiss economy has slowed again – for the third time in less than five years (Figure 1.1). It is the result of a pronounced downturn in foreign markets in late 2004 and early 2005, especially affecting the main European markets, against a background of rising oil prices and a falling dollar. This interrupted the fragile upturn, which had been pulled by a pick-up in exports and investment since mid-2003.

Figure 1.1. **Contributions to real GDP growth**  
Change relative to previous quarter



Source: OECD, Economic Outlook 78 database.

In contrast with the previous episodes, this slowdown did not, however, result in a recession. A very easy monetary stance from early 2002 bolstered investment, especially



residential construction (Table 1.1), and was underpinned by strong growth of mortgage lending and rising property prices.<sup>1</sup> Business profitability, coupled with the fall in the cost of credit, also underpinned capital goods investment. Spending growth was less buoyant in civil engineering and public consumption too showed little vigour. On the other hand, the international competitiveness of the economy has been preserved despite the fall in the dollar recorded up until late 2004. Over the last two years, exports have developed favourably, even though losses of market shares have continued,<sup>2</sup> and industrial activity has remained quite brisk.

**Table 1.1. Recent trends**  
Year-on-year percentage changes, volume (2000 prices)

	Average 1991-2000	2001	2002	2003	2004	2004	2005	2005
						Q4	Q1	Q2
Private consumption	1.3	2.0	0.0	0.8	1.4	0.8	0.9	1.4
Government consumption	1.1	4.2	1.7	2.2	1.4	0.2	0.2	0.9
Gross fixed investment	1.0	-3.1	0.3	-1.4	3.3	1.0	0.2	3.2
Construction	-1.0	-3.4	2.1	1.8	4.1	0.6	-3.5	6.9
Machinery and equipment	2.9	-2.9	-1.1	-3.8	2.6	1.4	3.5	0.1
Final domestic demand	1.1	1.0	0.2	0.5	1.8	0.8	0.7	1.8
Total domestic demand	0.7	2.3	-0.4	0.4	1.0	0.1	2.4	0.2
Exports of goods and services	4.3	0.2	-0.7	-0.5	9.0	6.5	-0.2	6.2
Imports of goods and services	3.9	3.1	-2.5	1.2	7.5	4.0	2.4	5.2
Net exports <sup>1</sup>	0.3	-1.3	0.7	-0.7	1.1	1.4	-1.2	0.8
<b>Gross domestic product</b>	1.1	1.0	0.3	-0.3	2.1	1.5	1.3	1.0
Output gap	-1.1	1.1	0.1	-1.9	-1.1			
GDP price deflator	1.4	0.6	1.6	1.2	0.5	0.7	1.3	0.9
Private consumption deflator	1.7	0.4	1.7	0.6	1.1	1.4	1.8	1.6
Employment	0.3	1.6	0.4	-0.2	0.2	0.0	-0.4	0.3
Productivity	0.7	-0.6	-0.1	-0.1	1.8	1.5	1.7	0.7

1. Contributions to changes in real GDP (percentage of real GDP in previous year).

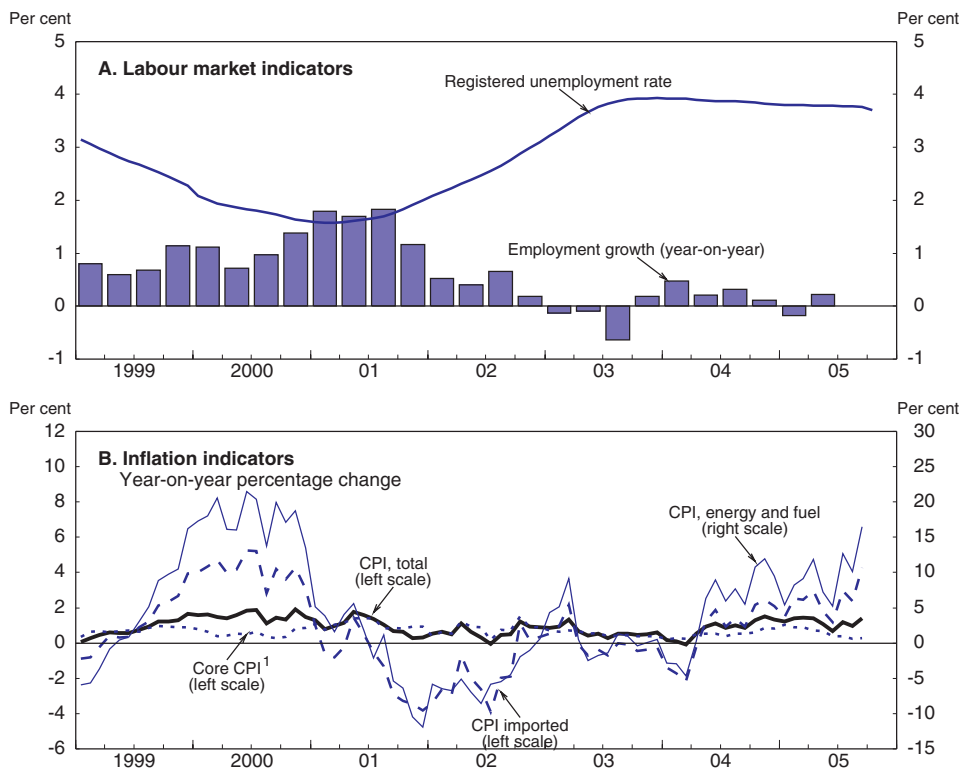
Source: OFS.

### **The labour market has remained weak and inflation very low**

Despite an easy monetary policy stance, domestic demand has remained sluggish because of lacklustre private consumption. This mainly reflects the slow growth of household incomes, as households do not appear to have suffered a loss of confidence and the saving ratio has remained flat. Real wages rose by only 0.4% in 2004 and increased at a very moderate pace in 2005. Employment growth has also been very modest since 2003 and the unemployment rate has stayed at around 4% for the past two years (Figure 1.2). The sluggishness of recruitment, which was initially concentrated in industry, affected services in the first half of 2005. Because of rising oil prices, uncertainties about the prospects of the euro area economy, and uncertainty about the exchange rate against the dollar, firms have adopted a cautious hiring stance. This attitude has also enabled them to restore their margins following the surge in wage costs in 2001-02, and this despite the rise in energy costs in the past two years.

Against this background, inflationary pressures have remained very limited despite the energy price hike (Figure 1.2). The rise in the consumer price index, which was virtually zero in early 2004, was fluctuating around 1¼ per cent year-on-year between January and

Figure 1.2. Labour market and inflation indicators



1. CPI less food, beverage, tobacco, seasonal products, energy and fuel.

Source: SNB, Monthly Statistical Bulletin; OECD, Main Economic Indicators and Economic Outlook 78 database.

October 2005. Underlying inflation eased. It stood at about  $\frac{1}{4}$  per cent in October 2005, down  $\frac{3}{4}$  of a percentage point since the start of the year largely reflecting the persistence of a negative output gap of about 1% of GDP.

### Activity is showing signs of picking up in the short term...

Business surveys and forward indicators suggest that the sluggishness of activity in early 2005 should give way in the second half to brisker activity, which suggests that the cyclical trough has passed. However, this overall appraisal masks sectoral disparities which emphasize the persisting fragility of the economic situation. Growth should firm up in industry. The appreciation of the dollar since early 2005 stimulates exports which had already picked up in the second quarter of 2005, reflecting the economy's competitiveness. Business trends are also fairly positive in the financial sector and the outlook for construction remains favourable. In civil engineering, however, the situation remains more sombre because of the spending limits imposed on public finances, while private consumption is also subdued though most recent retail trade data have improved. Despite an overall assessment of the outlook which is reasonably positive, firms are likely to continue to adopt a wait-and-see attitude towards hiring in the short term. The labour market is unlikely to improve markedly in the short term, while capacity utilisation rates are still relatively low.

### ... but the recovery is likely to be moderate and depend on that of the euro area

While activity should gradually firm from the second half of the year, GDP growth is likely to be limited to about 1¼ per cent in 2005, which is close to potential growth (Table 1.2). With an easy monetary policy and the positive effects of the rise in the dollar since early 2005, the economy should gain traction gradually thereafter and GDP growth could reach 1¾ per cent in 2006 and 2007 thanks to the increased buoyancy of the external environment and investment, which will lead to a gradual improvement in employment and private consumption. In this context, a fall in unemployment, which would mainly be felt as of mid-2006, ought not to cause inflationary pressures, even if energy prices remain high.<sup>3</sup> With the output gap gradually closing, inflation should remain very moderate and decline below 1% as the impact of the high oil price on headline inflation vanishes. The recovery could be dented by increased international uncertainty due to heightened pressure on the oil market. The mechanical impact of a further rise in oil prices on growth should be relatively moderate in Switzerland.<sup>4</sup> Nevertheless, such a shock could well weaken consumer and business confidence and delay again the recovery in Europe and hence in Switzerland.

**Table 1.2. Short-term prospects**  
Percentage changes, volume (2000 prices)

	2001		2002	2003	2004	2005	2006	2007
	Current prices, CHF billion	% of GDP						
<b>Demand and output</b>								
Private consumption	254.3	60.6	0.0	0.8	1.4	1.4	1.2	1.7
Government consumption	48.1	11.5	1.7	2.2	1.4	1.0	0.2	0.5
Gross fixed investment	91.9	21.9	0.3	-1.4	3.3	2.6	3.5	3.3
Construction	39.1	9.3	2.1	1.8	4.1	3.7	3.0	2.5
Machinery and equipment	52.7	12.6	-1.1	-3.8	2.6	1.7	4.1	4.2
Final domestic demand	394.3	93.9	0.2	0.5	1.8	1.6	1.6	1.9
Stockbuilding <sup>1</sup>	6.0	1.4	-0.6	-0.1	-0.8	-0.6	-0.1	0.0
<b>Total domestic demand</b>	400.3	95.4	-0.4	0.4	1.0	1.0	1.4	1.9
Exports of goods and services	190.3	45.3	-0.7	-0.5	9.0	5.0	7.7	7.1
Imports of goods and services	170.9	40.7	-2.5	1.2	7.5	5.2	8.2	8.1
Foreign balance <sup>1</sup>	19.4	4.6	0.7	-0.7	1.0	0.2	0.2	-0.1
<b>GDP at constant prices</b>			0.3	-0.3	2.1	1.2	1.7	1.8
GDP price deflator			1.6	1.2	0.5	0.8	1.0	0.9
GDP at current prices	419.7	100.0	1.9	0.9	2.6	2.0	2.7	2.8
<i>Memorandum items:</i>								
<b>Consumer price index</b>			0.6	0.6	0.8	1.2	1.2	0.8
<b>Unemployment rate (level)</b>			3.1	4.1	4.2	4.1	3.9	3.4
Potential output, whole economy			1.4	1.3	1.2	1.2	1.4	1.4
Output gap, whole economy			-0.2	-1.8	-0.9	-1.0	-0.7	-0.2

1. Contributions to GDP growth.

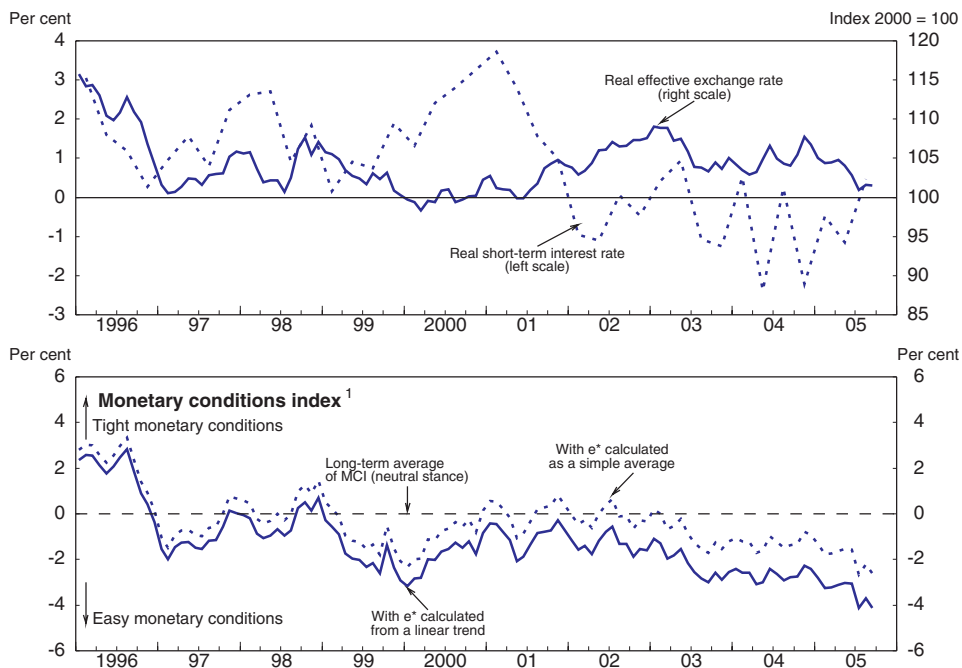
Source: OECD, *Economic Outlook 78* projections.

### Maintaining very accommodating monetary conditions in the short term is appropriate

The Swiss National Bank (SNB), the major goal of which is to ensure price stability (defined by the SNB itself as price inflation of less than 2 per cent and avoiding deflation), has pursued an expansionary monetary policy in the present context of no price pressures

and sluggish activity. An inflation forecast with a three-year horizon is used as main indicator to set interest rates at the right level to ensure the price stability in the medium term. The SNB's operating target is the 3-month LIBOR rate, which can move within a range of usually 100 basis points). This 3-month LIBOR, which has been fluctuating around 0.75% since autumn 2004, has remained significantly below 1% since July 2002 (it was kept as low as 0.25% between March 2003 and June 2004) and has been negative in real terms for more than three years (Figure 1.3). A period of negative real interest rates of that length has not been seen for 25 years. The present level of short-term interest rates is close to the low end of what a Taylor rule<sup>5</sup> would suggest, while the level of long-term interest rates is also very low – less than 3% in nominal terms since end-2002. Monetary policy has operated in an environment of exchange rate stability. The exchange rate against the euro has fluctuated between CHF 1.52 and 1.57 since the first quarter of 2003. As inflation was lower than that of the main partner countries, the Swiss franc did not appreciate in real terms despite the weakening of the dollar up until end-2004. The real effective exchange rate has even fallen slightly since then following the dollar rise. All in all, a monetary conditions index suggests that the relaxed nature of monetary policy became slightly more pronounced in the first half of 2005.

Figure 1.3. Indicators of monetary policy



1. The MCI is defined as  $MCI = (r - r^*) + (e/e^* - 1) * w$ , where  $r$  is the real (CPI deflated) three-month LIBOR rate,  $r^*$  the long-term average of  $r$ ,  $e$  the real effective exchange rate (CPI based) and  $w$  is the weight of the exchange rate deviation from its average. It is set at  $1/3$ . The observed upward trend of the real exchange rate in Switzerland seems to have come to an end since the mid-90s. Therefore, the MCI has been estimated by two methods: i) using the deviation of the real exchange rate from its (linear) trend  $e^*$ ; and ii) without the trend correction. A negative MCI implies easy monetary conditions (relative to the long-term average, calculated over the 1980-2005 period).

Source: OECD, Main Economic Indicators and Economic Outlook 78 database.

Following its September 2005 review of the economic and monetary situation, the SNB decided to continue with an easy policy stance by keeping the 3-month LIBOR fluctuation

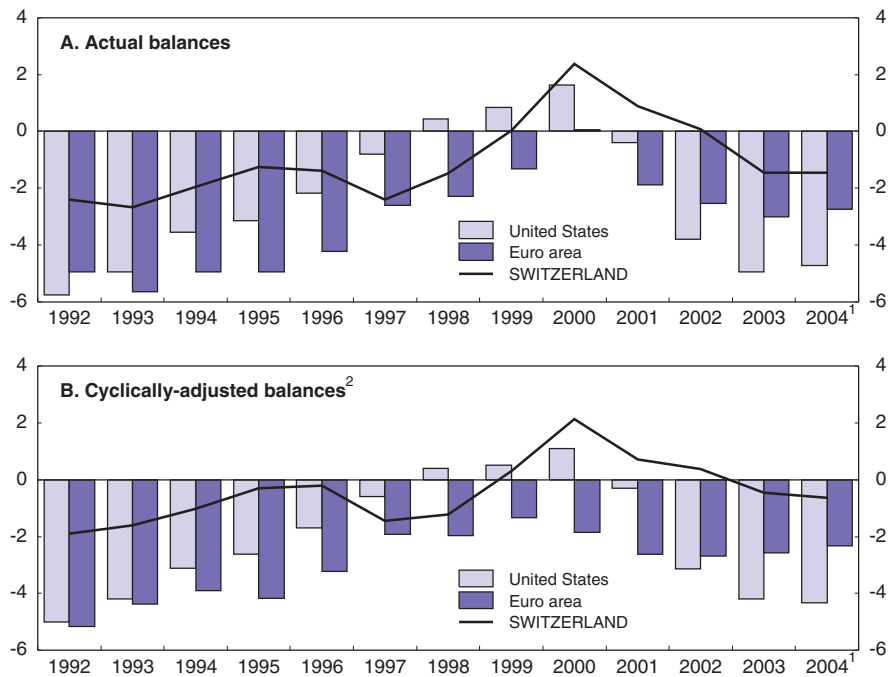
bands unchanged at 0.25-1.25%. The Bank feels that the expected strengthening of activity is not a threat to price stability despite high oil prices, while there is still considerable uncertainty about the upturn in Europe. Assuming the 3-month LIBOR is kept at its present level the SNB expects inflation to fall from 1.2% in 2005 to 0.8% in 2006. However, inflation could subsequently pick up sharply, reaching 2.4% in the first half of 2008 and exceeding the 2% upper limit associated with the definition of price stability as a result of capacity constraints. Hence, some tightening will be needed once the robustness of the recovery is confirmed even though the Bank also pointed out that it would react in the appropriate manner if the Swiss franc were to appreciate rapidly.

Persisting with an easy monetary policy stance is fully justified by the weakness of inflationary pressures, despite high energy prices, and the uncertainty still surrounding the strength of the recovery. Even if there is no doubt about the need to move gradually towards more neutral monetary conditions as the economy picks up again, it is important not to rush into any change in direction, as the SNB acknowledges. The Bank still has some time to stem incipient inflationary pressures and its strong credibility is an asset in terms of keeping inflation expectations low. The magnitude of the pressures of demand on inflation could, moreover, be moderated by the opening up of the economy (for instance the implementation of the bilateral agreement with the European Union) and also the gradual introduction of the various measures aimed at liberalising the goods and services market. The timing and magnitude of these changes is currently unclear and may have only a gradual effect over the medium-term. The OECD projections assume a gradual rise in short-term rates towards more neutral conditions as of early 2006.

### ***Having been broadly neutral in 2004 and 2005, fiscal policy is likely to tighten as of 2006***

The fiscal situation has worsened at all levels of government since 2000, but deficits have remained more moderate than in the euro area on average and in the United States. They widened to about 1½ per cent of GDP in 2003 and 2004 from a surplus of almost 2½ per cent of GDP in 2000 (exceptional year) and 1 per cent in 2001 (Figure 1.4). As the deterioration was partly structural, particularly at the federal level (end of the financial cycle), the authorities embarked on a medium-term consolidation strategy for the Confederation. It was decided to eliminate the federal government's structural deficit, in accordance with the "debt containment" rule. Since 2003, the rule would have required that the federal accounts be kept permanently in balance by means of an expenditure-capping mechanism.<sup>6</sup> However, in view of the impossibility of applying this rule to the letter without running the risk of penalising activity, the authorities decided to raise the spending ceiling between 2004 and 2006, so as to initially stabilise the federal structural deficit at its 2003 level (¾ per cent of GDP) and then gradually eliminate it between 2005 and 2007, the aim being to apply debt containment thereafter.<sup>7</sup> Parliament adopted a consolidation programme (1.1% of GDP) which was based mainly on reductions in expenditure spread between 2004 and 2008. The initially neutral and then gradually more restrictive fiscal stance is likely to be similar for government as a whole.<sup>8</sup> The launch of a number of reform projects aimed at remedying the structural weakening of the social security accounts, especially where disability is concerned, is unlikely to be felt before 2008. Likewise, although there is little information on the fiscal strategy of the cantons and communes, it is probable that these governments will gradually reduce their budget deficits as from 2006 following the deterioration recorded since 2000.

Figure 1.4. **Fiscal balance of general government**  
As a percentage of GDP



1. Estimates.

2. The cyclically-adjusted balances estimated by the OECD on the basis of national account series do not take into account the corrections for irregular non-cyclical components related to asset price fluctuations which have induced a strong rise in tax receipts in the early 2000s.

Source: OECD, Economic Outlook 78 database and N. Girouard and C. André (2005), "Measuring cyclically-adjusted budget balances for OECD countries", *OECD Economics Department Working Papers*, No. 434, Paris.

The implementation of fiscal policy yielded better-than-expected results in 2004 at all levels of government. The overall deficit, at 1.3% of GDP, was in fact 1¼ per cent of GDP less than forecast, mainly because activity was more robust than expected (Table 1.3).<sup>9</sup> This led to a cyclical improvement in the overall budget balance, while according to OECD estimates, the cyclically-adjusted budget deficit remained stable at around ½ per cent of GDP in 2004. A slight structural deterioration of the social security budget was recorded, though, because of further slippage in the disability insurance accounts and the fall in unemployment insurance contributions scheduled under the reform adopted in 2002. The federal deficit, on the other hand, was cut by ¼ per cent of GDP compared to 2003 and was almost ½ per cent of GDP lower than the budget forecast thanks to both robust revenues and good control over expenditure. This favourable outcome also reflects a slight reduction in the structural deficit, although the main impact of the federal consolidation programme is not expected to be felt before 2005.

The 2005 deficit target (0.4% of GDP) for the Confederation's financial accounts means that the balance will be stable at the 2004 level and should be achieved or even slightly improved on, despite unfavourable conditions. The increase in revenues, which had been established on the basis of a 2.3% real growth assumption, will probably be lower than forecast. The authorities maintain, however, that lower receipts should be offset by strict spending control which, as in 2004, is being helped by lower than expected interest payments. Cantonal fiscal outcomes may also be a little better than forecast, even if cantonal deficits are likely to increase in 2005. Also the social security accounts are expected to worsen again.

Table 1.3. Government accounts

	Outcomes				Estimates	Budget			Financial plan		
	2000	2001	2002	2003	2004	2004	2005	2006	2007	2008	2009
<b>Confederation<sup>1, 2</sup></b> (CHF millions)											
Expenditure	48 208	51 140	51 927	51 284	51 535	53 048	54 059	54 222	55 248	58 056	60 447
Revenue	51 994	49 440	47 728	47 511	48 945	48 233	51 018	52 445	54 607	58 189	61 160
Balance	3 786	-1 700	-4 199	-3 773	-2 590	-4 815	-3 041	-1 777	-641	133	712
<b>Cantons</b> (CHF millions)											
Expenditure	60 194	63 899	66 591	67 946	69 000	69 700	69 500	71 650	72 600	74 600	74 600
Revenue	62 818	65 191	66 290	65 731	67 600	67 300	66 800	69 500	71 000	73 700	73 700
Balance	2 624	1 291	-301	-2 215	-1 400	-2 400	-2 700	-2 150	-1 600	-900	-900
<b>Municipalities</b> (CHF millions)											
Expenditure	40 599	41 709	42 498	44 131	45 250	45 200	45 900	47 000	48 000	48 750	48 750
Revenue	42 068	43 033	43 651	44 123	44 850	44 300	45 200	46 100	47 200	48 050	48 050
Balance	1 469	1 324	1 153	-8	-400	-900	-700	-900	-800	-700	-700
<b>Compulsory social security<sup>3</sup></b> (CHF millions)											
Expenditure	41 037	42 842	44 994	48 537	49 609	50 077	51 440	52 070	52 950	53 384	55 742
Revenue	42 319	42 102	43 163	48 485	48 122	47 249	48 271	49 143	50 887	53 848	56 200
Balance	1 282	-740	-1 831	-52	-1 487	-2 828	-3 169	-2 927	-2 063	464	458
<b>Consolidated account of general government<sup>4</sup></b> (CHF millions)											
Expenditure	149 948	157 422	163 687	167 981	170 765	173 880	175 100	178 099	180 182	184 429	188 577
Revenue	159 108	157 597	158 510	161 932	164 888	162 937	165 490	170 345	175 078	183 426	188 148
<b>Balance</b>	<b>9 161</b>	<b>175</b>	<b>-5 177</b>	<b>-6 049</b>	<b>-5 877</b>	<b>-10 943</b>	<b>-9 610</b>	<b>-7 754</b>	<b>-5 104</b>	<b>-1 003</b>	<b>-430</b>
<b>Balance</b> (% of GDP)											
Confederation	0.9	-0.4	-1.0	-0.9	-0.6	-1.1	-0.7	-0.4	-0.1	0.0	0.1
Cantons	0.6	0.3	-0.1	-0.5	-0.3	-0.5	-0.6	-0.5	-0.3	-0.2	-0.2
Municipalities	0.4	0.3	0.3	0.0	-0.1	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1
Compulsory social security	0.3	-0.2	-0.4	0.0	-0.3	-0.6	-0.7	-0.6	-0.4	0.1	0.1
<b>Consolidated general government</b>	<b>2.2</b>	<b>0.0</b>	<b>-1.2</b>	<b>-1.4</b>	<b>-1.3</b>	<b>-2.5</b>	<b>-2.1</b>	<b>-1.7</b>	<b>-1.1</b>	<b>-0.2</b>	<b>-0.1</b>
Consolidated general government, NA basis	2.4	0.9	0.1	-1.5	-1.3						
<b>Debt</b> (% of GDP)	49.9	50.5	54.5	55.5	55.6	56.7	54.0	53.1	51.3	49.3	47.6

1. Includes railway infrastructure financing fund and Swiss Federal Institutes of Technology.

2. Without revenues from Swisscom share sales (CHF 3.7 billions) in 2002. For 2004, the reserves for the ETH, Swiss Post and Skyguide (CHF 1.07 billion) and the equity capital injection to Skyguide (CHF 50 million) are not included in the expenditure.

3. Social security includes old age, disability, survivors' protection scheme as well as unemployment and income loss insurance. Following ESA95, the Swiss accident insurance is no longer part of this sector.

4. Double counting not included in the total.

Source: Administration fédérale des finances.

Another important factor regarding the public finances in 2005 has been the transfer of the proceeds of the SNB's gold sales to governments amounting to 4.7% of GDP, with two-thirds accruing to the cantons and one-third to the Confederation. The Confederation indicated that it will use its share to reduce debt, even though the decision whether to reduce the federal gross debt, the debt of the disability insurance system or to increase the assets of the old-age pension scheme has not yet been made. The cantons, which are free to decide on what use to make of these funds, will probably also opt to reduce their indebtedness, although some cantons are also discussing the financing of new expenditure. However, allowing for these exceptional revenues ought not to affect the general government balance in 2005. It could again prove better than forecast even if, at

1¼ per cent of GDP, it could be ½ per cent of GDP worse than in 2004. As this deterioration is mainly owing to rising cyclical slack, fiscal policy should be close to neutral in 2005.

The broad lines of the draft federal budget for 2006 and the Confederation's new 2007-09 financial plan were put before Parliament over the summer. For 2006, the authorities are forecasting a deficit of 0.2% of GDP, which is consistent with the consolidation programme. Also, under the 2007-09 financial plan, the federal structural deficit should be eliminated by 2007 and a small budget surplus is also planned in 2008 and 2009, in line with the requirements of the debt containment rule. The deficit reduction is based on stable growth of 1.8% (3.3% in nominal terms) and involves curbing the rise in expenditure. The latter should not exceed 0.6% in nominal terms in 2006, but is likely to accelerate to 4.3% per year between 2006 and 2009. The more rapid rise as of 2006 will be due to the scheduled, early 2008 increase in VAT to fund the disability insurance scheme whose additional receipts will result in increased federal expenditure because of the financial overlap of the federal and social accounts. Apart from these transfers, the increase in federal expenditure is limited to 2.2%, i.e. less than nominal GDP growth. There is little information about the other levels of government, but the slightly restrictive impetus of the federal finances, is unlikely to be called in question by financial trends in the cantons and communes. The balance of the social security schemes should improve slightly as a result of the expected rebound in growth and, in 2008, the scheduled increase in revenues. All told, the neutral stance of fiscal policy in 2004 and 2005 is therefore likely to take a more restrictive turn as of 2006. That said, the tightening in 2006 will be very moderate.<sup>10</sup>

***But the medium-term health of the public accounts does not appear to be guaranteed***

There are a number of reasons to believe that the Confederation's 2007-09 financial plan is somewhat optimistic. *First*, the 1.8% growth assumption is some ½ percentage point higher than potential growth and looks a little strong. *Second*, some additional costs, relating for example to the financing of new infrastructures and possibly the recapitalisation of some public pension funds, are not included in the financial plan. According to the authorities, these non-recurrent outlays could amount to about 1.1% of GDP (Merz, 2005). *Third*, the Confederation faces additional spending risks, including an initiative to raise family benefits, which could involve extra costs of up to CHF 600 million per year. In this connection, it is important to avoid financing new spending – especially at cantonal level – out of the exceptional revenues deriving from the SNB's gold sales. This operation will, moreover, result in a reduction in the Bank's future transfers to government. The plan is also based on a 0.8 percentage point increase in VAT in 2008. However, this has to be put to a referendum and has prompted opposition, including from some parties in the government, even though it appears to be a necessity to solve the financial problems facing disability insurance. All in all, it would seem that balancing the public finances in the medium term cannot be guaranteed without raising taxes, if spending control is not improved and the economy's growth potential raised.

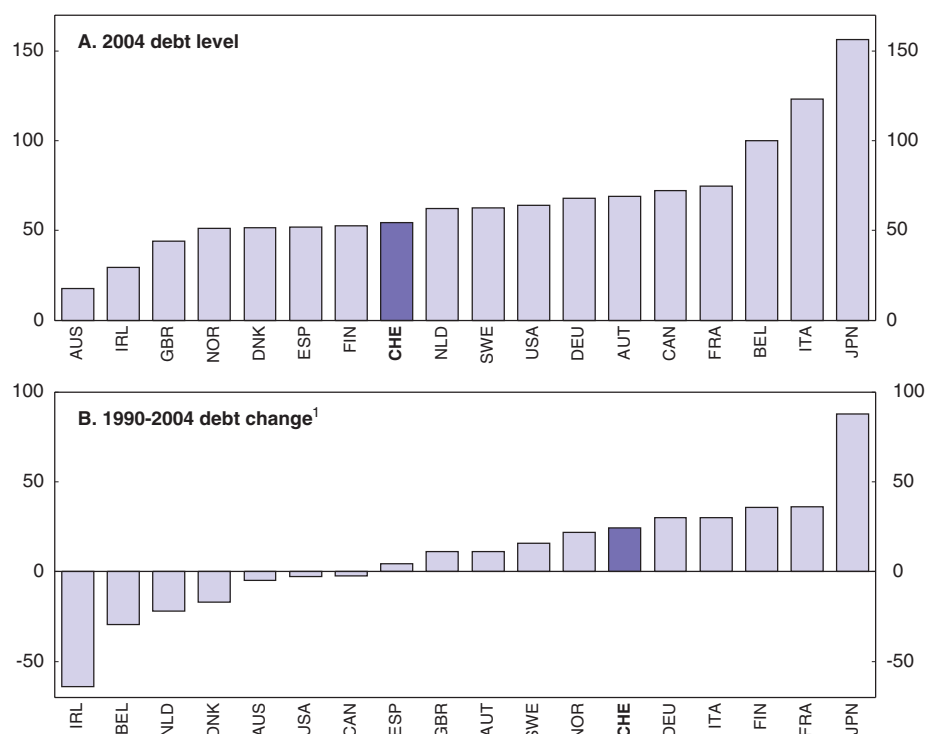
**Better control over public spending is needed...**

While government deficits have remained limited despite the economy's weak performance since the early 1990s, the fiscal situation has deteriorated significantly. Public debt has risen by more than 25% of GDP in fifteen years – a sharp increase in international comparison (Figure 1.5). While the rise is only partly attributable to the cumulative effect of government deficits,<sup>11</sup> and although indebtedness has remained moderate in international



Figure 1.5. **The public finances in international perspective**

In per cent of GDP



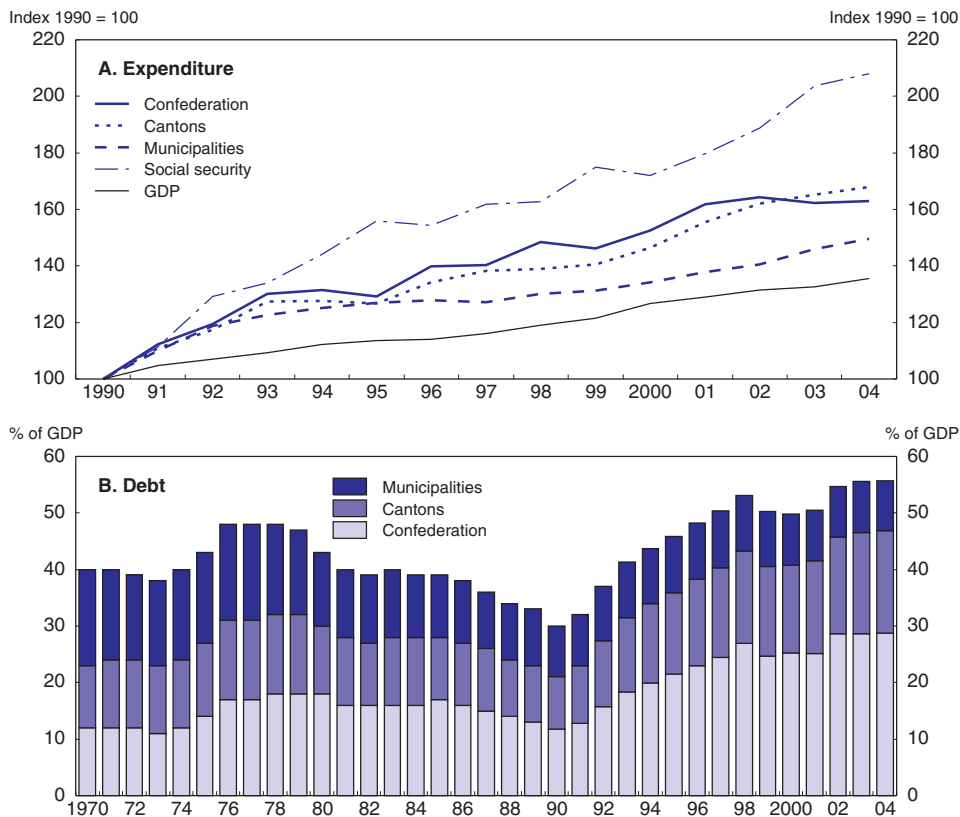
1. 1991-2004 for Germany.

Source: OECD, Economic Outlook 78 database.

comparison, the upward trend in government spending and taxation is worrying. Spending by all government levels has outpaced GDP. The sharpest rises were recorded by social security programmes, but the increase has affected the municipalities as well, even though municipalities have done a better job of keeping spending in check than either the Confederation or the cantons (Figure 1.6).

The surge in government spending stems only in part from a cyclical deterioration of unemployment-related benefits, as social assistance and disability allowances expanded swiftly as well. The rise in disability and unemployment outlays is largely due to the greater number of disability pensioners, rising structural unemployment, as well as a greater generosity of the unemployment scheme.<sup>12</sup> Apart from national defence and investment, all expenditure items have outpaced GDP growth since 1990 (Figure 1.7). Moreover, government spending has scarcely declined as a percentage of production, even during periods of brisk growth, as between 1997 and 2002. In addition, the true extent of pressures on expenditure and compulsory levies, as gauged from government accounts, tends to be underestimated. A large portion of social expenditure (on health care and occupational benefits) is financed by compulsory contributions to mutual funds or private insurance companies, and these outlays and contributions, which are excluded from the scope of general government, rose rapidly as well. While the burden of levies in the narrow sense has risen by 4% of GDP since 1990, aggregate levies rose by approximately 6% – a steeper rise than in most other OECD countries (Figure 1.8). Accordingly, the level of compulsory levies would now appear to be at the OECD average (Figure 1.9).

Figure 1.6. Public finances by level of government



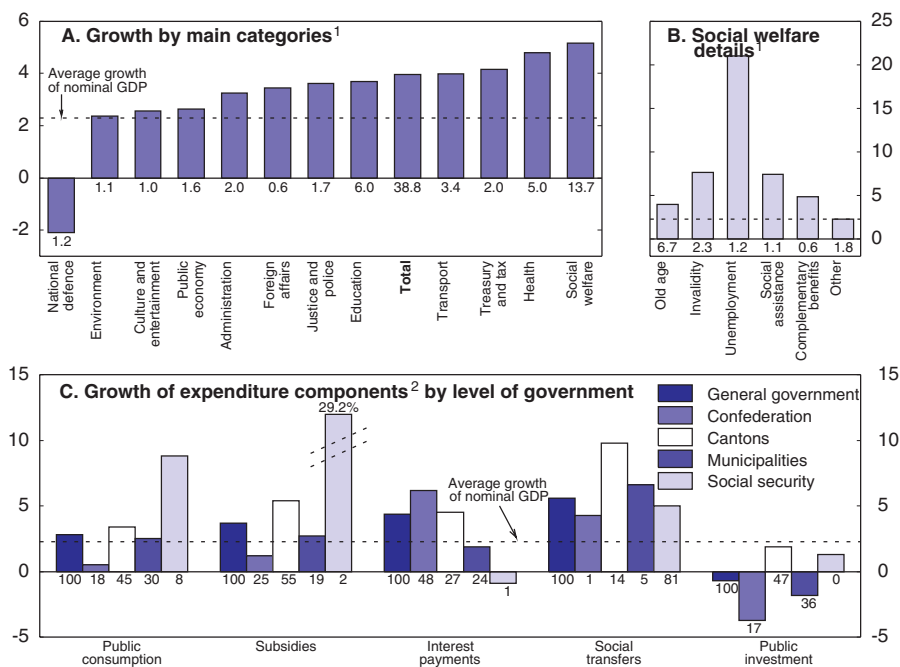
Source: Administration fédérale des finances, "Statistique financière révisée".

This pronounced expansion of the public sector and of compulsory levies is seen by a number of observers as the main contributor to weakening economic growth (Kohli, 2005). Even if the link between the size of the public sector and growth is difficult to prove empirically, it is hardly likely that the sharp rise in public spending has been conducive to a strengthening of growth potential (Box 1.1). The most productive expenditure items (on capital investment and education) have in fact increased less than other outlays. The rapid expansion of medical care, which has been accompanied by sharply rising employment in the health care sector, where productivity gains have apparently been modest, also contributed to lower the economy's productivity growth and may have crowded out other components of demand due to a squeeze on household income through rising health insurance premiums. In addition, rising government spending has left little leeway for carrying out tax reforms. Moreover, it would seem difficult to justify the rise in government spending by changing demographics. The ratio of pensioners to the labour force has remained stable since 1990 and is not expected to increase until 2010.

As in the other OECD countries, the demographic outlook will lead to upward pressures on pensions and medical and social services from 2010 onwards, and trend growth is likely to deteriorate in the absence of sharper productivity gains. It will prompt growing difficulties for the financing of the welfare system and for the government's budget priorities in the realms of training and research. Reforms are therefore needed to tighten control over spending and ensure that public finances are sound, as the government acknowledges.

Figure 1.7. **Public expenditure growth by type**

Average 1990-2002, per cent



1. Each expenditure share in GDP is indicated below its bar.

2. The share in the general government for each type of component by level of government is indicated below its bar.

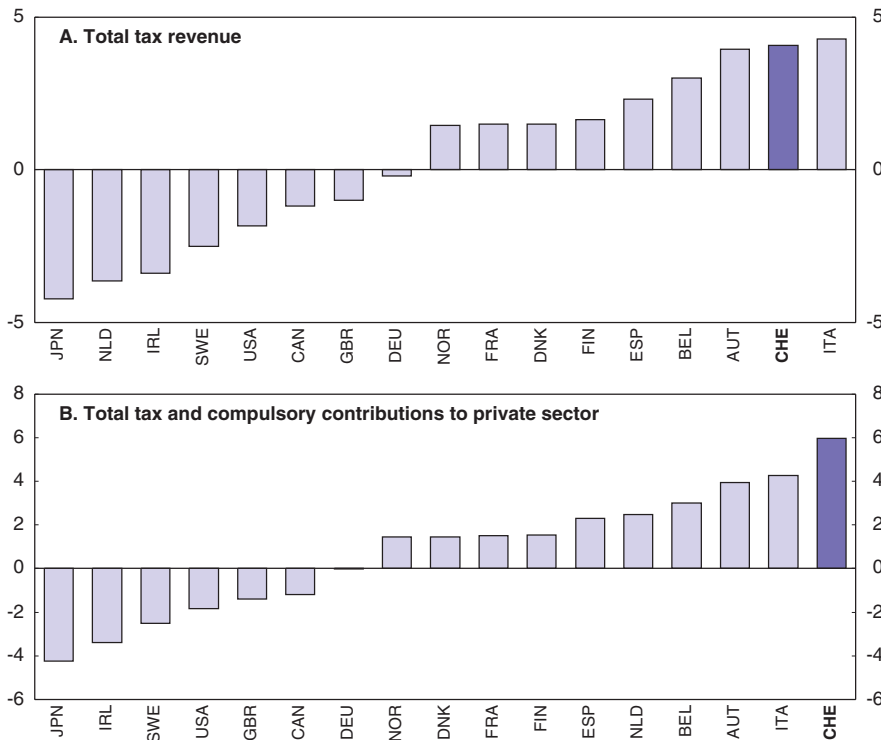
Source: Administration fédérale des finances, *Finances publiques en 2002*; *Statistique des assurances sociales en 2004*.

### ... and this requires further efforts to improve the fiscal policy framework...

The difficulties in controlling public spending highlight deficiencies in the fiscal policy framework, despite the recent efforts to improve it. *Inter alia*, these efforts involve the plans to overhaul the federal system of fiscal relations thanks to a rationalisation of financing and of the division of tasks between the Confederation and the cantons. For instance, the new “debt containment” rule adopted at the federal level has already faced implementation problems. Furthermore, scant progress has been made in controlling social and medical spending because of strong popular reticence over the proposed reforms. At the end of 2003, the parliament abandoned a reform of health insurance, which would have tightened control over spending, because of the prospect of rejection by the population. The 11th revision of basic pensions (AVS), which was to ensure the system’s funding until 2015, was also rejected by referendum in May 2004. The cantons are also having a hard time keeping spending in check, despite institutions that are in theory conducive to sound management of public finances, such as the control exerted by direct democracy, tax competition, and frequent use of fiscal rules.

