

Chapter I: The International Outlook

Economic growth is expected to be around 2½ per cent per year in the OECD in 1997-99. Initially, there are large differences between the economies because of divergent positions in the business cycle. Countries such as the USA, Great Britain, and Norway are well into the upturn and growing by more than 3 per cent, while the Japanese economy is growing by less than 1 per cent. The forecast takes into account that lower growth and weaker currencies in South East Asia combined with the worldwide drop in stock prices will reduce growth by approximately ¼ percentage point in the OECD area in both 1997 and 1998. Inflation is expected to remain low because, among other things, unemployment is expected to remain at a high level, the emphasis in monetary policy has generally shifted towards fighting inflation, and the Maastricht criteria will also put downward pressure on price increases.

Chapter II: The Domestic Economy

The economic upturn continues, and prospects for the Danish economy are good. Growth rates are expected to remain solid, the internal and external balances are in surplus, the inflation rate is low, and unemployment is declining.

The Danish economy is expected to grow at 2¾ per cent in 1997 due to a significant increase in domestic demand sustained by low interest rates and increasing real wealth as a result of rising house prices. Both private and public consumption are stronger than in 1996. Private consumption is expected to increase by nearly 4 per cent in 1997, and public consumption is expected to increase by 2¾ per cent, reflecting a large increase in public employment. Investments remain high. In 1998 and 1999 domestic demand is expected to be less strong but growth will

be sustained by a pick-up in exports. GDP growth rates of around 2¾ per cent and 2½ per cent are expected in 1998 and 1999, respectively. Inflation is expected to remain moderate.

The number of persons in employment will increase by 50,000 in 1997. Roughly half of this rise will be due to increased public-sector employment. In 1998 and 1999 a further 25,000 persons will be employed, primarily in the private sector. Registered unemployment at a level of around 220,000 persons in 1997 is expected to drop to 200,000 in 1999, corresponding to approximately 7 per cent of the labour force. Recent labour market reforms have lowered structural unemployment and reduced the risk of wage inflation.

Because of the strong US dollar and British pound, the Danish krone has depreciated in 1997. As a result, competitiveness has improved. Labour cost increases are expected to be about 1 percentage point above those abroad in the forecast period, resulting in loss of competitiveness in 1998 and 1999. However, a pick-up in growth abroad means that growth in exports is expected to increase. Strong overall demand has led to a significant increase in imports in 1997. The expected less strong overall demand in 1998 and 1999 means that import growth will slow. Net exports will contribute negatively to economic growth in 1997, and positively in 1998 and 1999. The significant increase in imports in 1997 has led to a deterioration of the balance of payments. But there is still a small surplus. Although the balance of payments will improve slightly in 1998 and 1999, the current account surplus will remain below 1 per cent of GDP.

After a substantial improvement in 1997 the general government financial balance is in surplus for the first time since 1988. Continued above-trend growth rates and a slight fiscal tightening in 1998 mean that the government balance will be improved further in 1998 and 1999. The general government financial balance is expected to reach DKK 20 billion in 1999.

Table 1: Short-term prospects for the Danish economy

	1996	1996	Percentage change in volume terms			
	Current prices DKK bn. ^d	Per cent of GDP	1996	1997	1998	1999
Private consumption	544.0	53.6	2.6	3.9	2.8	2.3
Public consumption	255.3	25.2	2.4	2.7	0.7	0.0
Gross fixed capital formation of which:	168.9	16.7	7.5	6.8	3.2	3.3
Residential investments	33.7	3.3	8.7	7.7	7.2	9.3
Fixed business investments	112.9	11.1	6.9	8.4	4.8	2.2
Public investments	22.3	2.2	9.7	-3.5	-13.0	0.0
Stock building ^a	1.3	0.1	-0.7	0.2	-0.2	0.0
Total domestic demand	969.4	95.6	2.6	4.4	2.1	1.9
Exports of goods and services	350.8	34.6	2.3	3.5	4.5	4.6
Imports of goods and services	306.3	30.2	2.1	7.2	3.4	3.4
GDP	1013.9	100.0	2.7	2.8	2.7	2.6
Key indicators						
Consumer prices, percentage change ^b			2.1	2.3	2.6	2.4
Unemployment, per cent ^c			8.8	7.8	7.4	7.2
Current account, DKK bn. ^d			16.4	6.9	6.9	9.1
Current account, per cent of GDP			1.6	0.6	0.6	0.8
General government financial balance, DKK bn. ^d			-14.5	4.6	14.2	20.0
Gen. government financial balance, per cent of GDP			-1.4	0.4	1.3	1.7
Hourly wage costs, percentage change			3.9	4.3	4.4	4.4
Terms of trade, percentage change			0.3	-0.3	-1.3	-0.8

