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Iceland



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ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

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This survey is published on the responsibility of the Economic and Development Review Committee of the OECD, which is charged with the examination of the economic situation of member countries.

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BASIC STATISTICS OF ICELAND

THE LAND

Area (1 000 sq. km)	103	Unproductive area (1 000 sq. km)	82
Productive area (1 000 sq. km)	21	of which:	
of which:		Glaciers	12
Cultivated area	1.1	Other area devoid of vegetation	67
Rough grazings	20		

THE PEOPLE

Population, December 2003	290 490	Occupational distribution, 2003 (per cent)	
Net increase 1993-2003, annual average (per cent)	0.9	Agriculture	2.7
		Fishing and fish processing	7.6
		Other manufacturing	10.9
		Construction, total	6.8
		Trade	13.6
		Transport and communication	6.8
		Other services	50.7

PARLIAMENT AND GOVERNMENT

Present composition of Parliament :	2003
Independence Party	22
The Alliance Party	20
Progressive Party	12
The Left-Green Movement	5
The Liberal Party	4
Last general election: 10th May 2003	

PRODUCTION AND CAPITAL FORMATION

Gross domestic product in 2003:		Gross fixed capital formation in 2003:	
ISK million	810 844	ISK million	172 430
Per head, US dollars	36 519	Per cent of GDP	21.3

FOREIGN TRADE

Exports of goods and services in 2003, per cent of GDP	35.5	Imports of goods and services in 2003, per cent of GDP	38.4
Main exports in 2003 (per cent of merchandise exports):		Imports in 2003, by use (per cent of merchandise imports):	
Fish products	62.3	Consumer goods	29.2
Aluminium	18.8	Capital goods and transport equipment	35.8
Other manufacturing products	15.1	Industrial supplies	27.3
Agricultural products	1.9	Fuels and lubricants	7.4
Miscellaneous	2.0		

THE CURRENCY

Monetary unit: Krona		Currency unit per US dollar, average of daily figures:	
		Year 2004	70.19
		December 2004	62.71

Executive summary

Iceland's impressive economic performance has continued to show the benefits of the refocusing of policies on financial stabilisation and market liberalisation in the 1990s. The most recent recovery, which began in 2003, has been much more vigorous than expected, as buoyant household demand has reinforced the stimulatory effect of the large-scale aluminium-related investment projects underway. Imbalances in the economy – specifically, the large current account deficit and inflation pressures – have mounted and – with GDP growth averaging over 5% in 2004-06 – they may well be similar in size to those seen in the last overheating episode in 2000-01, which resulted in a mild recession. Limiting instability over the next few years is a demanding task for macroeconomic policymakers, and efforts underway in this regard need to be strengthened. There are also challenges for structural policies, notably with respect to the proper assessment of future investment projects and in the environmental area. In a longer-term perspective, sustaining the faster productivity growth that structural reforms in the 1990s have brought about will require further action, especially in the education and competition policy fields.

Skilful macroeconomic management is needed to maintain economic stability during the investment boom

The initial experience with inflation targeting has been largely positive, but the new framework will be put to a severe test in the period ahead. After falling to the official target, both inflation and inflation expectations have edged up again, approaching the Central Bank's upper tolerance limit. This suggests that the new policy framework's credibility is not yet fully established. The authorities have aggressively raised their policy rate since mid-2004, but developments in financial and property markets counteracted their initial tightening moves. Further interest-rate increases will be needed in 2005 to prevent a wage/price spiral from developing.

The sharp fiscal stimulus imparted in 2003 was withdrawn in 2004. The government's draft budget calls for surpluses in 2005 and 2006 that would be modest compared to those achieved during the overheating period of the late 1990s. Tax cuts will slow fiscal tightening in the near term and then bring it nearly to a halt in 2006 just about when the construction projects peak. The authorities should aim at budget surpluses that are larger than currently planned by redoubling efforts to avoid recurrent spending overruns, implementing additional expenditure restraint and reducing tax expenditures favouring the housing sector.

Structural policies should focus on ensuring adequate labour inputs and avoiding environmental damage

Stabilisation efforts should be extended beyond macroeconomic policies. It is important that immigration policy remains flexible. The investment projects also have a significant effect on the environment. Though environmental impact assessments have led to design changes, some possible problems (such as erosion) will become apparent only over time. Continued monitoring will therefore be crucial. Moreover, a more comprehensive framework for evaluating the economic and

environmental impacts of further power-intensive projects is required, so as to improve transparency and policy effectiveness and coherence.

At the same time, it is important that human capital formation be stepped up to ensure the competitiveness and development of new, high-technology industries, with a view to diversifying the economy toward such high-value-added activities. The government has boosted education spending in recent years, but both educational outcomes and attainment are still falling short of those in many other OECD countries. Drop-out rates, in particular, are comparatively high. The government is planning appropriate reforms (including the shortening of upper-secondary education) to try to tackle this problem.

Several sectors should be more exposed to competition so as to sustain higher productivity growth

The reforms of competition law and sector-specific regulations undertaken since the early 1990s, combined with wide-ranging privatisation, have contributed to the pick-up in productivity growth over the past decade. The current institutional structure of competition law enforcement is on the whole efficient, and recent proposed legislation to simplify it and to strengthen the Competition Authority's monitoring activities and powers deserves support.

Competition has taken hold in most segments of the telecommunications sector, but entry into fixed-line telephone services needs to be encouraged by changing the current structure of access pricing. The privatisation of the incumbent should also be completed as soon as possible. The electricity sector, by contrast, remains entirely in public ownership, despite a new legal framework that designates generation and sales as competitive activities and imposes accounting separation between transmission and other activities. To foster competition, the industry's ownership structure needs to be simplified. Moreover, privatisation of the National Power Company's current generation activities should be considered. Finally, agricultural support and remaining restrictions on foreign ownership in the fisheries and energy sectors should be reduced, and the competition authority should be vigilant against bid-rigging in public tenders.

This Survey is published on the responsibility of the Economic and Development Review Committee of the OECD, which is charged with the examination of the economic situation of member countries.

The economic situation and policies of Iceland were reviewed by the Committee on 10 January 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 27 January 2005.

The Secretariat's draft report was prepared for the Committee by Hannes Suppanz, Thomas Laubach and Michael Wise under the supervision of Peter Jarrett.

The previous Survey of Iceland was issued in April 2003.

Assessment and recommendations

Economic performance has improved, but tensions and imbalances remain

Iceland's growth dynamics have vastly improved since its policies changed course in the 1990s, shifting towards financial stabilisation and market liberalisation. Economic expansion since the middle of the last decade has considerably bettered that in the OECD and in particular in other European countries. With productivity growth picking up, Iceland's per capita income has risen faster than abroad, partly reversing its previous decline relative to an OECD benchmark, and is now, in level terms, among the highest in the area. However, while output variability has declined, it remains high, with a history of overheating requiring corrective policy actions that induced a sharp retrenchment in domestic demand. But alongside volatility, the Icelandic economy now exhibits a substantial degree of resilience, reflecting in part the improved policy framework. The recession in 2002 was quickly overcome, and the most recent rebound in activity has been quite vigorous, as buoyant household demand has reinforced the stimulatory effect of large-scale aluminium-related investment projects (averaging nearly 6% of GDP over 2003-07, including power plants). As a result, the economy is entering the most intensive phase of those investments with higher inflation and a larger external deficit than expected, implying a risk of imbalances similar to those of the last overheating episode.

Preserving stability will be a demanding task for policymakers

The structural reforms of the 1990s have enhanced the economy's capacity to adjust in the face of numerous large shocks to which it is subject, as has the more recent adoption of an effective macroeconomic policy framework featuring a floating exchange rate and an inflation targeting regime. The result is that output growth has strengthened and become less volatile, and imbalances can be reduced more rapidly. At the same time, however, the economy still faces several challenges. Growth remains more variable than in larger economies, raising the cost of capital. Furthermore, households and corporations are highly indebted by international comparison, and foreign-currency borrowing of short-term duration has grown rapidly. Given a prevalence of current account deficits, Iceland's external debt is one of the highest in the OECD, heightening the risks associated with sharp exchange-rate swings brought about by exogenous shocks or policy slippages. Moreover, there has been a massive rise in equity and property prices, which may be followed by a sharp downward correction, with all the attendant difficulties for investors. Finally, persistent spending overruns have complicated the use of fiscal policy for demand management. Against this backdrop:

- The major challenge to policymakers in the short run is to maintain economic stability in the face of the current investment boom through sufficiently tight macroeconomic policies and appropriate accompanying structural policies.

Greater diversification would probably give rise to increased productivity growth

In a longer-term perspective, the question arises as to what further changes to the structure of the economy and to policy settings would be conducive to maintaining a high standard of living by international comparison. Since the scope for raising (already high) labour utilisation is limited, policies need to be mainly focused on productivity. Despite higher productivity growth in recent years, the level of GDP per hour in Iceland is below the OECD average. Apart from diseconomies of scale and scope and high labour utilisation, possible reasons for that include an undiversified economic structure and unfinished business in the areas of education and competition policy. The current strategy is directed at attracting additional investment in power-intensive projects, capitalising on Iceland's supply of renewable energy resources. However, besides the question as to what impact this would have on economic volatility, in the absence of a comprehensive framework for evaluating such projects, the resulting economic returns are unclear (see below). High-technology manufacturing and knowledge-intensive services began to develop in the 1990s and have enjoyed rapid growth since then, but the most recent data show that their sectoral shares are still small by international comparison. Human capital formation is crucial to the expansion of such industries, as is the elimination of impediments to their development (such as implicit subsidies to the electricity sector – in the form of tax advantages and government guarantees – and agricultural protection). Accordingly:

- The major challenge to policymakers in the long run is two-fold: to ensure that any future power-intensive projects yield transparent net benefits, and to sustain faster productivity growth through human capital development and the removal of barriers that are inhibiting diversification away from low-technology sectors towards knowledge-intensive activities.

Monetary policy will soon be put to the test

As noted, the new monetary policy regime should help limit the build up of imbalances over the near term. Following the adoption of inflation targeting in 2001, the Central Bank succeeded in bringing both 12-month consumer price increases and inflation expectations (as implicitly gauged by bond investors) down to the official objective of 2½ per cent. However, with the recent pick-up in inflation, expectations have also risen, drifting up to the Central Bank's upper tolerance limit of 4%. This suggests that the new framework's credibility is not yet fully established, which is not unusual in view of its recent adoption. Anchoring inflation expectations to the target is particularly important because the March 2004 multi-year wage agreements in the private sector were based on the twin assumptions of inflation near the official objective and similar settlements in the public sector and can be reopened in late 2005 if these assumptions are not satisfied. The Central Bank has strived to enhance confidence in and understanding of the new monetary policy framework through outreach activities and its publications, but there would seem to be room for further strengthening it. In particular:

- The Central Bank should consider moving to regular rate-setting meetings so as to increase transparency and improve communications with financial markets, with decisions announced immediately thereafter (as is done by all other inflation-targeting central banks).

As it will have to bear most of the forthcoming stabilisation burden

As the recent hike in the inflation rate reflected not only international oil price developments but also domestic demand pressures, the Central Bank appropriately began to raise its policy interest rate in mid-2004. By year-end the policy rate was almost 3 percentage points higher than it had been in the spring, though, with the rise in inflation expectations, the rise in real interest rates has been much smaller. In addition, developments in financial markets counteracted the Bank's initial tightening moves. Stock market and property prices have surged, and – more recently – commercial banks and subsequently the public Housing Financing Fund (HFF) have offered mortgage loans at much lower interest rates than hitherto. The banks' entry into the mortgage market, which facilitates equity withdrawal, is adding to household demand and inflation. Similarly, the latest relaxation of HFF lending limits risks further stimulating demand in the housing market. Finally, the recently legislated reductions in personal income taxes could begin to stimulate spending even before they have been fully implemented. In these circumstances:

- Further interest-rate increases will be needed in 2005 to prevent consumer price inflation from significantly overshooting the authorities' upper tolerance limit and to forestall a wage/price spiral.

Fiscal tightening is also crucial in the near term

A tight stance of fiscal policy during the investment boom would alleviate the burden on monetary policy to safeguard price stability without the need for excessively high interest rates, which are already putting upward pressure on the real exchange rate and squeezing the exposed sector of the economy. Regrettably, in 2003, when economic activity rebounded, the general government budget moved into substantial deficit, reflecting fiscal loosening due to a number of discretionary spending measures as well as recurring expenditure overruns. Helped again by stronger-than-assumed economic growth, the budget appears to have returned to broad balance in 2004. While fiscal tightening – in particular a cutback in public investment – contributed, expenditure restraint seems to have fallen short of intentions. Nonetheless, the withdrawal of the sharp fiscal stimulus imparted in 2003 is welcome. But it needs to be sustained so long as excess demand conditions prevail. The latest budget calls for general government surpluses in 2005 and 2006. However, these surpluses – both in actual and cyclically adjusted terms – are projected to be modest compared to those recorded during the overheating period of the late 1990s, which were 1 to 2 percentage points of GDP higher. The tax cuts for 2005-07 will slow fiscal tightening in the near term and, in the absence of further measures, are projected to bring it nearly to a halt in 2006, just when the construction projects peak. Hence:

- Now that the tax cuts have been passed, the authorities should aim at budget surpluses higher than those currently planned to ensure a better policy mix, by rigorously avoiding spending overruns (especially in the form of high public-sector pay rises), implementing additional spending restraint and reducing tax expenditures favouring the housing sector.

Better expenditure control and greater restraint would facilitate demand management and enhance the scope for tax reductions

With the exception of a brief period in the 1990s when radical austerity policies eliminated the budget deficit, expenditure growth has been rapid. Moreover, despite reforms to the fiscal framework, especially the introduction of “frame-budgeting” (setting expenditure ceilings), and, more recently, of medium-term budget projections, public spending has tended to exceed not only the “frames” but also the ultimately voted (and usually higher) authorisations. Sometimes, as in 2003, supplementary budgets raise expenditure during the year; yet even discounting that, deviations from budgeted levels have remained substantial. According to the National Audit Office, a large number of government bodies exceed the permitted annual budget overrun (which is limited by regulation), and some have done so for many years. Apart from complicating the use of fiscal policy for economic stabilisation purposes, this puts upward pressure on taxation. Whereas from 1978 to 2003 the public-expenditure-to-GDP ratio rose by about 4 percentage points in the OECD area, it rose by 16 points in Iceland, and the revenue-to-GDP ratio increased accordingly. Such a steep rise in tax pressure is bound to have a negative impact on the growth of output and real income mainly through the associated higher marginal tax rates which distort incentives to save, work and invest. In this perspective, the recent tax cuts are likely to have favourable supply-side effects on economic performance. In order to address these issues:

- Public expenditure control needs to be strengthened by stricter enforcement of existing regulations and the rigorous observance of medium-term spending ceilings, in order to make fiscal policy more effective and create room for the sought-after substantial reduction in the tax burden.

Maintaining a flexible immigration policy would help to avoid labour-market pressures

Official efforts to achieve stabilisation should also be extended beyond the domain of macroeconomic policies. For example, decisions regarding the labour market are crucial. Labour demand associated with the large-scale investment projects is already significant in relation to Iceland’s workforce, and unemployment is not much above its structural rate, although it has fallen little from its cyclical peak recorded two years ago. This highlights the importance of facilitating the employment of foreigners at the construction sites. Conditions for granting work permits to foreigners are numerous, and, although EEA nationals do not need a permit, this is not yet the case for the new EU members. The fact that the proportion of foreigners involved in the investment projects has exceeded expectations suggests that immigration policy has so far shown remarkable flexibility. But project-related labour demand has not yet peaked, and some tightening in labour-market conditions is likely. Therefore:

- The entry of foreign workers should continue to be handled flexibly during the construction of the large-scale projects to minimise labour-market and hence inflation pressures.

Limiting damage to the environment from the large-scale investment projects will remain a key objective

The power-intensive investment projects are challenging to handle not only because of their large macroeconomic effects but also for their impact on the environment. Iceland has generally given substantial weight to environmental concerns in its planning. The design of the power plants and aluminium smelters has been changed, sometimes significantly, following environmental impact assessments, lowering planned output and associated emissions. However, it remains to be seen whether these modifications will be sufficient to address all environmental concerns satisfactorily. Moreover, some possible problems (such as erosion) will become apparent only over time, possibly affecting the country's vegetation and fauna as well as the developing industry of (eco-)tourism. While the design changes should allow Iceland to comfortably meet its Kyoto Protocol stage-one targets, given its special quota for single projects, this would probably not be the case for a further significant expansion of the aluminium sector, which may also have more severe effects on the environment than those previously. For these issues to be properly addressed:

- It is important that the authorities continue to monitor the environmental impact of the power-intensive investment projects to ensure the fulfilment of commitments and minimise damage that could become apparent only with some delay.

A framework for the transparent evaluation of further expansions of energy-intensive industries needs to be developed

In a longer-term perspective, as noted above, an important issue is what further changes to the economic structure would be conducive to enhancing the country's prosperity. The current enormous expansion of the aluminium sector reflects the authorities' view that Iceland should diversify its export base by reducing its reliance on fisheries while at the same time taking advantage of its wealth of renewable energy resources. Past and current developments of power-intensive industries have involved foreign companies building and operating plants, with public utilities providing the necessary electricity under bilateral long-term contracts. While considerable efforts have been made to evaluate the profitability of these long-term agreements, a transparent overall framework for assessing the costs and benefits of the expansion of the energy-intensive sector has so far been missing. The authorities have now begun to develop such a framework. Having it in place before deciding about further expansions is essential. In particular, it is important to identify: i) the implicit rent demanded for the use of scarce natural resources; ii) the-site specific charge for negative environmental externalities; iii) the marginal cost of providing the power itself; and iv) the amount of risk borne by Icelandic taxpayers. One possible model would have the government explicitly set the first two as a sort of reservation price and then allow private companies to bid for the right to supply electricity to large industrial users; projects would go ahead only if this threshold were met. The government would then be absolved from dealing with the users, and the bids would reveal the value of power provision. Hence:

- Future expansions of energy-intensive industries should be evaluated on the basis of a broad, transparent cost-benefit framework, taking into consideration factors such as the

appropriate rent for the use of natural resources, the environmental impact, the allocation of risks and implications for macroeconomic performance.

- Allowing private (including foreign) electricity generators to bid for electricity supply contracts would both enhance transparency of the contract terms and potentially reduce taxpayers' exposure to the risks resulting from these arrangements.

Educational outcomes have yet to respond to higher spending

Recognising the importance of human capital formation for Iceland's ability to diversify and its future economic performance, the government has considerably raised spending on education in recent years. As a result, by international comparison Iceland has moved from being a low spender to becoming a high spender in this area relative to GDP, although the country's young population means that expenditure is less outstanding on a per capita basis. These developments have understandably yet to translate into better scores on standardised international tests. Iceland's latest average PISA test-score is only just above the OECD average. This reflects good results in mathematics but a slightly below-average performance in both scientific and reading literacy. The relatively low share of teachers with a degree in the subjects that they teach may be a reason. In addition, Icelandic students continue to show less inclination to choose natural science-related subjects than is the case generally elsewhere in the OECD. To improve this situation:

- The authorities should continue efforts to enhance teacher qualifications and increase the focus of teaching on sciences as well as foreign languages.

Further reforms are needed to address the drop-out issue and raise educational attainments

Graduation rates have picked up markedly last year. However, until 2002, the last year for which international comparisons are available, educational attainment in Iceland had improved less than in other member countries, so that young people were even less qualified relative to the OECD average than older ones; and the share of the working-age population that has no more than compulsory education is still high. Iceland's relatively poor record regarding educational qualifications is not the result of low initial enrolment rates but of high drop-out rates, especially (albeit not only) from upper-secondary institutions. The country's economic structure implies that there are unusually good job opportunities for workers with few formal educational qualifications. But there are also shortcomings in the education system that need to be addressed. Today's low-skilled jobs may not survive through possible further expansion of power-intensive industry, and a preponderance of low-skilled labour is not conducive to the development of new higher-technology activities. The government has begun to take measures that should be helpful in reducing drop-out rates, notably broadening the variety of courses and making schools' financial allocations dependent on pupils' sitting exams. It is also considering shortening the duration of upper-secondary education following a lengthening of the school year. No major reforms are intended at the tertiary level, although the merger of a private university

with a public one will make the recourse to user fees a bit more widespread. To sustain the very recent improvement in educational attainment:

- Measures to reduce drop-out rates should be continued, in particular curriculum reform and incentives for schools to focus on attainment, and the planned shortening of the duration of post-secondary education should be implemented speedily together with a restructuring of study programmes.

The institutional structure of competition law enforcement has proved efficient

The economy's good performance, and in particular the step-up in productivity over the past decade, reflects in part the fundamental changes to competition and regulatory policies beginning in the early 1990s. Combined with the wide-ranging reduction in government ownership, these changes have strengthened competitive forces both from within and without, unleashed a surprising degree of entrepreneurial dynamism and raised efficiency in many sectors of the economy. In the area of legislation, the adoption of a new competition law in 1993 marked a turning point. The current institutional structure of competition law enforcement, which has evolved further since then, is on the whole efficient, although perhaps too cumbersome. Recent proposed changes aim to simplify the enforcement structure and to strengthen the Competition and Free Trade Authority's (CFTA) powers and resources for monitoring activities while removing consumer affairs from its portfolio so as to focus its resources on competition issues. These revisions would probably have positive effects. In addition, however:

- The authorities should ensure close cooperation between the CFTA and the new entity dealing with consumer affairs so as to preserve existing synergies between the two areas of surveillance.
- They should also resist *de facto* and legal exemptions of agricultural producers from certain aspects of the competition law.

Competition has taken hold in most segments of the telecommunications market

The current legal and regulatory framework in the telecommunications sector, which with some modifications has been in place since the year 2000, has been conducive to strengthening competition, notably in the sector's mobile phone and broadband segments. An initial wave of entry was followed by consolidation, leaving the market for both fixed-line and mobile telephony divided between the still state-owned incumbent and one private competitor. The emergence of competition in telecommunications has probably contributed to the decline in prices for such services relative to overall consumer prices. Since the late 1990s, this decline has been of similar magnitude to that in the United States, a country regarded as being at the technology frontier and enjoying strong competition in this sector. Nonetheless, more needs to be done to facilitate entry in some market segments. In particular:

- The regulator should consider widening the margins between fixed-line subscription fees and leasing fees for the local loop so as to promote more entry into the fixed-line segment and reduce the incumbent's present dominance.

- Universal service objectives should be financed through income support out of general tax revenues rather than universal service charges, and there should be an investigation of whether such objectives could be achieved more efficiently through technologies other than fixed-line telephony.
- The privatisation of Iceland Telecom should be completed as soon as possible so as to remove uncertainty about an important aspect of the future industry structure.

But competition has yet to emerge in the electricity sector

One sector that has remained entirely in public ownership is the electricity sector. Natural factors create substantial barriers to entry: virtually all electricity is generated from hydropower and geothermal energy, exploitation of which is characterised by high fixed and extremely low variable cost in comparison to electricity generated from carbon fuels. The current legal framework, adopted in 2003, designates generation and sales as competitive activities and imposes accounting separation between transmission and other activities for the monopoly provider of transmission services. In practice, the National Power Company (Landsvirkjun) remains dominant in generation and is the majority owner of a newly established transmission operator, while the municipal utility serving the Reykjavik area is the only potential competitor of significant size in generation and dominates in distribution. The complex ownership structure, which involves cross holdings between these two companies, makes competition between them even less likely. Several measures would improve the prospects for viable competition in generation and sales:

- The authorities should consider whether divestiture of Landsvirkjun's generation activities would help create a level playing field in generation by avoiding cost-of-capital differentials between the incumbent and potential entrants.

There remains room for policies in other sectors to promote stronger competition

Although the generally pro-competitive stance of regulatory policies over the past decade has increased competitive pressures, some sectors of the economy remain excessively protected. The most obvious case is agriculture, where support remains very high by international standards and is heavily skewed towards output-distorting measures. Outside agriculture, barriers to trade are low, but there are a few sectors in which foreign ownership is still restricted, and administrative and screening requirements in connection with inward direct investment stipulated by the law are generally high, although actual practice is considerably more liberal. Competitive pressures could also be strengthened further in the areas of public procurement and publicly funded services. A number of initiatives could improve efficiency in the sheltered sectors:

- Agricultural support should be reduced, especially in the area of policies that provide incentives to increase production, and administered prices for dairy products should be eliminated.
- The market for agricultural products should be exposed to foreign competition by raising quotas and reducing tariffs on quota-exceeding imports.

- The remaining restrictions on foreign ownership – notably in the energy and fisheries sectors – should be reduced and the remaining administrative requirements in the law should be removed.
- The competition authority should be especially vigilant against bid-rigging in public tenders, in view of the small number of domestic competitors in many Icelandic markets.

Chapter 1

Key challenges

This chapter discusses the major challenges facing the Icelandic economy against the backdrop of the large-scale aluminium-related investment projects that are underway. Given their sheer size – including power plants they are equivalent to about 30% of one year’s GDP over 2003-08 – maintaining economic stability over the next few years will be a demanding task for macroeconomic policymakers. But there are also challenges for structural policies, notably in the labour market and environmental areas. In a longer-term perspective, the question arises as to what further changes to the economic structure and policy settings would be conducive to maintaining a high level of prosperity by international comparison. Sustaining the recent improvement in Iceland’s productivity performance would seem to require further action in the education and competition policy fields, in particular.

The current strong expansion of Iceland's aluminium production capacity and associated large-scale power plant investments are having a huge impact on the economy, exceeding that of the first such projects implemented in the late 1960s. The maintenance of economic stability during the period when construction activity is likely to be most intense (that is, from now until 2007) will be a demanding task for macroeconomic policymakers. But there are also challenges for structural policies, notably in the labour market, environmental and regional policy areas. In a longer-term perspective, the question arises as to what further changes to the structure of the economy and to policy settings would be conducive to maintaining a high standard of living by international comparison while avoiding undue volatility.

The large-scale investment projects in power-intensive industries

There are currently two major aluminium-related investment projects underway:

- the Alcoa (Fjardaal) project in the eastern part of Iceland, including a new aluminium smelter in Reydarfjordur, the new Karahnjukar hydropower plant, built and operated by Landsvirkjun (the National Power Company), and harbour facilities provided by the government; and
- the Nordural project in the south-western part of the country, consisting of an enlargement of the aluminium smelter in Grundartangi and related geothermal power plants.

The Alcoa project is the more important, as it will more than double current aluminium production capacity, while the associated new hydropower plant will increase Iceland's electricity generation capacity by more than half. Together the two projects are expected to lead to a rise in aluminium production by around 155% by 2008. (A recently announced further expansion of the Nordural smelter would bring this figure to about 165% and plans for an additional enlargement imply a rise in aluminium production by around 180% by the end of the decade.)

The total cost of the investment projects underway is estimated to be equivalent to almost 30% of GDP in 2003. Work on the Karahnjukar dam, which will be the tallest in Europe, began in 2003 and construction of the aluminium factories in 2004. Project-related investment is expected to peak in 2006, when it is to reach nearly 10% of GDP but will still be strong in 2007 (Table 1.1). Although the import content of the investments is high – it is estimated to average more than one-half for the hydro and geothermal facilities, and around two-thirds for the aluminium plants – their impact on economic growth in the next few years will be enormous. If induced consumption is taken into account, GDP may be boosted by 4 to 5% in the middle of the decade. As a result, a significant positive output gap looks set to emerge. Higher imports and lower exports due to the upward pressure on the exchange rate from the sizeable capital inflows associated with the investment projects as well as real income effects will entail a large current account deficit during the construction period, adding to Iceland's already very high net foreign debt (more than 100%

Table 1.1. **Aluminium-related investment projects**¹

	2001	2002	2003	2004	2005	2006	2007	2008	2009
Investment costs, as per cent of GDP									
Alcoa smelter and Karahnjukar power plant	0.1	0.1	1.7	2.9	4.5	8.7	4.8	0.3	0.1
Nordural enlargement and power plants	..	0.1	0.2	1.7	3.4	0.6
Total	0.1	0.2	1.9	4.7	7.9	9.2	4.8	0.3	0.1
Labour demand, as per cent of labour force									
Total	..	0.1	0.5	1.1	1.7	1.3	0.4
Net inflows of foreign capital, as per cent of GDP									
Total	0.1	0.1	0.7	1.8	3.0	3.6	1.9	0.1	0.0

1. Excluding recently announced plans for an additional Nordural enlargement.

Source: Central Bank of Iceland.

of GDP). Additional labour demand is estimated at 1 to 2% of the labour force in 2004-06. Fortunately, it now seems that the share of labour brought in from abroad is higher than initially assumed (more than one-half instead of one-quarter). Nonetheless, resource, and hence inflationary, pressures are still likely to be substantial.

The long-term benefits of the aluminium-related investments depend not only on a successful stabilisation policy during the construction period (see below) but also on the profitability of the hydropower project. With an expanded aluminium sector, by the end of the decade GDP could be almost 2% higher than otherwise. However, the impact on GNP is likely to be much more limited. While higher export revenues will to some extent be reflected in national income (through wages and purchases of domestic services), the majority of income associated with the aluminium exports accrues to the foreign owners of the capital. Foreign ownership of the smelters and domestic ownership of the power facilities means that the long-term benefit for the nation hinges on how the profitability of the linked projects, if any, is shared between the two parties.

A committee appointed by the owners of the National Power Company (that is, the central and some local governments) examined the profitability and financial risk of the Karahnjukar project, which accounts for four-fifths of the power plant investments (Landsvirkjun, 2003). They found that its profitability is very sensitive to changes in the estimated construction costs and the aluminium price at the beginning of energy sales, given the agreement to let the electricity price change in line with changes in the world market price for aluminium. Either a 10% rise in construction costs or 10% lower aluminium price (which is assumed to be again at the 2002 level in 2007) would make the project unprofitable in the sense that the weighted average cost of capital would exceed the estimated real rate of return. Similarly, a delay in the start of energy sales by one year (beyond August 2007), a 10% higher exchange rate or a rise in the Company's borrowing rate by ½ percentage point (above the assumed average of 5.5%) would each be sufficient to almost wipe out expected economic profits. In this context, it should be noted that the project's profitability relies crucially on the loan guarantees provided to the National Power Company by the Iceland State Treasury. Some of the risks mentioned above are not independent, however. For instance, interest rates and aluminium prices have been found to be positively correlated, reducing the interest rate risk that Landsvirkjun faces (Gudmundsson, M.F., 2003). Model simulations, which take such interdependences into account, suggest that, over the contract period of 40 years, the probability that the project will not be profitable (in the sense defined above) is 21 to 26%. In any case, the National

Power Company will be heavily indebted, while income from the Karahnjúkar power plant is likely to fluctuate considerably, and, should returns prove disappointing on such a large project, then a public capital injection would ultimately be required, at considerable cost to the taxpayer (see below).

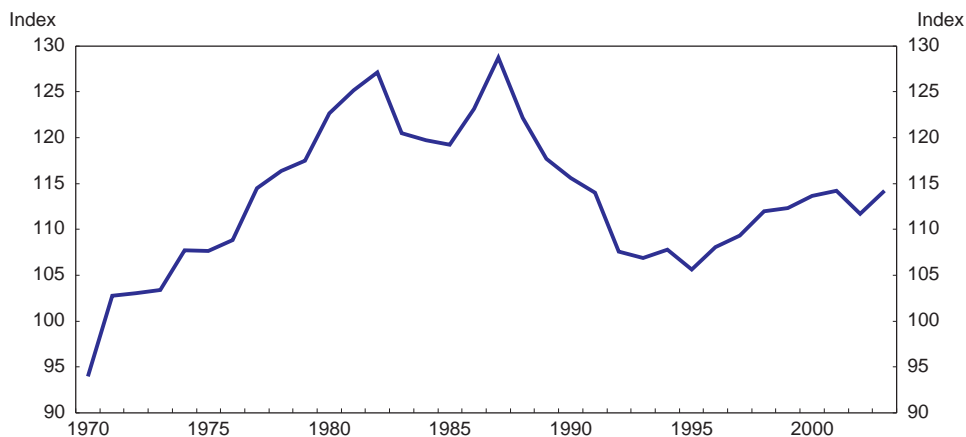
The economy by the end of the decade: opportunities and risks of diversification

Iceland has long been dependent on fisheries, which were the main national export industry in the twentieth century. However, undiversified exports have been regarded as a cause of economic instability as export revenues have relied strongly on a single industry. Moreover, fish stocks are a limited resource, and part of the relative decline in Iceland's standard of living in the late 1980s and early 1990s (Figure 1.1) can be traced to developments in the marine products sector (Agnarson and Arnason, 2003). The government has therefore been seeking ways to diversify exports with the aim of both reducing economic fluctuations and boosting growth when the fisheries sector exhausts its growth potential. The metals industry has been under particular consideration, with the chief focus on aluminium production, given Iceland's abundant capacity for electric power generation. Nonetheless, after the construction of a first aluminium smelter in the late 1960s, there was little further progress toward diversification until the mid-1990s, when projects in the power-intensive industry started moving again, culminating in the current huge expansion of the sector.