The current fiscal framework is insufficiently transparent, which impairs the understanding of fiscal problems by the public and the population’s awareness of the need for reforms, although it is indispensable in a system of direct democracy. Moreover, the highly interdependent relations between the various levels of government, especially between social security on the one hand, and the Federation and cantons on the other hand, significantly complicate consolidation efforts. This raises fears that the initial difficulties encountered when debt containment was introduced will become recurrent,

Figure 1.8. **Variation of taxes and fees in OECD countries**  
In percentage points of GDP, 1990-2004<sup>1</sup>



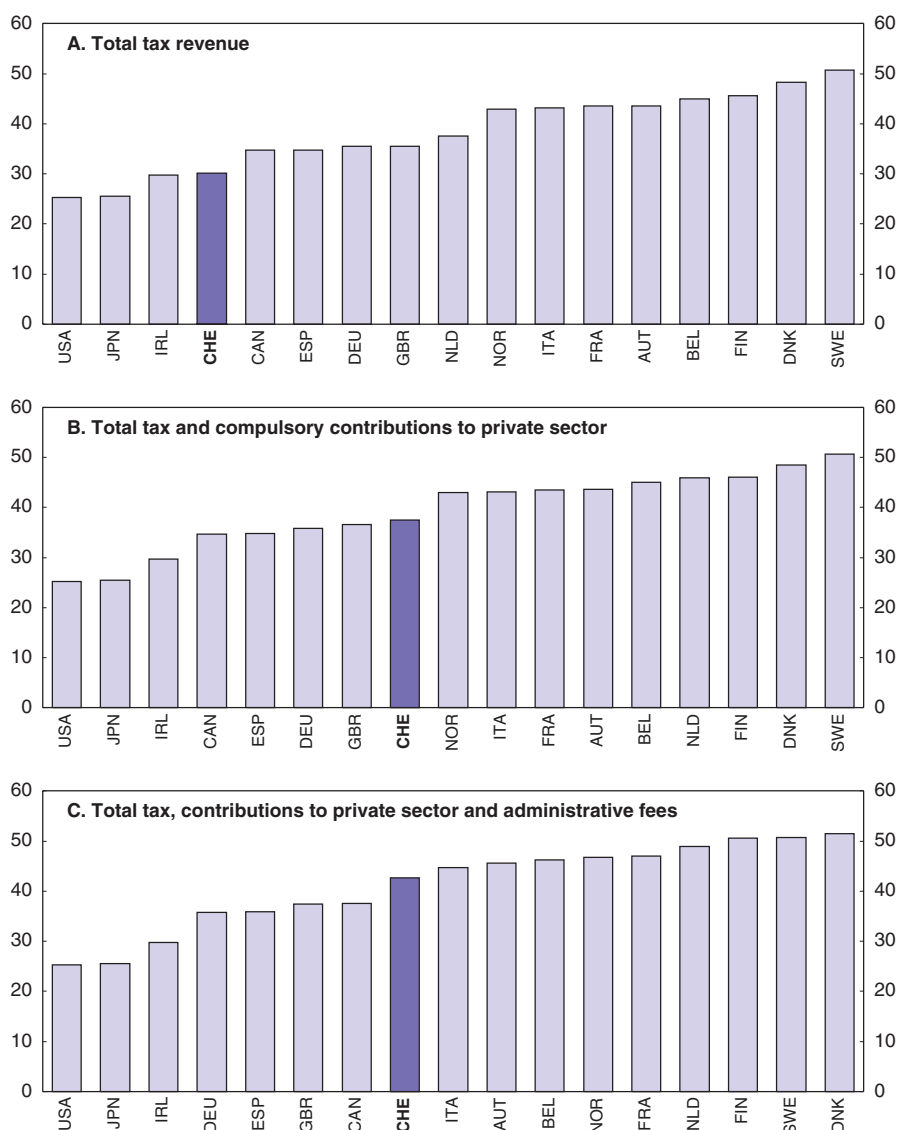
1. Or latest available year.

Source: OECD, *Revenue Statistics*, 1965-2004, 2005 ed.

and will harm the credibility of the rule. Complying with this new rule might in fact become increasingly difficult over time without improved control over social and medical spending, which the Confederation and cantons help to finance. Similar issues arise with respect to the cantons, whereas many cantons, concerned with improving their financial position, have recently introduced – or are in the process of formulating – new budget rules. Chapter 2 will analyse these questions and endeavour to identify options for improving the fiscal policy framework to ensure satisfactory control over spending from a long-term perspective and an allocation of public resources more favourable to growth.

### ... and reforming welfare programmes and raising efficiency of government interventions

The difficulties in controlling public spending have led the central government to develop a consolidation strategy based on two pillars. First, urgent measures specifically designed to eliminate the structural federal deficit by 2007, were enacted.<sup>13</sup> These measures involve no fundamental reforms that would balance the federal finances over the long term, as the government acknowledges. The second pillar of the consolidation strategy therefore aims at carrying out deep structural reforms to the disability, health insurance and pension schemes, which constitute three key areas underlying the sharp rise in public spending. These reforms, most of which are being formulated or discussed by Parliament, will be supplemented by measures to enhance the effectiveness of government

Figure 1.9. **Level of taxes and fees in OECD countries**As a percentage of GDP, 2004<sup>1</sup>

1. Or latest available year.

Source: OECD, *Revenue Statistics, 1965-2004*, 2005 ed.

interventions. The Federal Council also plans to conduct an in-depth review of all programmes to identify areas in which substantial savings can be made. Efforts to improve management are also planned, and work has begun on a number of tax reform projects.

Although it has yet to be deployed completely, the strategy to reform the public finances of the federal government raises some questions. Indeed, past difficulties faced by reform efforts raise concerns that the scope of changes currently proposed is insufficient. Chapter 3 will assess the effectiveness of the various proposals to reform social and medical programmes – an area in which it is important to bear in mind the reticence expressed in referenda to date. This chapter will also analyse programmes to modernise

### Box 1.1. Does a large or expanding public sector undermine economic growth?

In theory, it is possible to demonstrate both a negative and a positive connection between the size of the public sector and economic growth. On the one hand, a large or expanding share of resources to the public sector would tend to reduce their effectiveness, insofar as the resources are diverted to sectors that are less productive and less exposed to market forces. In addition, an increase in the tax burden can reduce incentives to work or invest. A high tax burden can also lead to the development of an underground economy. Conversely, public spending can have beneficial effects on growth if it improves human capital, stimulates research or provides quality infrastructure or an effective legal framework. Government, through its interventions, can also correct market failures or negative externalities.

The relationship between the size of the public sector and growth is probably not linear, since there is likely to be an optimal size for the sector. But this will also depend on the welfare state model accepted by society, or on socio-demographic conditions: the example of the Scandinavian countries shows that big government can be compatible with dynamic growth. It is also to be expected that in an ageing society the size of government will increase. The right size for the public sector will also depend on marginal returns on public expenditure as compared with the costs of funding them, and on the distorting effects they can exert on people's behaviour. In all, what is important is the efficiency with which money is collected and spent by government.

Empirically, it is difficult to highlight a clear relationship between public spending and economic growth. This holds true both at the international level and for Switzerland itself (Kirchgässner, 2004). This would suggest that until now empirical studies have paid fairly little attention to the probable non-linearity of the link between the public sector and economic growth. Another difficulty is that it is hard to ascertain the direction of causality between the two variables. An expanding public sector can just as well be a cause as a consequence of weak growth. However, some research has shown the specific effect of certain categories of expenditure. Thus the existence of a positive but slight correlation between growth and spending on education, research or transport infrastructure was found for the OECD countries (Colombier, 2004). Similar results were found for Switzerland by Sing and Weber (1997), who detected a lasting link between growth and investment in education and research, whereas the impact of transport infrastructure was found to be only temporary, and, conversely, higher spending on health care had a negative effect.

the administration and the tax system and will make suggestions to raise their effectiveness.

## Switzerland suffers from slow growth in production and per capita income

Switzerland has been suffering from slow growth, even if caution is needed when gauging the scale of the phenomenon (Kohli, 2005; Lambelet and Sfreddo, 2005). Measured on the basis of GDP, the growth differential with the three largest euro area countries has been approximately  $\frac{3}{4}$  of a percentage point per year since 1990, close to 1 percentage point with Austria and the Nordic countries and 2 percentage points with the United States (Table 1.4). However, these comparisons are distorted because of the differing ways in which national accounts criteria are applied across countries and other measurement issues (Box 1.2).<sup>14</sup>

Table 1.4. **Production and income growth performance**  
Average growth at annual rate

	Switzerland	France, Germany and Italy	Denmark, Finland and Sweden	Austria	United States
<b>Period 1981-2004</b>					
GDP	1.5	2.0	2.1	2.2	3.1
GNI	1.7	2.0	2.1	2.2	3.1
Command GDP <sup>1</sup>	1.8	2.1	2.1	2.2	3.1
Command GNI <sup>1</sup>	2.0	2.1	2.1	2.2	3.1
Cumulated change in the terms of trade	28.1	11.3	2.8	-1.2	9.3
Population	0.7	0.3	0.3	0.3	1.1
GDP per capita	0.8	1.7	1.8	1.9	2.0
Command GDP <sup>1</sup> per capita	1.1	1.8	1.8	1.9	2.0
Command GNI <sup>1</sup> per capita	1.4	1.8	1.8	1.9	2.0
<b>Period 1991-2004</b>					
GDP	1.0	1.7	2.0	2.2	3.0
GNI	1.3	1.6	2.2	2.2	3.0
Command GDP <sup>1</sup>	1.3	1.7	1.9	2.2	3.0
Command GNI <sup>1</sup>	1.6	1.6	2.0	2.2	3.0
Cumulated change in the terms of trade	11.8	0.8	-5.2	-0.4	4.2
Population	0.7	0.3	0.3	0.4	1.2
GDP per capita	0.3	1.4	1.6	1.8	1.8
Command GDP <sup>1</sup> per capita	0.6	1.4	1.5	1.8	1.9
Command GNI <sup>1</sup> per capita	0.9	1.3	1.7	1.7	1.8

1. The “command GDP” indicator (respectively the “command GNI”) correct the GDP indicator (respectively GNI) in order to take into account the changes in the Terms of Trade (see Box 1.2).

### Box 1.2. Measuring output and income

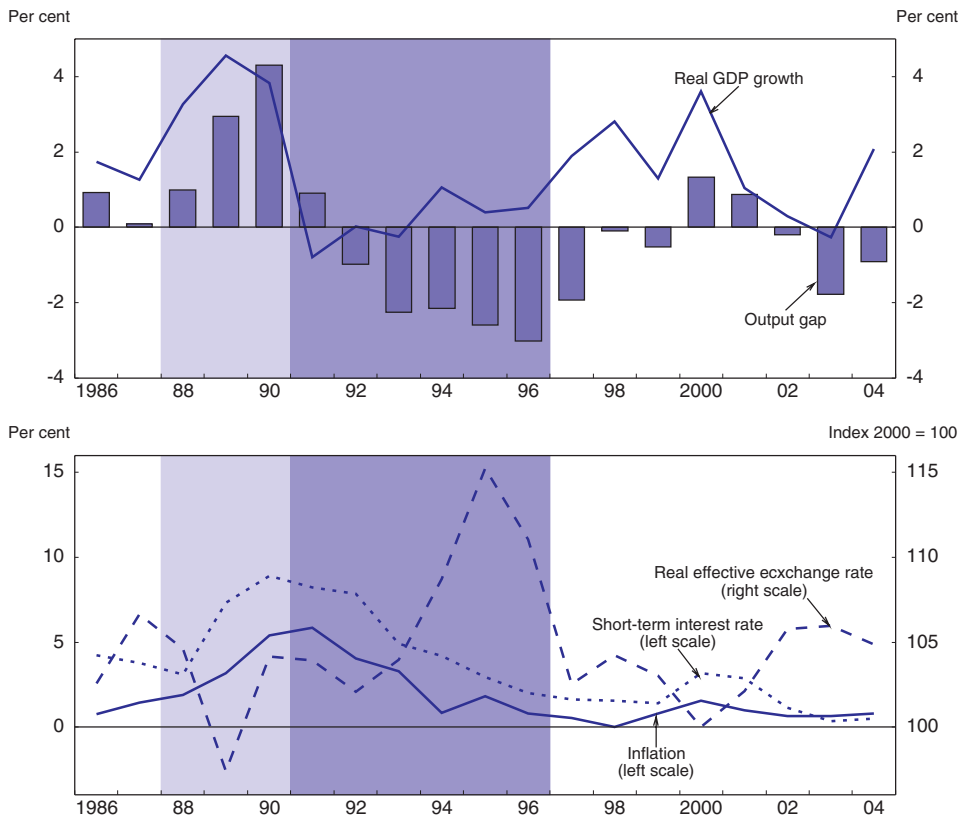
The robustness of US growth has been overestimated by comparison with most other economies, including Switzerland (Hartwig, 2005). The difference, put at less than ½ of a percentage point per year between 1995 and 2002, is however limited in comparison with the sizeable growth differential (Ahmad *et al.*, 2003). On the other hand, the increase in GDP underestimates income growth in Switzerland. On average, the rise in gross national income (GNI), which includes income from outward investment, exceeded that of GDP by 0.3 of percentage point per year between 1991 and 2004. Nor does real GDP entirely reflect the positive income effect generated by terms of trade gains. Their improvement stands at nearly 12% since 1991 and results, *ceteris paribus*, in a bigger increase in imports than exports in volume terms and, hence, in slower real GDP growth, whereas it increases import possibilities per unit of export. Better recognition of this income effect using an indicator of command GDP\* reduces the growth differential with the other OECD countries by a further 0.3 percentage point per year since 1991. Combining all these adjustments shrinks Switzerland’s economic performance gap. However, it still remains one of the weakest in the OECD, particularly if the relatively strong growth of the population in Switzerland is taken into account. In this case, the rise in the standard of living – measured by real GNI adjusted for the terms of trade – is still lower by comparison with Austria, the United States, the major euro area countries and the Nordic countries by between ½ and 1 percentage point per year for the past fifteen years.

\* In order to take account of the income effect caused by terms of trade fluctuations, Kohli (2003) proposes an alternative way of calculating GDP using Törnqvist indices to deflate spending items in nominal terms. An approximation of the estimates obtained in this way is provided by the command GDP indicator, which is defined as follows: Command GDP = TDDV + XGSV\*(PXGS/PMGS) – MGSV where TDDV is real domestic demand, XGSV and MGSV are, respectively, export and import volumes and PXGS and PMGS are the export and import deflators.

### Slow growth has structural roots...

In Switzerland there are at present two conflicting views as to why the economy is performing so sluggishly. The first attributes the lack of growth to insufficient demand, especially in the early 1990s, whereas the second focuses on more structural factors. The first hypothesis suggests that slow growth was mainly the result of an over-restrictive monetary policy which caused a double recession in the early 1990s (Ettlin and Gaillard, 2002), while in recent years, the weak external environment caused weak activity. It is true that growth was very slow (0.2% per year) between 1991 and 1996 because of the lagged effects of the tight monetary policy pursued in the early 1990s and strong upward pressures on the Swiss franc from mid-1992 to 1995 (Figure 1.10). However, this came in the wake of a period of overheating between 1988 and 1990, which saw a sharp increase in production (3.9% per year) and rapidly accelerating inflation as a result of excessively loose monetary conditions and the development of a real estate bubble. The return at the end of the cycle (1996) to moderate inflation suggests that the average growth in activity of 1.5% per year between 1988 and 1996 was close to potential. This average rate of growth has again been posted since 1997, even though monetary policy has ceased to be restrictive. Overall, including the intermittent spurts in growth, trend growth, which averaged 1.5% per year for the past 25 years, has remained lower than in Austria, although foreign demand developments were similar.<sup>15</sup> This gives credence to the view that the growth problem is structural rather than the consequence of a sequence of adverse cyclical shocks.

Figure 1.10. **Growth, inflation and monetary developments since the mid-80s**



Source: OECD, Economic Outlook 78 database.



Table 1.5. **Decomposition of potential output growth**

Annual averages, per cent

	Switzerland	United States	France, Germany and Italy <sup>1</sup>	Denmark, Finland and Sweden	Austria
<b>1981-2004</b>					
Total	1.6	3.1	1.9	2.1	2.4
Total using a HP filter	1.6	3.2	1.9	2.2	2.3
Business sector	1.6	3.3	2.1	2.5	2.9
<i>of which contribution of:</i>					
Trend hourly productivity	1.3	2.4	2.2	2.4	2.5
Trend hours	-0.3	0.0	-0.4	-0.1	..
Potential employment	0.7	1.0	0.3	0.2	0.4
<i>of which:</i>					
Working-age population	0.5	0.8	0.3	0.2	0.4
Trend participation rate	0.3	0.1	0.2	0.0	0.0
Structural unemployment	0.0	0.0	-0.1	-0.1	-0.1
<b>1991-2004</b>					
Total	1.3	3.1	1.7	2.1	2.5
Total using a HP filter	1.2	3.1	1.6	2.2	2.3
Business sector	1.4	3.4	1.9	2.6	3.0
<i>of which contribution of:</i>					
Trend hourly productivity	1.3	2.6	1.9	2.5	2.5
Trend hours	-0.3	-0.1	-0.3	0.0	..
Potential employment	0.4	0.9	0.3	0.0	0.5
<i>of which:</i>					
Working-age population	0.4	0.8	0.1	0.2	0.4
Trend participation rate	0.1	0.0	0.3	-0.1	0.1
Structural unemployment	0.0	0.1	0.0	-0.1	0.0

1. For Germany, data prior to 1991 concern West Germany only and the data for 1991 is excluded from the calculations due to a break in series.

Source: OECD estimates based on the Economic Outlook 78 database.

The OECD's estimates of potential growth confirm the view that structural factors are at work. Moreover, the slowdown in growth has become slightly more marked since the early 1990s (Table 1.5). The economy's chronic lack of dynamism is attributable to the underlying weakness of productivity gains compared with other countries, whereas potential labour supply has been abundant although there has been a steady decline in the number of hours worked. This observation remains valid even allowing for uncertainties as to the role played by labour supply and productivity because of the statistical difficulties of measuring employment (Box 1.3). Similar uncertainties exist also in a number of other OECD countries, including Spain and Korea.<sup>16</sup> Even hourly labour productivity gains of close to 1½ per cent, instead of 1% in the 1990s according to the most optimistic estimates, remain relatively small. In fact, international comparisons show that Switzerland's high standard of living, as measured by GDP per capita, is due to better utilisation of labour than in most other countries, whereas labour productivity is not particularly high (Table 1.6).<sup>17</sup> Although the level of investment is high, its efficiency appears to be very low, as the ratio of investment to production growth is much higher than in other countries (Daepf and Jeitziner, 2004), indicating low multifactor productivity growth (Figure 1.11).<sup>18</sup>

### **... and is liable to slow further in the long term**

In the absence of any appreciable improvement in productivity gains, trend growth will probably continue to weaken because of the ageing process. The growth scenarios drawn up by the State Secretariat for Economic Affairs (SECO, 2005a), which take account of the demographic

### Box 1.3. Difficulties in measuring labour productivity

The pitfalls of measuring productivity growth have been debated for some time, reflecting the uncertainties surrounding employment trends. Two sources to calculate labour inputs exist: one comes from the labour force survey (Espa) which is based on surveys of a representative sample of households, while the other is taken from the employment statistics (Statem) which are based on a survey conducted among businesses.

The calculations carried out on the basis of the Espa figures, which are standardised at the international level, show that productivity measured in full-time equivalents grew by 1% per year during the 1990s, whereas those based on Statem figures show 1½ per cent per year. The relatively large difference is due to differences in the coverage of these indicators. Whereas Espa leaves out holders of short-term work permits and cross-border workers who are more numerous in services than in industry, Statem does not adequately cover sectors such as education, health and government where employment has risen sharply in recent years. The Espa figures also more accurately record informal jobs and self-employment, including services provided in the form of subcontracting (mandates) which are not usual work contracts and which increased sharply in the 1990s. They also appear more consistent with the medium-term developments observed in the other labour market variables such as unemployment and the labour force (Balastèr and Surchat, 2004; seco. 2005).

All in all, the observed differences would appear to reflect the dichotomy between the productivity performance of the sheltered sectors, which are better represented in the Espa data, and the exposed sectors which are better covered by Statem. In the context of the analysis of growth determinants, a higher estimate of the contribution made by productivity to the rise in trend output during the 1990s would mean that labour made a smaller contribution.

Table 1.6. **Labour productivity and effects of labour utilisation**  
2004, in 2000 PPP terms

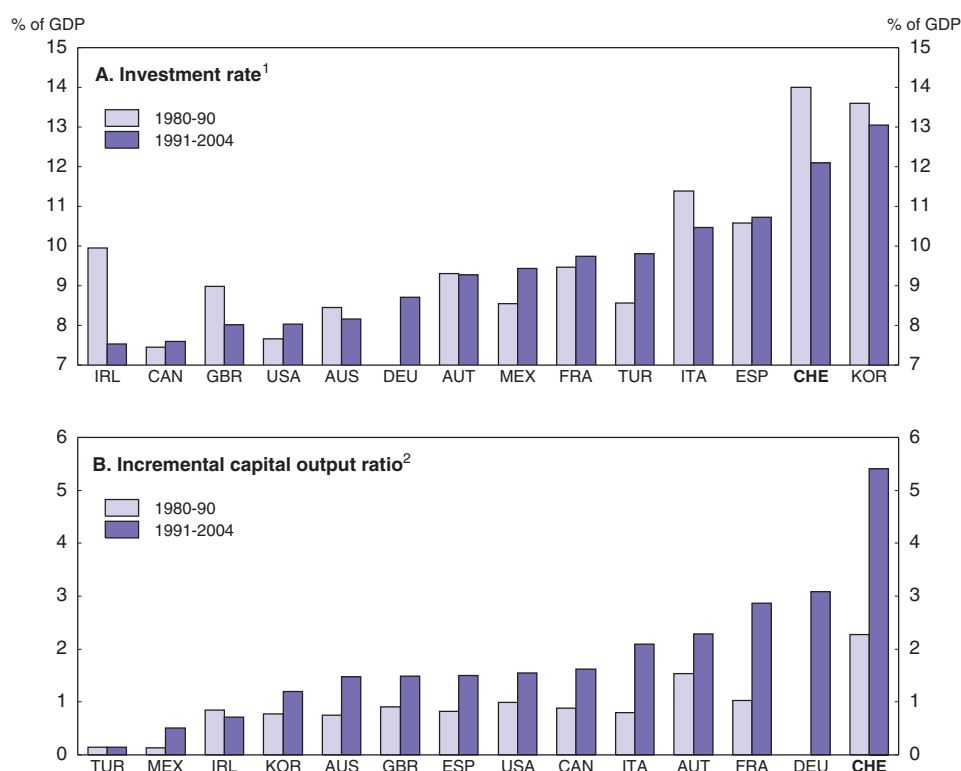
	GDP per head of population	Effect of labour utilisation (in percentage points)	GDP per hour worked, USA = 100
United States	100	0	100
Ireland	90	-12	102
<b>Switzerland</b>	<b>85</b>	<b>5</b>	<b>79</b>
Austria	80	-3	83
Denmark	80	-9	88
United Kingdom	79	-6	86
Canada	79	3	76
Netherlands	78	-17	95
Belgium	78	-32	110
Finland	77	-8	85
Sweden	76	-10	86
Australia	76	1	75
Japan	75	5	70
France <sup>1</sup>	74	-29	103
Germany	72	-19	91
Italy	70	-9	78
Spain	64	-15	79
Euro area	71	-16	87
OECD	70	-5	75
OECD-Europe <sup>2</sup>	68	-13	80

1. Includes overseas departments.

2. Excluding Turkey.

Source: OECD Productivity database estimates, September 2005.

Figure 1.11. Investment rate and efficiency in selected OECD countries



1. Investment in machinery and equipment of the business sector in per cent of GDP.

2. Ratio of the investment rate defined in panel A over real GDP growth rate.

Source: OECD, Economic Outlook 78 database.

impact on long-term labour supply, predict a decline in the economy's growth potential from 1.4% per year between 2000 and 2010 to 1% between 2010 to 2020 and then 0.5% in the following decade. These prospects, which are close to those drawn up by the OECD, are more pessimistic than the projections for Switzerland's main trading partners, even allowing for a quite optimistic assumption for productivity gains in the case of Switzerland (Table 1.7). The slowdown in output growth is likely to be only partly offset by a further increase in net receipts from outward investment. The additional growth in national income compared to domestic demand could remain around 0.3-0.4 percentage point per year up until 2030, assuming the yield on assets invested abroad remains similar to the average performance (4½ per cent) over the past ten years. Nevertheless, a weaker effect cannot be excluded in the future as part of these assets is held by pension funds which will sell part of them when the ageing process gathers pace.

Raising trend growth is thus the main economic policy challenge. It would prevent a further erosion of living standards compared with other countries and reduce difficulties in funding welfare spending. Boosting growth requires above all stronger productivity gains. Also renewed efforts to improve labour utilisation would help, especially of hours worked supplied by women though it would seem difficult to raise foreign labour supply much further. This view is shared by the authorities and lies behind the set of measures adopted by the Federal Council in February 2004, i.e. at the start of the present parliamentary term (Brunetti, 2004). The measures are mainly designed to:

- Improve the functioning of product markets and stimulate competition, especially in the sheltered sectors of the economy.

Table 1.7. Long-term prospects

	Annual average rates of change				
	1995-2000	2000-05	2005-10	2010-20	2020-30
<b>Switzerland</b>					
A. Potential employment	0.4	0.9	0.3	-0.2	-0.6
<i>Contribution from:</i>					
A1. Working-age population	0.3	0.7	0.2	-0.2	-0.6
A2. Trend labour force participation	0.0	0.1	0.1	0.0	0.0
A3. Structural unemployment	0.1	0.0	0.0	0.0	0.0
B. Potential labour productivity	0.8	0.4	1.2	1.2	1.2
C. Potential GDP	1.2	1.3	1.5	1.0	0.6
D. Population	0.4	0.6	0.2	0.1	0.0
E. Potential GDP per capita	0.8	0.7	1.4	0.9	0.6
<b>Euro area<sup>1</sup></b>					
A. Potential employment	0.8	0.8	0.3	-0.3	-0.7
<i>Contribution from:</i>					
A1. Working-age population	0.2	0.2	0.1	-0.2	-0.6
A2. Trend labour force participation	0.6	0.6	0.3	-0.1	-0.1
A3. Structural unemployment	-0.1	0.0	0.0	0.0	0.0
B. Potential labour productivity	1.2	1.2	1.6	1.6	1.6
C. Potential GDP	2.0	2.0	1.9	1.3	0.9
D. Population	0.3	0.3	0.2	0.1	0.0
E. Potential GDP per capita	1.8	1.6	1.7	1.2	0.9
<b>United States</b>					
A. Potential employment	1.4	0.8	0.9	0.3	0.4
<i>Contribution from:</i>					
A1. Working-age population	1.4	1.2	1.1	0.3	0.3
A2. Trend labour force participation	-0.2	-0.2	-0.1	0.0	0.0
A3. Structural unemployment	0.2	-0.2	-0.1	0.0	0.0
B. Potential labour productivity	2.0	2.1	2.3	2.3	2.3
C. Potential GDP	3.5	3.0	3.2	2.6	2.6
D. Population	1.2	1.0	0.9	0.8	0.8
E. Potential GDP per capita	2.3	2.0	2.3	1.7	1.8

1. Excluding Luxembourg.

Source: OECD, *Economic Outlook 77* and Secretariat calculations based on Medium-Term Baseline database and demographic projections.

- Guarantee the excellence of the education system with the objective of safeguarding the competitiveness of the economy.
- Halt the increase in the tax burden and optimise the activities of central government, which means eliminating the Confederation's structural budget deficit and limiting the trend rise in public spending to the effects of demographic ageing.
- Preserve high participation rates in the labour market

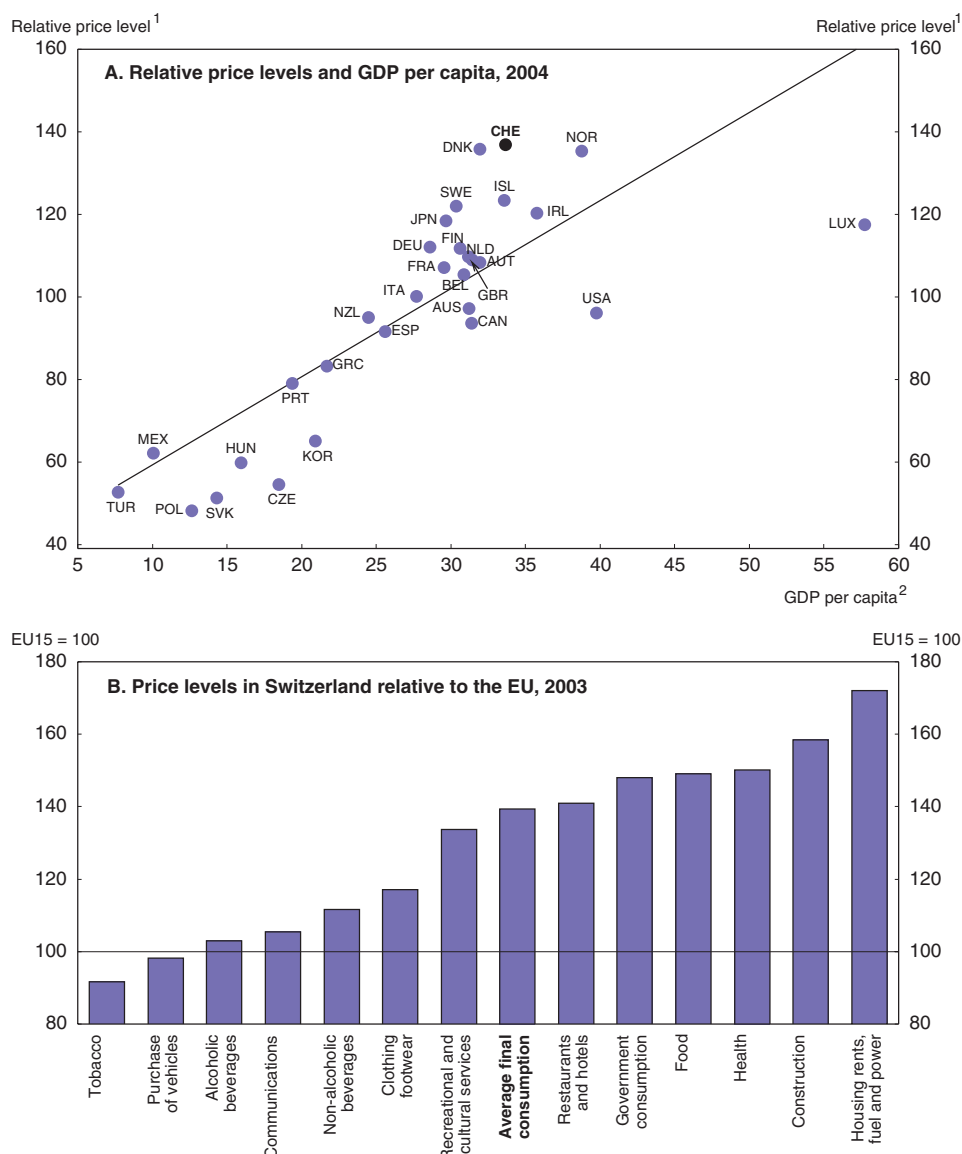
## Competition matters for growth

Most observers, including the government, agree that a lack of competition in sheltered sectors has been a major cause for the lackluster productivity performance and that raising performance in the future will require a major reform effort in many areas. In the past, reforms aimed at improving the competition framework have been too narrow; the pace of reform was slow; initiatives were often taken in reaction to developments in neighbouring countries; and reform attempts have sometimes been blocked by popular

vote, partly because the potential gains from reforms are not well understood. But the economic gains are likely to be substantial: calculations in the previous Survey suggest that liberalisation of key sectors could boost output by 8% over a ten year period.

Consumers pay dearly for the lack of competition. The overall price level is among the highest in the world and less than half of the price level difference with the EU countries can be explained by the fact that the Swiss standard of living is higher than in the European Union (Figure 1.12). The price level is especially high in sectors with little foreign competition and where government intervenes heavily, such as with agriculture and health services. Foreign competition, while vigorous for most manufacturing industries,

Figure 1.12. Price level comparison



1. Purchasing power parities divided by the exchange rate, OECD=100.

2. In thousand USD, converted with the PPPs.

Source: Eurostat and OECD, National Accounts.

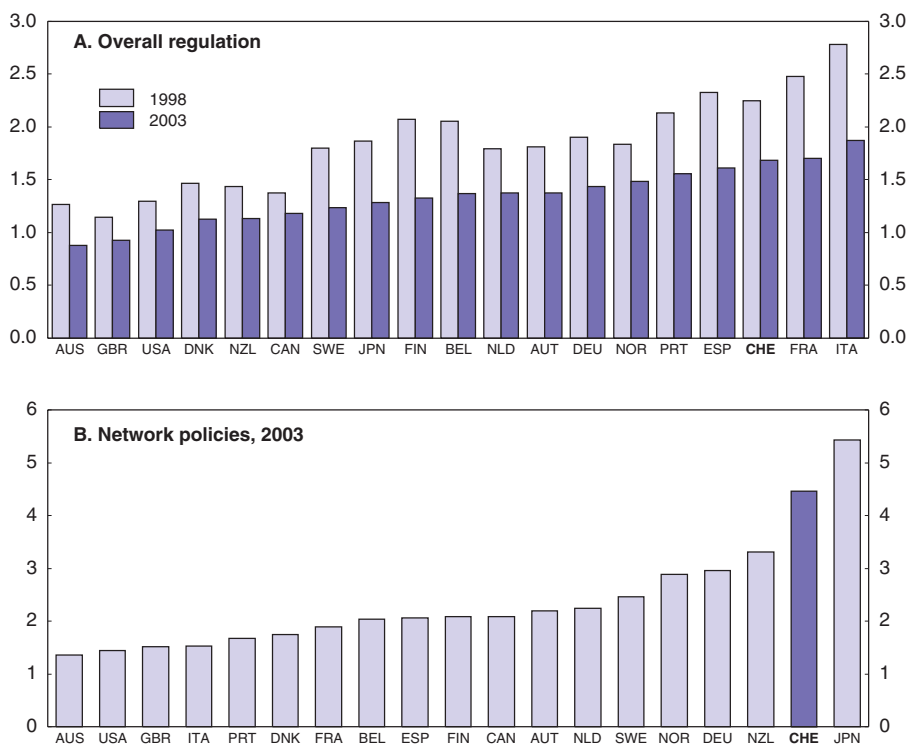
has not evolved as rapidly as in the other smaller Union countries, if measured by the penetration rate of imports in manufacturing. This is partly due to the negative 1992 referendum on membership in the European Economic Area.

The lack of competition also undermines the dynamism of the economy. Trend productivity growth is very slow, even though spending on research and development is among the highest in the OECD. International comparisons suggest that product market regulations are fairly restrictive, which is undermining the dynamism of the economy. In 1998, only 11 countries (out of 28) had a more restrictive regulatory stance than Switzerland. While progress with regulatory reforms pushed down the indicator value for Switzerland somewhat, progress was swifter in many other countries, so that by 2003, only 8 countries had a more restrictive stance (Figure 1.13). Indicators for various sectors confirm this picture. The segmentation of the internal market, which is probably not entirely caught in the OECD's product market regulation indicator, adds further obstacles to vigorous competition. The cantons have extensive powers to intervene in markets and often control the prices of utilities and influence industries such as construction and professional services. The lack of a level regulatory playing field deprives firms of economies of scale and reduces productivity in sheltered markets.

The previous survey included an in-depth chapter on competition and economic performance. Its main recommendations focused on the recent reform of competition law and its application, on strengthening competition in the health care sector and public

Figure 1.13. **Regulation and policies for product markets in international comparison**

Index scale of 0-6 from least to most restrictive



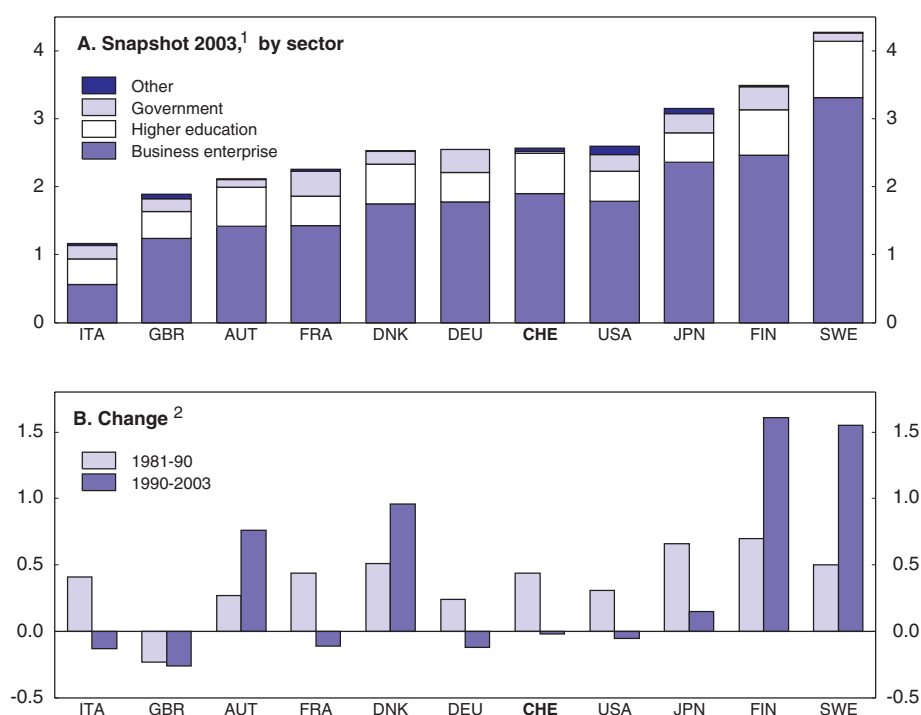
Source: Hoj, J. (2005), "The OECD Indicators of Competition Law and Policies", OECD Economics Department Working Papers, forthcoming and OECD, Product Market Regulation database.

procurement, removing obstacles to competition in the domestic market, liberalisation in network industries and opening up to foreign competition. Chapter 4 reviews<sup>19</sup> the government's agenda and progress in the various areas and highlights where more needs to be done.

## Innovativeness can be strengthened further

Switzerland is amongst the top performers – and often the leading country – by most indicators of innovation. These include not only the standard indicators of research and development (R&D) intensity (Figure 1.14) and patent applications per million population (Figure 1.15), but also softer but more encompassing measures from innovation surveys (Box 1.4). Keeping a top innovation performance is key for the competitiveness of the Swiss economy as labour costs are high. In a recent study, Arvanitis and Staib (2002) show that Switzerland tends to specialise in quality rather than price competition, which partly explains the sizeable terms of trade gains recorded over the last decades.

Figure 1.14. **R&D intensity**  
Gross domestic expenditure on R&D in per cent of GDP



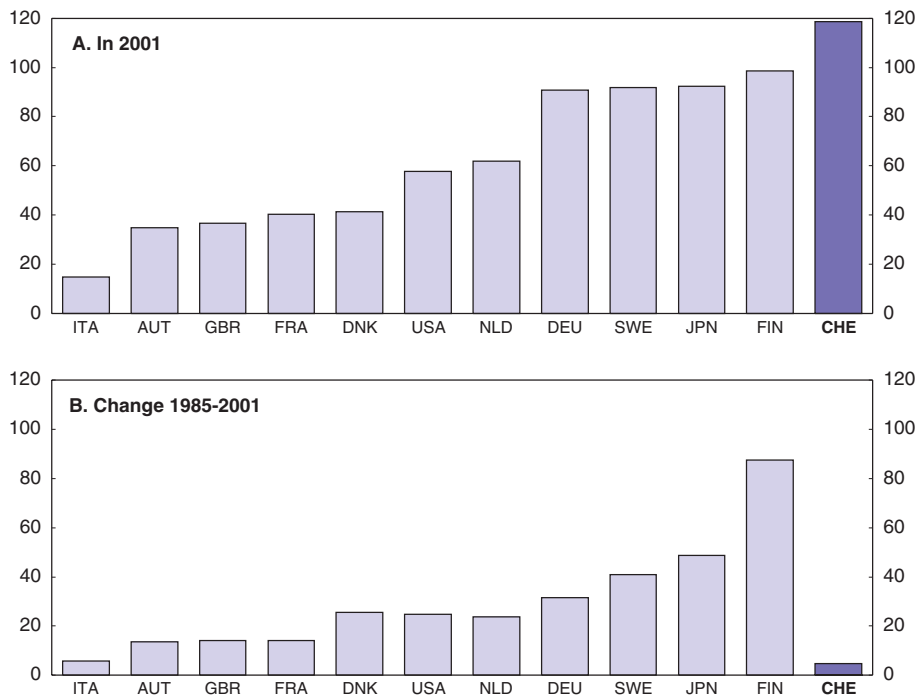
1. 2002 for Austria, Denmark and Italy; 2001 for Sweden and 2000 for Switzerland.

2. Or closest period where data are available.

Source: OECD (2005), *Main Science and Technology Indicators*, Vol. 1.

Despite an overall strong innovation performance, the Swiss innovation system has been showing signs of weakening over the 1990s. This is reflected in stagnation for some indicators (R&D intensity, patent applications) and an absolute decline for others such as the commercialisation of innovations (Figure 1.16). This is in contrast with developments in many other countries and has led to some erosion of Switzerland's lead in

Figure 1.15. **Triadic patents**<sup>1</sup>  
Number of applications per million population



1. According to the residence of the inventors, by priority year (the year of the first international filing of a patent). 2001 figures are estimates. Triadic patents are defined as patents filed at the European Patent Office (EPO), the US Patent and Trademark Office (USPTO) and the Japanese Patent Office (JPO).

Source: OECD (2005), *Main Science and Technology Indicators*, Vol. 1.

#### Box 1.4. Innovation survey indicators: benchmarking Switzerland

Technological innovation is defined in the OECD Oslo Manual as the implementation/commercialisation of a new or significantly improved product, or the implementation/adoption of a new or significantly improved production or delivery method. It can of course embody invention, but this is neither a necessary nor a sufficient condition of innovation, which can be seen as any aspect of a process ranging from initial research through the development of prototypes and the registration of inventions (*e.g.* patents) and eventual commercial application. The recent development of innovation surveys has allowed the collection of more encompassing measures of inputs into the innovation process and of registrations of inventions. This has strongly improved the coverage of innovations in services and in small firms, for which R&D spending and patenting are less relevant measures of innovation activity. Beyond R&D, innovation spending includes the acquisition of machinery, training, external knowledge, as well as testing and product design. Although the comparison is limited to EU countries for which comparable data exist, Switzerland also has the highest share of innovation spending in sales, both in manufacturing and in services (Table 1.8). Similarly, measures of the registration of inventions can be extended beyond patents to include trademarks, design registration, copyright and informal methods of protection. Looking for example at trademarks, Switzerland has the highest rate of applications per million population.



## Box 1.4. Innovation survey indicators: benchmarking Switzerland (cont.)

Table 1.8. Innovation performance in the private sector<sup>1</sup>

	All firms		
	Innovation-expenditure (% of sales)	Share of innovators (%)	Sales share of products new to the firm (%)
<b>Switzerland</b>	<b>3.5</b>	<b>67.6</b>	<b>23.5</b>
Austria	1.7	48.8	13.2
Belgium	2.7	50.1	13.9
Denmark	0.5	44.3	13.5
Finland	2.5	44.9	17.5
France	2.5	40.8	11.8
Germany	2.7	60.8	23.4
Greece	2.1	28.1	8.9
Iceland	1.7	55.0	3.2
Italy	2.0	36.3	16.1
Luxembourg	1.3	48.3	7.4
Netherlands	1.5	45.3	12.1
Norway	1.2	36.3	7.2
Portugal	2.6	46.3	15.1
Spain	1.2	32.6	17.0
Sweden	..	46.8	..
United Kingdom	1.8	35.8	15.1

1. 2000-02 for Switzerland and 1998-2000 for all other European countries.

Source: Eurostat, NewCronos; <http://europa.eu.int/newcronos/>.

