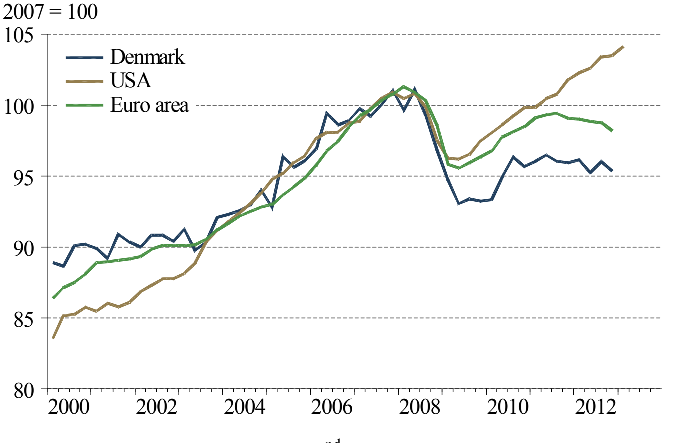
English Summary

The report contains three chapters: Chapter I gives an economic outlook for the Danish economy, Chapter II contains a long term projection for the Danish economy focusing on the development of public sector finances and Chapter III gives an analysis of old age retirement.

Chapter I: Economic outlook

The current economic situation in Denmark is characterized by stagnation, cf. figure A. Gross domestic product has remained more or less constant over the past 3 years, and there are no obvious signs for improvement in the near future. The international economic outlook is weak, particularly in Europe, and there is thus little prospect of help from demand abroad.

Figure A GDP



Note: The latest observation is 2nd quarter for Denmark and the euro area and 1st quarter for the United States.

Source: Statistics Denmark and EcoWin.

The economic situation in many European countries is marked by low confidence in public finances. The trend in the interest rates on government bonds suggests, however, that confidence is slowly returning. In several countries, the fiscal tightening planned for 2014 and 2015 is smaller than it was in 2010-13. This justifies an expectation of higher growth rates in the European economy within one to two years. However, the short-run international economic prospects are gloomy.

The financial sector's role in the economic crisis has led to a political desire for increased regulation of the sector, and the European Commission has proposed the introduction of a *Financial Transaction Tax*, FTT. In all, 11 euro area countries have agreed on introducing the FTT. The tax is likely to be transferred to consumers through higher funding costs and the negative effect on growth and employment is likely to be large relative to the collected tax revenue. A tax on the financial sector's total wages, or a financial activities tax (FAT), is less distortionary and would be preferable.

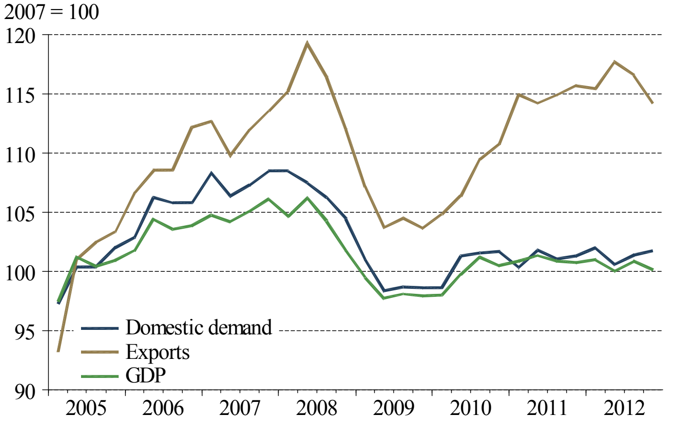
The European Commission has proposed the creation of a banking union in the euro area. There may be good arguments for establishing a banking union, as a large part of the financial sector's activities cross national borders. A banking union implies a single supervisory mechanism (SSM), a resolution mechanism for dealing with distressed banks and a common deposit guarantee scheme. A banking union is a long-term vision, and so far there is only agreement on establishing an SSM. Important next steps are to agree on a common deposit guarantee scheme and a single bank resolution mechanism for distressed banks. The latter is crucial because with only an SSM and none of the other measures, decisions on bank settlements are to be taken by the common financial monitoring authority, while the costs are borne by the member state where the bank is registered.

