

ENGLISH SUMMARY

Chapter I: The Danish Economy

There seems little doubt that the Danish economy is now recovering after two years of slow growth. The recovery entails an expected GDP growth of slightly more than 2 per cent in 2004 and approximately $2\frac{1}{2}$ per cent next year. Consequently, the unemployment rate should fall considerably during the next two years. The projected GDP growth for this year is primarily driven by an increase in domestic demand and to a lesser extent by an increase in exports. In 2005-06, however, the rate of growth in exports is expected to increase as an effect of the international recovery, whereas the increase in domestic demand is expected to be smaller than in 2004. It is forecasted that the rate of GDP growth will return to a more normal level of around $1\frac{3}{4}$ per cent in 2006. As a result, the rate of unemployment will probably level off at about $5\frac{1}{4}$ per cent of the labour force.

The prospects for the international economy in 2004-06 appear in general to be positive. The recovery has started in the USA, which will mean high rates of growth in private consumption and increasing employment. In Great Britain GDP is expected to grow by approximately 3 per cent per year, and in Japan growth rates finally seem likely to become positive after several years with basically zero growth. The recovery, however, is expected to be weaker in the Euro area, and the forecast for Germany is particularly modest.

Uncertainty in the international economy is to a large extent reflected in increasing global economic imbalances, which appear for instance in the budget deficit and balance of payments deficit in the USA. A further decrease in the value of the dollar could improve the balance of payments for the USA, although a corresponding appreciation of certain Asian currencies, in particular the Chinese currency, could mean that the European economies remain largely unaffected. Alternatively, the American balance of payments might improve as a

Table 1 Short-term outlook for the Danish economy

	Current prices DKK bn.	Per cent of GDP	Percentage change, volume				
	2003	2003	2002	2003	2004	2005	2006
Private consumption	660.9	47.3	0.6	1.1	3.8	3.0	2.0
Public consumption	369.2	26.5	2.1	0.5	0.7	0.7	0.7
Gross fixed capital formation	277.5	19.9	4.5	-0.6	4.7	2.8	1.4
consisting of:							
Residential investments	66.9	4.8	10.5	7.8	4.9	-0.6	-2.3
Business fixed investments	187.7	13.4	4.3	-2.3	4.7	3.7	2.3
Public investments	22.9	1.6	-5.0	-3.7	3.3	3.3	2.0
Stock-building (a)	-3.6	-0.3	-0.0	-0.4	0.1	0.2	-0.0
Total domestic demand	1,304.1	93.4	1.9	0.1	3.3	2.6	1.5
Exports of goods and services	606.2	43.4	4.8	0.3	2.8	4.3	4.1
Imports of goods and services	514.5	36.9	7.3	-0.4	5.5	4.8	3.7
GDP	1,395.9	100.0	1.0	0.4	2.1	2.5	1.7
Key indicators							
Consumer prices, percentage change (b)			2.1	1.8	1.2	2.0	1.7
Unemployment, per cent (c)			5.0	5.9	6.0	5.4	5.2
Current account, DKK bn.			28	42	39	45	53
Current account, per cent of GDP			2.0	3.0	2.7	2.9	3.4
General government financial balance, DKK bn.			21	17	19	28	27
General government fin. balance, per cent of GDP			1.6	1.2	1.3	1.8	1.7
Hourly wage costs, percentage change			4.3	4.3	3.9	3.9	4.1
Terms of trade, percentage change			0.4	2.1	0.2	0.5	0.1

- a) The percentage changes are calculated as real changes in stock-building relative to real GDP in the previous year.
- b) Implicit private consumption deflator.
- c) Percentage of the total labour force. National definition.
- e) The DKK/USD exchange rate is taken as 7.89 in 2002, 6.58 in 2003, 6.14 in 2004 and 6.21 in 2005-06.

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

result of lower growth rates in the USA. If so, this will counteract the expected recovery in Europe accordingly.

Private consumption in Denmark rose considerably at the end of 2003. It is expected that in 2004 private consumption will grow by a little under 4 per cent. This large expected increase will be brought about by growth in real income as a result of the recovery and of an income tax cut for which legislation was passed in 2003. The 2004 Spring Package, which includes additional tax reliefs as well as a temporary (2004-05) suspension of the mandatory private savings scheme (*særlige pensionsordning, SP*), will further increase disposable income in the short term. For 2005-06 the forecasts for growth in private consumption are approximately 3 and 2 per cent respectively.