Shifting industrial structure

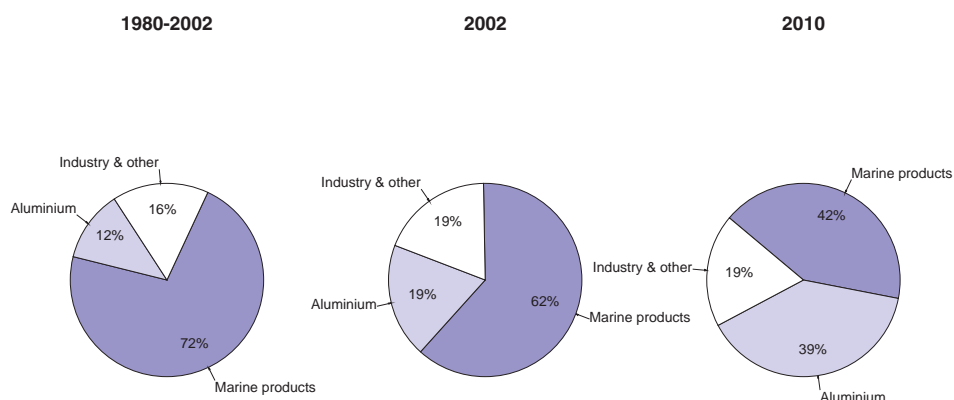
As a result, Iceland's economic structure, and in particular the composition of its exports, will have changed markedly by the end of the decade. The aluminium sector's share of merchandise exports may broadly double to just below 40%, approaching that of marine products (Figure 1.2). Such estimates are obviously subject to considerable uncertainty, and some experts see the marine sector still clearly ahead after the completion of the current power-intensive projects. Yet all analysts agree that other export

Figure 1.1. **Relative GDP per capita**
2000 PPPs, OECD = 100¹



1. 26 countries.

Source: OECD National Accounts.

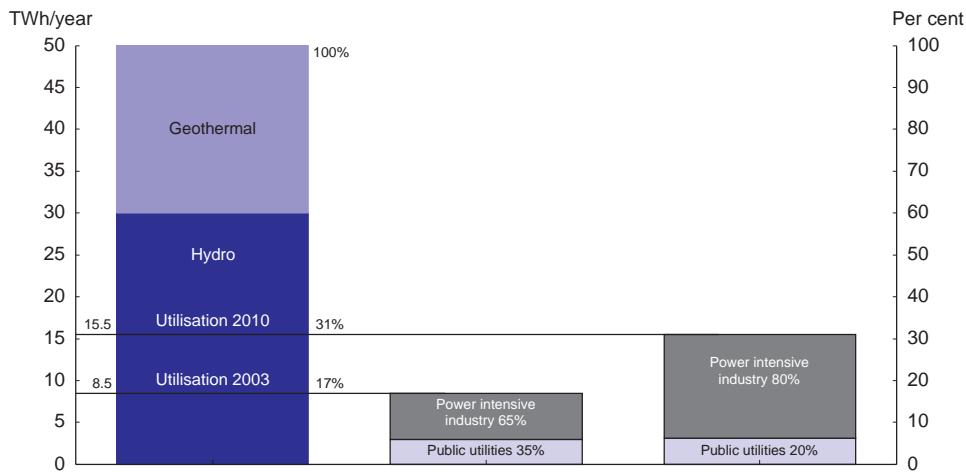
Figure 1.2. **Breakdown of merchandise exports**

Source: Central Bank of Iceland.

industries might, at best, maintain their present share of around 20%. Moreover, those estimates that include trade in services conclude that the latter's share of total exports would probably recede again after having exceeded one-third in recent years (due to the development of activities such as tourism).

The authorities are encouraging plans for a further expansion of aluminium production. Apart from possible additional enlargements of the Nordural smelter both in the near term and towards the end of the decade, they include an extension of Alcan's Straumsvik plant in south-west Iceland (the first-one established in the country in the late 1960s) and the construction of a new aluminium smelter in the north of Iceland. Should these plans be realised, aluminium production would likely rise four-fold, and Iceland would become one of the main aluminium-producing countries in the world, not far behind Norway; at the same time, the aluminium industry would become one of Iceland's main economic sectors and dominate exports in the same way fisheries used to do in the past. Regional policy considerations play a role, but the principal argument for going in this direction is the enormous amount of untapped renewable energy still available. Indeed, after the completion of the projects underway, less than one-third of Iceland's estimated potential for electrical power generation, involving both hydroelectric and geothermal sources, will likely be used, up from 17% in 2003 (Figure 1.3). However, besides the fact that a further significant expansion of energy-intensive industry would probably be incompatible with the current Kyoto limits for greenhouse gas emissions (Chapter 3), it also raises issues of economic stability and public sector involvement.

While spreading the risks by diversifying the export base beyond the fisheries should be beneficial, it is not clear whether further increases in aluminium production will serve to level out cyclical fluctuations in the Icelandic economy. There is only one recent study dealing with this issue (Gudmundsson, M.F., 2003). It found that such increases initially tend to dampen export revenue volatility, but only until the share of aluminium has reached a certain level, beyond which volatility would begin to increase once more. It concluded that Iceland had already passed that level due to the earlier gradual expansion of the aluminium sector and that the implementation of the investment projects underway is likely to amplify export volatility by 10 to 20%. This reflects the combined effect of

Figure 1.3. **Electric power potential and utilisation**

Source: Ministry of Industry.

different volume and price developments in the marine and aluminium sectors. Production volume changes in fisheries tend to be more abrupt and sizeable. On the other hand, price changes in this sector are damped by the fact that marine exports comprise many different types of product which are sold in different markets. By contrast, as a virtually homogenous good, aluminium is traded in a single market, leading to strong price fluctuations and hence more variable export revenues than those for marine products. The study's results also hold when (as suggested by Hardarson, 1998) volatility measures are adjusted according to the estimated share of income accruing to domestic agents, which is much lower in the aluminium industry. Consistent with this study, OECD estimates show that the declining importance of marine products, together with improved macroeconomic management, have reduced export and hence output volatility significantly over the past decade or so (Box 1.1). They also suggest that there are likely to be payoffs from reduced volatility in terms of lower longer-term interest rates, which themselves would generate output gains. The policy implication of these results is that further development of the aluminium sector might adversely affect economic performance if it entails increased export volatility, as suggested by the above study.

More fundamentally, before deciding about further expansions of energy-intensive industries, it is essential to have a broad framework in place that assesses their potential effects on macroeconomic volatility and performance and on the environment while providing transparent comparisons of alternative modes of government involvement. Although the construction projects underway were the subject of environmental impact assessments (see Chapter 3) and considerable efforts were made to evaluate their profitability (as discussed before), no comprehensive study of their macro- and socioeconomic impact was carried out. When giving the green light for the investments in eastern Iceland, Parliament provided funding for a research project that would attempt to do the latter, but a report on the study is due only in 2009. As to the government's involvement in the projects, the present contracts between the public utilities, which provide the necessary electricity, and the foreign companies, which build and operate the plants, make it very difficult to evaluate whether the utilities earn appropriate returns for

Box 1.1. The costs of high volatility of output

One of the most important handicaps of having such a small economy is the fallout from the likely relationship between absolute size and volatility of both consumption and production possibilities. This was previously examined in the *Economic Survey of Iceland* more than a decade ago (OECD, 1993, Diagram 8). At that point Iceland's economy, as measured by average GDP in dollars at purchasing power parity exchange rates, had averaged about one-fiftieth the size of the median country in the sample of 24 OECD member countries and its standard deviation of annual real private consumption growth over the preceding two decades had been two and a half times as great. The cross-country relationship showed that its small size cost it around one and a half percentage points in terms of the standard deviation, or about one fifth of the total; other factors, including most probably the reliance on the vagaries of the fishing sector no doubt made Iceland especially prone to fluctuating outcomes. Consistent with this hypothesis, it was also shown to suffer from high export earnings volatility.

It can be seen that these relationships still hold explanatory power in the more recent period from 1992: the smaller the country, the greater the volatility of both real output and – what ultimately matters to individuals – real private consumption (Figure 1.4). Nonetheless, Iceland has managed to reduce the volatility of its real private consumption growth by nearly a third compared to the two-decade average from 1970 to 1991. There has also been a decline in the volatility of real GDP growth by 21% and that of exports by 46%. This is consistent with the increased diversification of the economy – especially the reduced importance of marine products – and with the improved macroeconomic management that has resulted from the elimination of the chronic inflation problem in the earlier period. Nevertheless, the volatility of output seems to stem more from internal demand instability than in some other countries with highly variable output, such as Luxembourg, Finland and Ireland.

In order to gauge what might be one of the payoffs from reduced volatility a quick analysis of its impact on financial markets was undertaken. Specifically, a cross-country model of the interest rate on long-term government bonds was estimated for the 24 OECD member countries for which data are available. From these coefficients can be derived estimates of what factors have contributed to these rates and by extension rates on long-term borrowing throughout the economy. Besides output volatility, presumed explanatory variables¹ included a slow moving average of realised inflation rates (proxying expected inflation), the output gap (as a measure of excess demand for liquidity), net foreign assets as a share of GDP (representing the risk premium needed to attract foreign financing), either the general government balance or the stock of its gross or net debt as a share of GDP (to control for repayment risk), some measure of trend growth in multi-factor productivity (as an indicator of the opportunity cost of capital) and possibly some shift variable for the effect of the European Economic and Monetary Union in 1999 on rates in the euro area. Preliminary estimation showed that all coefficients were of the correct sign except that on the budget balance or debt proxies, which were wrong-signed and often significant, and the trend productivity measure, whose coefficient was always essentially zero. The latter was omitted, since its omission had no effect on the results. This estimation revealed the following outcome:²

$$\begin{aligned} \text{Long-term interest rate} = & 3.08 + 0.69*\text{Volatility of real GDP growth} + 0.80*\text{Inflation exrpectations} \\ & (7.09) \quad (3.24) \quad (4.17) \\ & + 0.14*\text{Output gap} - 1.94*\text{Net foreign assets/GDP} + 0.64*\text{Euro dummy} \\ & (0.76) \quad (2.47) \quad (2.33) \\ \text{RBSQ} = & 0.753 \quad \text{SEE/mean} = 12.0\% \quad \text{Absolute values of t statistics in parentheses} \end{aligned}$$

The results show – tentatively – that for Iceland the largest contribution came from this volatility: indeed, it may be responsible for up to 2.0 percentage points of this long-term interest rate, which averaged 8.8% over this period, or about 22% of the total. If this volatility could be reduced to the level achieved by New Zealand, another small and remote economy, rates would be more than

Box 1.1. The costs of high volatility of output (cont.)

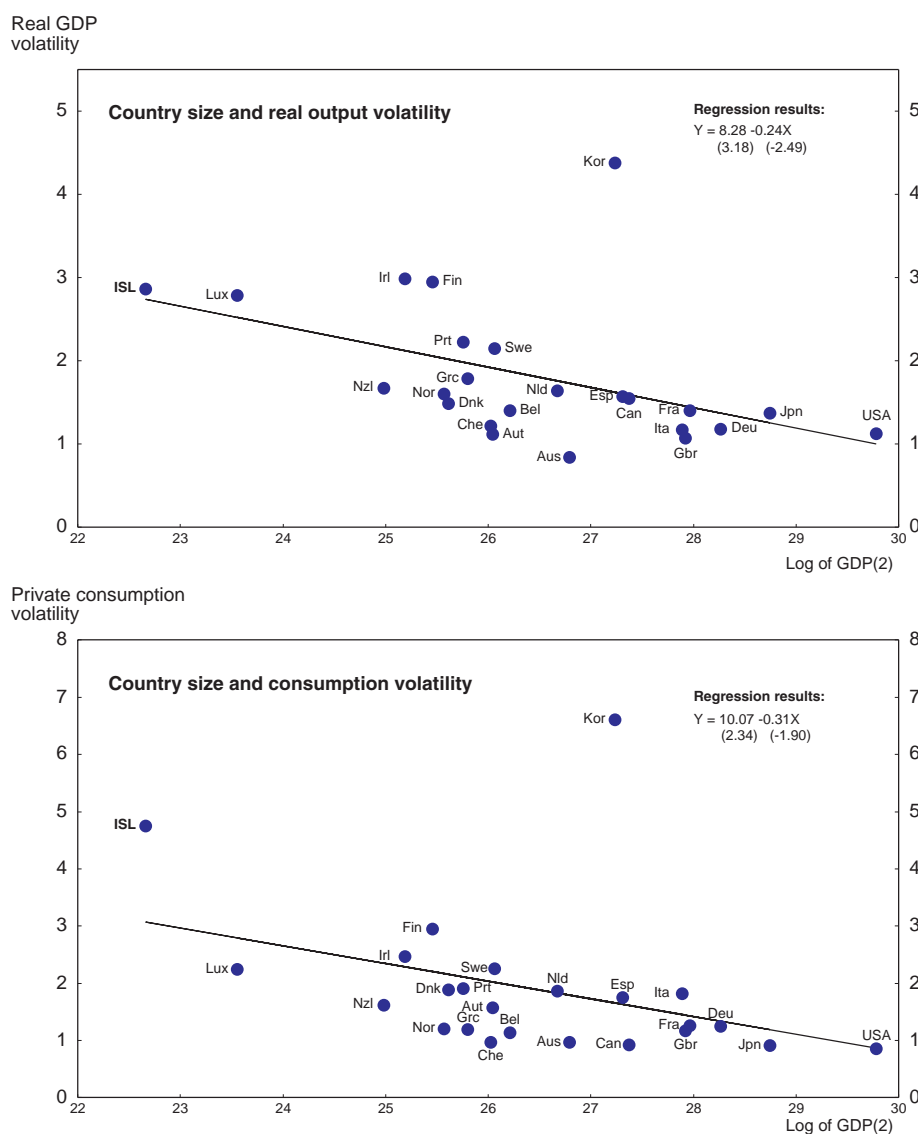
0.8 percentage point lower. Indeed, if volatility could be squeezed down to the level recorded by the best performer over the period since 1990 (Australia), then the equation would predict a saving of 1.4 percentage points. A rough estimate from a recent version of the OECD's INTERLINK model is that every percentage point reduction in long-term rates in Iceland, for given short-term rates, would elicit approximately 0.3 percentage point more output after five years. Thus, output gains of the order of ½ per cent may be achievable after five years if volatility can be curtailed. One policy implication would be to avoid putting too many eggs in the basket of smelting aluminium and to assess all policy domains from the vantage point of stability: this would include most prominently financial market regulation to ensure prudence in lending policies, inflation targeting to achieve price stability and binding multi-year public spending targets to stabilise the public finances.

1. The dependent variable is the average rate for 1995-2003. Volatility of real GDP growth is the standard deviation of growth outcomes from 1992 to 2003 inclusive. Inflation expectations are measured by the 2003 value of the following moving average of the year-over-year per cent change in the consumer price index (CPI): $pe = .75*pe(-1) + .25*p$, where p is the CPI and the suffix e signifies expectations and $pe = p$ at the starting point (usually 1961). The output gap is the average value of actual less potential output as a share of potential output over 1992-2003 as estimated by the OECD. Net foreign assets were taken from the IMF's *International Financial Statistics* for 1999. General government net lending as a share of GDP was also taken as the average of 1995-2003. Finally, the euro dummy was defined as unity for Germany, minus unity for all the other members of the common currency except France and zero elsewhere.
2. However, in this case including the ratio of the general government balance to GDP yielded the wrong (positive) sign and lowered the coefficient estimate on the volatility by 40%.

the use of natural resources, the environmental costs and the risks they are taking on. It is not obvious that the taxpayers should continue to bear the risks of the profitability of such projects. To evaluate the costs and benefits of any public-sector involvement in future expansions of power-intensive industries, the authorities could set reservation prices for the use of scarce natural resources and negative environmental externalities and put to tender the right to supply electricity for a given project. Reservation prices would be made public following expert analysis so as to allow national debate and ultimately social consensus. They would be site specific, since the environmental impact of a project will vary according to its location. The tender process would best be open to both domestic and foreign bidders. It would reveal whether the total costs of the proposed scheme would allow it to proceed. Alternatively, aluminium smelters or other potential large-scale electricity users could be allowed to be vertically integrated with their own power generators. But in any case, some such formal mechanism would help to determine transparently the appropriateness of going ahead with possible future projects, and the authorities have now begun to develop such a framework.

Avoiding Dutch-disease effects

As expected, capital inflows associated with the large-scale investment projects have begun to put upward pressure on the exchange rate, despite the rising current account deficit, and the economy is arguably experiencing symptoms of “Dutch disease”, whereby currency inflows and the use of limited labour and capital to develop a new export industry tend to squeeze existing industries (Gudmundsson, M., 2003). Real exchange-rate appreciation is one of the economy's mechanisms for accommodating the aluminium-related investment activities. It could nonetheless pose problems if it lasts long enough to cause significant harm to existing export and import-competing sectors (although chronic

Figure 1.4. **Country size and volatility of real output and consumption growth**¹

1. Volatility is defined as the standard deviation of the annual percentage growth rate from 1992 to 2003.
2. GDP in dollars at purchasing power parities, average 1992 to 2003.

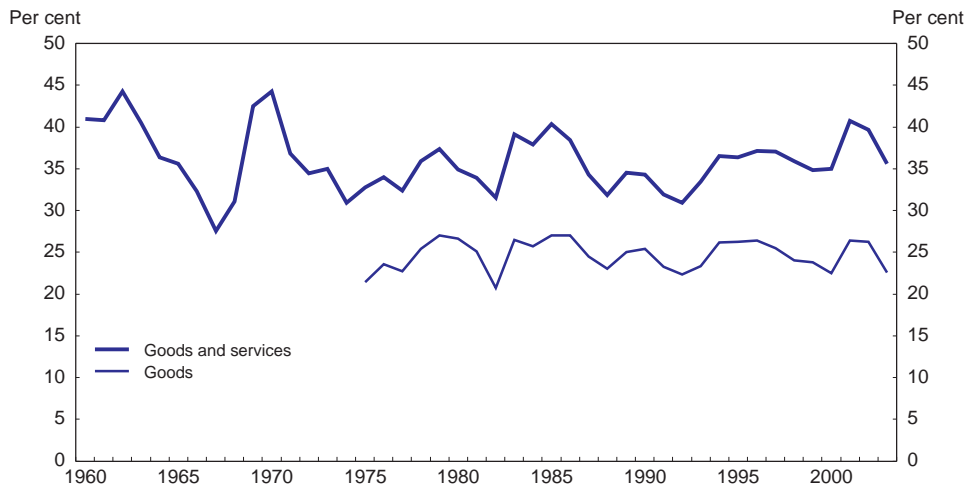
Source: OECD Economic Outlook 76 database.

unemployment is unlikely to ensue, since wages are not at all sticky in Iceland). Moreover, as recent developments show, there is always a risk that the exchange rate will overshoot, both when rising and falling, thereby destabilising the economy. Policymakers can try and reduce these risks (see below), but the scope of the projects is clearly so great that some real exchange-rate appreciation cannot be prevented, nor a rise in real interest rates.

Although this is more controversial, some academics have argued that Iceland, similar to other resource-based economies, has shown some symptoms of “Dutch disease” for a long time, in particular an overvalued currency (especially in times of resource booms) that impedes not only manufacturing and service exports but total exports as well, entailing a

Figure 1.5. **Share of exports in GDP**

Current prices



Source: OECD Economic Outlook 76 database.

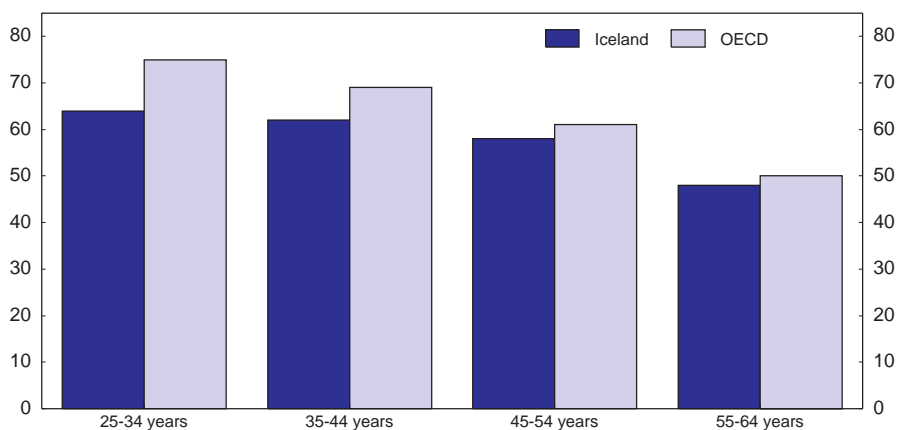
chronic current account deficit and high external debt (Gylfason, 2000a). Indeed, Iceland's export share is much smaller than could be expected, given the size of the economy, and has shown no upward trend (in contrast with most other OECD countries), fluctuating around 25% of GDP for merchandise exports and around 35% of GDP for exports of goods and services (Figure 1.5). There is also evidence that natural resource abundance crowds out investment in human capital, weakening public and private incentives to accumulate it (Gylfason, 2000b). In Iceland, about one-third of the adult population (aged 25 to 64) has not more than lower secondary education, although graduation rates have picked up recently. Until 2002, educational attainment improved less than generally elsewhere, so that younger people at that time were even less qualified relative to an OECD benchmark than older ones (Figure 1.6). Combined with wage compression, job opportunities for workers with low formal qualifications seem to dampen demand for higher education. Too many people become locked in low-skill, resource-based industries and fail to advance their own or their children's education and earning power.

Developing expanding/sunrise industries

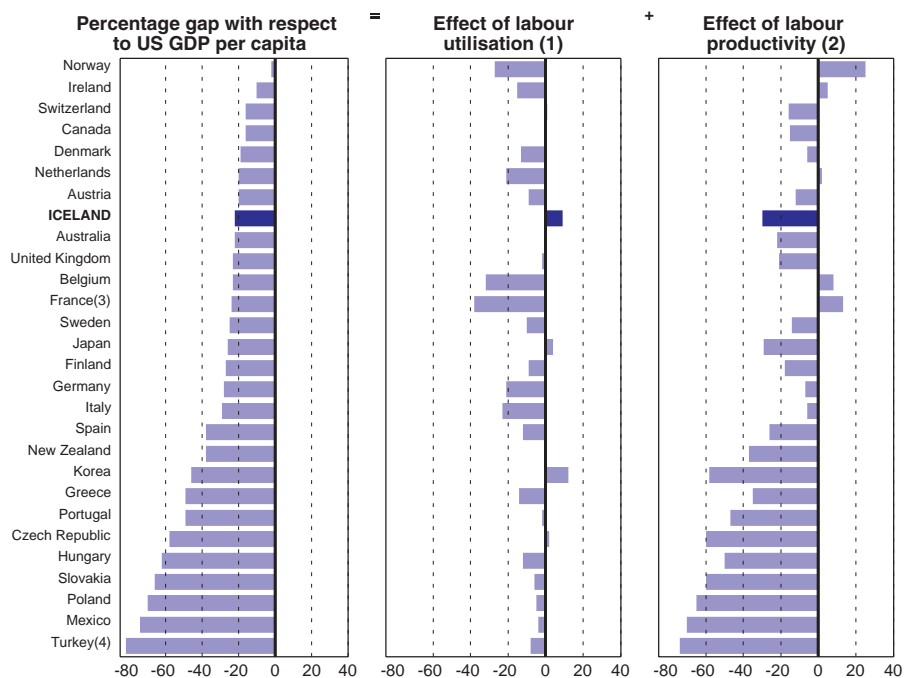
Although Iceland's relative GDP per capita is lower than in the 1980s (despite some pick-up in recent years), it is still among the highest in the OECD area (Figure 1.7). However, this reflects high labour utilisation rather than impressive productivity levels. The employment rate of the working-age population, in particular, is high by international comparison, reflecting the highest actual retirement age and the highest labour-force participation rate for male workers among OECD countries. Hours worked per year are also above the OECD benchmark. This compensates for the fact that the level of hourly productivity is below the EU and OECD averages. Comparable productivity data by sector are not available, but it is likely that Iceland's economic structure plays a role. It has the second largest primary sector in the OECD (after Turkey), and the share of community, social and personal services is also relatively high. The current large-scale investment projects in themselves should tend to increase productivity in the economy because

Figure 1.6. **Population that has attained at least upper secondary education**

Per cent, 2002

Source: OECD, *Education at a Glance*, 2004.Figure 1.7. **Breakdown of GDP per capita into its components, 2002**

Percentage point differences in PPP-based GDP per capita relative to United States



1. Based on the total hours worked per capita.

2. Based on GDP per hour worked.

3. Includes overseas departments.

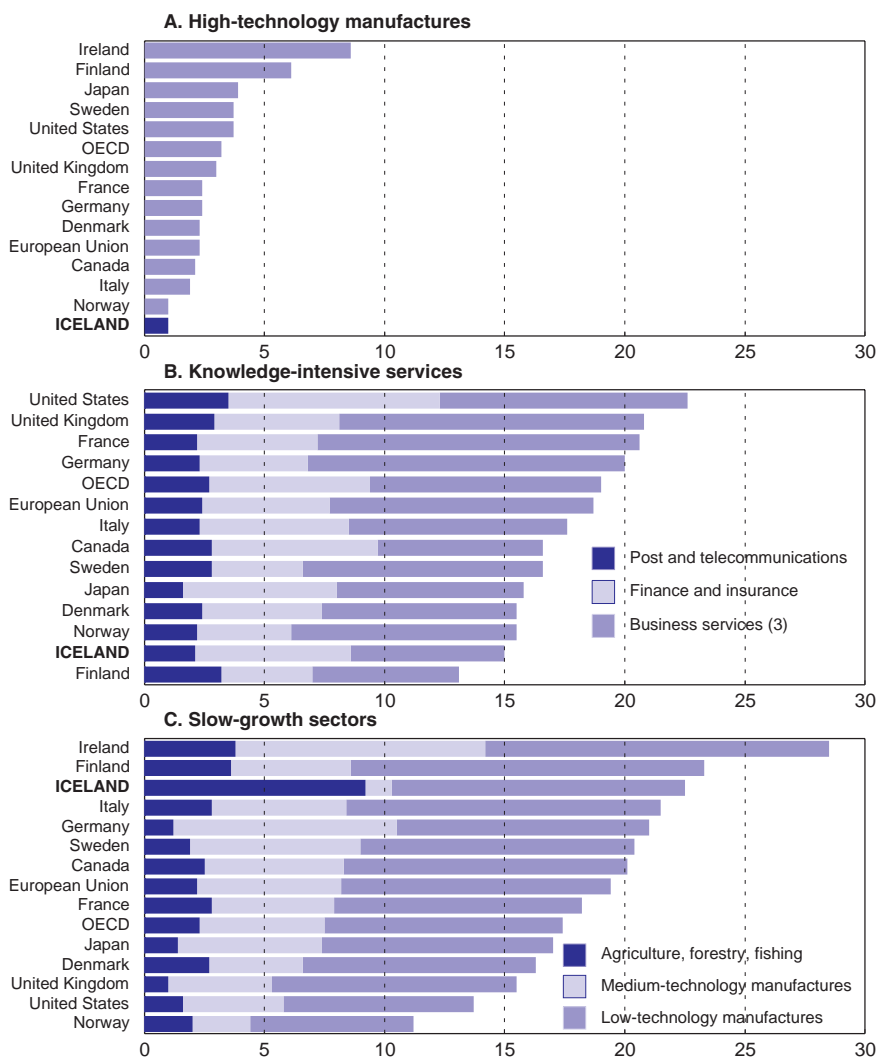
4. GDP for Turkey is based on the SNA 68.

Source: OECD Productivity database (www.oecd.org/statistics/productivity).

productivity in aluminium production can be expected to be above average (Ministry of Finance, 2003). But, as mentioned already, there is a risk that other high-value-added industries will be crowded out, although this is not evident so far.

To improve or at least maintain its level of prosperity relative to an OECD benchmark, Iceland has to diversify away from low-technology sectors towards faster growing high-technology manufacturing and knowledge-intensive services. Some progress has been made in this respect. A number of human-capital-intensive activities such as financial services, information technology and biotechnology have grown in importance. Advances have been made in high-technology fields, such as technical solutions for food processing,

Figure 1.8. **The sectoral composition of output**¹
Percentages, 2000²



1. Share of value added in total value added.

2. Or latest available year. 2001 for Iceland.

3. Business services include renting of machinery and equipment (71); computer-related services (72); research and development (73); and other services (74).

Source: Statistics Iceland and OECD Science, Technology and Industry: Scoreboard 2003, Tables D.6.1 and D.7.

fisheries equipment, medical equipment and pharmaceuticals. Some companies in these areas have established solid footholds in foreign markets. Still, the share of high-technology products in total merchandise exports has reached only about 7%, with the bulk concerning medicine and medical products. By 2001, the share of high-technology manufactures in total value added, at about 1%, was still very low by international comparison (Figure 1.8). The share of knowledge-intensive services was also far below the OECD average. Higher levels of educational attainment are crucial to further developing these activities.

How to get there: a demanding task for policy makers

The sheer size of the aluminium-related investment projects makes the emergence of some at least temporary tensions and imbalances inevitable. Indeed, some are already apparent: the external account has swung from broad balance to large deficit, and inflation has moved toward the upper tolerance limit established by the Central Bank. While appropriate macroeconomic policies (Chapter 2) are crucial to the maintenance of economic stability, structural policies (Chapter 3) also have a role to play if the benefits of the projects are to be reaped. Box 1.2 summarises the economy's strengths and vulnerabilities as background for the subsequent discussion of the challenges policymakers are facing in these areas.

Monetary policy will have to bear the brunt of achieving stabilisation. Since 2001, it has been guided by an inflation-targeting framework, which has already paid dividends, bringing both inflation and inflation expectations down from relatively high levels, although recent developments suggest that the framework's credibility is not yet established (Chapter 2). Under the new regime, the Central Bank's objective is an inflation rate of 2½ per cent, with a tolerance band of 1½ per cent on each side (*i.e.* a range of 1 to 4%). Policy is to be set in an accommodative mode so long as two-year-ahead inflation projections remain below the 2½ per cent target but reverse course when those projections move above that mark. This happened in mid-2004 and has led the authorities to raise interest rates significantly. While international experience would suggest that the authorities should implement the framework pragmatically, tolerating a temporary overshooting of the upper tolerance limit, in Iceland's case this could lead to a wage/price spiral, as current, multi-year wage agreements contain a clause that allows the re-opening of wage negotiations in late 2005 if a certain inflation threshold is exceeded. The size and timing of further interest increases, which will clearly be necessary, will depend on exchange-rate developments and policies pursued in other areas, fiscal policy in particular.

Macro stabilisation policies

A tight fiscal stance during the investment boom – and in particular cutbacks in public sector construction projects during this period – is essential as it would alleviate the burden on monetary policy to safeguard price stability without the need for excessively high interest rates. It would also be appropriate since monetary measures could have proportionally more effect on export industries than other areas of the economy, by raising the real exchange rate (Central Bank of Iceland, 2003). The government recognises this and is committed to fiscal restraint. However, while the authorities envisaged a return to budget balance, the public deficit widened significantly in 2003 despite stronger-than-expected economic growth, implying substantial fiscal stimulus in cyclically adjusted

Box 1.2. Strengths and vulnerabilities of the Icelandic economy

Strengths

Monetary policy framework. The inflation-targeting framework in place since 2001 has been successful in lowering inflation and inflation expectations and should be helpful in ensuring economic stability during the construction of the large-scale aluminium-related projects.

Low public debt. Fiscal consolidation in the 1990s has brought public debt down to low levels by international comparison, providing room for manoeuvre for demand management and making it easier to cope with longer-term pressures on public finances.

Flexible labour markets. There are few regulations on employment or working time: the governing provisions are found in labour contracts. Together with flexible real wages, this has contributed to a remarkably smooth labour-market adjustment to economic changes.

Entrepreneurial climate. Financial market liberalisation, widespread deregulation and privatisation have fostered greater entrepreneurship and innovation, contributing to the development of growth industries and better productivity performance in recent years.

Greater competition. Partly in response to Iceland's membership in the EEA, there has been a substantial shift to more pro-competitive policies – including new competition legislation and regulatory reform in several sectors – that has contributed to better economic performance over the past decade or so.