In the spring of 2013 the Danish government and several other parties agreed on an economic growth plan (Vækstplan DK). The plan includes a series of initiatives designed to increase productivity in the long run (primarily through a lower corporate tax rate) and labour supply (primarily through reforms of students' and social assistance). The plan's short-term activity effects are very limited because the initiatives that stimulate the economy (including the continuation of the housing scheme, which allows home owners a tax deduction for labour expenses associated with home improvements, higher public investment levels and lower taxes) are, to a large extent, offset by lower growth in public consumption. The plan contains lower public consumption in the short term than previously planned.

The initiatives in the growth plan are included in the present economic forecast. GDP growth in 2013 is expected to be around ¼ per cent. In 2014 and 2015 it is expected that GDP growth will increase to around 1¾ to 2 per cent. Current Danish economic activity is assessed to be almost 4 per cent below the level expected in a neutral business cycle situation. Table A reports the key figures of the forecast.

The stagnation in production since 2010 is largely due to weak domestic demand, cf. figure B. Since the setback in 2009, Danish exports were on the rise until mid-2012. Since

Figure B GDP, domestic demand and exports



Note: Latest observations are 4th quarter 2012.

Source: Statistics Denmark.

Table A Key figures from the forecast for the Danish economy

	Current prices DKK bn. 2012	Per cent of GDP 2012	Percentage change, volume 2011	2012	2013	2014	2015
Private consumption	900.6	49.5	-0.5	0.6	0.6	1.7	2.0
Public sector consumption	520.1	28.6	-1.5	0.2	0.9	0.6	0.5
Gross fixed capital formation	323.4	17.8	3.9	1.4	3.4	2.6	2.7
consisting of:							
Residential investment	78.1	4.3	14.6	-9.5	4.6	4.3	1.2
Business fixed investment	201.9	10.3	-1.8	6.6	6.0	2.5	4.5
Public sector investment	43.4	2.4	4.2	7.4	-7.6	0.6	-6.7
Stockbuilding[a)]	-4.0	-0.2	0.5	-0.4	-0.2	0.5	0.5
Total domestic demand	1,740.1	95.6	0.3	0.3	1.0	2.0	2.2
Exports of goods and services	992.5	54.5	6.5	0.9	0.7	3.1	3.2
Imports of goods and services	912.3	50.1	5.6	2.5	2.3	3.6	3.8
GDP	1,820.2	100.0	1.1	-0.5	0.2	1.8	1.9
Key indicators							
Consumer prices, percentage change[b)]			2.5	2.4	1.0	1.9	2.4
Unemployment, per cent[c)]			3.8	4.1	4.2	4.3	4.2
Current account, DKK bn.			101.2	95.4	72.8	60.2	57.2
Current account, per cent of GDP			5.6	5.2	3.9	3.2	2.9
General government budget balance, DKK bn.			-34.9	-75.4	-27.8	-31.1	-40.2
General government bud. balance, per cent of GDP			-2.0	-4.1	-1.5	-1.6	-2.0
Hourly wage costs, percentage change			2.3	1.9	1.8	2.1	2.3
Terms of trade, percentage change			-2.3	-0.2	-0.3	-0.1	0.1

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

b) Implicit private consumption deflator.

c) Percentage of the total labour force. National definition.

Source: Statistics Denmark, National Accounts and own estimates.

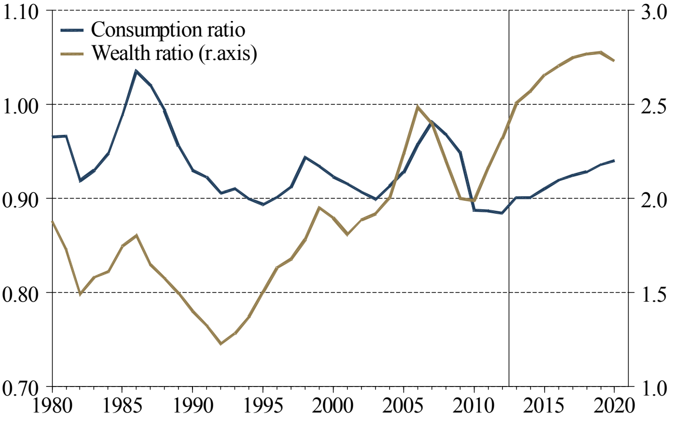
then, exports have been declining, mostly due to the low activity in Europe, and, given the weak European forecast, export growth is expected to be modest during the next couple of years.

Unit labour costs in industrial production have increased in Denmark relative to the most important trading partners. In the public debate, there have been rising concerns that Danish companies have become uncompetitive and thus are losing market shares.