In spite of a relatively large GDP growth this year, only a modest increase in employment is expected. The reason is the typical lagged relationship between an increase in aggregate demand and an increase in employment. The lag is especially pronounced in the beginning of a recovery. For 2005, on the other hand, the forecast for the rise in employment is slightly over 20,000 (almost 1 per cent). The increase in employment in 2006 is expected to be only modest, however.

It is anticipated that the increase in the size of the labour force during the coming years will be small. Consequently, forecast changes in unemployment reflect changes in employment. The high unemployment level at the end of 2003, however, will cause the expected average unemployment level in 2004 to be higher than that in 2003. This pattern of unemployment nonetheless suggests a moderate fall during 2004, and this fall is predicted to continue in 2005. As a result of the lower GDP growth in 2006, unemployment is expected to level off at about 5¼ per cent in this last year of the forecast.

Changes in exchange rates have contributed to a very low rate of inflation, and consumer prices are accordingly predicted to rise by only 1¼ per cent in 2004. In the following years, inflation will probably be about 2 per cent. Hourly wage costs rose by 4½ per cent in 2003, which is a relatively high rate of

increase when wage growth abroad and the domestic rise in unemployment are taken into account. In the coming years it is expected that Danish wages will continue to rise more than foreign wages.

The public budget surplus in 2004 is expected to be more or less the same as the public budget surplus in 2003. The relatively large GDP growth and the temporary abolition of the *SP* scheme will both increase government tax revenue, while tax cuts will reduce the public budget surplus. Hence, the tax revenue will be almost unchanged in total in 2004. Next year the anticipated recovery will result in a minor improvement in the budget surplus, whereas it will decrease somewhat in 2006. This is partly due to the planned reintroduction of the *SP* scheme.

Policy recommendations

Given the economic outlook, the fiscal expansion launched with the Spring Package in 2004 seems to have been unnecessary. It would have been more appropriate to wait and see, given that employment lags economic recovery. Now there is a risk that fiscal tightening will be needed within a couple of years in order to avoid overheating. This type of fiscal fine tuning is an inappropriate policy for several reasons. It is very difficult to calculate the dosage and the timing of a fiscal response correctly, due to uncertainties concerning its impact. In addition, the information needed for fiscal decisions is often imperfect, because economic statistics are often revised substantially at a later date. Another problem regarding fiscal policy changes is the fact that it is easier to relax than to tighten fiscal policy, and this can lead to a worsening of the public finances. Furthermore, wage negotiations may become less responsible if minor slowdowns trigger systematic expansionary fiscal responses. Finally, frequent changes in fiscal policies will create uncertainties with respect to the framework for overall economic policies.

Only when there are larger, more permanent imbalances should fiscal measures be actively used. An argument for a response in such situations is the risk that unemployment may stay at a high level after a recovery. However, the current level of unemployment is probably not much higher than the structural level of unemployment, and furthermore unemployment is expected to fall. Therefore, there are limits as to how much expansionary fiscal policy will be able to bring unemployment down. The low level of unemployment at the end of 2001 (around 4¾ per cent of the labour force) was most likely below the structural level of unemployment and should not be regarded as a natural target for fiscal policies.

Given the political intention to stimulate economic activity, the elements in the Spring Package are appropriate because they are temporary and will not affect fiscal sustainability decisively in the long run. Tax reliefs are not the most effective instrument to increase employment, but bringing forward tax reliefs that are already planned will not lead to a permanent worsening of public finances.

In order to avoid a permanently higher level of public investment in the light of the advance in the timing of public investments made in the Spring Package, it is necessary that no new investments should be undertaken later on to replace the investments that were brought forward. If bringing forward investments is to be a credible instrument to stabilize economic development, an explicit target for the level of investment is needed several years ahead. The government should announce such targets in a yearly publication. This publication should also report analyses of the profitability of investment projects.

The temporary suspension of the mandatory private savings scheme (*SP*) will only be in force this year and next year. If a fiscal tightening is needed to prevent overheating, a reintroduction of and possibly a rise in the *SP* contribution seems a possible initiative. The *SP* scheme was originally introduced to slow down activity. However, the instrument is only effective to the extent that other types of saving are not decreased. The *SP* scheme therefore works primarily by reducing consumption by persons who do not have liquid assets or who are faced with

borrowing constraints. It is problematic to change a scheme which is part of the overall pension system. In general, pension schemes should be stable, so that people can make appropriate long-term planning of their pension savings.