Vulnerabilities

Economic imbalances. The current account deficit is again approaching the high level of the late 1990s, when it reached 10% of GDP, and consumer price inflation is near the authorities' upper tolerance limit of 4%.

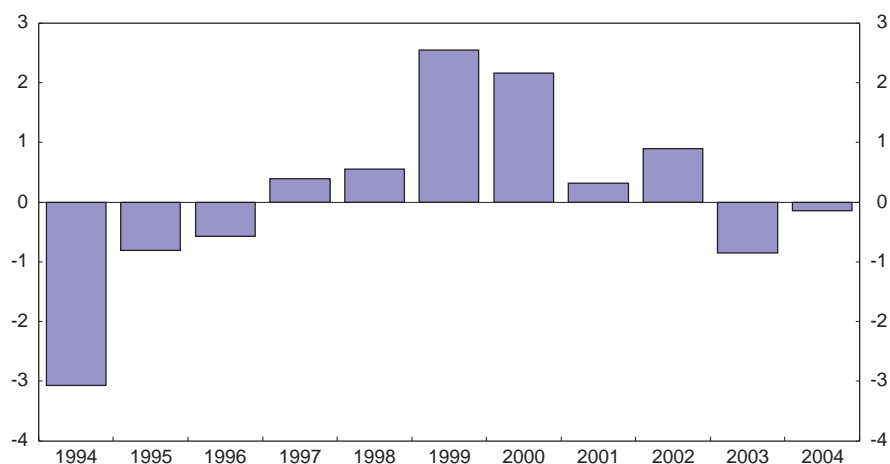
High private debt levels. Both households and corporations are highly indebted by international comparison, and Iceland's foreign debt is one of the highest in the world, involving the risk of sharp exchange-rate swings and reducing the room for policy slippages.

Possible bubble formation. There has been a massive rise in stock and property prices, which may be followed by a sharp downward correction, with all the attendant difficulties for households and enterprises.

Persistent fiscal slippage. With the exception of a brief period in the 1990s, when radical austerity policies eliminated the budget deficit, there has been a tendency towards spending overruns, which complicates the use of fiscal policy for economic stabilisation.

terms (Figure 1.9). This reflected to some extent the government's decision to boost public infrastructure investment and recurring spending overruns more generally (Chapter 2). At the same time, higher unemployment resulted in additional expenditure while tax receipts were negatively affected by ongoing adjustment to tax and pension reforms. The 2004 budget called for a return to budget surpluses, to be achieved by unprecedented spending restraint and, in particular, a sharp reduction in public investment in order to prevent overheating in the construction sector. The medium-term target for real public consumption growth not to exceed 2% per year looks set to be achieved while public construction is estimated to have declined by almost one-fifth in 2004. In addition, a second year of stronger-than-expected economic growth has underpinned tax revenues, compensating for higher-than-budgeted spending in some areas. In accordance with the

Figure 1.9. **Cyclically-adjusted general government balance**
Per cent of potential GDP



Source: OECD Economic Outlook 76 database.

newly elected government's 2003 Policy Statement, personal income taxes are being cut from 2005 onwards, thereby reducing the restrictive thrust of fiscal policy. Moreover, the recent relaxation of the public Housing Finance Fund's lending limits could undermine the central bank's liquidity management and lead to higher inflation, interest rates and exchange rates in the next few years.

Accompanying structural policies

The Icelandic labour market is flexible, with few regulations inhibiting adjustment to economic changes. Nonetheless, a greater supply of labour is needed to minimise labour-market and hence inflation pressures. This requires that the authorities facilitate the entry of foreign workers during the construction of the aluminium-related investment projects. Immigration policy has so far shown remarkable flexibility, as evidenced by the greater-than-expected inflow of foreign labour (Chapter 3). However, as noted, project-related labour demand has not yet peaked, and some tightening of labour-market conditions is likely. In a longer-term perspective, given the still low educational attainment of the working-age population, human-capital development will be important both to allow the employment of Icelanders in the expanded aluminium sector and to ensure the competitiveness and development of other industries, with a view to diversifying the economy toward fast growing high-value-added activities and maintaining prosperity in the long run.

As to sustainable development, the challenge will be to limit damage to the environment. The design of the power-plant investments has been changed following environmental impact assessments, but some of the potential problems (such as erosion) might be visible only later on (Chapter 3). One issue with respect to a further substantial expansion of the aluminium sector would be its compatibility with the current Kyoto Protocol limits for greenhouse gas emissions (notwithstanding a less stringent target for Iceland in view of its high share of renewable energy).

Although the level of GDP per hour remains relatively low, productivity growth in Iceland, which was sub-par in the preceding decade or so, has increased since the mid-1990s to rates

Table 1.2. **Annual growth in GDP per hour worked**

	Per cent	
	1985-93	1994-2003
Iceland	1.4	2.1
EU13 ¹	2.1	1.7
OECD	2.1	1.9

1. Excluding Austria and Luxembourg.

Source: OECD productivity database and OECD calculations.

above both the EU and OECD averages (Table 1.2). This improvement in productivity performance, which has partly reversed the previous decline in relative per capita GDP, reflects at least in part the substantial shift to more pro-competitive policies in Iceland that began in the early 1990s and gained momentum when the country became a member of the EEA in 1994. This shift manifested itself in a privatisation programme, which is now almost completed, the adoption of new competition legislation and wide-ranging regulatory reform in several sectors. Nonetheless, despite these changes, a number of challenges remain (Chapter 4). Although in principle competition legislation and policy covers the whole economy, *de facto* the agricultural sector is exempt from several aspects of the law. It remains one of the most heavily supported among OECD countries, imposing substantial welfare costs due to high food prices and by diverting scarce resources from more productive activities. New legislation for the electricity sector calls for structural separation in accordance with EU directives and designates generation and sales as competitive activities. Yet the current industry structure, in which all participants are publicly owned, raises high hurdles to market entry, and, as a result, competition is so far virtually non-existent. The situation is worsened by the fact that non-EEA residents are barred from the exploitation of renewable resources, an exception to a generally liberal environment regarding inward direct investment. Dealing with these issues would likely help raise Iceland's productivity level, which is still low by international comparison.

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Chapter 2

Macro policies to maintain economic balance

This chapter discusses the factors driving the current expansion, the economic outlook and the macroeconomic policy settings in place to maintain economic stability. The recovery from the mild 2002 recession has been stronger than expected as the stimulatory effect of the large-scale aluminium-related investment projects has been reinforced by buoyant household demand. With the economy projected to continue to grow at a rapid pace over the next two years, there is a clear risk that tensions and imbalances – in particular inflation pressures and a large external deficit – of a magnitude similar to those that caused the previous downturn will re-emerge. Monetary policy has been tightened since mid-2004, but the new inflation-targeting regime will be put to a severe test in the period ahead. Budgetary policy has also become restrictive, following a substantial loosening in 2003. However, with tax cuts scheduled for 2005-07, the fiscal stance may not be tight enough to prevent a recurrence of the overheating episode that took place a few years ago.

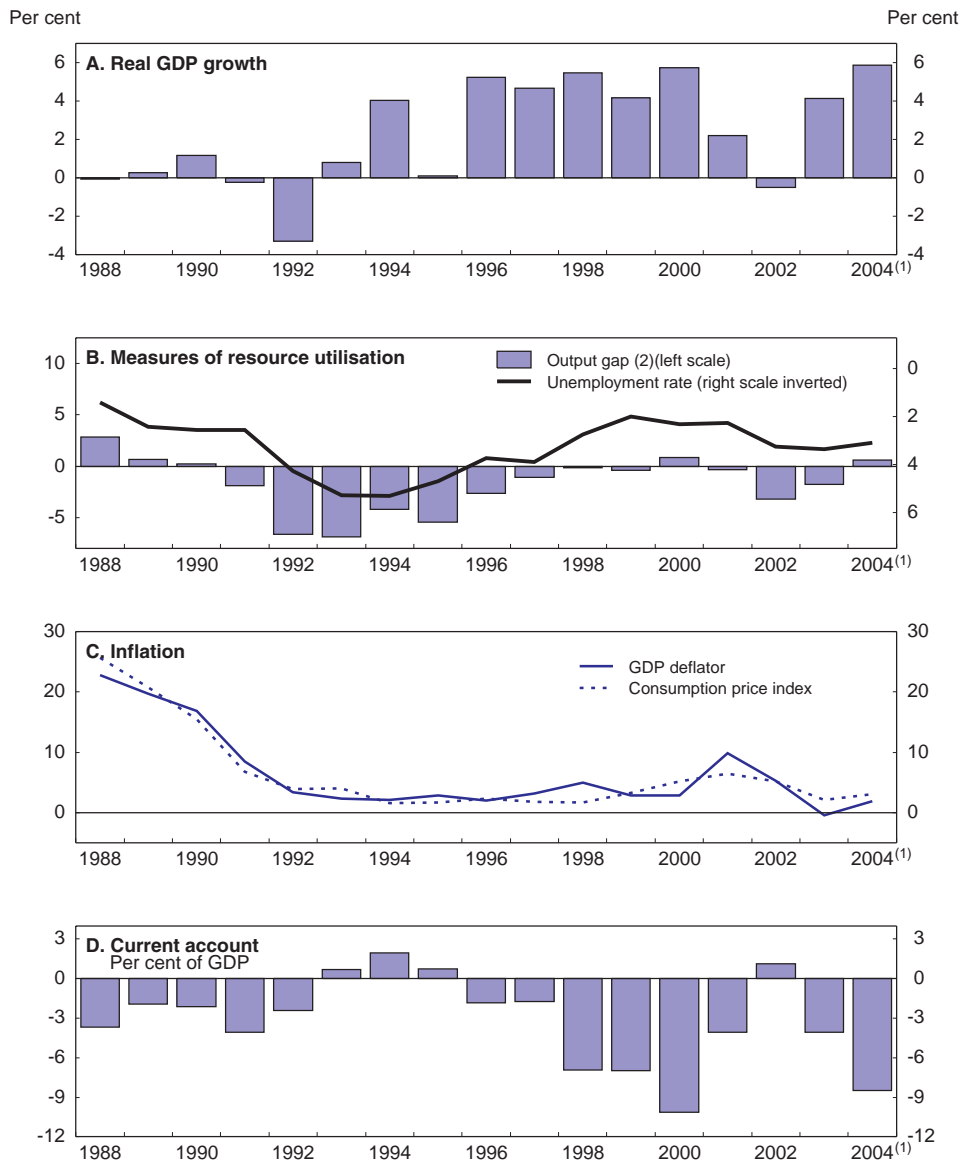
The recovery from the mild 2002 recession has been much more vigorous than expected, as the stimulatory effect of the aluminium-related mega-projects has been reinforced by buoyant household demand. As a result, the same internal and external imbalances that caused the downturn have re-emerged, even though the economy has not yet entered the most intensive phase of the investments. Spending on consumption and housing has been boosted by surging stock and real estate prices, but an easy policy stance in the early stage of the upswing also contributed. Recent months have seen aggressive monetary tightening, however, as the authorities realised that they had possibly fallen “behind the curve” and that fiscal policy would be less supportive of monetary management in its stabilisation efforts than hoped for. Yet after a significant budget deficit in 2003, the fiscal stance has become restrictive, too. Nevertheless, the envisaged budget surpluses in the next two years (below 1½ per cent of GDP) are only about half those recorded during the overheating episode of the late 1990s, with tax cuts over 2005-07 bringing fiscal tightening nearly to a halt just when the construction projects peak. A better policy mix would be desirable, given the risk of a sharp retrenchment in growth so as to unwind accumulated internal and external disequilibria.

The economic situation and outlook

Current economic developments resemble in many respects those in the previous economic cycle (Figure 2.1). On that occasion, after a period of sluggish growth from the late 1980s to the mid-1990s, economic activity picked up strongly, assisted by a shift in policies toward achieving financial stability and market liberalisation. The expansion in the second half of the 1990s was initially investment-led, with renewed interest in the development of power-intensive industries, but soon became driven by booming household demand. While signs of overheating were increasingly apparent, interest-rate hikes and hesitant fiscal tightening failed to cool down the economy in time to ensure a soft landing. In the event, the currency depreciated sharply in response to a huge external deficit, and domestic demand contracted substantially after several years of rapidly accumulating corporate and household debt. Although further reforms, notably the adoption of an inflation targeting framework, mean that Iceland is now better prepared to face similar challenges, history could repeat itself if the lessons of the last upswing are not properly applied.

Recent developments

Following the downturn in the early part of the current decade, real GDP rebounded briskly in 2003 and gathered considerable momentum in 2004 (Table 2.1). The recovery initially relied solely on domestic sources, with exports contributing significantly to growth only in its second year (see below). With an expansion of around 8%, domestic demand in 2003 already recovered all the ground lost during its contraction over the preceding two years, and this rapid pace has been maintained since then. Business investment led the way, reflecting the beginning of the construction work on the Karahnjúkar power plant but

Figure 2.1. **Aggregate economic indicators**

1. OECD projection.

2. Percentage difference between output and estimated potential output.

Source: OECD Economic Outlook 76 database.

also a partly-related improvement in confidence more generally. At the same time, the government launched a series of public works programmes in the run-up to the May 2003 general elections, thereby (temporarily) interrupting the decline in public investment, despite continued retrenchment at the municipal level. Historically low interest rates, the positive effect of falling inflation on real incomes and house price increases at double-digit rates rekindled residential investment, which had continued to expand during the recession. These factors combined with a surging equity market (which has doubled in value over the past year) also underpinned a consumption boom, to a large extent financed by increased borrowing in an increasingly competitive loan market.

Table 2.1. **Demand, output and prices**

Per cent change in volume terms, 1990 prices

	Average 1988-96	Average 1997-2003	2000	2001	2002	2003	2004 ¹
Private consumption	0.2	3.7	4.0	-3.8	-1.0	6.6	6.7
Government consumption	2.4	3.9	4.4	3.1	4.2	3.3	2.2
Gross fixed investment	-0.5	5.3	14.8	-7.6	-15.1	17.6	15.7
Residential	-1.1	8.6	15.2	17.8	5.2	13.3	n.a.
Business	0.0	4.6	14.9	-15.1	-22.6	25.9	n.a.
Government	-1.5	3.7	14.0	-1.7	-12.3	-0.4	n.a.
Final domestic demand	0.5	4.1	6.4	-3.4	-3.2	8.1	7.7
Change in stockbuilding ²	-0.1	-0.1	0.5	-0.9	0.4	-0.1	-0.1
Total domestic demand	0.4	4.0	6.9	-4.2	-2.8	8.0	7.6
Exports of goods and services	2.2	3.8	5.0	7.7	3.6	0.3	7.5
Imports of goods and services	0.5	5.1	8.0	-9.0	-2.5	9.7	11.7
Change in foreign balance ²	0.6	-0.7	-1.6	6.7	2.3	-3.6	-1.7
GDP	1.0	3.5	5.7	2.2	-0.5	4.3	5.9
GDP deflator	7.0	4.2	2.8	9.9	5.3	-0.3	1.7
Private consumption deflator	7.2	3.5	4.4	8.9	3.7	0.7	2.2

1. First three quarters of 2004 over first three quarters of 2003.

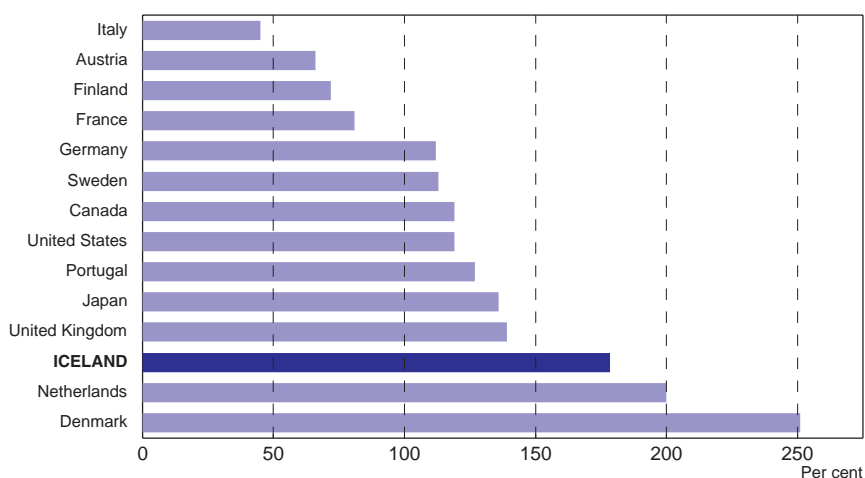
2. As a percentage of GDP in the previous period.

Source: Statistics Iceland and OECD calculations.

Although it has shown continuous increases over almost a quarter of a century, household debt rose exceptionally fast in 2003, reaching around 180% of disposable income at the end of the year. This ratio is one of the highest among OECD countries (Figure 2.2). Its strong rise has meant that household debt service is approaching 40% of disposable income. The high level of owner-occupancy explains Iceland's high debt ratio to some extent: more than 80% of housing is owner-occupied, twice the rate in Germany, for example. This implies that households own considerable assets to sustain their debt. Most

Figure 2.2. **Household debt in selected countries**

Percentage of disposable income, 2003 or latest available year



Source: Central Bank of Iceland, Monetary Bulletin 2004/3.

household equity is held within pension funds, however, and normally cannot be used to pay off arrears. Nonetheless, it is a guarantee for future income flows and allows a higher level of indebtedness, especially for those approaching retirement age. The countries where households are most heavily indebted all have strong pension fund systems. The main risk entailed by aggregate debt accumulation is probably not that large-scale household arrears could end up as loan losses in the financial system but that they increase volatility in the economy (Central Bank, 2004a). Heavy losses are more commonly caused by lending to businesses.¹ However, although a large part of household debt has a very long maturity and is mostly secured with good collateral, according to unofficial sources, personal loans tied to the exchange rate have tripled over the past year, reaching about 10% of all such loans. Hence, if the currency weakens significantly or should real household income drop due to a rise in unemployment or inflation, high debt levels could amplify the resulting contraction in demand.

Household debt accumulation slowed in the first half of 2004, but it has rebounded since the summer, with year-on-year growth back to 14% at the end of September, and innovations in financial markets and proposed changes in housing finance legislation seem likely to stimulate it even further. In particular, the private banks and some pension funds recently began offering favourable housing loans which are not conditional on the purchase of housing, and the government intends to raise the mortgage ceiling for ordinary loans offered by the Housing Financing Fund (see below for more details). These developments are facilitating households' ability to finance consumption by mortgage equity withdrawal. They also raise the risk of future negative net housing equity for recent purchases, given the potential volatility of house prices.

While the surge in activity appears to have eliminated the output gap that opened up in 2001, it is not clear whether labour market slack has already disappeared. Unemployment seems to have fallen little from its cyclical peak of just under 3½ per cent in 2003, remaining above the OECD estimate of the natural rate of 2¾ per cent. Seasonally adjusted registered unemployment has edged up again after an initial decline (Table 2.2). No seasonally adjusted data are available from the quarterly labour market survey since it was introduced only in 2003, but the raw data also show no clear downward trend in unemployment. Available employment data show an extreme case of a "jobless recovery".

Table 2.2. **Labour market indicators**

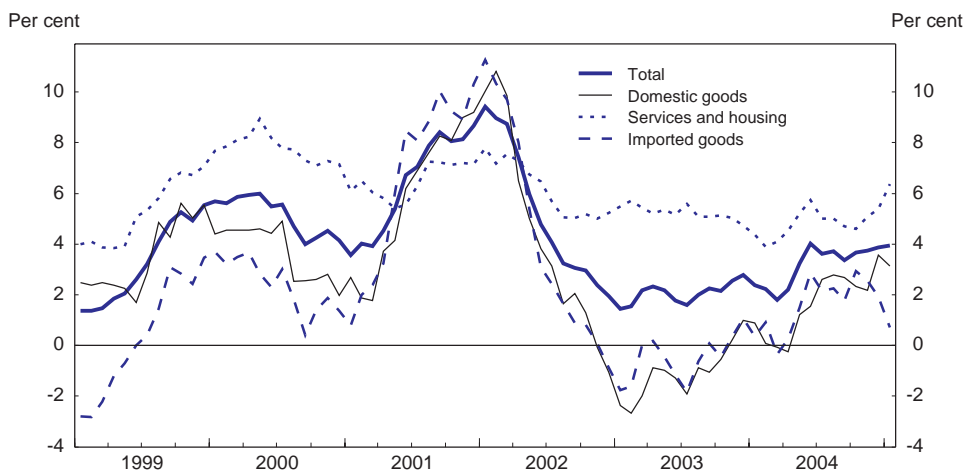
	2003	2004 Q1	2004 Q2	2004 Q3
Unemployment rate				
Registered	3.4	3.6	3.3	2.8
S.a.	..	2.9	3.1	3.4
Survey-based	3.4	3.1	4.0	2.6
Employment				
Survey-based	156 900	152 300	158 000	158 100
Y-o-y % change	..	0.3	-1.1	-2.9
Tax-based	155 680			
Y-o-y % change	-0.2			
Average working hours				
Survey-based	41.8	40.9	42.2	43.7
Y-o-y % change	..	0.0	0.7	1.9

Source: Statistics Iceland.

According to the survey, employment fell significantly below the levels recorded a year earlier in the first three quarters of 2004. At the same time, working hours per employee rose markedly compared to the levels reported 12 months earlier, albeit not sufficiently to offset the drop in the number of people employed. Although the investment projects are capital intensive, these data are difficult to reconcile with output developments (real GDP expanded by 7½ per cent in the year to the third quarter of 2004) and surging job offers (vacancies registered with employment agencies were up by more than 40% year on year over the first ten months of 2004). One explanation of their surprising weakness is that the survey does not account for the increasing number of foreigners working on the large-scale investment projects. Observers have therefore relied on information from tax collection data to assess labour-market conditions. Such information points to an increase in employment in 2004, following a slight decline in the preceding year. Nonetheless, productivity gains appear to have remained robust, although it is difficult to gauge their precise extent.

With moderating nominal wage increases, healthy productivity growth dampening unit labour costs and a strong exchange rate weighing on import prices, inflation remained benign until spring 2004 (Figure 2.3). In the middle of the year, however, the 12-month increase in consumer prices suddenly doubled to just below 4% and has been running in the 3½ to 4% range since. The surge in inflation was due to both cost and demand pressures. The former reflected mainly the rise in oil prices, which account for the bulk of imported inflation. Higher fuel prices pushed up prices for domestic goods, which have closely followed import price developments in recent years. Demand pressures have been felt in the housing market in particular. House prices in the Reykjavik area have been growing at annual rates of 10 to 15% since 2003. The 12-month increase in the housing component of the consumer price index approached 10% in mid-2004 and, after some subsequent slowdown associated with decreasing mortgage interest rates, exceeded this mark most recently. It now accounts for more than one-half of overall inflation while the

Figure 2.3. **Consumer prices**
12-month per cent change



Source: Statistics Iceland and OECD calculations.

contribution of imported goods prices has declined markedly due to a renewed strengthening in the exchange rate.

Stronger growth than abroad and a marked deterioration in Iceland's terms of trade have entailed the re-emergence of a sizeable current account deficit after a temporary surplus during the 2002 recession (Table 2.3). The sharp turnaround in the external balance was amplified by developments in the marine products sector, where both the fish catch and prices declined in the early stages of the recovery, depressing export revenues just when imports were surging. Although increased fishing quotas and rising sales abroad of pharmaceuticals and other manufactured goods lifted exports in 2004, this has not sufficed to arrest the widening in the trade deficit because the torrid growth of imports of consumer and investment goods has shown little sign of tailing off. While the merchandise trade balance accounts for the major part of the deterioration in the current account, the services balance has also moved back into deficit. Services exports have been boosted by a strong performance from the tourism sector, but travel expenditure by Icelanders abroad has also increased considerably. Indeed, a growing share of Icelandic household spending takes place overseas. The traditional deficit on the investment income balance has been curbed by lower debt service costs due to the strength of the krona and lower market interest rates abroad, as well as by the strong rise in reinvested earnings from companies located overseas.²

Table 2.3. **Current account**
Per cent of GDP

	1999	2000	2001	2002	2003	2004 ¹
Trade balance	-3.7	-5.7	-0.8	1.8	-2.0	-4.0
Merchandise exports f.o.b.	23.9	22.5	26.4	26.2	22.5	23.3
<i>of which:</i>						
Marine products	16.0	14.3	16.4	16.5	14.0	14.0
Aluminium and ferro-silicon	4.2	4.8	6.0	5.6	5.0	5.1
Other industrial products	1.9	2.3	2.6	1.9	2.7	3.2
Merchandise imports f.o.b.	27.5	28.3	27.2	24.4	24.5	27.3
<i>of which:</i>						
Consumption goods ²	9.6	9.0	8.2	7.6	8.2	8.8
Investment goods	6.8	6.7	6.0	5.0	5.7	6.2
Non-factor services	-1.1	-1.4	0.2	0.2	-1.0	-0.6
Exports	11.0	12.4	14.3	13.4	13.0	14.3
Imports	12.2	13.9	14.1	13.2	13.9	14.9
Factor income, net	-2.1	-2.9	-3.4	-0.8	-2.0	-0.9
Transfers net	-0.1	-0.1	-0.1	0.2	-0.1	-0.1
Current balance	-7.0	-10.1	-4.0	1.4	-5.0	-5.7
<i>Memorandum items:</i>						
International investment position	-49.4	-63.7	-75.7	-79.0	-69.5	-72.6
Net external debt ³	68.6	91.2	101.4	101.7	101.2	117.5
External debt position ⁴	82.5	102.5	120.2	123.7	143.7	172.0
<i>of which:</i> Long-term debt	67.1	83.6	97.5	94.7	109.2	135.8

1. First three quarters at annual rate, except first ten months at annual rate for the components of merchandise exports.

2. Excluding food and beverages.

3. International investment position excluding net investment in equities.

4. Total debt (total liabilities minus equities).

Source: Central Bank of Iceland, *Monetary Bulletin and Economic Indicators*.

Gross external debt has continued to rise rapidly, reaching 172% of GDP at the end of September 2004. The net external debt position (excluding equities), which has been in excess of 100% of GDP since the beginning of the decade, has tended to expand more slowly but has jumped recently largely due to increased foreign debt of the banking sector. By contrast, Iceland's negative international

investment position has actually improved since end-2002, despite the rising current account deficit, owing to exchange rate appreciation and the increased market value of foreign portfolio investments. However, at above 70% of GDP, it still compares unfavourably with most other advanced economies. Credit rating agencies have expressed concern for some while and highlighted the need for Icelandic banks and companies to lengthen their foreign debt maturity structure in order to lessen the risk to the economy in the event of an external shock, and recent developments show a move in this direction.

Prospects

After approaching 6% in 2004, economic growth is projected to average 5% in the next two years, with a marked deceleration towards the end of this period (Table 2.4). This reflects a gradual cooling of household demand, as the assumed substantial rise in interest rates begins to bite, as well as a more pronounced slowdown in investment activity when the mega-projects begin to gear down, although the retrenchment in public investment is likely to come to an end by then. On the other hand, export growth is expected to remain robust, given the projected solid expansion of Iceland's markets abroad and the likelihood of a continued moderate rise in marine exports. With a significant positive output gap projected, inflation is likely to temporarily overshoot 4%, on the assumption of constant exchange rates at early November levels. The current account deficit could approach 12%

Table 2.4. **Short-term projections**
Percentage change, volumes (1990 prices)

	2004	2005	2006
Private consumption	7.3	4.8	4.6
Government consumption	1.9	2.4	2.2
Gross fixed capital formation	16.9	17.7	10.0
Final domestic demand	8.2	7.3	5.5
Change in stockbuilding ¹	0.3	0.0	0.0
Total domestic demand	8.5	7.4	5.5
Exports of goods and services	6.3	5.1	6.8
Imports of goods and services	12.5	11.0	8.1
Change in foreign balance ¹	-2.5	-2.6	-1.0
GDP	5.9	5.2	4.8
GDP implicit price deflator	1.9	3.6	3.2
Consumer price index	3.1	3.9	3.9
Unemployment rate (in per cent)	3.1	2.9	2.6
Current balance ²	-8.5	-11.0	-11.6
General government financial balance ²	0.1	1.2	1.0
Short-term interest rate	6.2	8.7	8.8
Long-term interest rate	7.5	9.0	9.0

1. As a percentage of GDP in the previous year.

2. As a percentage of GDP.

Source: OECD Economic Outlook 76.

of GDP, more than seen even at the end of the last economic boom, even though the deterioration in the real foreign balance is projected to diminish and that in Iceland's terms of trade to come to an end.

Further oil price increases pose a risk to the economic outlook. However, less than a quarter of energy used in Iceland comes from oil (Ministry of Finance, 2004). While higher oil prices have a significant effect on profitability in the fisheries, their estimated impact on output is much smaller than in other countries, given the less widespread use of hydrocarbons for heating and electricity production (Central Bank of Iceland, 2004b). The major risk to the outlook is that budget restraint will be insufficient to prevent severe overheating and the development of a wage/price spiral. According to OECD estimates, fiscal tightening – as measured by the change in the cyclically adjusted primary balance – will decrease to ½ percentage point of GDP in 2005 and go into reverse thereafter. The private-sector multi-year wage settlements concluded in March 2004 contain trigger clauses, whereby they can be revoked (both in late 2005 and again in late 2006) if the premises on which they are based fail to hold. This could happen if inflation deviates from the Central Bank's inflation target (although the required deviation is confidential) or other settlements do not entail broadly the same wage increases (the risk being higher wage increases as the result of current labour conflicts in the public sector, in particular the teachers strike). Such developments would necessitate even higher interest rates, could amplify exchange-rate movements and might ultimately entail another hard landing of the economy.

Monetary management

Guarding against a hard landing will require appropriate macroeconomic policies with monetary policy likely to be severely tested, even though a new policy framework is now in place. Experience with inflation targeting since its inception in 2001 has been largely positive, with 12-month consumer price increases remaining within the Central Bank's tolerance limits since mid-2002. While some modifications to policy implementation might be useful, the major challenge will be to establish the credibility of the framework by a firm response to demand pressures. This is central to anchoring long-term inflation expectations and avoiding the wage/price spirals that have haunted Iceland in the past.

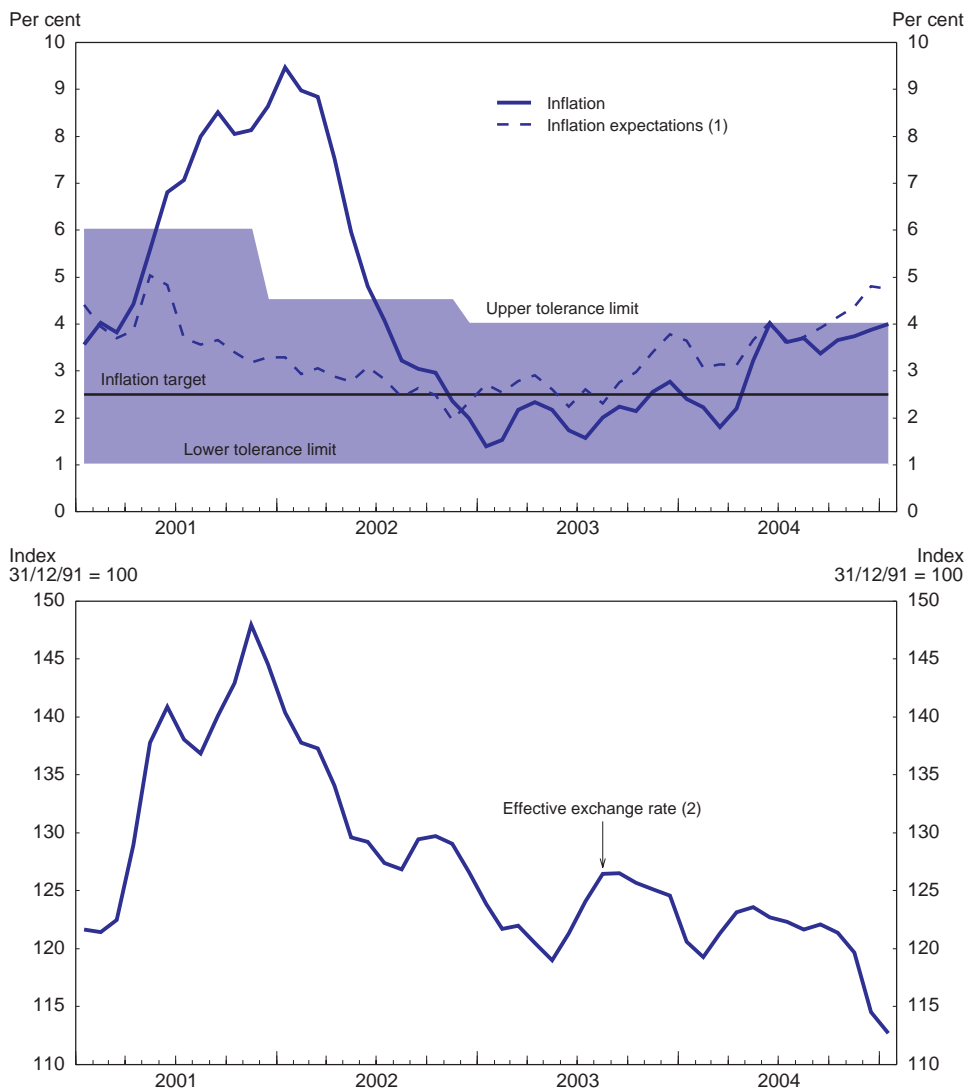
Experience with the new policy framework

Although monetary policy has been oriented towards maintaining low inflation since the early 1990s, the nominal anchor through early 2001 was an exchange-rate target. The adoption of inflation targeting reflected the recognition of the fact that, in an overheating economy with a surging external deficit, maintenance of a nominal exchange-rate target was both incompatible with internal balance and contributing to the mounting burden of foreign-currency-denominated debt (Petursson, 2000). The Central Bank of Iceland's main objective is price stability, defined as a 12-month rise in the consumer price index of 2½ per cent. Its aim is to keep the rate of inflation on average as close to the target as possible. Deviations from the target by more than 1½ percentage points in either direction – before 2003 the band had been wider – oblige the Bank to present the government with a report, which would be made public, explaining the reasons and the Bank's policy response. The Bank's main instrument for attaining the target is the interest rate on its repurchase agreements with credit institutions, but it can also buy or sell currency in the inter-bank market with the aim of influencing the exchange rate and thereby domestic

inflation.³ The inflation target takes priority over other economic objectives, such as achieving external balance or full employment, which are to be pursued only if they do not conflict with the achievement of price stability.