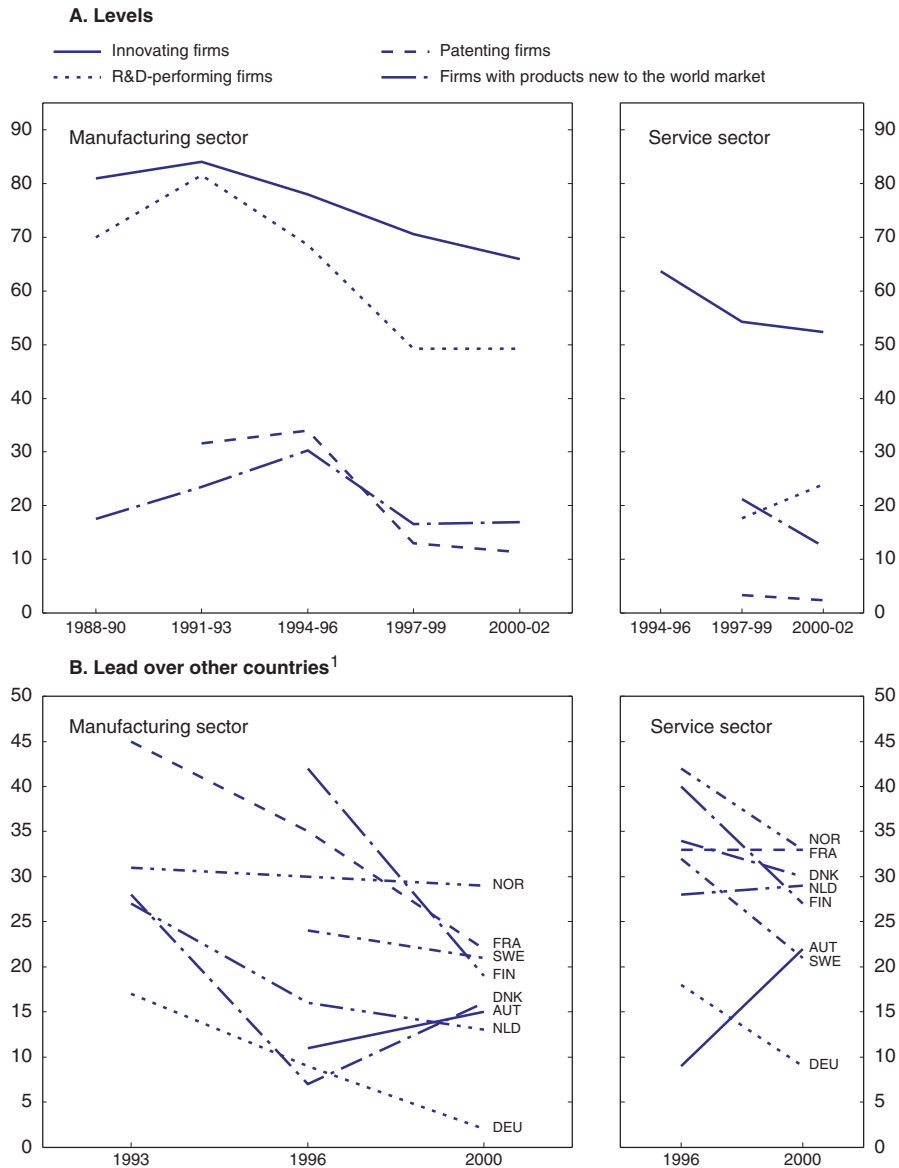
Innovation surveys also measure the implementation of innovations, i.e. the successful commercialisation or adoption of innovations. It is important to measure this stage, since the link between research and the marketing of products has been identified as an issue for productivity growth in several countries. Two main indicators are the proportion of firms which have introduced a new process or product, and the share of sales accounted for by new products.<sup>1</sup> The main drawback of these indicators is that they are “softer” as the evaluation of the novel character of the process or product is judgmental. Again, Switzerland is ahead of most EU countries with respect to these two indicators, at least as regards firms with 10 or more employees.<sup>2</sup>

1. Innovation includes both true innovation and imitation, since the process or product only needs to be new to the firm, and not necessarily to the market. A comparison of true innovations across countries can not be made because the Swiss definition differs from that of other countries.
2. This is only a partial view as the innovation surveys do not compare firms with less than 10 employees, which represent a large majority of firms in Switzerland. More encompassing surveys of entrepreneurship (see below) provide a less positive picture of entrepreneurship in Switzerland. The cross-country comparability of data on the share of new products in turnover can also be hampered by a number of factors, such as differing lengths of product cycles and degrees of competition.

innovativeness, both in manufacturing and services. Although some catch-up from lagging countries is normal, it is noteworthy that Sweden and Finland have surpassed Switzerland in R&D intensity by a substantial margin and are performing better in a number of innovation-related areas (Chapter 5).<sup>20</sup> Though the conditions in these two countries were specific due to a significant economic crisis, their experience shows that more can be done. Some of the weakening in Swiss innovation performance can certainly be attributed to the

Figure 1.16. **Trends in innovation activities of Swiss firms**

As a percentage of all firms



1. Difference between proportions of innovators in Switzerland and those of other countries.

Source: Swiss Innovation Survey.

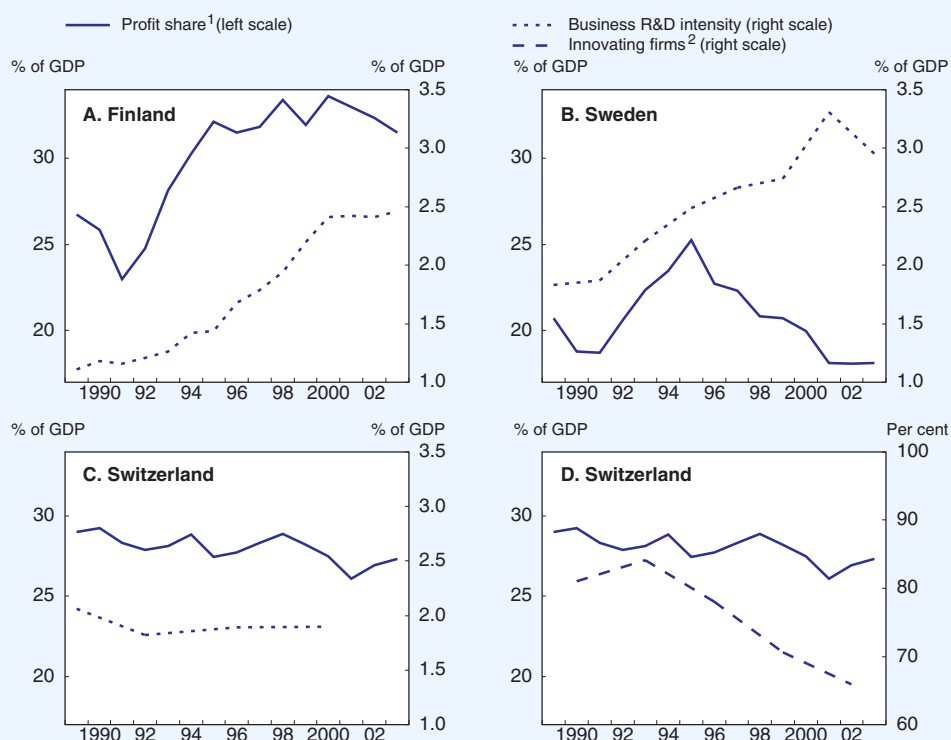
protracted recession of the 1990s, which constrained both private and public funding for R&D. But the rebound in economic activity in the late 1990s did not yield a marked improvement in innovation performance. Moreover, some of the slower growth turned out to be structural, implying that firms have to innovate in a lower-growth context (Box 1.5).

Multinationals, especially in the pharmacy/chemical sector, account for a large share of Swiss domestic R&D (Table 1.9). Due to the small size of Switzerland and the internationalisation of multinationals' activities, this is also reflected in large outward R&D, amounting to about 120% of domestic R&D (Figure 1.18). The growing globalisation of R&D represents both a challenge and an opportunity for Switzerland. If Switzerland can

### Box 1.5. The erosion in the Swiss R&D lead: is it cyclical or structural?

Some believed that weakening innovativeness could be entirely explained by the protracted recession of the 1990s and that the innovation performance would rebound once the recovery became firmly established. Switzerland indeed suffered a double-dip recession in the 1990s, while other countries only had one recession. This reduced the internal funds of firms, which are the main source of financing for innovation projects (Figure 1.17). The recession also affected public finances, in particular those of the Confederation,\* leading to a decrease in the public funding available for innovation of about 0.15% of GDP from an already average level.

Figure 1.17. Profits, R&D and innovation



1. Gross operating surplus as a share of GDP.

2. Innovating firms as a percentage of all firms, in the manufacturing sector.

Source: Swiss Innovation Survey; OECD (2005), *National Accounts and Main Science and Technology Indicators*, Vol. 1.

However, a comparison with Finland and Sweden suggests that the unfavourable business cycle may only be part of the story. On the one hand, the output gaps were much more negative in Finland and Sweden than in Switzerland in the 1990s. On the other hand, although there is a link between profits and R&D over certain periods, as shown for example by the parallel evolution of the profit share and the ICT sector in Finland and to a lesser extent in Sweden, the direction of causality is not clear. Some changes in the profit share may have resulted from developments in the ICT sector rather than the reverse, as was the case in Sweden around the millennium when the burst of the ICT bubble caused a strong fall in profits. Finally, the link between profits and R&D can be weakened by a series of other factors, especially the possibility to finance R&D by other means than profits.

**Box 1.5. The erosion in the Swiss R&D lead: is it cyclical or structural? (cont.)**

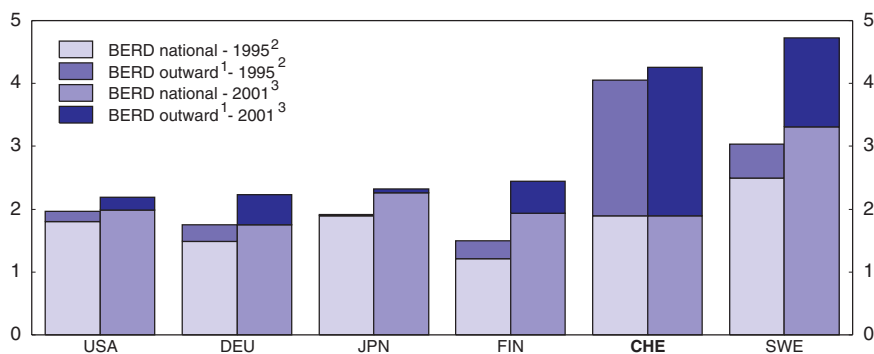
Some of the factors behind the weakening of innovation turned out to be structural. The Swiss potential growth has slowed from 1.9% per annum over 1980-90 to 1.4% per annum over 1991-2004, mostly due to smaller gains in potential employment. Demographic trends will continue to reduce potential growth over the next decades. Moreover, the mandatory increases in social security spending tend to crowd out public funding for innovation – a high return expenditure item – in a context of budget consolidation. The weakening of innovation performance (even if partly cyclical) may itself have long-term effects by reducing potential growth and thus the resources available to finance future innovations.

\* The Confederation is the main provider of funding for research. In 2002, public funding of research amounted to CHF 2 785 million, of which CHF 2 060 million were provided by the Confederation and CHF 725 million by the cantons.

**Table 1.9. Business R&D expenditure by sector**

	1996		2000		1996-2000 annual average change	1996	2000	Contribution to change in R&D intensity
	CHF million	%	CHF million	%		%	% of GDP	
Machinery, metallurgy	2 180	32.2	2 910	37.7	7.5	0.58	0.70	0.12
Pharmaceuticals, chemicals	2 625	38.8	2 475	32.1	-1.5	0.70	0.60	-0.11
Research laboratories	990	14.6	1 085	14.1	2.3	0.26	0.26	0.00
Food products	360	5.3	390	5.1	2.0	0.10	0.09	0.00
Electrotechnics	310	4.6	355	4.6	3.4	0.08	0.09	0.00
Information and communication technology (ICT)	90	1.3	320	4.2	37.3	0.02	0.08	0.05
Mining, quarrying and construction	55	0.8	15	0.2	-27.7	0.01	0.00	-0.01
Other	160	2.4	160	2.1	0.0	0.04	0.04	0.00
<b>Total</b>	<b>6 770</b>	<b>100</b>	<b>7 710</b>	<b>100</b>	<b>3.3</b>	<b>1.81</b>	<b>1.86</b>	<b>0.05</b>

Source: OFS, Statistics on R&D.

**Figure 1.18. Total business expenditure on R&D**  
In per cent of GDP

1. Outward R&D was estimated by applying the observed outward-to-national R&D ratio for industry (manufacturing for Japan and Sweden) to the observed business R&D in the whole economy. This may lead to overestimate outward R&D somewhat.
2. 1992 for Finland and 1996 for Switzerland.
3. 1998 for Finland and 2000 for Switzerland.

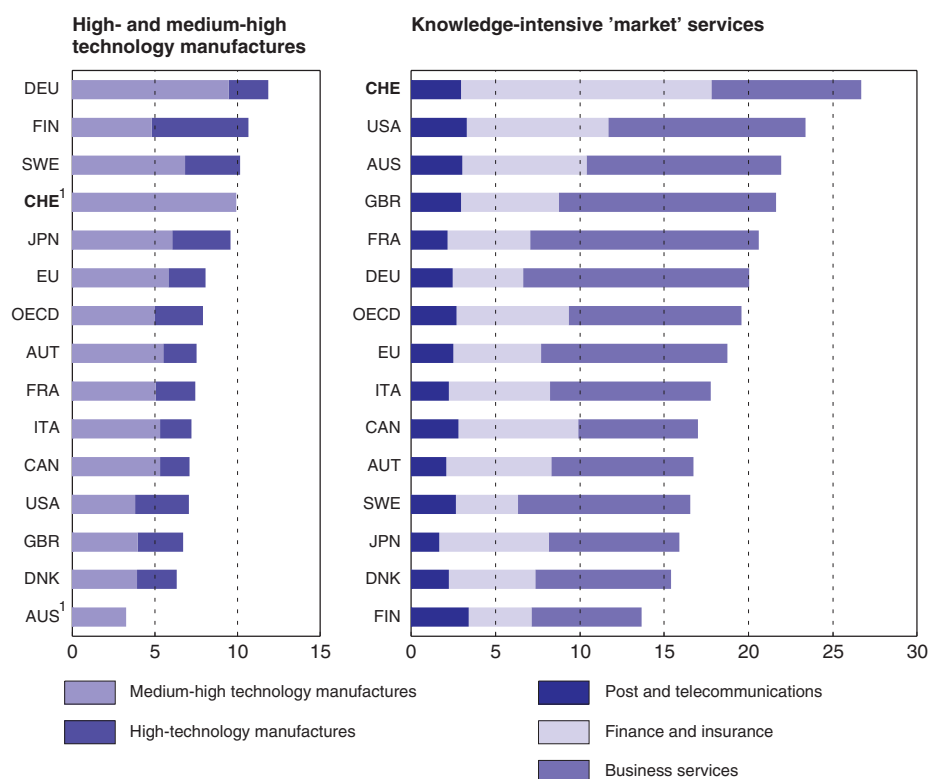
Source: OECD (2005), *Main Science and Technology Indicators*, Vol. 1 and Activities of Foreign Affiliates database.

remain sufficiently attractive for multinationals, it could gain from new implantations of R&D centers. On the other hand, there is an inherent trend to delocalise R&D from Switzerland, due to the need for bringing research closer to larger markets and research bases (as in the US). Although there are benefits from outward R&D, in terms of repatriated profits and technology spillovers, it is also important to keep R&D on domestic soil, because these are high value-added activities which generate large tax revenues from both capital and labour, and because the location of R&D is subject to agglomeration effects.

A second challenge arises from the development of the knowledge economy and the growing competition from emerging countries in skill-intensive activities. In line with its vocational education system, Switzerland is traditionally specialised in mid-tech rather than high-tech sectors, albeit in high knowledge content niches (Figure 1.19). If mid-tech sectors have by definition a lower potential for innovation, more importantly, Switzerland missed the opportunity to develop a strong ICT sector in the 1990s and this largely explains the difference in performance with Finland and Sweden. High-tech R&D also tends to be performed abroad though this reflects partly the high internationalisation of the pharmaceutical industry (Table 1.10).<sup>21</sup> This pattern of specialisation is slowly changing, with dynamic high-tech sectors, such as medical instruments and chemistry, gaining ground in recent years.<sup>22</sup> Switzerland also holds one of the strongest positions in knowledge-intensive market services, thanks to its large financial market.<sup>23</sup> In part related to this, Switzerland has become the country with the highest share of ICT equipment using sectors despite having missed the opportunity to enter the ICT producing sector.

Figure 1.19. **Technology and knowledge-intensive industries**

Share of total gross value added, average 2000-02



1. The medium-high technology manufactures data also include the high-technology manufactures sector.

Source: OECD, *Science, Technology and Industry Scoreboard*, 2003 and 2005.

Table 1.10. **R&D spending according to technology and knowledge intensity**

	Domestic R&D		Outward R&D	Domestic R&D		Outward R&D
	1996	2000	2000	1996	2000	2000
	In CHF millions			In percentage		
<b>Technological sector</b>						
High-tech manufacturing	1 439	2 875	6 146	21.3	36.4	62.8
Mid-tech manufacturing	3 411	2 648	1 485	50.4	33.6	15.2
Knowledge-intensive market service activities	1 081	1 581	1 813	16.0	20.0	18.5
Other activities	840	786	341	12.4	10.0	3.5
<b>Total</b>	<b>6 771</b>	<b>7 890</b>	<b>9 785</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Source: OFS, Statistique de la R-D.

Switzerland's gap in labour productivity growth with other countries suggests that innovativeness may be low in some parts of the economy which are not well captured by traditional indicators of innovation, especially in sheltered sectors (Table 1.11). This is confirmed by international surveys which find a low entrepreneurship of existing firms (Chapter 5).<sup>24</sup> Firms are typically much smaller in Switzerland than in most other countries: close to 90% of firms count less than 10 full-time employees and account for 25% of value added. Innovation capability decreases with firm size and anecdotal evidence suggests that very small firms face major difficulties to absorb new technologies, due for

Table 1.11. **Labour productivity growth**  
Average rate over the period 1992-2002<sup>1</sup>

	Switzerland		Austria	France, Germany and Italy	Denmark, Finland and Sweden	United States
	ESPA <sup>2</sup> definition	STATEM <sup>3</sup> definition				
TOTAL	0.6	..	1.7	1.3	2.4	1.6
Agriculture, hunting, forestry and fishing	-2.3	..	2.7	5.1	5.3	2.7
Mining and quarrying and manufacturing and electricity, gas and water supply	3.0	3.5	4.3	2.6	5.1	3.4
Mining and quarrying	..	3.6	2.9	..	5.0	2.7
Manufacturing	..	3.6	4.1	2.6	5.4	3.9
Electricity, gas and water	..	2.1	5.4	3.6	3.5	1.1
Construction	-1.3	0.3	1.9	-0.1	0.7	0.2
Wholesale and retail trade; hotels and restaurants	0.2	1.1	1.6	0.3	2.2	3.8
Wholesale and retail trade; repairs	1.0	1.9	2.1	0.9	2.5	4.0
Hotels and restaurants	-2.7	-2.1	0.1	-2.7	0.8	0.6
Transport, storage and communication	2.4	1.9	1.6	4.4	4.3	2.6
Finance, insurance, real estate and business activities	1.0	-0.1	-1.2	-0.9	0.3	0.7
Financial intermediation	4.5	-2.6	1.2	1.6	4.3	3.7
Real estate, renting and business activities	-1.0	-1.3	-2.0	-1.7	-0.6	-0.4
Community, social and personal services	-1.2	-0.4	-0.4	0.4	0.4	-0.3
Total services <sup>4</sup>	0.2	0.6	0.5	0.7	1.4	1.6
Business sector services <sup>5</sup>	1.1	1.1	0.8	0.8	1.9	2.4

1. 1992-2001 for the United States.

2. ESPA: Swiss labour force survey (Enquête suisse sur la population active).

3. STATEM: Statistics on employment (Statistique de l'emploi).

4. ISIC 50-99.

5. ISIC 50-74.

Source: OFS and OECD, STAN database.

example to the lack of a qualified engineer on the payroll. The innovation capabilities of SMEs may also be more sensitive to the business cycle than those of large firms, since they tend to derive a larger share of their profits from the domestic market. Finally, product market regulation remains much more stringent in Switzerland, implying that competition and incentives to innovate are low in sheltered sectors.

Despite an overall strong performance, there are areas in which policy reform could strengthen innovation, which is important going forward. Chapter 5 will review the state of innovation-specific policies and framework conditions to identify areas for improvement. The most important issues are:

- *Public funding for research and education*: the availability of sufficient public funding is threatened by increases in social security spending in a context of budgetary consolidation. Moreover, public funding is heavily concentrated on basic research, leaving a gap between fundamental research and product and process development in the private sector. The funding of fundamental research in universities and public support for the transfer of new technologies through applied research are important determinants of a country's innovation performance.
- *Availability of qualified personnel*: albeit performance in fundamental research measured by citation indices shows currently no deficiencies in this respect, the traditional focus of the education system on the acquisition of skills as opposed to knowledge could limit the extent to which Switzerland can participate in the growing knowledge economy. The availability of qualified personnel is not only important for research but also to absorb innovations made abroad.
- *Innovativeness of SMEs in sheltered sectors*: these become key to sustain a high level of domestic innovation in a context where larger firms are mobile, also with respect to R&D activities. Boosting the entrepreneurship of small firms and their growth will require improving framework conditions, including competition policy, bankruptcy law and equity financing.

## Boosting labour force growth

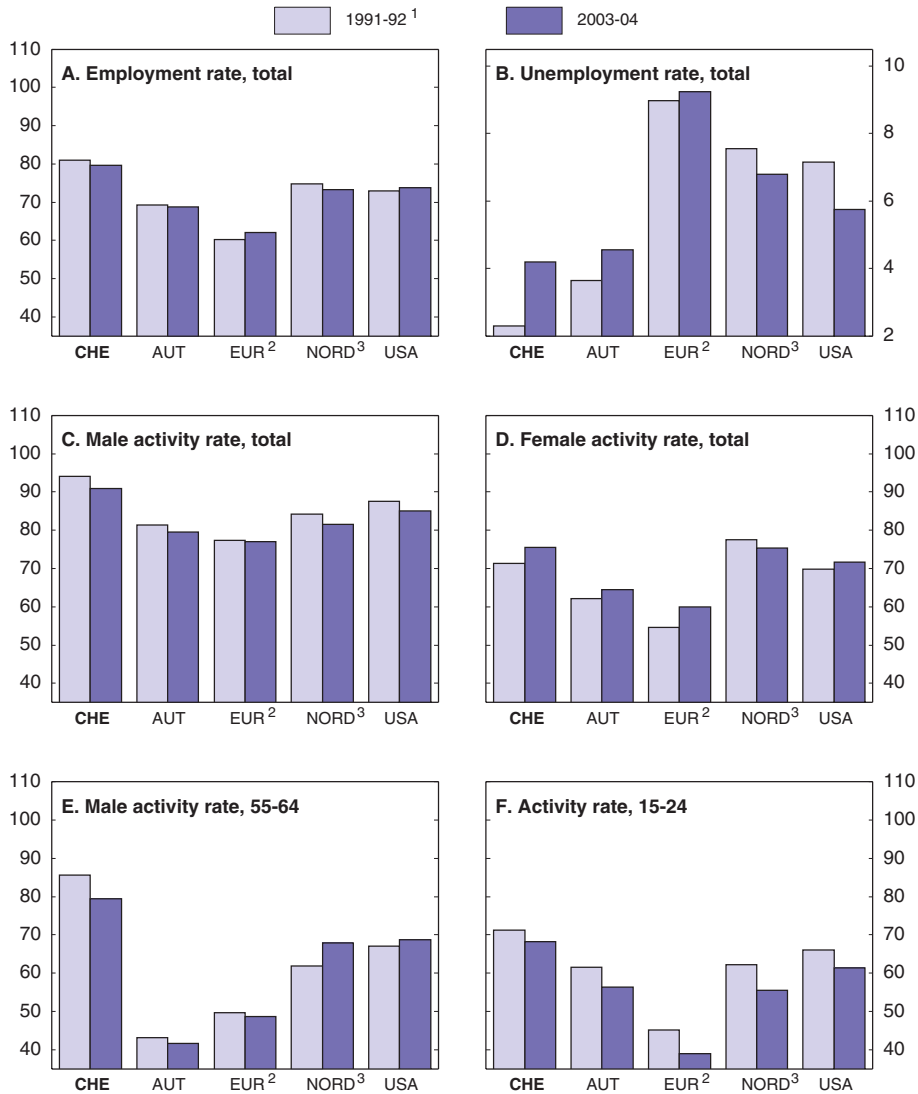
The high employment rate in Switzerland reflects both a high participation rate and a low unemployment rate (Figure 1.20). The Swiss labour market functions well thanks to its high flexibility, with a relatively decentralised wage bargaining system and the absence of a legal minimum wage. Employment protection legislation is among the least stringent in the OECD. The dual education system, which puts a strong emphasis on vocational training, has also contributed to the high employment ratio.

There are however some signs of weakening since the beginning of the 1990s. Participation has increased only moderately, while the unemployment rate, though still low in international comparison has risen significantly. To a large extent, these developments reflect weak economic activity, and the high levels already achieved in participation and employment. But some of it is also structural and contributed to reduce annual potential output growth by  $\frac{1}{4}$  percentage point since 1991 relative to the 1980s.

Labour force growth has been meagre over the 1990s, though it has picked up somewhat since 2000. This reflects very different developments across age- and gender groups (Figure 1.20). Women over the age of 25 kept strengthening their participation in the labour market, while all other groups reduced theirs, especially young and older male workers. The slow growth of the labour force is due to a lengthening of studies (youth) and

Figure 1.20. **Labour market developments in the 1990s**

As a percentage of population in the same age group



1. 1994-95 for Austria.

2. Unweighted average of France, Germany and Italy.

3. Unweighted average of Denmark, Finland and Sweden.

Source: OECD, Labour Force Statistics database.

strong increases in early retirement, disability insurance and social assistance programmes. These developments need to be addressed by reforming the disability and social assistance schemes and reducing incentives to retire early (Chapter 3). Although the slowdown of labour force growth for some age groups is worrisome and calls for action, participation rates are still very high. Margins to expand the labour supply and offset population ageing have to be found elsewhere.

One possibility would be to facilitate the immigration of foreign workers and the signing of a bilateral treaty with the European Union for the free movement of people goes in this direction. However, estimates of immigration inflows are very modest, even



including the recent extension of the free movement of people to the new members of the European Union. Past migration flows show that people mostly migrate to neighbouring countries and incentives to migrate decrease significantly when their own country has embarked on a catch-up process with richer economies. In any case, Switzerland already counts a very large share of immigrants in its population (20%) and its labour force (25%) and this may limit the size of immigration flows that are socially acceptable.

Another option would be to raise the average number of years spent in activity before retirement in line with increases in life expectancy (Chapter 3). Another promising approach is to remove obstacles to the participation of women in the labour market, especially in full-time jobs. Although female participation is high, the volume of female labour supply is only average in international comparison because many women work in part-time jobs. The effects of population ageing on labour supply could potentially be offset by increases in female labour supply. Chapter 6 will examine how policy could address market failures and distortions which maintain female labour supply at a low level.

### Reducing carbon emissions in a cost-effective way

The greenhouse gas emission intensity of the Swiss economy is exceptionally low, because of the intensive use of hydro and nuclear power in electricity production. On the other hand, rising emissions in the transport sector have meant that the emission intensity has hardly declined over time. Switzerland is participating in global efforts to limit greenhouse gas emissions through the Kyoto Protocol. It targets a 8% decline in greenhouse gas emissions from the 1990 level by the period 2008-12. Currently, emissions are as high as they were in 1990.

For the abatement of the greenhouse gas emissions, Switzerland has a multi-sectoral approach with incentives, voluntary and mandatory measures. As for the CO<sub>2</sub>-emissions until 2005, the authorities had relied mainly on voluntary measures for abatement, but by these measures alone, the reduction goal of the CO<sub>2</sub>-law could not be achieved. In the agricultural sector Switzerland has an incentive program to reduce methane and nitrous oxide. In the waste sector policy relies on a mandatory approach with a ban on landfills.<sup>25</sup>

In 2004, the Federal Council reviewed progress towards meeting the emission target. As progress was judged insufficient, the government introduced a carbon tax, as stipulated in the 2000 federal law on the reduction of carbon dioxide emissions. The tax will be levied on heating and process fuel (CHF 35 per ton of carbon dioxide) from 2006 onwards. The tax receipts (estimated at CHF 650 million) will be fully redistributed to the population on a per capita basis and to the business community as percentage of wages paid. Large emitters can obtain an exemption from the tax by entering a legally binding commitment to reduce energy related CO<sub>2</sub> emissions. Companies covered by such commitments will be allocated emission allowances and can trade them with other companies. On motor fuels, a climate cent (CHF 0.02 per liter of gasoline and diesel) has been levied since October 2005 by the private sector on the initiative of the Swiss Oil Association. Annual revenues of CHF 100 millions are intended to be used for mitigation projects within and outside Switzerland. If the new projects funded by the climate cent fail to produce evidence of sufficient progress in meeting the required CO<sub>2</sub> reductions, the Federal Council will extend the carbon tax to gasoline and can trade them with other companies.

The new policy regime is an improvement over the earlier one, but far from ideal. The CO<sub>2</sub> tax sets a price for the use of some fossil fuels on the basis of the carbon dioxide emitted into the atmosphere upon burning of the fuel and therefore internalizes external cost to some extent. The advantage to initiate long term incentive is forgone in the transport sector, where priority is given to the voluntary climate cent implemented by the private sector and abatement incentives are therefore distorted between sectors. Ideally, all emitters should face the same incentive to abate. Moreover, to enhance liquidity in the emissions trading scheme and to ensure least cost compliance for the Swiss industry sector, Switzerland currently explores ways to link the emission trading scheme to that of the European Union.

## The government's strategy in perspective

In February 2004, the government adopted a wide-ranging reform agenda, called "Series of reforms to boost growth" including 17 specific measures to be implemented during the current legislature (2003-07). This strategy, which is presented in more detail in Annex 1.A1, is deployed around six main axes aiming at: i) increasing competition in the domestic market; ii) pursuing integration in the world economy; iii) limiting the tax burden and raising the efficiency of government actions; iv) maintaining a high participation rate; v) guaranteeing the excellence of the education system; and vi) adjusting the commercial legal framework in order to stimulate growth. This strategy focuses on the key issues for improving Swiss performance and needs to be implemented rigorously to ensure that Switzerland maintains its high living standard. In this spirit, a report is to be written each year by the State Secretariat for Economic Affairs and an interministerial working party has to assess the progress made in all these domains. Annex 1.A2 provides a summary of the progress on structural reforms and a comparison with the main recommendations of the previous *Surveys*.

### Notes

1. The growth of mortgage loans exceeds 5% per year since 2003. House prices declined in the second part of the 1990s, but have picked up since then, rising by 3½ per cent in early 2005. However, the rise remains moderate compared to many other OECD countries.
2. According to OECD estimates, the decline in Swiss exporters' market shares reached 2½ per cent on average in 2003-2004, a ½ percentage point less than the average for Switzerland's main competitors.
3. These projections, which are the same as those presented in the OECD *Economic Outlook* 78, are based on the following assumptions: the oil price is assumed to be at USD 60 per barrel in the third quarter of 2005 before declining gradually to USD 53 in the last quarter of 2007. Exchange rates are fixed at their 11 November 2005 level, i.e. € 1 = CHF 1.55 and USD 1 = CHF 1.27.
4. The negative impact on growth of a permanent increase in oil prices by \$15 (which would put the barrel around \$60 rather than \$45 in early 2006 as assumed in EO77 projections) is estimated at ¼ per cent in the year of the shock for the average European country, including Switzerland, according to the Interlink model (OECD, 2004). These estimates are based on the assumption that nominal interest rates are held unchanged at their baseline level. According to Atukeren (2002 and 2005), the ability of the Swiss economy to absorb an oil shock is weaker during downturns than during recoveries.
5. According to SNB calculations, the 3-month Libor has been lower than Taylor's rule would suggest since mid-2004. Such a rule, which usually links short-term interest rates to the output gap and the difference between inflation and the inflation target, would suggest short-term rates between 1¼ and 2% on average during this period.
6. For a detailed description of the debt containment rule, see Box 2 in the 2002 Survey (OECD, 2002)

7. Authorisation to exceed the ceiling on federal expenditure, and hence the structural deficit, was set at CHF 3 billion in 2004 ( $\frac{3}{4}$  per cent of GDP), CHF 2 billion in 2005 ( $\frac{1}{2}$  per cent of GDP) and CHF 1 billion in 2006 ( $\frac{1}{4}$  per cent of GDP).
8. The information available concerning the fiscal outlook for other levels of government is very incomplete.
9. For 2004, only the fiscal data based on the financial statistics are available. Historical series based on national accounts, which differ somewhat from those of the financial statistics, end in 2003.
10. According to BAK Basel Economics, the 2004 fiscal reduction plan should reduce the level of GDP by less than 0.2% by 2010 (AFF, 2004). The BAK estimates also suggest that resorting to an increase in VAT to restore the Confederation's financial equilibrium would be slightly more unfavourable for the real economy and employment because of the price rises it would occasion.
11. The cumulative effect of deficits explains only about 60% of the increase in debt, the remainder stemming from the financing of public enterprises and the recapitalisation of their pension funds.
12. The maximum duration of benefits for job-seekers was increased from 250 to 520 days in the mid-1990s. But in 2003 this period was shortened to 400 days for workers under 54 years. It is also estimated that the structural unemployment rate rose from less than 1% to over 2% between the late 1980s and early 1990s.
13. These measures, which amount to CHF 5 billions (1.1% of GDP), include both reduction plans 03 and 04 (PAB 03 and PAB 04, *les plans d'allègements budgétaires 2003 et 2004*) mainly based on cuts in subsidies and transfers and a task elimination plan (PAT), seeking to cut government operating expenses.
14. Countries use different statistical procedures to calculate the output of financial services and expenditure on defence equipment and computer software and use differing methods of deflation (use of hedonic prices) and aggregation (use of chain or fixed-weight Laspeyres indices). Other statistical problems have to do with measuring the production of certain services, such as distribution and, above all, the non-market sector. These difficulties are acknowledged by national accountants who are working to overcome them (Ahmad et al., 2003).
15. The average growth of Switzerland's export markets, which is very similar to that of the three largest euro area countries, has exceeded that of Austria by  $\frac{1}{2}$  of a percentage point per year, on average, since 1981. Since 1997, however, this small export market growth differential has turned round in Austria's favour.
16. In a number of countries, uncertainties affect the number of hours worked, especially where the share of self-employed is large as in Korea.
17. In comparisons of productivity levels, estimates for the major European countries are biased upwards because a large number of unskilled workers are excluded from employment, contrary to the situation in Switzerland (Bourlès and Cette, 2005). This is less relevant, however, in comparisons with the Scandinavian countries and, above all, the United States.
18. Multifactor productivity is difficult to calculate in the absence of adequate capital stock series. The OECD estimates, which are based on a calculation of the capital stock using the perpetual inventory method, show that multifactor productivity has risen by only  $\frac{1}{4}$ - $\frac{1}{2}$  per cent per year since 1980.
19. Competition issues in the health care sector are discussed in Chapter 3.
20. The relative deterioration is worse when R&D is expressed in per capita terms: while R&D per capita increased by 50% in real terms in Switzerland since the beginning of the 1980s, it multiplied by 2.5 in Sweden and 4.5 in Finland.
21. Hotz-Hart and Küchler (2005) find that the Swiss foreign patent portfolio is more high-tech than the domestic portfolio. The foreign portfolio designates the patents owned by Swiss firms for inventions made abroad, while the domestic patent portfolio refers to patents for inventions made in Switzerland irrespective of the nationality of the firm owning the patent.
22. These developments are largely driven by SMEs which have taken the lead in the most attractive segments (Hotz-Hart and Küchler, 2005). Electrical engineering remains weak however.
23. Knowledge-intensive services include post and telecommunications, finance and insurance, and business services (excluding real estate). Other services sectors are considered to have a low potential for innovativeness. The value added share of the latter is not higher and has not grown faster in Switzerland than in other countries.

24. The finding of the Global Entrepreneurship Monitoring survey is based on a survey of the adult population between the ages 18-64 and a definition of entrepreneurship which includes both innovativeness and some job growth. When the sample is limited to firms of more than 10 employees and the criterion of entrepreneurship to the introduction of innovation, as in innovation surveys, Swiss SMEs perform well relative to SMEs in other countries.
25. The government had also put in place an energy saving strategy, which is complementary to the GHG abatement strategy. However, its cost was very high and varied a lot across different energy saving programmes. The principal reason for the high cost was the support of renewable energy, which doubled its share in electricity production, though still representing only a small share in energy supply. The cost was mainly borne by electricity consumers, while fiscal costs were small. Given the high cost, these programmes were scaled back.

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## ANNEX 1.A1

*Series of reforms to boost growth*

Given the persistently weak growth of the Swiss economy, the State Secretariat for Economic Affairs (SECO) has designed the main axes of a reform strategy that aims at stimulating the dynamism of the economy in the Growth Report published in 2002 (SECO, 2002). As recognised by the authorities, strengthening growth potential, which constitutes the main policy challenge, requires first and foremost, to boost productivity gains, even though further efforts to improve labour utilisation and to raise the availability of qualified personnel is also required.

Drawing on the Growth Report, the government adopted in February 2004 a wide agenda of reforms called “Series of reforms to boost growth’ (*Train de mesures en faveur de la croissance*), including 17 measures to be implemented during the 2003-07 legislature. The growth policy of the government is deployed around six mains axes (Table 1.A1.1) aiming at: i) increasing competition in the domestic market; ii) pursuing integration in the world economy; iii) limiting the tax burden and raising the efficiency of government actions; iv) maintaining a high participation rate; v) guaranteeing the excellence of the education system; and vi) enhancing the commercial legal framework. All these measures have the

Table 1.A1.1. **Series of reforms to boost growth**

Reform objectives	Measure
1. Increasing competition in the domestic market	1. Revision of the Domestic Market Act. 2. Revision of the Public procurement law. 3. Revision of the health insurance system (LAMAL), putting emphasis on enhancing competition. 4. Reform of the electricity sector. 5. Pursue reform of agricultural policy with the “AP2011” programme. 6. Analysis of the Swiss service market in relation to EU directives.
2. Pursuing integration in the world economy	7. Extension of the free movement of labour to new EU member countries.
3. Limiting the tax burden and raising the efficiency of government actions	8. 2nd revision of corporate taxation. 9. Simplification of the VAT. 10. Balance the federal budget in structural terms and put an end to the rise in the tax burden. 11. Reduce administrative burdens for enterprises.
4. Maintaining a high participation rate	12. Measures aimed at fostering a high participation rate of older workers in the context of the 12th revision of old-age pension scheme (AVS) and 2nd revision of the occupational pension system (LPP). 13. 5th revision of the disability insurance scheme.
5. Guaranteeing the excellence of the education system	14. Examine the need to promote tertiary education further and of raising efficiency in this sector. 15. Examine the role of the Confederation in lifelong learning.
6. Enhancing the commercial legal framework to stimulate growth	16. Improve corporate governance. 17. Improve the commercial legal framework.

following common features: they are likely to affect the overall economy; they are under the competency of the federal government, and they were not already included in draft reforms submitted to Parliament in 2004 (such as the latest reform in the telecommunication sector). This list of measures is likely to be supplemented by new proposals, which include, for example, the adoption of the *Cassis de Dijon* principle aiming at reducing technical barriers to imports from the European Union or the review of all federal tasks to reinforce the efficiency of government interventions.

As recognised by the authorities, Objective 1 (increasing competition on the domestic market) requires a revision of many regulations affecting prices and activities controlled by the public sector. Stronger competition is particularly needed for activities regulated at the cantonal level, the public procurement markets, the health care sector, the production and distribution of electricity and the agricultural and service sectors. Internal reform is complemented by the adoption of a comprehensive strategy for foreign economic policy through which a deep integration of Switzerland in the world economy is sought. Extending the free movement of labour to new EU member countries, which was recently approved by referendum (Objective 2), will, for example, broaden recruitment opportunities for employers in many activities. Improving the education system, as suggested by Objective 5 is also likely to increase productivity growth, and Objective 6 (enhancing the commercial legal framework) should strengthen entrepreneurship and corporate governance.

The authorities, confronted with a serious budget management problem have developed a fiscal consolidation strategy (Objective 3). At the federal level, this programme aims at restoring a structural budget balance mainly through expenditure-reducing measures. Deep structural reforms of the welfare programmes are also planned to ensure a satisfactory control of public spending in the long run. However, these reforms will have to be approved by the population in referenda. Objective 3 also includes efficiency-enhancing measures of the tax system and government interventions, such as the suppression of the double taxation of dividends, the simplification of VAT and the reduction of administrative burdens on firms.

Objective 4 of maintaining a high participation rate aims at raising potential growth through a better utilisation of potential labour supply by fostering the participation of older workers and better integrating people benefiting from the DI scheme in the labour market. The measures stimulating the participation of older workers, the reforms of the DI and of health care system will also contribute to improve the sustainability of the public finances.

The progress made regarding the implementation of these 17 measures is regularly assessed. To this end, a mandate has been given to the Seco to prepare an annual report on the basis of a detailed questionnaire sent to the ministries responsible for the preparation of each specific measure. The next report to be adopted by the Interministerial working party is planned for the end of 2005 and will also assess if additional actions are required in some domains.

## ANNEX 1.A2

*Progress on structural reform*

Based on previous and current Surveys and action taken since early 2004

Past recommendations	Actions taken and current assessment
<b>Labour market</b>	
Lower maximum duration of unemployment benefits.	The system was tightened further by limiting the right of cantons with high unemployment to extend benefit duration only to workers over the age of 50.
Ensure that the performance linked to the previous incentive system for regional placement offices is not lost.	The bonus-malus incentive system for regional placement offices has been suppressed, but information on individual placement results is still provided.
Provide more work opportunities for involuntary part-timers; develop childcare facilities to encourage female participation. Provide public support to childcare through targeted childcare subsidies or through tax breaks.	The Confederation has set up a financial support programme for the development of care facilities, including out-of-school care. The introduction of a short paid parental leave is also a step in the right direction.
Reduce pension contribution rates for older workers and bring them in line with those of younger workers. Introduce incentives for prolonging work or higher accrual rates after the standard retirement age.	A report on maintaining a high participation rate of older workers and a report on the government's role in lifelong learning are planned as part of the "2004 growth package".
Extend the agreement for the free movement of people with the EU to the new members.	This has been approved by referendum, as proposed by the "2004 growth package".
<b>Education</b>	
Tackle low literacy of new immigrants.	
Promote earlier entrance in the education system.	A current project of the Swiss Conference of Cantonal Ministers of Education aims at reducing the enrolment age and making it more flexible.
Implement reform plans of secondary education to improve quality and increase attention to worse students.	There is a proposal to harmonise the school system across cantons, which would give the Confederation a subsidiary competency if they cannot agree among themselves. However, this will require a constitutional amendment.
Make the financing of university education more efficient and fairer.	The authorities are preparing a reform of the financing of the whole university system which will introduce a standard education subsidy per student in each field by 2011. The implementation of the Bologna agreement is proceeding as planned in the "2004 growth package". The university reform will also promote the specialisation of universities and will introduce quality assessments of universities. Implementation is not expected before 2011.
Increase fees in tertiary education where private returns to education are high.	Education and research spending is growing faster than other public outlays, but promised increases were revised downward.
Increase the efficiency of the Universities of Applied Sciences by streamlining the number of paths.	The financing of Universities of Applied Sciences has already been restructured towards the application of a standard education subsidy per student in each field, which should lead to a better use of resources.
<b>Financial markets</b>	
Privatise cantonal banks and pursue social policy objectives through the budget.	
Ensure that the new regulator for financial markets includes occupational pension funds and all its members are independent from the profession.	Planned merger of the Federal banking commission and the regulator of private insurances in a single body.