The current tax freeze makes the *SP* scheme the only revenue-based instrument available to stabilize economic development. Even though the tax freeze has a disciplinary effect on public spending, it is inappropriate for several reasons. The tax freeze hinders desirable changes in the tax system. It erodes the revenue from real estate taxation and levy taxes (because these taxes are held constant in nominal terms), while lower income taxation would be more appropriate. It limits the possibilities for stabilization after shocks to the economy. Finally, the tax freeze increases the risk of increased public debt if public spending discipline fails. A more flexible tax system would solve some of these problems, though the disciplinary effect might be reduced. In any event, a tax freeze is only an indirect way of controlling public expenditures.

A better way of controlling public spending would be to adopt targets for public spending set in accordance with long-term goals for public debt levels and with respect to fiscal sustainability. Such targets should be stated in current prices to increase transparency and ease budgeting. Each municipality should be given expenditure quotas based on an estimated expenditure level derived from objective criteria.

In order to ensure an appropriate distribution of public spending, municipalities should be allowed to trade such expenditure quotas. Thus, municipalities could increase local spending by buying unused quotas from other municipalities. The price of the quotas would reflect the punishment for increasing the level of spending or the reward for decreasing it.

Due to demographic challenges it is important to have long-term goals for economic policies that ensure sustainability in public finances. Calculations reported in Chapter II indicate that the current fiscal policy is unsustainable, and that sustainability requires an increase in the average tax rate by 4¼ percentage points or a permanent cut in public consumption by

about 2 per cent of GDP. Because of the high pressure of taxation and the increasing international mobility of tax sources, marked increases in tax rates would most probably lead to serious economic distortions. Spending cuts would reduce the level of public services to the extent that it would not be possible to increase efficiency in the public sector sufficiently (see Chapter IV for more details). A better way to solve the sustainability problem would be to implement labour market reforms that could increase the labour supply (and employment). However, tight control of costs would still be needed, and the present tax freeze is most probably not sufficient to discipline spending. Controlling spending more directly by a system based on targets for public consumption and tradable quotas for municipalities would be more effective.

Higher priority for research is an appropriate initiative, cf. *Danish Economy, Spring 2003*. However, the establishment of a new research fund financed by the sale of government assets is ill-advised. The revenue from sales of government assets should be directed to reducing public debt. Instead, funding for research should come from adjustments in the annual government Budget. Though it may well be appropriate to give priority to applied research, it is problematic that funds are targeted towards specific areas without considering priorities across the board. In this respect, it is incomprehensible that a new independent fund is to be created when a new advisory research body and strategic research council have already been established. There are no obvious good reasons why the Strategic Research Council should not have the task of determining priorities for funding applied research, irrespective of the source of the funds.

The government has proposed a unified employment service, with responsibility for it to be placed with the municipalities. Today only the uninsured are serviced by the municipalities. There seem to be no good reasons for the new proposal. The usual arguments put forward for situating public tasks locally are based on concepts such as differences in local preferences and better information about local conditions, making relevant adjustments in services and benefits possible. These arguments do not hold for matters of employment, since this area is part

of the overall active labour market policy and relevant for labour markets that spread beyond the borders of municipalities. In order to avoid incentives being skewed, the proposal is for the financing of unemployment benefits to be transferred to the municipalities as well. This would make the budget more sensitive to economic fluctuations and would consequently require a reform of the system of reimbursement from the central government. Reforming the reimbursement system will not be an easy task without undermining the incentives provided by the municipalities. Another incentive-related problem is job matching. The municipalities have incentives to find jobs locally for their own residents, and may be reluctant to find jobs for them further away because they will then be more likely to move. In both cases geographical mobility would be hampered, and it is far from certain that the best qualified job-seekers would be steered towards the jobs that suit them best.

The existence of these problems argues for a unified employment service system managed by the central government. Local job centres should be able to refer people with social problems to the municipalities. The central government should finance a proportion of social benefits and other income transfers independently of decisions to make referrals, so that there are no incentives to place people in inappropriate employment situations.

Chapter II:

The Sustainability of Danish Fiscal Policy

The number of persons in the Danish labour force is expected to exceed the number of persons outside the labour force until about 2025, after which it is expected that this relationship will be reversed. Even when recent labour market and welfare reforms are taken into account, it is predicted that the labour force will be 300,000 persons (or more than 10 per cent) smaller than today as we approach 2040. At the same time the number of persons receiving public transfers will increase.