However, the mirror image of the deteriorating competitiveness is an improved terms of trade for Denmark. Improvements in the terms of trade through higher export prices can be driven either by higher production costs (cost-push), increased demand (demand-pull) or through a change in the composition of products that are exported; if Danish exporters have directed more focus towards markets with relatively higher prices, the improved terms of trade cannot be taken as a sign of weak competitiveness. Instead, Danish exporters, to a larger extent than previously, harvest the benefits of specializing and trading internationally. An analysis in the report finds indications that this in fact is the case and that it is not obvious that Danish exporters are uncompetitive in general. This might also explain why it is sustainable for Denmark that relative unit labour costs have been rising. The relatively weak export growth expectations in the coming years should, therefore, be seen as a result of weak prospects in the rest of Europe rather than as a result of weak competitiveness among Danish exporters.

On this basis, export growth in 2013 is estimated to be around ¾ per cent, and around 3 per cent in the years 2014-15. Consumer confidence is still at low levels, and private consumption is expected to increase by around ½ per cent this year, and GDP growth is expected to be in the range of ¼ per cent. Investment and consumption ratios are currently at low levels, but are expected to increase as consumer and business confidence is restored in Denmark and the rest of Europe. Private consumption is not expected to increase much in 2013 whereas private investment is stimulated by the investment window that allows increased tax deductions for a number of investments. From 2014 investment and consumption ratios are expected to normalise gradually, but this normalisation is likely to be slow. Increasing pension assets and stabilised house prices contribute to a higher wealth ratio, which forms the basis for an increased consumption ratio, cf. figure C.

Figure C Consumption and wealth ratios



Note: Consumption ratio is the ratio of private consumption to disposable income, and the wealth ratio is wealth relative to disposable income. Wealth is the private non-pension sector's financial wealth, value of dwellings and vehicles and pension assets net of taxes.

Source: Statistics Denmark, ADAM's databank and own calculations.

Total employment is approximately 100,000 full-time persons below its structural level. By 2020, employment is expected to have risen by 200,000. Behind this development is an increase in the structural labour force and a decline in structural unemployment with a net effect totalling 100,000 full-time persons. The remainder is due to a normalization of the economic situation.

The structural unemployment level was improved in July 2010 by reducing the maximum period that unemployment insurance (UI) benefits can be received from four to two years. The reform was implemented swiftly as it was expected that the economic situation would have normalized by the time the reform had its full impact.

The reform theoretically increases the incentive to seek jobs. The analysis shows that the unemployed with a two year UI period enter employment faster than the unemployed with longer periods of UI. Nevertheless, the fast implementation of the reform and the lack of growth in labour demand have accumulated a bubble of unemployed people at risk of exiting the UI system. Several new initiatives, known as “Akutpakke” one, two and three, were implemented during the second half of 2012. Still, during the first four months of 2013 benefits expired for more than 16,000 unemployed persons. This is an extraordinarily large number compared to 2012 and 2011. Even though the implementation of the reform is causing difficulties, this should not be a reason for permanent changes that affect the structural unemployment level and fiscal policy negatively.

A large fraction of the unemployed who risk expiration of their unemployment insurance benefit period are entitled to a senior job – a job provided by the municipalities until they are entitled to early retirement benefits. Even though those in this group are guaranteed a job, they enter regular employment during their unemployment spell to a relatively large extent. The senior job arrangement is expensive and the recipients have little incentive to keep on searching for regular employment after taking up a senior job.

In recent years Danish fiscal policy has been set in order to meet the EU’s recommendation that the structural balance be improved by 1½ per cent of GDP from 2010 to 2013. It is estimated that with the planned fiscal policy, Denmark is compliant with the EU’s recommendation, and it is further estimated that the structural deficit from 2014 until at least 2020 will remain within the limits laid down in the Danish Budget Act and the Fiscal Compact.

The tight fiscal policy which has been pursued since 2011 and which is planned to continue for the coming years has a negative impact on growth. Taking into account the effects of the reimbursed early retirement contributions, continuation of the housing/job scheme, that makes it possible for home owners to obtain tax subsidies when renovating their houses and the so-called investment window, that runs until end-2014 and gives companies extraordinary high tax deductions on investments, the overall fiscal policy in 2013 is assessed to be neutral. In 2014 it is estimated to contribute negatively to growth by around ¾ per cent. The negative contribution to growth in 2014 is partly due to the termination of the investment window.

