

De Økonomiske Råd   
Formandskabet

**DANISH ECONOMY  
AUTUMN 2021  
SUMMARY AND  
RECOMMENDATIONS**

## **SUMMARY AND RECOMMENDATIONS**

This summary contains the main conclusions and recommendations of the five individual chapters of the report.

Chapter I comments on current economic issues. A full, translated version of chapter I is presented at the end of this summary.

Chapter II contains short and medium term forecast of the Danish economy and the public finances.

Chapter III concludes that the fiscal policy is more than long term sustainable; the fiscal sustainability indicator is 1.0 per cent of GDP.

Chapter IV focus on the health and employment of the 55+ year old Danes. The analysis presented indicates that there is a causal effect of health on employment.

Chapter V address the assessment criteria the ministries use to ex ante asses alternative economic policy measures.

## MAIN CONCLUSIONS OF THE REPORT

This report by the Chairmanship of the Danish Economic Councils contains five chapters:

- Current economic policy
- Economic outlook and public finances
- Fiscal sustainability
- Health and older-age employment
- Assessment Criteria and ex-ante evaluations

In the following, there is short summaries of the individual chapters. After the summaries, there is on page 344-361 a full version of Chapter I.

### CHAPTER I, CURRENT ECONOMIC POLICY

Chapter I summarises the Chairmanship's assessments of and recommendations for the current economic policy based on Chapters II and III of the report and previous reports by the Chairmanship.

**It is appropriate to roll back economic support packages and loan schemes**

The first part of the chapter deals with the economic management of the pandemic and the current economic situation. The Chairmanship recommends establishing a scalable contingency plan that can be put into effect quickly if there is a need for renewed measures in connection with the ongoing pandemic. The Chairmanship considers it appropriate that most COVID economic support packages will expire as originally planned, and recommends to also wind up liquidity and loan schemes as planned.

**Fiscal policy should be tightened in relation to what is planned**

There is a prospect that the economy is moving into a boom with an expansion of the employment gap from 2019 to 2022. The Chairmanship's assessment is that fiscal policy in 2022 should be tightened such that, relative to the position in 2019, it moves in the direction of being neutral for growth, rather than having an expansionary effect, as is currently planned. Efforts should be made to dampen activity in the particular industries that are experiencing the greatest capacity pressure. An obvious element in a fiscal tightening relative to what is planned is to abolish the home improvements tax deduction scheme.

**No urgent need for intervention in the housing market**

Recent trends in the housing market point in the direction of a slow-down in both activity and price increases. Therefore, the Chairmanship continues to assess that there is no urgent need to intervene in the price formation in the housing market. However, this situation may change and should, therefore, continue to be closely monitored for the foreseeable future.

**Deficit limit of 1 percent and a general government deficit target of  $-\frac{1}{2}$  percent in 2030 is economically responsible**

With the prospect of increasing government deficits due to demographic changes in the coming years, the Chairmanship assesses that there are good arguments for lowering the Budget Act's deficit limit to 1 percent of GDP. Given the favourable outlook for public finances in the long term, this is assessed as being economically responsible. At the same time, a lower deficit limit would make it possible to replace the Government's medium-term goal to achieve structural budget balance by 2030 with a deficit target of, for example,  $\frac{1}{2}$  a percent of GDP. In this way, an appropriate gap between the deficit limit and the general government deficit path will continue to be ensured. A general government deficit target of  $-\frac{1}{2}$  percent combined with a deficit limit of 1 percent is assessed as being economically sound, but setting the medium-term general government deficit target is fundamentally a political decision, as long as there is fiscal policy credibility.

**Extra funding for research etc. is conditional on the financing**

The Government has presented the proposed reform initiative *Danmark kan mere I* (Denmark Can Do More I). The initiative proposes to allocate extra funding for the fields of education, research and the green transition, to be financed by savings on business support. It is positive that, according to the proposal, the funding is conditional on financing decisions based on the recommendations of a new expert group for future business support.

**Structural policy measures should not be motivated by cyclical factors**

The government also proposes a number of reforms in the labour market area, especially within the unemployment benefit system. Basic reforms aimed at increasing the effective labour supply should be based on underlying structural factors and not cyclical recruitment challenges. If, for structural reasons, a reform is deemed appropriate, the timing of the changes could ideally help to stabilise the economic situation.

**New agreements on some decentralisation of education**

The chapter also touches on the recently concluded broad political agreements on infrastructure planning and decentralisation of some parts of the education system. The socio-economic returns should be assessed for all major infrastructure projects. The larger analysed projects in the infrastructure plan have reasonable socio-economic returns. One motivation behind the decentralisation of education is that young people's opportunities should not be determined by whether they live in one of the largest cities or not. Previous analyses by the

Chairmanship indicate that this is not the case today; educational mobility in rural areas is at least as high as in the rest of the country.

**The objectives of the Climate Act are achieved at lowest cost with a uniform greenhouse gas taxation ...**

The last part of the chapter discusses climate policy. The main message is that the costs of achieving the objectives of the Climate Act are minimised by announcing, quickly and credibly, a uniform taxation of all net emissions of greenhouse gases, which includes subsidies for negative emissions. The costs of achieving the objectives of the Climate Act increase if individual industries, such as agriculture, are exempted from greenhouse gas taxation, and if general subsidy schemes are given a significant role in the green transition.

**... which implies a phasing out of the electricity tax**

A uniform taxation can be achieved by replacing existing climate-related taxes and subsidies with a uniform greenhouse gas tax on all net emissions in Denmark. Therefore, it is appropriate that the Government proposes to lower the ordinary electricity tax.

## CHAPTER II, ECONOMIC OUTLOOK AND PUBLIC FINANCES

Chapter II contains an assessment of the current economic situation, a projection for 2030, and the Chairmanship's evaluation of state of the public finances.

**Danish economy back to pre-pandemic level**

Economic activity in Denmark has recovered quickly, and is now above the level that existed prior to the downturn caused by the pandemic. In the second quarter of this year, GDP reached almost 2 percent above the level it was at the end of 2019, and the number of wage earners employed in July 2021 was more than 50,000 above the February 2020 level. The rate of recovery varies across industries, and there are still differences in the level of activity in some industries compared to the situation prior to the pandemic. Recovery has been faster in Denmark than in a number of other countries, and the economic activity of most of our important trading partners remains below pre-pandemic levels.

**Quickly back in boom**

The increase in economic activity means that the Danish economy is expected to return to the boom that was beginning to be underway when the pandemic broke out. GDP is expected to grow approximately 4 percent this year, and in 2022 GDP is estimated to be approximately 5½ percent higher than in 2019. Employment is expected to increase by more than 60,000 persons this year, and is expected to increase from approximately ¾ percent above its structural level in 2019 to approximately 1¾ percent in 2022, see Figure A.