After an initial burst associated with currency depreciation, inflation receded swiftly in 2002, reflecting high real interest rates helped by recessionary conditions and a renewed strengthening of the exchange rate. Monetary policy then succeeded in stabilising inflation at close to its target level until its recent up-tick (Figure 2.4). On average, other countries adopting an inflation-targeting regime (especially industrial countries) have seen a faster convergence towards their targets (Petursson, 2004). Such countries have in general experienced both lower inflation levels and fluctuations than before, as well as reduced

Figure 2.4. **CPI inflation**



1. Inflation expectations defined as difference between nominal and indexed five-year Treasury bond yields.
2. Increase means depreciation.

Source: Statistics Iceland and Central Bank.

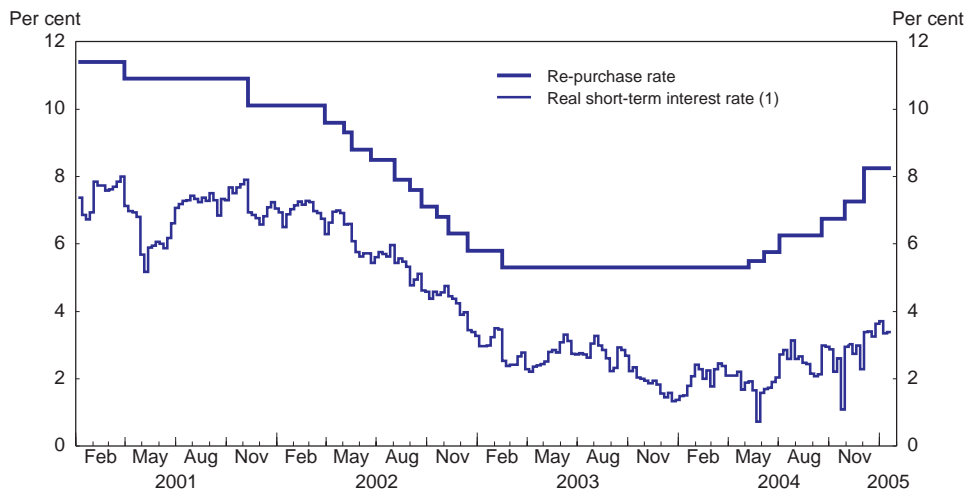
growth variability. This is not yet manifest in Iceland. However, as noted, inflation performance had already improved considerably in the 1990s, and hence the new regime should rather be viewed as a method to institutionalise a previous move towards price stability. Moreover, the time since the introduction of the new framework is too short to draw firm conclusions. A crucial test of its success will be whether it can definitively anchor inflation expectations. The shift to inflation targeting and greater independence for the Central Bank did not immediately confer credibility on the new regime. Inflation expectations initially rose, apparently driven by exchange rate weakness. But they remained below the 6% upper tolerance limit temporarily set for the first year of the regime and started to decline as the Bank maintained a restrictive level of real interest rates and the exchange-rate turned the corner. By late 2002, inflation expectations had fallen to around 2½ per cent, the official target, where they remained until mid-2003. Yet, since then, they have drifted upwards again, with both short- and medium-term expectations (derived from the difference between nominal and indexed bond yields) rising beyond 4%, the Bank's upper tolerance limit. Apparently, agents are not convinced that the Central Bank will be able or willing to achieve inflation outcomes close to the 2½ per cent target.

By international comparison, Iceland's inflation target is relatively high and the tolerance band comparatively wide. This seems to be appropriate, given that external shocks can have significant exchange-rate effects that lead to sizeable temporary inflation fluctuations. While others, notably the first inflation-targeting country (New Zealand), have de-emphasised the mid-point, this appears to be premature so long as inflation expectations are not firmly anchored. Iceland is the only inflation targeter that does not schedule regular policy meetings and announce decisions at such times. Without ruling out such an approach in the future, the authorities point out that policy decisions are explained in the Central Bank's Monetary Bulletin. This is a quarterly publication, though, and transparency would be enhanced by holding more frequent pre-announced rate-setting meetings and publishing their minutes, even with a lag. Even a decision to leave interest rates unchanged can be informative, since it is driven by the outlook and has important implications for prices and activity.

Maintaining price stability in the face of strong growth fluctuations

As inflation came down, the Central Bank cut the policy rate gradually through February 2003, when it was set at 5.3%, the lowest level since the mid-1990s. Subsequently monetary policy remained on hold for more than a year. Although the authorities indicated that the large-scale investment projects over the next few years implied that monetary decisions needed to take into account a longer horizon than usual and that it would thus be appropriate for the Central Bank to raise its policy rate even with current inflation below the official target, they hesitated in the light of benign inflation outcomes that bettered expectations. Moreover, it was not before spring 2004 that the strength of the economic recovery in the year before became clear, implying that the output gap would be closed earlier than expected. With increasing signs of inflation pressures and revised projections indicating that inflation would not only surge in the short run but exceed the official target over the entire two-year forecast horizon, the Central Bank finally began to lift its policy rate in May (Figure 2.5).

At first, interest rates were raised very gradually, as the authorities considered that, although core inflation had also increased, a considerable part of the rise in overall inflation was attributable to (temporarily) surging oil and commodity prices in world

Figure 2.5. **Central bank's policy rate**

1. Defined as re-purchase rate minus inflation expectations from five-year Treasury bonds.

Source: Central Bank of Iceland.

markets, which did not warrant the same response. Subsequently, however, the Bank moved to boost the policy rate more aggressively, at first in 50 basis-point steps and then by 100 basis points in early December. This was motivated by several developments. First, rising inflation expectations following unexpectedly fast demand growth limited the rise in *real* interest rates. Second, developments in financial markets, which brought about a considerable reduction in mortgage interest rates, counteracted the Central Bank's tightening moves (see Box 2.1). Finally, the Bank considered that a tighter fiscal stance would have been desirable in the budget proposal for 2005 and the associated medium-term fiscal programme (see below), so that a strong monetary policy response was unavoidable. Altogether, the policy interest rate has been raised by almost 3 percentage points so far, but further hikes will be needed to bring both inflation and inflation expectations back to the target over the medium term. Real official rates remain at levels that are probably only mildly restrictive and only half of what was seen leading up to the last overheating episode. Although increases in inflation arising from temporary shocks such as oil price surges call for a measured monetary policy reaction, focused on ensuring that second-round effects do not ensue, mounting domestic demand pressures require a persistently vigorous response.⁴

The fiscal stance

Iceland's fiscal position is sound. Fiscal consolidation in the 1990s re-established broad budget balance. As a result, the public-debt-to-GDP ratio has declined to low levels by international comparison, and Iceland is well prepared to face demographic pressures, which are relatively benign, the more so since the pension system (based on compulsory fully-funded defined-contribution private schemes) limits their impact on government budgets. No recent generational accounts are available, but earlier studies also concluded that Iceland's public finances were in good shape (Benediktsson et al., 2000). However, rapid expenditure growth associated with deviations from budgeted levels was only temporarily halted in the mid-1990s so that public spending approached half of GDP subsequently,

Box 2.1. Housing finance

Until recently, the vast majority of residential mortgage lending was done by the state-owned Housing Financing Fund (HFF), whereas commercial banks were largely absent from the mortgage market. The situation has changed dramatically since August 2004, when the banks began offering primary mortgages. Their decision to enter the market and offer mortgage loans at interest rates below the HFF rate (which was subsequently adjusted) seems to have been a consequence of changes in the HFF's refinancing operations, allowing them to exploit a widening of the HFF's margins (and possibly their access to capital at lower cost). Following the government's notification to the EFTA Surveillance Authority (ESA) of its planned changes to the operating conditions for the HFF, the Bankers' and Securities Dealers' Association of Iceland lodged a complaint with the ESA, alleging that the changes violated EEA rules on state aid. In early August, the ESA ruled that the changes, which had taken effect at the beginning of July, were permitted under the provisions of the EEA agreement. Two weeks later, the first commercial bank decided to offer mortgage loans at a rate below that offered at the time by the HFF, and within a day the other two major banks followed. The commercial banks extended about ISK 11 billion in mortgage loans in September and about ISK 20 billion more in October. This compares with the total volume of new housing loans in 2003 of ISK 50 billion and the HFF's volume of housing loans outstanding at the end of 2002 of ISK 388 billion. It appears that so far a large proportion of these loans has been used by households to refinance existing mortgages, judging from pre-payments of HFF mortgages relative to mortgage lending by the commercial banks. It is uncertain how much of the interest saving will be used for spending (renovations, non-housing consumption) and how much to build assets.

One key difference between the HFF's mortgage loans and those of the commercial banks is that the HFF extends loans only to a maximum amount, whereas there is no ceiling on commercial banks' mortgage loans. This amount was ISK 11½ million (\$173 000 at the current exchange rate) until the end of 2004, having been raised over the past year from ISK 8 million for the secondary market and ISK 9 million for new housing. With house prices in the Reykjavik area rising rapidly in recent years, many single-family units are more than twice as expensive as the HFF's current ceiling. The HFF also applies a maximum loan-to-value (LTV) ratio, which was 70% of the purchase price for first-time home buyers and 65% for other purchases, except in the case of social housing where the maximum LTV ratio was 90%. By contrast, the commercial banks initially lent up to 80% of the purchase price, a ratio that was recently raised to 100%. When the government notified the ESA about its intended changes to the operating conditions of the HFF, it also asked for approval to increase the maximum LTV ratio on all HFF loans to 90%, which was given by the ESA. This change was implemented at the beginning of 2005, together with an increase in the maximum loan amount to ISK 15 billion. These moves are likely to exacerbate the already heavy demand pressure on the housing market in the Reykjavik area and would thus further complicate the Central Bank's efforts to prevent the economy from overheating. Given the prospect that commercial banks will capture a large share of the residential mortgage market, public discussions are taking place on how to re-define the HFF's role, possibly as a mortgage lender to low-income households and those in remote locations who are likely to be underserved by commercial banks.

meaning that both the use of fiscal policy for stabilisation purposes is impaired and the tax burden has moved above the OECD average. This creates a dilemma because tax reductions in Iceland are in principle desirable and affordable in the long run but at variance with demand management requirements in the next few years.

Reinforcing expenditure control

Despite significant reforms since the early 1990s – notably the introduction of “frame budgeting” (that is, setting expenditure ceilings) – recurrent overruns of spending targets have remained a problem. Although the “frame method” has improved planning and decision-making during the budget formulation phase, its effectiveness has been undermined by several factors. *First*, control over expenditure targets has been eroded by the fact that expenditure targets have tended to be modified during the parliamentary phase of the budget process, with the bulk of the changes at this stage being initiated by the government itself. During 1998-2003, voted central government expenditure surpassed the level of initial budget proposals by about 2% on average. This problem has been addressed by changes to Parliamentary procedures and, as a result, this gap was less than 1% in 2004-2005. *Second*, the execution of the voted budget has compounded this loosening. During 1998-2003, central government spending exceeded budgeted levels by around 11% on average, with no clear improvement over time (Table 2.5). If estimated pension liabilities and lost tax claims, items that arguably are not relevant to budget implementation, are excluded, this percentage is halved but still substantial. In a recent report, the National Audit Office was highly critical of budget implementation, noting that from 1999 to 2002 revenues bettered budget forecasts cumulatively by ISK 38 billion (representing 5% of GDP

Table 2.5. **Proposed, voted and realised central government spending**

	ISK billion					Per cent	
	Budget bill	Voted budget	Outcome	Difference	Difference	Budget bill	Voted budget
	(A)	(B)	(C)	B-A	C-B	(A)	(B)
A. Accruals basis							
1998	163.0	165.7	189.6	2.7	24.0	1.7	14.5
1999	179.2	182.4	199.0	3.2	16.6	1.8	9.1
2000	190.0	193.2	229.0	3.2	35.9	1.7	18.6
2001	210.0	219.2	228.7	9.2	9.5	4.4	4.4
2002	239.3	239.4	267.3	0.1	27.6	0.0	11.7
2003	253.3	260.1 ¹	280.0	6.8	20.6 ²	2.7	7.9 ³
2004	273.0	275.3	284.6 ⁴	2.3	–	0.8	–
B. Accruals basis, excluding pension liabilities and lost tax claims							
1998	155.3	159.3	164.1	4.0	4.8	2.6	3.0
1999	167.4	170.6	181.6	3.2	11.0	1.9	6.4
2000	179.4	183.1	192.8	3.7	9.7	2.1	5.3
2001	199.5	208.6	220.2	9.2	11.6	4.6	5.5
2002	229.1	230.6	241.0	1.5	10.4	0.7	4.5
2003	244.5	251.6	265.7	7.1	14.1	2.9	5.6
2004	264.3	266.6	–	2.3	–	0.9	–

1. 264.8 including March supplementary budget.

2. 15.2 from March supplementary budget.

3. 5.7 from March supplementary budget.

4. Estimate.

Source: Ministry of Finance.

in 2002), since GDP growth was much higher than assumed, but that more than double that amount was used for extra spending (Ríkisendurskodun, 2004). At year-end 2003, 108 of the 530 central government budget line items had accumulated a deficit overstepping the 4% reference limit, which is stipulated by the Regulation on the Implementation of the Government Budget. Although this is a lower proportion than in the late 1990s, the Office observed that many ministries and public bodies have even far outspent their budgets year after year, a practice it found unacceptable, as it both violates existing regulations and undermines stated government objectives. The government is aiming to reduce budget overruns by changes to the mentioned Regulation. An issue that needs to be addressed is the fact that public managers can withdraw funds from the Treasury in excess of budgets without any penalty and have insufficient incentives to keep expenditures within budgeted amounts.

Developments in 2003, an election year, are a vivid and extreme example of these problems. Not only were expenditures raised significantly in the voted budget as compared to the budget proposal, but they were then increased in a supplementary budget in March and rose further due to spending overruns. Altogether, the level of central government expenditure in 2003 outstripped the initial budget proposal by 10½ per cent (8½ per cent excluding pension liabilities and lost tax claims), with “fiscal slippage” in a narrower sense contributing more than one-half (that is, not counting the changes to spending targets made in the voted budget and the March 2003 supplementary budget). The March supplementary budget brought forward public investments (mainly road building) to 2003-04 from the two subsequent years. It was justified by the fragility of the incipient recovery and the healthy long-term condition of public finances, in spite of the risks that the resulting construction activity would overlap with the gearing-up of the power-intensive projects. Deviations from the March supplementary budget reflected, as usual, public-sector wages, but above all transfer payments. Despite higher-than projected revenues (partly reflecting privatisation receipts), substantial spending overruns meant that the central government budget moved into deficit in 2003, instead of remaining in comfortable surplus, as initially envisaged (Table 2.6). The budget for 2004 aimed at reversing this fiscal loosening, in

Table 2.6. **Central government budget**
ISK billion

	2003	2003	2004	2004	2005	2005
	Budget	Outcome	Budget	Estimate	Budget proposal	Budget
Current expenditure	114.1	110.1 ¹	126.1	129.1	137.7	137.8
Transfer payments	106.5	128.8 ¹	113.8	120.1	122.3	123.7
Interest payments	15.5	15.3	15.1	15.1	15.5	15.5
Capital expenditure	24.0	25.9	20.2	20.2	19.1	19.4
Total expenditure	260.1	280.0	275.3	284.6	294.6	296.4
Tax revenue	237.0	238.9	254.6	265.4	280.6	281.2
Other revenue	34.6	35.0	27.4	25.9	25.2	25.2
Total revenue	271.6	273.9	282.0	291.3	305.8	306.4
Budget balance	11.5	-6.1	6.7	6.7	11.2	10.0
Per cent of GDP	1.4	-0.8	0.8	0.8	1.2	1.0
<i>Memorandum item:</i>						
Revenue from asset sales	10.3	12.0	0.5	0.5	0.5	0.5

1. Current expenditure is understated by ISK 4 billion and transfer payments are overstated by the same amount due to changes in the presentation of some payments.

Source: Ministry of Finance.

Table 2.7. **General government fiscal situation**¹

	Per cent of GDP						
	1998	1999	2000	2001	2002	2003	2004 ²
Revenues	42.9	45.9	45.6	44.3	45.3	46.3	46.2
Expenditures	42.4	43.5	43.1	44.1	45.8	48.0	46.0
Financial balance	0.5	2.4	2.5	0.2	-0.4	-1.6	0.1
Structural balance ³	0.6	2.6	2.2	0.3	0.9	-0.8	-0.1
Structural primary balance ³	2.1	4.0	3.3	1.4	0.6	-0.4	0.5
Net debt	31.7	24.1	24.0	26.9	23.4	23.4	22.7
Gross debt	49.3	44.5	41.9	47.4	43.6	41.4	37.1
<i>Memorandum items:</i>							
Central government							
Financial balance	1.1	2.6	2.6	0.6	-0.6	-1.8	..
Net debt	26.5	19.4	19.2	22.9	19.1	19.2	..
Gross debt	41.5	36.1	33.7	38.3	35.6	33.6	..
Local government							
Financial balance	-0.7	-0.5	-0.4	-0.5	0.2	0.2	..
Net debt	5.3	4.7	4.6	4.1	4.2	3.8	..
Gross debt	7.6	7.6	7.5	7.6	7.7	7.4	..

1. National accounts basis.

2. OECD projections.

3. Per cent of potential GDP.

Source: OECD Economic Outlook 76; Ministry of Finance; Central Bank of Iceland; Statistics Iceland.

recognition of the need for restraining domestic demand. Latest estimates indicate that central government finances have indeed moved back into surplus. However, this is attributable to substantially higher tax revenues than anticipated, thanks to real GDP growth that is likely to have beaten the 3½ per cent budget estimate by more than 2 percentage points. While capital expenditure appears to have declined substantially, as planned, expenditure restraint in other areas again seems to have fallen short of intentions, with transfer payments and current expenditure overshooting budgeted levels by 5 and 2½ percentage points, respectively, according to latest estimates.

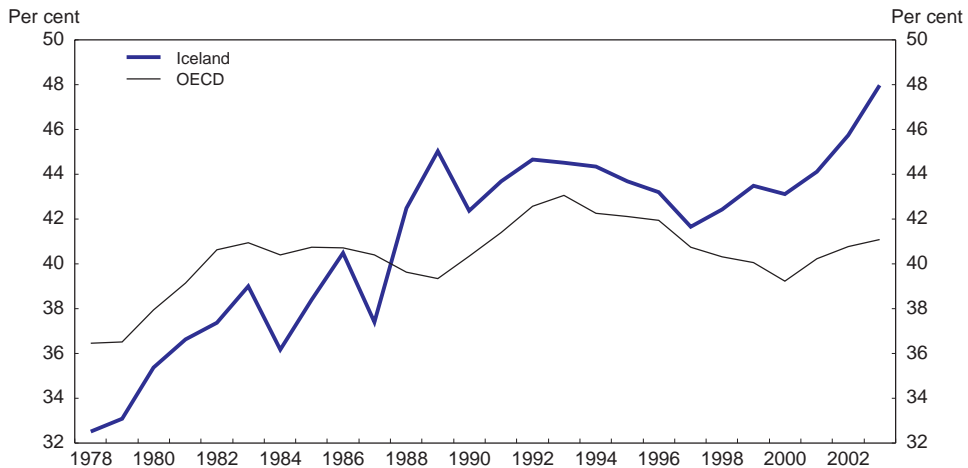
Developments in general government finances in recent years have been dominated by movements at the central government level (Table 2.7). The local government sector, which had been in a deficit position since the early 1990s, moved to budget balance in 2002 and appears to have realised a slight surplus since then. This reflected both higher central-government appropriations to the Local Authority Equalisation fund and the freedom given to municipalities to raise their income tax rates (to just over 13%). Spending has been growing much less than at the central level. Indeed, municipalities' expenditure-to-GDP ratio remained broadly stable in 2003, while that of the central government jumped by almost 2 percentage points, lifting the general government expenditure-to-GDP ratio to a record level of 48%. Over the quarter century to 2003, the ratio rose by 16 percentage points, while it increased by only about 4 points in the OECD area (Figure 2.6). Indeed, the rise was the second largest of the 21 OECD countries for which data are available.

Facilitating the central bank's stabilisation task by appropriate demand management

The government's draft budget for 2005 and its medium-term fiscal programme call for surpluses over the next two years. However, at somewhat above 1% of GDP, the projected surpluses for the entire government sector (on a national accounts basis) will be

Figure 2.6. **Public expenditure**

Per cent of GDP



Source: OECD Economic Outlook 76 database.

about 1½ percentage points lower than those achieved in the overheating episode of the late 1990s. The contrast is particularly pronounced in terms of the cyclically adjusted primary surplus, which rose by 2 percentage points of GDP in 1999 to reach 4%, while it is now estimated to increase by ½ percentage point in 2005, to around 1% of GDP, before edging down. This reflects tax cuts over 2005-07 which, though back-loaded, will bring fiscal tightening to a halt, despite continued planned restraint on current spending.

The current outlook argues for a tighter fiscal stance than envisaged in the budget proposal. Instead, in light of past experience, there is a risk of fiscal slippage, which needs to be avoided by decisive measures and stricter implementation than hitherto. Recent initiatives should be helpful in this respect. In addition to those mentioned above, beginning with the 2004 budget, the government began publishing a medium-term fiscal programme. The role of medium-term projections, which had existed before, was reinforced by the fact that the government passed a formal resolution on a programme for the years 2004-07, based on its post-election Policy Statement for its parliamentary term. This initiative is welcome, as it enhances transparency, but there is room for the government to strengthen its medium-term fiscal strategy by increasing enforceability. But, while avoiding expenditure overruns is crucial, consideration should be given to going beyond that and further increasing spending restraint in 2005 and 2006, for instance by delaying investments. It is therefore regrettable that the revised medium-term programme increases funding for public investment in 2005. Although this is to be compensated by savings in other areas – through cost-efficiency demands upon government agencies – it risks adding to the pressures emanating from private demand.

But expenditure measures alone will probably not be sufficient to achieve an appropriate fiscal stance. Fiscal tightening thus also needs to come from the revenue side. The government's tax reduction programme, voted in December 2004, extends primarily to reductions in the personal income tax, the abolition of the net wealth tax and an increase in child benefits. The cut in the personal income tax takes place in three stages from 2005 to 2007. The abolition of the net wealth tax on individuals and companies will be

implemented in 2006 (together with the complete elimination of the personal income surtax, which was decided already in 2003). The rise in child benefits is scheduled for 2006 and 2007. Abstracting from the current macroeconomic situation, the announced tax measures would be welcome. Latest international comparisons show that Iceland's tax burden moved above the OECD average in the second half of the 1990s and that action in recent years has only temporarily interrupted its upward trend (Table 2.8). However, in the current economic context, the tax cuts are ill-timed and should at least be accompanied by other measures, such as cuts in tax expenditures favouring the housing sector, and the development of a more comprehensive tax reform programme with a structural policy

Table 2.8. **Total tax revenue**
Percentage of GDP

	1975	1985	1990	1995	2000	2001	2002	2003 Provisional
Canada	31.9	32.5	35.9	35.6	35.6	35.0	33.9	33.9
Mexico	n.a.	17.0	17.3	16.7	18.5	18.8	18.1	19.5
United States	25.6	25.6	27.3	27.9	29.9	28.9	26.4	25.4
Australia	26.5	29.1	29.3	29.6	31.8	30.4	31.5	n.a.
Japan	20.8	27.4	30.2	27.8	27.1	27.4	25.8	n.a.
Korea	14.5	16.0	18.1	19.4	23.6	24.1	24.4	25.5
New Zealand	28.5	31.3	37.7	37.0	33.4	33.3	34.9	34.8
Austria	37.4	41.9	40.4	41.6	43.4	45.2	44.0	43.0
Belgium	40.6	45.6	43.2	44.8	45.7	45.9	46.4	45.8
Czech Republic	n.a.	n.a.	n.a.	39.8	39.0	38.5	39.3	39.9
Denmark	40.0	47.4	47.1	49.4	49.6	49.9	48.9	49.0
Finland	36.8	40.2	44.3	46.0	48.0	46.0	45.9	44.9
France	35.9	43.8	43.0	43.9	45.2	44.9	44.0	44.2
Germany ¹	35.3	37.2	35.7	38.2	37.8	36.8	36.0	36.2
Greece	21.8	28.6	29.3	32.4	38.2	36.6	35.9	n.a.
Hungary	n.a.	n.a.	n.a.	42.4	39.0	39.0	38.3	n.a.
Iceland	29.7	28.5	31.5	31.8	39.4	38.1	38.1	40.3
Ireland	29.1	35.0	33.5	32.8	32.2	30.1	28.4	30.0
Italy	26.1	34.4	38.9	41.2	43.2	43.0	42.6	43.4
Luxembourg	37.5	45.1	40.8	42.3	40.2	40.7	41.8	41.6
Netherlands	41.3	42.8	42.9	41.9	41.2	39.8	39.2	38.8
Norway	39.3	43.1	41.5	41.1	43.2	43.4	43.5	43.9
Poland	n.a.	n.a.	n.a.	37.0	32.5	31.9	32.6	n.a.
Portugal	20.8	26.6	29.2	33.6	36.4	35.6	33.9	n.a.
Slovak Republic	n.a.	n.a.	n.a.	n.a.	34.0	31.6	33.1	n.a.
Spain	18.8	27.8	33.2	32.8	35.2	35.0	35.6	35.8
Sweden	42.0	48.2	53.2	48.5	53.8	51.9	50.2	50.8
Switzerland ²	27.0	25.8	26.0	27.8	30.5	30.0	30.3	29.8
Turkey	16.0	15.4	20.0	22.6	32.3	35.1	31.1	32.9
United Kingdom	35.3	37.7	36.5	35.0	37.4	37.2	35.8	35.3
<i>Unweighted average:</i>								
OECD Total	30.3	33.6	34.8	35.9	37.2	36.8	36.3	–
OECD Europe	32.1	36.6	37.4	38.5	39.9	39.4	38.9	–
EU 15	33.2	38.8	39.4	40.3	41.8	41.2	40.6	–

1. Unified Germany beginning in 1991. Starting in 2001, Germany has revised its treatment of non-wastable tax credits in the reporting of revenues to bring it into line with the OECD guidelines.

2. The source for the 1975 figure is Swiss authorities, due to a change in the methodology which is only implemented in OECD Revenue Statistics from 1985 onwards.

Source: OECD Revenue Statistics 1965-2003 and Swiss authorities.

focus, which should include the expansion of user fees and co-payments to enhance the overall efficiency of the public sector.

Corporate taxation has been reduced substantially and is now among the lowest in Europe. By contrast, personal income taxation is still relatively high, although over the past decade or so the central government has pursued a policy of gradually reducing its standard marginal tax rate. This is because these cuts have been offset to a large extent by the increasing revenue needs of the municipalities, which were repeatedly authorised to raise their tax rates to improve their financial position. The combination of a uniform basic tax credit, which has fallen in value over time, and a high standard income tax rate has resulted in increasing average tax rates. Moreover, the relative simplicity of the Icelandic regime is partly offset by the existence of two benefits that are paid through the tax system – the child benefit and the mortgage interest rebate – which entail a steep rise in the marginal effective tax rate when they are phased out with rising income or net worth. Although the recent reform of the child benefit system has addressed this problem, the marginal tax rate schedule is still very erratic. The tax credit for mortgage interest payments has been reduced somewhat, but this process should be accelerated and the tax credit removed. The benefit tilts incentives toward home ownership and high household indebtedness and biases investment decisions away from productivity-enhancing business capital spending.

Notes

1. The risk is especially acute when lending is denominated in foreign currency (at lower interest rates), even though the borrower has no foreign-currency revenues. Such lending accounts for 20 to 30% of all foreign currency lending. Foreign currency lending in October 2004 was ISK 232 billion, equivalent to 19% of total credit and about 25% of GDP.
2. Recent large-scale foreign investment by Icelandic residents has meant that direct investment overseas has reached around 25% of GDP and accounts for almost one-quarter of foreign assets.
3. Over 2003-04, the Central Bank bought foreign currency on a regular basis to build reserves. At the time of the latest interest rate increase in early December, the Bank announced that it would discontinue such purchases at the end of the year.
4. Private-sector forecasters have recently adjusted their predictions up to a peak of 10% for the repurchase rate and warned of the need to reach that point fairly quickly so as to head off much higher inflation.

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Chapter 3

The role of structural policies

This chapter deals with the role structural policies will have to play if the benefits of the expansion of power-intensive industries are to be reaped. Immigration policy has been quite flexible in allowing foreigners to be employed at the construction sites. Vocational training of Icelanders has remained modest. Despite a substantial increase in public spending, educational attainments are still unsatisfactory, although there are signs of improvement. The authorities have attempted to limit damage to the environment by imposing design changes to the investment projects.

While appropriate macroeconomic policies are crucial to the maintenance of economic stability, structural policies also have a role to play if the benefits of the expansion of power-intensive industries are to be reaped. During the construction period, a flexible immigration policy is needed to minimise labour-market and hence inflation pressures. In a longer-term perspective, human capital development will be important both to allow the employment of Icelanders in the expanding aluminium sector and to promote the competitiveness and advancement of other diversified activities, notably high-technology manufacturing and knowledge-intensive services. As to sustainable development, limiting damage to the environment will remain a challenge, despite changes to the design of the large-scale investment projects. Annex 3.A1 gives an overview of progress in structural reform in these and other areas, except for product-market competition which is discussed in some detail in Chapter 4.

Ensuring adequate labour inputs

Immigration policy

As discussed in Chapter 1, additional labour demand associated with the investment projects is sizeable in relation to Iceland's labour force. It is expected to peak at 2 600 workers in 2005 and still amount to 2 100 workers in 2006, equivalent to 1.7 and 1.3%, respectively, of the country's estimated labour supply in these two years.* This highlights the importance of facilitating the entry of foreign workers during the construction. Indeed, unemployment was only $\frac{1}{2}$ percentage point above its structural rate of $2\frac{3}{4}$ per cent (as estimated by the OECD) at the onset of the recent recovery in early 2003. Moreover, in the eastern region of the country, where construction activity has been concentrated so far, the unemployment rate was then almost 1 percentage point below the national average (a gap that has doubled in the meantime).

There are indications that immigration policy has indeed been quite liberal. Estimates of the amount of foreign labour used in the investment projects have been revised upwards substantially in the light of new information from companies, immigration statistics and the number of work permits issued. According to the National Power Company, as of September 2004 about 1 400 workers were involved in the construction of the Karahnjúkar power plant, well over double the number of those employed at the same time a year earlier, with foreigners comprising more than two-thirds of the current workforce. In the first three quarters of 2004, both gross and net immigration of foreign citizens had already exceeded the levels recorded in 2002 and 2003 as a whole (Table 3.1). The bulk of recent net immigration of foreigners is accounted for by citizens of Asian and Eastern European countries. At the same time, the number of work permits issued has increased strongly. In the first ten months of 2004, the issuance of new work permits grew by more than three quarters compared to the same period of the year before, and total work permits issued (taking account of extensions)

* These figures do not include recently announced plans for a further increase in the Nordural plant's production capacity.