This future demographic development poses a great challenge for Danish fiscal policy. The growing number of persons receiving public transfers will increase public expenditure. Changes in the demographic composition of the population will increase the need for public services related to, for example, hospitals and care for the elderly. These factors will increase public expenditure by approximately 9 per cent of GDP between now and 2040 if the current transfer systems and the current standard of public services are maintained.

Tax revenue is expected to increase by approximately 2 per cent of GDP despite the fact that the shrinking labour force will have a negative effect on receipts. This will be the result of the taxation of the yields from pension funds and the postponed taxation of pension payments. Contributions to pension funds are deductible from income tax in Denmark, whereas payments from the funds are taxed. Presently the pension funds are receiving more in contributions than they are paying out, but this situation will change when the funds are fully mature. In addition, a continuing public surplus will ensure that the net public debt can become a net public asset. Interest payments will contribute to financing a part of the increase in expenditures. In total, public income may increase by 3½-4 per cent of GDP as we approach 2040. This means, however, that the expenditure increase in the same period will be only partially covered.

According to the long-term plan for the fiscal policy – the so-called 2010-plan – the goal is to achieve an annual surplus in the public budget of 1½-2½ per cent of GDP until 2010. The prerequisites for fulfilling this goal are tight control of public expenditure, with a real annual growth in public consumption of ½ per cent, and a considerable increase in employment. The goals of the 2010 plan are very ambitious, and major reforms are needed to increase labour market participation in order to achieve these aims. The goals of the plan are constructed in such a way that the fiscal policy is sustainable. However, the government has failed to present any explicit reform proposals which could increase employment by 2010 by the extra 55,000 persons which the governments' own calculations deem necessary.

Table 2 Alternative ways of ensuring fiscal sustainability

Raising the basic income tax rate from 2007	4.2 percentage points
Raising the basic income tax rate from 2017	4.8 percentage points
Reduction in public consumption from 2007	1.9 per cent of GDP
Reduction in public consumption from 2017	2.1 per cent of GDP
Increasing the labour force	146,000 persons

Note: The spending cuts in public consumption are calculated as a reduction in collective public consumption. This includes expenditure on administration, the legal system and the police. The increase in the labour force is to be gradual up to 2011. It is assumed that everyone joining the labour force would be leaving some sort of public transfer scheme.

As a result of these factors, it can be concluded that the current fiscal policy is not sustainable. The calculations show that in the absence of major labour market reforms, it will be necessary to tighten fiscal policy. The measures needed are equivalent to a permanent increase from 2007 in the basic income tax rate by $4\frac{1}{4}$ percentage points (from $5\frac{1}{2}$ per cent to $9\frac{3}{4}$ per cent), as can be seen in the table below. An alternative would be to permanently reduce public consumption by approximately 2 per cent of GDP from 2007, which amounts to almost DKK 30 billion.

An alternative to fiscal tightening in the form of tax increases or spending cuts would be increased labour market participation brought about through labour market reforms. The calculations show that an increase in employment of nearly 140,000 persons by 2011 could ensure fiscal sustainability, which is equivalent to a labour force increase of 146,000 persons (an increase of approximately 5 per cent). It is possible to increase the labour force through, for example, better integration of immigrants and restrictions on the early retirement scheme, but achieving such a large increase in employment in less than 10 years is unrealistic.

This calculation of the necessary fiscal tightening produces a figure which is greater than the government's assessment. A part of the difference is a result of differences in the expected development in public consumption by 2010, as the govern-

ment assumes a lower growth rate than does this calculation. Thus, the government assumes tighter control of public expenditure and thus extra spending cuts in comparison with a neutral projection of public consumption. A neutral projection is based on so-called nominal standards, in which the expenditure per user of public services increases at the same rate as the general wages. The government uses a neutral projection for public consumption after 2010.

The necessary fiscal tightening calculated here is also greater than that estimated in previous assessments (see *Danish Economy, Autumn 2002*). This is primarily a result of the recently approved income tax cuts and a less optimistic view of the future changes in the labour force. The income tax cuts result in a revenue loss of nearly DKK 10 billion. This worsens the sustainability of the fiscal policy to a degree that translates into an increase of $1\frac{1}{4}$ percentage points in the basic income tax rate, even taking into account the positive labour supply effect from the tax reduction. On the other hand, the temporary fiscal easing inherent in the bringing forward of the tax reduction in the Spring Package scarcely affects fiscal sustainability at all.