In the report, the possibilities for loosening fiscal policy compared to that which is planned are discussed. The main points are:

- The economic situation suggests a loosening of fiscal policy. Public finances are assessed to be in a sufficiently healthy state to do so
- The possibilities for relaxing fiscal policy within the Budget Act's requirements for the structural balance are limited
- It would be appropriate for the EU to allow countries with basically healthy public finances to depart from the structural balance requirements
- Fiscal policy should not be relaxed without the approval of the EU. A fiscal expansion should, in any case, be temporary and should not jeopardize the medium-term balance target in 2020

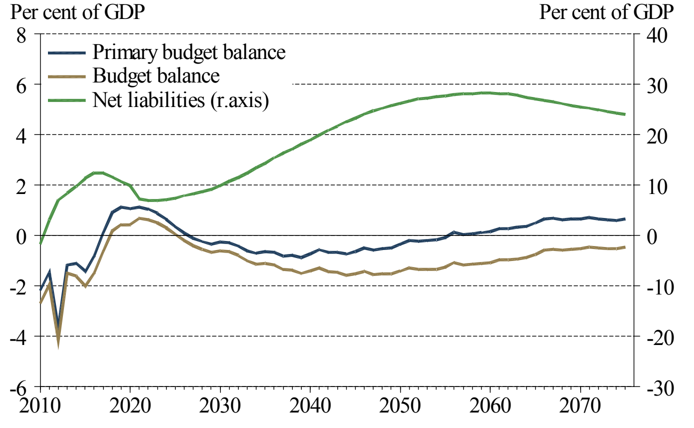
The EU has given Denmark the possibility to reduce the medium-term balance requirement in the Budget Act from ½ per cent of GDP to ¾ per cent. As a consequence, Denmark should revise its balance requirement in the Budget Law to this level. Currently, the budget law only allows for a structural deficit of up to 0.5 percent of GDP. A revision will permanently improve the possibilities of conducting active fiscal policy. Furthermore, it would fit well with the short-term growth challenges and give a (limited) opportunity to pursue a more expansionary fiscal policy.

Chapter II: Sustainable fiscal policy

Chapter II presents a long-term projection for the Danish economy, which builds upon the medium-term projection to 2020 presented in Chapter I. The long-term projection focuses on public finances and is used to evaluate whether Danish fiscal policy is sustainable under assumptions made about demographic trends, etc.

As seen in Figure D, the budget is projected to improve during the years up to 2020, partly because of business cycle improvements and partly because of various policy measures. In 2020, a surplus of around ½ per cent of GDP is projected. After 2020, the budget (which should be interpreted as a structural budget in this time perspective) deteriorates for about 20 years, and reaches a maximal deficit of around 1½ per cent of GDP around 2045. Afterwards, the budget improves again, but does not become positive during the projection period. The trends after 2020 are primarily due to demographic changes, but projected changes in North Sea oil revenues, tax consequences of projected labour market pension developments, future age indexation of retirement benefits and the inflation-induced deterioration of real revenues from duties and property taxes also affect future public finances.

Figure D Budget balance and net liabilities



Source: Statistics Denmark, ADAM, DREAM and own calculations.

As a consequence of budget developments, net government liabilities are projected to reach a low of less than 10 per cent of GDP around 2025, after which they will rise over several decades to a projected level of 27 per cent of GDP around 2060. Assuming a difference between net and EMU (gross) liabilities of close to 30 per cent of GDP in future, projected government debt stays just below the limit of 60 per cent of GDP stipulated in the EU Stability and Growth Pact.

Under the assumptions of the projection, Danish fiscal policy is exactly sustainable, the sustainability indicator (showing the GDP share with which the primary budget balance must be improved permanently in order to avoid an exploding debt in the long run) being 0.0 per cent. This is similar to the long-run projection made in *Danish Economy, fall 2012*. Before 2012, projections from the Danish Economic Council regularly showed that fiscal policy was unsustainable. A series of reforms over the past several years have helped improve the long-run outlook for the public budget. In this way, the tradition of the last 15 years of using medium-term plans embedded in long-term calculations of fiscal sustainability as a framework for fiscal policy has been successful. Even though actual fiscal policy has not always been appropriate, the attention directed towards long-run challenges has been instrumental in the process leading to today's projection of fiscal sustainability.