Table 3.1. **Immigration**

	Total ¹		Foreign citizens	
	Gross	Net	Gross	Net
1995	2 867	-1 418	938	219
1996	3 664	-444	1 258	594
1997	3 990	69	1 406	643
1998	4 562	880	1 774	1 113
1999	4 785	1 122	1 918	964
2000	5 203	1 174	2 462	1 652
2001	5 002	968	2 515	1 440
2002	4 215	-275	1 855	745
2003	3 704	-133	1 353	480
2004 Q1	1 012	222	446	169
2004 Q2	1 355	478	840	647
2004 Q3	1 685	-294	614	73

1. Icelandic and foreign citizens.

Source: Statistics Iceland.

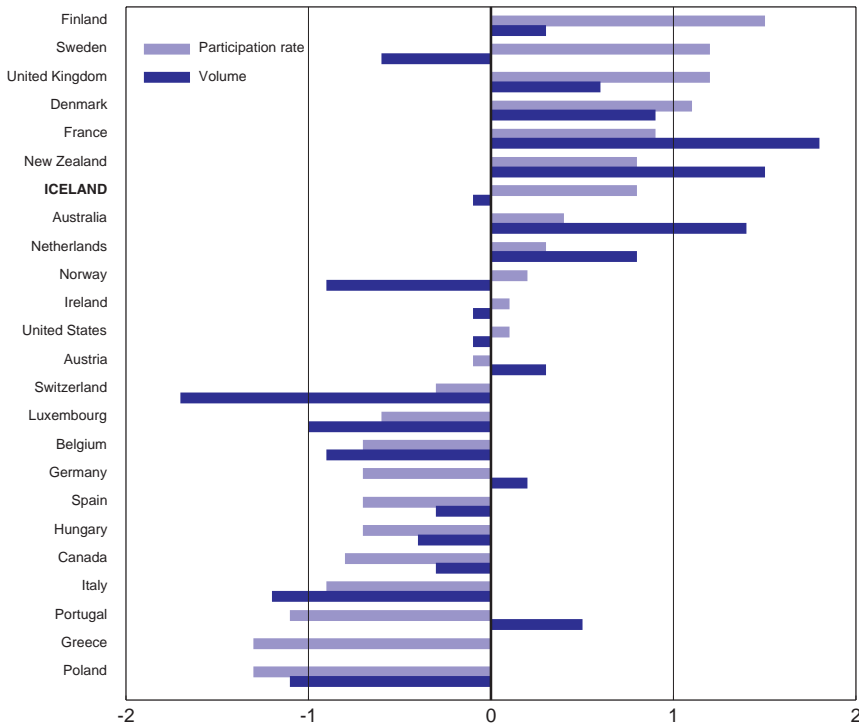
rose by almost one-tenth. These figures provide only an incomplete picture, as citizens of some countries do not need to apply for work permits (see below).

The apparent flexibility of immigration policy is remarkable, given the strict legislation in place (Ministry of Social Affairs, 2002). While EEA nationals are exempt from the need for a work permit, this is not yet the case for the new EU members, which still have – for at least two years, but probably five years or longer – the same status as all other countries. Conditions for granting a work permit to citizens of those countries are numerous. Notably, they require that qualified persons cannot be found in Iceland and that specific sectors lack workers. In principle, an employer would have to make an application to the regional employment office for workers before the permit is delivered. Furthermore, the local union in the relevant branch of industry must be consulted, and a work contract must be signed guaranteeing the employee wages and other terms of service equal to those enjoyed by local residents. The labour unions have established themselves on the construction sites to make sure that the pertinent regulations and the special Power Project Agreement negotiated with the Employers Confederation are enforced. Their particular concern has been to facilitate access for Icelandic labour to employment on offer by ensuring that foreign labour is not employed at lower costs. There may be increasing resistance to the employment of foreigners when the construction work on the investment projects spreads to the south-western part of the country, where unemployment is higher than the national average.

Job training

While in the short run the focus must be on alleviating potential labour-market pressures, the longer-term issue is to ensure the employability of Icelanders in expanding activities. There is no recent internationally comparable evidence regarding workforce training in Iceland. Survey data for the 1990s suggest that participation in training of adults in Iceland is relatively high by international standards, while the volume of training (in terms of hours spent) is slightly below average (Figure 3.1). Unlike in most other countries (except a number of Nordics), participation of younger workers in training is not higher than that of older workers. Where Iceland really stands out is in the unusually small

Figure 3.1. **Cross-survey indices of the relative level of adult training: participation rates versus volume**¹



1. Employees aged 25 to 54 years in the 1990s. Data are standardised to have a zero mean and unit variance. Source: Eurostat, European Labour Force Survey.

difference between the training participation rate for workers with only compulsory education and those with higher education. The unspectacular volume of job-related training in Iceland probably reflects the prevalence of small firms. This may be partly offset by the fact that mandatory re-insertion contracts for unemployed job seekers have to include training or re-training plans. In 2003, the government made an agreement with the Confederation of Icelandic Employers and the Icelandic Confederation of Labour on the establishment of the Education and Training Service Centre. The main objective of this (partially) publicly funded multi-year programme is to increase educational opportunities among people in the labour market, support educational providers in defining the target groups' need for education and training and assist in developing methods to assess informal competence. The government is committed to contributing ISK 60 million.

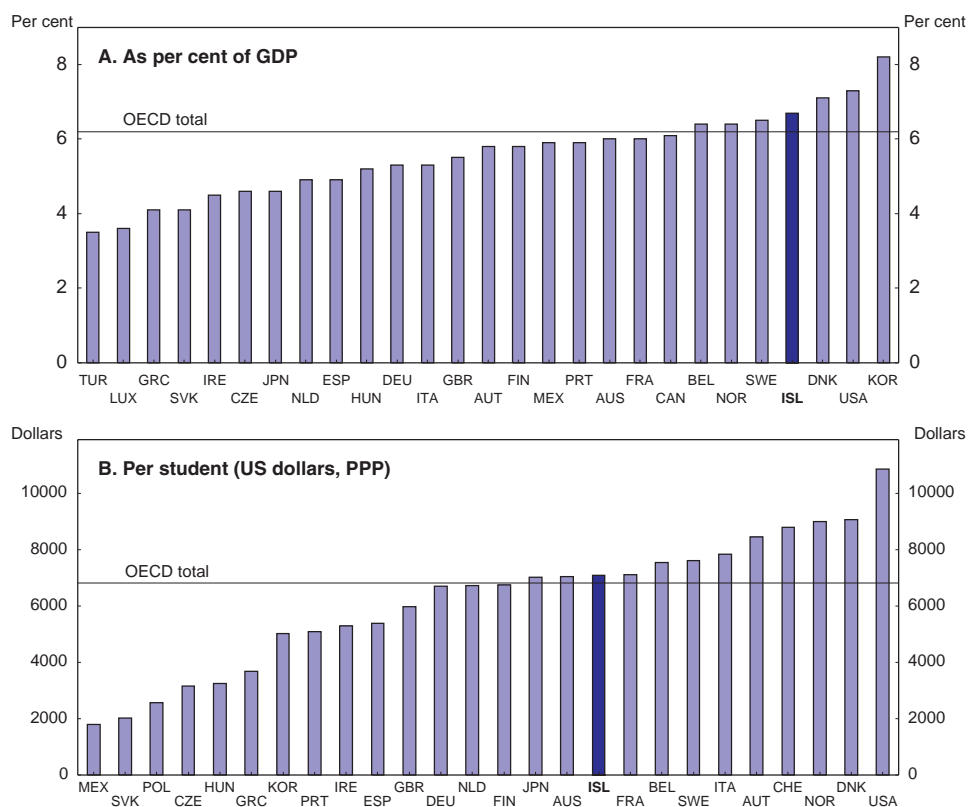
Despite public funding and the government's declared wish to develop it, vocational training has remained relatively modest in Iceland, compared not only to countries like Germany or Switzerland, where it has a long tradition, but also to Denmark, for instance. The number of students graduating with vocational qualifications has not grown during the past couple of decades and has actually fallen in some areas, especially those dominated by women (possibly because in many cases, for instance for nurses, training is now carried out at the tertiary level). The small scale of businesses and limited scope of work they carry out implies that employers lack the time to supervise trainees and are unable to provide teaching of a sufficient breadth of skills. Apprentices pay, which is fixed

during wage negotiations between the social partners, is not very attractive. Moreover, rather than receiving students straight from compulsory schooling who wish to acquire more practical, job-related skills, the more customary pattern is that young people ultimately enrolling in vocational programmes either have worked first or have dropped out of upper-secondary education. Thus, the system has a reputation of taking “losers”, and some programmes have indeed relatively low status and are very short. It is difficult to tell whether greater funding would help improve this situation, but what is often mentioned is the need for closer relationships between educators and employers to enhance the system’s image and relevance. In recent years, the Ministry of Education has co-operated with the social partners with a view to increasing their responsibility for vocational training. Vocational education is to be divided into different steps or modules, and it will be made explicit what the achievement of each of those entitles the trainees to do, in terms of both further studies and work.

Education policy

In recent years, the authorities have substantially increased education spending, which is still largely public. From 1995 to 2001 (the last year for which international comparisons are available), it rose by more than 1 percentage point of GDP to 6¾ per cent. As a result, Iceland moved from below to well above the OECD average (Figure 3.2). Given

Figure 3.2. **Expenditure on educational institutions, 2001**



Source: OECD, *Education at a Glance*, 2004.

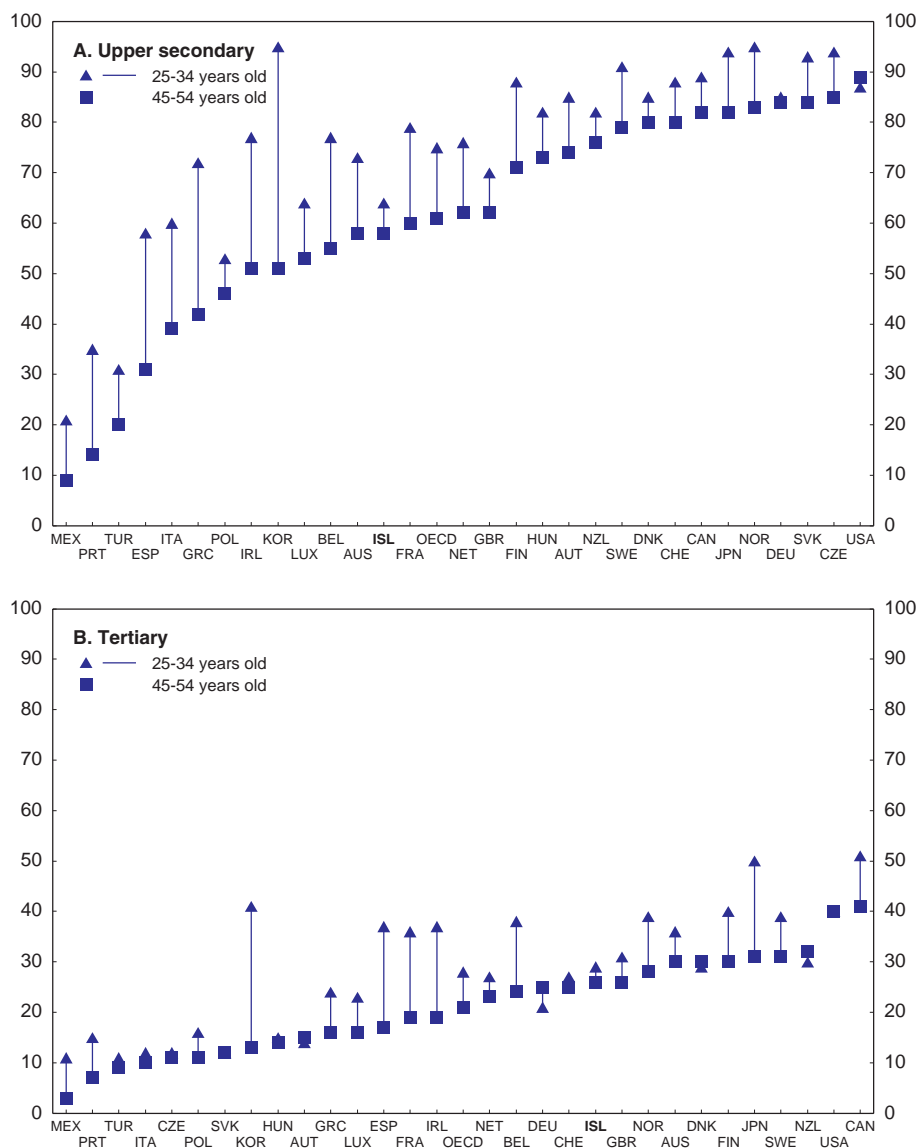
that the country's population is relatively young, spending per student is less outstanding, but still exceeds the OECD benchmark. On the basis of government accounts, the authorities consider that the latest OECD estimates (OECD, 2004) understate education expenditure in Iceland by $\frac{1}{2}$ percentage point of GDP, mainly at the university level (Ministry of Finance, 2004). Moreover, they estimate that education spending has increased further of late to around $7\frac{1}{2}$ per cent of GDP in 2004. The spurt in education expenditure over the past decade has more than reversed its preceding steady decline as a proportion of total government outlays.

High spending levels since the mid-1990s have yet to translate into educational outcomes. Iceland's Programme for International Student Assessment (PISA) test-score rating in reading, mathematical and scientific skills combined is just above the OECD benchmark. This reflects good results in mathematics along with below-average performance in scientific and reading literacy. At the same time, educational attainments, while improving as generally elsewhere, have done less so than in many other member countries (Figure 3.3). In terms of the percentage of the population with upper-secondary education, in 2002 Iceland ranked 18th out of 30 member countries for 45-54 year-olds but 24th for 25-34 years old. The situation is similar with regard to tertiary qualifications, where Iceland also lost ground, although there at least the attainment rate of younger people has remained above the OECD average. However, there has been a marked recent change, with the number of students passing the matriculation examination picking up strongly in 2002-03. As a percentage of 20 year-olds, it rose to 58%, after hovering around 50% since 1993-94. Still, only 45% of 20 year-old males passed the exam, as compared with 71% of females. A similar gender imbalance exists at the tertiary level (including non-university education), where males accounted for less than two-fifths of graduations in 2003.

Iceland's relatively poor record regarding the attainment of educational qualifications is not the result of low participation rates but of high drop-out rates, especially from upper-secondary institutions. The enrolment of 15-19 year-olds betters the OECD average, albeit just so, while the enrolment rate of 20-29 year-olds is one of the highest among member countries (Figure 3.4). Before edging up again, enrolment rates of 15-19 year-olds virtually stagnated in the second half of the 1990s (Ministry of Education, 2002). At the same time, drop-out rates have declined, albeit only gradually. In 2003, at just under 20%, the student drop-out rate from upper-secondary schools was 3 percentage points lower than five years earlier (Statistics Iceland, 2004). Drop-out rates are especially high in rural areas (despite below-average enrolment rates) as well as for part-time studies, distance learning and evening courses.

Although more than half of those who abandon their studies resume them within the following five years, only one-fifth of the drop-outs ultimately graduate. Despite the recent up-tick in graduation rates, the share of the population in the relevant age group that finally achieves a qualification designed to prepare for direct entry to higher education is still below the OECD average. Failure to complete upper-secondary schooling is compounded by further heavy withdrawal at the university level. Survival rates in tertiary education are satisfactory for theoretically-based (type A) levels but very low for occupationally-oriented (type B) levels (55% as compared with an OECD average of 73%). As a result, tertiary graduation rates for type B courses are poor by international comparison, and they are some of the lowest among OECD countries for advanced research programmes. While the recent surge in the number of graduates at the tertiary level is encouraging, it has not included the

Figure 3.3. **Educational attainment**¹
2002, per cent



1. Share of population of age 25 to 34 and 45 to 54 with at least upper secondary or tertiary education.

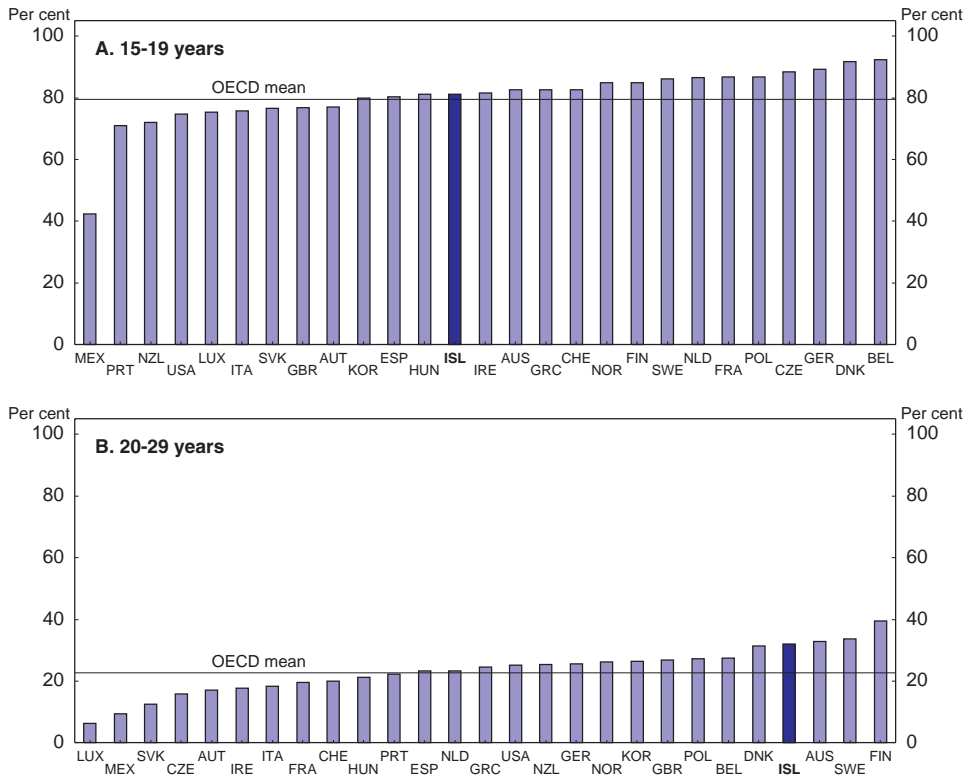
Source: OECD, *Education at a Glance*, 2004.

highest university degrees and concerns to a considerable extent people over 40 and those undertaking non-university studies. However, there are indications that many Icelanders get graduate university degrees abroad (see below), as qualified personnel for this kind of education is not widely available and programmes for the highest university degrees have been introduced only in the recent past.

Possible causes for this performance include Iceland's economic structure, which apparently provides ample job opportunities for those with low educational attainment and thus discourages the pursuit of higher educational qualifications. Indeed, the

Figure 3.4. **Enrolment rates**

Full-time and part-time students in public and private institutions, 2002

Source: OECD, *Education at a Glance*, 2004.

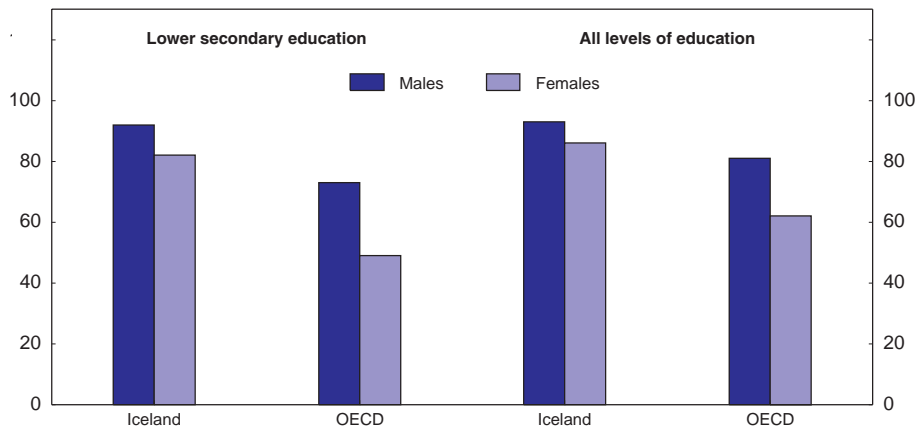
employment ratio of those with no more than lower secondary education is very high by international comparison and not much different from that for all levels of education, while in other countries the employment ratio tends to rise sharply with educational attainment (Figure 3.5). Many jobs are available without the need for any educational qualification.

According to a survey carried out in 2001, almost 40% of drop-outs said that their reason for abandoning their studies was that they had found a good job, with the percentage much higher for males. Wage compression may also dampen demand for higher education. Compensation does not seem to vary much among employees with different education levels. An (unpublished) survey carried out in the 1990s by the Social Science Research Institute of the University of Reykjavik found that the highest monthly wages were actually earned by those with vocational training working in crafts and trades. Only after adjustment for different hours worked did people with tertiary education earn significantly more than those with compulsory education alone. However, things appear to be changing. In recent years, the risk of becoming unemployed for people with lower educational attainments has increased relative to those with higher qualifications, and the education system has begun to adapt to these new circumstances.

In the 1980s, an OECD review of Iceland's education system concluded that the country should differentiate its system from those of other member countries, given its

Figure 3.5. **Employment ratio by educational attainment**

Percentage of working-age population, 2002

Source: OECD, *Education at a Glance*, 2004.

particular economic needs and cultural aspirations (OECD, 1987). Since then, both the economic environment and the thinking about the role of the education system have evolved considerably. With increased international competition, it has become clear that having more skills may be a competitive advantage. And low hourly productivity levels by international comparison have focused attention on the need to diversify away from resource-intensive economic activities in order to provide satisfactory real incomes. To address these issues, the challenge for the education system is to produce both more and different skills. Although the system has seen important reforms (notably the transfer of responsibility for compulsory education to local authorities) and funding has been much improved, some traditional features remain that might hamper its performance. For instance, to free up valuable labour in the summer, the school year used to be extremely short and teacher pay low, as teachers could have a second job. The school year has been lengthened somewhat, but the number of teaching hours per year is still modest by international comparison, and teachers' salaries are among the lowest in the OECD both in level (using purchasing power exchange rates) and in relation to per capita GDP (although the gap is likely to have narrowed as a result of strong wage increases in recent years). This seems to affect average teachers' qualification: the percentage of school teachers with a university degree that have specialised in the subject they teach is the smallest among member countries (OECD, 2001b). Another legacy from the past is a preference for fields of study that do not necessarily correspond to the changing needs of the labour market. Upper-secondary enrolment patterns show a continued predilection for general programmes and lower participation in vocational programmes than in most other OECD countries (although this partly reflects the moving of some subjects to the tertiary level). Tertiary graduation rates reveal a preference for the humanities, arts, education, social sciences, business and law, while natural-science-related fields (such as engineering, physics and mathematics) are much less popular than on average in the OECD.

The government is aware of the weaknesses of the education system and has taken measures to address them, in particularly the drop-out problem. At the upper-secondary

level, it has strived to clarify study requirements and broaden the variety of courses offered. Other efforts to counteract dropping-out include agreements with schools on performance management as well as basing the funding of schools on the number of pupils taking examinations and not the number of those enrolled. In addition, it plans to reduce the length of studies leading to the qualification for university entrance (the matriculation examination). The duration of upper-secondary studies in Iceland is longer than generally in neighbouring countries, and there seems to be a greater risk of students dropping out when they cannot expect to graduate for a long time. Reducing the duration of upper-secondary education from four to three years would shorten the length of primary and secondary studies to 13 years, which should be possible without lowering standards, given the lengthening of the school year and the increase in the number of lessons that has already taken place. The focus of the reforms is not only on reducing the duration of studies but also on improving their quality by restructuring programmes and ensuring coherence across school levels. As to the tertiary level, the government recognises that the low proportion of students that complete advanced research qualifications is an issue, but it points out that many Icelanders pursue their studies abroad and earn their degrees there. Student Loan Fund data suggest that a significant number of students graduate from foreign universities, although the exact number is not known. The government does not intend to introduce tuition fees in the public sector, which could shorten the duration of studies, but the merger of a private university with a public one will make such fees somewhat more widespread.

Avoiding environmental damage

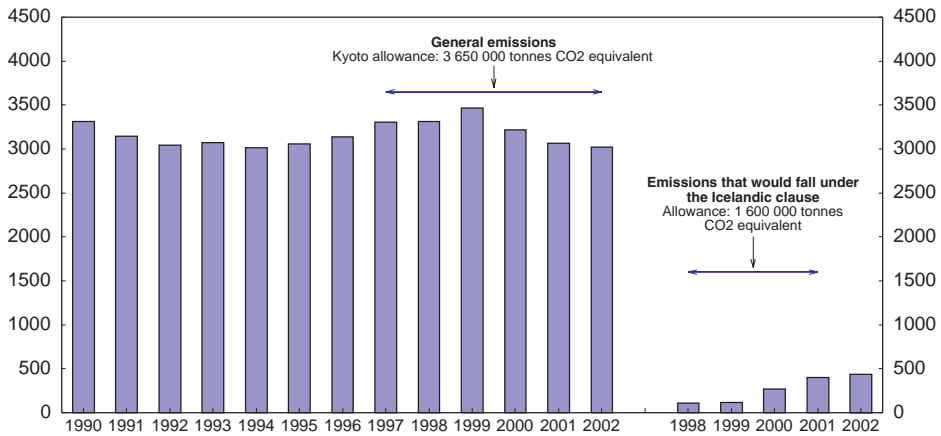
A major challenge facing the authorities is dealing with not only the economic but also the environmental consequences of the large increases in aluminium production. As noted, the smelter projects will require a significant expansion in electricity generation. The Karahnjúkar project in Eastern Iceland will affect 82 000 hectares of unspoiled central highlands. The authorities have tried to balance their regional policy objectives (in particular, slowing the population movement from rural areas to the capital region) against environmental concerns. Initially, the National Planning Agency rejected the Karahnjúkar project, but the Ministry for the Environment overturned this ruling, imposing several modifications to reduce the environmental impact. The Agency's initial ruling concerning the Karahnjúkar Power Plant's impact assessment submitted by the developer (Landsvirkjun, 2001) was based both on the considerable environmental damage involved and insufficient information provided about the construction process and its environmental effects. The National Power Company appealed the ruling (joined by the local authorities and labour organisations) and presented additional information (for instance regarding soil erosion and changes to water levels) as well as proposals for mitigating measures. The conditions set by the Ministry for Environment when it finally approved the Karahnjúkar project are estimated to have increased the cost of construction by 2 to 3% and reduced the amount of energy generated by the plant by 4%. In particular, several river diversions cannot be carried out, and the design and arrangement of the largest dam has had to be changed so as to avoid damage that would result from an overflow. A number of other conditions will require the ongoing attention of the authorities, namely the effectiveness of the mitigating measures against blowing sand, the re-vegetation and land improvements in the impact area, as well as the monitoring of the flora and fauna.

As to the related Fjardaal aluminium smelter, the operating permit as finally issued reduced the environmental impact of the plant substantially compared to the original design. This is because Alcoa will not dispose of the production-linked waste on the site, carbon anodes will not be manufactured at the Iceland plant (eliminating a source of SO₂, NO_x and hydrocarbon emissions), the achievement of strict sustainable development objectives will include zero process water discharge, and the production level will be about one-quarter below that planned originally. The smaller size of the facility will lower electricity and fuel consumption and CO₂ emissions proportionally and (together with other operating conditions) implies a reduction in other emissions ranging from 40% (for perfluorocarbons) to 80% (for NO_x).

In the case of the Nordural project in the south-west of the country, the National Power Company had to make considerable changes to plans for the construction of another aluminium-related dam, since the Ministry for the Environment would allow only for a small reservoir to save a nearby nature reserve. Although the Company still considers its plans feasible, as permitted by recent legislation, energy for the project will now be provided by two other utilities, which are constructing a new geothermal power station (near Reykjavik) and expanding another one (in the Reykjanes region). These two facilities should be able to power the planned expansion of the Nordural aluminium plant with less damage to the environment. They were both subject to environmental impact assessments and got the National Planning Agency's go-ahead under certain conditions (avoiding groundwater contamination in the first case, and abandoning aspects deemed unacceptable for nature conservation reasons in the second one). The Agency's decisions were not appealed, except one concerning a power line from the second power plant; it is presently under consideration in the Ministry for the Environment.

A few years ago, an OECD review of Iceland's environmental performance (OECD, 2001a) concluded that problems there were less important than in more densely populated member countries, although some pollution issues were emerging and better co-ordination of policies related to sustainable development was desirable. The government's National Strategy for Sustainable Development (Ministry for the Environment, 2002) responded in part to these concerns, as it was prepared by several ministries and attempted to present an integrated policy approach. The discussion above suggests, however, that the implementation of the strategy and the integration of environmental concerns into government policy making could be strengthened further.

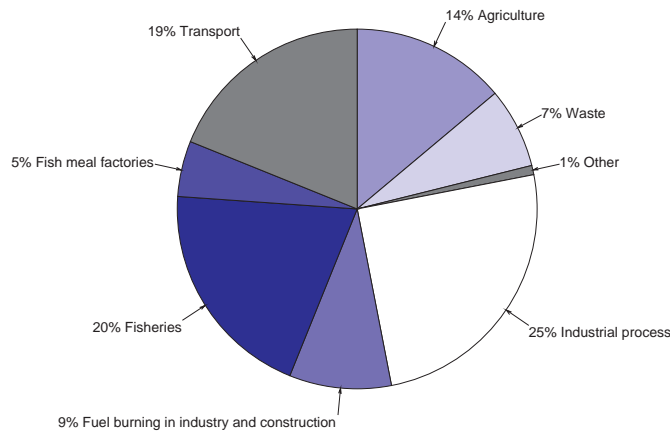
Given that Iceland's Kyoto Protocol commitments take account of its uniquely high share of renewable energy, greenhouse gas (GHG) emission targets should be easily attainable for the first abatement period, even with the expansion of energy-intensive industries, provided that, among other things, plans for increased carbon sequestration are fully implemented (Ministry for the Environment, 2003). Including the latter, GHG emissions, which are low by international comparison, have broadly stagnated since the late 1990s (Figure 3.6). "General emissions" have declined since 1999 to below the 1990 level, although Iceland is allowed a 10% increase from that level. This has been broadly offset by a rise in carbon dioxide emissions from large projects such as aluminium smelters that use renewable energy sources and can be reported separately and excluded from Iceland's general emissions (up to a level of about one-half of the national target). The major sources of GHG emissions are industry, fisheries and transportation, which together account for two-thirds of the total (Figure 3.7). Emissions by the transportation sector have expanded strongly, despite decreasing fuel intensity. An anomaly of the Icelandic tax

Figure 3.6. **Emissions of greenhouse gases, counting carbon sequestration**Thousand tonnes of CO₂ equivalent

Source: Ministry for the Environment.

Figure 3.7. **Total emissions by sector**

2002



Source: Ministry for the Environment.

system – no duty was levied directly on diesel fuel (the tax base being rather a combination of distance travelled and vehicle weight) – has been recently eliminated. This is a welcome move, since it enhances incentives for fuel economy and addresses concerns about emissions of conventional air pollutants.

In contrast to GHG emissions, which amount to only about half the OECD average in relation to GDP, emissions of SO₂ and NO_x are significantly higher in Iceland than in most member countries. This is particularly true for NO_x emissions, which are almost twice as important as in the OECD area as a whole. The expansion of energy-intensive industries has boosted such emissions, while it has had only little impact on GHG emissions, given that electricity production relies almost entirely on renewable energy resources (hydroelectric and geothermal). As noted, environmental impact assessments led to design changes that

have significantly reduced the polluting effect of the new projects. It would have been desirable, though, if such externalities had been taken into account in a comprehensive cost-benefit analysis (see Chapter 1). While, overall, air pollution is a smaller problem than in many other countries, concentrations of some pollutants have increased, especially in the capital area, in the form of particulate matter and ground level ozone. In addition to the recently introduced levy on diesel fuel, further changes to vehicle taxation and stricter technical standards for diesel engines might be necessary to address this problem.

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ANNEX 3.A1

*Progress in structural reform***Financial markets****Previous recommendations**

- Speed up privatisation of commercial banks and consolidation of savings banks.
- Terminate government backing of bonds issued by the Housing Financing Fund (HFF), replace the tax benefit associated with mortgage interest with a general means-tested credit and eliminate the rebate of value-added tax on wage cost of house construction.