The tax freeze is included in the calculations and is assumed to continue until 2010. The tax freeze from 2002 to 2010 worsens fiscal sustainability to a degree corresponding to an increase in the basic income tax rate of $1\frac{1}{4}$ percentage points, because the revenue from the real estate taxes and levy taxes are eroded by inflation. A continuation of the tax freeze after 2010 will increase the amount of fiscal adjustment necessary. On the other hand, the calculations show that if the tax freeze is lifted in 2007, the necessary increase in the basic income tax rate will be reduced by $\frac{1}{2}$ percentage point from approximately $4\frac{1}{4}$ to approximately $3\frac{3}{4}$ percentage points.

The easy tax policy of recent years results in fiscal tightening being necessary corresponding to an increase in the basic income tax rate of $2\frac{1}{2}$ percentage points, with almost equal shares of about $1\frac{1}{4}$ percentage points from both the income tax reduction and from the tax freeze. Thus, the tax policies are responsible for more than half of the fiscal tightening needed.

The sooner the fiscal adjustment is made, the smaller the amount of adjustment will be necessary. A later adjustment will result in a slower reduction of the national debt, which in turn will increase interest rate payments. In the end, the necessary adjustment will also have to compensate for the extra interest payments. Postponing action by 10 years will augment the basic income tax rate increase from $4\frac{1}{4}$ to nearly 5 percentage points. Without doubt, there is a practical limit to the size of the tax burden, and the negative effects of a tax increase will be strengthened by the size of the tax burden. If the calculations do not fully take these effects into account, the necessary tax rises may be even greater, if action is delayed. The pressure on mobile tax bases from, for example, increased globalization may also increase the level of the adjustments necessary in comparison with these model-based calculations.

How and when to ensure fiscal sustainability are political choices. The younger and future generations will bear the burden of the fiscal tightening if action is delayed. How the burden is to be distributed between generations is a political decision. There is a great deal of uncertainty in the calculations measuring the fiscal unsustainability and with respect to the generational aspects of the problem. However, despite this uncertainty, there is no doubt that considerable fiscal budget tightening will be needed unless labour market reforms can increase participation rates significantly.

Chapter III:

The Inter-Generational Distribution of Income

The changes in the population dependency ratio have given rise to an increased focus of attention on the distribution of income across generations. In the public debate it is often argued that some generations have experienced a high level of income at the expense of other generations. In political circles, the issue of an equal distribution across generations has also received attention. However, the fact is that the knowledge we have of the exact distribution of income across generations and of payments to and from the public sector is very poor. This

chapter attempts, for the first time using Danish data, to systematically calculate the income and net contribution to the public sector of each generation.

Two very divergent approaches are often used in comparisons of income across generations. Some compare generations in terms of their absolute potential consumption. According to this approach, generations are considered equal if they have each had the same potential consumption, measured over the course of a lifetime. Such an approach means that a comparison of income across generations only requires an adjustment for inflation. Others compare relative potential consumption. This means that each person in a generation compares his own income with the income of other people in the same year, and that he only feels he has experienced greater utility if his income increases as much or more than the income of other people at home or abroad. The relative approach implies that future generations will benefit fully from economic growth and hence will not be left behind by contemporary generations in other countries.

Whatever approach is chosen, an adjustment for differences in the level of prices is required in order to study incomes from different time periods. Having calculated real incomes, it is possible to compare the real potential consumption of different generations. Past economic growth has resulted in younger generations experiencing an increase in potential consumption in comparison with older generations. In generation studies, however, there are certain problems related to merely adjusting for inflation. Investigations of utility indicate that aggregate utility does not necessarily increase in spite of the increase in potential consumption caused by economic growth. This is an argument in favour of adjusting income for growth as well, given that consumers compare themselves to other people living in the same time period. If one does not elect to adjust for growth, one could legitimate present generations including the expected higher income of future generations when choosing their level of consumption.

It is debatable which of the measures of income described is to be preferred when evaluating the distribution across genera-

tions, and ultimately, the issue must be determined politically. If the aim of economic policy is to redistribute across generations, it should be made clear whether a fair distribution across generations is equivalent to an absolute equalization of the real incomes of the different generations. This implies a consideration of the consequences of such a policy. If future economic growth is expected, the goal of smoothing out absolute potential consumption might thus justify substantial public borrowing and hence a considerable future burden of taxation. This would mean a redistribution of potential consumption from future to present generations. However, it would result in the potential consumption of future generations in Denmark being markedly lower than in countries where the standard of living presently compares to that of Denmark. Moreover, it is not certain that expected future economic growth will be realised, and it is thus not evident that the actual potential consumption of future generations will increase as assumed.