**TABLE A KEY FIGURES OF THE OUTLOOK FOR THE DANISH ECONOMY**

	2019	2020	2021	2022	2022-25 <sup>a)</sup>	2025-30 <sup>a)</sup>
	DKK bn.	-----	Real growth rate, per cent.			-----
Private consumption	1.080	-1,3	2,2	5,9	2,5	1,7
Public sector consumption	558	-1,7	5,1	-0,9	0,8	1,1
Gross fixed capital formation	494	5,1	7,4	0,9	-1,9	2,1
consisting of:						
Public sector investment	75	9,8	3,5	-1,8	2,4	1,7
Residential investment	116	10,1	16,0	2,3	-5,2	0,9
Business fixed investment	302	-1,2	1,7	0,7	-1,5	2,7
Stockbuilding <sup>b)</sup>	15	-0,1	-0,4	0,5	0,0	0,0
Total domestic demand	2.147	0,0	3,8	3,4	1,1	1,6
Exports of goods and services	1.368	-7,0	3,6	4,3	2,8	2,2
Imports of goods and services	1.196	-4,1	3,2	3,9	2,9	2,7
GDP	2.318	0,5	3,9	3,6	1,1	1,4
<b>Key indicators</b>						
Consumer prices, percentage change <sup>c)</sup>		0,5	1,5	1,4	1,6	1,8
Unemployment, per cent <sup>d)</sup>		4,0	3,3	2,3	3,1	3,1
General gov. budget balance, per cent of GDP		-0,3	-2,1	0,8	0,1	-0,2
Hourly wage costs, percentage change		2,2	2,6	2,9	2,9	3,1
Terms of trade, change in percentage points		2,2	-0,6	-0,9	-0,2	0,2
10-year Danish government bond rate, per cent		-0,4	-0,1	0,1	0,6	1,1
Employment gap, per cent <sup>e)</sup>	0,7	-0,6	1,0	1,8	0,0	0,0

a) The last two columns show projected average annual growth from 2022 to 2025 and from 2025 to 2030 for all variables except unemployment, the current account, the general government balance, the 10-year Danish government bond rate and the output gap. For these variables, the columns show the projected value in 2025 and 2030, respectively.

b) Contribution to GDP growth in percentage points.

c) Implicit private consumption deflator.

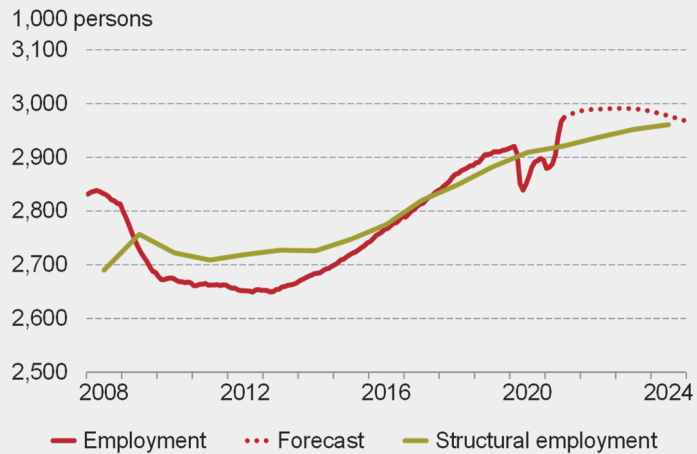
d) Percentage of total labour force. National definition.

e) Percentage of structural employment. National definition.

Source: Statistics Denmark, National Accounts and own calculations.

**FIGURE A     ACTUAL AND STRUCTURAL EMPLOYMENT**

Employment already exceeds its structural level. The difference is expected to be approximately 1¼ percent next year.



Notes: In the historical period, wage-earner employment has been used as an indicator of total employment. Latest historical observation is July 2021.

Source: Statistics Denmark, Statistikbanken and own calculations.

#### Prospect of government budget surpluses in the coming years

After two years with a very expansionary fiscal policy and a government budget deficit, the Budget Bill for next year offers the prospect of a tightening of fiscal policy and a budget surplus. The planned fiscal policy implies a significant tightening compared to 2021, which, however, can primarily be attributed to the rollback of a number of temporary, coronavirus-related initiatives. When these temporary measures are excluded, there is only a small negative effect on economic activity. Viewed over the entire period from 2019 to 2022, fiscal policy is assessed to be expansionary, as GDP has increased by approximately ½ percent compared to a situation with a neutral fiscal policy.

#### The main scenario is a “soft landing”, ...

The reopening over the spring and summer, combined with the high demand, have created a great need for businesses to recruit new staff. As a result, many companies are reporting widespread capacity constraints due to labour shortages. The pressure in the labour market will probably continue and may increase in the coming quarters, despite the fact that part of the current capacity pressure is estimated to be of a temporary, coronavirus-related nature. Against this backdrop, the forecast is for a so-called “soft landing” for the Danish economy over

the coming years, with the positive employment gap gradually narrowing after 2022.

**... but continued risks**

However, as has been seen in the past, the situation can quickly change. In one direction, there is currently a large, pent-up consumption potential in the form of large savings, and the propensity to consume is relatively low. If this translates into higher consumption and higher housing investment than assumed in the forecast, it may give rise to increased labour market pressures. However, there are also risks that go in the other direction. The Danish economy has recovered well from the pandemic, but in large parts of the world, the vaccine rollout is still slow. This constitutes a global risk factor, and a marked change for the worse in the global disease picture would be expected to also have negative economic consequences for Denmark.

### **CHAPTER III, SUSTAINABILITY OF FISCAL POLICY**

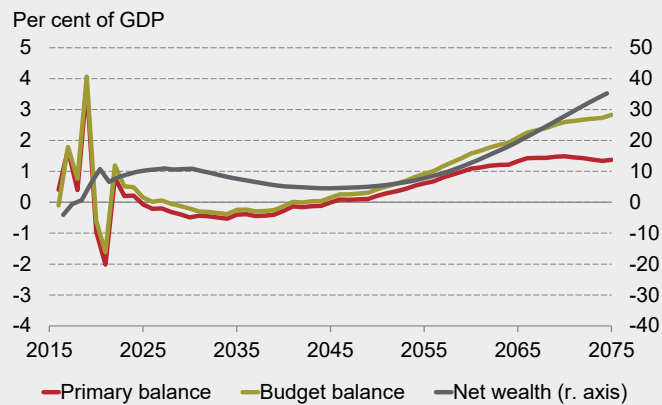
**Sustainability indicator of 1 percent of GDP**

The long-term projection presented in Chapter III demonstrates the evolution of the national economy and public finances after 2030, given a number of assumptions about population changes, retirement behaviour etc. and an unchanged economic policy. According to the projection, there will be a deficit on the general government balance of between 0 and ½ percent of GDP until 2040 - the so-called hammock period, cf. Figure B. Thereafter, there will be an improvement in the general government budget, which will show a gradually increasing surplus, and the public sector will thus build up a larger financial net worth. Under the given assumptions, the economy is more than sustainable with a sustainability indicator of 1 percent of GDP, which means that taxes could be permanently reduced by approximately DKK 24 billion or expenditure could be increased by a corresponding amount without the debt running rampant.

**The projection is more of an ex-ante evaluation than an actual forecast**

However, there is considerable uncertainty about the assumptions used in the analysis, and the uncertainty increases the further out in time one goes. It is, therefore, important to be aware that the long-term projection should not be perceived as an actual forecast, but rather as an ex-ante evaluation, that shows the result of the analysis under certain assumptions. It is important to make ongoing recalculations as new information, that may affect the future general government deficit, becomes available. In this way, sustainability analyses function as an early warning signal that can draw attention to new trends that may have an impact on fiscal policy in the future. This can provide the necessary time to respond to the changes in a proactive manner and thus circumvent unnecessarily large adjustment costs.



**FIGURE B      GENERAL GOVERNMENT DEFICIT AND DEBT IN THE PROJECTION**

Notes: The projection shows the evolution given unchanged policies and a number of other computational assumptions. Up to 2030, the path should be interpreted as the evolution of the actual general government deficit, and after 2030 as the evolution of the structural balance. The primary deficit is equal to the general government deficit excluding interest income and expenses. Net wealth is general government financial assets less liabilities.