Action taken

- The commercial banks have been privatised, but incentives for savings banks to incorporate appear insufficient.
- The government is considering a range of changes to the housing finance system (including raising the mortgage ceiling for all HFF loans to 90% of purchase price). This would imply an increase in government guarantees and make a review of tax support to housing even more important, especially given the increased role of commercial banks since August 2004 (see Chapter 2).

Labour market**Previous recommendations**

- Shorten the unusually long time period during which the unemployed are eligible for benefits.
- Move away from two-stage centralised bargaining process, which results in excessive fiscal concessions.

Action taken

- No action.

Education**Previous recommendations**

- Increase focus on foreign languages, sciences and mathematics.
- Boost fees for tertiary education to reduce completion times.

Action taken

- Funding has been boosted, but test scores have remained around the OECD average and university graduation rates in sciences and mathematics are still low by international comparison.
- While the government does not intend to introduce tuition fees in the public sector, the merger of a private university with a public one will make such fees more widespread.
- Given a lengthening of the school year, the duration of upper secondary education is to be shortened by one year.

Taxation**Previous recommendations**

- Abolish net wealth tax to increase efficient resource allocation and savings incentives.
- Index basic tax credit for individuals.

Action taken

- The government's tax reduction programme for the next three years calls for an abolition of the net wealth tax in 2006, in addition to staged personal income tax cuts.

Environment**Previous recommendations**

- Introduce diesel fuel taxation on vehicles as the current distance-based system has poor incentives to reduce emissions.
- Use more publicly available cost-benefit analysis to improve policy effectiveness and coherence.

Action taken

- Recent legislation introduces a tax on diesel fuel for motor vehicles below 10 tonnes. Other vehicles remain subject to a weight-distance tax.

Chapter 4

Product market competition and economic performance

This chapter discusses the current state of product market competition in Iceland, including the legal and regulatory framework, and suggests directions for further improvement. Given the size of the economy, efficiency considerations dictate high concentration in many markets, and preventing abuse of market dominance is therefore a challenging task. Changes to competition law since the early 1990s have strengthened competitive forces in many sectors of the economy, and proposed amendments to that law would further improve market surveillance. The changes in the regulatory framework for telecommunications have helped vigorous competition to develop in most segments, but there remain problems in pricing of access to the local loop. In the still publicly owned electricity sector, however, competition in generation and sales is so far virtually non-existent despite new legislation. Other policies discussed include agricultural support, policies towards foreign direct investment, and public procurement and provision of publicly funded services.

Overview

The state of product market competition in Iceland has changed substantially since the early 1990s, driven by the reduction of government involvement in the economy through privatisation and regulatory reform.¹ These developments were stimulated by dissatisfaction with economic performance prior to the 1990s as well as the fulfilment of obligations under Iceland's membership in the European Economic Area (EEA) and, to a lesser extent, the World Trade Organisation (WTO). The privatisation programme got under way in 1991 and, after the completion in 2003 of the sale of the government's holdings in the banking sector, the major remaining state-owned assets are Iceland Telecom and the National Power Company. In terms of the legal environment, the adoption of a new competition law in 1993 marked a turning point, followed by legislation in other areas such as telecommunications and electricity to meet Iceland's obligation, as an EEA member, of complying with relevant EU directives. Efforts to ensure dynamic efficiency through strengthening competitive forces reflect the view that, to maintain its current high level of prosperity relative to other OECD economies, Iceland has to diversify away from traditional, natural-resource-based activities towards faster growing technology and service industries. The aim of this chapter is to assess the current state of policies that bear on product market competition and to recommend changes in areas where further improvements are possible.

The institutional framework governing competition legislation and enforcement is the focus of the first section of this chapter. The competition law updated in 2000 conforms to the basic competition rules of the EU and provides for a complex, but on the whole effective institutional structure for the enforcement of the law. Enforcement activities in recent years have increasingly focussed on cartels, and in several cases substantial fines have been imposed. Government entities are not exempt from the competition law, and network monopolies and entities related to the government have in the past been the principal targets of actions against dominant firm abuses. The law does not, however, explicitly provide for an order of complete divestiture as a remedy for abuse of dominance, a potential shortcoming. Another area of concern is the *de facto* exemption of agricultural producers from certain aspects of the competition law.

The following two sections step back from the institutional framework and assess, first, the contribution of policies promoting competition to overall economic performance and thereafter the strength of competitive forces in Iceland. There has been a notable step-up in productivity growth since the mid-1990s, roughly coinciding with the adoption of more pro-competitive policies in a number of areas. R&D intensity is also high by international comparison, and this outcome too might reflect to some extent the positive effects of policies stimulating competition. While concentration is high in many sectors, this is to be expected in a remote economy as small as Iceland's, with a population of barely 300 000. In fact, minimum efficient economic scale dictates high concentration or even monopoly conditions in many sectors. The key challenge for government policy towards competition is to prevent barriers to entry or lack of foreign competition from allowing incumbents to

abuse their market dominance, not necessarily to prevent market dominance *per se*. Indicators of Iceland's administrative and economic regulations and of barriers to trade show the pro-competitive orientation of its regulatory policies. The economy is also generally open to competition through international trade and foreign direct investment, except in energy, agriculture and fisheries. Nonetheless, international price comparisons reveal that consumer prices are high, especially so for food, resulting in lower consumer welfare.

The generally pro-competitive stance of regulatory policies in Iceland has contributed to strong economic performance, but a number of challenges remain. The final two sections review regulatory and other policies in several areas where there is scope for further reform. While competition has taken hold in most segments of the telecommunications sector, access pricing still needs to be adjusted to ensure that competitive entry in local voice services is not thwarted by the former monopolist. Technological convergence between telecommunications and information services will also require a reconsideration of current universal service requirements. Competition in the electricity sector, by contrast, is to date virtually non-existent; government divestiture of its generation activities might foster conditions for competition in this market. Government support for agricultural production needs to be reduced so as to lower food prices and free up resources for more productive activities. The exposure of several sectors to competition could be enhanced by further opening to foreign direct investment. Finally, more extensive use of public tendering and outsourcing would likely result in more efficient provision of a number of services currently supplied by the government at both the state and municipal levels.

Competition legislation and enforcement

In 2000, Iceland amended its competition law to ensure greater conformity with the basic competition rules of the EU; these rules have now been adopted by most countries in Europe as national law. The previous law, dating from 1993, did not include a general prohibition against anti-competitive agreements and abuses; however, it did include several valuable tools against government-imposed restraints, subsidies and public-sector monopolisation. Under that law, advocacy for competition policy and reform of regulations were top priorities. The Competition Act adopted in 2000 now supports a stronger programme of enforcement, and draft legislation currently under consideration by the parliament is intended to move even further in this direction.

The current institutional structure for applying the law is complex and perhaps too cumbersome. The executive body is the Competition and Fair Trade Authority (CFTA), while principal decision-making power rests in the five-member Competition Council, whose decisions may be taken to a separate three-member Competition Appeals Committee. All of these bodies are under the jurisdiction of the Minister of Commerce, who is responsible for appointments, with the members of the Appeals Committee being nominated by the Supreme Court. The staff of the CFTA totals 22, of whom nine concentrate on competition cases. (The Competition Act also contains broad authority over consumer protection and marketing abuses, so four work on price surveys and two on unfair business practices.) The CFTA handles several hundred cases each year, and the Council deals with about 40. As cases become larger and more complex, decisions are taking longer and capacity is being stretched. But the CFTA has found ways to supplement its resources: to carry out a "dawn raid" investigation in a recent major cartel case, the CFTA recruited 60 people from elsewhere around the government.

Issues of political economy have dominated recent controversies about competition in Iceland. Unusually, these topics are included in the competition law. The latest debate has been about concentration in the media and related proposed legislation. Parliament asked for the CFTA's views on a proposal to ban anyone with a dominant position in any market from having any ownership share in any media company. The CFTA opined that this proposal would limit competition in the media market and hinder entry of new competitors. In an unprecedented showdown, the president refused to sign the legislation passed by Parliament in June 2004, and the government ultimately withdrew it.

A special commission was created by the government in early 2004 to study competition matters, in particular concerns related to ownership concentration, corporate governance and similar issues related to the strength of "financial groups" in the economy. In its final report submitted in September 2004, the commission concluded that there was no reason for new legislation to deal specifically with the formation of conglomerates, but proposed to strengthen the resources of the CFTA so as to bolster its monitoring activities and to give it the power to order structural remedies. In light of this report the government has now proposed changes to the competition law to remove consumer issues from the CFTA's portfolio and to simplify the enforcement structure and thus reduce the number of administrative steps involved in competition cases. The separate Competition Council would be eliminated; instead, a three-member board would be created to direct the CFTA and take the most important first-instance decisions. The CFTA's staff, which would no longer work on consumer protection but only on competition issues, would be increased to 17. The commission's recommendation to grant the CFTA the power to order structural remedies has also been accepted. While the strengthening of the CFTA's powers and resources for monitoring activities will likely prove beneficial, it will be important to ensure close collaboration between the CFTA and the new entity dealing with consumer affairs to preserve existing synergies between these two areas of surveillance.

The priorities and problems in particular markets are revealed in the enforcement actions taken to date: against cartels in consumer products and abuses of dominance in telecommunications and airlines. The CFTA is examining the state of competition, industry structure, business practices and performance in the distribution and retailing of consumer goods. Noting the experiences of competition enforcers in other Nordic countries, the CFTA is also looking into problems in services such as construction. The law now permits the Council to set priorities in handling cases, rather than deal with complaints in chronological order regardless of their importance.

In the last few years the resources of the CFTA have been devoted to cartels to an increasing extent. The most important case, which was launched by a dawn raid in 2001, has been against price fixing in petroleum product distribution. In October 2004 the Competition Council imposed administrative fines of ISK 2.6 billion (\$38 million, at current exchange rates) on four petroleum companies. The Council has also taken action against cartel agreements in professional services, insurance, and distribution of fruits and vegetables. The latter case resulted in a fine of ISK 47 million (\$681 000); in addition, following an opinion given by the Council, the Minister decided to reduce tariffs on some imported vegetables.

Sanctions may range up to 10% of annual turnover. Criminal penalties, in the form of fines and imprisonment up to two years (or four years in particularly serious cases), have also been possible, in theory. That possibility is now being tested. The Competition Council

issued a leniency rule in 2002, which has already been invoked in the oil cartel investigation. The police are pursuing the oil cartel and considering whether to seek criminal penalties against the responsible individuals, many of whom have resigned. This is the first time the police have undertaken a competition case, and the effort has revealed complications in the relationship between the CFTA's powers and criminal investigative processes.

Concerning dominant firm abuses, the principal subjects of the law have been network monopolies and entities related to the government. Iceland's competition law has an unusually broad range of tools to address these problems, and before the 2000 revision of the law, 60% of the Council's actions concerned public-sector firms. The Council can issue orders against anti-competitive acts by public entities (unless there is specific legislation authorising the conduct) and even against "circumstances that are detrimental to competition" resulting from the actions of government entities. To address cross-subsidy distortions, the Council can order financial or managerial segregation of operations. Over the last 10 years the Council has issued more than 30 decisions requiring separation between monopoly or public-service operations and other, commercial operations. As a last resort, the Council can also set prices and terms. The current law does not explicitly provide for an order of complete divestiture as a remedy for abuse of dominance, but the proposed legislation would change this. The historic incumbent in the telecommunications sector has been the most frequent target of attention, including the biggest fine the CFTA had until then ever sought against abuse of dominance (ISK 40 million; reduced to ISK 10 million on appeal). When the telecoms regulator was set up in 1996, there were some uncertainties and disputes about the application of the sectoral rules and the competition law, but those have been worked out and now reduced to a regulation that assigns jurisdiction. The competition law continues to apply in full in telecoms, as it does in the electric power sector. The Electricity Act contains its own rule about cross-subsidies, empowering the CFTA to require financial unbundling.

As to the rules dealing with mergers, one may be barred if it would obstruct "effective competition" by creating or strengthening a dominant position. In its decision, the Council is to take account of international competition and whether market access is open or obstructed. The 2000 amendments added the test concerning "strengthening" dominance, so the Council could deal with "creeping acquisitions". The Supreme Court had decided that tiny acquisitions would not appreciably increase market power; however, there may be reason for concern about the cumulative effect of piecemeal acquisitions in sectors such as retail distribution, where there are only three significant entities operating in Iceland. The 2000 amendments also added a merger notification requirement. The Council has required divestitures as a condition of approving significant mergers in pharmaceutical distribution and media, and imposed other conditions on mergers in publishing, building materials, poultry processing and fruit and vegetable distribution. Its effort to block a merger in publishing was overturned on appeal, but it successfully stopped a merger in animal feed distribution. In the banking sector, the Council has been critical. Two combinations have been approved. But in its most prominent merger decision, the Council blocked a proposal, backed by ministers, to create a "national champion" by combining two big banks, because the combination would have dominated the market for services to small businesses and individuals (Box 4.1).

The principal *de facto* exemptions from certain provisions of the competition law protect agricultural producers. Specifically, the agriculture law permits agreements on

Box 4.1. Market concentration and competition law enforcement

As mentioned earlier, the key challenge for competition policy in Iceland is that minimum efficient scale often implies high concentration. Hence, strict merger control might impose substantial efficiency losses, and competition policy will often have to rely on other, less direct tools for preventing abuse of market power. This box illustrates this general point by briefly discussing three sectors in which actions were taken to address potential or actual concerns about abuse of market dominance. First, the privatisation of the commercial banks and investment funds between 1998 and 2002 was followed by intense consolidation, and some of the proposed mergers raised concerns about excessive market concentration. Second, the insurance sector has been the subject of a high-profile cartel investigation, at the end of which a settlement was reached that ruled illegal several previous industry practices. Finally, following the emergence of three dominant firms in the food retail sector, there have been persistent concerns that high food prices are not only a consequence of agricultural support policies (reviewed later in this chapter) but also reflect these firms' abuse of their dominant positions.

At the beginning of 1998, the Icelandic banking sector consisted of three commercial banks, two of which (Landsbanki and Bunadarbanki) were publicly owned; 29 relatively small savings banks that initially had a co-operative ownership structure, which over the years had become increasingly complex (OECD, 1998); and five investment funds, four of which were publicly owned and one, Kaupthing, which was owned by the savings banks. In January 1998 the government merged three of its four investment funds, and over the next two years sold its entire stake in the resulting two funds. It also began selling part of its stakes in the two commercial banks it owned. In May 2000 the CFTA approved the merger of the private commercial bank, Islandsbanki, with the larger investment fund, FBA, which had been created in 1998. In December 2000, however, the CFTA ruled against the merger of the two commercial banks in which the government held a majority stake, on the grounds that the proposed merger would damage competition. The combined share of the two banks in total deposits would have been 53%. The government then sold its remaining stakes in these two banks in several stages ending at the beginning of 2003. Meanwhile, the savings banks had offered 44% of Kaupthing to the public through an IPO on the Icelandic Stock Exchange in October 2000. In May 2003 the CFTA approved the merger of Bunadarbanki and Kaupthing that created the largest commercial bank in Iceland, although the other two commercial banks are not much smaller in terms of total assets. Competition in the investment banking segment seems to be fierce among the three banks, and the spread between lending and borrowing rates has narrowed fairly steadily over recent years.* There are, however, concerns that competition in lending to small and medium-sized enterprises is less vigorous. A related concern is that consolidation among the savings banks, which should be obvious competitors in this segment, has hardly started, with 24 savings banks remaining, none of which has so far taken advantage of a 2001 law that aims to facilitate their incorporation to solve the problems resulting from their unclear ownership status.

The non-life insurance market in Iceland has for some time been dominated by three companies, whose combined market share in total written premiums in 2002 stood at 95%. In 1997 the CFTA launched an investigation with a dawn raid on the offices of the Insurance Association of Iceland, which the CFTA suspected was used by these three insurers to engage in practices harmful to competition. After seven years, the case was settled between the CFTA and the Insurance Association by the latter agreeing to substantial restrictions on its practices. In the past, the CEOs of all three insurance companies

Box 4.1. Market concentration and competition law enforcement (cont.)

had also served as members of the Association's board. Following the settlement, at most one CEO may serve at any point in time as a board member. The investigation also found that the Association's board meetings had been used to share information that could be harmful to competition, and that it had filed spurious administrative cases against new entrants with the Financial Supervisory Authority, and these practices too were explicitly prohibited in the settlement.

As in several other OECD countries, concentration in the Icelandic food retail sector has increased substantially. Following the emergence of three large food retailers in the late 1990s with a combined market share of about 85%, complaints about high food prices became widespread. While the retail chains argued that high retail prices were a result of high wholesale prices, suppliers denied this charge. In response, at the beginning of 2000 the Minister for Industry and Commerce asked the CFTA to prepare a report on this matter. The report, which was published in April 2001, concluded that over the period 1996-2000 food prices at the retail level had increased by about 15% relative to overall consumer prices, and that only half of this increase could be attributed to increases in suppliers' prices. As a consequence of this finding, the CFTA issued a code of practice for food retailers. Although complaints initially subsided, they have resurfaced of late. The CFTA is currently focusing on concerns related to vertical agreements such as exclusive relationships by which the retail chains may be abusing their market power *vis-à-vis* their suppliers.

* Lending rates are computed as interest received from credit institutions, on loans and advances and on debts evidenced by certificates as a percentage of the corresponding assets. Borrowing rates are computed as interest payable to credit institutions and on deposits, bonds and subordinated liabilities as a percentage of the corresponding liabilities. The spread so defined declined from 4% in 1997 to 2.5% in 2003. All data are from the Financial Supervisory Authority.

output prices, and pending amendments will strengthen this system concerning dairy products, even permitting mergers forming a monopoly. The likelihood of a more explicit exemption for this sector is evidently a reaction to the CFTA's enforcement efforts there. Nevertheless, the CFTA and the Council have made extensive use of their authority to engage in public advocacy about the elimination of anti-competitive laws or rules, particularly in the 1990s. More recently, the Council has issued fewer opinions about the possible anti-competitive effects of laws or proposals, but it is making more use of its power to order government entities to correct behaviour that impairs competition.

Competition and macroeconomic performance

Iceland's economic performance improved considerably during the 1990s. Labour productivity growth since the mid-1990s has been comparable to that in its fellow Nordic countries and the United States, whereas earlier it was noticeably lower (Table 4.1). While over the entire period 1990 to 2003 GDP per capita rose at a slower pace in Iceland than in either the European Union² or New Zealand – another small, remote economy – from the mid-1990s on it has outperformed both. GDP per capita is now at levels similar to the other Nordic countries, excluding oil-rich Norway. However, this reflects in part the unusually high rate of labour force participation; the level of GDP per hour worked is considerably below those of Sweden, Finland and Denmark, suggesting that a sizeable share of employment is in low value-added occupations. Nonetheless, the adoption of strongly

Table 4.1. **Output, employment and productivity**

	Iceland	Norway	Sweden	Finland	Denmark	New Zealand	European Union ⁴	United States
Average GDP growth, 1990-1995	0.3	3.8	0.7	-0.9	2.0	3.0	1.6	2.4
<i>of which:</i>								
Productivity ¹	-0.3	3.5	2.1	2.5	1.9	0.4	2.4	1.2
Hours	0.6	0.3	-1.3	-3.4	0.0	2.6	-0.9	1.2
<i>of which:</i>								
Hours per employed	-0.1	-0.2	1.0	0.1	0.4	0.7	-0.5	0.2
Unemployment ²	-0.4	0.1	-1.3	-2.7	0.1	0.3	-0.7	0.0
Labour force	1.2	0.4	-1.1	-0.8	-0.5	1.6	0.2	1.0
Average GDP growth, 1995-2003	3.8	2.8	2.6	3.5	2.0	2.8	2.1	3.2
<i>of which:</i>								
Productivity ¹	2.5	2.4	2.3	2.6	1.4	1.3	1.5	2.2
Hours	1.3	0.4	0.2	1.0	0.7	1.5	0.6	1.0
<i>of which:</i>								
Hours per employed	0.0	-0.7	-0.5	-0.5	0.2	-0.2	-0.6	-0.3
Unemployment ²	0.2	0.1	0.4	0.9	0.1	0.2	0.3	-0.1
Labour force	1.1	1.0	0.4	0.6	0.3	1.5	0.9	1.3
<i>Memorandum items:</i>								
GDP per capita ³	78	98	75	73	81	62	71	100
Growth 1990-95, average p.a.	-0.7	3.2	0.1	-1.4	1.6	1.8	1.1	1.4
Growth 1995-2003, average p.a.	2.8	2.2	2.4	3.3	1.7	2.0	1.8	2.0
GDP per hour ³	70	125	86	82	94	63	92	100

1. Real GDP per hour.

2. A positive sign indicates that unemployment has declined and helped to boost output growth.

3. Real GDP; 2002 levels, PPP based, USA = 100; annual average.

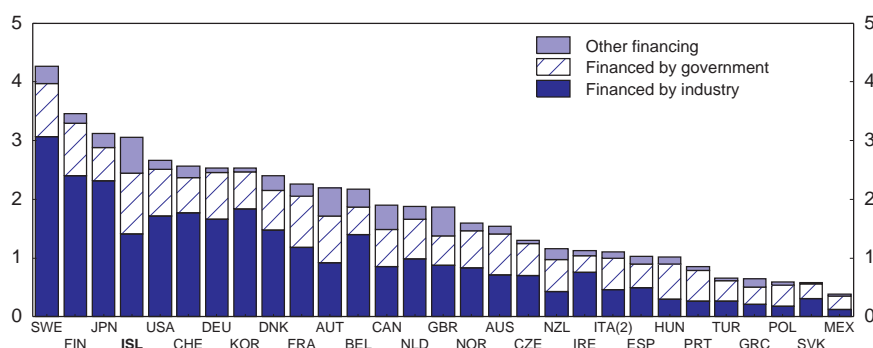
4. Weighted average using GDP weights; Austria and Luxembourg excluded.

Source: OECD productivity database (www.oecd.org/statistics/productivity) and OECD Economic Outlook 76 database.

pro-competitive policies since the early 1990s and the productivity acceleration shortly thereafter suggest that those policies had a positive effect on aggregate performance; indeed, a number of recent studies have documented important linkages in OECD countries between policies affecting competition at the industry level and economic performance (see *e.g.* OECD, 2002).

The recent theoretical and empirical literature has emphasised that most of the benefits of competition result from gains in “productive” or “dynamic efficiency”, which can be broadly defined in terms of productivity increases through innovations (Ahn, 2002). Thus, possibly the most important channel through which a pro-competitive policy orientation would raise economic performance is by raising innovative activity and adoption of new technologies. Both the competitiveness of the economic environment and innovative activity are concepts that are extremely difficult to measure empirically. The latter is sometimes approximated by economy-wide spending on research and development (R&D). Concerning the competitive environment, quantitative indicators measuring the extent of regulation affecting competition have been developed at the OECD which, though not measuring competitive forces directly, have the advantage of focusing on their policy determinants; these indicators will be discussed in more detail below. The empirical evidence suggests that indeed a more competitive regulatory environment leads to higher R&D intensity (Nicoletti *et al.*, 2001), and conversely that burdensome regulatory environments slowed productivity growth in the 1990s in a number of industrialised countries

Figure 4.1. **Gross domestic expenditure on R&D as a percentage of GDP**
2002¹



1. Belgium, Denmark, Greece, Iceland, Ireland, Italy, Mexico, Netherlands, New Zealand, Norway, Portugal, Sweden: 2001; Australia, Switzerland: 2000.
2. The breakdown between private and public expenditure for Italy is unavailable. The 2001 figure is estimated using weights from 1996, which was the latest year for which the breakdown is available.

Source: OECD, *Main Science and Technology Indicators*, 2004/1.

by impeding the adoption of information technologies (Gust and Marquez, 2004).³ It is worth noting that by the standard of R&D intensity Iceland ranks high among OECD member countries (Figure 4.1). This observation is consistent with generally strong competitive forces in Iceland, causing firms to invest in knowledge capital to avoid losing market share in the longer run. The following section looks at various indicators of the strength of these forces.

The strength of competition in Iceland

One frequently used indicator for the strength of competitive forces in a particular industry is the degree of concentration as measured by the Hirschman-Herfindahl index (HHI). Table 4.2 presents such indices for 50 industries based on surveys conducted in 1993 and 1999 by the CFTA. High market concentrations are found mostly in industrial and construction materials and in network industries, although there are also examples elsewhere (alcoholic beverages, tobacco and airlines). Of the 29 industries included in both surveys, concentration increased in 16 and declined in five; the eight remaining industries all stayed monopolies. In some instances the HHI increased in industries in which there are indeed concerns about a decline in competitive behaviour, such as in food retailing, which will be discussed below. Similarly, the decline in the index for telecommunications coincided with strengthened competition in that sector. However, limitations to the use of the HHI as a measure of the strength of competition need to be acknowledged. Although in general collusion is probably harder to sustain the larger the number of competitors in a market, it is nonetheless possible, for example through geographic segmentation, whereas competition even among two rivals can be fierce. More fundamentally, the definition of markets in these surveys relies primarily on industrial classifications used by the statistical agencies and does not correspond to the “relevant market” concept according to antitrust principles.⁴ Nonetheless, these data suggest that high market concentration might be a concern in several sectors, as would be expected given Iceland’s remoteness and the small size of its economy.

While high market concentration increases the risk of abuse of market dominance, this risk can be substantially reduced through regulatory policies that encourage market

Table 4.2. **Hirschman-Herfindahl indices of turnover of domestic producers in 1993 and 1999^{1, 2}**

	1993	1999
Food, wholesale and retail		
Fish and seafood production	0.02	0.25
Food sales	0.07	0.33
Slaughtering and meat processing	0.11	0.17
Confectionery	0.13	...
Seafood exports	0.16	0.35
Milk, wholesale	0.20	0.30
Fishmeal	0.39	0.34
Non-alcoholic beverages	0.46	0.33
Alcoholic beverage sales (wholesale and retail) ³	1.00	1.00
Cheese and butter, wholesale	1.00	1.00
Other final goods		
Computer hardware and software sales	0.10	0.19
Glass products	0.11	...
Printing	0.15	0.25
Publishing houses	0.17	0.26
Automobiles and parts sales	0.17	0.15
Fishing gear	0.18	...
Petroleum products	0.31	0.32
Drugs, wholesale	0.33	
Pharmaceutical production and wholesale		0.17
Magazine publishing	0.35	0.69
Newspaper publishing	0.40	0.52
Corrugated and other paper	0.43	0.44
Tobacco, wholesale	1.00	1.00
Industrial and construction materials		
Plastic film and mouldings	0.06	...
Building materials (retail)	0.12	0.44
Paint and varnish	0.26	...
Concrete	0.37	...
Aluminium	1.00	0.68
Ferrosilicon	1.00	1.00
Diatomite	1.00	1.00
Synthetic fertilisers	1.00	1.00
Cement	1.00	1.00
Rockwool	1.00	1.00
Financial services		
Pension funds	0.04	0.16
Insurance	0.23	
Life insurance		0.32
Non-life insurance		0.22
Banks and savings institutions	0.23	0.20
Telecommunication and postal services		
Radio and television broadcasting	0.38	...
Post, telephone and telecommunications	1.00	
Post and courier activities		0.94
Telecommunications		0.80
Energy		
Domestic generation and distribution of hydro- and geothermal energy	...	0.27
Electricity distribution	0.27	
Geothermal energy distribution	0.43	...
Electricity generation	0.96	...

Table 4.2. **Hirschman-Herfindahl indices of turnover of domestic producers in 1993 and 1999^{1, 2} (cont.)**

	1993	1999
Transport		
Travel agencies	0.07	0.27
Shipping	0.49	
Shipping and land transport		0.36
Airlines	0.64	0.75
Motor vehicle inspection	1.00	...

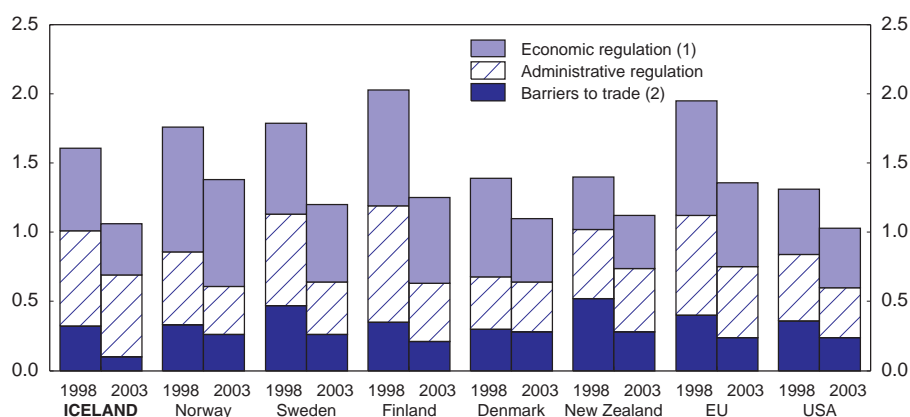
Note: ... = unknown (sector not covered in survey).

1. Where market share information on firms was not available, it was assumed that they are all of equal size, implying that the calculated indices are lower-bound estimates.
2. The Hirschman-Herfindahl index is the sum of the squared shares of the market of all producers in the market. It is bound from above at unity for a monopoly and zero for atomistic competition.
3. 1999 figure refers to retail only.

Source: Competition and Fair Trade Authority.

entry. The following section discusses these policies for some sectors in detail. As mentioned earlier, the OECD has developed a set of indicators to provide a quantitative summary of the extent of regulation affecting competition, which captures an important element of the unobservable concept of competitive forces.⁵ These indicators can be further decomposed in an economically informative way into indicators of economic regulation, such as barriers to competition and government ownership, of administrative regulation and of barriers to foreign trade and investment. For the economy as a whole these indicators show that Iceland is quite open to competitive forces and has been following the OECD-wide trend over recent years towards further liberalisation (Figure 4.2). Some problems persist in the area of administrative burdens in connection with starting a new business and complying with regulatory requirements; these burdens have not diminished and remain relatively high compared to other Nordic countries and the United States. By contrast, barriers to trade, including tariffs and foreign ownership restrictions,

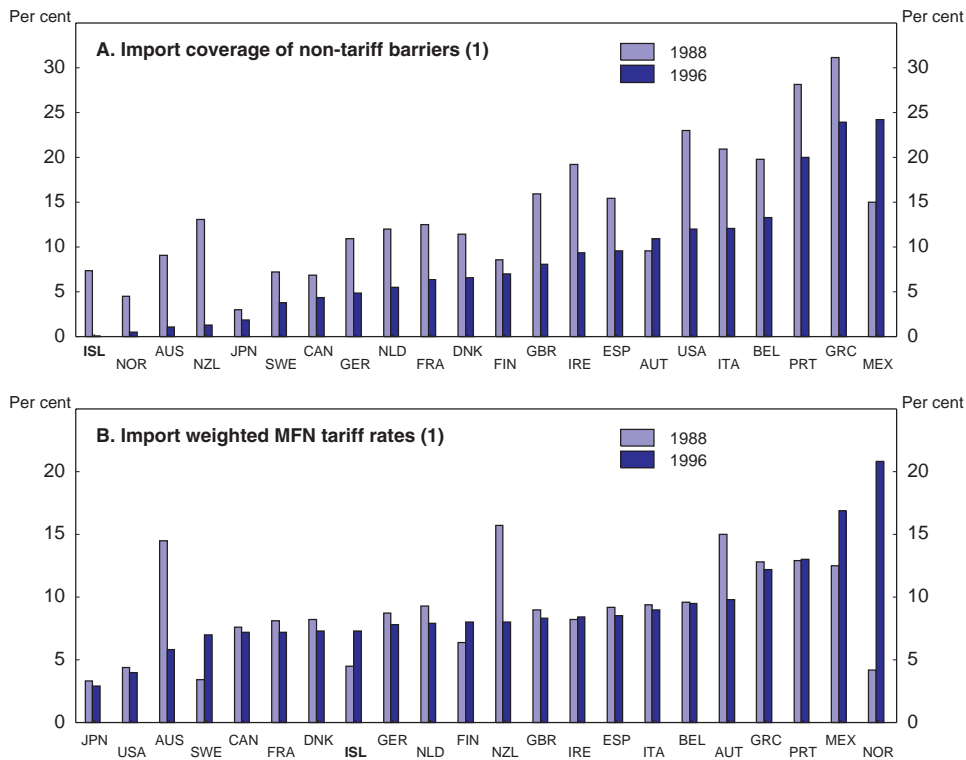
Figure 4.2. **Indices of regulations affecting product market competition**
0-6 indicator from least to most restrictive



1. Includes barriers to competition and state control.
2. Includes trade and FDI restrictions.

Source: OECD calculations.