The discussion in this chapter shows that although it is not possible to determine clear, objective criteria for comparisons of potential consumption across generations, there are many arguments in favour of adjusting income and net contributions to the public sector for growth as well as for inflation.

Income is growth-adjusted using either growth in aggregate income or growth in hourly wages, the latter corresponding to production per hour. The future changes in the population size and structure result in future income growth being less than hourly productivity growth. In chapter III, income is adjusted for growth in aggregate income. This implicitly builds on an assumption that each consumer in Denmark compares his own income to other consumers exposed to similar changes in the dependency ratio. If instead income were adjusted for growth in hourly wages, the estimate of market income of future generations would come out lower. This method builds on a presumption that future generations would compare themselves to the population in an economy without changes in the dependency ratio, since such an economy would be able to maintain an income growth corresponding to hourly productivity growth.

There is considerable uncertainty involved in comparisons of income across generations. This is partly due to the problems connected to the choice of income adjustment discussed above, but in addition to that, a number of factors influencing aggregate welfare are certain to change over time in the very nature of things. Among these factors are leisure, family patterns, environmental factors and crime. In addition to these issues, there is uncertainty related to the underlying data. The income of generations and the receipts and expenditures of the public sector from 1947 are poorly documented. Uncertainty also arises from lack of knowledge of the distribution of previous welfare programmes across different age groups. In the forecasts, uncertainty stems from the underlying assumptions regarding population structure, labour supply, real wages etc., all subject to various degrees of uncertainty. Finally, the “chaining” of historical records with model forecasts results in further uncertainty. In spite of the reservations above, the calculations are considered not to be subject to any errors resulting in a systematic bias in the comparisons between generations. The calculation of generation accounts thus represents the first attempt to give a systematic overview of the economic distribution across present and future generations.

The chapter contains a calculation of the market income of each generation, i.e. the present value of the lifetime pre-tax income of the generation, as well as a calculation of the net contribution to the public sector of the generation, defined as the present value of the aggregate tax paid less the services and transfers received by the generation. The calculations show that the net contribution to the public sector of each generation is relatively small. This applies to comparisons between generations as well as when the net contribution to the public sector is measured against aggregate market income. The aggregate redistribution across generations through the public sector is modest. The most marked differences between generations are seen in market income records adjusted only for inflation. The generation which is to be born in the 2030s can thus expect a real market income three times higher than the real market income of the generation which was born in the 1930s. The large difference clearly illustrates the importance of considering how to define equality across generations.

The calculations based on growth-adjusted data show that the lowest net contributions to the public sector were made by the generations born in the 1930s. The reason is that these generations paid relatively low taxes, because they were in the labour force in a period when the public sector was small, whereas they have benefited from the increases in the services for the elderly. The analysis indicates that the generations born in the 1950s and 1960s will be the largest net contributors. These generations were tax payers in a time period when a part of the tax payments financed government interest payments, and hence they received no corresponding public services in return. In the future, however, a sustainable fiscal policy will mean an accumulation of funds in the public sector (see chapter II). Part of future public expenditure will thus be financed by government interest receipts, which will lead to lower net contributions from future generations.

The results presented in chapters II and III show that the Danish economy is faced with a sustainability problem. To obtain long term sustainability of the public finances, an adjustment of either the receipts or the expenditures of the public sector is therefore necessary. A worse scenario than assumed would require an even larger future intervention. If for political reasons sustainability cannot be secured through labour market reforms considerably increasing the labour supply, the adjustment must necessarily take place through higher taxes or decreases in public expenditure. The results in chapter III show that some postponement of the adjustment will not in itself significantly distort the balance between present and future generations assessed in terms of the net contribution. However, the results also show that the longer the tax increase or the decrease in public expenditure is postponed, the more extensive it will have to be. This indicates that it is preferable to avoid a postponement of the adjustment if sustainability is to be obtained through a traditional tightening of fiscal policy. If instead it is attempted to solve the sustainability problem through reforms which increase the labour supply, the results in the chapter indicate that there is time for a gradual implementation of these reforms in order to allow citizens to adapt themselves to changed rules and terms for labour market withdrawal, etc. In this case as well, any

postponement will mean that more extensive reforms are needed.