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

#### New retirement analysis shows reduced sustainability

The sustainability indicator has been reduced by 0.6 percent of GDP relative to the long-term projection presented in the Danish Economy, autumn 2020. The primary explanation for this is that, on the basis of the results of the analysis presented in *Dansk Økonomi, efterår 2020* (Danish Economy, spring 2021), a more conservative assumption has been used about the population's labour market behaviour, which follows from future changes in the age limits for early retirement- and age pension eligibility. The sustainability indicator of 1 percent of GDP is in line with the results of the Government's latest sustainability estimates, which give a sustainability indicator of 1.1 percent of GDP, even though there are several differences in the actual assumptions.

#### Good reasons to increase the general government deficit limit to 1 percent of GDP

In the projection, the deficit on the structural balance does not exceed the Budget Act's 1/2 percent limit at any time. As mentioned, however, there is great uncertainty about the assumptions, and Denmark will continue to experience demographic headwinds for many years to come. This is an argument for changing the deficit limit to 1 percent of GDP. For a given planned general government deficit path, a lower limit will also entail a lower risk of tightening due to purely temporary

structural conditions in a situation where fiscal policy is considered to be more than sustainable.

## CHAPTER IV, HEALTH AND OLDER AGE EMPLOYMENT

Chapter IV sheds light on the relationship between health and employment

Employment among older Danes has increased significantly over the past 20 years. This is not least due to reforms that have focused on encouraging the postponement of retirement from the labour market. In particular, *the 2006 Welfare Agreement* and *the 2011 Agreement on Later Retirement* have been of great importance for the trend in employment; cf. *Danish Economy, spring 2021*. The two reforms worked by reducing the economic incentive to retire at a given age. However, there are factors other than the purely economic ones that are crucial for the desire and opportunity to prolong working life. In this regard, it could be assumed that there is a relationship between prolonging working life and improvements in health. Chapter IV sheds light on how changes in Danes' health affect employment.

### Status of the Danes' health

Data from two sources are used to calculate a health deficit index

A prerequisite for the chapter's analyses is that the health of Danes is measurable. In the chapter's analyses, health is measured by a so-called health deficit index, which is calculated using health information from two different surveys: *Survey of Health, Aging and Retirement in Europe* (SHARE) and *Den Nationale Sundhedsprofil* (the National Health Profile).

The health deficit index is an established theoretical framework for analysing aging

The health deficit index is used in the chapter's analyses partly because this health measure can be considered physiologically meaningful, and partly because there is an established method of carrying out economic analyses of aging using this measure. The latter is crucial if one wants to deepen, over time, the modelling of the interaction between the individual's behaviour, the pace of the individual's aging through life and its consequences for employment.

Health deteriorates 2-3 percent annually over life

When calculated using a health deficit index, Danes' health deteriorates by approximately 2 percent annually over life based on data from the National Health Profile, while this figure is approximately 3 percent using data from SHARE. Similar magnitudes are found in international studies, which typically find that the health deficit index deteriorates by between 2 and 5 percent per year. The analyses in the chapter also show that there is a difference in the aging process between men and

women, and that individuals with low educational attainment are generally characterised by poorer health than individuals that are well educated.

### The effect of changes in health on employment

**Analyses show that better health increases employment**

Using the health deficit index calculated on the basis of SHARE, the chapter presents analyses of the importance of health for employment. Estimates show that better health increases the employment of older people. This is the first time that a relationship has been estimated between the Danes' health - calculated by the health deficit index - and employment. There are a large number of international studies, that attempt to estimate the effect of health on employment, using other measures of health and other methods, and most of these studies similarly find that health has a positive effect on the likelihood of being in employment.

**Health does not appear to be a significant barrier to deferring retirement ...**

The chapter estimates a health-related potential employment rate for different age groups, which is compared with the actual employment rate. The difference between potential and actual employment is called the unused employment potential. The chapter's analyses show that the unused employment potential for Danes in the age group 50-70 years was just over 3½ years in 2019. That is, Danes under the age of 70, on average, could defer retirement by 3½ years if the retirement decision depended on health alone. In the projection presented in Chapter III, it is assumed that older Danes will increase employment as the early retirement age and the state pension age are raised. Thereby, the unused employment potential for Danes under the age of 70 will be reduced to 1½ years by 2040. The gradual increases in the retirement ages are, therefore, assumed to gradually reduce the unused employment potential.

**... but can be a challenge for some groups in the labour market**

The estimates of the unused employment potential are associated with considerable uncertainty. The evolution in the health-related employment potential can encompass significant differences between groups in the workforce, just as there are differences in the demands of different job functions. There may be groups in the labour force for whom extending working life to the late 60s would be a major challenge.

**Later retirement also depends on the employers**

The retirement age in 10 to 20 years depends not only on the health status and preferences of the employees, but also on the employers' attitudes towards older workers. For example, employers may be less willing to hire someone in their 60s because they expect workers' productivity and readiness for change to decline as they age. Releas-

ing the employment potential thus puts demands on both the employees' willingness to participate in the labour market and on the employers' willingness to make use of older employees.

## **CHAPTER V, ASSESSMENT CRITERIA AND EX-ANTE ASSESSMENTS**

**Chapter on the Chairmanship's role to review assessment criteria**

The Chairmanship has been tasked with assessing the assumptions used by the Danish ministries in the preparation of ex-ante assessments of economic policy measures. The chapter contains an introduction to the terminology and methods used by the ministries when the economic impacts of, e.g., policy proposals, are presented. The chapter is rounded off with the Chairmanship's recommendations, which include quality declarations for assessment criteria, methodology and ex-ante assessments.

**Important part of the decision-making basis for economic policy**

Well-documented ex ante assessments based on well-founded and consistent assessment criteria and methods form an important part of the decision-making basis for economic policy. Ex ante assessments inform decision-makers and the public about the expected effects of planned economic policy measures. Systematic ex ante assessments contribute to decisions being made and discussed on an informed basis, and enable a real comparison of alternative measures.

**Assessment criteria should be based on the latest knowledge and be well documented and easy to find**

Assessment criteria and methods include the essential assessment rules, assumptions and principles that the ministries apply when evaluating the effects of specific measures. The assessment criteria are based on existing knowledge about how changes in economic policy affect the Danish economy. Therefore, it is important that the assessment criteria used are well documented and that they are continually updated. It should be easy to get an overview of the assessment criteria, and they should be coordinated across ministries, e.g., in the form of a common website where all assessment criteria can be found easily.

**There is a need for quality declarations for assessment criteria**

The Chairmanship recommends that a quality declaration be developed for the quality of assessment criteria and of ex ante assessments. The quality declaration, which could be based on, for example, an ABC categorisation (ranking system), must signal the quality of the analysis or analyses on which a given rule, convention or method is based. For example, assessment criteria based on well-identified empirical analyses using Danish data that establish an actual causal relationship have a high validity. At the other end of the scale, there are areas where there are no high-quality empirical analyses, which means that

the assessment criteria must be based on a simple correlation or context observed in data, or solely on theoretical arguments.

**The quality of ex ante assessments also relies on the application of assessment criteria**

Ex ante assessments of changes in economic policy typically use a number of assessment criteria, conventions and methods. The overall quality of an ex-ante assessment depends both on the quality of the assessment criteria applied (their internal validity) and on how these are applied (the external validity). In some cases it may be necessary to apply assessment criteria based on analyses in one area, for an assessment in another area, e.g., a group of individuals or a policy that differs slightly from the one analysed. It may, for example, be that a study of the propensity to consume for the population as a whole has to be used when evaluating the effect of a change in income for a small group. If no specific empirical studies are presented for the group considered, the external validity is weakened, which weakens the quality of the overall ex ante assessment.