a) The percentage changes are calculated as the real changes in stock building relative to real GDP in the previous year.

b) Implicit private consumption deflator.

c) In per cent of total labour force.

d) The DKK/USD exchange rate is taken as 5.80 in 1996 and 6.61, 6.71 and 6.74 in 1997-99.

Sources: Statistics Denmark, *National Accounts* and own estimates.

Policy Recommendations

The economic prospects are good, but there are also risks. The biggest short-term risk is that activity will increase too fast and lead to an acceleration in wages and prices. There are no current signs of overheating, but the positive growth prospects and the fall in unemployment mean that the risk of overheating cannot be ruled out. House prices are especially critical. In the forecast, house price increases are expected to slow. If this does not happen, there is a risk that residential investments and private consumption will increase too strongly.

In the course of 1997 the government has taken several steps to reduce the risk of overheating. In June a minor package of increased duties was introduced. To slow down activity in the construction sector, this was followed by a 20 per cent surcharge on central government construction activity and initiatives to reduce construction of subsidized housing. The 1998 budget proposal, which already implied a slight tightening of fiscal policy, was supplemented by additional steps including a further tightening of fiscal policy, a temporary increase in private pension contributions in 1998, and effective from October 1997 a temporary increase in the stamp duty on additional mortgage loans. In the light of the strong increase in domestic demand and its expected continuation, these measures were justified. However, the temporary nature of these measures makes a fiscal tightening in 1999 necessary just to make fiscal policy neutral.

The general government financial balance has improved gradually during the economic upturn. In 1993 the budget deficit was approximately 4 per cent of GDP, while a surplus of around ½ per cent of GDP is expected this year. The improvement is primarily due to the increase in economic activity, as fiscal policy has been loose over the last five years as a whole. The forecasted increases in the budget surplus in 1998 and 1999 are also primarily the result of high economic growth.

As the improvement in the public budget is the result of the economic upturn, the surplus can quickly turn into a deficit when activity weakens again. A further consolidation of the public budget is therefore needed to ensure that there is room for fiscal stabilization in future economic downturns and to reduce the public debt markedly before the ageing of the population begins to put pressure on the public finances. It is not advisable to base this consolidation on the expectation of a long-lasting economic upturn. In the current economic situation there is room for a further tightening of fiscal policy. Such a tightening would not only consolidate the public finances but also reduce the risk of overheating.

The level of employment is approaching the historically high level of 1987. The increase in the number of persons on early retirement and paid leave schemes has reduced the labour force, and the level of unemployment is therefore lower today than in 1987. In spite of this, wage pressure is smaller. Among other things this reflects the structural improvements of the Danish labour market caused by labour market reforms implemented in recent years. Continued high economic growth beyond the forecast period requires that the level of employment can continue to grow without triggering an acceleration in wages and prices. As the economic upturn has reduced the level of unemployment significantly, this will only be possible if the labour force expands or if labour market flexibility is increased. Thus there is every reason to continue the labour market reforms.

Chapter III: Wages, Taxes and Income Distribution

High economic growth in the last couple of years has reduced unemployment in Denmark. Nevertheless, unemployment is still high, and unequally distributed. Unskilled labour has on average a higher level of unemployment than skilled labour.