The chapter contains calculations of the effects of various measures which could be used to achieve sustainability. These results are given primarily to illustrate the extent of the problem, and not as actual solutions to it. The sizes of the tax increases used in the calculations are presumably not possible in practice. It is therefore desirable to find solutions which will make perceptible tax increases unnecessary. The political challenge is thus to obtain an increased labour supply and increased productivity in the public sector in order to solve the problems arising from a changed population structure, all without greatly increasing taxes. This will probably require reforms of, for example, the pension system or the Danish early retirement scheme, but such reforms should not make future generations worse off than present generations.

In addition to the consequences of differences in market income and net contributions to the public sector, the distributional balance is also influenced by transfers in terms of gifts or inheritance from parents to their children. Since there are no statistical records of wealth transfers in Denmark, there are difficulties in studying the effects of gifts and inheritance on the distribution across generations. However, the results in the report show that there is a correlation between the wealth of parents and their children. Children of wealthy parents have a high probability of being among the wealthiest in society, whereas children of poor parents have a relatively high probability of being among the poorest. This might indicate that transfers from parents to children in the form of gifts have an influence on the distribution of wealth. Also, two different measures of inheritance indicate that the size of the inheritance increases with the income and wealth of the recipient.

It has been noted in connection with the design of the tax system that a decrease in capital income taxes and an increase in the starting point for the upper tax bracket would be expedient, since it would increase the labour supply (*Danish Economy, Spring 2001*). These improvements to the tax structure would increase income inequality, but the results

given in the report indicate that a higher tax on inheritance would counteract this effect. One way to increase inheritance taxation might be to make the tax progression steeper, so that the tax rate increases with the size of the estate. Since inheritance is positively correlated with the wealth of the recipient, this would lead to a more equal distribution of wealth. This solution might be interesting; estate duties are probably less distortionary than most taxes because some inheritance is unintentional. That is, taxation of inheritance which was not bequeathed intentionally would not distort the labour supply or savings decisions.

Chapter IV:

Efficiency and Quality in the Public Sector

There is a significant pressure on public sector expenditures in Denmark because of demographic changes, and because there is a tendency for the demand for public services to increase more rapidly than income. For these reasons it is important that the production of public services is conducted efficiently. However, it is not necessary that the public sector should produce all public services. The criterion for the choice between a public and a private service provider should be which produces the required quality in the cheapest way.

Private enterprises have strong incentives to minimize costs of production and to increase innovation, since creation of profits is their main motive. Economic incentives to produce efficiently are weaker in the public production. If possible, the production of public services should be subject to competition. In cases where this is not possible, incentives should be provided to increase efficiency in public production. Both theory and empirical evidence suggest that this will reduce the costs of providing public services.

Regions in Denmark are organised in a two-tier system comprising 13 counties and 271 municipalities. The counties have responsibility for hospitals and other parts of the health care system, secondary education, the regional environment,

sections of the public transportation system, parts of the employment services, regional planning, regional roads and regional enterprise policy. The municipalities have responsibility for local roads, the local environment, primary schools, care of the elderly, child care, local enterprise policy and parts of employment services. Both counties and municipalities collect taxes. The government has proposed a reform of this system in which the counties would be reduced to five regions, with hospitals as their only responsibility. The number of municipalities should be significantly reduced, and they should each have a population of at least 30,000 citizens. The municipalities should take over most of the other areas that are presently controlled by the counties, and the new regions should not collect taxes. The proposal is currently being debated and several municipalities are considering merging voluntarily.

Analyses presented in the report indicate that outsourcing of public services reduces operating costs in the municipalities. The analyses show, however, that the cost reduction is less for municipalities with a high level of outsourcing. If for example 2/3 of the municipalities with the lowest rate of outsourcing increased their outsourcing rate to a level corresponding to the municipality in this group with the highest rate of outsourcing, costs would be reduced by two billion DKK. This corresponds to 3 per cent of the total municipal expenditures. In the long term this saving might increase even further if productivity growth of private production exceeds that of public production. Furthermore, the analyses indicate that small municipalities make larger gains from outsourcing than large municipalities. One explanation for this is that economies of scale make production in the larger municipalities more efficient.

Several conditions need to be fulfilled to achieve the potential gains of outsourcing. Competition should exist or be created in the market, and it should be possible to describe and measure the quality of the services supplied. One example of successful outsourcing is the operation of local buses in the Copenhagen area. Costs have been significantly reduced and customer satisfaction has improved. Public services for which the amount or quality is frequently revised are less suitable for

outsourcing, since changes to a contract are generally expensive. The original public producer should bid, since it may have experience and competence that makes it competitive. All costs should be included in the public producers' bid, because competition would otherwise not be on equal terms.