The projected structural budget will conflict with the deficit limit of ½ per cent of GDP mandated by the EU Fiscal Compact. Improving the budget further would imply considerable additional public savings in a situation which is already sustainable, and, thus, making room for corresponding additional public spending or lower taxes in the more distant future. This would imply an increase in redistribution from present to future generations via the public sector. Alternatively, the EU requirements for the structural balance may be refined to take account of particular institutional settings (such as deferred tax on pension savings) and possibly on fiscal sustainability. In the Danish context, the sizeable tax revenues that are deferred, in combination with a fundamentally sound fiscal policy, could justify the requirement for the Danish structural balance being reduced to, e.g., 1 per cent of GDP.

Chapter III: Old Age Retirement

In chapter III present and future old age retirement is studied. The motivation for the analyses is that the Danish pension system has been reformed over the last two decades with the aim to increase the retirement age. At the same time, the mandatory labour market pension savings schemes have been expanded. When the schemes are fully matured in the future, almost every person close to retirement will have considerable private pension savings making early retirement possible. This indicates that the effects of the pension reforms on increasing the average retirement age may be smaller than previously accessed. The chapter presents analyses of old age retirement taking account of the pension reforms.

The main pillars of the public pension system of today are the old age pension (funded through the taxation system) and a voluntary early retirement scheme (partly funded by the government and partly self-funded by workers' contributions to the scheme over a number of years). Thus, the present Danish pension system for early voluntary retirement is mainly 'pay as you go'-based.

The current voluntary early retirement scheme pays benefits to people who retire between the ages of 60 and 65, with 65 being the old age pension entitlement age. To be entitled to early retirement benefits one must have been a member of the scheme (and have paid a small quarterly fee) for at least 25 years.

People who defer their entitlement to early retirement benefits for at least two years receive a higher rate of benefits when they do retire, and their private pension savings are also excluded from means testing. Furthermore, they will receive a reward for each year they postpone retirement beyond the two years. This can continue until the old age pension age. Thus, an individual may collect annual rewards for no more than three years if retirement is postponed accordingly.

The old age pension consists of a basic amount and a means-tested pension supplement. Furthermore, the financially most disadvantaged pensioners may qualify for an additional means-tested supplementary pension benefit.

It is possible to postpone the payment of old age pension benefits and receive correspondingly higher payments later on, if the individual chooses to postpone retirement. This may continue for up to ten years. The increment in the pension benefits also includes a premium that reflects the risk of dying before receiving the postponed benefits.

A reform of the early retirement scheme was put through in 2011 with the aim of increasing the retirement age. As a result the maximum period an individual may receive early retirement benefits was reduced from five to three years. Under the reform, private pension savings will be included in the means test for all early retirement benefit payments in the future.

In 2006, it was decided to increase the old age pension age continually, such that the old age pension age increases when average life expectancy increases. For example, it is expected that the retirement age will have risen to 72 in 2050. The current retirement age is 65.

In the 1990s the Danish mandatory labour market pension savings scheme was expanded such that today about 90 % of the full-time employed workforce is covered by the savings scheme. When the system is fully matured, most prospective retired workers will have considerable net wealth and they will depend considerably less on public welfare benefits than retirees of today.

In order to estimate the importance of private pension savings and public welfare benefits for the retirement decision, effective wealth is calculated.

Effective wealth expresses, at a given point in life, the expected income for the rest of one's life. It includes initial financial wealth (housing assets and liquid assets) as well as the future discounted income after tax a person may expect to receive for the rest of his or her life. Expected future income includes income from wages and salaries, private pension savings, and income transfers. When calculating the amount of expected income transfers it is recognized that other incomes offset income transfers. When expected future income is calculated, it is necessary to make a number of assumptions concerning future developments: for example about future earnings, interest rates, survival probability, taxes, income transfers, pension savings and rents.

An empirical model for the retirement decision is derived in section III.5. The model uses variation in the economic incentives to postpone retirement and the actual retirement ages of older workers to estimate their preferences for retirement. The model is inspired by the option value model of Stock & Wise (1990) but is different in several ways.[1]

The estimations use information about all workers aged 59 in 2001, the age of 59 being one year before workers are entitled to early retirement benefits. Effective wealth is calculated for each individual aged 59. The effective wealth depends on the retirement age. This reflects that economic incentives to postpone retirement change with retirement age. Thus, the effective wealth for each possible retirement age between 60 and 67 years is calculated and used in the model regardless of the individuals' actual retirement ages.

Actual retirement is bunched at ages 60 and 62, which coincides with the specific economic incentives. For most people it applies that if they postpone retirement until the age of 60 they will be entitled to early retirement benefits. If they retire at a younger age they will lose this entitlement. If retirement is postponed further to the age of 62, the early retirement benefit rate is higher and is not offset by pension savings.