**Ex ante assessments should also have quality declarations**

In order to give decision-makers insight into the overall quality of the ex-ante assessments presented, a quality declaration should also be made for ex-ante assessments as a whole. The overall quality assessment will depend both on the quality (the internal validity) of the assessment criteria and on the application of these (the external validity). Such a quality declaration will in practice, be an overall assessment, but it should, as far as possible, contain information about the validity of the individual steps in the assessment process. The quality assessments of each ex-ante assessment will not just give decision-makers insights into how these assessments have been conducted; they will also provide significant input into the ongoing deliberations in the ministries to improve the basis for the ex-ante assessments.

The Chairmanships' most important recommendations on good practice for assessment criteria, conventions and methods and for ex-ante assessments are summarised in Box A.

**BOX A**

**RECOMMENDATIONS FOR GOOD PRACTICE FOR ASSESSMENT CRITERIA AND METHODS, AND EX ANTE ASSESSMENTS**

- Quality declarations should be developed for the validity of assessment criteria as well as for the overall quality of ex-ante assessments
- The documentation of assessment criteria and methods used should be continually updated, be easily accessible and be coordinated across ministries, for example, on a common website
- Ex-ante assessments should be well documented with explicit references to the assessment criteria and methods. All key estimates should be shown and be motivated, and it should be possible to follow all the steps in the calculations
- Uncertainties in ex-ante assessments should be presented, and omitted, but probable, consequences should be discussed
- Implications for both public finances and for other key goals for society, including distributional goals, productivity and climate goals, should be reflected in ex-ante assessments

## **CHAPTER I, CURRENT ECONOMIC POLICY**

Chapter I presents the Chairmanship's evaluations of and recommendations for current economic policies under the following major topics:

- COVID-19 and economic support packages
- Fiscal policy
- The housing market
- Deficit limit and 2030 plan
- The labour market and the government's proposed reforms
- Infrastructure and education
- Climate policy

**The chapter deals with the pandemic, the current economic outlook, ...**

The first part of the chapter deals with the economic management of the pandemic and the current economic outlook. The Chairmanship's assessment is that it is sensible to roll back the economic support packages and loan schemes, that overall fiscal policy should be tightened relative to what is currently planned, and that there is still no current need for intervention in the housing market.

**... the government's reform proposals and political agreements on infrastructure and education ...**

The second part of the chapter presents assessments and recommendations related to structural economic policy. The government has proposed a number of labour market reforms. These are structural policy measures that should not be justified on the grounds that there is currently capacity pressure in the labour market. In the chapter's section on infrastructure and education, the recent political agreements on infrastructure and decentralisation of education are discussed.

**... as well as climate policy**

The second part of the chapter also touches on climate policy. The main message is that the costs of achieving the objectives of the Climate Act are minimised by announcing a uniform tax on all net emissions of greenhouse gases quickly and credibly. The costs will increase if individual sectors are exempted, if sufficient subsidies are not directed to negative emissions, or if other subsidy schemes are given a significant role in the green transition instead of uniform greenhouse gas taxation.

## **COVID-19 AND ECONOMIC SUPPORT PACKAGES**

**A contingency plan for handling COVID-19 flare-ups should be drawn up**

There is currently a low rate of new infections and few cases of COVID-19 admitted to hospital. It is against this background, among other things, that COVID-19 is no longer considered to be a public health emergency. Thus, it is the health authorities' current assessment that the epidemic is under control in Denmark. However, there is still a risk that the epidemic may flare up again from time to time. This could occur, for example, if the protective effect of the vaccinations diminishes over time, or if new virus variants that reduce the effectiveness of the existing vaccines emerge. The Chairmanship shares the assessment by the Expert Group on a Long-Term Strategy for a Reopened Denmark that there should be a scalable contingency plan that can be put into effect if there is a need for renewed measures in connection with the ongoing pandemic.<sup>1</sup>

**Sensible to roll back economic support packages**

The economic support packages had a stabilising effect on the Danish economy at the start of the pandemic in 2020, but these packages came with a potential side effect in the form of a less dynamic Danish business sector. When the widespread lockdowns diminished economic activity at the start of the pandemic, the loss of dynamism was probably modest. As lockdowns have been rolled back and all businesses can fully reopen, it is again possible for reallocation of factors

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<sup>1</sup>) The expert group's assessments and recommendations are compiled in the report *Hverdag med øget beredskab*, september 2021, (Everyday life with increased preparedness, September 2021), in Danish only.

of production to return to normal. Thus, it follows that the problem of loss of business sector dynamics that arises from the economic support packages will be greater if such support packages are maintained in the current situation. Therefore, it is appropriate that the majority of the existing support packages have not been extended beyond 30 September 2021.

**Liquidity- and loan schemes should be phased out**

To supplement the various covid-related compensation schemes, a number of liquidity and loan schemes were also introduced to assist businesses. In the first round, payment deadlines for VAT and income tax were extended, and these extended payment periods were supplemented by various loan schemes. After the payment deadlines for the taxes were gradually normalised, businesses were given the opportunity to borrow the amount of the deferred taxes and the VAT. This was done to avoid a situation in which many companies at once would have to repay significant amounts in a short time. In September 2021, another short extension of the repayment period was granted, during which no interest is charged and after which businesses can spread their repayments over two years from April 2022. During this two-year period, however, the businesses will have to pay interest if they want to continue using the government financing. The level of the interest rates on the government finance provides an incentive to switch to private financing on market terms, which is appropriate.

## FISCAL POLICY

**Fiscal policy should be tightened relative to what is planned, ...**

Economic activity in Denmark has recovered quickly and is above the level prior to the downturn caused by the pandemic. There is a prospect that the economy is moving into a boom with a widening of the employment gap of approximately 1 percentage point from 2019 to 2022. The Government's proposals for the Budget Act for 2022 entail an expansion of fiscal policy from 2019 to 2022 of approximately ½ percent of GDP. In isolation, the forecasted widening of the employment gap from 2019 to 2021 suggests that fiscal policy should be tighter in 2022 than in 2019, cf. Chapter II (in Danish only). Assessed solely on the basis of the aggregate situation in the labour market, this would imply a tightening of just over ½ percent of GDP relative to the planned policy.



... e.g., the “war chest” should not be utilised and the home improvements tax deduction scheme should be abolished

However, the current situation, in which the economies of large parts of the world continue to be affected by the pandemic and where activity in parts of the Danish economy remains well below the 2019 level, speaks in favour of a certain restraint in the amount of fiscal tightening in 2022. The Chairmanship's assessment is that fiscal policy in 2022 should be tightened such that, relative to the position in 2019, it moves in the direction of being neutral for growth, rather than having an expansionary effect, as is currently planned. A tightening of fiscal policy should, as far as possible, take into account the heterogeneity that remains across industries. Therefore, policies should seek to dampen activity in the particular industries that are experiencing the greatest capacity pressure. One specific measure for tightening fiscal policy could be to abolish the home improvements tax deduction scheme. In addition, it is important that the reserves allocated for dealing with challenges arising due to COVID-19 (the “war chest”) are not utilised unless the COVID-19 situation worsens significantly.