Past recommendations	Actions taken and current assessment
<b>Reform the tax system</b>	
End the time-limitation of the federal government's power to raise income taxes and VAT.	
Replace the progressive tax on corporate income still prevailing in a number of cantons by a flat rate tax on corporate profits.	There is a bill to reduce the double taxation of dividends by taxing only 60% to 80% of them, as part of the revision of corporate taxation planned in the "2004 growth package".
Consider shifting the balance of the tax structure, with a reduction of direct taxes offset by higher indirect taxes. Enhance the neutrality of VAT.	Reforms aiming at simplifying significantly the VAT are being examined as part of the "2004 growth package".
Lessen the chronic instability of the withholding tax on dividends (without modifying its rate or tax base).	An adaptation of tax law cannot resolve the problem. The transmission of the withholding tax instability to fiscal planning is currently limited by using a trend value as a forecast within the budget process.
Suppress tax disincentives to married women's work.	A proposal aims at removing the marriage penalty by exempting 50% of the income of the second earner from taxation. There are also ongoing studies on a possible introduction of a negative income tax relating to labour market participation in order to reduce poverty traps.
<b>Enhance budget management and public spending efficiency</b>	
Avoid too mechanical an approach to the estimation of the output gap used for the debt containment rule. Modify the estimation method of the structural deficit to identify more clearly the non-cyclical component of the budget balance.	Technical adjustments were made to the output gap estimation based on an HP filter to make it more sensitive to revisions in GDP growth.
Apply the debt containment rule in a process that is centred on multi-year planning.	
Assess the fiscal costs and the main beneficiaries of tax expenditure on a yearly basis.	
Extend the use of outcome-oriented management methods.	A complete re-examination of federal finances based on a microeconomic approach has been launched.
Implement rapidly the proposed reform of spending assignments and fiscal equalisation schemes. Adjust conditional grants to better reflect spillover effects across jurisdictions and further consider spending assignments.	Required amendments to the Constitution have been approved by referendum. The bill was put to Parliament in autumn 2005 but its implementation is not expected before 2008.
Speed up the reform to reduce fiscal administrative burdens for businesses. Adopt the "silence means consent" principle for delivering administrative authorisations.	A "Simplifying Switzerland for Business" initiative has been launched as part of the "2004 growth package", including a streamlining of authorisation procedures.
<b>Ageing</b>	
Improve information and enhance transparency in pension plan accounts. Adopt flexible management of the minimum rate of return both upwards and downwards.	A flexible management of the minimum rate of return has been adopted. The conversion rate for occupational pensions has been revised downward and further revisions are being prepared by the government.
Consider raising the retirement age and reforming the pension indexation system to ensure the financial viability of the public pension system (AVS) beyond 2015.	The measures proposed after the rejection of the 11th revision of the AVS would reduce spending only marginally. The government has announced that it will overhaul the system in 2008 or 2009.
Curb the growth in the number of disability pensions. Consider introducing a system for awarding benefits initially on a temporary basis.	The Confederation's surveillance for granting invalidity pensions was reinforced. Further reforms are underway, with the goal of cutting new pensions by 20%. Additional financing measures are also being considered.
<b>Health care</b>	
Improve and centralise information about insurance funds; encourage a more homogeneous presentation of comparisons between premiums.	In addition to the offer of private information on providers, citizens can calculate their premia according to provider on a public Web site.
Extend the risk equalisation system beyond 2005; perform the relevant calculations in a forward looking manner and include in the system criteria linked to health risks.	The risk-equalisation system has been extended for 5 years.
Consider allowing profits to be made in the basic insurance market.	
Abolish the obligation to contract in the ambulatory and pharmaceutical sectors; increase price flexibility by decentralising negotiations between suppliers and insurers.	The authorities have extended for three years the freeze on the opening of new doctors' medical practices. A reform putting more emphasis on competition has been proposed in line with the "2004 growth package".
Introduce a prescription system based on active substances rather than branded products.	
Remove the obstacles to effective foreign competition on the drugs market.	
Reduce the influence of the pharmaceuticals industry on authorisations for drugs and on price setting with respect to reimbursed drugs. Review the way Swissmedic is financed. Include competition experts in price negotiations between OFAS and drugs manufacturers.	The reimbursement of five complementary forms of medicine was eliminated under the basic insurance system. Pricing of original products after patent expiration as well as pricing of generics coming on the market will follow new rules from Spring 2006 on.

Past recommendations	Actions taken and current assessment
Reform physician and hospital payment methods to improve efficiency.	A uniform price structure based on a point system (Tarmed) was adopted. Also reform of hospital funding is planned that will reimburse the costs of illnesses rather than the number of days in hospital.
<b>Competition</b>	
Change the constitutional clauses that hinder the Cartel Law to apply the prohibition principle for cartels.	
Ensure the political independence of the Comco by eliminating members that represent economic interests.	
Increase Comco's financial resources and personnel.	
Apply the Cartel Law in a rigorous, effective and comprehensive way.	
Consider introducing criminal sanctions as a means of punishing people responsible for anti competitive behaviour.	
Ensure that regulations of procurement contracts are better applied; use the potential of the new Internet site to increase competition and lower the threshold values for open public tenders. Limit the possibilities for splitting contracts. Improve the legal protection afforded by appeals against the use of non-competitive procedures.	A revision of the public procurement law is part of the "2004 growth package" and complemented by a law on electronic signatures, the development of Simap.ch and its link to TED (public procurement).
Revise the Domestic Market Act to include a specific reference to freedom of establishment in all the cantons and authorise Comco to appeal in the event of restrictive practices.	The government proposed a revision of the Domestic Market Act as part of the "2004 growth package".
In telecommunications, un-bundle local loops without further delay; prevent horizontal agreements in mobile telephony.	A revision of the Telecommunications Act is underway. Different forms of unbundling are planned to be introduced, but bitstream access may only be introduced temporarily. Comco started an investigation regarding termination fees.
In the rail industry, create a network regulator independent of the two main rail companies; eliminate the obstacles to competition on regional passenger lines.	The second phase of reform, which should open more widely the railways market including for cross-border traffic, is under discussion in the Parliament.
Accelerate the pace at which the postal services are being opened up to competition; create an independent Post Office regulator to ensure that the financing of the universal service does not interfere with competition in other parts of the market.	Limited progress has been achieved, as the area reserved for the incumbent was reduced to 100 g and Postreg published its first report.
Reduce the protection of agriculture and accelerate the de-linking of subsidies from production. Clearly identify the environmental objectives, which need to be pursued directly and should not be an excuse for persisting with very high aid to agriculture.	A new agricultural policy package "AP2011" is planned as part of the "2004 growth package".
In the electricity and gas sectors, liberalise the markets including for households; launch the reform of the gas industry; reduce political interference by cantonal and local authorities; create strong and independent regulators guaranteeing equitable access to the market; separate environmentally friendly measures in favour of renewable energy sources from the reform of the electricity sector.	A deep reform project of the electricity sector has been prepared by the government as part of the "2004 growth package".
Start negotiations with the European Union to adopt the principle of regional exhaustion of patent rights.	The plan was given up due to the more restrictive stance of EU compared to Switzerland regarding exhaustion in trademark and copyright law.
Remove the barriers that still make it difficult for foreign competitors to access distribution; reduce the obstacles to building hypermarkets.	The two series of bilateral agreements with the EU include important measures facilitating the exchange of agricultural products and processed food. The possible unilateral adoption of the Cassis-de-Dijon principle is being examined. The authorities are also exploring the possibility of negotiating a free trade agreement with the United States.
<b>Sustainable development</b>	
Equalise carbon taxes across sectors and link them to the price of CO <sub>2</sub> emission permits.	Provided parliament approves it, the tax rate a carbon tax will be introduced on heating and process fuels. Motor fuels are subject to a privately levied climate cent. In 2008, the latter could be superseded by a carbon tax, if progress towards meeting the reduction target can not be proven by the climate cent foundation.
Link support to renewable energy to either the cost of emission permits or the carbon tax. Enhance market position of renewables by introducing market based instruments such as a carbon tax or emissions trading scheme	
Ensure that the recycling cost <i>premia</i> do not exceed the cost of incineration and the avoided production externalities. Examine the feasibility of introducing competition in the market for incineration.	Work is in progress for a revised strategy on waste management/recycling/ sustainable material management, where the introduction of market elements into public waste management will be one of several main features.
Reconsider the scale of agricultural support taking into account environmental externalities. Improve coordination across administrations to ensure effective application of programmes against water pollution related to agriculture.	

## Chapter 2

# Improving the fiscal framework

Since the early 1990s, Switzerland has been confronted with a growing fiscal management problem which stems only in part from sluggish growth: it is primarily rooted in insufficient control over public expenditure which has triggered a sharp rise in taxation, as well as a rise in deficits and debt. The causes for the expansion of the public sector, which has been very pronounced, are many. They include the high income elasticity of demand for numerous public programmes, such as health care or education (“Wagner’s law”), whereas there are scant productivity gains in the production of those services (“Baumol’s law”). But the same factors are at work in other economies and thus cannot explain why upward pressures are stronger in Switzerland. Likewise, it is difficult to attribute sharply rising spending to population ageing, as the proportion of pensioners in the population has hardly changed. The fact that spending has increased across the board highlights that there are problems with the fiscal policy framework. Recent initiatives to improve it have run up against difficulties as evidenced for instance by the implementation problems faced by the new debt containment rule. This chapter assesses these recent reforms and proposes avenues for improving this framework to ensure a satisfactory control over spending in a long-term perspective.

### Further improvement of the fiscal policy framework is necessary

The management of the public finances is shaped to a large extent by the country's unique institutions, including: i) a system of direct democracy that allows citizens to vote on fiscal issues and thus strengthens a sense of civic responsibility, especially at the local and cantonal levels; ii) an elaborate federal system which brings citizens closer to policymakers; iii) tax competition between territorial governments; iv) constitutional limits on federal tax increases; and v) frequent use of budget rules. These institutions have traditionally been seen as conducive to a sound fiscal policy (Feld and Kirchgässner, 2004), but seem to have lost some of their effectiveness in recent years. Indeed, if they have probably helped limit the rise in deficits, current institutions have failed to prevent the sharp rise in public outlays since the early 1990s.

A variety of explanations may be advanced for the limited effectiveness of this fiscal framework on containing spending and the need for reforms (Bodmer, 2004a). *First*, there is an erosion of the political consensus as compared with earlier periods. This is reflected in diverging views among the government parties on the extent and nature of weak economic growth, which shape assessments of the room for funding public expenditure. This situation impairs effective control over spending, at the federal level in particular, because in the budgeting process the Ministry of Finance lacks pre-eminence over the other ministries.<sup>1</sup> *Second*, the development of fiscal federalism has shifted gradually in a way that has led to incentive problems that contributed to strong spending growth. This was the case, for instance, in the realm of transport because of an insufficient application of the principle of tax equivalency, which requires that those taking the decision to spend be the ones to provide the funding (OECD, 2002). Similar problems affect the funding of certain medical outlays. *Third*, and probably more importantly, the institutional framework has shown little effectiveness in countering a pronounced rise in social spending, as such outlays are based to a large extent on legal entitlements which are difficult to change.

The combined influence of these factors has weighed most heavily on the capacity of the federal and cantonal governments to control their spending and their deficits (Chapter 1). Efforts to improve the fiscal framework have concentrated on these governments in recent years. In this regard, the introduction of the federal constitutional rule on “debt containment”, which seeks to ensure balance in the Confederation’s finances over the economic cycle,<sup>2</sup> is the most important reform. But since the end of the 1990s, a number of cantons have also adopted binding mechanisms to ensure balanced accounts, even though most of them already had budget rules (Schaltegger and Frey, 2004)<sup>3</sup>.

### Despite initial difficulties, debt containment has reinforced the primacy of fiscal discipline

It is still too early to judge how effectively the debt containment rule has changed the Confederation’s fiscal framework, especially as the application of the rule ran into difficulties as soon as it entered into force in 2003. Indeed, the sharp drop in federal

revenue at that time due to the bursting of the financial bubble left a structural deficit of  $\frac{3}{4}$  per cent of GDP, rather than the expected balanced budget. The application of the rule, which would have required that the deficit be eliminated immediately, was suspended temporarily to avoid a further weakening of the economy. Nevertheless, a plan to gradually reduce the federal deficit was formulated rapidly to reinstate the unrestricted debt containment rule as from 2007. Implementing that objective, which is one of the government's priorities for this legislative session, already gave rise during the winter of 2003 to the adoption of an initial fiscal reduction plan (PAB03). These measures were supplemented by a second programme, approved by the Parliament in June 2005, comprising a new reduction plan (PAB04) based on cuts in subsidies and transfers and a task elimination plan (PAT) seeking to cut government operating expenses. The combination of these programmes aims at balancing the federal budget in structural terms as from 2007. In all, despite initial problems of application, the debt containment rule has reinforced the primacy of the fiscal consolidation objective advocated by the Ministry of Finance, imposing a rapid response to fiscal problems (Saurer, 2004).

### But the rule still has shortcomings

These efforts have nonetheless highlighted difficulties in responding to an unexpected increase in expenditure or a revenue shortfall. The structure of the federal budget, which is dominated by transfers, severely limits options for short-term adjustment.<sup>4</sup> No fewer than three plans focusing on spending restrictions and spanning a four-year period were needed to restore a sound fiscal position. The cantons, which are also facing budgetary difficulties, try to minimise the burden-sharing that can result from the federal plans.<sup>5</sup> Similarly, transfers to social security agencies, whose spending is dictated by benefit entitlements, cannot be adjusted easily in the short-term. It would therefore appear difficult to apply the debt containment rule without medium-term control over the direction of the federal finances. Nevertheless, the rule applies only to the current year's budget and cannot be used to stop the authorising of outlays that are underfunded but have no immediate effect on the fiscal year. But a number of proposals currently in preparation or under discussion in Parliament could generate additional spending or reduce tax receipts, so that the objective of maintaining the federal budget in structural balance is not guaranteed (AFF, 2005). This increases the risk of repeated recourse to consolidation plans, which could impair the credibility of the debt containment rule, despite its broad popular support.

### Highly interdependent relations between governments also impede consolidation

The highly interdependent budgetary relations between the various levels of government can also complicate fiscal consolidation efforts if those efforts are not sufficiently co-ordinated between the governments. In this regard, the most serious problem lies with social expenditure, which is financed in part by the federal and territorial governments. The contributions of these governments represent a fixed share of certain social outlays – 20% in the case of basic old age insurance (AVS) and 50% for disability insurance (AI), and the ongoing fiscal federalism reform will shift all of these contributions to the Confederation. Governments also help finance health care expenditure, whether in the hospital sector, for care to dependent persons, or health insurance premium subsidies for modest-income households. This financing mechanism, which relies extensively on cost-sharing arrangements across levels of governments, crowds out other outlays. This

crowding-out, which was already perceptible in recent years with weaker investment growth may be amplified in the future and limit government's leeway for setting priorities. As a result, the possibilities for compressing federal spending on defence, which have been used extensively in the past, are narrowing, and it is significant that government spending on education and research did not escape the recent budget cuts, even if increases in these areas still outpace the average rise in spending.<sup>6</sup>

Neither is the fiscal framework conducive to the control of social and medical costs. The partial financing of these outlays by the Confederation and the cantons reduces the public's perception of the extent of the pressures exerted by their sharp increase.<sup>7</sup> In contrast, compulsory private insurance, which covers health care, for example, has to a large extent escaped pressures that could be brought to bear during budget talks to contain the rise in spending. The upward trend is offset almost mechanically by increases in household premiums to health insurance funds. Moreover, this feature bolsters demand for greater premium subsidies for modest-income households, increasing the burden on federal and cantonal budgets. More generally, social and medical outlays are contingent on benefit entitlements, over which the moderating effects of direct democracy, federalist institutions and budget rules are largely powerless at all levels of government, whereas any change of these entitlements runs up against strong popular resistance.

### **Control of spending over the medium term ought to be improved**

In response to these difficulties, there are different options to adjust the fiscal policy framework. First, it would be advisable to extend the debt containment rule to medium-term financial plans. While such an approach would clearly raise difficulties because of the necessarily imprecise nature of the economic and financial parameters underlying medium-term plans (Bodmer, 2004b), the obstacles ought not to be overestimated: specifying a real rise in expenditure similar to trend growth would imply that the budget rule is satisfied in the medium-term, if no change in taxes is planned. The current consolidation plan, which extends until 2009, effectively goes in that direction. All that is needed, then, would be to make this approach permanent and, more generally, to give more prominence to the debt containment rule and the associated risks in communicating medium-term financial plans, given numerous projects for additional spending or tax cuts and the lack of short-term flexibility of the federal budget. Parliament's heightened awareness of the need to limit unfunded spending decisions, noted by Himmel and Geier (2004) since the new budget rule was adopted, ought to make this task easier.

Alternatively, or as a complement, financial referenda could be extended to the Confederation. Such referenda, which are used frequently in the cantons and the communes, allow citizens to reject proposals to increase spending (recurrent or not) in excess of a specific threshold. Empirical analysis shows that the tax burden and spending are significantly lower in the cantons in which the possibility to use such referenda is widespread (Feld, 2004). Use of these instruments at the federal level could contain certain types of spending and be a useful complement to the debt containment rule. But the extension of these referenda to the Confederation, which has long been debated, prompts some hesitation. Referenda would be difficult to use because of the federal budget's high proportion of legally mandated transfers. It should be noted, however, that changes to social insurance schemes, such as old age pensions, are already subject to popular vote, and that it would also be useful to consult with the people on possible extensions of redistributive programmes. Moreover, the sometimes-voiced fear of over-regulation or

stalemate in the event of contradictory votes between, say, the decision to commit additional expenditure and the possible refusal to allocate the corresponding appropriations, would not seem to be shared unanimously either (Beck, 2004). This risk would probably be limited, since financial referenda would reduce the asymmetry between outlays, which are easy to decide, and revenue, which is more difficult to raise, which would prompt Parliament to be more economical with the public purse strings.

### Fiscal policy should be administered in a more comprehensive and transparent manner

There should also be greater transparency regarding the origin of pressures on spending, and a better match between the requirements of budget rules and the possibilities for the governments subject to those rules to act. In this spirit, social insurance accounts – AVS and AI in particular – ought to be separated from those of the cantons and the Confederation, as the government examines (Bütler, 2004). Replacing transfers from the Confederation and the cantons that are based on spending by these social insurance schemes with transfers that are tied to the tax revenue of central and territorial governments could also be considered. However, such a reform would have redistributive effects which may increase the difficulties to find sufficient political support. This reform would ease direct pressures on federal and cantonal accounts, and it would also alleviate the resulting resource allocation conflicts. Above all, it would more clearly underscore the need for social security reforms. A faster policy response to the rising disability expenditure would have been facilitated if the AI had not had the possibility to finance itself through the AVS funds.<sup>8</sup> As a rule, a separation between social insurance and other government accounts would give the population a better grasp of the choices to be made. *De facto*, the current reform of fiscal equalisation and the sharing of responsibilities (*Réforme de la Péréquation Financière et de la Répartition des Tâches*) is aiming at a similar objective between the Confederation and the cantons (Chapter 3). Greater transparency is crucial to obtaining the support needed for reforms, and to preventing direct democracy from becoming an obstacle to change. It is also desirable so that the population is well-informed of the tax consequences of its choices if rejection of the proposed reforms, as in the recent case of the 11th revision of AVS,<sup>9</sup> is motivated by a preference for redistribution.

Another avenue of reform should focus on implementing a more comprehensive approach to budget issues (Box 2.1). Because of federalism, cantonal and communal budgets are rarely discussed or assessed outside the canton in question, and the

#### Box 2.1. Recommendations for improving the fiscal policy framework

- Apply the debt containment rule to medium-term financial plans.
- Extend the use of financial referenda to the Confederation.
- Reduce the use of cost-sharing arrangements across levels of government. To this end, consider a separation of the disability insurance accounts and those of basic pensions from the federal and cantonal accounts, eventually shifting to federal and cantonal transfers based on the tax receipts of these authorities.
- Favour a more global approach to fiscal management, including the preparation of more detailed medium-term consolidated plans.
- Increase use of benchmarking of the cost and effectiveness of government programmes.

information available in this area is very limited and published late. The fact that certain social outlays are managed through a system of compulsory contributions to private insurance reinforces this statistical fragmentation, making it difficult to have a coherent overall view of fiscal trends and their prospects. At the national level, discussions focus essentially on federal finances, which represent only a third of the aggregate general government budget. And yet the budgets of the Confederation, cantons, communes and public and private social insurance schemes are interdependent. Regular preparation of a comprehensive fiscal overview, including medium and long-term consolidated government plans encompassing compulsory private social insurance, would enhance the understanding of problems and communication of priorities for action to the public. This would entail speeding up efforts to improve the availability of uniform information on statistics and fiscal policies.<sup>10</sup> Even if cantonal fiscal policies are set independently, it would be useful to assess them through a peer review system conducive to the co-ordination of consolidation efforts, as is done amongst EU countries. More benchmarking would also make the spending of cantons and communes more efficient. Publication of employment and compensation statistics at the federal and cantonal levels, and for large cities, for example, would be a good way to moderate government operating costs, which since 1990 have been kept less tightly under control at the territorial than at the federal level.

## Notes

1. Ministers initiating spending assess the benefits of higher subsidies (for agriculture, for example) but assume only a portion of their costs. As shown by Hallerberg *et al.* (2004), a budget process with no dominance by the Ministry of Finance is conducive to a rise in spending, if not to higher deficits and debt.
2. This rule imposes a ceiling on expenditure, based on the estimated structural level of federal revenue, in order to keep the Confederation's accounts in structural balance and thus to conduct a fiscal policy that is passively countercyclical.
3. Until 1998, five out of 26 cantons had sanction mechanisms in place, such as mandatory tax increases in the event objectives were not met, in order to ensure that their public accounts were balanced. Recently, four additional cantons have introduced a rule and three others are in the process of formulating one.
4. From a short-term perspective, the proportion of "obligatory" federal expenditure exceeds 70%.
5. According to Widmer-Schlumpf (2004), PAB03 shifts some CHF 170 million to the cantons. As a result, parliamentary discussions on the second consolidation programme sought to limit the shifting of burdens to cantonal finances.
6. Forecast growth of federal spending on education and training, which was initially set at 6% between 2004 and 2006, was reduced to 3% in the most recent financial plan. According to Widmer-Schlumpf (2004), the federal consolidation policy also induces a stop-and-go policy on certain projects launched in association with the cantons, as in the realm of occupational training, because of a drop in the Confederation's share of these expenditure from 25% to 20%.
7. For example, only half of the savings from a programme to cut disability spending will benefit the disability insurance scheme, since the remainder will be transferred to the federal and cantonal governments.
8. AVS and AI are financed by dedicated taxes and general government revenue. The Confederation does not balance these accounts but records their net financial position in the reserves. AI deficits, which each year amount to some 10% of expenditure, are gradually drawing down AVS reserves, which amount to roughly one year's outlays.
9. In May 2004, the population rejected both a proposed reduction of pension entitlements and a VAT hike intended to ensure the financial viability of AVS and AI until 2015-20.



10. A harmonisation of the accounting rules of the Confederation and the cantons, including a shift to accrual-based accounting, is in progress; this should be conducive to a more uniform and more rapid presentation of these accounts.

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## Chapter 3

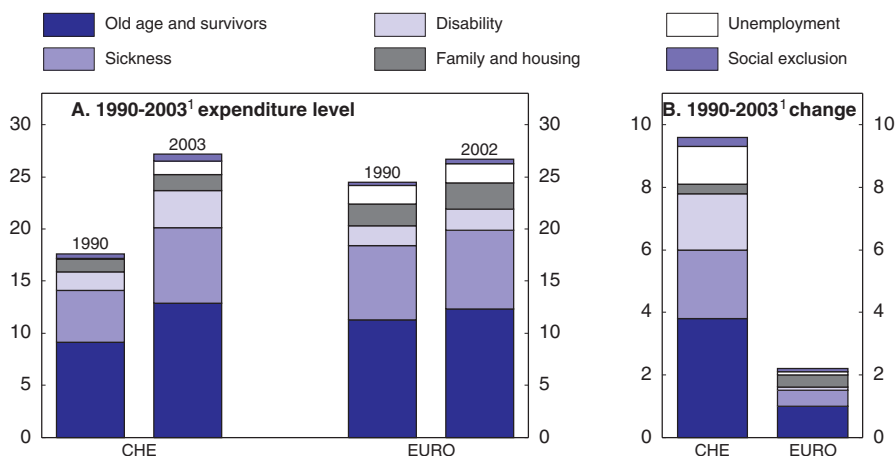
# Reforming welfare programmes and raising the efficiency of government interventions

*The adoption of a better fiscal policy framework should be complemented by reforms to moderate the strong growth of public expenditure. While the increase in spending by all government levels has outpaced GDP growth, the sharpest rises occurred in the social and medical domain. Deep structural reforms to the disability, health and pension insurance schemes are needed, as recognised by the authorities. However, the difficulties in implementing these reforms raise fears that the scope of changes currently proposed is insufficient. Also, further efforts are required to raise the efficiency with which money is spent and collected by the government. This chapter assesses the reforms of welfare programmes and the modernisation of the administration and the tax system and makes suggestions to enhance their coherence and effectiveness.*

## Reforms of social programmes are required urgently to slow government spending

While the consolidation programme to restore a balanced federal budget as from 2007 on does not include fundamental reforms (Chapter 1), it will give the government the time (until 2008-09) to adopt reforms that should make the moderation of spending growth permanent. The rapid expansion of social outlays, which rose more than twice as fast as GDP between 1990 and 2003, underscores the urgency and scope of the reforms needed in this area. The share of outlays in GDP, which rose to roughly 30% in 2003 is slightly above the European average and roughly 10 percentage points higher than in 1990. This is a much sharper rise than elsewhere (Figure 3.1). While these figures which comprise the fully funded second pillar tend to overestimate spending in comparison with other countries,<sup>1</sup> it has to be acknowledged that most social programmes face upward pressures on their outlays. In the case of disability insurance, these problems have led to an accumulation of deficits, while for health insurance they are reflected in a sharp rise in the premiums paid by households. The increase in these outlays, and in social benefits, is raising the tax burden and/or the deficits of the federal and territorial governments. Moreover, population ageing will lead to greater pension financing difficulties, beginning around 2010, especially for the basic system, which works on a pay-as-you-go basis. This situation will demand difficult choices as, even with higher trend growth, the long-run sustainability of public finance would be threatened if the dynamism of social spending is not substantially moderated.

Figure 3.1. **Social expenditure**  
In per cent of GDP



1. 2002 for the euro area.

Source: Eurostat and OFS, *Press release, Series 13 – Social protection*, 12 May 2005.

### ***Funding for basic old age insurance is still not ensured***

The financial outlook for basic old age insurance (AVS) highlights the need for reform. Because of population ageing, which is expected to be similar to the average of other OECD countries, a deterioration of the AVS accounts is inevitable.<sup>2</sup> According to the latest official projections, a deficit is expected to emerge between 2007 and 2010, which could widen to roughly 1½ per cent of GDP in 2020. Although no longer-term analysis has been done recently, earlier work projected an additional increase in AVS outlays and financing requirements of roughly 1½-2% of GDP between 2020 and 2040 (Schluep, 2003). Stronger growth would only partly alleviate this financing problem. According to Schluep, a ½ percentage point addition to annual productivity growth would only reduce the AVS deficit by ¼ per cent of GDP by 2020 and nearly ¾ per cent of GDP by 2040. The reforms envisioned in the short term, which affect the system's outlays only, would not be able to solve the financial problems. Indeed, after the referendum defeat of the 11th AVS revision in May 2004, the government decided not to undertake any far-reaching reform in the immediate future. The proposed measures to be submitted to Parliament, should reduce the level of spending only marginally (by just over 1%). The potential savings, which include raising the retirement age for women from 64 to 65, abolition of widows' pensions for widows with no children,<sup>3</sup> and a shift from the biennial method for indexing pensions to an adjustment system triggered when inflation exceeds a certain threshold (4%), are in fact partially offset by an expansion of early retirement options for older workers with no prospects for re-entry into the job market.

The government intends to overhaul AVS more extensively in 2008 or 2009 to ensure its funding until 2020. The main aspects of this revision will involve a prolongation of working life due to a change in the retirement age, a cut in benefits with a more comprehensive review of pension indexation mechanisms, and adoption of additional sources of financing. Such adjustments can hardly be avoided, but it will be difficult to get them accepted, as shown by the rejection of the 11th revision. Better information will be needed to overcome the scepticism of a majority of the population and a better job will need to be done in spelling out the implications of the various options in terms of fairness and economic efficiency. The rise in retirement age is however contingent on measures taken to increase the employment opportunities and working conditions of older workers on the labour market.

### ***To be acceptable, reform must be fair...***

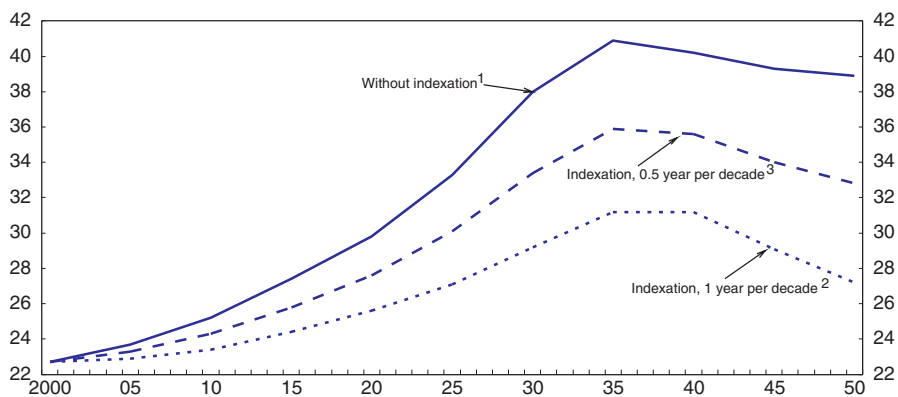
The acceptability of the reforms will be enhanced if the costs of adjustment are shared fairly throughout the population. From this standpoint, a cut in benefits or an increase in the number of years worked would shift these costs to older workers. A reduction in AVS pensions might even have the greatest impact on low-income earners unable to offset a drop in basic pensions with greater savings in the funded 2nd or 3rd pillar scheme. Moreover, such a measure could have a limited impact on public finances if it were to induce a rise in supplementary benefits that guarantee seniors a minimum level of income. In addition, a majority of the population seems opposed to raising the minimum retirement age, as shown by the persistent demand for more flexibility in this area. There is in fact a feeling that the persons who would be hit hardest by such a change are those of modest means who join the workforce at a young age and cannot retire early because of low second-pillar retirement benefits. These considerations would militate in favour of higher taxes, which would shift the burden to the younger generations in the event of a

hike in social contributions, or to all generations in the event of a VAT increase. However, a VAT increase was rejected in the 2004 referendum.

### ... but it must also avoid impairing efficiency

However, increasing taxes, and social contributions in particular, would affect growth more adversely than a benefit cut, which might stimulate private savings and investment, or induce people to work longer, which would expand labour supply (Oliveira Martins *et al.*, 2005). The preservation of social entitlements, combined with higher taxation, would in fact be likely to accentuate the relative reduction of living standards as compared with other countries less affected by the demographic shock, such as the United States, or in relation to countries that favour a more growth-friendly response, such as increasing the minimum number of years spent in activity before retiring. Total or partial indexation of the retirement age on life expectancy trends would significantly reduce the rise in the dependency ratio of the elderly that is induced by population ageing (Figure 3.2). But prolonging the working life can also be made compatible with a more flexible retirement age, for example, if the latter is defined on the basis of the number of years of contribution to the occupational pension system. This adjustment would be consistent with rising longevity, especially insofar as the health of the elderly is also tending to improve. In all, striking a balance between fairness and economic efficiency would militate for a combination of measures involving taxes, benefits and years of work. It is also important not to delay decisions, as time is needed to phase in reforms affecting benefits and years of work. Delaying the reform could also create equity problems insofar as population ageing will increase the median age of voters, which will reduce the weight of the younger generations in the Swiss direct democracy system. The median age, which is currently 46.5, will increase to 54 by 2035 according to the latest official projections. For this reason, the far-reaching reforms announced by the government ought to factor in the pension funding problems beyond 2020.

Figure 3.2. **Impact of longevity indexation on dependency ratio**  
Dependency ratio



1. Defined as the share of the 65+ population over the 15-64 years old.
2. Old-age threshold indexed in line with life expectancy gains underlying national projections (1 year per decade).
3. Old-age threshold indexed in line with a 0.5 year increase per decade in life expectancy.

Source: OECD/DELSA population database.

### ***The conditions favouring employment of older workers could be improved***

Whatever decisions are taken for the retirement age, it is necessary to eliminate obstacles to people working longer. To do so, a number of avenues should be favoured (OECD, 2003a). *First*, it would be desirable to reduce the progressive nature of contributions to the second-pillar, which now rise as a function of age, which discourages hiring older workers.<sup>4</sup> However, this will generate transitional issues which are difficult to overcome and will take resources away from younger people.<sup>5</sup> *Second*, labour and management should be encouraged to reduce the role of length of service in compensation schemes and shift the balance towards parameters involving abilities and productivity.<sup>6</sup> *Third*, regional placement offices could be made more attentive to the problems of older job-seekers in assessments of their performance, but also in combating discrimination against them in hiring.<sup>7</sup> *Last*, ongoing training ought to be enhanced (Chapter 5) and expanded for older workers whose skills are obsolete, especially in technology-intensive sectors of the economy (Ramirez, 2002). This would also be beneficial for their productivity.

### ***Occupational benefit reforms are still necessary***

#### ***The financial position of social security institutions has improved...***

Although not yet consolidated, the financial position of occupational benefit funds improved in 2003-05 following the sharp deterioration in 2002 with the financial market crises. The proportion of funds running a deficit, i.e. a funding ratio of less than 100%, dipped from 20% to 11% between 2002 and 2003, but this is still above its 2001 level (6.5%). This was underpinned by the rebound of financial markets, various measures, such as greater flexibility in the minimum yield required by pension funds<sup>8</sup> and the contribution hikes imposed by a number of funds. But there are large disparities between funds.

The public-sector funds were traditionally not fully funded and the situation was partly aggravated by the financial market crises. Over half of these have deficits, which vary sharply from one canton to another. The aggregate amount of the deficit is estimated at around CHF 18 billion (4% of GDP), or twice the deficit of funds not having government guarantees (including those in the private sector). In recent years this implicit public debt became an issue in the political debate. Reforms aimed at consolidating some public funds have been recently prepared (like in the case of *Publica* which covers the federal government's employees),<sup>9</sup> or are being prepared (like in the case of *La Poste* or the CFF, the federal public railway company).

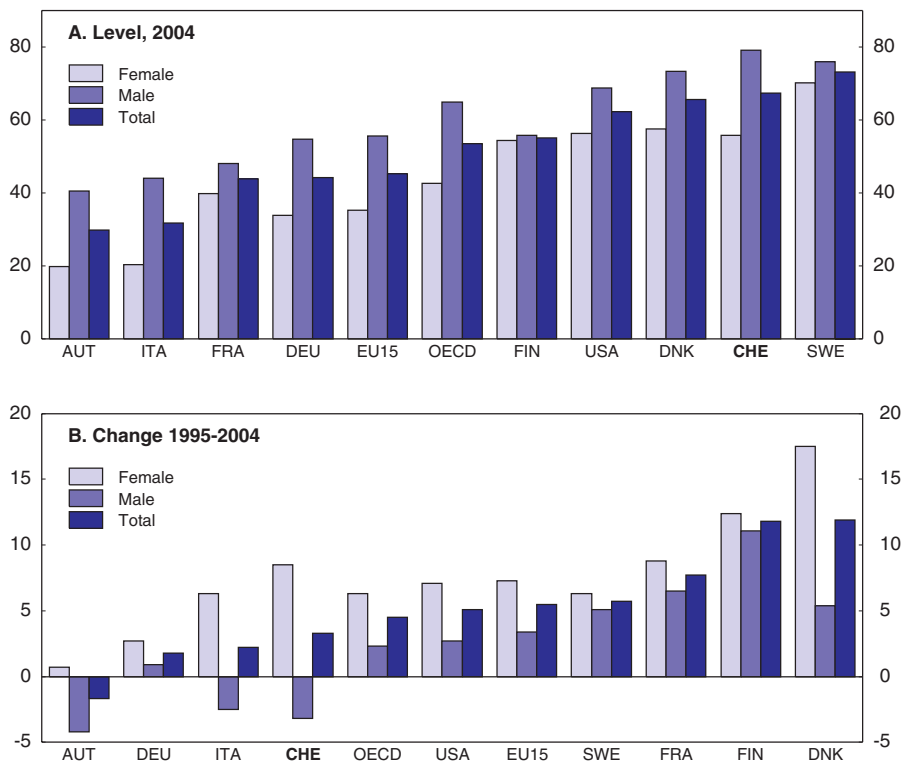
#### ***... but further adjustments are needed***

The poor returns in financial markets since 2000 and especially the persistently low interest rates on bonds since the mid-1990s make further reforms necessary. Because lifespans are getting longer, a reduction of the rate for converting retirement assets into annuities for people insured under the compulsory 2nd pillar scheme by 2015 from 7.2% to 6.8% has already been adopted with the recent revision of the Occupational Benefits Act (LPP). Nevertheless, a further cut in this rate would appear necessary in view of the probable persistence of low nominal yields in a non-inflationary environment in the coming years. Calculations based on an assumed yield of between 3.35% and 4%, rather than the 4.5% currently used, would lead, for example, to a conversion rate of between 6% and 6.4% (OFAS, 2005) – a level comparable to the rates set freely for the supplemental portion of pension benefits in 2005. A reduction in this rate would therefore seem

necessary, and it should be implemented without delay, as recommended by the Federal Occupational Benefits Commission, even if it would be advisable to re-examine the situation on a regular basis. But this change could be accompanied by measures to limit the magnitude of the adjustment by eliminating certain legal restrictions that hamper the ability of pension funds to diversify and optimise their investments, *e.g.* in raw materials or hedge funds, for which special government authorisation is required.

Reforms should also be made to limit early retirement in the second-pillar retirement schemes, which has expanded significantly since the 1990s. Occupational pension plans are indeed the major source of financing early retirement (OFAS, 2003). This has reduced the participation rate of older workers in Switzerland by more than in many other countries; this is harmful for growth, even if the participation rate has remained comparatively high (Figure 3.3). While only 22% of workers took early retirement in 1991-92, the proportion has risen to about 32% since 2001, and the probability that people will opt for early retirement is over 50% if their accumulated occupational pension assets exceed the median (CHF 333 301). Indeed, according to Bütler *et al.* (2005), the decision to withdraw from the labour market, especially for men, is closely tied to the amount of money accumulated under occupational benefit schemes. In response to that situation, efforts have been made recently to avoid misuse of the tax breaks associated with funded pension schemes, and the minimum age for drawing early retirement benefits from 2nd pillar pension funds was raised from 55 to 58, except for certain professions or in the event of early retirement in connection with restructuring.<sup>10</sup>

Figure 3.3. **Old-age<sup>1</sup> labour force participation rates**



1. Persons aged 55-64 years old.

Source: OECD, Labour Force Statistics database.



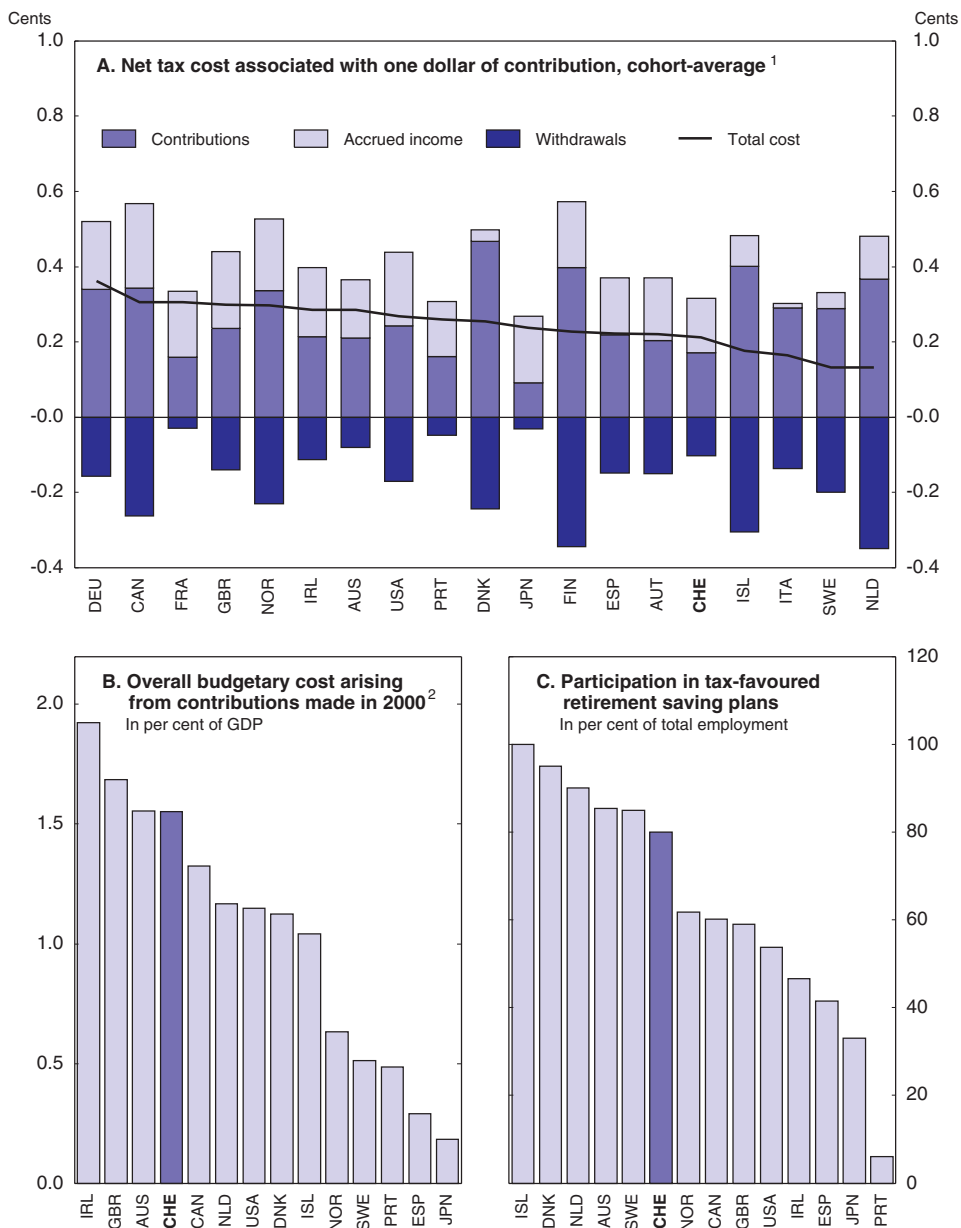
These measures could be reinforced, however, by further reductions in tax breaks to funded pension schemes. As in many other countries, benefit schemes enjoy favourable tax treatment, with tax exemptions for pension fund contributions and the income generated by invested assets, even though pensions are taxed like other household income. According to OECD estimates, the budgetary cost of these programmes is high: although net subsidies, amounting to roughly 20 centimes per franc in contributions, are similar to those of other countries, the large and rising proportion of workers participating in the schemes raise the budgetary cost in Switzerland (Yoo and de Serres, 2004) (Figure 3.4). Moreover, this cost is probably not offset by the positive effect induced by additional savings. First, to the extent that contributions to the second pillar are compulsory incentives to spur savings are superfluous; second, deductions relating to the supplementary portion of benefits probably have only a windfall effect affecting portfolio allocation since they benefit largely the wealthiest groups. As a result, these tax breaks, which are regressive because of the progressiveness of tax rates, constitute implicit public financing of the early retirement pensions of the wealthiest insured persons.<sup>11</sup> This also stimulates similar demands on the part of workers with more modest means who contribute to AVS alone. All of this would suggest that the government should review the tax aspects and limit the cost to the budget. For example, the overall ceiling on contributions, which would appear high, could be lowered, and a tax could be imposed on income derived from invested assets (Antolin *et al.*, 2004).<sup>12</sup> Such changes could be made in a way that is neutral from the standpoint of taxation.

### **Disability insurance reform is required urgently**

Spending on disability insurance (DI) has grown sharply since 1990. Outlays nearly doubled, to 2.5% of GDP in 2004 – a level that is higher than the OECD average. Also a deficit has emerged, which was more than CHF 1.5 billion in 2004 (0.4% of GDP), for an accumulated debt of CHF 6 billion (1.4% of GDP). The sharp increase in disability spending reflects a spectacular rise in both the number of beneficiaries (averaging 4% per year since 1990) and the amount of their pensions (3.4%). The latter stems from the adaptation of the pensions to overall economic growth and the greater entitlements of new entrants. The sharp rise in the proportion of disability pension recipients in the working-age population from 3.6% in 1990 to 5.6% in 2004, which is now higher than the unemployment rate, has a number of causes. In part, they are linked to the ageing process, because the risk of disability increases with age. But this explains only one-fifth of the yearly rise in expenditure. More fundamentally, the very rapid growth in the number of beneficiaries stems from the rise in psychic illnesses and back problems affecting the population at an increasingly young age, as in many other OECD countries (OECD, 2003b). Three factors explain this trend: a rise in the number of debilitating accidents and illnesses; improvements in detecting health problems; and an increase in non-medical causes such as family, financial, unemployment or occupational problems in an environment marked by rapid technological and labour market changes, which are sources of increasing difficulties of adjustment. It would seem likely that this third cause, initially divorced from health issues, has played an increasing role in the growing number of disability pensions (Murer, 2005).