[1] Some of the differences are that: 1) the individuals considered in the presented model *do know* their *future preferences* for retirement given their future incomes; 2) the individuals in the model are *not credit constrained*; 3) *preferences* for retirement are allowed to *vary* in the population. A more detailed description of the differences is included in Arnberg and Stephensen (2013. Working paper in Danish).

The model's predicted retirement pattern is similar to the actual retirement pattern. In particular, the model predicts that retirement is bunched at the ages 60 and 62 years. The estimated model is used in section III.6 to project the future retirement behaviour of older workers in 2050 and for policy analyses in section III.7.

Previous projections for the future Danish labour force have not taken into account that future retirement behaviour may change due to changes in retirement incentives. In the last decades significant reforms to the pension system have been implemented in order to increase the retirement age. However, the expansion of the labour market pension schemes that were put through in the 1990s may work in the opposite direction. In 2050, the schemes will have fully matured. Thus, almost every person close to retirement in 2050 will have a large pension savings account enabling him or her to retire early, or to enjoy a higher standard of living when retired.

The projection of the retirement behaviour of the persons close to the retirement age in 2050 is based on a projection of the workers' effective wealth. There are three steps in the calculations:

Step 1: Projection of income, financial wealth and pension savings: These measures are projected for two cohorts. The first cohort will reach the expected entitlement age for old age pension benefits in 2038. The second will reach the expected age for old age pension benefits in 2053. For each group (classified by gender and education) pension savings percentiles are calculated. For each percentile the financial wealth and earnings are also calculated.

Step 2: Projection of effective wealth: Based on the projections in step 1 the effective wealth of persons close to the retirement age is calculated. The future effective wealth is calculated for a range of potential retirement ages.

Step 3: Projection of the labour market participation of the old workers: The retirement behaviour of the future older workers is projected on the basis of the projection of the effective wealth in each group classified by gender and education and the estimated retirement model presented in section III.5.

The projected old age retirement in 2050 indicates that people will retire later compared with today and compared with the previous employment projections. There are three effects. Two of them tend to postpone retirement and thus increase the employment at old age, while the last effect tends to reduce the future employment:

Effect one: Far fewer people will receive voluntary early retirement benefits in the future compared with previous projections. Only about 5,000 people will receive voluntary early retirement benefits in 2050. The number is much lower than previously expected. It reflects that far fewer people will be members of the early retirement scheme in 2050 and most of the members who are entitled to early retirement benefits will choose to work through the early retirement years and receive a reward for working (public transfer) instead of collecting the early retirement benefits. In the future, all pension savings will be included in the means test for early retirement benefits. As most people will have considerable pension savings in the future, more people will choose to continue to work through the early retirement years

Effect two: The projection indicates that more people will continue to work after they are entitled to old age pension benefits. Thus, it is expected that more people will exploit the possibility to postpone the payments of old age pension benefits.

Effect three: The projection indicates that more people than previously expected will retire before they are entitled to old age pension benefits even though they are no longer entitled to early retirement benefits. These people will not receive public transfers until they reach the age where they are entitled to the old age pension. This effect is a result of two developments. Many more people will have large pension savings, which will enable them to retire early. Furthermore, far more people have opted not to contribute to the early retirement scheme and will thus not be entitled to early retirement benefits. That more people will retire early to live off their pension savings will tend to reduce the future labour force.

In total, the projection indicates that the Danish labour force will have 40,000 more workers in 2050 than previously expected. However, when this figure is converted into full time workers, the difference is much smaller. The reason is that the expected average number of working hours is low for people who continue to work after the old age pension benefit age.

Based on the analyses in the chapter it is concluded that the public pension system has been improved. However, minor changes would improve the efficiency of the system. It is recommended that it should be possible to defer all supplementary pensions to the financially most disadvantaged pensioners and that the rules for means testing are changed so that pension contributions made less than five years before entitlement to pension are excluded from the calculation of supplementary pensions. It is proposed that people entitled to old age pension should be given an earned income tax credit of 100,000 DDK per year because this would lead to a significant increase in overall employment.

Housing consumption of the elderly is subsidized more than housing consumption of the general population. This cannot be justified by general equality considerations, and the favourable housing benefit rules increase the incentives for early retirement. It is therefore recommended that the rules for housing benefits be harmonized.