## THE HOUSING MARKET

Important to distinguish structural and cyclical factors

Trends in the housing market have attracted a great deal of attention in recent years, and there has been much discussion about whether there is the need for intervention. In this context, it is important to distinguish between measures that address structural problems in the housing market (e.g., the problems of inequality) and measures that address cyclical challenges (e.g., bubble trends). Reforms should be based on underlying structural factors, rather than motivated by a period of high price increases. It is also important to note that financial regulation is fundamentally structural in nature, and that regulation has social costs in the form of lower economic activity. These costs should be weighed against the beneficial effects of any measures.

No urgent need for intervention in the housing market

Recent trends in the housing market point in the direction of a slowdown in both activity and price increases, and there is much to suggest that part of the high rates of increasing prices in the past year can be attributed to temporary, corona-related conditions. At the same time, mortgage stress nationwide is at a low level, there is no sign of an increase in the loan-to-value ratio among households, and households' interest rate risk has decreased significantly in recent years. Therefore, on average, Danish households are well equipped to cope with any price falls. This does not mean, however, that no households will get into trouble due to interest rate rises and/or falling prices, but, at present, there is no indication that this would be a problem for either macroeconomic or financial stability. The Chairmanship therefore contin-

ues to assess that there is no urgent need to intervene in price formation in the housing market. However, this situation may change and should, therefore, continue to be closely monitored for the foreseeable future.

### DEFICIT LIMIT AND 2030 PLAN

**Deficit limit of 1 percent and a general government deficit target of -½ percent in 2030 is financially responsible**

The Chairmanship has previously assessed that there are good arguments for lowering the Budget Act's deficit limit to 1 percent. Given the favourable outlook for public finances in the longer term, cf. Chapter III (in Danish only); lowering the deficit limit to 1 percent is assessed to be financially responsible. The assessment is based on the fact that, by 2030, due to changing demographics, there is the prospect of an increase in general government deficits. A lower deficit limit would, all else equal, increase the gap between the statutory deficit limit and the expected evolution of the government budget deficit, with current policy unchanged. The greater gap will reduce the risk that it could become necessary to implement inappropriate tightening in the event of changes in the projections. At the same time, a lower deficit limit would provide a better opportunity to ease fiscal policy should the need arise due to an economic downturn. A lower deficit limit would also make it worthwhile to replace the current medium-term goal to achieve structural balance by 2030 with a deficit target of, for example, ½ percent of GDP. A deficit limit of 1 percent and a medium-term general government deficit target of -½ percent is assessed to be financially sustainable, but the medium-term general government deficit target is fundamentally a political choice as long as there is fiscal policy credibility.

**2030-plan can reinforce credibility**

A lower deficit limit can be perceived as a signal of less credibility in fiscal policy. To reinforce credibility, the government is urged to present a new medium-term plan. A medium-term plan for 2030 would provide the basis for the overall prioritisation in the areas of, for example, taxation, welfare and climate change. A 2030 plan would contain the government's proposal for a new medium-term general government deficit target and illustrate an associated general government deficit path up to 2030. At the same time, it could be advantageous for the government to conclude the evaluation of the Danish Budget Act, which has been postponed several times. The postponement is inappropriate, as there is a need for evaluation of the Act on several points; cf. De Økonomiske Råds formandskab (2019b) and De Økonomiske Råds formandskab (2021c).

## THE LABOUR MARKET AND THE GOVERNMENT'S PROPOSED REFORMS

### Government's new proposed reforms

The Government has presented the proposed reform initiative *Danmark kan mere I* (Denmark Can Do More). There are two main elements in the proposal. One is extra funds for education, research and the green transition, which must primarily be financed by a reduction in business subsidy schemes. The second is a series of initiatives for labour market reform, especially for the unemployment benefit system, which aim to get more people into work. The proposal is fully funded and will, according to the Government, increase structural employment by a total of approximately 10,500 full-time employees by 2030, primarily made up of recent graduates. Thus, overall, the proposal approximately offsets the negative structural effects on employment of the autumn 2020 changes to eligibility for early retirement benefits.

### Additional funding for education, research and the green transition is conditional on savings on business support

The additional funding is largely financed through savings on business support, but the details are not specified. It is, therefore, positive that, according to the proposal, the extra funds to education, research and the green transition will be conditional on decisions about financing, based on the recommendations of a new expert group for future business support. If it is not likely that a business support scheme will correct specific market failures, it would be economically well-founded to remove the scheme.

### Structural policy measures should not be motivated by cyclical factors

There is currently considerable pressure in the labour market, which has given rise to a discussion about the need to implement measures to remedy this. Basic reforms aimed at increasing the effective labour supply, for example, in the form of reforms to the unemployment and cash benefits system, should be based on underlying structural factors and should not be motivated by cyclical recruitment challenges. If, for structural reasons, a reform is deemed appropriate, the timing of the changes would ideally contribute to stabilising cyclical fluctuations.

### The Government's proposal has limited effect in the short term

Almost all the policy initiatives in the Government's proposal are of a structural nature and are not specifically targeted at the current capacity pressures in the labour market. The only exception is the proposal for a temporary job premium for cash benefit recipients in 2023. In addition, most of the measures aimed at the labour market will not take effect until 2023; therefore, they will not make a significant contribution to easing the pressure in the labour market in the short term.

### Lower income threshold should be considered

One area that is not part of the Government's proposal is the possibility of attracting foreign labour. Foreign labour contributes to reducing the consequences of cyclical fluctuations on the Danish economy, and it is

appropriate to consider the possibilities of attracting additional foreign labour in the current situation. The Chairmanship has previously assessed that there are good arguments for lowering the income threshold. A lower income threshold can lead to a structural increase in the immigration of highly-skilled labour from non-EU countries. The income threshold could possibly be made conditional on the economic situation.

In the following, comments on selected initiatives in the government's proposed reform are presented.

### **Reforms to the unemployment benefit system**

**Changed unemployment benefit rates for graduates and people with a solid employment history**

The Government proposes a number of changes to the unemployment benefit system. The proposal lowers the rate for graduates without dependents and reduces graduates' ordinary unemployment benefit period from two years to one year. On the other hand, the maximum unemployment benefit rate is raised in the first three months of the unemployment benefit period for persons who have been in employment for two out of the last three years and who have paid into an unemployment insurance fund for four years.

**Balance between employment and insurance and match quality**

The design of the unemployment benefit system and the active labour market measures for assisting unemployment benefit recipients involves a balance between, on the one hand, reduced incentives to take a job quickly, which increases the number of unemployed at a given time and, on the other hand, improved unemployment insurance and improved match quality in the labour market.

**The proposal affects unemployment insurance, ...**

The Government's proposal reduces the unemployment benefit system's insurance function for graduates and increases the insurance function for workers who have paid into an unemployment insurance fund for several years. The latter is done through an employment supplement that increases the unemployment benefit rate for the first three months of an unemployment period. By conditioning the increased unemployment benefit rate on previous employment, the supplement is targeted at the unemployed with a higher labour market attachment, who, all else equal, would be expected to return to employment relatively more quickly than more recent entrants to the labour market. As the increase only applies to the first three months of the unemployment benefit period, the negative incentive effect of the increased insurance function is reduced. This was the basis for the De Økonomiske Råds formandskab (2014) analysis of and recommendation for a similar scheme with higher benefits at the beginning of the unemployment benefit period, but with a stronger employment requirement (2 years and 9 months out of the previous 3 years) and with tax financing.