The 4th revision of DI, which was adopted in 2003, strengthened the Confederation's control over the conditions for granting pensions at the cantonal level, which showed substantial disparities (Spycher *et al.*, 2004). This effort to harmonise the implementation

Figure 3.4. **Budgetary cost associated with the private pension plans**



1. Based on the employer-sponsored schemes (except Italy) and annuity pension income. However, for countries in which tax treatment between the employer's and employee's contributions is the same, the distinction between employer-sponsored and individual pension schemes is meaningless.
2. The figures are calculated as the product of the net fiscal cost per unit of contributions times total contributions to tax-favoured private pension plans in 2000. Given that the net fiscal cost per unit of contributions is estimated on the basis of the tax treatment prevailing in 2003, these estimates should be interpreted with caution.

Source: National sources and OECD calculations.

of the law has begun to pay off. Inter-cantonal differences in the ratio of new pensions to the insured population were halved between 2002 and 2004 because of better monitoring of cantonal DI office operations.<sup>13</sup> However, these measures have not resolved the DI's financial problems and the Federal Council has initiated a new revision of the Act, with the

goal of cutting the number of new pensions by 20%. The main focus is to intensify early screening, to help to get people back to work and to make eligibility criteria more stringent.<sup>14</sup> This detection system, to be implemented by the cantonal DI centres, may help prevent that the people concerned lose their job.<sup>15</sup> Nevertheless, implementation of this reform, which also includes savings,<sup>16</sup> will have a high initial cost, so its effects will be felt only after a certain lag. Since these changes will not be sufficient to restore financial balance, the Federal Council has provided for additional financing measures in the form of a 0.1% payroll contribution increase and a 0.8% VAT rate hike in 2008. This programme will enable the scheme to eliminate its deficit by 2009 and to eliminate its debt gradually, by roughly 2025. An alternative that is discussed would be to attribute the federal government's share of the Swiss National Bank's gold to paying down DI debt, but this would not avoid a significant increase in the VAT rate, amounting to 0.7 percentage point. It is expected that this reform package will be submitted to Parliament in the winter of 2005, with implementation beginning in 2007.

There is a consensus that early detection of people with potentially debilitating difficulties is of crucial importance (Bachmann *et al.*, 2004). At present, DI is in many instances granted only after a protracted period of health problems and professional difficulties. For this reason, the proposals contained in the draft 5th revision are steps in the right direction. But the outcome of the reform will hinge on how it is carried out. Insofar as the difficulties leading to disability often have non-medical origins, the problems should be treated using a multidisciplinary approach, on a case by case basis. Alongside the help of medical and therapeutic services, the reform should focus on getting people back in the labour force. Reforms along these lines in other countries, such as the United Kingdom, have yielded encouraging results (OECD, 2005). This entails putting the emphasis on skills or occupational reclassification, coaxing disability pensioners back to work with financial incentives and support for businesses to keep or to take on the people in question. For example, the efforts of disability pension recipients to find another job should not be impeded by the fear of losing their entitlement to a pension if, after finding work temporarily, they lose it once again. Financially, however, such a reform ought to have a limited effect on the level of spending in the short term, and additional financing would therefore seem inevitable, as the proposed reform recommends. It is important, however, to ensure that the allocation of additional resources does not lessen efforts to moderate spending. Consideration ought to be given to separating DI financing from that of AVS and other government agencies. Moreover, the number of pensions could be reduced if financial incentives, taking for instance the form of experience-rating of social contributions, were provided to avoid an excessive recourse to DI (OECD, 2006a).<sup>17</sup> However, the effect of experience-rated contributions for employers in the DI should not be overestimated. First, the level of the contributions to the DI amounts actually to 0.7% of the salary. More importantly, experience-rated contributions already exist in the second pillar, which constitutes the major part of the costs for disability.<sup>18</sup> Premiums for the daily allowances insurance and the accident insurance premiums are also already experience-rated. Indeed, it cannot be ruled out that DI was in fact used as a means to obtain early retirement or in the context of industrial restructuring, since the old age pension system and the unemployment insurance scheme offer scant opportunities for early withdrawal from the labour market below the age of 62.<sup>19</sup> Incentives to firms to avoid invalidity pensions are useful to the extent that firms have a strong influence on access to disability

pensions, but need to be applied in such a way as to avoid discouraging the recruitment of persons with health problems.<sup>20</sup>

### **The co-ordination of social assistance should be improved**

Spending on social assistance has also increased very rapidly. It has risen by over 7% per year since 1990, reaching more than CHF 3 billion (0.7 per cent of GDP or one-third of disability spending) and affecting some 300 000 people, i.e. more than the number of disability benefit recipients. The bulk of this assistance goes to young people and those living by themselves in urban areas. Children and adolescents, and also adults aged under 25 are over-represented in this category, as are foreigners who are often low-skilled. The objective of social assistance, the cost of which is met by the cantons and communes, is to combat poverty and ensure a minimum level of subsistence through means-tested benefits. These are granted only when people can no longer look after themselves and if third-party obligations, including social insurance, have been exhausted or are not available in time. This system is therefore a social “safety net”, meaning that cuts in spending in other areas inevitably impact on the latter’s budget. In addition to providing financial support, the system encourages social integration at a local level. However, the resources are sometimes so limited that measures to promote integration are wanting.

The municipalities and cantons have serious difficulties in setting up rational social assistance measures. Wyss and Knupfer (2003), who have gauged the impact of the place of residence on amounts of assistance for different standard cases, show that the measures result in very marked differences in disposable income between municipalities for households and individuals with the same initial resources. This is because the way social transfers are defined and the amounts involved vary appreciably from one canton or municipality to another.<sup>21</sup> A more serious concern is that small changes in initial income can result in considerable disparities in disposable income and create poverty traps, the changes in situation stemming from both the particular way some transfers work and the inadequate linkage between the transfers themselves.

The *Conférence suisse des institutions d’action sociale* (CSIAS), which is responsible for co-ordinating and harmonising the measures taken by the cantons, municipalities and private organisations, notably by setting non-binding norms for calculating benefits, is seeking to remedy this situation by new guidelines adopted in April 2005. Because of the massive increase in the number of cases and the worsening public finance situation, the CSIAS has recommended tightening the links between social assistance and incentives for improved integration in society and the labour market. Stricter penalties have also been advocated to combat abuse. To ensure minimum cover while making paid work more attractive, the new norms, which are based on a “social minimum income”, introduce tax exemptions on income from work. An additional amount will be awarded to encourage participation in activities that further integration (educational, assistance or community schemes). These changes are a step in the right direction, even though they will not be enough to solve the incentive problems and reduce disparities between cantons. The idea that solving these difficulties requires improved co-ordination both between the different welfare benefits and between them and the tax system appears to be gaining ground. Some analyses in fact show that creating a negative income tax, i.e. paying a basic allowance to all labour market participants, would have beneficial effects in terms of both equity and efficiency (Müller *et al.*, 2004). This approach deserves to be explored within the framework of a reform of income taxation, for example. The government mandated an expert

committee (*Expertengruppe Leu*) to study the possibility to introduce a tax benefit system (e.g. earned income tax credit) for low income households. The report is expected for mid 2006. Efforts should also continue to improve co-ordination with unemployment and disability insurance schemes. Poverty-related problems are in fact often accompanied by medical difficulties, and occupational rehabilitation measures implemented via social assistance would be more effective if they were coupled with programmes to improve training under the unemployment insurance scheme. To this end, better co-ordination of aid and integration systems is needed to better target occupational rehabilitation schemes on the basis of individual situations and requirements to increase the chance of those concerned re-entering the labour market.

### **Health system costs need to be better controlled**

#### ***The health system has a serious cost control problem***

Switzerland's health system provides quality care but is very costly. Total medical expenditure amounted to 11.5% of GDP in 2003, which was the second highest in the OECD. Over the last few years, the growth of spending, the bulk of which is covered by compulsory insurance, has been less well controlled than in many other countries (Table 3.1). This led to a sharp rise in the per capita premiums that the insured pay into semi private mutual funds, which increases the cost of living and causes an equity problem. This in turn puts the Confederation and the cantons under growing pressure to increase subsidies to the least well-off households so as to reduce their premiums. The expenditure met directly by the state has also risen steeply as a result of the growth of hospital spending, of which at least half is financed by the cantons, with the remainder being covered by the insurance funds. This increase in health costs does not seem to be justified by any commensurate improvement in the quality of care (Domenighetti and Quaglia, 2001).<sup>22</sup>

Seemingly, there is a consensus about the need to optimise the system and improve expenditure control. Implementing reforms is difficult, however, as the failure of the 2nd revision of the Law on Sickness Insurance (LAMAL) to pass Parliament in late 2003 shows.<sup>23</sup> The strategy adopted by the authorities since then has been to divide the reform up into a series of measures that are gradually being submitted to Parliament. The prime aim of these measures is to curb demand for care while at the same time seeking to limit the equity problems posed by the increase in insurance premiums. To this end, a law reducing premiums for children of low-income families by at least 50% was passed in March 2005. This measure costs CHF 200 million. It will come into force gradually in 2006-07, but will only partially reduce the disparity between the increase in subsidies and in sickness insurance premiums.<sup>24</sup> Also, in an effort to restrain spending, the government has proposed that households' direct participation in their medical consumption be increased, which should reduce the premiums by some 2.5% (Conseil fédéral, 2004).<sup>25</sup>

#### ***The government's reform strategy contains numerous measures....***

In an effort to lower the high prices of health care compared with other countries (Figure 3.5), the Federal Council has also taken various measures and is proposing new ones. A uniform price structure based on a point system (Tarmed) was adopted in January 2004 and is designed to improve the correspondence between the remuneration and the relative costs of services. It also increases transparency, as the value of the point is negotiated in each canton between insurers and healthcare providers. Also, since

Table 3.1. **Expenditure, resources and utilisation in health care**

Level	Expenditure, in % of GDP		Health employment			Acute-care hospitals		
	Change over period		Practising physicians per 1 000 population	Total hospital employment per 1 000 population (Persons)	Total hospital employment per 1 000 population (full-time equivalent)	Beds per 1 000 population	Average length of stay	
	1990-96	1996-03						2003
<b>International comparison</b>								
Switzerland	11.5	1.8	1.4	3.6	22.2	16.8	3.9	9.0
Australia	9.3	0.6	0.9	2.5	21.4	12.3	3.6	6.2
Austria	7.6	1.2	-0.6	3.4	15.6	15.8	6.0	5.8
Canada	9.9	0.0	0.9	2.1		12.9	3.2	7.4
Denmark	9.0	-0.2	0.7	2.9		16.2	3.4	3.6
France	10.1	0.9	0.6	3.4	19.3		3.8	5.6
Germany	11.1	2.4	0.2	3.4	14.8	11.4	6.6	9.2
Italy	8.4	-0.5	1.0	4.1		11.1	3.9	6.8
Japan	7.9	1.1	0.9	2.0		12.9	8.5	20.7
Netherlands	9.8	0.3	1.5	3.1	17.8	12.7	3.2	8.6
Norway	10.3	0.2	2.4	3.1		17.6	3.1	5.4
United Kingdom	7.7	1.0	0.7	2.2	24.0		3.7	6.7
United States	15.0	1.3	1.8	2.3		16.0	2.8	5.7
EU average <sup>1</sup>	8.7	0.8	0.5	3.2			3.9	6.5
OECD average <sup>1</sup>	8.6	0.7	0.8	2.9			4.1	7.1
<b>Swiss health system</b>								
<i>Expenditure by category</i>								
In-patient care	5.5	0.9	0.6					
Out-patient care	3.4	0.6	0.5					
Non-durable medical goods	1.5	0.2	0.2					
Other	1.2	0.2	0.0					
<i>Expenditure by financing source</i>								
Compulsory	6.7	..	1.2					
State	2.1	..	0.4					
Social insurance	4.7	..	0.7					
LAMal	3.8	..	0.6					
Private	4.8	..	0.2					
<i>Memorandum items:</i>								
<i>Share by type</i>								
Compulsory	58.5	..	3.8					
Private	41.5	..	-3.8					

1. Unweighted average.

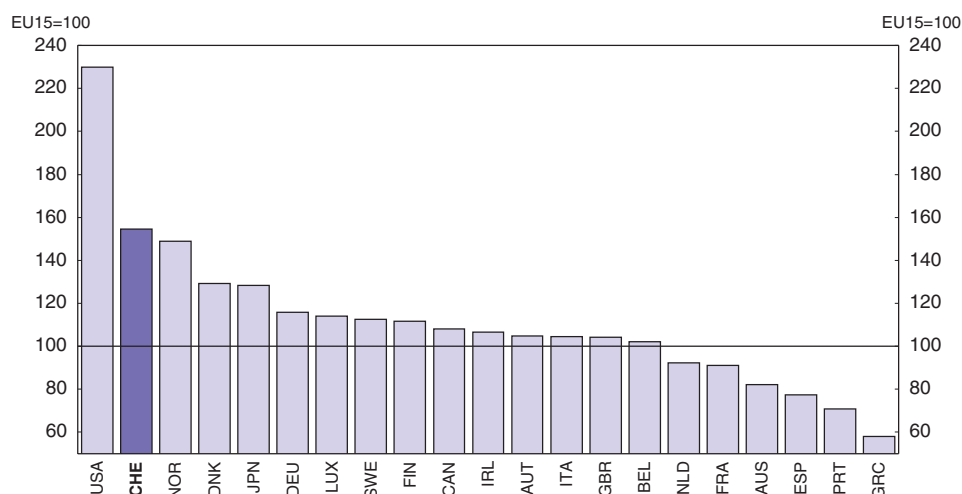
Source: OFS, "Coûts de la santé en Suisse : Évolution de 1960 à 2000", *Actualités OFS, série 14*, June 2003; "Coûts et financements du système de la santé", *Press release, series 14*, March 2005 and OECD, OECD Health Data 2005.

July 2001 most pharmacists have been paid on a lump-sum basis instead of a proportion of turnover, which has reduced spending since these outlays have risen less rapidly than the prices of drugs.<sup>26</sup> A reform of the structure of these rates, which does however increase the price of inexpensive drugs, is scheduled for late 2006.

The authorities have also extended for five years the risk equalisation system which was set to end in 2005. Its objective is to prevent insurers from selecting their clients on the basis of their state of health, by setting up a financial equalisation mechanism which groups the people insured by each fund according to socio-demographic criteria (age and sex). According to one of the major reform proposals, insurers would no longer be bound

Figure 3.5. **Relative health price levels**

2002



Source: Eurostat and OECD, PPPs and real expenditures – Benchmark year 2002.

by the obligation to contract which compels them to agree to reimburse all healthcare providers in the ambulatory sector authorised by the sickness insurance system. This system makes it impossible to control supply because insurers have no way of preventing an increase in the volume of services. It also makes competition between healthcare providers impossible, since the same prices negotiated in each canton between associations of providers and insurers apply *de facto* to all funds. Pending the implementation of the reform, the authorities have extended for three years the freeze on the opening of new doctors' medical practices, which had been in place since July 2002 and was scheduled to end in July 2005, the objective being to contain the volume of supply in the ambulatory sector. However, the impact of such a measure to control the number of medical acts does not seem to be guaranteed, even though the effect of the freeze is difficult to assess since it has been applied quite recently (OFAS, 2004). On the other hand, a revision of the list of services reimbursed under the LAMAL also began in July 2005, while treatment prescribed in connection with five complementary forms of medicine, including homeopathy, will cease to be reimbursed under the basic insurance system.<sup>27</sup> Finally, hospital funding is to be reformed in such a way as to link it to the costs of illnesses rather than the number of days in hospital, which tends to encourage longer stays in hospital than in other countries.<sup>28</sup>

**... which are heading in the right direction but which should be more far-reaching**

Overall, these reforms are heading in the right direction and should help to improve control over health spending, even if in some cases they need to be taken further. The healthcare system is caught between two approaches. It is organised in a decentralised manner, with many private sector providers in both healthcare provision and insurance, which means that supply is fragmented while households are free to choose the provider. But it does not pursue this approach to its logical conclusion by instilling competition, and it does not provide strong incentives to contain prices and supply. Also, the organisation of the health care system on a regional basis strongly hampers the capacity for organising and managing efficient health supply as it precludes the use of scale economies. Nor, on

the other hand, is the system based on centralised control of supply and prices, as in many other countries, even though the temporary freeze on the opening of new doctors' medical practices is a step in that direction. The proposed measures will, if adopted, have the merit of clarifying to some extent the logic of the system. This is true, in particular, of the end of the obligation to contract, which should stimulate competition between healthcare providers by ending the temporary moratorium on new doctors setting up in the ambulatory sector. This measure will allow established and newly trained practitioners to be treated on an equal footing. The resulting control over supply should in principle be more effective because insurers will have a means of exerting pressure on the doctors with whom they negotiate prices, whereas at present neither the cost effectiveness nor the number of treatments by established practitioners is effectively controlled. However, international experience suggests that strengthening competition between insurers does not necessarily generate efficiency gains. Collusion during the course of price negotiations, both between providers and insurers, will have to be prevented to ensure increased competitive pressures. These pressures would also be strengthened if cantonal barriers currently in place were removed. Reform should also entail that insurers keep better track of the quality of care provided by doctors, though this could increase the system's management costs and restrict the development of selective contracts between insurers and healthcare providers, as shown by the recent experience of some countries (OECD, 2004a).<sup>29</sup>

The extension of the risk equalisation system is also welcome, but the criteria involved should have been refined in a way that encourages insurers to make increased efforts to be efficient rather than select their customers on the basis of their state of health (Beck, 2004). For this, equalisation should include criteria relating to health risks (by adding diagnosis information or, for example, as whether or not there was a hospital stay during the previous year). It ought also to be forward-looking and not retroactive, so as to avoid the least efficient insurers' cost overruns being passed on to other funds via the equalisation mechanism (Spycher, 2004). Care must be taken, however, to ensure that these changes do not generate an excessive increase in management costs or create problems concerning the confidential handling of medical information.<sup>30</sup>

The shift to hospital funding by service provided is beneficial since it should act as an incentive to minimise costs, but it needs to be carefully managed to avoid a multiplication of acts. In addition, with hospitals continuing to be funded jointly by insurers and the cantons, the latter will not be prompted to make the provision of hospital services any more rational, the drawbacks associated with a hospital closure being offset by only small budget savings (Leu, 2004). The funding of half of hospital costs by insurers tends also to limit the pressure that the latter exert to reduce hospital costs or increase recourse to ambulatory care. This could continue to encourage excessive use of hospital treatment which is expensive compared to ambulatory care (OECD, 2000). The change envisaged by the authorities – to a (monistic) system of cantonal subsidies allocated directly to funds completely responsible for hospital funding – would reduce these difficulties, provided the principal-agent problem (*i.e.* a collusion of insurers and providers, the clients paying the bill) can effectively be solved. Such a reform need therefore to be coupled with improved risk equalisation and the end of the obligation to contract. It could then also promote managed care models capable of providing quality care, while probably improving cost control.<sup>31</sup> The development of healthcare networks could also be coupled with a reform of the way doctors are remunerated so that there is more room for a standard payment per



patient (capitation) next to payment per service currently used, which tends to stimulate the supply of health services. It might also be advisable to expand the remuneration of doctors on the basis of results, giving greater weight, for example, to preventive medicine.

In addition, prices of medical goods and services could be reduced. Where pharmacies are concerned, the Price Surveillance Authority (*Surveillance des prix*, 2005) has recommended abolishing the patient's standard charge, which can be charged back to each customer every three months even though this is not always warranted. Generally speaking, lowering the prices of drugs, which are higher than in the other European countries, involves reducing the obstacles to foreign competition.<sup>32</sup> For instance, obtaining supplies of generic products abroad needs to be made easier. To authorise imports of generic products, which have received an EU marketing approval without further procedures, could be one way out, but hinges on the establishment of a formal cooperation agreement between EU and Swiss surveillance authorities. Whereas some 37% of reimbursed drugs are now in the public domain, fewer than one-third face competition from generic products (*Conseil fédéral suisse*, 2005), which suggests that the body responsible for approving the marketing of drugs and checking their safety, *Swissmedic*, has been pursuing too restrictive a policy.<sup>33</sup> This might also partly result from the high cost of study required before delivering a marketing approval. Introducing the principle of prescribing active substances rather than branded products by practitioners could also encourage the use of generics, especially if these products are better reimbursed (expressed as a percentage of the sales price) than branded products. All in all, these different measures should increase the effectiveness of the efforts made by the *Office fédéral de la santé publique* (OFSP) in recent years to narrow price differentials with abroad. In this context, the recent agreement obtained by the OFSP to get a reduction is welcome. This could lead to an average decrease of average drug prices by about 6%, corresponding to 1% of the average health insurance premium. Further reductions would be possible if the prices of old drugs were re-evaluated more often<sup>34</sup> (OECD, 2004b) and if the reference panel used in the international comparisons carried out to calculate the prices of reimbursed drugs was extended to take in countries like France, Belgium and Austria, where prices are on the whole lower. Actually, the government intends to obtain price decreases of existing reimbursed drugs by revising them more frequently (15 years after initial admission, 2 years after patent expiration date). An extension of the panel of reference countries is discussed, by adding additional countries which have a pharmaceutical research capacity. The need for incentives for research and development by pharmaceutical companies will be taken into consideration in the pricing process. This can be reflected in an innovation surcharge (10-20 %) being added to the daily treatment cost of the reference drug although calibrating this surcharge remains delicate. Such decisions are taken after consultation with the Swiss Drug Committee where the pharmaceutical industry is represented.

The increase in the insured's direct payments could help to curb healthcare demand. As a very high level of out-of-the pocket expenditure has already been reached, the existing measures should in a first instance be refined. Insofar as it is compulsory, greater participation in costs would be more effective if it targeted the most price-elastic demand, i.e. ambulatory or pharmaceutical care, instead of being applied indiscriminately. Participation could also be adjusted to encourage people to take out insurance contracts with a limited choice of providers or favour the purchase of generic products. Such measures are not incompatible with increased subsidies for low-income families, particularly since the latter benefit less than well-off families from insurance premiums

being – to a limited extent – deductible from income tax because of the progressive nature of the tax. Pressure for these subsidies to be raised is likely, however, to persist as long as there is no better control over medical expenditure. The overall cost of such assistance could, moreover, rise more rapidly in the future if federal subsidies increase at the same pace as health care – as is scheduled in the proposed reform of financial equalisation and sharing of responsibilities.<sup>35</sup> This increases the need to adopt a range of coherent measures to curb the growth of medical expenditure, even if some of them mean that choice is limited. The status quo would seem untenable from the financial point of view.

### Increasing the effectiveness of government measures

Apart from the short term measures aimed at restoring a balanced federal budget, and the social programme reforms, the government's fiscal strategy comprises a wide set of measures designed to improve its efficiency. They primarily involve continuing with the project to renovate federalism, which has already been under way for some years. They also include a review of federal government tasks, efforts to modernise the way the administration works and a reform of the tax system.

#### **Reform of federalism has to continue**

Switzerland is very attached to federalism and gives its cantons considerable autonomy with regard to budgetary and tax matters. However, the implementation of federal principles is facing new challenges. *First*, the recent decades have witnessed an expansion of federal responsibilities. The cantons have become mere administrators in many areas, benefiting from federal subsidies earmarked for specific purposes. This has led to problems relating to financial incentives, the cantons all too frequently commissioning projects for which the bill is sent to the Confederation, which has encouraged excessive spending – on road-related infrastructure in particular. *Second*, regional disparities might have been accentuated, undermining federalism. With the cantons' tax burden being decisive in the allocation of transfers, the system encourages the poorest of them to increase taxes in order to receive more transfers, whereas it penalises those that lower them, which is hardly conducive to growth.

The reform of fiscal equalisation and the sharing of responsibilities (*Réforme de la Péréquation Financière et de la Répartition des Tâches*, RPT), has two main objectives. *First*, it intends to ensure efficient resource utilisation by bringing about a clearer definition of responsibilities between the Confederation and the cantons and providing a better institutional basis for the co-operation between the cantons. The application of the principle of fiscal equivalence, which requires that those who decide on expenditure should also fund it, is thus improved. The management and funding of 18 tasks with a budget of CHF 5 billion, which hitherto was looked after jointly by the Confederation and cantons, have been reallocated. Seven of these tasks will be entrusted solely to the Confederation, including main roads, while the other eleven will be under cantonal responsibility.<sup>36</sup> Also scheduled under the RPT is compulsory inter-cantonal co-operation in 9 areas, including universities, specialised colleges and advanced medicine, which will enable more rational use of infrastructure. Accompanying this are improved inter-cantonal equalisation mechanisms which make for more equitable funding of these tasks. *Second*, the reform reviews and develops the financial equalisation mechanisms. The RPT replaces aid earmarked for specific purposes with overall grants funded by the Confederation and wealthier cantons. Furthermore, the total volume of equalisation resources, which

amounted to CHF 2 billion in the late 1990s, has been increased to CHF 3.4 billion and all the cantons should have their own funds corresponding to at least 85% of the national average. This increase in non-allocated funds will be greater than the volume of new tasks, which could reduce the tax burden in cantons where it is high. In order to maintain fiscal competition, the RPT caps donor cantons' contributions at 80% of those paid by the Confederation. The law also stipulates that equalisation must not alter the cantons' ranking by level of income. Lastly, the RPT introduces a new system of parameters relating to geographic and socio-demographic factors, financed solely by the Confederation.

The amendments to the Constitution required under the RPT were approved by referendum in November 2004, but there is still a lot of legislative work to be done at both federal and cantonal levels before the reform is fully implemented. A draft reform amending 33 laws was put before Parliament in autumn 2005. These amendments will be co-ordinated with those of the 26 cantons which will require both legislative and constitutional changes, the objective being to apply the new text from January 2008. Overall, the project will not be confined to a financially neutral transfer of activity and costs, since it will slightly increase federal expenditure. However, these additional costs should be more than offset by the efficiency gains due to better incentives attaching to subsidies and the application of the principle of fiscal equivalence – insofar as it is strictly implemented. This, for example, will mean ensuring that allocation of responsibility for the management and funding of main roads is not jeopardized by the task being divided between eleven territorial units. In general, efficiency gains should be used to reduce the volume of spending so as to improve control over public finances.

### ***Additional efforts need to be made to modernise the administration***

With the objective of achieving sustainable savings, the Federal Council will be looking very closely in the second half of 2005 at every task it performs to determine whether they are all justified or whether some might not be partially or completely abandoned. At the same time, a reform of government focussing on the way it operates has been launched with the aim of reducing management costs by, for example, grouping units together. These welcome efforts, which ought also to seek to ease the administrative costs weighing on businesses – particularly as regards taxation – should also be devoted to progress in terms of e-government, the expansion of which could provide a major potential source of budgetary savings and efficiency gains. A recent European Commission study shows, for example, that Switzerland ranks 20th out of 28 European countries as regards online public service availability. Not only is the degree of sophistication of the services available via the Internet – assessed in terms of interactivity – below average, but the coverage of totally accessible services is only 6%, compared with the European country average of 40% (Capgemini, 2005). Moreover, progress is slower than in other countries.

Poor performance is due to two main factors: the lack of adequate co-ordination mechanisms in a highly decentralised structure, and the lack of a digital identifier of persons and businesses. Most of the services potentially able to be put on line are the responsibility of the cantons and municipalities, but because of the lack of co-ordination the same investment has to be made many times to solve identical problems. Technical solutions, often benefiting just a small number of users, are thus implemented on a one-off basis, with the result that there are big regional and local disparities in the availability of electronic services. Moreover, whereas the creation of digital identifiers in certain countries (such as the Scandinavian countries and Austria) has enabled them to develop

personalised services rapidly, this is still not the case in Switzerland, largely because of data protection issues. However, progress will soon be made for businesses. Faced with this situation, the federal government is powerless, the cantons and communes being responsible for their projects. It has therefore decided to look into the advisability of setting up a committee made up of representatives of the Confederation, the cantons and towns who would discuss e-government questions with the objective of improving co-ordination between the different levels of government. This approach looks timid and there needs to be a more determined approach to reap substantial productivity gains.<sup>37</sup> For instance Austria, despite having a federal structure, is amongst the leading countries as regards the development of e-government.

### **Tax reform is needed**

A reform of the tax system is also needed. It should aim at halting the erosion of the Swiss economy's fiscal attractiveness compared with other countries, which stems from the increase in tax and social insurance contributions (in percentage of GDP), and should eliminate the distortions deriving from certain taxes. In this context, the federal government has identified a number of priorities with regard to the taxation of businesses, families and value added tax (VAT). Better co-ordination between social measures and taxation also appears desirable, while the tax system generally needs simplifying.

#### ***A number of reform projects are in progress or under consideration***

Corporation tax, which is applied at both federal and cantonal levels, imposes double taxation of dividends, prompting joint stock companies to retain profits to finance investments. The marginal effective cost of funding by share issues (60.4 per cent) is appreciably higher than that of internal financing (34.4 per cent), with the result that companies on the whole distribute few profits (Keuschnigg, 2004). This undermines the capital market's capacity to channel savings into high-yield investments, which is particularly detrimental to the growth of young, expanding firms (Chapter 5). These impediments do not affect unincorporated enterprises in the same way, their profits being however liable to income tax, even if reinvested in the personal undertaking, so that a company's legal form is not neutral from the tax standpoint.<sup>38</sup> To ease these problems, the Federal Council has tabled a draft reform aimed at a better treatment of personal undertakings and at taxing dividends only between 60 and 80%.<sup>39</sup> The dividend tax relief should reduce the Confederation's revenue by no more than CHF 40 million<sup>40</sup> in the short term and could have a slightly positive impact in the long term. The cantons are not under any obligation regarding the size of the reduction, but they will be entitled to grant such reductions under the fiscal harmonisation act. If they adopt the same reduction as the Confederation, the cut in taxes could reach CHF 460 million in the short term and CHF 270 million in the long term. As an additional measure, cantons may credit the capital tax against the cantonal profit tax of the respective company. The authorities are counting on tax competition to promote such a development.

Taxation of families is unfavourable towards married couples with two incomes, as opposed to co-habitees, which discourages married women from working (Knupfer and Knöpfel, 2004). Two fundamental solutions to this problem have been devised, one involving a shift to individual taxation and the other the introduction of a splitting system. The latter is the cantons' preferred approach as it would avoid a rise in administrative costs. In autumn 2005 the Finance Ministry has put forward a reform proposal which does not preclude the choice among these fundamental solutions: the introduction of increased

deductions applied on the second income. The budgetary cost of such a reform, which is planned for 2008, is put at CHF 750 million and would be offset by a tax increase affecting singles (CHF 250 million), spending cuts (CHF 400 million) and dynamic gains associated to the reform (CHF 100 million). A shift to individual taxation, which has been postponed, appears however preferable to reduce undesirable distortions of personal income taxation. In the context of such a broader reform, it could also be opportune to reduce the distortions due to the lack of co-ordination between the tax system and social assistance (Gerfin and Leu, 2005). A group of experts is currently working on a negative income tax relating to labour market participation, the aim being to reduce the poverty trap problems that sometimes affect low-income households when some of their welfare benefits decline or disappear if their earned income increases.

Another objective is to simplify VAT by reducing the number of different rates. Currently there are three: the normal rate of 7.6%, the tourism rate of 3.6% and the reduced rate of 2.4%. Also being considered is the broadening of the tax base which is subject to numerous exceptions affecting the health sector, social services, teaching and training, financial transactions and general government expenditure.<sup>41</sup> This would have the effect of reducing the “hidden tax” weighing on numerous capital and intermediate products (DFP, 2005b). The cumulative effect of these measures reforms would enable the standard VAT rate to be reduced substantially (Schaltegger *et al.*, 2005).<sup>42</sup>

Finally, there is a consensus about the need to reduce the complexity of the tax system (Zarin-Nejadan, 2004). Although efforts have been made, much remains to be done.<sup>43</sup> Complexity is partly due to federalism. There is a large number of taxes including, for example, a tax on profits which is proportional for the Confederation and progressive in a number of cantons. The number of taxes is also increasing following the recent adoption of environmental taxes. This adds to regulations which are already cumbersome, witness the over 2000 pages of instructions for VAT, and entails dealing with interactions with other taxes or benefits (Wallart, 2005). These regulatory excesses result in substantial costs for households and firms, which use resources to devise strategies aimed at reducing their tax burden, and government which has to manage the system. Switzerland’s fiscal complexity makes the system both hard to understand and to reform.

### ***Implementing these reforms is difficult and hinges on a better control over expenditure***

The main problems posed by the tax system seem to have been clearly identified by the authorities and the reforms already proposed or under consideration as a way of limiting distortions and reducing tax pressure move in the right direction. But reforming Switzerland’s taxes is difficult because of the existence of three institutional levels. The cantons have considerable autonomy in setting taxes and are opposed to changes put on their bill by decision of the Federal Parliament without their consent, as the rejection of the tax package by referendum in May 2004<sup>44</sup> showed, particularly since they are also under a heavy pressure because of the rise in public spending. The difficulties caused by this increase in spending pose much the same problem for the federal government and partly explain the limited scope of the proposed reform of corporation tax. In view of the constraint imposed by the debt containment rule, reducing federal taxes without prior measures restraining expenditure would, in the short term, increase the crowding-out problems affecting expenditure other than social programmes. What is more, any such cuts would have barely any beneficial impact on growth if they were not sustainable over the long term, particularly since some increases in receipts look inevitable – to put disability insurance back on a sound

### Box 3.1. Recommendations concerning the public sector

#### Reforming welfare programmes

##### Basic pensions

- Take decisions to ensure the funding of basic pensions quickly, including beyond 2020, which will no doubt mean prolonging the average working life.
- Remove obstacles to work of older workers.

##### Occupational benefits

- Revise the conversion rate for occupational pensions downwards.
- Remove the obstacles to the diversification of pension fund investments.
- Reduce the tax exemptions for pension fund contributions.

##### Disability insurance

- Develop a multidisciplinary approach to deal promptly with persons becoming disabled.
- Consider providing financial incentives, to avoid an excessive recourse to DI.

##### Social assistance

- Apply the new CSIAS norms tightening the link between social welfare and efforts to enhance integration in society and the labour market.
- Improve co-ordination between social assistance, disability and unemployment schemes in order to promote more actively a re-entry in the labour market.

##### Health care

- Consider ways to reduce or eliminate cantonal frontiers in the organisation of both health care supply and insurance.
- Remove barriers to effective competition by ending the obligation for insurers to contract and refining the criteria of the risk equalisation system.
- Consider introducing a monistic system of hospital funding.
- Encourage the development of a standard payment per patient for doctors in the framework of the expansion of managed care systems.
- Remove the obstacles to foreign competition on the drugs market. Facilitate imports of generic products which have received an EU marketing approval.
- Target the insured's participation on the costs of ambulatory care and drugs.

##### Modernising government

- Continue to renovate the federal system. Rigorously apply the principles of fiscal equivalence in the legislation implementing the RPT.
- Provide more determined political support for the development of e-government.
- Develop benchmarking to reduce the cantons' and communes' operating expenditure by publishing comparable statistics for employment and civil servants' salaries according to area of spending.

##### Reforming the tax system

- Further reduce double taxation of company dividends to levels comparable with other countries.
- Ease the tax burden on married couples with two incomes. Improve the link between the tax and social welfare systems so as to reduce poverty traps.
- Reduce the number of VAT rates and widen the tax base.
- Persist with efforts to simplify the tax system, for example by replacing the progressive corporation tax – in place in certain cantons – with a standard rate of tax on profits.

footing, for example. Moreover, the narrowness of financial margins makes the reform process more difficult and tends to reduce its scope and effectiveness. The proposed measures often imply a redistribution of the tax burden, making for winners and losers, which makes their adoption difficult because of the need to have the backing of a majority of the population – as required by direct democracy. All in all, what these considerations suggest is that priority must be given to taking determined steps to establish better control over expenditure and boost the potential growth of the economy.

## Notes

1. Data used in the Figure 3.1 encompasses the compulsory as well as the supplementary parts of occupational benefits. The level of benefits comprises therefore a part which is not regulated by the state. Also, the assessment of lack of control in social spending does not apply to the extent that the strong rise in spending is due to increasing payments by pension schemes that could be funded in the years before.
2. The central OFS demographic scenario projects a rebound in the fertility rate from 1.3 to 1.5 children per woman as from 2030, which is well below the reproductive threshold (2.1). It also predicts a rise in life expectancy from 76.6 to 82.5 years for men and from 82.4 to 87.5 years for women. According to these projections, the number of active persons for each person over 65 will drop from four today to three towards 2020 and scarcely more than two around 2040.
3. Currently, widows with no children above 45 years old can get a widow's pension. The draft reform aims at abolishing this right insofar as for people in this situation had not had to give up entering the labour market because they had to take care of a dependent person.
4. There is a fairly strong linkage between compensation and length of service, with respect to men in particular, even if this linkage has declined since the recession of the 1990s (OECD, 2003a).
5. The authorities have estimated that the transition to a flat contribution rate to the second pillar would increase yearly payments by CHF 2 billion (0.4% of GDP) in the next 10 years and about CHF 1.5 billion until 2026. This will also increase the complexity of the system.
6. The rate of contribution to the second pillar varies between 7% and 18%, depending on the age of the insured persons (OECD, 2000).
7. Classified ads often refer explicitly to an age range, which is a discriminatory practice prohibited by the Constitution.
8. The minimum yield on compulsory savings invested in the second pillar remained stable at 4% from 1985 until 2002, and it was then lowered to 3.25% in 2003 and 2.25% in 2004; in 2005, it is 2.5%.
9. The changes proposed for Publica include for instance moving from a defined-benefit to a defined-contribution scheme, a rise in contributions and an increase in the minimum retirement age giving entitlement to a full pension from 62 to 65 years old (DFP, 2005a).
10. The by-laws of most pension funds make provisions for early retirement and allow purchases of early entitlement. The tax aspects of such purchases vary widely, depending on the canton, with some allowing highly advantageous deductions and others imposing greater restrictions. The government has amended the laws governing these deductions, which might become standardised throughout Switzerland.
11. According to Künzi and Schärer (2003), the redistributive effect of social security as a whole is regressive because of the tax deductibility of pension scheme contributions and health insurance premiums.
12. Flückiger (2005) reaches a similar conclusion. The maximum insurable salary for supplementary occupational benefits is ten times the maximum insurable salary for compulsory benefits, or CHF 774 000 per year, and yearly contributions to the system can be as high as CHF 130 000.
13. The pension rate varies between 3.5% and 8.8%, depending on the canton. According to Spycher *et al.* (2004), approximately  $\frac{1}{3}$  of the difference stems from differences in how DI offices approach the attribution of pensions, given their leeway for assessment.
14. Only doctors at regional DI medical offices will be empowered to assess applicants' fitness for work. Access to pensions will become more difficult, with pensions granted only if rehabilitation measures are deemed useless or, despite the worker's efforts, do not achieve the desired result.

15. Insured workers or the members of their families, their attending physicians, their employers, the officials of the DI- daily benefit scheme, the accident insurance, private daily benefit insurances, institutions of the 2nd pillar, the military insurance, the unemployment insurance and the social aid services of cantons and municipalities officials may call upon these centres after a prolonged absence from work or repeated absences. Their primary task will be to make contact with all persons involved and, if necessary, arrange for the appropriate services to intervene so that the disabled person can remain active professionally.
16. Savings include termination of supplementary pensions for married persons and an increase in the minimum DI contribution period from one to three years.
17. This incentive problem does not affect DI contracts of the 2nd pillar since enterprises with a high proportion of disabled have in general to pay a higher premium.
18. The premia offered by private and mutual insurance funds, which employers and employees have to share are heavily influenced by the number of disabled in the economic sector and the record of the company with respect to the number of employees put on the disability scheme.
19. According to Bodmer (2004), obtaining a DI pension is the easiest way of securing early retirement.
20. In some countries such as the Netherlands or Sweden, highest risk group, such as former disability recipients or people with a history of repeated sickness spells can benefit from an *ex-ante* exemption of experience-rated contributions to DI. An additional option is to ban detailed investigation of a job applicant's medical history, as has been done in the Netherlands and to some extent in the United Kingdom (Rae, 2005).
21. For example, depending on where she lives, a single mother with a 3½ year-old child will have a disposable income of between 90 and 36% of her initial income (Wyss and Knupfer, 2003).
22. A more detailed analysis of the Swiss health care system prepared jointly by the OECD and the World Health Organisation will be published in Autumn 2006 (OECD, 2006b).
23. The second revision of LAMAL, which proposed a whole raft of reforms concerning hospital funding, assistance for low-income families and the easing of the obligation to contract, was dropped by Parliament because it was afraid that the text would be rejected by referendum.
24. Between 1999 and 2003, compulsory LAMAL premiums increased by 7.4% per year and subsidies reducing the premiums by 1.5%. The CHF 200 million increase corresponds to a 8% rise in these subsidies.
25. At present, the insured assume a compulsory minimum participation in the costs, including a deductible amount of CHF 300 per year per adult and a 10% share of the costs over and above the deductible amount, which is capped at CHF 700 per year. The share in question is to be increased to 20% for adults, without any change in the ceiling of CHF 700 to be paid.
26. The new system of pharmacist remuneration is not compulsory, since it is based on a convention signed between insurers and pharmacists. However, the large majority of pharmacist has adhered to the convention.
27. Also included are neural therapy, phytotherapy and anthroposophic and Chinese medicines.
28. Hospitals tend to extend the period of hospitalisation because the cost is higher at the beginning than at the end.
29. In the Netherlands, for instance, where selective contracting was allowed between insurers and healthcare providers, these types of contracts did not develop, because they were expensive to set up for insurers so that contracting continues to take place on a collective basis (Tapay and Colombo, 2004).
30. For a proposal to overcome these problems see Holly *et al.* (2004).
31. These healthcare models concern only 8% of the insured – a figure which has not changed for a few years. As long as risk equalisation remains too cursory, managed care supply is likely to be limited for fear of attracting insured people with high sickness costs. Hospital funding, only half of which is covered by insurance funds, also restricts the savings made through the reduction of hospital expenditure resulting from the development of healthcare networks.
32. In early 2005, the ten drugs with the highest sales cost 33% more on average than in Germany, according to the Price Surveillance Authority. Price differentials were in the region of 20% for reimbursed drugs and over 35% for those not reimbursed.
33. New drugs are often marketed in Switzerland before being distributed in other European countries, however facilitating admission of generic drugs was delayed. In the early 2000s, only 7 400 drugs



- were authorised, 2 500 of which were reimbursed under the basic sickness insurance scheme, whereas 20 000 products were reimbursed in France.
34. The prices of reimbursed drugs are set by the OFSP on the basis of comparisons with Germany, the Netherlands, the United Kingdom and Denmark. The prices can be revised when the patent expires or after fifteen years.
  35. Under this reform, federal subsidies are set to account for 25% of costs for 30% of the population. At present, one person in three benefits from a reduction in the premium.
  36. Individual AI/AVS benefits will also be placed under federal responsibility. The cantons, for their part, will be entirely responsible for special schools and institutions providing assistance for the handicapped.
  37. It would seem that the most advanced cantons and municipalities where e-government is concerned are those where the executive authorities have been actively involved.
  38. Foreign investors in Swiss firms, who are not subject to Swiss tax at a personal level, are not affected by the double taxation of dividends, so that this problem does not influence much the financing costs of investments in mature corporations with access to international capital markets.
  39. The draft reform proposes to exempt 20% to 40% of dividends from taxation in order to reduce this double taxation problem. This exemption would be limited to 20% for individuals and would reach 40% for entrepreneurs (whose business is unincorporated). Inter-company dividends benefit already from exemptions, if the size of participation exceeds a specific threshold.
  40. Estimates of revenue losses are based on available data for the year 2002.
  41. Businesses, whose services are not liable to VAT and which are not therefore eligible for reimbursement with respect to withholding tax, are affected by this tax. It is schools, hospitals, banks and insurance undertakings that are concerned. It is thought that some 60-65% of VAT revenue comes from direct taxation of consumers (Daepf, 2005). The remainder corresponds to a hidden tax of which a large proportion is levied on territorial governments, meaning that an increase in VAT results in redistribution between these authorities and the Confederation (SwissVAT, 2003).
  42. The reform analysis has taken into account the "hidden tax" in the calculation of a standard flat VAT rate. A widening of the tax base would for instance have negative effects on revenues for part of the financial sector submitted to the tax (mainly the insurance sector). However, the cumulative effects of the broadening of the tax bases in the other sectors as well as the suppression of exceptions and of reduced rates have a substantially bigger impact.
  43. In recent years the cantons and the Confederation have sought to harmonise the application of taxes, their collection time and the introduction of thresholds.
  44. The package, totalling between  $\frac{3}{4}$  and 1% of GDP, was in three parts: a reduction in household income tax, in stamp duty on financial transactions and in the tax on home ownership. This last feature of the project, which was the one most opposed by the cantons because of its high budgetary cost, was the main reason for the package being rejected. The reform of stamp duty was adopted in March 2005, thereby removing a tax disadvantage affecting the Swiss financial market.