Terms of reference should, where possible, be specified in a way that allows for different combinations of price and quality. The terms of reference should define the targets but not necessarily the exact production process. The contractors for the operation of the local buses in the Copenhagen area are in their terms of reference given the opportunity to propose a higher level of customer satisfaction than specified and consequently charge a higher price. This is likely to improve efficiency and innovation.

The contract should specify the service with all necessary precision; otherwise, the private contractor would have incentives to reduce costs at the expense of the quality. However, when a new area is outsourced, it may be appropriate to write a contract which is not too detailed until experience is gained of how the outsourcing works in practice. Later on, more comprehensive contracts should be used. Such a strategy has been a success in the outsourcing of local buses in Copenhagen. The duration of the contract should be short when outline contracts are used. This reduces the loss if the service is not supplied as expected.

It may be impossible to specify services that are very complex or very innovative. In such cases public-private partnerships (PPPs) can be an alternative to outsourcing. Knowledge can be transferred between the parties in PPPs, and the public partner will acquire insight into the production process. PPPs also include cases where the private contractor can choose freely how best to achieve the overall targets specified in the contract. In the United Kingdom the private finance programme gives the private party the responsibility of financing, constructing, maintaining and running public facilities such as hospitals, prisons and roads. The results are very promising and the method should be adopted in Denmark.

Research partnerships should be used more widely. Public research institutions may have difficulty in realising the commercial potential of research findings, just as there may be barriers to private enterprises using the results of work carried out in public research institutions. Therefore, both the private and the public parties might gain from engaging in partnerships that could commercialise research findings. Another opportunity for public/private collaboration lies in making public venture capital available for small businesses. The incidence of such public/private partnerships and public venture capital projects is low in Denmark, and should be increased. However, a very large increase in public/private collaboration might produce a risk of a distortion of the total public research effort; the short-term gain from commercialisation might be achieved at the expense of basic research that has a longer perspective. Competition might also be distorted, since research findings are not made available to all private enterprises on equal terms.

One way to create competition between producers is to give the user free choice between public and private service providers. In Denmark, users of home care services have the option of choosing a private provider if the price is the same as that offered by the public sector. But this only creates competition with respect to the quality of the services supplied. Only in half of the municipalities do private firms offer home care services. This may be because the private firms expect the potential market to be too small, or the price is too low, for a private supplier. The latter may be the case if the municipalities have not included all the true costs in their prices. It is recommended that more municipalities should try opening home care services up to competition.

If several suppliers produce the same services it is possible to compare the costs and in this way create yard stick competition. Differences in costs may be caused by differences in quality, and it is important to take this into account when costs are compared. It is recommended that systematic comparisons should be made of differences in costs between municipalities. One area where such comparisons could be made is primary school costs per pupil. If this were coupled with proper

economic incentives – for example, if a part of the salaries of management or other staff depended on the results obtained – such comparisons could improve efficiency in the public sector.

One way to improve the quality of the services for which they are responsible might be for local authorities to delegate responsibility for these services to independent non-profit organisations with a significant degree of freedom to organise their own production processes. This might motivate staff to use their knowledge of production processes and the needs of users to improve the quality of services. Greater freedom to use savings for reinvestment within the institution can also be motivating and might thus lead to quality improvement, whether the institutions concerned are independent or public.

Some tasks require a large population to be handled efficiently at the municipality level, and consequently some local governments cooperate to obtain economies of scale, which can result in improved quality and lower costs. However, such arrangements reduce the influence of the local governments. It is recommended that outsourcing to private firms should be considered as an alternative to cooperation between municipalities.

It will probably be financially beneficial if small municipalities are merged with other municipalities. The number of tasks for which municipalities are responsible has increased during recent years. Expenditure per capita is higher in small municipalities, and differences between municipalities in expenditures are increasing. However, merging municipalities will not in itself reduce costs; it is necessary to change working procedures and the size of the work force, and in some cases to close down institutions.

In situations when it is not possible to compare production costs, because there are few or no other producers of comparable services, a contract specifying the results to be achieved may contribute to more efficient production in the public sector. Such contracts increase the focus on the goals to be met by the supplying institution. The goals and the money to be

available to achieve them are negotiated between the institution and the grant-awarding authorities. Only the institutions have detailed information about costs, however, and that may reduce the likelihood of efficiency gains. There is also a danger that too much effort will be put into achieving those goals which are explicitly stated in the contract, at the expense of other goals.