**... employment ...**

A lower unemployment benefit rate and a shorter unemployment benefit entitlement period increase the incentives for the unemployed to find employment quickly. According to the Government, the proposal for a lower unemployment benefit rate and a shorter entitlement period for graduates would increase employment by approximately 8,000 full-time employees. Conversely, the proposal for an employment supplement would lower employment by approximately 1,000 full-time employees. There are indications that increased financial incentives get graduates into jobs faster. Ahle and Skafte-Larsen (2019) point out that a reduction in the rate of benefits in 2017 for graduates without dependents meant that they entered employment more quickly compared to those with dependents who had unchanged incentives. Analyses in connection with the Unemployment Benefits Commission also indicate that the departure behaviour from unemployment benefits for graduates does not differ significantly from other unemployment benefit recipients.

**... and match quality in the labour market**

By increasing the incentive to spend more time finding the right job, the unemployment benefits system helps to improve the match between employers and the unemployed, which can increase productivity, cf. Farooq et al. (2020). Thus, the Government's proposal would be expected to reduce the match quality among graduates and improve the match quality among people who have previously been in employment.

**Deteriorated match quality can have negative consequences on productivity,**

Deteriorated match quality among graduates can have particularly large consequences for productivity if the first job after graduation is important for the rest of a graduate's working life. There is evidence that a low starting salary in the first job increases the probability of also being in a low-paying job or in unemployment in the future, cf. Clark and Kanellopoulos (2013), Cappellari and Jenkins (2008) and Stewart (2007). This could be because a low-wage job sends a signal of low productivity to future employers, or that the incentive to continue looking for a better job diminishes once one has entered employment. Conversely, recent literature indicates that a low-wage job compared to unemployment can *improve* future income and employment opportunities despite the signal of low productivity, as, by being in employment, one acquires qualities that are attractive to a future employer, cf. Cai et al. (2018), Fok et al. (2015) and Cai (2014). Danish evidence indicates, for example, that temporary work increases the probability of subsequent regular employment and increases the match quality measured by the wage level, cf. Jahn and Rosholm (2014). The effect particularly applies to immigrants and people with a weaker employment history. German studies also indicate that the effect especially applies to the long-term unemployed and the unskilled, cf. Knabe and Plum (2013). As graduates do not belong to these groups, the literature

points out, on the whole, that deteriorating match quality among graduates can have negative consequences for productivity.

**... while better educational choices can increase productivity**

Conversely, productivity can be improved if the lower unemployment benefits rate and shorter entitlement period change young people's educational choices in favour of educations with better employment prospects. Overall, it is therefore uncertain whether the proposal improves or worsens productivity.

### **Community work or other activities for benefits**

**The Government proposes to make welfare benefits conditional on a 37-hour working week**

The Government proposes to introduce a requirement for residents who are required to integrate to participate in a 37-hour working week in order to receive full welfare benefits. The requirement initially applies to a target group of 20,000 people, which consists of new arrivals and people who have been in the cash benefit system for three out of four years, and who have not passed a basic Danish language exam or the 6th grade. The hours must be used in 'useful community activities', which otherwise would not be carried out, e.g., cleaning and maintenance of beaches and forests. According to the Government, the initiative is expected to increase structural employment by 250 full-time employees. The proposal states that this initiative must be evaluated within three years, which is positive. A focus on follow-up and evaluation should be standard for initiatives and reforms.

**No good evidence that participating in 'work-for-benefits' activities increases employment for the target group, ...**

Requiring people who are out of work to participate in community work or other approved activities for benefits could potentially contribute to motivating, helping and upskilling the unemployed for a transition to employment. However, there is no good evidence that participating in such active labour market programs increases employment for the proposed target group. A qualitative evaluation of the work-for-benefits program introduced in the 2013 cash benefits reform for young education-ready cash benefit recipients showed positive effects on employment, cf. Damvad (2015). In the Government's proposal, however, the target group has a weaker employment history and, presumably, greater language, health or qualification challenges. The Government's proposal implies a lower level of benefits for people who do not participate full time in the working week. New Danish research indicates that reduced cash benefits for refugees and reunited families do not have a positive effect on employment, cf. Foged et al. (2020). This may indicate that financial incentives, such as the proposed work-for-benefits scheme, cannot be expected to increase employment for the group concerned.

... but evidence that Danish language lessons increase employment

Foged et al. (2020), on the other hand, point out that compulsory Danish language lessons have a lasting positive effect on both income and the probability of employment. Danish lessons count towards the proposed 37-hour working week. To the extent that the initiative increases participation in Danish lessons, a positive employment effect can be expected.

Risk of negative employment effect due to savings on active labour market programs

The Government proposes to finance the initiative through savings on active labour market programs. The proposal assumes that these savings can be achieved through new thinking and simplification of these activities. It is risky to base funding on potential, uncertain productivity improvements in the public sector. The positive employment effect of the initiative is small and uncertain, and there is a risk that the savings on the active labour market activities will lead to a negative employment effect of at least the same magnitude as the positive employment effect.

### **Abolition of offsetting of partner's income in pension income**

Proposal to abolish offset of pension income

Today, the income of both partners is assessed to varying degrees in the cash benefit and pension systems (as well as in housing benefits and other benefits that are not individual benefits). The Government proposes to make the age, senior and early retirement pensions independent of the earned income of an employed partner. The intention is to increase the incentive to work after the retirement age. According to the Government, employment will increase by 1,650 full-time employees, while the initiative entails annual expenditure of DKK 840 million. The proposal will also have distributional consequences, but it is not clear from the proposal in which direction these are pulling.

Tax collection should distort as little as possible

Efficiency dictates that the collection of a given tax, all else equal, should be done in such a way that it minimises distortions of economic activity as much as possible, including distortions of the labour supply decision.

The proposal reduces one distortion but increases another

The Government's proposal to abolish the offsetting of a partner's earned income in pension assessments reduces one type of labour supply distortion but, at the same time, it increases another distortion. If an employed person's partner is receiving the age, senior or early retirement pension the proposal lowers the person's effective marginal tax from working. All else equal, this increases the labour supply. If, on the other hand, both partners are still in the labour the proposal increases their expected gain by one of them retiring earlier. All else equal, this lowers the labour supply. The positive effect on the labour supply is expected to be greatest, as there are only limited possibilities to influence whether one is eligible to receive senior and early retirement pensions, so the negative effect only applies to the age pension.

### **Permanent 130 percent tax deduction for business expenditure on research and development**

**Proposal to make R&D tax deduction of 130 percent permanent**

The Government proposes to make the temporary 130 percent tax deduction for expenditure on research and development permanent with a ceiling on the tax value of the deduction of DKK 50 million. The intention is to increase the incentive to undertake research and development.

**Spillover effects can justify a certain level of support for R&D ...**

The primary argument in favour of subsidising research and development through a tax deduction or other scheme is that the gain for society from new technology can be greater than the gain that the individual business achieves by developing the technology, cf. the De Økonomiske Råds formandskab (2019c). This can, e.g., be due to the fact that new knowledge spreads from the developer to other businesses. Thus, there are benefits to society from subsidising research and development. Studies from other countries confirm the existence of such spillover effects, cf. Unger et al. (2020) and Bloom et al. (2019). There are also indications that there are spillover effects between Danish companies, which are transmitted through the relocation of employees, cf. Parotta and Pozzoli (2012).

**... but not necessarily a deduction of 130 percent**

Spillover effects may justify a certain level of support for research and development, but there is no evidence that an increase in the tax deduction to 130 percent is appropriate. First, the magnitude of the beneficial effects should be weighed against the current level of support, which, in addition to tax deductions, is also determined by other forms of support for research and development. However, there is limited knowledge about the size of the beneficial effects in Denmark, and it is uncertain to what extent the results from other, and typically larger, countries can be transferred to Danish conditions.