Figure 4.3. Openness indicators in the OECD area

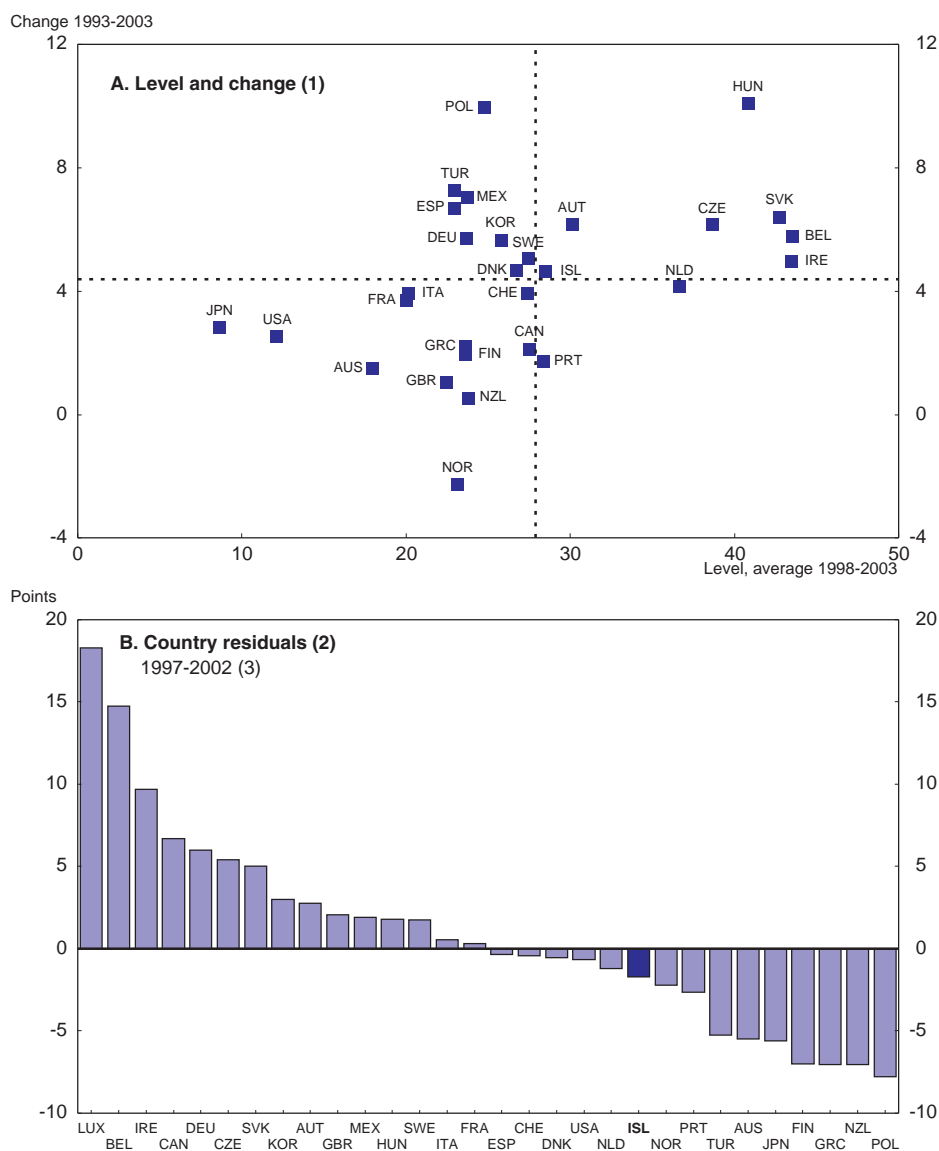


1. OECD calculations based on UNCTAD data. Aggregation from 2-digit level tariffs to national level using sectoral value-added weights.

Source: UNCTAD, OECD calculations.

are in general low by international standards, although there are a few exceptions as noted below. The degree of openness is especially high in terms of non-tariff barriers, but less so in terms of tariffs (Figure 4.3). Tariffs on agricultural products account for most of those barriers: the average MFN tariff rate for agricultural products in 1999 was 10.8%, more than four times the average rate for manufactured goods. Moreover, since domestic production is non-existent for many items, certain indirect taxes, such as the excise tax on vehicles, act like a tariff.

Despite Iceland's remoteness, in many sectors having its markets open to trade is likely an important channel to restrain those of its firms that have significant market shares from abusing their dominance. As shown in panel A of Figure 4.4, the level of import penetration in Iceland, defined as nominal imports as a share of total demand, has been close to the OECD average during the period 1998 to 2003, and it has increased over the period 1993 to 2003 in line with most other OECD economies as well. In view of the size of its economy, Iceland's import share might be expected to be substantially above the OECD average; at the same time, its remoteness may counteract this effect. Panel B of the figure shows residuals from a regression that relates import penetration in OECD member countries to the logarithms of their GDP per capita and population as well as a measure of transportation costs to control for distance effects.⁶ These three factors combined explain about two thirds of the observed cross-country variation in import penetration. As shown

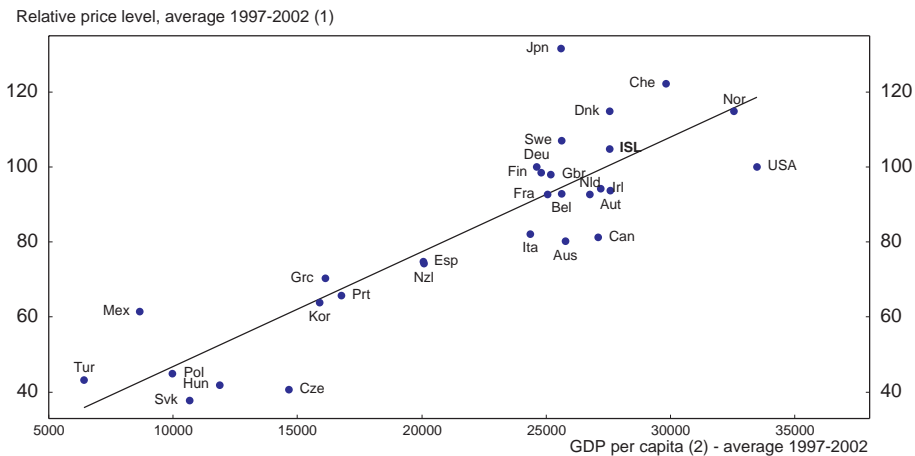
Figure 4.4. **Import penetration**

1. Aggregate nominal imports relative to total demand.
2. 30 countries.
3. Or latest year available.

Source: OECD Economic Outlook 76 database.

in Panel B, Iceland's import penetration of about 28% is about 3 percentage points lower than the regression would predict.

Ultimately the welfare effects of increased competition are achieved by a reduction in consumer prices relative to what they would be otherwise. Direct comparisons of prices and price levels across countries can therefore provide indications as to a potential lack of competitive forces. It is by now well known that price levels across nations, after controlling for net indirect taxes, are correlated with per capita incomes, as predicted by the Balassa-Samuelson theorem. The estimated elasticity of the price level with respect to

Figure 4.5. **Relative price levels and GDP per capita**

1. Purchasing power parities divided by the exchange rate, USA = 100.
2. In US\$, converted with PPPs.

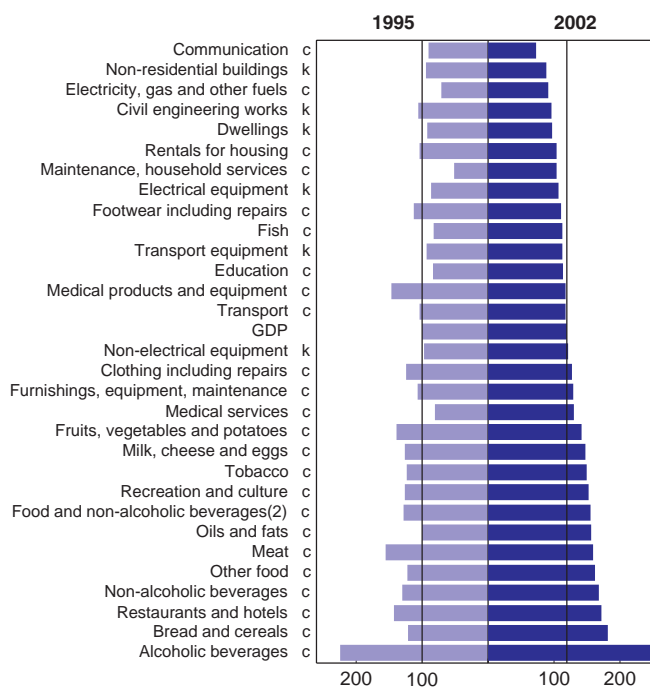
Source: OECD Economic Outlook 76 database.

per capita GDP in the regression shown in Figure 4.5 is 0.8. According to this relationship, prices in Iceland seem to be slightly higher than predicted, although less so than in several other Nordic countries, but in contrast with New Zealand, another small, remote economy.⁷ Given that Iceland's GDP per capita is only moderately higher than the European Union average, a detailed comparison of price levels in Iceland for a number of final expenditure categories against their EU averages is instructive (Figure 4.6).

There are only few categories for which prices in Iceland are below the EU average, notably residential and non-residential buildings, civil engineering works and communications. Energy is also relatively cheap, although this should not be surprising, given Iceland's abundance of renewable energy sources. In fact, the relative affordability of energy in Iceland seems to have diminished since the mid-1990s. However, it is possible that high prices in general in Iceland compared to the EU reflect at least in part currency overvaluation unrelated to the state of product market competition. It is deviations of Icelandic prices relative to foreign (say, EU) prices beyond the average divergence that are of interest. By this measure, the prices of virtually all food items relative to the overall price level have remained high and in several cases have increased since 1995; relative prices of a number of services have also remained high.

Regulatory policies in network industries

The downward trend in the indicators of the strictness of product market regulation presented above suggests that on the whole economic policies in Iceland have moved in the direction of market liberalisation. While these indicators can yield some aggregate perspective on the macroeconomic effects of economy-wide deregulation, the effects of regulatory policies within specific markets on prices and efficiency are often easier to measure and more telling as to shortcomings in competition. Lessons drawn from these experiences can be valuable in considering the potential effects of future efforts at regulatory reform. In many industrialised countries industry regulation was initially intended to increase welfare by offsetting monopoly power, where the range of activities

Figure 4.6. **Comparative price levels of final expenditure on GDP**EU15 = 100, disaggregated categories¹

1. C signifies a component of the aggregate "Final consumption by households", K signifies a component of the aggregate "Gross fixed capital formation".
2. Includes the items bread and cereals; meat; fish; milk, cheese and eggs; oils and fat; fruits, vegetables and potatoes; other food; and non-alcoholic beverages, which are also shown in the figure.

Source: Eurostat.

subject to natural monopoly was believed to be substantial. In the meantime it has been realised that regulations often had the effect of protecting monopoly status by limiting competition (Winston, 1998), and that many activities believed to be natural monopolies are in fact competitive, or may have become so due to technological developments.

This section examines recent developments in regulatory policies in the telecommunications and electricity sectors, in which competitive and natural monopoly activities are intertwined. These are the sectors in which government regulation continues to play an important role. By contrast, regulation in other sectors is light by international standards. In the retail sector, for example, opening an outlet requires little administrative burden, regardless of the size of the outlet, and shop opening hours are nearly unrestricted. Similarly, given that Iceland does not possess a railway network, the need for regulation in the area of transport is lower than in other OECD member countries. In air transport there is a surprisingly large number of operators, given the size of the market, with two airlines offering scheduled international flights and five domestic service. There are no foreign carriers offering regular service to Keflavik; however, given the absence of discrimination in landing fees and ground handling or limitations on slots, this probably reflects other carriers' assessment that it is not profitable to compete on such routes.

In many respects, regulatory policies towards network industries in Iceland have followed a similar course over recent years to those in other OECD countries. The

development of legislation in this area reflects the obligation under Iceland's EEA membership to implement the relevant EU directives, notably regarding the separation of competitive from natural monopoly activities. Whereas substantial progress has been made towards introducing competition in telecommunications, several issues regarding access pricing remain to be solved, and the privatisation of the state-owned former monopolist remains to be completed.⁸ By contrast, the energy sector is by and large divided between one dominant, state-owned firm in generation and transmission and another in distribution. Although legislation conforms to EU directives, so far there is no prospect of competition emerging in any segment of this market. Further steps toward structural separation of generation from transmission activities and toward encouraging competition in generation are needed.

Telecommunications

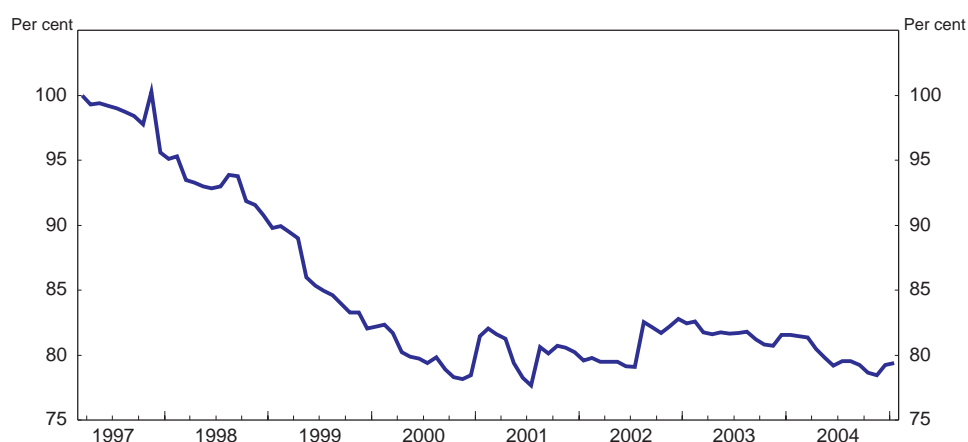
The current legal framework governing the telecommunications sector consists of the Law on Telecommunications and the Law on the Post and Telecom Administration and has (with some modifications) been in place since the beginning of 2000.⁹ It is designed to promote competition and to ensure conformity of Icelandic law with the European Union directives, and establishes the Post and Telecom Administration (PTA) as the industry regulator. Competition in the Icelandic telecommunications sector started in May 1998, when Tal began offering mobile phone service and quickly captured a substantial market share. Entry picked up in early 2000, when within six months of the new telecoms legislation the PTA issued four new mobile phone licenses, bringing the total number of licensees to seven. This period of rapid market entry was followed by a series of mergers, leaving the telecommunications market divided between two competitors, the incumbent Iceland Telecom (Síminn) and Og Vodafone.¹⁰ The latter's market share in the entire telecommunications market at the end of 2003 was above 20%. However, its presence remains skewed towards the mobile phone sector, where its share in subscriptions is 36%, and its share in revenues from end-user fees nearly 30% (Table 4.3). By contrast, of the approximately 135 000 standard (PSTN) lines in the fixed telephone network, only 10 300 were operated by Og Vodafone, leaving the incumbent Síminn with a market share

Table 4.3. Telephone lines and cellular telephones

	2000	2001	2002	2003
Fixed network				
Standard lines	141 330	139 300	132 353	135 402
ISDN	17 717	18 128	16 777	16 234
ADSL subscriptions	2 591	10 618	23 484	40 152
Cellular telephone subscriptions ¹	187 628	221 231	235 338	279 670
Per 1 000 inhabitants				
Standard fixed lines	499	486	459	466
ADSL subscriptions	8	37	82	138
Cellular telephone subscriptions ¹	662	772	817	962
Market shares of Siminn (per cent)				
Fixed network national calls	n.a.	92	87	80
Fixed network international calls	n.a.	85	81	79
Cellular telephone subscriptions ¹	70	67	64	64

1. GSM subscriptions.

Source: Post and Telecom Administration.

Figure 4.7. **Relative price of telecommunication services**¹

1. Relative to CPI all items.

Source: Post and Telecommunication administration, OECD, *Main Economic Indicators*.

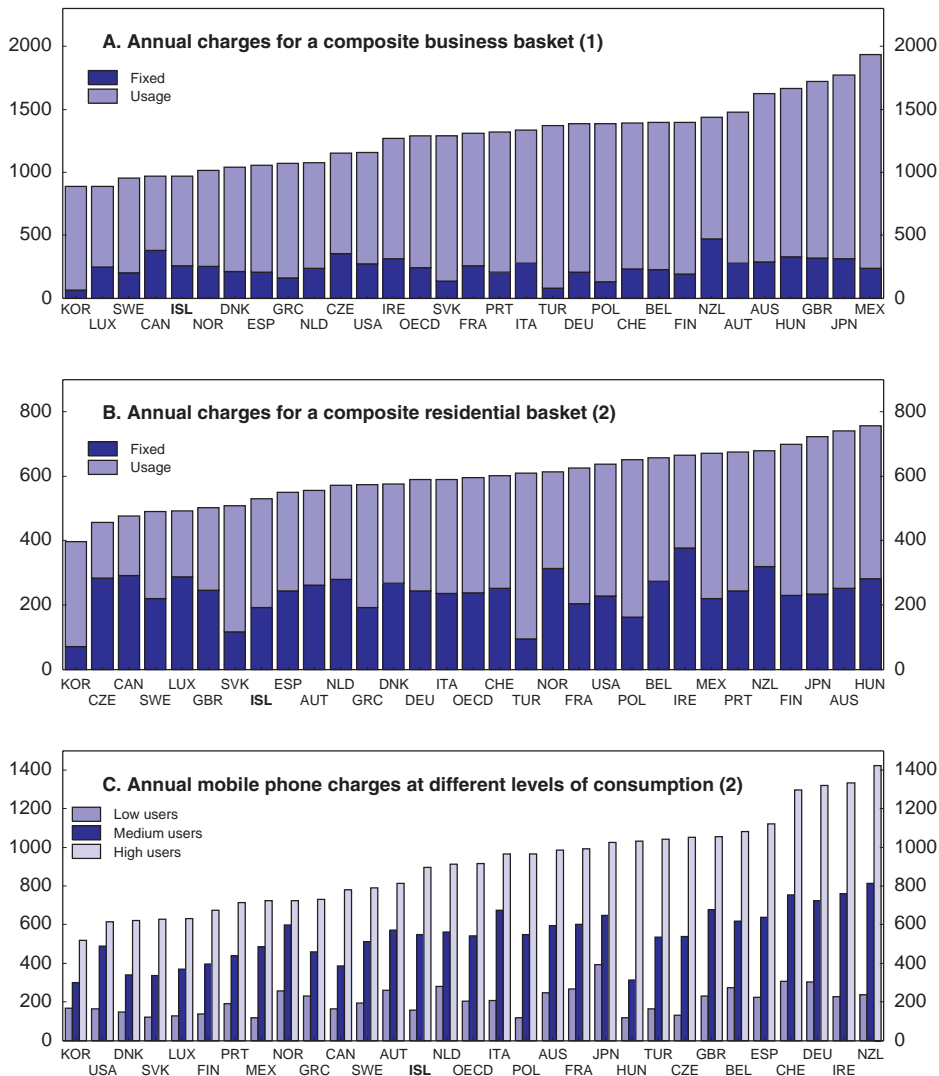
in fixed lines of about 92%.¹¹ The emergence of competition in telecommunications appears to have had a rapid effect on prices for telecommunication services paid by households. From the beginning of 1998 through the end of 2000 prices declined over 20% relative to the all-items CPI (Figure 4.7). Since then, relative telecommunications prices have remained roughly unchanged. By comparison, the CPI for telephone services in the United States declined by approximately 9% between early 1998 and the end of 2000 relative to the all-items CPI, and another 10% since then, indicating that the cumulative relative price decline in Iceland over this period is about as large as in a country regarded as being at the technology frontier and enjoying strong competition in this area. By international standards, residential and business phone charges in Iceland are low (Figure 4.8), which is impressive, given the high fixed costs due to a widely dispersed population.

In November 1997 the then-monopolist abolished domestic long-distance rates by making the whole country one local call zone. Hence, there are only two areas of competition in fixed-network telephony, carrier selection for international calls and selection of local service provider. Effective March 2000 the PTA mandated the use of carrier selection and pre-selection for international calls in the residential market. These facilities allow the selection of a carrier for each call or the automatic routing of all calls to a selected carrier. At present, Síminn's share in international call volumes is about 80%. Carrier selection, like inter-connection with mobile networks, raises the issue of fees charged by the local-service incumbent on a per-call basis, but leaves the incumbent in control of the local loop. Termination fees are low relative to the retail price, creating incentives for competition in the form of mobile networks and wholesale competition in international calls.¹² However, termination fees for out-of-network calls terminating on Og Vodafone's fixed and mobile networks are considerably higher than fees for such calls terminating on Síminn's networks.¹³

Local-service competition requires the incumbent to lease (possibly unbundled segments of) the local loop to the entrant unless competition is facilities-based, *i.e.* the entrant duplicates the incumbent's local loop. Outside of the Reykjavik area there seems to

Figure 4.8. **Telecommunications prices in OECD countries**

US dollars, August 2004



1. Excluding VAT.

2. Including VAT.

Source: OECD, *Communications Outlook 2005* (forthcoming).

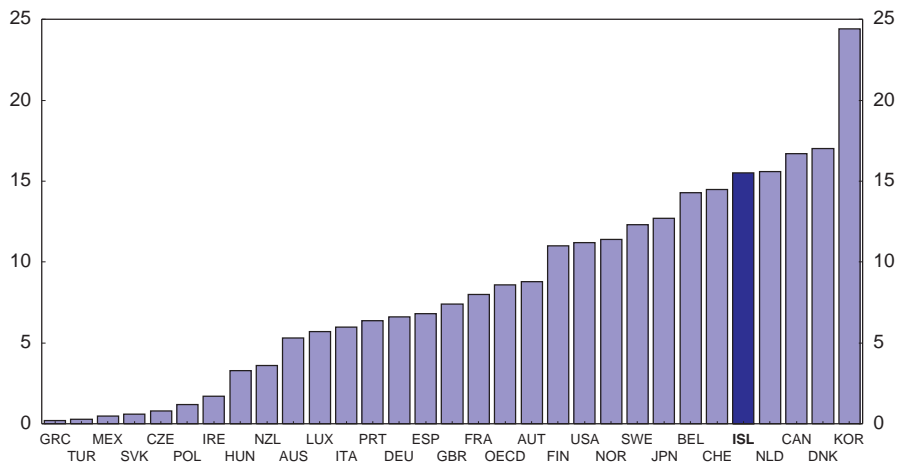
be little potential for facilities-based competition due to low population density. At the moment, the vast majority of local loops are owned by Síminn, but Og Vodafone has some local loops that it offers to big clients. There is also a fibre-optic network in the Reykjavik area belonging to the municipality-owned Reykjavik Energy, but this has so far been used only for Internet access and not yet for telephony. Most of the local loops operated by Og Vodafone are leased from Síminn. As regulation of access pricing to the local loop is still developing, the inter-connection agreement between Og Vodafone and Síminn provides at the moment the only opportunity to study local-service competition within the current framework.¹⁴ Access prices under the agreement are set by the PTA based on Síminn's historical cost. The current pricing structure discourages local-service competition,

as the monthly leasing fee of the local loop is only marginally lower than Síminn's subscription fee, leaving only slender margins to cover entrants' costs.¹⁵ The authorities should consider whether the current narrow margin between the incumbent's subscription fee and leasing fees are actually warranted by the cost structure of the industry and should aim to reduce leasing fees relative to subscription fees to foster entry into local service.

In a sparsely populated country like Iceland, universal service obligations are often imposed at the cost of substantial cross-subsidisation with its implied inefficiencies. Universal service obligations raise the fixed-cost element of a network, and there is a debate whether this cost increase should be fully financed by raising line-rental charges. Moreover, as more segments of the telecommunications market are opened to competition, cross-subsidisation offers competitors opportunities to enter the profitable segments, leaving the subsidised ones to the incumbent. The Law on Telecommunications imposes several universal service obligations. The PTA may stipulate that a licensee must provide voice telephony services for the disabled or users with special social needs as well as data transfer services at a speed of 128 Kb/second. It may decide the maximum prices and minimum quality of universal services. If a licensee finds that such services are operated at a loss or are unprofitable, the licensee may request compensation from the PTA, which in turn can be financed by a universal service charge levied on all network operators in proportion to their operating income from their licensed operations. Currently, only Síminn is required to provide universal service. Its operating license also stipulates that it has to offer services in areas that cover 98% of the population, whereas Og Vodafone's license requires it to offer services in areas covering 80% of the population. Presumably because of its still dominant position in the fixed-line segment, Síminn has so far not requested remuneration for the costs incurred under its universal service obligation. Nonetheless, evidence from the United States indicates that demand for telecommunication services is quite price-elastic, and hence universal service charges can have potentially large distorting effects (Hausman, 1998). Instead of effectively levying a tax, operators should therefore be allowed to charge customers for an unusually high cost of providing service. Other goals, such as maintaining a regionally dispersed population, can then be served through income support rather than universal service charges. The authorities may also want to consider whether universal service goals can be more efficiently achieved through technologies other than fixed-line services.

Iceland ranks worldwide among the countries not only with the highest mobile phone penetration but also with the highest broadband Internet usage (Figure 4.9). Over 80% of households have access to the Internet, and since early 2003 digital subscriber lines (ADSL) have replaced dial-up connections as the most widely used mode of internet access (Statistics Iceland, 2004). In the rapidly growing market for high-capacity connections, in which the number of fixed network users increased from 10 600 at the end of 2001 to over 40 000 two years later, Og Vodafone's share is about 30%. Reykjavik Energy also offers Internet access, through its subsidiary Lina.net, to businesses by using its fibre-optic network in the Reykjavik area and to households by using its electricity supply grid.

When the new regulatory framework was legislated in late 1999, it was envisaged that regulatory reform would soon be followed by the privatisation of Síminn. The government initially set out a three-stage plan. In the first stage, a limited number of shares were to be sold to the general public. Thereafter, a core investor was to be sought with the aim of strengthening the Icelandic telecommunications market and increasing Síminn's value in subsequent sales. The core investor was to be chosen through a limited tendering

Figure 4.9. **Broadband subscribers per 100 inhabitants**¹

1. June 2004.

Source: OECD, *Communications Outlook database 2005* (forthcoming).

procedure following pre-selection. In the final stage, a substantial share was to be offered for sale on overseas as well as Icelandic markets. Unfortunately, the timing of this plan coincided with the global downturn in the telecommunications sector (OECD, 2003a). The initial stage was set for 19-21 September 2001, at which point only 5% of shares were subscribed out of a total of 14% offered on the market. Moreover, the subsequent negotiations with the chosen core investor, TeleDanmark, broke down in February 2002 after no agreement on terms had been reached. The privatisation process remained stalled thereafter, initially as a consequence of adverse market conditions. At the beginning of 2004, ownership of Síminn, which had been incorporated in 1998, was transferred from the Ministry of Communications, to whom the PTA reports, to the Ministry of Finance to achieve at least a minimum degree of separation between ownership and regulatory powers. The government's privatisation committee then decided to abandon the earlier three-stage plan and instead invited tenders for the tasks of advising the government on possible choices regarding the sale and preparing proposals on the ways and means of the sale. An agreement with a consultancy has now been concluded, and the government aims to sell Síminn during 2005. The authorities should aim to conclude the sale as soon as circumstances permit, as this would remove uncertainty about an important aspect of the future industry structure. At the same time, changes to the current structure of access prices, as discussed earlier, are necessary to foster local service competition and reduce the risk that the incumbent's dominant position in local service stifles competition in other segments.

Electricity

The Icelandic energy market differs from those of other OECD member countries in several respects. As of 2002, about 70% of energy consumed in Iceland was generated from domestic renewable energy sources. The remaining 30%, which was generated from imported fossil fuels, was overwhelmingly used in the transport sector. Thus, except for the transport sector, practically all energy consumed in Iceland, whether commercially or

by households, is either electricity generated from hydropower and geothermal energy, or space heating using geothermal energy. While renewable energy sources are abundant, direct export of electricity by submarine cable to Scotland is not yet economically viable. The current strategy is to attract power-intensive industry, notably aluminium smelters, to Iceland. Electricity usage is therefore highly concentrated: 71% of electricity usage in 2002 was accounted for by just three plants: two aluminium smelters and a ferro-silicon plant. The concentration of electricity usage is projected to increase even further once the enormous expansion of the aluminium industry discussed elsewhere in this Survey is completed. Iceland's exceptional situation in terms of both energy sources for electricity generation and concentration of end-users has important implications for the competitive structure of its electricity sector.

The electricity market in Iceland is currently divided between the National Power Company (Landsvirkjun), Iceland State Electricity (Rarik) and seven municipal utilities of which Reykjavik Energy is by far the largest.¹⁶ Landsvirkjun is dominant in electricity generation, accounting for about 85% of the market, and is the majority owner of a newly established company operating the central transmission grid. Until now it has also been the only entity selling electricity to the power-intensive industrial enterprises. The seven municipal utilities have had until now exclusive rights to distribute and sell electricity in their area of operation. Reykjavik Energy's area covers about 54% of the population, and the areas of the other six utilities combined 28%. Finally, Rarik distributes electricity in areas not served by a municipal utility, covering more than 80% of the inhabited areas of Iceland but less than 20% of the population; it also operates some lower-voltage transmission lines. Both Rarik and the municipal utilities engage as well in generation, notably Reykjavik Energy which produces nearly 8% of the nation's electricity. The State Treasury currently has a 50% stake in Landsvirkjun, 45% is owned by the City of Reykjavik and the remaining 5% by the Township of Akureyri. The City of Reykjavik also owns 92.5% of Reykjavik Energy, with most of the remainder owned by the neighbouring town of Akranes. Rarik is entirely state-owned, and the remaining six utilities are owned by the state and the major municipalities in their area of operation. The existing industry structure is therefore one of publicly owned monopolies, similar to the structures of many other European countries. However, it is different in that the degree of vertical integration is lower than elsewhere.

The legal framework for operations in the electricity sector changed substantially with the coming into force of the Electricity Act in July 2003.¹⁷ The main impetus for the Act was to bring Icelandic legislation into conformity with the EU directive adopted in December 1996 concerning common rules for the internal market in electricity. While the Act creates the legal pre-conditions for competition in generation and sales, in practice there remain substantial obstacles to the emergence of competition, especially in generation. This reflects in part the technological implications of the predominance of renewable energy sources, exploitation of which is characterised by very high fixed and very low variable costs, in stark contrast to electricity generation from carbon fuels. The high upfront cost raises the risk for a potential entrant into generation. High fixed costs are slightly less of a problem in geothermal energy than in hydropower because of smaller plant size, and the recent increase in the use of geothermal energy for electricity generation may thus reduce the technical hurdles for potential entrants. Nonetheless, a realistic time lag from obtaining the first research permit to explore a geothermal field until the start of electricity generation is around eight years, and the process involves

obtaining 11 permits at various stages from a range of different agencies. On the other hand, the fact that once capacity has been installed, the electricity supply from renewable sources cannot be easily varied means that both generators and retailers have an incentive to enter long-term contracts, the former to recover their long-term investments and the latter to offer their customers stable prices.

A step conducive to opening up electricity generation to competition was taken when, at the beginning of 2005, a separate company was established that took over Landsvirkjun's transmission activities, as envisaged by the Act. The fact that the transmission system is already integrated at the national level (i.e. there is a single national grid) would facilitate systems operations in the presence of competition in generation. Another issue concerning transmission is whether the flat tariff structure for input and output at all connection points is optimal, or whether tariffs should at least to some extent reflect distance of generation from load centres (Joskow, 2003). The authorities should moreover consider whether divesting generation activities would support competition in generation. Doing so might help to create a level playing field between incumbents and entrants by preventing state-owned generators from enjoying reduced cost of capital due to government guarantees, in the process lessening the risk of future overinvestment. Privatisation of generation would also further strengthen the independence of the transmission system operator from the generators and help guarantee equal access conditions for all suppliers. As a first step, the authorities should aim to simplify the current ownership structure of the electricity sector. For example, the fact that the City of Reykjavik holds a significant stake in Landsvirkjun while being the majority owner of Reykjavik Energy may well impede competition between these two utilities. Competition in generation and sales could also reveal more transparently the relative cost of supplying electricity to power-intensive industry and retail customers. The unusually large spread by international standards between electricity prices paid by such enterprises and retail electricity prices (Figure 4.10) raises the question whether this spread reflects cost differentials or instead excessive negotiating power by power-intensive industrial customers. Although retail electricity prices on a pre-tax basis are below the OECD average (Figure 4.11), they may yet produce substantial rents in light of low average cost of generating electricity from renewable resources.