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## Chapter 4

# Competition matters for growth

*The inadequate functioning of some product markets and lack of competition has undermined the dynamism of the economy, in particular productivity growth. International comparisons confirm that Switzerland suffers from stringent product market regulation, particularly in the sheltered sectors of the economy; this pushes up prices, which are, on average, among the highest in the world. The authorities are fully aware of the situation and competition policy has moved up the policy agenda. A new cartel law has recently entered into force and the government launched a growth package to be implemented during the current legislature, which aims at removing obstacles to competition in the domestic market, liberalising network industries and opening up to foreign competition. This chapter reviews the government's agenda and progress made in the various areas to identify domains where more needs to be done.*

## The amended competition law is now in place

The amended Cartel Act came into force in May 2004, though a transitional period until April 2005 had been granted to give firms time to adapt to the new system without being exposed to sanctions.<sup>1</sup> The earlier competition legislation had little clout and few harmful vertical and horizontal restraints were up-rooted. Earlier on sanctions could only be implemented if anti-competitive behaviour was repeated. Sanctions were never imposed and only a few horizontal and vertical agreements were declared unlawful. The competition legislation has been brought closer to that of the European Union and other OECD countries. Box 4.1 summarises the major innovations.

### Box 4.1. Main features of the reform of the Cartel Act

- Direct sanctions for hard-core horizontal and vertical cartels and abuse of dominant position were introduced. The sanction may amount to up to 10% of turnover in Switzerland in the last three business years.
- A leniency programme was introduced.
- There is a new presumption that certain types of vertical agreements on prices and markets preclude effective competition.
- If there are serious grounds for suspecting an infringement, new investigation methods, such as dawn raids will be allowed.
- Restrictions on parallel imports can be lifted for a product protected by a patent if similar economic and legal conditions prevail in the country of origin.
- The members of Comco (the decision-making Competition Commission) will be required to disclose their interests (for instance, membership on company boards) in a special register.

The new provisions concerning direct sanctions in the case of serious infringements and the leniency programme provide a step change in the deterrent effect of the competition legislation. That outcome remains to be seen, though, because these changes only took full effect in April 2005. During the one-year transition period that preceded, Comco had to deal with more than 1000 notifications from enterprises concerning the conformity of specific behaviour or business arrangements with the new law. Few resources had been left for investigations and up until now, no hard-core cartels have been prosecuted. Some were probably dissolved to avoid penalties (Stoffel, 2005). Comco should however remain vigilant. According to the commission itself, about 10% of the announced cases would have warranted further investigation.

The competition law could be strengthened further, principally by adopting the principle of prohibition. The need to show abuse, even in hard-core cases, slows down investigation and decision-making. The new direct sanctions only apply to certain acts (though they are the most serious violations); deterrence would be improved by extending

them to a wider range of infringements (OECD, 2005a). Finally, many sectors remain at least partially exempted from the Cartel Act. These include agriculture, health care or network industries, which are governed by specific regulations. Legal provisions may even differ across the cantons. This is, for instance, the case for fire insurance (Box 4.2).

#### Box 4.2. **The market for fire insurance**

Fire insurance is a cantonal monopoly in 19 cantons, but a free market in seven. In 2003, the Comco Secretariat investigated, whether the private insurers formed an agreement affecting competition. The investigation showed that the premiums of private insurers were 13% higher than those of the monopolies. The private insurers argued that they have to earn a return on their capital and that monopolies spend less on marketing and enjoy tax breaks. The investigation failed to prove the existence of a price cartel between the insurers.

Comco concluded that it was not justified to recommend to the monopoly cantons to liberalise their markets, nor did Comco suggest to introduce a monopoly in cantons where entry into the market is free. However, a WTO General Agreement on Services or new bilateral agreements with the European Union could oblige Switzerland to consider requests to open these markets to foreign competition. Doing away with market segmentation and opening up the market to foreign competition could result in a new competitive situation that would completely alter the playing field.

The resources of Comco's Secretariat have remained relatively meagre. While the Federal Council promised to create an additional 15 posts following the reform of the Cartel Act, the number of posts has stagnated at close to 60 persons on a full-time equivalent since 2003. Moreover, Comco was also affected by the across-the-board cuts to federal spending as part of the programme to curb government spending. This situation undermines the effectiveness of competition policy enforcement that the reform of the law was intended to promote, particularly since the Comco will be given more responsibilities to oversee compliance with the revised Domestic Market Act (see below). Moreover, the revisions to the law have failed to ensure the independence of the members of the Competition Commission. The register of members' interests only provides a partial solution to potential conflicts of interest. The Federal Council still appoints a number of interest group representatives, such as trade union, employer federation, small farmer or consumer representatives, to the Comco's presiding body. Effective implementation of stronger sanctions and the new leniency programme will suffer if Comco includes members who have ties with firms or industries that are the object of enforcement action.

## **Reform in network industries needs to be accelerated**

### **Electricity and gas**

Electricity is supplied by a small number of large vertically-integrated supra-cantonal suppliers and about 900 small, mostly municipal or cantonal, enterprises.<sup>2</sup> The structure of the market causes inefficiencies and prices are above the OECD average, even though some 60% of power is hydroelectric. There are also large price differences across regions and between different categories of users, which generally penalises small businesses (SMEs). In 2002, the Electricity Market Act that aimed at the separation between transport, generation and distribution and transparent pricing of the network was rejected by popular

vote. In the absence of any specific regulation for the electricity sector, the Cartel Law is currently used to regulate the sector, following a 2003 decision of the Federal Tribunal. This *ex post* regulation does not however respond properly to specific needs of the market. Cantons may eventually escape it if they impose a local monopoly for production or/and distribution of electricity, in order to protect a source of sizeable revenues for them and/or their municipalities.<sup>3</sup> While the Cartel Act has allowed some increase of competitive pressures in the electricity market and some reduction of prices, this has mostly benefited large firms and not SMEs, as only the former can exert pressure on suppliers. Also, the Cartel Act neither provides adequate regulation for third party access to the network nor for cross-border electricity trade.

Aware of these difficulties, the federal government prepared a new reform project made up of two main proposals. First, an electricity supply bill (LapEl, *Loi d'approvisionnement en électricité*) that comprises the elements making up most electricity market reforms, including the regulated access to the network, a transmission system operator and an independent regulatory authority. Also, following demand of those opposing the previous reform, stronger measures in case of longer term power shortage and a default tariff for smaller consumers not willing to choose their supplier have been proposed. The draft law, which is currently being examined by Parliament, provides for a progressive opening of the market, with liberalisation first for enterprises, then for households in a second phase, with the possibility of a referendum before full market opening. Furthermore, the bill envisages a revision of the existing Energy Act in order to increase electricity generation by renewable energies. The second part of the reform package (LIE, *Loi sur les installations électriques*) aims at rapidly aligning Switzerland with key EU provisions relating to cross-border electricity trade. Currently, private contracts are negotiated with foreign companies. Switzerland's central geographic position in Europe as a major electricity transit and trading hub requires it to work in harmony with EU developments. In the meantime, a private national company, Swissgrid, has been created in 2005, to manage the entire network. It is a joint venture of seven large power companies. Comco has imposed conditions to ensure fair competition, such as non-discriminatory third-party access to the grid and the need to publish tariffs. The companies appealed against some of the conditions, though Comco's conditions mimic arrangements in other countries. The appeal will slow down the effective establishment of Swissgrid.

The existing Gas Pipeline Act allows a negotiated third-party access to the high-pressure gas network and designates the Swiss Federal Office of Energy as the dispute settlement authority. The gas industry recently complemented the existing legislation by a "co-ordination agreement for transport". Discussions on further liberalisation efforts regarding the gas sector had started, but these were abandoned after the rejection of the Electricity Market Act in 2002. The natural gas market is controlled by regional monopolies and the gas price is among the highest in the OECD. Comco has not initiated any investigation to identify possible abuses of a dominant position.

### **Telecommunications**

Liberalisation of the telecommunications sector is well advanced. New competitors have appeared in fixed telephony and there are four mobile phone companies. Prices have declined by 40% between 1998 and 2000, but have remained stable since then. However, during the last few months, further price reductions and the appearance of new players such as the larger retailers Migros and Coop could be observed. If prices are currently close



to the OECD average, interconnection charges are fairly high in international comparison. A decision by the sector regulator (ComCom) that they should be lowered, failed in the courts after an appeal by Swisscom, the incumbent, which is still 60% state-owned. In 2005, ComCom re-iterated that interconnection prices must go down and issued a similar decision. Swisscom is again, appealing in the highest federal court. A decision could take up to a year.

The major remaining policy issue is the unbundling of the local loop, which would allow competitors to offer services on an equal footing with the incumbent. The Federal Council was in favour of unbundling. However, the decision was appealed and the Federal Court upheld the appeal, because there was not a sufficient legal basis for unbundling. Unbundling should be introduced as part of the current revision of the Telecommunications Act, which is being examined by Parliament. This is important for competition in high-speed data transport segments and the development of inexpensive internet services. In this context, current parliamentary discussions of only a temporary unbundling of the local loop for some services (bistream access could be opened for only two years) appear excessively timid to strengthen effective competition in this sector.

### **Postal services**

The Federal Post Office Act, amended in 2003, divided the market into three segments:

- Reserved services, which are provided exclusively by Swiss Post as a monopoly and where it has a universal service obligation.
- Non-reserved services, provided by Swiss Post in competition with other suppliers. The Post Office has a universal service obligation.
- Liberalised services.

The limits concerning reserved services have been reduced to letters on 1 January 2004 and will be reduced again to 100g on 1 April 2006. In addition, during the first trimester of 2006 the responsible ministry will have to submit propositions to the Federal Council on the future liberalization strategy of the postal market as the sector reserved for Swiss Post is still much more extensive in Switzerland than in most other European countries and the pace of liberalisation is slower than in the European Union. In the European Union reserved services will have to be reduced to 50g on 1 January 2006, for instance. Different countries like Germany, United Kingdom, the Netherlands and Slovakia have nevertheless decided to fully liberalize the market a few years earlier than the possible date for full liberalisation (see Directive 2002/39/EC). Norway, too, though not an EU member, has taken the same decision. All these countries will join Estonia, Finland and Sweden which have already fully liberalised their postal markets. It is also important to avoid that *Swiss Post* cross-subsidises segments of its activity subject to competition with revenues received to pay universal service. To this end, a careful separation of the accounts of Swiss Post is needed, and must be strictly controlled by an independent regulator.<sup>4</sup> Actually, in its first report, PostReg, the regulator, launched a debate with the incumbent regarding some bookkeeping principles.

### **Railways**

The first phase of liberalisation in the late 1990s separated infrastructure and transport within federal railways, regulated network access, introduced competitive tendering and liberalised goods traffic. In its wake, competition in goods transport has

risen, though restrictions on passenger transport remain, such as the exclusive right of CFF (the main public rail company) to provide long-distance passenger transport. In addition, slots are allocated and prices set by a body that comprises the enterprises operating in the sector. Efficient supervision of this body is therefore needed albeit the arbitrage commission set to avoid the risk of conflicts of interest had only to handle two complaints. It would be better to entitle this body to start investigations out of his own, which is envisaged in the context of the second phase of railway reform (OECD, 2005b). This reform, currently before Parliament, also aims at harmonising infrastructure financing and technical norms so as to open more widely the railway market including for cross-border traffic. In this context, Switzerland and the European Union are currently negotiating the introduction of the EU's first and second railway packages. Its introduction would imply the complete liberalisation of goods transport, initially limited to the Trans-European Rail Freight Network and then extended in a following phase to the entire network. The draft reform also includes measures to foster competition, such as making competitive tendering mandatory for regional passenger transport services in certain cases, whereas they are currently optional.

### **Agricultural subsidies are top**

Switzerland tops the OECD league for government support for this sector. In 2004, the producer support equivalent, the OECD's measure for the rate of subsidisation, represented more than 70% of gross agricultural revenue, which is two and a half times the OECD average. Support has not declined significantly in recent years, even though reforms have contributed to shift it to more market friendly instruments. In this process, the conditioning of aid to environmental goals has also helped to improve environmental outcomes.

The agricultural sector can be divided into several segments. The thrust of regulation differs among them. While sugar prices follow changes in the world market at a higher level, no competition is for example possible in sugar production due to the way the public refining company exercises its *de facto* monopoly. In other markets, quota or pricing rules restrict competition by imports. According to the Swiss Constitution, agriculture should contribute, through sustainable and market-oriented production, to food security, to the conservation of natural resources and to a decentralised inhabitation of the country. Some changes are now in train. The Agricultural Policy 2007 programme will abolish milk quotas by 2009 and has already provided more flexibility in the allocation of quotas for meat imports, while the agricultural agreement with the European Union, which took effect in March 2005, will open the cheese and horticulture markets further. In the context of the second package of bilateral agreements with the EU measures to facilitate exchange of processed food were adopted. However, the speed of reforms remains slow and the sector heavily regulated. A significant fall of food prices, which are about 45% higher than in the European Union, requires an acceleration of reforms. On the other hand, the agricultural sector itself would benefit from a general rise in competitive pressures that would reduce both input costs and distribution margins.

### **The internal market is still not complete**

The 1995 Domestic Market Act (DMA) aimed at whittling away restrictions on market access set by cantons and municipalities. It defined principles governing access in accordance with the EU single market principles. Comco is responsible for monitoring

compliance with the Act and can address recommendations to cantons and communes, but it cannot issue binding decisions, though individuals and companies have a right of recourse against restrictions on access. There are various reasons why progress in easing access has advanced very slowly:

- The Federal Court gives the principle of federalism precedence over the internal market.
- The Act itself provides still considerable scope to restrict access.
- Few court actions have been brought, because of the length and cost of legal procedures in the face of an uncertain outcome.
- The DMA did therefore not live up to expectations (Conseil fédéral, 2004).

While the initial macroeconomic benefit of fully realising an integrated internal market may not be very large, the dynamic gains are likely to be important in the medium term, especially in certain markets where scale economies and synergies are underexploited. Furthermore, there continue to be problems with the recognition of professional qualifications across cantons. About 250 000 people (7% of the labour force) are affected. Against this background the Federal Council proposed to revise the DMA. The draft reform, currently being discussed by the Parliament, suggests to remove the remaining scope of the cantons to restrict access, notably by granting market access also when the establishment is moved from one canton to the other; to ensure that inter-cantonal recognition procedures for qualifications covered by the agreement with the European Union on the free movement of persons are at least as tolerant as EU rules, thus also ensuring that Swiss citizens are not treated less favourably than EU citizens; and to strengthen Comco's supervisory role, which would have a right of recourse in order to challenge cantonal decisions not complying with the DMA. However, recourse may not be easy to assert, as cantons will keep the right to restrict access, even though this will be restrained by the reform currently debated in Parliament. In the end, much will depend, first, on whether the cantons will be ready to accept rules and rulings of other jurisdictions as equivalent and, second, on the Comco's ability to ensure an effective enforcement of the revised law. Harmonisation of rules will also continue to be important. In the construction sector, for instance, different cantonal standards mean that plans drawn up in one canton cannot be used in another one.

### The public procurement market should be unified

The public procurement market is sizeable, amounting to nearly 10% of GDP. The bulk of procurement is done by the cantons and municipalities. The legislation governing procurement has been brought in line with international law (WTO) and bilateral agreements exist with the European Union. The law specifies different tendering procedures and thresholds that differ between construction work or services and other supply of goods. There are various bodies that handle complaints and appeals and that ensure that Switzerland complies with its international obligations.

Despite an elaborate system in place, the opening of public procurement does not seem to have gone very far, especially at the regional and local level. Several factors explain the lack of competition in this market. *First*, the value of many contracts is less than the threshold at which tenders have to be issued. *Second*, there is no harmonisation of public procurement law between and across levels of government. The legal situation is highly complex, despite the existence of inter-cantonal co-ordination. The practical effectiveness of the system hinges on the right of recourse, use of which is hampered by the high cost of

legal action. *Third*, threshold levels had also differed across the cantons. However, attempts have been made to improve the situation, with a view to harmonising the legal provisions. Moreover, a government procurement internet portal is being set up to centralise cantonal and federal calls for tender. These efforts will lead to a revision of the federal law on public procurement as planned by the government's Growth Package with the objective of setting adequate conditions for a unified market in this domain. Even a partial unification of this market would bring substantial savings, estimated between CHF 400 and 1 200 million (0.1% to 0.3% of GDP), according to the authorities.<sup>5</sup>

### Technical and other barriers to foreign competition should be lowered

While technical barriers to trade have diminished since the Federal Technical Barriers to Trade Act was adopted in 1995, administrative and technical regulations deviating from those of main trading partner still persist in areas such as production, packaging and labelling. This makes imported products more expensive. Some products cannot enter Switzerland at all. For instance, cream has to be commercialised under the generic expression "Rahm" and conform with a higher requirement for the content of fat than in German cream, where cream it is named "Sahne". To have both, "Rahm" and "Sahne" in the shelves is not allowed as it is argued that consumers would be confident to acquire a product with the fat content of "Rahm" when buying "Sahne" (Stoffel, 2005). In 2004, Comco called on Parliament to adopt the "Cassis de Dijon" principle – a European Union rule that states that goods can be marketed in the country of import if they comply with the legal rules and production standards of the country of export (Comco, 2005). In May 2005, the Federal Council proposed to unilaterally transpose this principle into Swiss jurisdiction. This is a rupture with the previous approach for reducing these non-tariff barriers, which was based on negotiating with the Union on a case-by-case basis the equivalence of prescriptions before refraining from imposing Swiss standards. If the proposal is endorsed by Parliament, the introduction of this principle will cut costs to businesses and prices for consumers. This would be a very welcome development. However, it is still open whether pharmaceuticals will be covered by the measure.

Higher costs and prices in Switzerland are also due to the possible prohibition of parallel imports of products protected by patents by the patent holder. Arbitrage possibilities seem large for pharmaceuticals and certain consumer durables. Allowing parallel imports for patented goods (shifting to the international or EU regional exhaustion regime for patent law) has sparked much controversy. The Federal Council rejected a change to the international regime in 2002 (Conseil fédéral, 2002) because the estimated gains appeared very small – between 0.0 and 0.1% of GDP (Plaut/Frontier Economics, 2002) – , the move could pose health risks and could undermine incentives to do research. More recently, the proposal to negotiate a regional exhaustion regime for patent law with the European Commission allowing parallel imports for patented products from EU countries was also rejected (Conseil fédéral, 2004). The estimated gains were again considered too small, especially because agreeing the adoption of this principle with the Union would have required applying it to copyrights and trademarks, which are currently subject to the liberal international exhaustion principle in Switzerland but not in the EU. The Federal government is hence in favour of the *status quo* which allows Comco to intervene if marketing conditions comparable to Switzerland prevail in the country of origin. However, this can only be enforced on a case-by-case basis. Moreover, even if Comco were hyperactive, there would still exist barriers to trade in the form, for instance, of registration

requirements, which would need to be overcome to really make a difference (Gardiol and Raess, 2005). On the other hand previous estimates of only very small gains induced by a liberalisation of parallel imports may be on the low side<sup>6</sup> and Comco supports shifting to the international exhaustion regime for patent law, or adopting the regional exhaustion regime unilaterally. According to the Federal Council, based on a study by Straus and Katzenberger, 2002 the latter is however not possible. Other experts in the field, while agreeing that adopting the principle of regional exhaustion unilaterally based on the exemption for free trade areas as foreseen in art. XXIV of GATT is not possible, argue that art. XX of GATT allows to apply different exhaustion regimes to different countries of origin on a case by case basis, provided the selection of countries is rooted in objective criteria such as sufficient protection of intellectual property rights, no price regulations, comparable income levels.<sup>7</sup> This second view comes close to what is already possible by invoking current cartel legislation.

The federal government has launched exploratory discussions with the United States, with a view to signing a free trade agreement. This initiative is based on a new strategy for foreign economic policy, adopted by the Federal Council in January 2005. According to this strategy, Switzerland recognises the great importance of an efficient multilateral trading regime, especially for a small open economy. But the authorities consider that they should respond to the rapid growth in preferential trade agreements and ensure that Swiss exporters are not penalised by discrimination resulting from free trade and investment agreements to which Switzerland is not party (OECD, 2005d). At the same time, the Confederation rightly considers that the Swiss market should be open to competition both domestically and internationally. Closer ties with the United States – the second largest export market after Germany, the first destination for outward FDI and the biggest investor in Switzerland – are important. Negotiations of such agreements, which might also be pursued with other important partners, could also speed up the pace of reforms in certain sectors.

## Assessment

Competition policy has moved up the policy agenda. The new Cartel Act gives the Swiss competition authorities important new means to combat restraints and has brought it closer to international standards. Following the government's growth strategy, a string of reforms has been launched. Efforts to strengthen competition should be resolutely pursued. Many reform projects, currently under examination in Parliament, still need to be approved and implemented. The adoption of the "Cassis de Dijon" principle, recently proposed by the government, which would further reduce technical barriers to trade, would be an important step, so long as it is not undermined by numerous exemptions. In the same vein, signing free trade agreements with important partners, such as the United States, could foster competition.

Yet there is still much scope to stimulate competition further (Box 4.3), which would benefit consumers and generate the higher productivity gains that are essential to raise the economy's growth potential. A competition culture still needs to be consolidated by vigorously applying the new provisions of the revised Cartel Act. There are also ways to further enhance competition, for instance by ensuring the economic and political independence of the Competition Commission or by moving from the abuse to the prohibition principle for cartels.

### Box 4.3. Recommendations concerning competition policy

#### Reform and application of the competition law

- Ensure the political independence of Comco, by excluding members that represent economic interests.
- Raise Comco's resources.
- Move from the abuse to the prohibition principle.

#### Strengthen competition in sheltered sectors

- In telecommunications, unbundle the local loop and reduce interconnection charges.
- Liberalise the electricity and gas sectors in a way that is compatible with EU rules.
- Accelerate the pace of reform of postal services.
- Continue to open up the railway market to foreign competition through the adaptation of Swiss legislation to the 1st and 2nd EU railway packages .as foreseen in the second phase of the railway reform
- Improve the rules concerning public procurement contracts.
- Revise the Domestic Market Act to ensure the freedom of establishment and strengthen the role of Comco to whittle away restrictive practices.

#### Open up to foreign competition

- Reduce the protection of the agricultural sector.
- Make competition of imports of patented products more effective.
- Adopt the "Cassis de Dijon" principle to reduce technical barriers to trade.

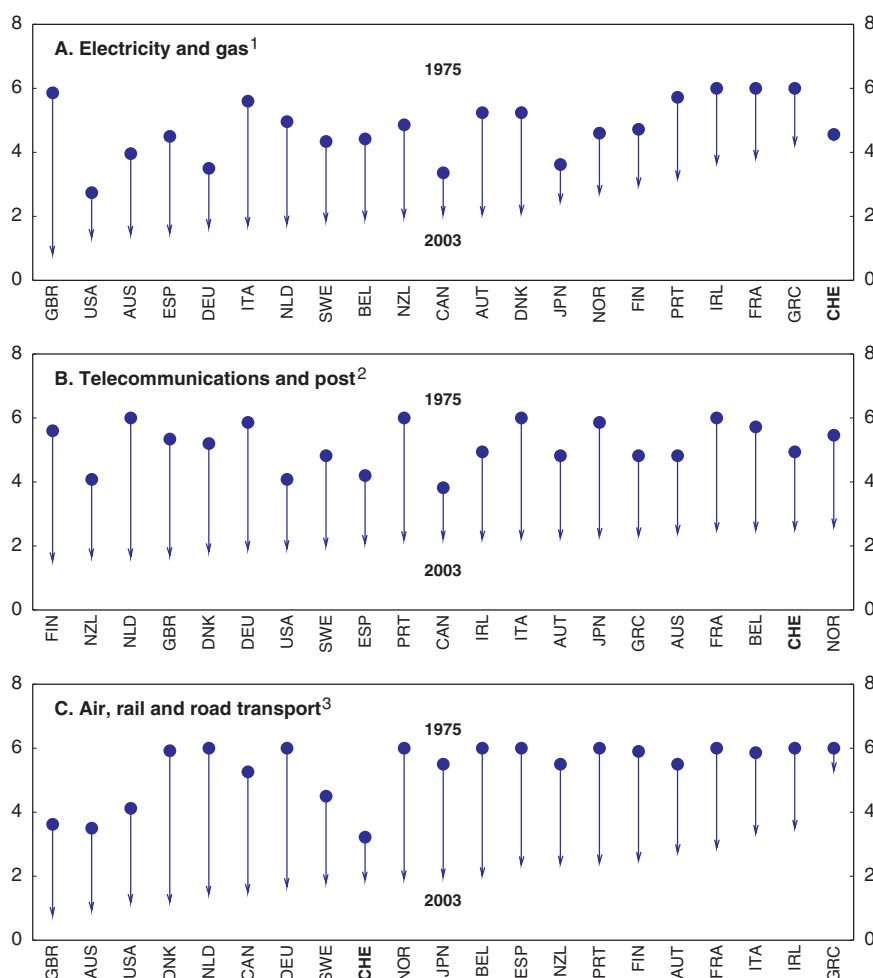
Network industries have been only partially liberalised so far, progress being uneven across sectors. In general, reform efforts have been less ambitious than in the European Union (Figure 4.1), which itself is not a beacon of reform accomplishments. Progress in these sectors is also slowed down by court actions and popular resistance to reforms. In this domain, getting approval for the reform of the electricity sector, which seems to be a good basis for liberalising this sector, probably constitutes the main challenge. However, reforms should also be accelerated in the gas sector and in postal services.

Approval of the revision of the Domestic Market Act is key for eliminating regional and local obstacles to a well-functioning national market. But this will also require cantons to cooperate and ensure that Comco can effectively enforce the revised law. The domestic market remains excessively segmented as the cantons have extensive powers to intervene. This results in considerable price differences for certain sectors, such as the professions and construction. Such regulations lead to entry barriers, while public procurement contracts often favour local firms. The cantons also often control supply and prices in network industries.

Greater openness to international competition would also help. More rapid opening to international competition is required in particular in agriculture, which remains more heavily subsidised than in any other OECD country. Moreover, a more effective competition of imports of patented products would be beneficial in some sectors.

Figure 4.1. **Regulatory stance in selected network industries**

0-6 scale from most to least favourable to competition



1. The indicator summarises sub-components on entry barriers, public ownership and vertical integration for electricity and gas and market structure in the gas sector.
2. The indicator summarises sub-components on entry barriers, public ownership and vertical integration for telecom and post and market structure for telecom.
3. The indicator summarises sub-components on entry barriers for airlines, rail and road, public ownership for airlines and rail, and market structure and vertical integration for rail.

Source: Hoj, J. (2005), "The OECD Indicators of Competition Law and Policies", *OECD Economics Department Working Papers*, forthcoming.

## Notes

1. While this chapter reviews the government's agenda and progress made in the domain of competition, which was analysed in some depth in the previous Survey, further and more detailed work was recently conducted by the OECD in these areas, including competition, regulatory frameworks and electricity (OECD 2005a, 2005b and 2005c).
2. For a detailed discussion on the electricity reform, see (OECD, 2005c).
3. The canton of Fribourg set up an electric power monopoly in order to avoid the jurisdiction of the Cartel Act, shortly after the Tribunal federal ruled that denial of access to its transmission network violated the law. The canton of Vaud introduced a similar monopoly in April 2005 for the same purpose.

4. The need for an independent regulator was acknowledged by a report commissioned by the authorities to assess the initial impact of liberalisation of postal services (Wik-Consult, 2005). For a detailed discussion of this sector see also (OECD, 2005b).
5. A large amount of public purchases, estimated at CHF 30 billion, could be submitted to a unified public procurement market, which explains the sizeable potential savings estimated by the authorities on a basis of a study carried out by ECOPLAN.
6. According to a previous study commissioned by the Federal Council (Conseil fédéral, 2002), liberalising parallel imports would increase GDP by less than 0.1% even though the price of parallel imports is expected to fall by between 14 to 32% in the case of drugs and between 4 and 8% for consumer goods. Such an impact seems low, however. For pharmaceuticals alone, which represent 1¼ per cent of GDP, a rough estimate suggests that the direct effect of halving the price level differential with the European Union, which reaches on average more than 40%, would generate savings of about ¼ per cent of GDP. However, this rough estimate does not take into account the possible second and third round effects of liberalising parallel imports (the producer may for instance change the product design to separate markets, align ex factory prices across markets or, as a third round effect, cut down R&D spending)
7. See for instance Kraus (2004) for an overview. It is noteworthy that the legal problems raised by the unilateral adoption of the “Cassis de Dijon” principle proposed by the Federal Council are of a similar nature as those related to the regional exhaustion regime for patent law.

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## Chapter 5

# Innovation: areas for improvement

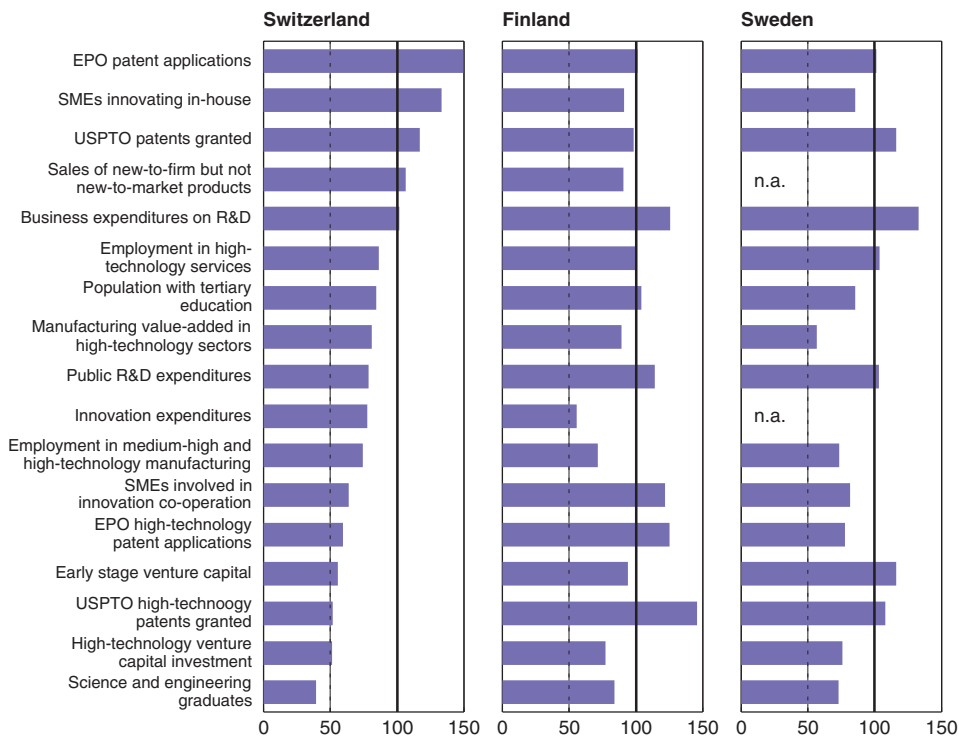
*Given high labour costs, Switzerland needs to maintain a top position in innovation to preserve its competitiveness and a high living standard. Despite some weakening in the 1990s, partly due to sluggish trend growth, the Swiss innovation performance has been very strong. There are, however, areas in which reforms could strengthen innovation. Slow labour productivity growth and mixed results in entrepreneurship surveys suggest that the innovativeness of some parts of the economy could be improved, especially regarding small enterprises in sheltered services sectors. Raising innovativeness, including through fostering the growth of firms, would also reduce Switzerland's reliance on multinationals which are increasingly mobile. On the other hand, the growing knowledge economy and the increasing competition from emerging countries in skill-intensive activities suggest strengthening the Swiss education system which is currently focused on vocational education. This chapter provides an overall assessment of innovation and framework policies to identify areas for improvement.*

## Innovation policies<sup>1</sup>

Figure 5.1 shows indicators of the performance of the Swiss innovation system drawn from the EU innovation scoreboard in comparison with Finland and Sweden, two countries where innovation performance has also been excellent. Switzerland ranks third on the overall innovation index,<sup>2</sup> after Sweden and Finland. However, the Swedish and Finnish performance is more even across indicators, and the comparison reveals a number of areas where the Swiss performance could be improved. These include the share of science and engineering graduates, the degree of specialisation in high-tech, the development of the venture capital market, the integration of SMEs in innovation co-operation and public R&D spending. This section reviews the state of innovation-specific policies ranging from public R&D to business-academic links, public support for business R&D, and the availability of scientists and engineers. Framework factors which affect entrepreneurship, such as competition and trade policy, administrative burdens, the legal and tax framework, and financial sector policies, are examined in the second part of the chapter. Innovation policy will be further examined in the

Figure 5.1. **Strengths and weaknesses in innovation performance**<sup>1</sup>

Three best performers in EU25 = 100, latest available year



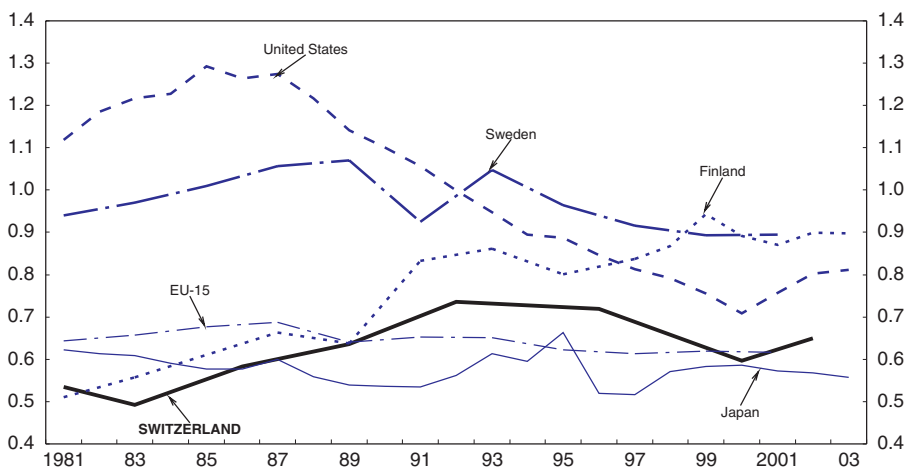
1. EPO: European Patent Office, USPTO: US Patent and Trademark Office, SMEs: Small and medium-sized enterprises. Source: European Commission, Community Research and Development Information Service (CORDIS), European Innovation Scoreboard 2004.

framework of the ongoing OECD Country Review of Innovation Policy in Switzerland (OECD, 2006), with a special emphasis on the steering and funding of the innovation system and the challenges posed by the internationalisation of R&D.

### **Public funding for research could be better prioritised**

Budgetary problems (Chapter 2) raise concerns about the availability of sufficient public funding for research in the future. Public funding for R&D is only average by international standards, at about 0.65% of GDP, and already underwent cuts in the 1990s which affected primarily public research (Figure 5.2).<sup>3</sup> In the future, fiscal consolidation coupled with mandatory increases in social security outlays will make it difficult to maintain a high growth rate of public funding for research. The predicted slowdown of trend growth will constrain resources even further. In a recent change of orientation, the government decided to prioritise spending on education, research and technology and announced an above-average 6% yearly growth of spending on these items between 2004 and 2007. However, the promised increases had to be scaled back substantially to balance the budget. There is a need to safeguard more effectively public spending priorities on research given its high social rate of return.

**Figure 5.2. Trends in public funding for R&D**  
As a percentage of GDP



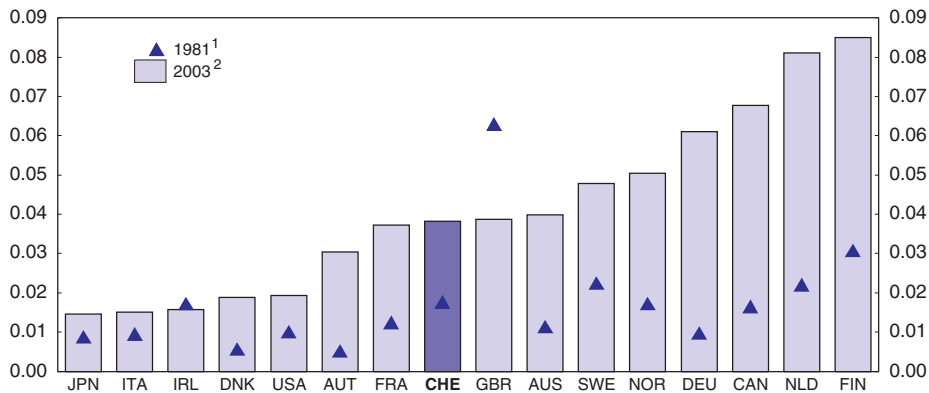
Source: OECD (2005), *Main Science and Technology Indicators*, Vol. 1.

The pooling of resources through an intensification of national and international research co-operation is increasingly advantageous in a context of rising technological complexity. Action has been taken in this area by the government: Switzerland became a full partner of the Sixth EU Framework Programme for Research and Technological Development in early 2004.<sup>4</sup> The public funding of EU programmes has risen from close to nothing in the early 1990s to about 8% of the public funding for research in 2002 (Lepori, 2005).

There is also scope to complement public funding by increasing private funding of university research. One source of private funding is the commercialisation of universities' inventions. In this respect, the recent development of technology transfer offices (TTO) in universities is a welcome step, and their activities should be further expanded. Secondly,

there remains room to increase the direct funding of university research by businesses which did not increase as much as in some other countries following reductions in firms' in-house basic research (Figure 5.3).

Figure 5.3. **Business funding of non-business sector R&D**  
Per cent of GDP



1. 1986 for Switzerland.

2. 1996 for Italy; 2001 for Sweden; 2002 for Australia, Austria, France, Ireland, Netherlands and Switzerland.

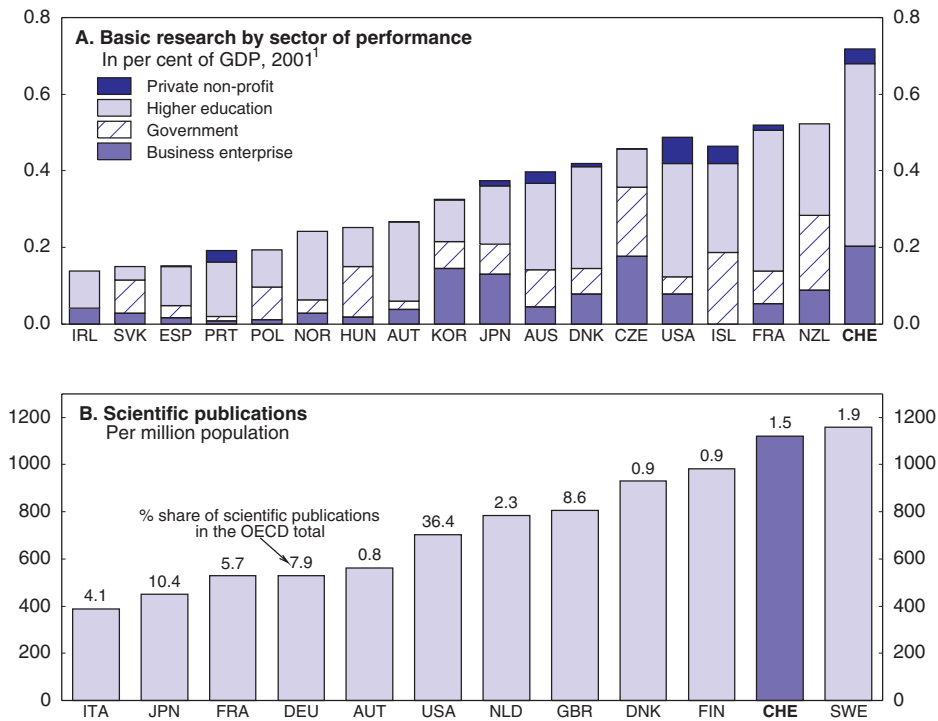
Source: OECD (2005), *Main Science and Technology Indicators*, Vol. 1.

## Public funding needs to stimulate applied research

### Basic versus applied research

Most of the public funding is allocated to basic research,<sup>5</sup> which also benefits from a strong private involvement.<sup>6</sup> As a result, Switzerland performs very well on basic research (Figure 5.4) even though the size of public R&D is only average.<sup>7</sup> This is reflected in high numbers of scientific publications per million population and citation indices. Fundamental research is the basis of innovation, since fundamental scientific and technological advances create new opportunities for businesses to innovate (Jaumotte and Pain, 2005a, b, c and d; Falk, 2004a). The effects estimated in a large cross-section of OECD countries are potentially sizeable: an increase of non-business R&D by 0.06 percentage point of GDP (an average change in OECD countries)<sup>8</sup> raises business sector R&D by over 7% and total patenting by 4% on average. The research carried out in public research organisations (PRO) also provides training to those scientists and engineers that later work in the business sector. However, benefits may be smaller when basic research is performed by the business sector, since diffusion to the rest of the economy is limited by the protection of intellectual property rights. The very good current indicators reflect past investments. Keeping basic research a priority is important for the future and offers scientists the best chance to be successful in the international competition for funds.

It is also crucial to bridge the gap between basic research and the market. The distribution of general university funding, part of which is used for research, is supporting more the highly performing poly-technical institutes (EPF). On the other hand, research is less well funded and resources are not well deployed in the universities of applied sciences as well as in the cantonal universities,<sup>9</sup> which are strong in the fields of human and social sciences. The plan to reform university financing, currently under discussion, would rebalance the general funding of institutions of higher education by introducing a standard

Figure 5.4. **Basic research and scientific publications**

1. 2002 for Czech Republic, Hungary, Iceland, Slovak Republic and United States; 2000 for Australia, Ireland and Switzerland; 1998 for Austria.

Source: US National Science Foundation, *Science and Engineering Indicators 2004* and OECD, RDS database, May 2005.

subsidy per student and field but is facing strong opposition from interest groups. This initiative is complemented by the recent creation of new research poles, which give universities incentives to pool their research resources together and reap the benefits from larger scale.

Linkages between universities and businesses are also important to strengthen technology transfers and the implementation of innovations (Jaumotte and Pain, 2005a, b, c and d).<sup>10</sup> The diffusion of technology operates through different channels such as the simple exchange of information, the licensing of protected inventions, research cooperation agreements, the mobility of personnel and the creation of spin-offs and start-ups.<sup>11</sup> Co-operation agreements with existing businesses are more far-reaching than spin-offs and start-ups, which tend to remain small relative to the size of the economy (Marmet, 2004). Part of the public funding for research is allocated to support business-university research co-operation but resources remain limited, at about 3% of the total public funding for research (Lepori, 2005).<sup>12</sup> The funding is allocated through the CTI and is given to the academic partner of the research co-operation while the business partner has to cover at least half of the project costs. Evaluations of similar programmes have shown that such support does lead to a more intensive adoption of technologies, especially for firms which do not use them at the start of the programme (Arvanitis *et al.*, 2002).<sup>13</sup> Recent increases in the rejection rate of applications due to limited resources suggest that an increase in the budget of the CTI would be easily absorbed.