**Unintended consequences of the deduction**

Second, there may be unintended consequences of increasing the deduction, and these should be included in the assessment of how large the deduction should be. One challenge may be that the number of researchers does not necessarily increase as a result of an increased deduction, which is why the effect on the total amount of innovation in society may be limited, cf. Goolsbee (1998) and Romer (2000). This may be due to the fact that the businesses that get the most out of the increased tax deduction attract researchers from other businesses, which therefore reduces their innovation activity. Another problem arises if existing companies use the subsidy to cement their market position at the expense of start-ups, cf. Acemoglu et al. (2017). Here, support can reduce business sector dynamism and competition. Finally, a challenge with a deduction may be that companies reclassify



other types of investments as research and development investments in order to gain access to a higher deduction. Such a reclassification will lead to lower tax revenues without affecting research and development efforts.

### Higher tax on capital income

**Higher top tax rate on capital and share income is a trade-off between efficiency and distribution**

The Government has proposed to raise the taxation of income from shares above DKK 56,500 as well as the ceiling on the top tax rate on capital income in the narrow sense (interest income, etc.) from 42 to 45 percent. Both tax increases will hamper the incentive to invest in these types of assets; at the same time, the two tax rates are among the most progressive in the income tax system. In De Økonomiske Råds formandskab (2019a), the effective real taxation of returns on capital relative to earned income was assessed. With the assumptions used in the analysis, the result was different for different types of share income. For capital invested in smaller companies without access to the international capital market, the effective taxation is already very high, so it must be assumed that an increase in this will lead to a greater distortion of investment decisions. Ultimately, the right level of taxation is a political trade-off between efficiency and distributional considerations.

### Establishment of Denmark's Investment Fund

**State investment funds can be justified if they solve specific market failures**

The Government proposes to merge the three existing state investment funds Vækstfonden (the Growth Fund), Eksportkreditfonden (the Export Credit Fund) and Danmarks Grønne Investeringsfond (Denmark's Green Investment Fund) into Danmarks Investeringsfond, where the capital base will be permanently increased by a further almost DKK 6 billion. The extra capital base and the investment funds in general can be justified if specific market failures can be identified that the investment funds solve, such as knowledge-spreading externalities or imperfect capital markets. There is, e.g., evidence in the academic literature that there are frictions in the financial markets for export companies, cf. Amiti and Weinstein (2011), Manova (2013), Feenstra et al. (2014) and Antras and Foley (2015). Evidence should be provided that state investment funds can solve such market failures, as well as evidence that one large state fund would be better at this than the three existing funds.

## INFRASTRUCTURE AND EDUCATION

### Infrastructure plan

**The analysed projects in the new infrastructure plan are socio-economic beneficial**

In June 2021, a broad political agreement was reached on a new infrastructure plan that includes significant investment in infrastructure over the coming decades. Political decisions about infrastructure take into account the socio-economic returns and the distributional and environmental effects. Based on the Government's estimates, the plan is considered appropriate from a socio-economic point of view. The analyses of the larger projects in the plan have a reasonable socio-economic return. However, cost-benefit analyses have not yet been undertaken for all the projects, and the final political decision awaits these analyses. The viability should be assessed for all major infrastructure projects.

**It is positive that CO<sub>2</sub> emissions are now included with a high unit price**

There has been debate about whether the infrastructure plan is a 'black' agreement. It is not a problem that projects increase greenhouse gas emissions, as long as the emissions are included in a unit price that reflects the marginal cost of achieving the 70 percent target when the socio-economic returns on projects are assessed. In this connection, it is positive that sensitivity analyses are now being made of the returns using a high unit price of DKK 1,500 per tonne of CO<sub>2</sub>.

### Decentralisation of educations

**Agreement on decentralisation of educations**

In June 2021, a broad political agreement was reached on the need for more educations outside the country's four largest cities. The agreement involves both decentralisation and the creation of new education and training places. The agreement mainly concerns vocational education and training and short-term further education courses (e.g., certificate and diploma courses) as well as medium-term higher education (e.g., 3-year bachelor degrees), particularly vocational degrees such as early childhood education, teaching, nursing and social work. Additionally a larger proportion of higher educations will be located outside the largest cities in the future. The agreement also increases the grants to institutions for the number of students passing exams each year as well as the direct grants for educations outside the largest cities.

**Educational mobility not lower in rural regions**

One motivation behind the agreement is that young people's opportunities in life should not be determined by whether they live in one of the largest cities or in the rest of the country. There are indications that this is not the case today. Analyses in De Økonomiske Råds formandskab (2015) indicate that educational mobility in rural regions is at least at the same level as in the rest of the country.

**Decentralisation is a trade-off between efficiency and distribution**

Decentralisation of educations is a trade-off between efficiency and the desire to cater for areas outside the big cities. The decentralisation of educations will stimulate activity on the educations in question outside the four big cities, and there is some international evidence that decentralisation of universities can promote local business development through an increased dissemination of knowledge in the local area. However, the decentralisation of education places cannot be expected to increase the level of education and productivity in the labour force in general. This is due, firstly, to the fact that empirical analyses indicate that distance to educational institutions is not a barrier to starting and completing an education, cf. DEA (2019) and Kraks Fond Byforskning (2015). Second, an analysis in De Økonomiske Råds formandskab (2021b) indicates that there are dynamic productivity gains from educated people working in larger cities. If decentralisation means fewer graduates working in the big cities, these gains will diminish.

## CLIMATE POLICY

### Rapid announcement of a uniform greenhouse gas taxation

**The objectives of the Climate Act are achieved at lowest cost with a uniform greenhouse gas taxation, ...**

The Climate Act stipulates that greenhouse gas emissions in Denmark must be reduced by 70 percent by 2030 compared to 1990, and that Denmark must achieve climate neutrality by 2050. Achieving these goals is a complex exercise that may require several instruments, but the main force behind the change should be market-driven. The objectives can be achieved cost-effectively by taxing all greenhouse gas emissions in Denmark uniformly. A uniform tax ensures that the polluters who can reduce emissions at lowest cost make the largest reductions.

**... which implies a phasing out of existing climate-related taxes and subsidies, ...**

A uniform taxation can be achieved by replacing existing climate-related taxes and subsidies with a greenhouse gas tax on all net emissions in Denmark, less the quota price in the quota sector. Such a tax can be phased in gradually towards 2030 to a level that ensures the achievement of the 70 percent target, and further towards 2050 to a level that ensures climate neutrality. Calculations in De Økonomiske Råds formandskab (2021a) show that it is probable that the 70 percent target can be achieved with a tax of around DKK 1,200 per tonne of CO<sub>2e</sub> by 2030, and that this implies a welfare loss of almost DKK 4 billion annually.

**... including the electricity tax**

Among the existing climate-related taxes is the electricity tax, which is a tax on electricity consumption, and not on greenhouse gas emissions. It is cheaper to reduce greenhouse gas emissions in Denmark

via a greenhouse gas tax than through the electricity tax, which only indirectly taxes emissions. Calculations in De Økonomiske Råds formandskab (2020) show that the loss of welfare from achieving the 70 per cent target increases from almost DKK 4 billion to just over DKK 7 billion annually if the existing energy taxes and the electricity tax are maintained. Therefore, it is appropriate that, in the reform initiative *Danmark kan mere I*, the Government proposes to lower the ordinary electricity tax.