Other policies to promote competition

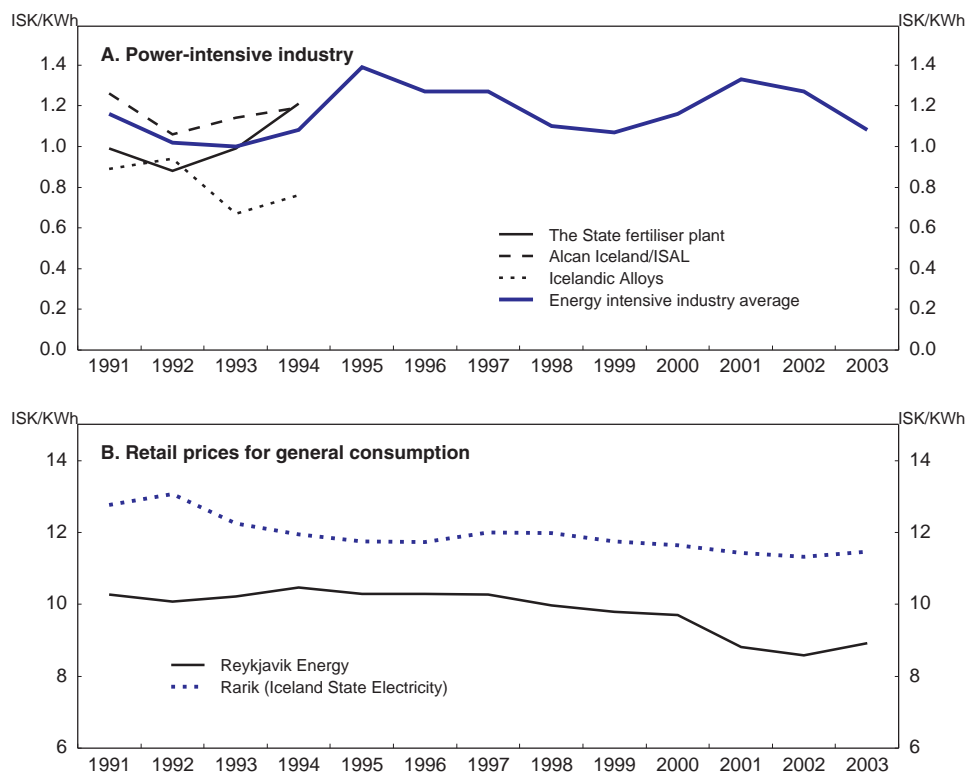
Besides competition law and enforcement and regulatory policies discussed above, there is a wide range of other policies that may directly or indirectly affect the overall intensity of product market competition. This section examines policies in three areas that seem of specific concern in Iceland. First, agricultural support in Iceland is unusually generous in comparison to other OECD countries, and its welfare costs through high food prices are likely to be substantial. Second, although statutory limits on foreign ownership of Icelandic companies are low in most sectors, they remain substantial in a few. Finally, given that government consumption and investment as a share of GDP is relatively high in Iceland, policies that promote effective procurement and outsourcing deserve particular attention.

Reduction of agricultural support

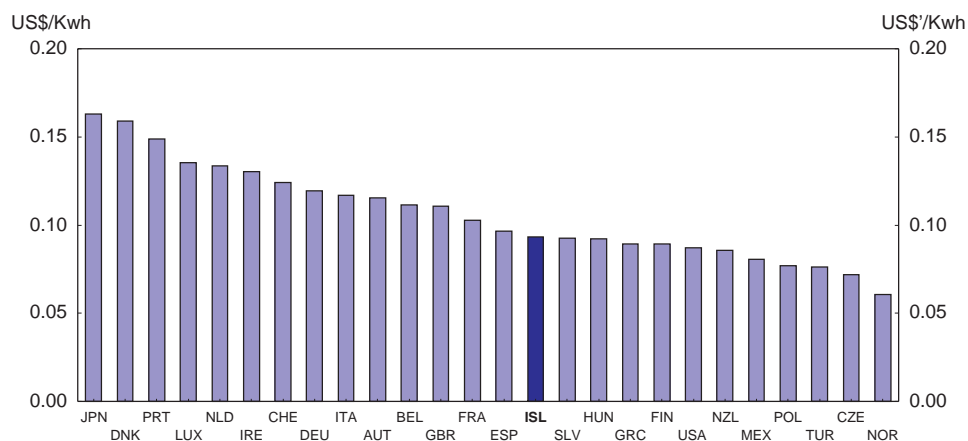
Agricultural support in Iceland, as measured by the OECD's producer support estimate (PSE) as a percentage of gross farm receipts, has declined slightly since the late 1980s, but it remains near the top among OECD countries and is still more than twice the OECD average

Figure 4.10. Electricity prices

2002 prices



Source: National Energy Authority.

Figure 4.11. Electricity prices for households¹US\$/KWh, 2003 or latest available year²

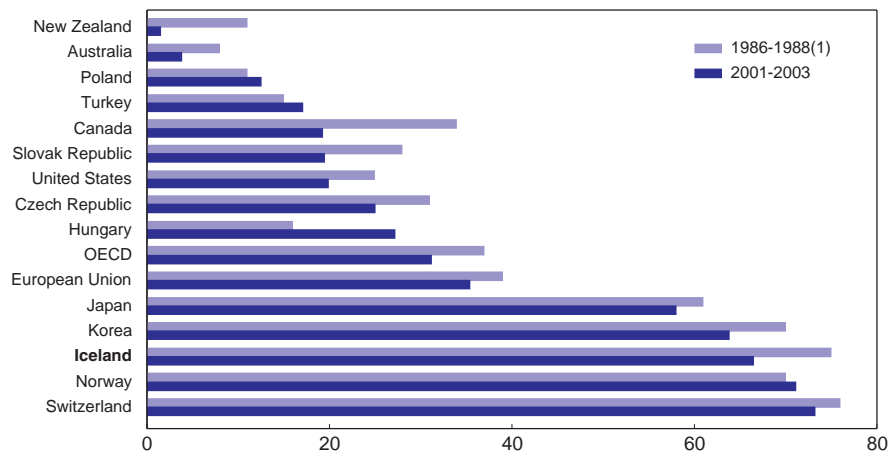
1. Price excluding taxes.

2. 2002 for Germany, Italy, Japan and Spain, 2000 for Belgium.

Source: National Energy Authority and International Energy Agency, *Energy prices and taxes*, third quarter 2004.

Figure 4.12. **Support to agriculture producers**

Percentage PSE



1. The figure refers to 1991-93 for Czech Republic, Hungary and Slovak Republic.

Source: OECD, *Agriculture policies in OECD countries* (2004).

(Figure 4.12).¹⁸ At nearly 1.7% of GDP, the PSE in 2003 of ISK 13.5 billion (\$189 million) was almost as large as the total value of farm production of ISK 13.8 billion. As a signatory to the 1995 Uruguay Round Agreement on Agriculture, Iceland has of course adhered to its obligations of converting non-tariff barriers on agricultural products into new tariffs or tariff-rate quotas, and for a number of products trade barriers have been removed altogether. But in the area of domestic support for agricultural producers, the bulk of the policies have remained of the kind that are most distorting in regard to production decisions.¹⁹ Although most other OECD countries also have policies in place that limit market forces in agriculture, the degree to which domestic producers are sheltered from market signals likely entails significant efficiency losses, by diverting scarce resources into a sector where Iceland often does not have a comparative advantage and which is lacking in growth prospects.

Following the Uruguay round, the Icelandic market was opened for certain products through minimum access requirements that allow minimum access quotas but impose high tariffs on imports above those levels. Tariff quotas apply in principle to 320 lines in the agriculture sector; in practice, however, they are used only for products for which Iceland made minimum access commitments in the Uruguay round and for live plants and flowers. Out-of-quota tariff rates are seldom used; imports generally take place at in-quota or lower tariff rates (WTO, 2000).²⁰ A seasonally administered system of tariff quotas for vegetables is in place. This system, which before 2002 applied to all vegetables, produced strong seasonal price fluctuations and led to strategic behaviour by vegetable wholesalers. As mentioned before, following the CFTA's action against cartel agreements among the wholesalers, this system was abolished for all vegetable items except those grown outdoors. To compensate domestic producers, a production-related support system for the three major greenhouse products (cucumbers, peppers and tomatoes) was introduced, with annual payments in 2003 totalling ISK 195 million (\$2.7 million), compared to a production value for these products of about ISK 500 million (\$7 million).

Iceland shares with many other OECD economies the fact that support to agriculture producers, as measured by percentage PSE, has diminished only little, if at all, since the late 1980s. Since the beginning of the 1990s there has been a shift away from administered prices and towards direct payments to producers. Nonetheless, in contrast to several other OECD economies, Iceland has made little progress in restructuring its support policies away from the most distorting policies, those that provide direct economic incentives to producers to increase current production, towards payments that are decoupled from production decisions. The share of market price support and payments based on output in overall producer support was 83% in 2003, only slightly down from 89% in 1986-88. Milk and sheep meat are the two major agricultural commodities and account for most of the market price support in place. Policies for these two products are determined in conjunction with the farming industry and are set out in two major agreements: one dealing with sheep that runs from 2001 to 2007, the other with dairy farmers for the period 1998 to August 2005. For milk, the government administers producer and wholesale prices coupled with a production quota system. Direct payments based on output are also made to milk producers. For sheep meat, the government maintains direct payments based on historical quota entitlements first introduced in 1986, which had been freely transferable between farmers until mid-1996 when they became linked to a specific farm and de-linked from production. Under the agreement with dairy farmers, administered prices for milk were scheduled to expire by mid-2004, but this date has now been postponed indefinitely. Unsurprisingly, the various agricultural support measures have led to consumer prices that are in most cases more than double their world market equivalent (Table 4.4). To reduce food prices and to channel resources to more productive uses, a substantial decrease in agricultural support is necessary. Other policy goals such as food safety, environmental goals and a regionally dispersed population should be pursued by other more direct and transparent means.

Further opening to foreign direct investment

Lowering barriers to the entry of foreign companies can potentially play an important role in fostering competition. Policies aimed at opening Iceland to foreign direct investment (FDI) have been pursued since the early 1990s. The stock of inward direct investment rose more than fivefold between 1995 and 2001, reaching ISK 70 billion, equivalent to \$975 million or 9.4% of GDP, at the end of that year, and has remained close to that level since then. Power-intensive industries account for about three quarters of FDI in Iceland. Following its entry into the EEA, in May 1996 the Act on Investment by Non-residents in Business Enterprises was passed in its current form. Ownership restrictions for banks have been removed entirely; energy exploitation rights regarding waterfalls and geothermal energy may be owned by EEA residents, but not by nationals of other countries; and EEA residents are exempt from the 49% ceiling on ownership of domestic airlines. The sector that remains the most restricted is fisheries, where foreigners – EEA residents and others alike – are barred entirely from direct holdings in businesses engaged in fishing operations or primary fish processing and are permitted to own at most 25% of companies that have shares in such businesses. Enforcement of the provisions of the Act is monitored by a Committee on Foreign Investment whose five members are elected by Parliament and whose chairperson and vice-chair are appointed by the Minister of Commerce from among the Committee members.

By international standards, Iceland's ownership restrictions are not especially high.²¹ For example, in regard to airlines the 49% threshold for non-EEA residents is common to all

Table 4.4. **Ratio of consumer prices and farm receipts to world market levels, by product**

	1986-88	1994	1999	2003		
	Iceland			Iceland	OECD	New Zealand
Consumer prices¹						
Milk	4.19	2.35	2.72	3.05	1.81	1.00
Beef and veal	2.23	1.33	2.31	2.46	1.27	1.00
Sheepmeat	2.67	1.00	1.12	0.99	1.27	1.00
Wool	0.45	-0.08	-0.49	-0.27	0.99	1.00
Pigmeat	3.86	2.62	3.21	1.55	1.21	1.00
Poultry	7.31	7.36	6.79	6.78	1.13	2.21
Eggs	5.13	4.45	5.00	3.20	1.03	1.27
Other products	3.95		2.17	2.28	1.30	1.10
All products	3.23	1.77	2.23	2.23	1.31	1.10
Farm receipts²						
Milk	5.64	4.30	5.04	5.20	1.96	1.01
Beef and veal	2.61	1.37	2.37	2.59	1.54	1.01
Sheepmeat	3.99	2.15	2.19	2.22	1.74	1.00
Wool	1.22	1.28	2.87	2.14	1.06	1.00
Pigmeat	3.94	2.63	3.21	1.58	1.27	1.00
Poultry	7.19	7.13	6.47	6.72	1.20	2.21
Eggs	5.08	4.43	4.99	3.22	1.06	1.27
Other products	3.86		2.21	2.56	1.36	1.02
All products	3.99	2.55	3.14	3.28	1.46	1.03

1. Consumer nominal assistance coefficient, the ratio between consumption expenditure on agricultural commodities and that valued at border prices.

2. Producer nominal assistance coefficient, the ratio between the value of gross farm receipts including support and gross farm receipts valued at border prices.

Source: OECD, *Agricultural policies in OECD countries (2004)* and PSE/CSE database.

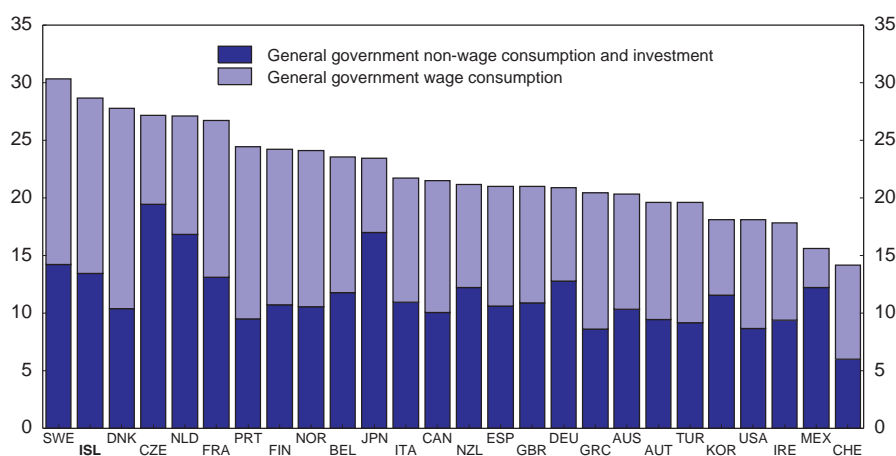
EEA member countries and is less restrictive than the corresponding thresholds in either the United States (25%) or Japan (33%). The ownership restriction in hydro and geothermal energy exploitation is also a common feature among OECD economies, and its import has until now been somewhat reduced by the fact that in many cases the entire energy sector is government owned (as is the case in Iceland) and thus other pre-conditions for competition in generation are missing. On the other hand, in fisheries Iceland's ownership restrictions are among the highest among OECD member countries (OECD, 2003b). Moreover, the law governing foreign direct investment stipulates several screening and approval procedures that are particularly onerous by international standards. Actual practice, by contrast, is considerably more liberal, and the text of the law should be amended so as to reflect this practice. Regardless of whether Iceland's restrictions are lenient or rigid by international standards, however, it is likely that an economy as small as Iceland's has much to gain from opening its markets to foreign investors, as openness to competitive pressures from abroad has a larger role to play in disciplining domestic producers than in a country with an internal market as large as, say, that of the United States. Thus, the authorities should consider reducing the remaining ownership restrictions, in particular *vis-à-vis* non-EEA residents, and should ensure that no unnecessary administrative burdens are imposed in connection with investments by foreigners.

Public procurement and outsourcing of publicly funded services

General government purchases of goods and services as a share of GDP in Iceland are among the highest in the OECD; this reflects a large government wage bill as well as non-wage consumption and investment (Figure 4.13). High non-wage consumption and investment expenditures imply that government procurement policies likely have a large role to play in fostering competition, whereas the high wage bill suggests that there is substantial potential for outsourcing publicly funded services. In comparison to other countries, the national government plays an unusually large role in both procurement and outsourcing. Iceland does not have regional governments, and many of the current 104 municipalities are minuscule; only 20 municipalities have more than 2 000 inhabitants. This means that many services provided in other countries at the regional or municipal levels, such as health care and upper-secondary schooling, are provided at the national level.

The current legislative framework governing public procurement was established in the Public Procurement Act of 2001. It harmonises Icelandic practice in this area with EU directives concerning procedures for the award of public service, supply and works contracts as well as the general principles of equal treatment, non-discrimination, transparency, proportionality and mutual recognition laid down in the EU directives. More recently, in November 2002 the government approved a Government Procurement Policy, which regulates procurement policies of individual ministries. The Ministry of Finance is responsible for government procurement policy in general, and the Minister appoints the Board and the director of the State Trading Centre (Ríkiskaup), which was established for the purpose of handling procurement. He also appoints the three members of the Tender Complaints Committee, the chairman of which must be qualified to serve as a district court judge. The Committee was originally set up in 1996 as an advisory body for the Minister who issued rulings on disputed cases. The 2001 Act transformed it into an independent body, charged with hearing complaints and settling disputes arising from alleged violations of EU rules and Icelandic laws on public procurement. The Committee is open to both Icelandic and foreign entities; its resolutions can be appealed to the ordinary courts,

Figure 4.13. **Government consumption and investment**
Per cent of GDP, average 1999-2003



Source: OECD Economic Outlook 76 Database.

but complaints first have to be taken to the Committee itself. Plaintiffs also have the option of complaining to the EFTA Surveillance Authority (ESA) in Brussels. The State Trading Centre and the Complaints Committee handle contracts for both the national government and the municipalities. Recently the Committee has handled 30 to 40 cases per year, concerning mostly either a lack of tendering or mishandling of certain aspects of tenders. In most cases, the government has been acquitted, but local authorities have at times been found at fault. Very few cases have been taken either to the courts or to the ESA.

Since the mid-1990s, Iceland has made increasing use of competitive procedures in public procurement. There are a variety of procedures available for awarding contracts: open and restricted tendering, negotiations with and without public advertisement and design contests. As a general rule the contracting authorities must use open or restricted tendering as long as the contract value is above the EU thresholds for the different spending categories. Thresholds stricter than those of the EU apply to the national government but require only opening the tender to Icelandic parties, as opposed to EEA-wide tendering (Table 4.5). Unfortunately, no statistics are available to judge the extent to which public tendering is used in awarding contracts. In view of the limited number of domestic competitors in many markets, the CFTA should be especially vigilant in its monitoring activities against bid rigging.

Outsourcing of services has been increasing, but here too no quantitative evidence is available. The rules regulating which services are subject to and exempt from tendering obligations are in accordance with EU directives. Private service providers can at their own initiative submit an offer to supply a service that is currently provided by an entity of the national government. In this case, that entity has to provide information regarding the cost at which it itself currently provides this service. At the present time, however, it is not yet mandatory that the private provider's offer be accepted, nor that the service be put out to tender if the offer is below the government entity's cost. Public-private partnerships are another area that has expanded rapidly after a late start. The first and so far largest project is the Hvalfjordur tunnel linking the Reykjavik area to the town of Akranes and other towns in northwest Iceland, which opened in 1998. Since then a number of smaller projects have been undertaken, such as a small school for crafts, a nursing home for the handicapped and elderly, and a research and development centre at Akureyri University. The municipalities have also initiated a number of smaller projects.

Public ground transport between towns is provided by private bus operators who are subject to licenses. Beginning in August 2005 these licenses will be awarded by public tender. Most routes are expected to be unprofitable and are therefore likely to be awarded to the bidder requiring the lowest subsidy. Licenses will be awarded for up to eight years, after which they will be again put to tender. Minimum service requirements are expected

Table 4.5. **Thresholds for public tendering**

Government level	Public tendering within the EEA				Public tendering within Iceland	
	State		Municipalities		State	
	ISK	US dollars	ISK	US dollars	ISK	US dollars
Goods	13 422 320	188 014	20 649 757	289 253	5 410 000	75 774
Services	20 649 757	289 253	20 649 757	289 253	10 819 000	151 549
Works contracts	516 243 832	7 231 319	516 243 832	7 231 319	10 819 000	151 549

Source: Ministry of Finance.

to vary considerably depending on traffic volume, from several times per day to as little as twice a week. An area of possible concern could be whether there is a sufficiently large number of bidders to sustain competitive bidding for all routes. There are at this time at least five companies that can be expected to compete for the busier routes. Given the likelihood that none of them would have to undertake major investments to provide service, awarding licenses for up to eight years seems overly long. In balancing the goal of maintaining a dispersed population against the cost of providing subsidies for unprofitable routes, a potentially efficient method of providing public transport on routes with low volume is bus service on demand, such as has been introduced in Denmark in recent years. Finally, another aspect that will require attention is how to link efficiently long-distance and local transport. Local bus service has in the past been provided by the municipalities, but in the meantime many of them have contracted these services out to private companies.

Concluding remarks

The combination of Iceland's remote situation and the small size of its economy implies that in many markets high concentration, if not monopoly, is appropriate due to economies of scale, whereas for the same reasons competitive pressures from abroad will tend to be weaker than elsewhere. Avoiding abuse of market dominance is therefore particularly challenging. On the whole, the Icelandic framework of competition and regulatory policies introduced since the beginning of the 1990s has met this challenge admirably well. Nonetheless, there is scope for improvements in a number of areas. Some recommendations concerning competition law, network industries and policies to promote competition in other sectors are provided in Box 4.2.

Box 4.2. Recommendations regarding product market competition

Competition law and policy

The institutional structure of competition law enforcement is on the whole efficient, and proposed extensions of the power and scope of the competition authorities would likely prove beneficial.

- Ensure close collaboration between the CFTA and the new entity dealing with consumer affairs to preserve existing synergies between these two areas of surveillance.
- Resist *de facto* and legal exemptions from certain aspects of the competition law for agricultural producers.

Regulatory policies in network industries

Telecommunications

Recent legislative changes have put in place a framework conducive to competition, but more needs to be done to facilitate entry into some market segments in order to reduce the risk of the incumbent abusing its dominant position.

- Consider whether the cost structure warrants an increase in the margin between fixed-line subscription fees and the fee at which entrants can lease the local loop from the incumbent operator in order to promote local-service competition.
- Achieve universal service goals through income support financed out of general revenues rather than universal service charges. Consider whether universal service goals can be more efficiently achieved through technologies other than fixed-line services.
- Complete the privatisation of Iceland Telecom now that market conditions in telecommunications have improved.

Electricity

Although the new legislative framework calls for structural separation and designates generation and sales as competitive activities, the current industry structure raises high hurdles to market entry, and competition among the current players is so far virtually non-existent. Several measures would improve the prospect for viable competition in generation and sales.

- Consider whether the currently envisaged flat transmission tariff structure should be modified to reflect distance of generation from load centres.
- Consider whether divestiture of Landsvirkjun's generation activities would help create a level playing field in generation by avoiding cost-of-capital differentials between the incumbent and entrants.

Other policies to promote competition

Reduction of agricultural support

Support for agriculture remains very high by international standards and is heavily skewed towards measures affecting production decisions. In addition to distorting supplies, agricultural support also contributes to the very high food prices. Reducing support would likely cause productive resources to move from the agricultural sector into activities where Iceland enjoys a greater comparative advantage, thus raising overall productivity.

- Reduce agricultural support, especially in the area of policies that provide incentives to increase production. Eliminate administered prices for dairy products.

Box 4.2. Recommendations regarding product market competition (cont.)

- Open the Icelandic market to foreign competition by raising quotas and reducing tariffs on quota-exceeding imports.

Further opening to foreign direct investment

While foreign ownership restrictions in most industries are low in Iceland, they remain substantial in a few sectors and, together with administrative requirements stipulated by the law, may adversely affect foreign direct investment.

- Reduce the remaining ownership restrictions, notably in the energy and fisheries sectors.
- Remove administrative requirements in connection with inward direct investment from the law to align it with current practise.

Public procurement and outsourcing of publicly funded services

Anecdotal evidence suggests that the authorities have increasingly made use of public tendering, outsourcing of services and public-private partnerships, but statistics are not yet available to judge the extent to which this has been happening.

- Collect statistics to track progress in putting out procurement contracts to public tender and in contracting out publicly funded services to private suppliers.
- Given the small number of domestic competitors in many markets, the competition authority should be especially vigilant so as to minimise the risk of bid rigging.
- Introduce a challenge right so that, when a private supplier offers to provide a certain service, the authority currently supplying this service is forced to reveal its cost of providing the service and, if it is above the private supplier's cost, to accept the private supplier's offer.
- Provide public ground transport in the most efficient manner by integrating long-distance and local bus service and by awarding licenses for a period shorter than eight years, provided operators do not have to undertake major investments.

Notes

1. A discussion of Iceland's early experience with changes in competition policy and the government's role in the economy can be found in OECD (1995), Chapter III.
2. European Union here refers to the 15 member countries prior to the expansion of May 2004.
3. The determinants of business innovations more generally are examined in OECD (2005).
4. The data in the surveys reflect the distribution of turnover in Iceland as a whole, irrespective of the geographical scope of the markets concerned. The high level of the indices for aluminium, ferrosilicon and diatomite, for example, is not particularly worrisome, given that these industries serve almost exclusively foreign markets. Moreover, the figures in the surveys reflect the shares of turnover of all registered companies in each sector, but do not in general take account of the fact that in some instances there are ownership relations between some of them. A final caveat is that the two reports were based partly on sample surveys, where the turnover of companies not included in the sample was treated as the turnover of a single company. To the extent that the fraction of companies not included in the sample is substantial, this imparts an upward bias to the indices.
5. The indicators are developed in Nicoletti *et al.* (1999), and are based on detailed data collected by the OECD from national sources. They have recently been updated in Conway *et al.* (2005). Summary indicators are computed aggregating individual regulations with weights derived from factor analysis. The resulting country rankings are robust to changes in the weighting procedure.

6. The regression results for the sample of 30 countries are:

$$\text{IPR} = 1.732 - 0.041 \cdot \log(\text{GDPCAP}) - 0.048 \cdot \log(\text{POP}) - 0.254 \cdot \text{CIFFIOB}$$

$$(40.2) \quad (-16.6) \quad (-33.1) \quad (-19.5)$$

S.E.: 0.0097 R2: 0.675 (t-statistics in parentheses)

where IPR stands for nominal aggregate imports relative to total demand, GDPCAP is GDP per capita (USD, market exchange rates), POP is population and CIFFIOB is the ratio of CIF-to-FOB value of total imported goods (proxy for transportation costs). All variables are average 1997 to 2002 values.

7. The deviations of actual exchange rates from purchasing power parity shown in Figure 4.5 could in principle reflect phenomena in currency markets rather than the state of product market competition. However, by focussing on six-year averages the risk of distortions due to short-lived exchange rate fluctuations unrelated to fundamentals is mitigated. It is noteworthy that most of the countries above the regression line run persistent current-account surpluses and in some cases have large positive net foreign asset positions; Iceland is an exception.
8. An extensive discussion and analysis of the issues involved in introducing competition in telecommunications markets is provided by Laffont and Tirole (2000).
9. See Annex 4.A1 for a more detailed description of the current legal framework in the telecommunications sector.
10. A recent new entrant in the market for both national and international calls, Margmidlun, was taken over by Og Vodafone in August 2003.
11. As shown in Table 4.3, Síminn's market share in call volumes is only 80%, implying that Og Vodafone's customers are on average heavier users of telephone services.
12. Síminn's fees for fixed interconnection, which are ISK 0.44 (0.62¢) per termination minute during peak hours and ISK 0.26 (0.36¢) during off-peak hours plus ISK 0.68 (0.95¢) connection fee per call, are substantially lower than its retail price of ISK 3.55 (5¢) for the connection and ISK 1.75 (2.45¢) per minute.
13. Termination fees on mobile networks are still considerably higher than those on fixed networks: Síminn charges ISK 8.92 (12.5¢) for mobile termination, and Vodafone ISK 12.10 (17¢).
14. For a recent survey of various approaches to access pricing see Vogelsang (2003).
15. The monthly leasing fee for the local loop is ISK 825 (\$11.56, at current exchange rates) without data transmission, and ISK 1097 (\$15.36) including data transmission, compared to Síminn's monthly subscription fee of ISK 1 025 (\$14.36) excluding VAT.
16. The term "municipal utilities" is used to distinguish these entities from Rarik. Although originally their area of operation was confined to the area of one municipality, recent mergers mean that several of these utilities now serve more than one municipality. Nor, as discussed below, are they exclusively owned by the municipalities; the state has stakes in two of them.
17. See Annex 4.A2 for a more detailed description of the legal framework in the electricity sector.
18. See OECD (2004a) for additional information on agricultural policies in Iceland.
19. This section focuses on trade barriers and domestic support for agricultural products. To the extent that export subsidies are in place, their effect on competition is mostly felt abroad and not in Iceland.
20. For several products the minimum access quotas are low: for example, they amount to just 330 grammes of beef per person per year, 220 grammes each for pork and poultry and 180 grammes for butter. Beyond these levels, the tariffs imposed at the end of 2002 were equivalent to \$7.80 per kilogramme of beef, \$5 for pork and \$2.50 for poultry.
21. The indicator of barriers to trade shown in Figure 4.2 reflects only partially these restrictions, as it covers only ownership restrictions in telecommunications and airlines, but not in other sectors.

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ANNEX 4.A1

The legal framework in telecommunications

Entry into the telecommunications sector began already in 1998, but the regulatory framework existing at that time was inadequate to limit the monopoly power of the incumbent, Iceland Telecom, leading to a large number of cases against the incumbent filed at the Competition Authority (OECD, 1999). The Telecommunications Act and the Law on the Post and Telecom Administration (PTA) that came into force in December 1999 addressed these inadequacies.¹ The objective of the current framework is to prevent anti-competitive behaviour by imposing a number of obligations on holders of operating licenses, in particular if they are deemed to have significant market power.² These obligations include: to provide access to leased lines within a network; to allow non-standard network termination points;³ to set charges for inter-connection between networks based on the cost of establishing and operating the network, in addition to a reasonable rate of return on capital; and accounting separation between activities related to inter-connection or access and other activities. The law specifies that operators should first attempt to negotiate tariffs and terms. If no agreement is reached, the regulator may intervene. All inter-connection agreements of organisations considered to have significant market power have to be non-discriminatory, and the PTA may request justification for inter-connection charges and, where appropriate, require adjustments. The number of operating licenses for any category of telecommunications services may be limited only to the extent required to ensure the efficient use of radio frequencies. Licenses involving the allocation of a frequency band may be put to tender.

Notes

1. The Telecommunications Act, law No. 107/1999, was recently modified and superseded by the Law on Telecommunication, No. 81/2003. The Law on the Post and Telecom Administration, No. 110/1999, was recently modified and superseded by law No. 69/2003 of the same name.
2. An organisation is presumed to have significant market power if it has a share of more than 25% on average of a particular market in the geographical area within which it is authorised to operate. However, the 25% threshold is not binding, and other factors, such as its ability to influence market conditions, may also be taken into account.
3. Non-standard termination points allow the inter-connection of different networks. They are often situated in the local exchanges of the incumbent.

ANNEX 4.A2

The legal framework in the electricity sector

The Electricity Act, which was passed in March 2003, lays down the current legal framework for activities and regulation in the electricity sector. Although, as mentioned before, the main impetus for the Act came from Iceland's EEA obligation to conform with EU directives, the Act goes beyond that directive by covering not only opening of the electricity market to supply competition, transmission access and account separation, but also competition in sales. The National Energy Authority (Orkustofnun) is designated as the industry regulator. According to the Act, the generation and sale of electricity are competitive activities subject to public licenses. Licenses to construct and operate power generating stations, which beforehand required approval by Parliament, are now an administrative decision by the Minister of Industry and Commerce subject to the criteria laid out in the Act. Municipal utilities, which hitherto had exclusive rights to distribution and sales in their area of operation, retain their exclusive rights to distribution, but sales will be gradually opened up until full deregulation at the beginning of 2007. The generation and sale of electricity is under the surveillance of the competition authorities.

The Act stipulates that operation of the transmission and distribution systems continue to be monopoly activities based on concessions. There shall be only one company operating transmission lines at 66 kV or higher, even if this company does not necessarily own all transmission facilities. This company shall be an independent legal entity; however, failing the establishment of such a company, a state-owned company shall be established for the operation of the transmission system. The Act explicitly allows that the transmission system operator may also engage in other activities such as generation provided that it keeps the accounts for transmission operations separate from accounts relating to other activities. Transmission and distribution system operators shall publish tariffs for their services. In the case of the transmission system operator, this tariff establishes charges for connection, input and output at each connection point; the same tariff applies for input at any connection point and for output at any connection point. Distribution tariffs are the same within each tariff area. Initially the tariff area coincides with the operating area of a municipal utility, but the possibility of more than one tariff area applying in the operating area of a utility is not excluded; the Minister of Industry and Commerce determines the boundaries of areas. The tariffs are to be based on an income framework established by Orkustofnun. The Act specifies what can be included as operating expense and regulates the return on capital invested in the operations.

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