SMEs are significantly under-represented in business-university co-operation (Arvanitis and Hollenstein, 2002a), as well as in co-operation agreements in general (Figure 5.1).<sup>14</sup> Small businesses need more and more to have a well-trained engineer on the payroll in order to improve their absorptive capacity. Recent initiatives to address constraints specific to SMEs are welcome and should be further developed. For example, the CTI tries to develop “pull” services (from businesses to universities) to complement the existing “push” services (from universities to businesses) by encouraging businesses and public research organisations (PROs) to form consortia for the exchange of information. In the longer run, an increase in the supply of university graduates, including in engineering, should increase the pool of qualified personnel available to smaller firms.

Another obstacle to the transfer of technology from universities to the market is the lack of business training of scientists and engineers who want to create spin-offs. In recent years, there has been an explosion of executive master programmes, mostly attended by people with a science or engineering background. CTI also offers education and coaching services for people interested in a business project through its “Venturelab” and “Start-up” initiatives. However, more needs to be done, particularly in the area of coaching services.<sup>15</sup> Recent initiatives to relax nationality restrictions for members of the boards of companies and ease immigration restrictions for foreign graduates from the Swiss university system should also be pursued, as anecdotal evidence suggests that they tend to be more entrepreneurial.

Finally, technology transfers between universities and businesses have been strengthened by the creation of TTOs in universities. However, these are still at an early stage of development (Table 5.1). The fragmentation and lack of coordination of TTOs keep search costs high for businesses, especially the smallest ones, and efforts at consolidating the system encounter resistance from universities. The functioning of TTOs also suffers from a lack of trained personnel and “cultural” conflicts between scientists and business people (Volery et al., 2004). The CTI Wissens- und Technologietransfer (WTT) initiative

Table 5.1. **Activities of technology transfer offices in selected OECD countries**  
2002, in percentage of all responses

	Investigation of patenting possibility	Patent applications	Licences (out)	Licences (in)	Research agreements
Denmark	58	79	74	16	68
Germany	80	90	87	33	80
Italy (Universities)	50	82	61	18	57
Italy (Public research institutions)	60	100	80	20	80
Japan	94	94	76	71	88
Korea	50	88	75	50	63
Netherlands (Universities)	100	100	100	62	100
Netherlands (Public research institutions)	78	100	78	33	78
Switzerland (Universities)	49	57	57	26	80
Switzerland (Public research institutions)	67	78	67	22	78

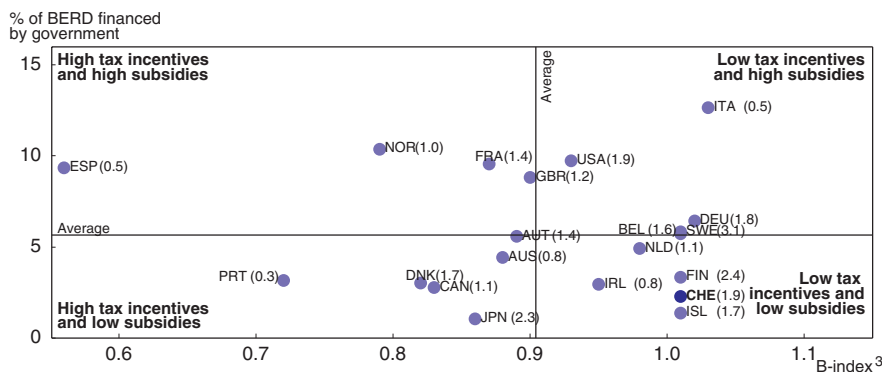
Source: Arvanitis and Wörter (2005), “The Swiss Innovation System: Governance, Public Policy, Performance and Assessment of Strengths and Weaknesses”, Background Report to the OECD Country Review of Switzerland’s Innovation Policy on behalf of the Swiss Innovation Promotion Agency (KTI), KOF, Swiss Federal Institute of Technology, Zurich.

addresses this issue as it intends to reduce fragmentation by organising existing TTOs into larger network entities.

### Public support for business R&D

Although some public funding is deemed justified to internalise network externalities, there is a tradition of not providing public funding to private research activities in Switzerland, whether in the form of direct funding or tax incentives for R&D (Figure 5.5).<sup>16</sup> This decision seems warranted given that Switzerland already has one of the highest business R&D intensities in the world. Public support for business R&D is often justified by the existence of positive spill-overs for the rest of the economy, which are not taken into account in private spending decisions. However, the high level of business R&D in Switzerland increases the risk that public funding substitutes for private funding without raising total R&D spending much.<sup>17</sup> The existing evidence on the effectiveness of public support for business R&D also yields a mixed picture, perhaps unsurprisingly given the difficulties related to its evaluation.<sup>18</sup>

Figure 5.5. **The state of tax and subsidisation policies for business R&D<sup>1</sup>**  
Average per annum, 2000-03<sup>2</sup>



1. The numbers in parentheses are the average business R&D intensities in 2000-03.

2. Or closest period where data are available.

3. The B-index is defined as one minus the rate of tax subsidy for 1 USD of R&D by large firms in 2004.

Source: OECD (2005), *Main Science and Technology Indicators*, Vol. 1 and *Science, Technology and Industry Scoreboard*.

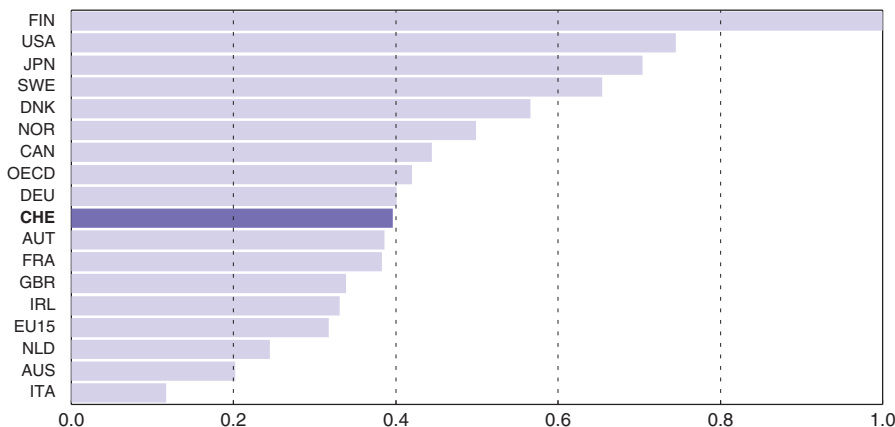
The case for support targeted at small firms is an open issue because scale matters for research capacity. On the other hand, deadweight losses should be much lower for small and young firms which are more constrained by capital market imperfections, including in Switzerland (Arvanitis and Hollenstein, 2002a).<sup>19</sup> Indeed, the cost of external funds for innovation projects is usually high, because of high risks and a substantial degree of information asymmetry, and small and young firms, which have a higher risk of bankruptcy, less collateral, and/or minimal track record, are especially affected. Young firms also have less internal funds to substitute for external financing and venture capitalists may not be interested in small firms because of the relatively high transaction costs and low growth potential. In light of the limited public resources, providing direct support for SMEs would have to be examined carefully to make sure that it would be an effective means to remedy the above noted externalities. There is evidence that the innovative capabilities of firms can be enhanced through network relations drawing on public infrastructure, partnerships between firms and research centres and clusters. Thus,

government assistance to SMEs might focus on strengthening such networks, drawing on international best practice. The improvement of framework conditions for entrepreneurship is a precondition for targeted policies to be effective.

### **Efforts to strengthen higher education should be pursued**

Human capital is an essential input into the innovation process. About 50% of R&D spending consists of the wage costs of R&D personnel, which includes researchers, technicians and support staff. Researchers are also a key determinant of the capacity of a country to absorb inventions made in other countries (Jaumotte and Pain, 2005a and c). Although Switzerland has a very high share of R&D personnel in total employment, its share of researchers in total employment is only average in international comparison (Figure 5.6). This reflects to some extent a low domestic supply of science and engineering (S&E) university graduates (Figure 5.7). Moreover, people trained in science and engineering are attracted by higher wages in the knowledge-intensive market services sector, where Switzerland holds a top position. On the other hand, the relative openness of the Swiss system and its attractive employment conditions enable the country to attract foreign scientists and engineers, who account for 33% of researchers.<sup>20</sup> The scarcity of domestic scientists and engineers may also motivate the expansion of outward R&D by domestic firms in some sectors, especially in machinery and electronics, where the availability of R&D personnel is reported as an important motive for moving R&D outside Switzerland, together with the market size and knowledge motive (Table 5.2). Outward R&D is typically more high-tech than domestic R&D, though this may reflect to some extent the high internationalisation of the pharmaceutical industry.

Figure 5.6. **Researchers in the business enterprise sector**  
In per cent of total employment, 2003<sup>1</sup>

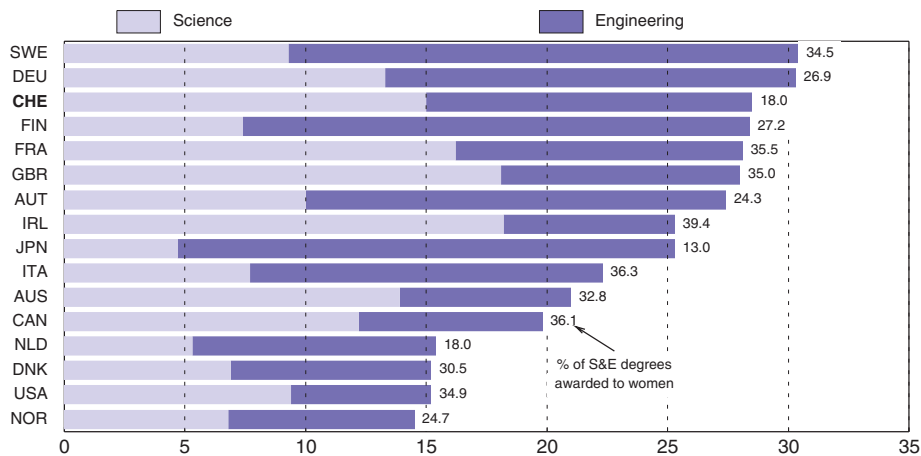


1. 2000 for Switzerland, United States and OECD; 2002 for Australia, Austria, Canada, Denmark, France, Italy and EU15.

Source: OECD (2005), *Main Science and Technology Indicators*, Vol. 1.

The low share of S&E university graduates results from a low level of participation in university education overall and not from a low share of S&E in total university degrees (Figure 5.7).<sup>21</sup> Switzerland has one of the lowest shares of people with tertiary education in international comparison (Figure 5.8). The gap with other countries appears even larger for tertiary non-university education, but cross-country differences in the classification of



Figure 5.7. **Science and engineering university degrees**As a percentage of total new university degrees, 2002<sup>1</sup>Table 5.2. **Motives for R&D activities outside Switzerland<sup>1</sup>**

Percentage of firms reporting a motive as important or very important, 2002

**Panel A. By sector**

Motives	Manufacturing			Services			Total
	Total	High tech	Low tech	Total	Modern services	Other services	
Market motive	43.1	45.7	36.8	23.1	30.8	16.7	39.7
Knowledge motive	28.5	26.8	32.5	30.8	35.9	25.0	28.8
Cost motive	20.4	20.2	21.1	11.6	15.4	8.3	18.9
Availability of R&D personnel	37.7	40.2	31.6	38.5	30.8	41.7	37.8

**Panel B. By group of manufacturing industries**

Motives	Chemicals, plastics	Machinery, vehicles	Electrical machinery, electronics	Metal	Other industries
Market motive	54.2	34.2	55.6	35.7	37.5
Knowledge motive	36.1	25.2	21.0	35.7	30.5
Cost motive	20.9	18.3	22.2	25.0	18.8
Availability of R&D personnel	16.7	46.3	51.9	21.4	37.5

**Panel C. By firm size**

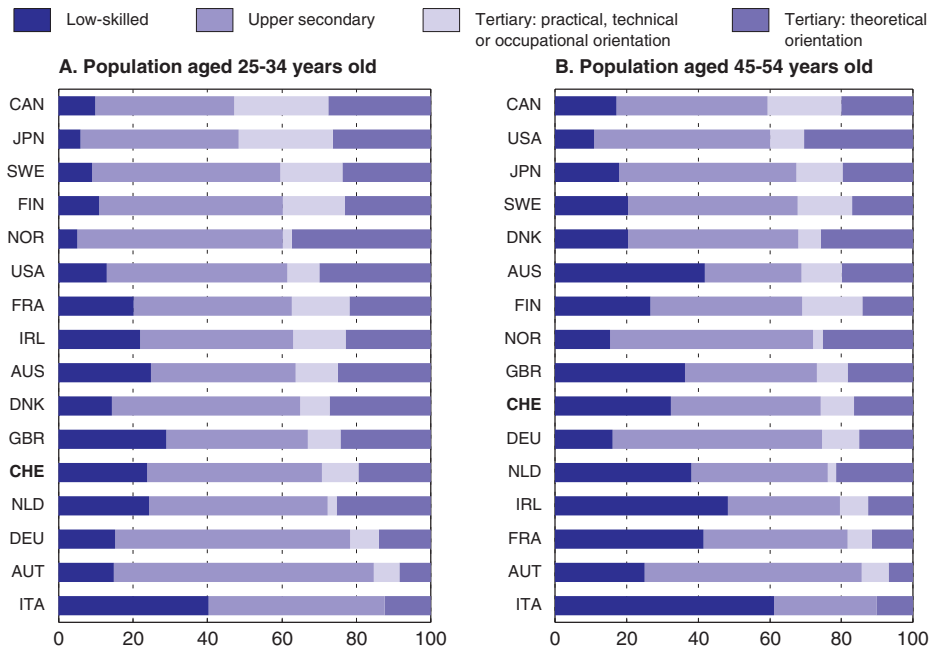
Motives	Firm size <sup>2</sup>			Total
	Small	Middle	Large	
Market motive	29.5	39.7	61.3	39.7
Knowledge motive	31.7	23.8	32.3	28.8
Cost motive	24.6	18.3	8.1	18.9
Availability of R&D personnel	39.3	36.5	35.5	37.8

1. The market motive refers to support of production/marketing in foreign markets. The knowledge motive is the average of three single motives, namely nearness to prominent foreign research universities, nearness to networks of innovative firms and knowledge transfer to Switzerland. The cost motive is the average of two single motives, namely lower R&D costs and stronger R&D public promotion.

2. Small designates firms with up to 50 employees; middle, firms with 50 to 250 employees; and large, firms with 250 employees and more.

Source: KOF Internationalisation Survey, 1998.

Figure 5.8. **Educational attainment of the adult population**<sup>1, 2</sup>  
2003<sup>3</sup>



1. "Low-skilled" comprises persons having primary school, lower secondary school or ISCED 3C short programmes as their only formal qualification. Upper secondary includes post-secondary non-tertiary programmes.
2. Countries are ordered by share of population with tertiary education.
3. 2002 for Italy and the Netherlands.

Source: OECD (2005), *Education at a Glance*, Tables A1.2a and A1.3a.

fields between types of tertiary education makes comparisons difficult. Comparing the educational attainment of younger cohorts (25-34 years) with that of older cohorts (45-54 years), the rise in the share of people with tertiary (and university) education also appears modest in international comparison. The main improvement appears to be a small reduction in the share of people who have low educational attainment. An important feature of the Swiss education system, which partly explains the low participation in tertiary and university education, is its vocational character. Although there is a general branch, three quarters of upper secondary school graduates receive vocational instruction, which focuses on early entrance in the labour market through a system of apprenticeships. Until recently, there was no or little possibility for students in vocational training to pursue university education and the percentage of people with vocational education who graduated from tertiary (non-university) studies was only about 25%.

The vocational education system is considered as very successful in Switzerland, and there is a strong attachment to it. It responds well to labour market needs, as reflected in the very low unemployment rate. It is also quite integrative as illustrated by the fact that the share of people with no education is very low in international comparison. It is feared that a system that provides mainly general education may lead to over-education. However, there is a growing recognition that knowledge, as opposed merely to skills, has become more important to remain competitive in today's innovation society. A better-educated population may be generally more innovative and better able to adapt to technological change. The need to strengthen the country's knowledge base is also

reinforced by the increasing competition from emerging countries in skill-intensive activities. Although there is a possibility to recruit highly qualified people from abroad, and Switzerland is very good at it, ultimately factor endowments will determine the position of the economy in the international division of labour. There are different ways in which education can be reinforced, by strengthening formal training or lifelong learning, and a combination of both is probably desirable.

In the area of formal training, the government is working towards upgrading the vocational training system, in which most students are currently enrolled, and increasing the attractiveness of general university education. The choice of upgrading vocational education instead of shifting students to general education has also been adopted in other countries with similar dual education systems (e.g. Germany and Austria). A number of reforms have been or are in the process of being implemented. *First*, starting in 1995, the authorities have been upgrading a number of advanced training schools into universities of applied sciences (UAS), thereby making it easier for students enrolled in vocational training to pursue university education. *Second*, secondary school vocational training has been reinforced by increasing its formal educational component, lengthening for example the number of days spent in school at the expense of the time spent in apprenticeships, particularly in the early stage of the programmes.<sup>22</sup> The introduction of a vocational diploma in 1993 reflected the commitment of the authorities to improve the overall conditions of vocational training and enabled students to take up study at the UAS. *Third*, a number of vertical and horizontal possibilities for transfer have been created between vocational and general education, both at the secondary and tertiary levels. *Finally*, the authorities have fostered the mobility of students by adhering to the Bologna process and concluding agreements with those neighbouring countries that have a similar dual education system.

Although the enrolment rates in general universities (as opposed to UAS) have increased during the last two decades, a number of structural problems reduce their attractiveness. Private rates of return to such education are low relative to other types of post-secondary education (Wolter and Weber, 1999; Weber, 2003).<sup>23</sup> There is a high degree of fragmentation of the cantonal universities, the main provider of general university education with the poly-technical institutes (EPF). The small size of departments implies a limited supply of courses each year, which contributes to lengthening the time needed to complete the curriculum. The average length of study to obtain a diploma is six years, despite a theoretical length of 4 to 5 years (OECD, 2003b). The sometimes extreme fragmentation of the education system also limits the quality of education, which can fluctuate widely across institutions and cantons.

A number of steps are being taken to overcome these obstacles. *First*, the adhesion to the Bologna process and implementation of the separation between bachelor and master programmes will increase flexibility by reducing the minimum length of study. *Second*, the authorities are attempting to reduce the fragmentation of universities by reallocating study fields among them and favouring specialisation and profile-building of institutions, not without resistance from them. These consolidation efforts are also supported by the recent creation of six national research centres, as part of a rebalancing of project funding towards the fields of human and social sciences.<sup>24</sup> *Third*, there are initiatives to further improve quality assessment, which is seen as an indispensable condition for healthy competition between the institutions of higher education. *Fourth*, the authorities are restructuring the financing of institutions towards the application of a standard subsidy

per student in each field. This should lead to a better use of resources, since costs now fluctuate widely across universities. It will also help overcome under-funding in cantonal universities due, among other things, to the strong increase in enrolment in human and social sciences. A new law is expected to be implemented but only by 2011.

The evaluation of the reforms undertaken so far in the area of vocational education is globally positive. Despite their recent creation, about 5% of the population in the relevant age category obtained a degree from one of the UAS, against 10% from a general university. The take-up rate of bridges between vocational and general education is, on the other hand, relatively limited. It may be asked whether the current reforms will be sufficient to maintain Switzerland's leadership in the growing knowledge economy. There may be a case to strengthen and accelerate efforts along the current lines of reform, by further strengthening vocational curricula and continued reform within and among Universities of Applied Sciences. Moreover, it would be efficient and equitable to raise tuition fees for tertiary education while introducing a system of loans with income-contingent repayments (Box 5.1). Higher tuition fees would make demand (students) attentive to the quality and subjects being supplied, with subsequent effects on the supply. Moreover the

#### Box 5.1. Funding of tertiary education in OECD countries\*

In a context of growing constraints on public finances, tuition fees have been raised considerably in some countries to increase spending on tertiary education. Tuition fees are also justified from an economic and equity point of view, since individuals endowed with tertiary education draw large personal benefits from it, making it unfair to use general public funding. A number of OECD countries (Korea, the United States, Japan, New Zealand, Canada and Australia) charge significant tuition fees complemented by loans and/or grants for students from low-income families, with no evidence of adverse participation or equity effects (Blöndal *et al.*, 2002). Several of these countries (*e.g.* Australia, New Zealand and the United Kingdom) also make the repayment of the student loans contingent on post-graduation income, thereby providing insurance against students' inability to repay. In the United States, where the repayment is not income-contingent, the default rate is high.

Although the arguments for providing loans with income-contingent repayments are strong, the case for providing *a priori* grants or below-market interest rates on loans appears much weaker: although some students may be poor today, they may be more affluent over their lifetime than the average tax payer. The money may be better spent on early childhood and compulsory schooling, which are the main determinants of equity in educational attainment (Carneiro and Heckman, 2003). In New Zealand, the introduction of student loans in 1992 has spurred participation in tertiary education with a significant rise in the share of students from non-traditional ethnic and socio-economic backgrounds. Key reasons were that loans were available for any approved tertiary institution and the reform of public funding for tertiary education institutions towards an equal per-student funding for public and private institutions. This led to an explosion of new providers which better reached those students (OECD, 2002). Equity could also be improved by rewarding universities for attracting students from non-traditional backgrounds.

Some countries vary fees across subjects and/or universities. Fees are typically lower in arts, higher in medicine with science and law courses falling in between, in line with the actual costs of these courses and earnings that can be expected after graduation.

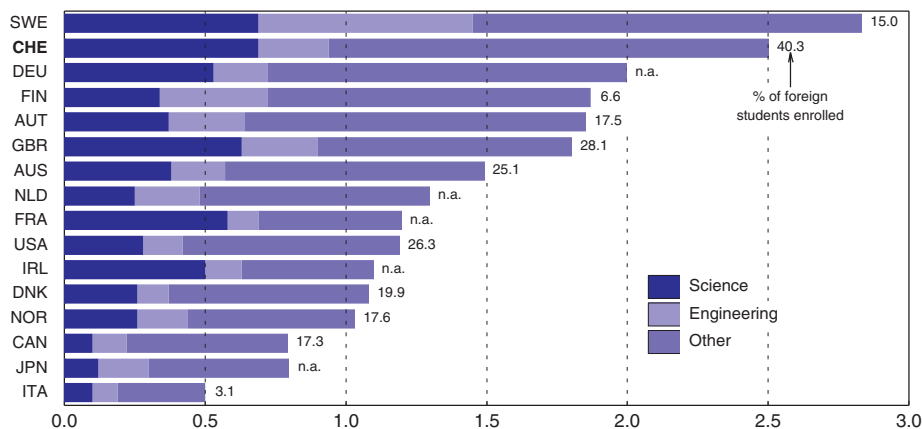
\* See OECD (2004a) for further details.

additional resources would allow the quality of staff and research to be raised. However, higher fees should not lead to lower public funding of universities. Tuition fees per student remain very low in Switzerland at about CHF 1 000-1 300, compared to the United Kingdom (CHF 6 600), Canada (CHF 9 200), Australia (CHF 15 200) and the United States (CHF 16 000-26 000).<sup>25</sup>

Following important progress, women accounted for 45% of those enrolled in tertiary education in the 2003-04 school year. While they have roughly reached parity for general university enrolment, their proportion in the universities of applied sciences (UAS) was only 39%, due in part to their low representation in technical fields, which account for a substantial share of all students in the UAS.<sup>26</sup> Although the under-representation of women in S&E is a problem in every country, it is particularly acute in Switzerland, with only 18% of university degrees in these fields awarded to women (Figure 5.7). Reducing this imbalance may require specific policy actions to stimulate interest of girls in the sciences from an early age, for example through the organisation of science days and science fairs (OECD, 2004b). Yet, it is not just a question of encouraging women to study sciences. Higher education institutions could also do more to recruit and retain women in research. Women only accounted for 10% of professors in general universities and 28% in UAS in 2003.<sup>27</sup> The authorities have taken steps in this direction by introducing a gender equity programme which includes mentoring and work-family reconciliation measures. Such measures have been shown to be important for encouraging women to pursue research careers in the public and private sectors. More generally, adopting work-family reconciliation policies would help stimulate women's investment in tertiary education, by increasing the rate of return of such education.

The Swiss university system attracts a large number of foreign students, particularly in postgraduate studies (Figure 5.9). With 17% of foreign students in tertiary education, Switzerland ranks second, after Australia (Office Fédéral de la Statistique, 2005).<sup>28</sup> These students have a higher tendency to study exact, natural and technical sciences than Swiss students: 46% of foreign students who obtained a (general) university degree in 2003 were registered in these fields, against only 27% of Swiss students. These students, whose education is mostly funded by Switzerland, constitute a pool of highly qualified people that

**Figure 5.9. Graduation rates at PhD level**  
In per cent of population at typical graduation age, 2003<sup>1</sup>



1. 2000 for Canada; 2002 for Denmark, Finland, Italy and 2001 for foreign students enrolled in the United States.

Source: Calculations based on OECD, Education database, September 2005.

could contribute to increase the level of education of the labour force. The easing of immigration restrictions for EU nationals will contribute to retaining more of them and more time should be given to students from non-EU countries graduating from the Swiss university system to find a job in Switzerland.

Finally, continuing education plays a crucial role in a context where knowledge evolves rapidly. Switzerland is roughly average in terms of continuing education (OECD, 2003b).<sup>29</sup> As in most OECD countries, people with higher educational attainment invest more in continuing education. This is one area of education where the Swiss government spends less than other countries, and lifelong learning is mostly left to private initiative. The lack of harmonised and recognised certification also makes it difficult to gain from the training received. Finally, many workers report the unavailability of time as an obstacle to pursuing continuing education.

## Framework conditions and policies

This section reviews framework factors and policies that influence innovation and more generally entrepreneurship. The impact of framework conditions and policies on innovation is at least as large as that of innovation-specific policies (Jaumotte and Pain, 2005a). Entrepreneurship includes innovation but is broader. It includes the creation of new firms and the growth of existing firms, both of which are important for innovation. The creation of new firms is a channel through which innovations are brought to the market, while the growth of existing firms increases the impact of their innovations on the economy and reinforces their innovative capability.

Switzerland ranks in the middle of international comparisons of firm creation, though it performs well relative to most other European countries. But it ranks very low on the entrepreneurial activity of existing firms, defined as the combination of innovativeness and job growth (Figure 5.10).<sup>30</sup> The much worse performance on entrepreneurial activity than on innovation survey indicators reflects the additional criterion of job growth. The lack of growth of firms in general and of innovative firms in particular is a problem. Entrepreneurial firms account for a very small fraction of employment, reducing their impact on the economy. In Sweden and Finland, entrepreneurial firms account for a much larger share of total employment, though it is concentrated in a few large firms. The low entrepreneurial activity of existing firms is also likely to reflect the inclusion in the Global Entrepreneurship Monitor (GEM) survey of very small firms and sheltered services sectors with low productivity growth in Switzerland.<sup>31</sup>

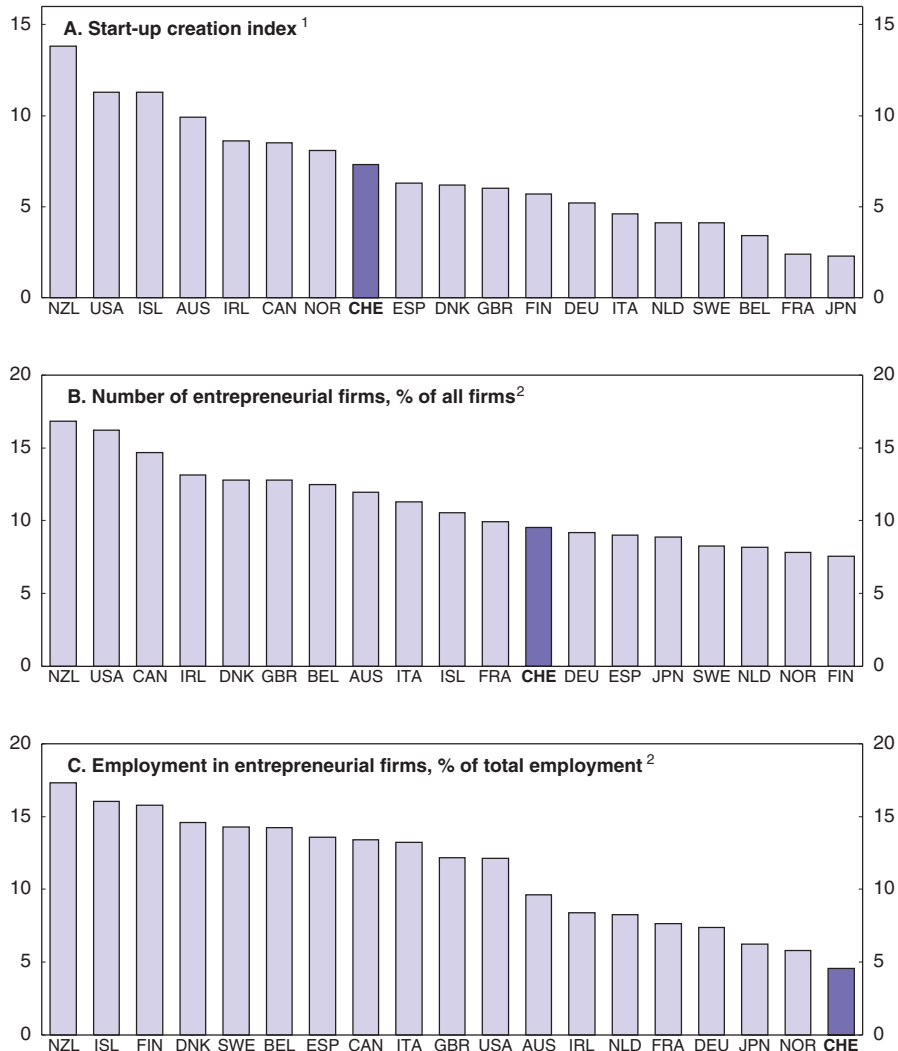
The topics reviewed in this section include competition and trade policies, administrative burdens on start-ups, socio-cultural norms, the legal system and financial sector policies. The impact of the weak trend growth and low participation in tertiary education has already been discussed above and is not further examined here. It should be noted however that apart from the weak trend growth, macroeconomic conditions are relatively favourable to innovation in Switzerland. The economy is very stable, with low inflation and real interest rates, and relatively sound public finances (Chapter 1).

### **Increasing competition and trade openness is key to raise innovation incentives**

Competitive pressures remain very low in Switzerland, due to stringent product market regulation and limited integration with the European Union (Chapter 4). Cross-country studies show large stimulating effects of raising competition on the innovation

Figure 5.10. **Global scope of entrepreneurial activity**

2003



1. This refers to the percentage of adults aged 18-64 years who are either in the process of creating a new firm or the owner-manager of a new firm. It corresponds to the "total entrepreneurial activity index" from the Global Entrepreneurship Monitor survey.

2. An existing firm is considered as entrepreneurial if it had at least a small amount of job growth and any modest impact in terms of providing new goods or services in the market place.

Source: Global Entrepreneurship Monitor, 2003 Executive Report.

performance of the business sector (Jaumotte and Pain, 2005a, b and c) and entrepreneurship more generally, especially when the economy starts from a low level of competition.<sup>32</sup> Raising competition is thus the policy reform that should have the largest impact on the innovativeness of the Swiss economy, especially in sheltered sectors and small firms.

Another related problem is the small market size. The obstacles to trade with the European Union, due to administrative and technical regulations, increase the difficulty and cost of entering new markets. The proposed unilateral adoption of the Cassis de Dijon

principle (i.e. the adoption of EU standards and – in the event of non harmonised EU-standards – the acceptance of product standards of selected foreign countries) will go a long way towards increasing domestic competitive pressures. It will be important to negotiate the same access for Swiss products on the EU markets and – where such harmonisation and mutual recognition have not occurred – to allow Swiss producers to serve the domestic market with products designed for export in EU countries. In some sectors, the small market size problem is exacerbated by the fragmentation of the domestic market which prevents firms from reaching the critical size and experience. In this respect, the proposed revision of the Domestic Market Act, which aims at further unifying the domestic market, will help. A stronger integration of the domestic market and with the EU market could have a large impact on the growth potential of domestic firms.

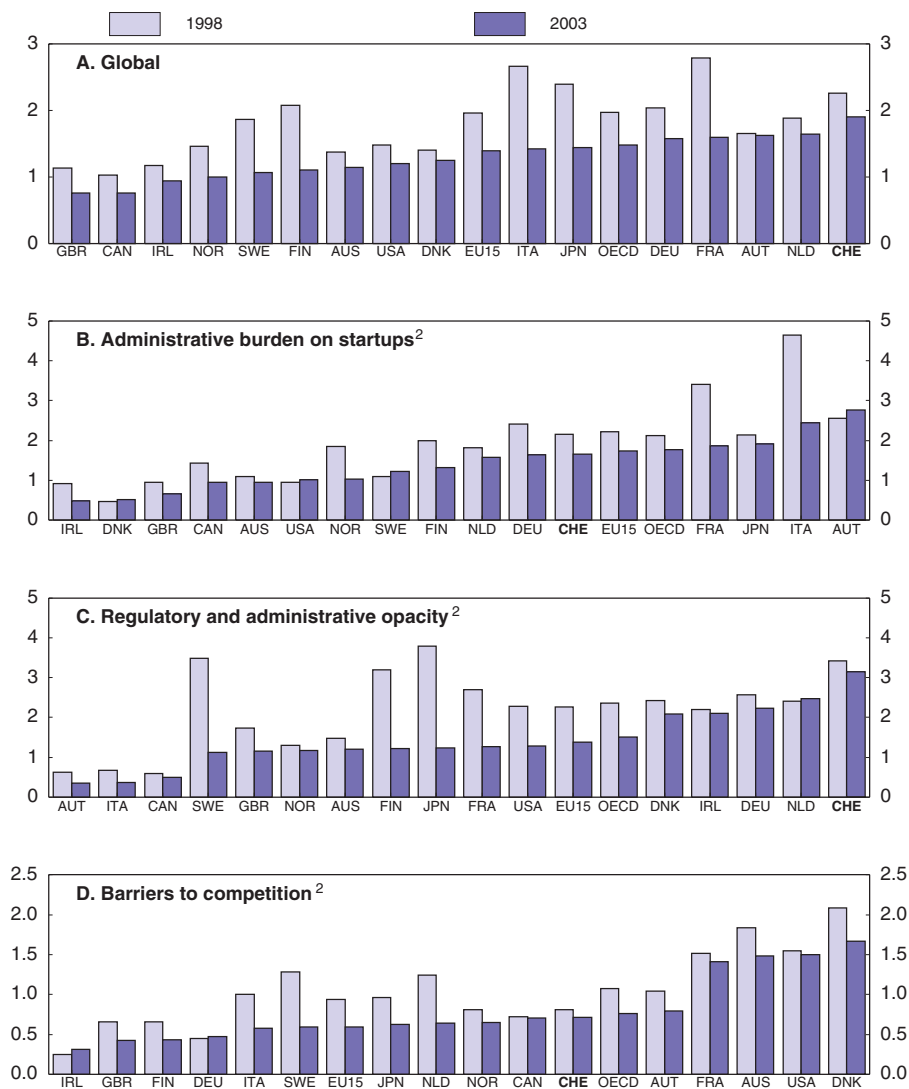
Finally, innovation policies can also have undesirable effects on competition and further innovation, especially when intellectual property rights (IPR) are too generous. There is a risk that patents are used to restrict competition and block subsequent innovation, particularly in the fields of biotechnology and ICT where innovation is cumulative.<sup>33</sup> A recent survey of biotech researchers (Thumm, 2003) concluded that this is not generally a problem in Switzerland, though moderate problems were found for some DNA patents and patents on methods for genetic testing. Solutions could include limiting the scope of patent protection to specific disclosed functions, introducing broad research and/or clinical exemptions, and compulsory licensing. However, the pressure to grant strong IPR to biotech inventions, as is currently the case in the United States, is also very high in Switzerland, because of the high potential of the biotech industry and the signalling effect for future legislation at the EU level.

### ***There is much scope to reduce administrative burdens***

Administrative burdens remain relatively high in Switzerland (Figure 5.11) and official estimates put their cost at some 2% of GDP (Müller, 1998). Switzerland performs better than the EU average on the number of procedures and days needed to set up a business. But there remain significant hurdles related to tax declarations (in particular VAT), withholding for basic old age insurance and authorisation procedures (OECD, 2005b). A project is under discussion to simplify the VAT system and reduce the number of rates.<sup>34</sup> It is more difficult to simplify the social insurance system due to the high degree of decentralisation, though a greater use of ICT could help reduce the administrative burden.<sup>35</sup> With respect to authorisation procedures, which account for one quarter of the administrative burden, the government's initiative to eliminate little used procedures and simplify frequently asked authorisations goes in the right direction. The government should also consider the adoption of the principle whereby "silence means consent". This principle implies that if the administration does not give an answer by a fixed deadline the authorisation is considered as granted. This principle, used in several OECD countries, would shift the burden from businesses to the administrations and give the latter an incentive to raise their efficiency.<sup>36</sup>

Federalism also hampers the creation of one-stop shops for setting up businesses and the development of e-government. Switzerland is not well placed in terms of e-government (Chapter 3). However, matters are starting to improve: it is now possible to create a firm on-line, and this facility should soon be expanded to include not only announcement to, but full registration for VAT and social security, and it should cover all types of companies. Nevertheless, much more could be done. The variation of laws and



Figure 5.11. **Barriers to entrepreneurship**<sup>1</sup>

1. The indicators range from 0 (least restrictive) to 6 (most restrictive).

Source: OECD, Product Market Regulation database.

regulations across cantons has also created a strong regulatory and administrative opacity (Figure 5.11). In 2003, only one OECD country had a stronger opacity than Switzerland. This affects the cost of setting up a business and of expanding activities to other cantons and reduces effective competition, including for public procurement. Administrative burdens are especially heavy in the construction sector, as well as in social security and tax administration.

Finally, instruments have been created to better take into account the viewpoint of SMEs in the elaboration of new laws and regulations. These include regulatory impact analyses (RIA), SME compatibility tests, which survey the difficulties encountered by SMEs in the execution of regulatory acts, and an SME forum, which presents the viewpoint of SMEs in the political decision process. However, these have had little impact so far on the

elaboration of laws and regulations, due to a lack of resources which means that the SME viewpoint is not brought to the attention of decision-makers.

### ***Socio-cultural norms and the legal system need to promote risk-taking***

There is also room to further promote creativity and entrepreneurship. The opportunity costs of entrepreneurship are high because the labour market offers well paid jobs. And primary and secondary schools do not promote entrepreneurial attitudes well. Firm owners are also more focused on retaining control of their businesses than expanding their activities and are therefore reluctant to let investors in and/or sell the firm.

The legal system, in particular the bankruptcy law, reinforces risk aversion. There is no time limit to sue a bankrupt entrepreneur if he was the owner of a private company or if he owned a limited or public company and used his own wealth as collateral for bank or other private credits made to the company (Balastè and Senn, 2004). The latter is quite common in the case of start-ups. In other OECD countries, the right to sue a bankrupt entrepreneur expires after 1 to 12 years, depending on the country. The effects on entrepreneurship are potentially important. The high penalty for bankruptcy discourages in relevant cases potential and actual entrepreneurs from setting up their own business or a new business. Entrepreneurs are also less likely to take risks and may refrain from expanding their activities, in particular if it would require using bank credits.

However, an expert commission advised against the rebalancing of interests in favour of debtors, on the grounds that fraudulent creations of limited and public companies are common. A proposal is currently being examined to grant a more generous access to the procedure of “concordat”, which allows firms with payment difficulties to settle financial problems with creditors while pursuing their business. Switzerland, on the other hand, ranks well with regard to the time required for the implementation of a bankruptcy procedure. World Bank indicators point however to a low recovery rate of the bankruptcy procedures and high costs for liquidation.

### ***The role of venture capital and equity financing should be strengthened***

Finding financing is one of the main hurdles for business founders. Despite the very large capitalisation on the Swiss stock market, equity financing and venture capital play a very modest role in the financing of new businesses and risky innovation projects.<sup>37</sup> The main sources of funding for new businesses are family and bank financing. Innovative projects are mostly financed out of internal funds and to a lesser extent bank loans. Though the will to retain control of one’s own business may partly account for this, there are a number of tax and legal issues which limit the use of equity financing for risky firms and projects.

#### ***Equity financing***

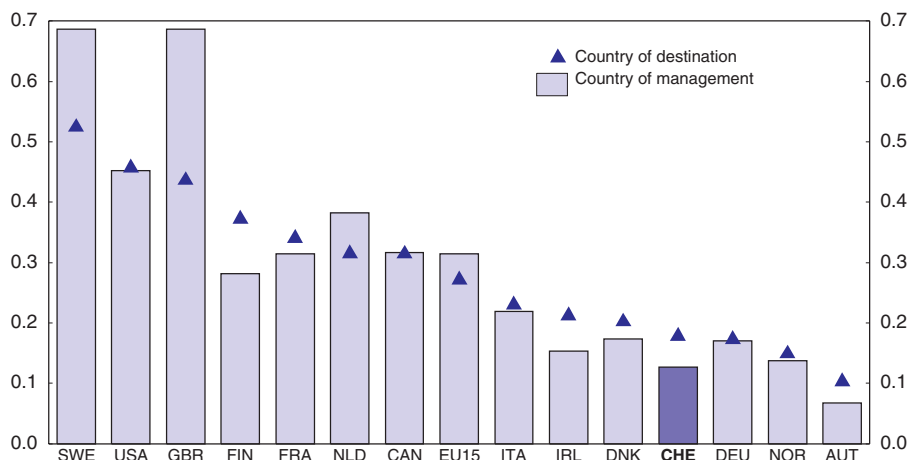
The double taxation of dividends makes equity financing expensive compared to internal funds and bank loans, especially for young expanding firms which do not have access to international capital markets.<sup>38</sup> Switzerland is one of the last OECD countries to not apply relief from the double taxation of dividends (EconomieSuisse, 2005; van den Noord, 2005) and the distortion is important, despite favourable corporate tax rates and zero taxation on capital gains of individuals. The authorities are currently planning to alleviate it by taxing only 60% to 80% of dividends (Chapter 3), but this will not be sufficient to reduce distortions significantly. Together with the bankruptcy law, which makes

entrepreneurs reluctant to borrow extensively, the high cost of equity financing slows the growth of small and new firms, which have limited internal funds. The double taxation also hampers the reallocation of funds across firms, by encouraging the reinvestment of profits within the own company, and this shows up in a very low efficiency in the use of capital (Chapter 1, Figure 1.11). Finally, it discourages the investment in venture capital, a potentially important source of financing for young and small innovative firms.<sup>39</sup>

### Venture capital

The Swiss venture capital market is small in international comparison, even relative to most of its European neighbours (Figure 5.12). And it is more used by older firms and for low-risk projects than younger and innovative firms. The supply of venture capital may be somewhat underestimated, as it does not include informal venture capital from cantonal and regional banks<sup>40</sup> and from big pharmaceutical companies to biotech firms. Yet, most of these factors are also at play in other countries and are unlikely to change the picture significantly. As in most countries, the bursting of the internet bubble and the stock market fall in 2001-02 dried up the supply of venture capital, but the market has now started to pick up again.

Figure 5.12. **Venture capital investment**  
As a percentage of GDP, 2000-03



Source: OECD, based on data from EVCA (Europe); NVCA (United States); CVCA (Canada).

Despite its small size, the Swiss venture capital market is quite internationalised, with both large cross-border outflows and inflows relative to domestic investments. The net inflow has recently become slightly positive, which may suggest that investment opportunities are improving. However, the desire of entrepreneurs to retain the control of their firm and the reluctance to expand activities generally limit investment opportunities and raise transactions costs.<sup>41</sup> Improving the conditions for technology transfers from universities to firms would also contribute to broadening investment opportunities.