The report includes an analysis of whether it is possible to reduce unemployment through changes in the tax and transfer system without increasing inequality in income distribution. The tax and transfer system can reduce unemployment by affecting the ratio between post-tax income for an unemployed and an employed person.

This method of reducing unemployment is interesting, because at present a large proportion of the unemployed would gain only very little extra income from getting a job. More than 40 per cent of persons with a long history of unemployment have an unemployment compensation rate that exceeds 90 per cent. Thus their economic incentive to find a job is virtually zero.

The means of reducing unemployment, which is analysed in this report, is to cut taxation of low wage incomes or reduce unemployment benefits. The changes in the tax system could be implemented as a lower tax rate on low wage incomes or as an earned income tax credit, EITC. The EITC is deductible from taxable income and is calculated as a percentage of the wage income. The EITC cannot exceed a ceiling, which ensures that the tax credit is of greater significance in proportional terms to people with lower wage incomes.

It would take a major change in the tax system to lower the taxation of all low wage incomes. Therefore, it would be an advantage to narrow the group of recipients to persons with the least incentive to work, which would also make it possible to increase the tax deduction.

A cut in taxation in one area has to be financed through increased public incomes or reductions in public expenditures. This analysis focuses only on financing within the tax and transfer system. It could be decided to confine the contributors to financing the system to certain groups of people or certain income sources, wage income for example. Other taxes could also be used to finance the deduction, e.g. property taxes or environmental taxes.

An example given of such a tax cut is an earned income tax credit of 15 per cent for wage income between DKK 75,000 and DKK 185,000. The lower limit of DKK 75,000 is suggested in order to aim the deduction at low wage-income earners with large incentive problems. The maximum deduction, DKK 16,500, is allowed to wage earners with a wage income of DKK 185,000 and over. Calculations based on data for individuals show that such a change in the tax system could be financed by an increase in the gross wage tax by 2.3 percentage points. The Danish gross wage tax is deductible from taxable income before calculation of income tax; thus on average the marginal rate of overall tax would only increase by 1.1 percentage points. When the gross wage tax is increased, public transfers are automatically reduced under current regulations in order to ensure that the difference between employed and unemployed income is left unchanged by the change in the gross wage tax. Because of the simultaneous change in public benefits and the gross wage tax, both public transfer recipients and wage earners would contribute to the financing of the tax credit. The tax credit and its financing would reduce the marginal tax on wage income between DKK 75,000-185,000. The marginal tax rate would be increased on wage income below and above that interval. The immediate effect of the tax change would be that disposable income would be increased for persons employed full-time on low and middle incomes, while disposable income would be reduced for persons earning less than DKK 130,000 or more than DKK 400,000, and for transfer income recipients. The rate of unemployment compensation would thus be reduced. If the tax change were implemented gradually, it would be possible to guarantee that the purchasing power of transfer incomes would be unchanged.

Changes in the tax system affect the whole economy. In assessing the tax credit, it is important to consider these effects. A tax credit increases the benefit of finding a job, and makes it more attractive for an unemployed person to accept a job offer. Thus, a tax credit reduces the wage pressure on the low wage segments of the labour market. Yet low wage income earners will experience an increase in their disposable income because of the increased tax deduction. Furthermore, recent Danish empirical studies show that an earned income tax credit financed through higher gross wage taxes will reduce the wage pressure on some labour market segments as well. When the wage pressure is reduced, demand for labour increases, and unemployment drops. These effects of the tax change will be transmitted to other parts of the economy.

To assess the importance of these economy-wide effects, an applied general equilibrium model is used. For this purpose a new model, MODULA, has been constructed. The model generally gives a rather stylized description of the Danish economy, but it has a relatively detailed description of the labour market. It distinguishes between five labour market segments, which are characterized either by being relevant for a particular skill level or by having one of two kinds of wage formation. Thus some labour market segments are assumed to be perfectly competitive, while others are imperfectly competitive. This makes it possible to analyse the differences in income changes that people with different skill levels would experience as a consequence of the tax credit.

Calculations show that the suggested tax change would increase employment and reduce unemployment. This increase in employment would be particularly high for the unskilled, skilled workers, and people who had taken short theoretical courses of further education. The increase in employment and the drop in unemployment would improve public sector finances. Therefore, the tax increase required to ensure that the tax credit was fully financed would actually be smaller than the required increase calculated when economic behaviour in the economy is assumed to be unchanged. When all the effects on the economy are accounted for, the tax change would in the long run reduce unemployment by 25,000 persons or approximately 0.9 per cent of the labour force.

Wage distribution in Denmark is currently relatively compressed. The life-time financial benefits resulting from undergoing a longer period of education are therefore limited. Consequently, although reduced taxation of low wage income would give an immediate advantage to unskilled labour, the calculations illustrate that the currently existing degree of incentive to get an education would be virtually unaffected when changes in economic behaviour is taken into account.

The financial difference between being unemployed and being employed can also be increased by a reduction in unemployment benefit. This can be done either as a general reduction in the benefit level or through the use of an unemployment benefit system, in which the level of benefit declines the longer someone is unemployed. Regardless of the exact nature of this system, the reduction would encourage the unemployed to accept job-offers, and wage pressure would be reduced. In addition, a benefit reduction immediately improves the public sector balance.

The analyses show that a reduction in unemployment by 25,000 persons could be obtained by a general reduction in unemployment benefits of 8 per cent.

A comparison of the effects of an earned income tax credit and reduced unemployment benefits show a trade-off between efficiency and income distribution. If the only goal is to increase the financial difference between being employed and being unemployed, then the most direct method is to cut benefits. However, a benefit reduction affects the income of an unemployed person substantially, while gains and losses are more evenly distributed if the incentive structure is improved through a tax credit. Despite these differences, however, neither the tax credit nor the benefit reduction would affect overall levels of inequality in Denmark to a significant degree.

This study illustrates that reductions in taxes on low wage incomes have positive effects on labour market structures. Thus it is possible to reduce unemployment through changes in the tax and transfer system without increasing inequality substantially. But these are not the only possible measures; there are other ways of reducing structural unemployment which can be exploited. Unemployment can be lowered through improvements in the educational system and through active labour market policies in general. Using several of these measures at the same time is beneficial, because the effectiveness of each instrument is increased when supported by other complementary instruments.

Chapter IV: The Electricity Supply Industry in Transition

In Denmark, one of the most protected and highly regulated sectors is the electricity supply industry. The attitude of the Danish government on liberalisation of the electricity sector is more sceptical and reserved than current attitudes in Norway, Sweden and Finland. To encourage competition in production and distribution of electricity, these countries have in the recent years made comprehensive institutional changes, including the establishment of a common Nordic electricity exchange.

Electricity consumption influences the environment. Only a few countries have committed themselves to binding emissions targets, so there are presently only limited possibilities of international coordination. The Danish policy on climate aims at both international coordination and a reduction of Danish emissions. A so-called carbon dioxide tax is levied on electricity consumption; in reality, however, this is an energy tax, since it does not give incentives to use low emission fuels in electricity generation. Certain production technologies and district heating are partially subsidised. According to the EU directive, electricity markets should be liberalised by 1st January 1999. The Danish government prefers, however, to continue to protect central CHP (Combined Heating and Power production) from

competition, arguing that it is environmentally friendly and not competitive. In practice this implies that the Danish electricity market still will be highly regulated, as present production is primarily based on CHP.

Simulations indicate that there would be substantial gains for Denmark from liberalising the electricity sector and joining the common Nordic electricity exchange, due to the possibilities this would provide for importing cheap electricity from Norway and Sweden. This might result in increased emissions of carbon dioxide as a result of increased energy consumption in Denmark. However, the increased emissions might be neutralised without losing the gains from liberalisation. The sceptical and reserved governmental attitude is therefore unfounded.