In addition to demand constraints, there remain a number of legal obstacles to the development of the supply of domestic venture capital, despite significant improvements in recent years. In 2000, the government introduced a law reducing the double (sometimes triple) taxation of venture capitalists when a minimum of 50% of the funds are invested in

new Swiss firms.<sup>42</sup> These tax incentives have proven insufficient to induce major changes. Many venture capitalists choose to operate off-shore where they can establish as limited partnerships, a tax-transparent company structure.<sup>43</sup> The introduction of a similar company structure in Switzerland will be discussed by Parliament in the second half of 2005 as part of the draft law on investment funds. There is also room to further relax the conditions under which pension funds (from the second pillar) can invest in venture capital. Venture capital funding by pension funds is limited by the obligation for pension funds to obtain a minimum annual return. Given the long-term nature of pension obligations, the minimum guaranteed return could be redefined on a pluri-annual basis. Pension funds accounted for only about 10% of venture capital in 2002, a much lower share than in many other countries.

The framework conditions for start-up financing also need to be further improved. The reduction in 2001 of the minimum nominal value of shares from CHF 10 to one cent was a welcome step. It also facilitates initial public offerings by increasing the number of available shares. One remaining impediment to start-up financing is the taxation of stock options at grant instead of at exercise. Start-up firms often distribute stock options to their employees to compensate them for the fact that they can only afford to pay relatively low salaries. Although in theory taxation at grant should be equivalent to taxation at exercise if it is based on fair market value of the options (OECD, 2005d), it is often perceived as penalising, including in Switzerland. This perception may be well founded in some cases because the payment of the tax comes precisely at the time when employees have low salaries and may be subject to liquidity constraints.<sup>44</sup> Moreover, the high risk that the firm goes bankrupt may not be fully incorporated in the fair market value for individuals with above-average risk aversion. For example, in the United States where stock options are very common, taxation is either at exercise or at disposal of the shares. The Swiss government intends to change the tax treatment of the options and to introduce a reduced taxation of options at the time they are exercised.

Finally, a simplified access of high-growth companies to the stock market is essential to provide venture capitalists with an efficient way of exiting companies and recuperating their initial investment. As in other European countries, the financial market problems at the turn of the century led to closing the recently launched segment for high-growth companies (“SWX New Market”) and to integrate it in the principal stock market. From an operational point of view, its integration in the Swiss Exchange may not have changed much. However, it is important to improve further this exit channel for venture capitalists; the potential in this area may depend to a large extent on the future development of the Swiss and European stock markets.

### *Internal funds*

The availability of internal funds in small and new companies could be increased by expanding provisions for the carry-forward of losses. They are currently limited to seven years, while many OECD countries allow indefinite carry forward and some countries even allow the carry back of losses to previous years.

## Conclusions

Due to very high labour costs, a top position in innovation is important to preserve competitiveness and a high living standard. Despite an overall very strong innovation performance, some weakening in the 1990s and the persistent low productivity growth

have led the authorities to move innovation up the policy agenda. Innovation is thus an important plank in the government's growth strategy. The package of the government goes in the right direction, though it could be reinforced in some areas (Box 5.2). Moreover, the adoption and implementation of some reforms will likely prove an uphill battle.

### Box 5.2. Recommendations concerning innovation policy

#### Improve framework conditions for entrepreneurship

- Pursue efforts to increase competition and reduce market segmentation, by revising the domestic market law, eliminating administrative and technical barriers to EU imports (Cassis de Dijon principle) and negotiating the same access for Swiss products to the EU markets.
- Reduce administrative burdens, including by streamlining authorisation procedures, introducing the principle whereby “silence means consent”, and developing e-government.
- Reform the bankruptcy law to reduce the prescription period and facilitate the use of the procedure of “concordat”.
- Further reduce the double taxation of dividends to levels comparable in other countries; expand provisions for the carry forward of losses.
- Improve the institutional and legal framework for venture capital by introducing a tax-transparent company structure, by taxing options at exercising instead of granting and by redefining the minimum guaranteed return on pension funds on a pluri-annual basis.

#### Consolidate innovation-specific policies

- Give public funding for research a high priority.
- Intensify co-operation in international research without endangering national research funding.
- Increase private funding of university research, by expanding the activities of the offices of technology transfer and facilitating the direct business funding of university research.
- Stimulate applied research by increasing the resources of the Commission for Technology (CTI) and Innovation to better bridge the gap between fundamental research and the market.
- Increase coaching services for entrepreneurs and formal business training for scientists and engineers.
- Pursue the consolidation of the offices of technology transfers across universities and further develop their activities.
- Limit the scope of patent protection for DNA patents to the specific disclosed functions and introduce a broad research exemption concerning biotechnology-related inventions.

#### Strengthen higher education

- Further reinforce vocational curricula.
- Pursue the reform of the whole university system, including the specialisation and profile building of universities, the introduction of a standard education subsidy per student and the development of quality assessments of universities.
- Consider a rise in tuition fees while developing a system of loans with income-contingent repayments.
- Increase women's interest in sciences and engineering from an early age, for instance through the organisation of science days and fairs and mentoring; strengthen work-family reconciliation policies.
- Provide students from non-EU countries graduating in Switzerland more time to find a job in Switzerland.
- Expand lifelong learning, by improving the certification of training, by introducing a time entitlement and by eventually raising public funding.

Much could be gained from a strengthening of framework conditions for entrepreneurship. The focus of the growth package on raising competition is well placed, as this is likely to be the most stimulating policy reform for innovativeness and entrepreneurship, especially in small firms in sheltered sectors. Such a reform may also be expected to encourage the growth of firms, which remain very small, by facilitating their access to a larger unified domestic market and eliminating rents. In this respect, deep integration with the EU market should be pursued, for example by negotiating an elimination of administrative and technical barriers to entry of Swiss products. In addition to introducing stronger competitive pressures, it is essential to review the bankruptcy law which may be extremely penalising and discourages initiative and risk-taking. Finally, the role of equity financing and venture capital in the financing of new ventures and innovation projects should be reinforced. This would require reducing the double taxation of dividends beyond what is currently planned and further improving the institutional and legal framework for venture capital.

The current innovation-specific policies seem adequate overall, though there is some room for consolidation and improvement. The public funding for research, which has a high social rate of return, needs to be more effectively prioritised despite the fiscal consolidation and mandatory increases in social spending. In addition to a further intensification of national and international research cooperation, the lack of funding could partly be alleviated through tapping more resources from the private sector, though the latter may be at the cost of a smaller diffusion of technological discoveries from universities. The increases in resources would best be used to bridge the gap between fundamental research and the market. This could be achieved by strengthening the activities of the commission in charge of research co-operations between businesses and academics (CTI) and of the offices of technology transfers.

The growing knowledge economy increases pressures to upgrade and lengthen education, traditionally focused on vocational training. Significant progress has been achieved by the creation of the universities of applied sciences and the strengthening of vocational curricula in secondary schools. It is not clear, however, whether this will be sufficient and more could be done along these lines by further reinforcing the vocational curricula and continued reform within and among the universities of applied sciences. The planned reform of the whole university system, which aims at increasing its efficiency and hence attractiveness, also goes in the right direction, though it is likely to meet high resistance and should be accelerated. Consideration should also be given to raising tuition fees for tertiary education while developing a system of loans with income-contingent repayments. In addition to the extra resources, this would further increase competition between universities forcing them to improve the quality of supply. There is much room to improve the participation of women in university education, especially in science and engineering fields and including at the level of professorships. Finally, lifelong learning should also be further strengthened in a context where knowledge evolves rapidly.

## Notes

1. Due to a lack of available information, research and training in health is not specifically dealt with in this report, in spite of the importance of these outlays for public education and R&D budgets.
2. This index provides an overview of national innovation performances based on the aggregation of 18 indicators.

3. In contrast, Finland increased its public funding for innovation by 0.26 percentage point from an initial level similar to that of Switzerland in 1989. In Sweden, the level of public funding decreased by a similar 0.1 percentage point of GDP but from a much higher level. In Sweden and Finland, the very high average share of non-business R&D in GDP is estimated to raise business R&D by 25% above the OECD average, or by about 0.4% of GDP (Jaumotte and Pain, 2005a and c).
4. Swiss partners now obtain their funding directly from the European Commission instead of the Swiss government and can undertake the role of project coordinators. Some EU structural measures such as Marie Curie grants have also been opened up to Swiss participants.
5. Public R&D is quite specialised in basic research since the public research sector consists mostly of the higher education sector, and public research institutes outside the university system are very limited.
6. The share of the business sector in publications is also about double the OECD average (11% compared to 5.5% over 1994-99).
7. The measure of basic research is not perfectly comparable across countries, because some countries (including Switzerland) include capital expenditure while others do not. The indicator is also not available for all countries (e.g. Germany, Finland and Sweden). However, the much higher level of basic research in Switzerland and its top performance on scientific publications suggest that the country is very strong in basic research.
8. More precisely, this is the average of within-country standard deviations over time in OECD countries. This is preferable to a cross-country standard deviation because of the scale of differences across countries and the feasible extent to which some policies may be changed.
9. The funding of the latter appears to have been insufficient in the face of the large increases in enrolment in human and social sciences, forcing the staff to spend most of their time on teaching.
10. Jaumotte and Pain (2005a and c) use the share of non-business R&D expenditure financed by industry as a (partial) indicator of the extent of research collaboration between business and public research organisations. They find that an increase of 1.4 percentage points of this share (the average of within-country standard deviations of OECD countries) will eventually raise business sector R&D by over 8% and total patenting by close to 2½ per cent.
11. R&D cooperation agreements are the most frequently used channel of technology transfer between universities and businesses in Switzerland. Patenting of inventions is likely to slow down and restrict the diffusion of knowledge from universities relative to a system in which knowledge is presented at conferences.
12. Country studies indicated that in Austria public-private partnerships account for approximately 2.8% of the total science and technology budget versus 6.3% in the Netherlands and 9.1% in Australia (OECD, 2005c forthcoming).
13. This study examines the effects of a former Swiss public support programme aimed at stimulating the diffusion of basic technologies (Advanced Manufacturing Technologies), controlling for selection bias.
14. The data for Switzerland are not perfectly comparable, because they cover R&D cooperation instead of the broader concept of innovation cooperation used for other European countries. Switzerland performs better when the number of firms engaged in R&D cooperation is scaled by the number of firms performing R&D activities instead of all innovative firms.
15. Swiss experts interviewed for the Global Entrepreneurship Monitor Report give a neutral to positive evaluation of business training at the post-secondary level, but suggest raising supply of coaching services for business projects.
16. There are only two exceptions: funding through the European Union framework programmes, where Switzerland adopted the EU rules, and direct contracts from the public administration.
17. Raising public funding to finance the subsidies or tax rebates may also create distortions in the rest of the economy.
18. It is difficult to evaluate whether the research would have been successful or even undertaken without the public support, and to estimate the effective additional resources provided by the public sector. Although the effects of public support on business R&D are generally positive, they are of a relatively small magnitude compared to those of other policies (e.g. Jaumotte and Pain, 2005a, 2005b, 2005c and 2005d).
19. Such impediments concern access to bank loans for firms with less than 500 employees, internal funds (less than 100 employees), and equity funding including venture capital (less than

50 employees). The authors could not identify an impact of firm age on the financial impediments encountered by the firm, which they attribute to the high skewness of the firms' distribution towards older firms. The authors control for the firm's performance.

20. Foreign R&D personnel is also more qualified on average than their Swiss counterparts.
21. The number of Swiss university graduates may be somewhat underestimated because some fields are classified as part of non-university tertiary education, while they are considered as part of university education in some other countries. However, looking at the total of tertiary education, Switzerland also has one of the lowest shares of people with tertiary education in international comparison.
22. This is especially important in fields such as computer sciences, where students cannot be operational before undergoing substantial formal training.
23. This may partly be attributed to a redistributive tax system which lowers income differences between people with different educational backgrounds.
24. Earlier there were fourteen centres for hard sciences and none for human and social sciences. Research topics for the new centres range from mental health (due to an increasing level of stress), to globalisation and the growing importance of media. Research on mental health (one of the poles of research) could for example help solve the fast growing invalidity insurance problem in Switzerland.
25. These figures are taken from "Pourquoi ne pas payer plus cher?" in *Le Temps* (January 21, 2004). Although there is no internationally comparable database on tuition fees, this anecdotal evidence suggests that tuition fees remain very low in Switzerland compared to some other countries.
26. Some courses of study, which can only be pursued part-time, are quite long and conflict with lifecycle issues for women.
27. Their representation could spontaneously improve due to the higher participation of younger cohorts of women in tertiary education. However, because they start from such a low level, policy action is probably desirable.
28. About 72% of them are foreign nationals who come to Switzerland for the purpose of studying. The other 28% are persons who are living in Switzerland with a foreign nationality. The proportion of foreign students is higher in general universities (16.3%) than in UAS (9.4%).
29. In 2003, 1.8 million adults took 121 million hours of training, which is roughly average, even though 36% of the population receives continuing training (Office Fédéral de la Statistique, 2004).
30. This is according to a recent survey by the Global Entrepreneurship Monitor (GEM), the most renowned panel survey of entrepreneurship worldwide. This project was launched in 1999, and Switzerland was included for the first time in 2002. Recent articles using this dataset include Audretsch et al. (2005), Drnovsek and Erikson (2005), Wong, Ho and Autio (2005) and Bygrave (2003). For Switzerland, the survey involved phone interviews with a representative sample of 2000 adults and face-to-face interviews with 36 experts. Switzerland performs significantly below the average for the countries included in the GEM survey on the indicator which combines the share of entrepreneurial firms and the share of employment in entrepreneurial firms.
31. This is true for all countries since the share of entrepreneurial firms is quite low for all countries relative to the high proportion of innovators reported in the innovation surveys. Yet, Switzerland's relative position is significantly worse in the GEM survey.
32. The relationship between competition and innovation is often thought to be hump-shaped (Aghion et al, 2002). Much depends on the size of the difference between pre-innovation profits and *ex post* profits. When competition rises from a low level, incumbents have incentives to innovate to escape from competition and potential entrants have incentives to innovate to catch-up or surpass the technologies of incumbent firms. However, when competition is very strong, the expected gain from innovating may be too small to give sufficient incentives to innovate. In this case, the much lower level of profits may also reduce the capacity of firms to finance their innovation projects. As Switzerland is starting from a relatively low level of competition, there is little cause for concern that additional competition could reduce innovation.
33. Patents can block further research when they relate to research tools or when their coverage is too broad (including for example all possible applications or surrounding fields). Moreover, the high transaction costs to coordinate all right holders in order to get the necessary licenses may act as a barrier to entry. Cross-licensing arrangements and "patent pools" are common in such industries and potential entrants, which do not have patents to exchange, may not be able to join. Some



evidence was found in Jaumotte and Pain (2005a and c) that excessively strong IPR may reduce the efficiency of research.

34. The minimum turnover required to obtain a VAT number also remains too high (CHF 100 000).
35. An additional problem is the difficulty for individual entrepreneurs to use their right not to contribute to the second pillar of the pension system, due to abuse by subcontractors.
36. See OECD (2004c) for a more detailed discussion of this principle.
37. Venture capital is usually considered as an important source of financing for innovative firms, in particular start-ups and small firms. Venture capitalists have high sector-specific expertise which enables them to better overcome the problems of asymmetric information in the assessment of innovative projects. They also play an important function by providing management and coaching services to the entrepreneur. The provision of such services often requires local knowledge, limiting the role that cross-border investment can play in early-stage development. On the other hand, balancing risks pleads in favour of global portfolios.
38. Profits are first taxed at the corporate level and then as dividends if they are distributed.
39. It also creates difficulties for management buy-outs and inheritances (when one of the heirs wants to get out of the company).
40. Due to strong local loyalties, some cantonal and regional banks provide venture capital and even seed capital to their clients.
41. This does not apply to the biotechnology sector however, where it is a rational strategy to remain small in order to be bought back by a big pharmaceutical company.
42. The minimum participation needed in the capital of a company to benefit from an exemption of taxes on capital gains and dividends was reduced from 20% to 5% (or CHF 250 000 instead of CHF 2 million). Business angels can deduct from their taxable income 50% of the subordinated loans they make to new independent Swiss companies, up to a limit of CHF 500 000. If the loan is reimbursed, the tax has to be paid, otherwise an additional amount can be deducted from income.
43. A company structure is deemed tax transparent if it is not taxed itself.
44. Note however that for countries that allow companies to deduct the cost of stock options, the deduction is usually allowed at the same time as the employee is taxed. Thus, taxing the employee earlier gives the company a deduction earlier, thereby easing its liquidity problems.

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## Chapter 6

# Labour supply can be raised further

*This chapter examines how labour supply can be raised in order to sustain higher potential growth. Structural problems in the labour market remain limited. The agreement on the free movement of persons with the European Union, that was recently extended to the new EU member countries, has had little impact on the labour market so far. However, while employment ratios are high, considerable scope exists to increase the volume of female labour supply by removing obstacles to their full-time participation in the labour market. This could also contribute to offset the negative impact population ageing is expected to exert on the labour force in the coming decades.*

## Structural problems in the labour market remain limited

Despite weak trend growth, the Swiss labour market has performed well: employment ratios are high, while unemployment is still low in international comparison (Figure 1.20). However, since the early 1990s unemployment has drifted up, partly due to structural factors. While virtually non-existent in the early 1990s, the structural rate of unemployment is now estimated at about 2.5%. Two factors are likely to have played a major role. *First*, some increase in the generosity of the unemployment insurance scheme in the 1990s may have raised the reservation wage of workers and reduced incentives for some to search for a job. *Second*, many foreign workers, who usually had short-term work permits and acted as a buffer, now have long-term residence permits and show therefore up in Swiss statistics. Long-term unemployment remains low however, despite spikes during recessions.

The authorities maintain a prudent attitude and limit as much as possible the disincentive effects of unemployment insurance on both the demand and supply of labour. The 2003 reform of the unemployment benefit system cut back benefit duration and contribution rates, while lengthening the contribution period (OECD, 2004a). In July 2005, the system was tightened further by limiting the right of cantons with high unemployment to extend benefit duration only to workers over the age of 50, putting stronger pressure on regional placement offices to improve their performance. Although the financing received by regional placement offices is no longer linked to performance since 2003, information on results continues to be published and used for policy decisions.

The shortage of apprenticeships and youth unemployment have become a focus of policy, though problems are limited in international comparison. The youth unemployment rate is higher than the economy-wide average but of shorter duration. Problems stem from weak labour demand, which affects more strongly people in transition, and from temporarily stronger youth cohorts. However, structural changes such as the increasing share of some services in the economy, which typically offer fewer apprenticeships, the stronger specialisation of firms and the need for better qualification also play a role. The government has introduced a number of measures to increase the demand by firms and improve matching, especially for young immigrants or young people with a weak schooling level (Box 6.1). However, in the longer run, structural changes in the economy, especially the need for higher tertiary qualifications, may require that more people choose general education (followed-up by tertiary education) instead of vocational training (Mühlemann *et al.*, 2004).

## The Agreement on the Free Movement of Persons with the EU has had little impact so far

One important development which will affect the labour market over the coming years is the signing of a bilateral treaty with the European Union on the free movement of persons (henceforth AFMP, Agreement on the Free Movement of Persons). The treaty is in

### Box 6.1. Tackling the lack of apprenticeships and youth unemployment

A recent study (Wolter and Schweri, 2003) showed that the main reason why some firms do not offer apprenticeships is that expected benefits are too low compared with costs, due to the small size of the firm or its high degree of specialisation which limit the amount of work that can be given to the apprentice. The government put in place a task force in 2003, the tasks of which were taken over by a permanent committee, to address the shortage of apprenticeships (Département fédéral de l'économie, 2005). Measures focus both on the supply of apprenticeships and on the demand side to improve matching, especially for young immigrants and youths with a weak level of schooling. On the supply side, the focus is on stimulating the creation of networks of firms which offer apprenticeships to address constraints related to the small size and the increased specialisation of firms. The two main instruments are the hiring of local promoters of apprenticeships and the provision of initial financing for these networks.\* On the demand side, the unemployment insurance scheme is organising motivational programmes for youth in difficulty, including individual mentoring and contacts with current apprentices. Another important instrument is the development of transitory offers which prepare the youth for an apprenticeship (possibly completing his education) and fill the shortage of apprenticeships during economic downturns.

For young graduates looking for a job, the government has introduced professional internships largely financed by the unemployment insurance scheme as well as internships in training firms ("entreprises d'entraînement"). Starting in April 2005, the mentoring of youth finishing an apprenticeship will also be improved with a new offer of continuing education for teachers from professional schools.

\* Other measures include the creation of shorter apprenticeships (2 years), the creation of a label for firms which provide apprenticeships, a diffusion of information on costs/benefits of the training of apprentices and incorporation of these economic aspects in future reforms of professions.

force in Switzerland since June 2002 for the old members of the European Union and an extension to the new members was approved by referendum in September 2005. The system is still in a transitory phase with quotas for long – and short-term work permits but the preference rule for people already entitled to work in Switzerland (national preference rule) and *ex ante* controls on wages and working conditions were eliminated for the old EU member countries in June 2004 (Box 6.2). The AFMP is expected to help reduce labour shortages during cyclical peaks, and import high-skilled and low-skilled labour complementary to the domestic labour force, thereby reducing the risk of delocalisation of firms.

The effects on immigration are limited so far, in part due to weak activity.<sup>1</sup> However, while total immigration slightly decreased, there was a strong increase of EU immigration at the cost of non-EU immigration, in line with the objectives of immigration policy. EU immigration flows have now caught up with non-EU immigration. This was accomplished by reserving higher quotas of work permits for EU citizens. The global quotas were however not fully used, especially those of short-term work permits for EU citizens and long-term permits for non-EU citizens.<sup>2</sup> The extension of the bilateral agreement to new EU member countries is not expected to yield large migration inflows, even after the quotas will be eliminated in 2011. This is in part because incentives to migrate will diminish as new member economies embark on a catch-up process. Estimates based on an extrapolation of EU projections suggest migration inflows from new EU member countries could reach

### Box 6.2. **Bilateral treaties for the free movement of persons**

Switzerland has signed a bilateral treaty with the European Union on the free movement of persons. The treaty entered into force in June 2002 for the EU15 but includes a number of transitory measures. In the first phase (June 2002-June 2004), entry was limited by quotas of 15 000 long-term work permits and 115 500 short-term work permits. Moreover, the national preference rule and systematic controls of wage and working conditions were applied. In the second phase (June 2004-07), entry remains limited by quotas but the national preference rule and ex-ante controls are eliminated. After 2007, free movement will be effective, though Switzerland reserves the right during 7 years to re-impose quotas in case of massive immigration inflows. Despite the elimination of *ex ante* controls on wages and working conditions, accompanying measures were introduced on 1st June 2004 against wage and social dumping. They include a law on employees posted to Switzerland imposing the respect of Swiss regulations as regards minimum working conditions and wages. Moreover, in the event of abusive and repeated undercutting with regard to everyday working conditions a facilitated extension of collective labour agreements is possible and the option to use model employment contracts with minimum wages exists. Tripartite commissions have been established to perform *ex post* controls on wage and working conditions.

For the new members of the European Union, a protocol to the AFMP will enter into force in 2006. The extension of the free movement of persons was approved by referendum in September 2005. However, progressive quotas, the national preference rule and systematic controls of wages and working conditions of immigrants can be maintained until May 2011. In the perspective of the extension of the AFMP, the access of nationals of these countries to the Swiss labour market has already been facilitated since November 2004, including by the establishment of preferential quotas for work permits and the opening up of the Swiss labour market in the agricultural sector to low-skilled workers. As for the old EU members, Switzerland retains the right to re-impose quotas until 2014 in case of massive immigration. Moreover additional improvements to the accompanying measures have been adopted and will enter into force at the same time as the protocol to the AFMP (additional labour market inspectors, more stringent sanctions, an additional facilitation of the extension of collective labour agreements, etc.).

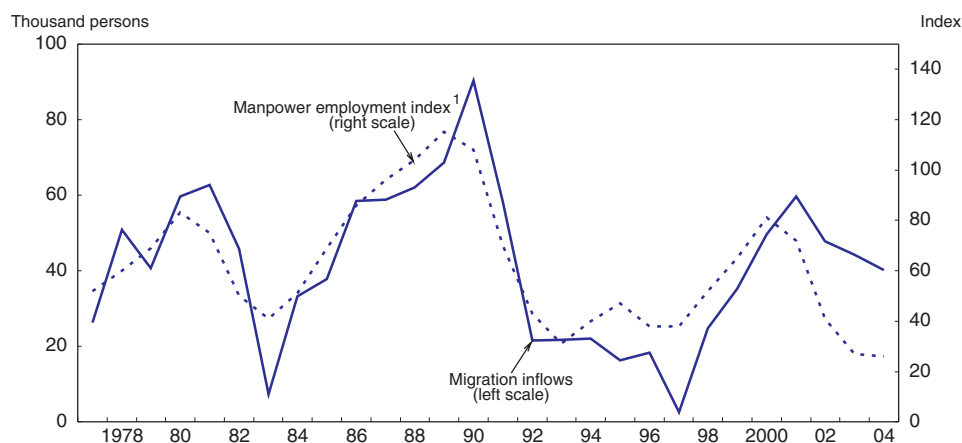
about 4 600 persons per year when the movement of persons is fully liberalised (Brunetti, 2004). Between 1994 and 2002, total net immigration averaged 20 000 persons per year.

The highest net inflows of permanent migrants observed since June 2002 are from Germany and Portugal. Immigration from Germany is driven by the high unemployment rate in Germany, the increasing integration of both countries, and the change of residence of cross-border workers (for tax reasons). On the other hand, the strong increase in Portuguese immigration since June 2002 reflects to a large extent the conversion of existing short-term work permits into long-term permits and the regularisation of illegal immigrants. The suppression of stringent qualification requirements for EU immigrants has allowed the use of long-term permits in seasonal industries which typically only had access to short-term permits before. So far, this does not seem to have had a strong impact on the average education level of foreign workers. It may be noted that R&D and health personnel had to be hired more frequently on short-term permits because long-term quotas were used in the agricultural, construction, and hotel and restaurant sectors.



There are so far no strong effects of the introduction of the AFMP on unemployment and salaries. In the past, there has always been a close link between the employment level and migration flows, with migration reacting with a one year lag to employment and the AFMP does not appear to have changed this (Figure 6.1). There is also no systematic correlation between immigration inflows and unemployment rates across branches of activity, though some branches with high immigration had above-average increases in unemployment rates.<sup>3</sup> The same is true for the evolution of salaries, though the period of observation is too short to draw strong conclusions.

Figure 6.1. **Migration inflows and employment index**



1. Immigration of resident labour force and variation of the stock of frontier, short-term and seasonal workers.

Source: Rapport de l'Observatoire sur la libre circulation des personnes entre la Suisse et l'UE pour la période 01/06/2002-31/12/2004.

The work of tripartite commissions, set up to assess cases of social dumping, have revealed very few such cases so far. The possibility of imposing wage minima and/or extending collective agreements in case of social dumping has not been used yet. If needed, these should be used with care because less labour market flexibility would likely be accompanied by higher structural unemployment.

### There is much scope to facilitate female full-time labour market participation<sup>4</sup>

The full-time equivalent employment of women is average in international comparison, despite very high rates of female employment (Table 6.1). About half of employed women work part-time in Switzerland compared with only one quarter of women on average in the OECD. Although part-time jobs allow women to reconcile work and family life, they also imply that a large share of human resources, sometimes high-skilled women, is lost. Women might choose to work longer hours if obstacles to their full-time participation in the labour market were removed. If female participation rates and hours worked were to converge with those of men, the volume of labour supply would increase substantially by 2050, implying at least a 15% increase in Swiss GDP (OECD, 2004b) (Figure 6.2). Such a rise in female labour supply would thus be strong enough to more than offset the effect of population ageing on labour supply and GDP in the coming decades.

There is a broad consensus that the childcare facilities for pre-school children and outside of schooling hours are insufficient to address the needs of parents, as reflected in long waiting

Table 6.1. **Female employment rates, unadjusted and adjusted by hours**

Percentage, 2004

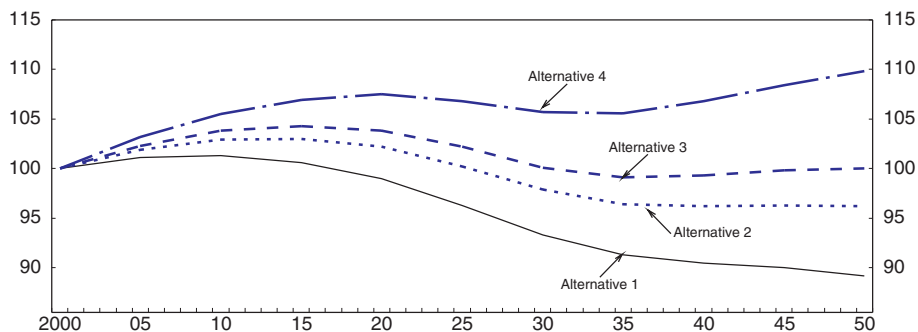
	Unadjusted		Adjusted by hours <sup>1</sup>	
	Ratio	Rank	Ratio	Rank
Sweden	71.6	4	60.9	1
Portugal	65.2	8	60.7	2
Finland	66.5	6	59.3	3
Denmark	72.5	2	58.3	4
Norway	73.7	1	55.1	5
Austria	60.5	9	52.2	6
United Kingdom	66.6	5	51.4	7
<b>Switzerland</b>	<b>71.7</b>	<b>3</b>	<b>51.1</b>	<b>8</b>
France	57.5	11	49.0	9
Spain	50.2	15	45.7	10
Germany	59.1	10	45.5	11
Ireland	56.4	12	44.7	12
Belgium	53.1	13	42.9	13
Luxembourg	50.8	14	41.4	14
Netherlands	66.2	7	40.0	15
Italy	45.6	16	39.0	16

1. The adjusted measure is calculated as the total weekly usual hours divided by 40 and by the working-age population.

Source: OECD based on European Labour Force Survey data.

Figure 6.2. **Impact of weekly hours on labour force supply**

Total weekly hours, index 2000 = 100



1. Alternative 1 assumes constant labour force participation rates and constant weekly hours for men and women from 2000 to 2050.
2. Alternative 2 assumes that female participation rates reach current male rates in 2050, and constant weekly hours.
3. Alternative 3 assumes constant participation rates and female weekly hours to reach male weekly hours in 2050.
4. Alternative 4 assumes that female participation rates as well as female weekly hours reach the male ones in 2050.

Source: OECD (2004), *Babies and Bosses: Reconciling Work and Family Life*, Vol.3, Chart 6.3, p. 191.

lists.<sup>5</sup> There is not only a shortage of places in childcare facilities but facilities also typically provide short hours of care. Compulsory school begins at 7 and elementary school, which is not compulsory but is publicly provided, usually at age 5. Only 5% of children attend school at age 3 and less than 30% at age 4, while enrolment rates are 80% or higher in many European countries at that age. Schooling hours are also shorter than parents' work schedules and often do not run continuously (lunch not covered). Short hours of care and schooling have been identified as one of the main obstacles to switching from a part-time to a full-time job.

Even when parents are able to find a childcare facility, the high costs may discourage mothers from working, especially when they have younger children (Table 6.2). Childcare costs are typically higher for full-time than part-time work. The effective average tax rate on the household's secondary income, adding childcare costs, ranges from 60% in the canton of Vaud to 80% in the canton of Zurich. When the secondary earner works part-time (e.g. earning one third of the average production worker's earnings), the tax rate falls to between 40 and 50%, due mostly to the lower childcare costs. The childcare costs are also quite prohibitive for sole parents who want to work full-time, especially so in the canton of Zurich.

**Table 6.2. Taxation of second earners and lone parents with and without childcare costs**

Panel A. Couple family with 2 children aged 1 and 4

	Vaud			Zürich		
	33	67	100	33	67	100
Gross wage earnings (in % of APW earnings) <sup>1</sup>	33	67	100	33	67	100
Average effective tax rates on second earners <sup>2</sup>						
Without childcare fees	17	21	24	17	21	24
With part-time childcare for both children <sup>3</sup>	41	40	41	48	46	53
With full-time childcare for both children <sup>3</sup>	66	60	58	83	73	84

Panel B. Lone parent family with 2 children aged 1 and 4

	Vaud			Zürich			Ticino		
	33	67	100	33	67	100	33	67	100
Gross wage earnings (in % of APW earnings) <sup>1</sup>	33	67	100	33	67	100	33	67	100
Marginal effective tax rates on additional earnings <sup>4</sup>									
Without taking childcare costs into account	..	11	20	..	9	24	..	100	20
With part-time childcare costs for both children	..	15	33	..	34	49	..	..	..
With full-time childcare costs for both children	..	20	48	..	61	79	..	..	..

1. APW earnings or "average earnings" refer to the annual earnings of an Average Production Worker (APW) in the manufacturing sector. The primary earner of couple families is assumed to earn 100% of APW earnings.
2. Average effective tax rates on second earners are calculated as the difference between the increase in gross earnings and the increase in net income when a second earner starts work at 33%, 67% and 100% of APW earnings, expressed as a proportion of the change in gross earnings. The first earner is assumed to have APW earnings.
3. Due to the relationship between earnings and hours worked and thus hours of childcare needed, some situations are more likely to occur than others. For instance, a person working full-time is unlikely to earn 33% of APW earnings and a person earning 100% of APW earnings is more likely to do need full-time rather than part-time childcare.
4. Marginal effective tax rates on additional earnings are calculated as the difference between the increase in gross earnings and the increase in net income when a lone parent increases working hours or income from 33% to 67% and from 67% to 100% of APW earnings, expressed as a proportion of the change in gross earnings.

Source: OECD (2004b), *Babies and Bosses – Reconciling Work and Family Life: New Zealand, Portugal and Switzerland*, Vol. 3, Paris.

Public spending on childcare remains quite low in international comparison at 0.2% of GDP, less than half the EU average. There are arguments for increasing childcare subsidies. First, early childhood care and education have positive spill-over effects on the performance of children in their further education and socialisation, though the evidence is less clear for children below the age of one. This would be especially beneficial for the integration of children from immigrant families. Second, childcare subsidies allow a reduction in the high effective tax rate on mothers which is especially distorting because mothers have the choice between a formal job and home production (household tasks and

care of the children). *Third*, childcare subsidies for low-income mothers may allow them to break away from welfare dependence, generating savings in welfare spending for the government. More generally, increased female participation, especially in full-time jobs, would reduce precariousness of women and children in case of marital separation and promote gender equity.

It is a welcome development that the Confederation has set up a financial support programme for the development of care facilities for young children, including out-of-school care.<sup>6</sup> It represents a significant effort relative to the initial level of funding (0.1% of GDP per year), but is far from matching spending in other countries. Moreover, the take-up is expected to be limited to about half of the available funding due to a lack of co-ordination between municipalities, the main provider of public childcare, and externality problems.<sup>7</sup> Demand at the municipal level is often insufficient to justify a local childcare facility. Moreover, although estimates show very high gains from childcare provision at the economy-wide level, the benefits for the municipality are limited and the net return on the investment may even be negative.<sup>8</sup> These problems call for a stronger degree of co-ordination between municipalities (perhaps at the level of districts) to reap scale economies and reduce the unit cost of investment.

There is currently broad support for a unification of the schooling system across the country. In this context, a recent proposal suggests giving the Confederation a subsidiary competency if cantons can not agree between themselves on compulsory schooling issues. This is a promising approach which could be extended to early childhood education and care. However, it requires a constitutional amendment and thus a referendum. The supply of childcare services could also be increased more efficiently by subsidising parents instead of providers. This would stimulate competition between providers and thereby raise the quality and differentiation of supply. However, direct subsidisation of demand would only raise the volume of female labour if the supply of childcare services responds to demand. In this respect, the initiative of the Federal Council to create a new federal certificate for professions related to childcare is a step in the right direction, as it should help address the shortage of personnel in this area and improve the quality of childcare services.

A reform of the child benefit system is currently under discussion and could lead to both a harmonisation and an increase of child benefits. However, a further increase of child benefits is not desirable and the money would be better spent on childcare subsidies. Child benefits are an effective means of fighting poverty but may discourage female participation to the extent that they raise family income and are not linked to the exercise of a professional activity or the use of formal childcare. Child benefits are already quite high<sup>9</sup> and poverty rates low in international comparison. Moreover, in some cantons (*e.g.* Ticino), the means-testing of part of the child benefits (“complementary child benefits”) creates an effective marginal tax rate of 100% for income levels between 50 and 70% of the average production worker’s earnings (APW), giving incentives to earn less than 50% of the APW (Table 6.2).

The introduction of a short paid parental leave is a step in the right direction. It helps women to keep their jobs, reduces the potential loss of human capital and increases labour supply (especially full-time). However, women often stay in part-time jobs after giving birth. Increases in public support for childcare should give them the opportunity to move back from a part-time to a full-time job if they so wish. The flexibility of working hours is

key to facilitating the reconciliation of work and family life and is mostly the responsibility of enterprises. The Confederation grants financial help to organisations which give advice to firms, schools and individuals in this area.

The tax system penalises secondary earners due to the joint taxation of the household's income.<sup>10</sup> The distortion on the married women's labour supply is especially strong because of the option of home production and women are thus more sensitive to changes in the net wage. For this reason, the theory of optimal taxation would imply to tax her less than a single woman, though this may conflict with equity considerations. The reform package of which the proposal of the government to reform household taxation was an element was rejected in a referendum in May 2004. There is a new proposal under discussion which would remove the marriage penalty by exempting 50% of the secondary earner's income from taxation. In the long-run however, it would be preferable to switch to separate taxation or at least offer the option of separate taxation, like in most other OECD countries.

Finally, the further development of work-family reconciliation policies could generate additional benefits, such as higher fertility and stronger female investment in education. The fertility rate is very low (1.5 child per women), especially among highly educated women,<sup>11</sup> and well below preferences according to surveys. Low fertility, although it is partly compensated by the immigration of young people, will increase the ageing problem. Experience in other countries suggests that work-family reconciliation policies tend to stimulate both female labour market participation and fertility. Regarding education, women remain less educated than men despite strong progress over the last decades. Higher levels of education increase the participation of women in the labour market, especially in full-time jobs, and raise their productivity. More active work-family reconciliation policies will enhance the career prospects of women and may strengthen their incentives to study longer.

## Assessment

Despite sluggish activity, the labour market situation remains very favourable in Switzerland, with high participation rates and relatively low unemployment. The authorities should pursue their prudent policy with respect to the unemployment insurance scheme, limiting the disincentive effects on both the supply and the demand of labour as far as possible. The signing of an agreement on the free movement of persons with the European Union, recently extended by referendum to the new member countries, has had little impact so far on the labour market. Although this agreement should enable Switzerland to access low- and high-skilled labour complementary to its workforce, it is not expected to lead to large migration inflows as the opening will be gradual and Switzerland retains the right to re-impose quotas until 2014. The measures which were introduced to protect incumbents, such as the possibility of imposing minimum wages and/or extending collective agreements in case of social dumping, should however be used with care so as not to reduce the flexibility of the labour market.

Although employment rates are high, there is ample room to increase labour utilisation, especially hours worked by females, which remain low in international comparison due to the high prevalence of part-time jobs. Women should not face strong disincentives to participating more actively in the labour force. Action is required at all levels of government to develop affordable full-time care for children, both for very young

children and for school-age children, and to reduce tax disincentives for married women to work (Box 6.3). Efforts to promote more flexible work schedules in firms should also be further encouraged. On the other hand, a further increase in child benefits is not desirable in light of their negative effects on labour supply and the already relatively low levels of poverty. Any such increase should be conditioned on the exercise of a professional activity or the use of childcare. Finally, maintaining a high degree of labour utilisation will also require stopping the downward trend in male participation, particularly at old age, through a tightening of provisions for early retirement, disability insurance and social assistance as discussed in Chapter 3.

### Box 6.3. Recommendations concerning the labour market

- Be careful in using the possibility of imposing minimum wages and extending collective agreements in case of social dumping.
- Increase the involvement of the Confederation in the provision of childcare services, including by fostering co-ordination at each level of government and between the different levels of administration.
- Develop early childhood education.
- Encourage cantons to increase out-of-school care, move to continuous schooling hours, and provide canteens so as to enable parents to work or work longer.
- Allocate at least part of the childcare subsidies directly to parents instead of providers.
- Condition any increase in child benefits on the exercise of an activity or the use of childcare.
- Remove tax disincentives to work by married women.
- Pursue efforts to promote flexible work schedules for working parents.

### Notes

1. For more detailed information on the impact of the agreement on the free movement of persons with the European Union, see the “Rapport de l’Observatoire sur la libre circulation des personnes entre la Suisse et l’UE pour la période du 1<sup>er</sup> juin 2002 au 31 décembre 2004” jointly published by the Secrétariat d’Etat à l’économie, Office fédéral des migrations and Office fédéral de la statistique (2005).
2. Moreover, the possibility to reallocate unused long-term quotas for non-EU immigrants to EU migrants has not been used.
3. An above-average increase in the unemployment rate and high immigration are observed in three sectors: hotels and restaurant, real estate, computers and R&D, and trade and repair. On the other hand, below-average or average increases in the unemployment rate and high immigration are observed in education, health and social services and other services. Across regions, the Lemanic region has recorded the largest increases in both its unemployment rate and immigration. However, it is difficult to disentangle the effect of immigration and other concurrent changes on unemployment.
4. For a more detailed discussion of these issues see OECD (2004b).
5. A recent study estimates the shortage at 50 000 places for a user fee of CHF 50 per day, compared to the currently available 30 000 places. Demand at current costs, closer to CHF 100, would be lower though still large.
6. This programme will last for eight years and the financing for the first four years (2003-007) amounts to CHF 200 million. The funding is available as direct subsidies to providers, as long as the quality criteria defined at the cantonal level are respected, but limited to 3 years.

7. So far about 70% of the funding has been used by private organisations and only 30% by municipalities.
8. According to a 2003 study on the municipality of Zurich, the return on an investment of CHF 1 in the provision of childcare services is between CHF 3 and 4 due to direct and indirect taxes paid by child carers, increase of labour supply of parents and reduced social welfare spending. However, the net gain is negative for the municipality of Zurich because half of the tax receipts and reduction in social spending benefits the cantons and the confederation.
9. Calculations based on the 2001 OECD tax model showed that child benefits raised the disposable income of a family with two children by 10% compared to a childless family, which is higher than the OECD average (7.5%) and more or less in line with the EU average (9%) (Jaumotte, 2003). The level of child benefits varies across cantons however.
10. Joint taxation implies that the tax rate on the first franc earned by the wife is the tax rate on the last franc earned by the husband. A married woman is thus taxed more heavily than a single woman with equivalent earnings.
11. Four out of ten women with university education do not have children, against 20% in the population as a whole.

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## Acronyms

<b>AFMP</b>	Agreement on the Free Movement of Persons
<b>AI</b>	Disability insurance
<b>APW</b>	Average production worker
<b>AVS</b>	Pension scheme
<b>CHF</b>	Swiss franc
<b>CPI</b>	Consumer price index
<b>CSIAS</b>	<i>Conférence suisse des institutions d'action sociale</i>
<b>CTI</b>	Commission for research co-operation between universities and businesses
<b>DI</b>	Disability insurance
<b>DMA</b>	Domestic Market Act
<b>EPF</b>	Poly-technical institutes
<b>EPO</b>	European Patent Office
<b>Espa</b>	Labour force survey
<b>EU</b>	European Union
<b>GEM</b>	Global Entrepreneurship Monitor
<b>GDP</b>	Gross domestic product
<b>GNI</b>	Gross national income
<b>ICT</b>	Information and communication technology
<b>JPO</b>	Japanese Patent Office
<b>LAMAL</b>	Revision of the health insurance system
<b>LIBOR</b>	London InterBank Offered Rate
<b>OFS</b>	<i>Office Fédéral de la Statistique</i>
<b>PRO</b>	Public research organisations
<b>R&amp;D</b>	Research and development
<b>RPT</b>	<i>Réforme de la Péréquation Financière et de la Répartition des Tâches</i>
<b>S&amp;E</b>	Science and engineering
<b>SECO</b>	State Secretariat for Economic Affairs
<b>SME</b>	Small and medium-sized enterprises
<b>SNB</b>	Swiss National Bank
<b>Statem</b>	Employment statistics
<b>TTO</b>	Technology transfer offices
<b>VAT</b>	Value-added tax
<b>UAS</b>	Universities of applied sciences
<b>USPTO</b>	US Patent and Trademark Office

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