If the Danish electricity market is not liberalised, electricity prices will still be higher than in other Nordic countries. Danish carbon dioxide emissions will increase slightly, while overall Nordic emissions will increase by more than 60 percent over the period 1995-2020. This projected growth is primarily attributable to the situation in Sweden, where in the absence of further environmental regulation nuclear power will be replaced with coal-based CHP. The official Danish target for 2005 to reduce Danish carbon dioxide emissions to a level 20 percent below that for 1988 cannot be achieved with the present taxes. By 2020 a tax of DKK 800 per tonne of carbon dioxide would be necessary to sustain the 2005 target level. Implementation of the target calls for replacing the existing coal-based CHP by CHP based on natural gas and wind power.

If the Danish electricity sector is liberalised in line with the reforms in other Nordic countries, Danish electricity prices will drop by 10 percent for households and by 55 percent for the industry. This difference is due to the current high electricity taxes for households. In the other Nordic countries the price will increase slightly. Danish liberalisation would produce an annual gain of DKK 7 billion in the Nordic countries, increasing to DKK 13 billion in 2020. Denmark would be the largest beneficiary of the gain.

With a liberalised electricity market, Denmark would import substantial amounts of low-priced hydro-electric power and nuclear-power-generated electricity from Norway and Sweden until the year 2005. Hereafter Denmark would be a net exporter of electricity, due to the Swedish phasing out of nuclear power combined with the limited opportunities available in Sweden for expanding the hydro-electric power capacity. The Danish electricity supply industry therefore has a long-term potential for expansion in a liberalised Nordic market, even in a situation where Danish CHP production must be sold at a competitive market price. Danish liberalisation would ease the Swedish nuclear phase out, as some of the Swedish production would be replaced by imports from Denmark.

A Danish liberalisation with present tax levels being maintained would result in an increase in total Nordic carbon dioxide emissions by 2 percent relative to a scenario without Danish liberalisation, because lower prices lead to higher consumption of electricity. Liberalisation may therefore conflict with the emission target. Liberalisation might, however, improve the possibilities of an internationally-coordinated environmental policy based on financial instruments as the potential for coordination of renewable production become larger. A Swedish wish to base future electricity production on natural gas could be more easily fulfilled in liberalised markets where imports of Norwegian hydro-electric power and Danish electricity from CHP were possible. Furthermore, the large-scale Norwegian and Swedish hydro-electric power production will make Danish plans for considerable expansion of wind power capacity more attractive in a liberalised market. This is because hydro-electric power production can easily be varied, and thus compensate for the unpredictable supply of wind power.

It would be possible to reap the benefits from liberalisation without increasing carbon dioxide emissions even if international coordination of carbon dioxide reductions were impossible. Increased domestic taxes on carbon dioxide emissions could compensate for the lower electricity prices. This would remove incentives to increase consumption of electricity and would at the same time produce a revenue to the government of DKK 5-6 billions annually.

The relevant target for carbon dioxide policy is global emissions. Therefore, international coordination among a large group of countries will be the most effective approach. Such coordination is often known as joint implementation. In joint implementation, the focus is on incentives to reduce pollution as cheaply as possible. The reduction targets should be distributed between countries so that the reductions are made where the associated costs are lowest. International coordination of carbon dioxide reduction can be realised independent of liberalisations of electricity markets, but such liberalisations can produce further benefits.

If Norway commits herself to a binding carbon dioxide target, Denmark and Norway will fulfil the conditions for joint implementation to be beneficial. The cooperation would mean that a part of the Norwegian target should be reached through emission reductions in Denmark. With a total reduction of 30 per cent, the annual reduction costs would be DKK 1.6 billions lower with joint implementation than if the emissions were lowered by the same percentage in both countries. The total cost with joint implementation would be DKK 8.8 billion a year.

It would be possible to continue the ambitious national Danish carbon dioxide policy in a liberalised Danish electricity market in the EU. The best way that Denmark can handle environmentally-friendly but non-competitive electricity production within the EU is through subsidies that makes the production competitive. This would be preferable to continued regulation. A further advantage of this approach is that the cost of the policy would be visible. Final consumption of electricity could be controlled by means of an electrical energy tax, while consumption of other energy could be controlled through uniform carbon dioxide taxes.