**Subsidies implies, at best, a welfare loss of DKK 18 billion annually, ...**

Instead of taxing greenhouse gas emissions, incentives can be provided for a green transition through subsidies for specific measures, such as installing heat pumps or changing the feed composition for cattle. Unlike a greenhouse gas tax, subsidies do not increase the costs of polluting companies. When costs do not increase, polluting products do not become more expensive, and thus the same kind of shift towards a less greenhouse gas-intensive consumption and business structure does not occur as it would if a tax was introduced. Without this reduction mechanism, more expensive reduction measures must be used to achieve the 70 percent target. Calculations in De Økonomiske Råds formandskab (2020) show that the loss of welfare from achieving the 70 percent target increases to at least DKK 18 billion annually if the target is achieved through subsidies.

**... but likely a significantly higher amount in practice**

In practice, the additional social costs of subsidies are likely to be even higher, because, e.g., it is difficult to set subsidy rates cost-effectively. In the calculation of the 18 billion, it is assumed that the subsidies are as appropriately designed as is theoretically possible. However, that is not realistic. If, for example, a subsidy is given for a climate-friendly heating lamp, a proportion of the restaurant industry would use this lamp. A tax would provide the same incentive, but it would also reward those who find it more cost-effective to hand out blankets to customers and completely drop the heat lamp. The subsidy for the heat lamp does not. Therefore, kroner for kroner, less climate adaptation must be expected with subsidies than with taxes.

**The costs are reduced the sooner the climate policy can be credibly announced**

A quick and credible announcement of a uniform greenhouse gas tax to be phased in gradually towards 2030 will reduce uncertainty about future climate policy and the cost of achieving the objectives of the Climate Act. When there is uncertainty about the road ahead and the instruments that will be put in place towards 2030 and further towards 2050, and when the uncertainty is expected to be clarified in time, businesses have an incentive wait and see what happens. This reduces investment here and now, to the detriment of productivity and techno-

logical development. At the same time, the risk increases that the investments undertaken, including in the field of education, are not sufficiently targeted.

**Leakage is probably limited ...**

An often-highlighted challenge with greenhouse gas taxation is that it can lead to increasing emissions abroad (so-called leakage). Estimations of leakage are associated with significant uncertainty but indicate that the leakage is limited. The potential for reducing leakage through special measures must, therefore, be expected to be limited.

**... and is expected to fall over time**

There is even reason to expect that the leakage will decrease over time as the international community makes a green transition in accordance with their stated targets. This is the case, for example, in three of Denmark's neighbouring countries, which are also among Denmark's largest trading partners. In Sweden, where the CO<sub>2</sub> tax is approximately DKK 850 per tonne of CO<sub>2</sub>, exceptions have been removed in recent years so that almost all polluters in the non-quota sector today pay the full tax. The German government has introduced a quota system that implies an increasing CO<sub>2</sub> taxation in large parts of the non-quota sector towards 2030. In January 2021, the then Norwegian government proposed the introduction of a CO<sub>2</sub> tax of approximately DKK 1,400 in 2030. Any measures to limit the leakage should, therefore, be phased out over time.

### **Green transition of agriculture**

**A uniform greenhouse gas taxation has consequences for agriculture, ...**

A uniform greenhouse gas tax of DKK 1,200 per tonne of CO<sub>2</sub>e has significant consequences for some industries, including, in particular, the agricultural and the food industries. Without the introduction of a greenhouse gas tax, agriculture is expected to account for approximately one third of the total emissions in Denmark in 2030, even when emissions from land use (LULUCF) are not included. Calculations in De Økonomiske Råds formandskab (2020) show that employment in the agriculture and the food industry is expected to be reduced by approximately 17,000-19,000 man-years relative to the base scenario by 2030 if a uniform greenhouse gas tax is implemented at the required level. However, the total employment in the entire economy is not significantly affected, as the transition involves a change in the sectoral composition where employment is increased in service industries and in the less greenhouse gas-intensive parts of the economy.

**... but excluding agriculture from the tax has major consequences for the rest of society**

Greenhouse gas emissions in agriculture consist mainly of methane and nitrous oxide. There are challenges associated with measuring and taxing these emissions, but if they are exempt from taxation, reduction measures in agriculture will not be fully exploited. In that case, more expensive reduction measures will have to be imposed on other business sectors and households in order to achieve the 70 percent target. Calculations in De Økonomiske Råds formandskab (2020) show that a uniform CO<sub>2</sub> tax that does not include emissions of methane and nitrous oxide would have to be set at up to DKK 3,000 per tonne of CO<sub>2</sub> to achieve the 70 percent target. This means, for example, that the prices of petrol and diesel for transport would have to increase by up to 60 percent compared to approximately 20 percent with a uniform greenhouse gas tax, and that the welfare loss would be increased from almost DKK 4 to just over DKK 12 billion annually.

**It is cheaper to reduce sectoral change with a deduction for the tax paid, ...**

If methane and nitrous oxide are exempted from taxation, the shifts in employment away from agriculture and the food industry will be reduced, but the additional costs will amount to at least DKK 1 million annually per workplace that does not move from polluting to non-polluting industries. There are more efficient and cheaper ways for society to reduce the industry displacements. If all greenhouse gas emissions are taxed uniformly, and if, at the same time, businesses receive a production-dependent deduction for their tax payment, the additional costs amount to DKK 0.3-0.6 million annually per workplace that does not move from polluting to non-polluting industries.

**... which at the same time reduces leakage**

By reducing the decline in the production and the exports from polluting industries, a production-dependent deduction for the greenhouse gas tax payments could also reduce the increase in greenhouse gas emissions abroad that are the result of a Danish greenhouse gas tax if the deduction can be targeted at the most leakage-prone industries. In practice, however, it can prove difficult to undertake effective leakage correction, as there is considerable uncertainty about the current industry-specific leakage rates.

### **Capture and storage of CO<sub>2</sub>**

**CCS can play an important role in achieving the 70 percent target**

Uniform taxation of net emissions of greenhouse gases means that negative emissions, i.e., absorbed greenhouse gasses, are subsidised at the same rate as the tax on positive emissions. Negative emissions can be achieved, for example, through the capture and storage of CO<sub>2</sub> (CCS) in connection with the combustion of biomass and biogas. Calculations in De Økonomiske Råds formandskab (2020) indicate that CCS should make a significant contribution to achieving the 70 percent

target. Without CCS, the social costs for Denmark will rise from almost DKK 4 to up to DKK 10 billion annually.

**Negative emissions should be subsidised more ...**

Allocation of subsidies for negative emissions, including through CCS, should be independent of the technology. The subsidies should be awarded per tonne of CO<sub>2</sub> captured and stored, and the level of subsidies should follow the level of the positive emissions tax. In June 2020, the Government allocated DKK 16 billion over 20 years to CCS, i.e., an average of DKK 800 million per year. Calculations in De Økonomiske Råds formandskab (2020) indicate a need for subsidies to CCS in the order of DKK 6 billion in 2030 alone, which is a significantly larger amount than the government has so far allocated.

**... for example, via the allocated funds in the Government's proposed reform**

In the proposed reform *Danmark kan mere I*, the Government proposes to allocate an additional DKK 1 billion annually for investments in the green transition. If these funds are prioritised for technology-neutral subsidies for negative emissions, this would be expected to contribute to a cost-effective achievement of the 70 percent target.

### Climate proposal from the EU Commission

**Buildings and road transport should be included in the existing quota system**

The European Commission has presented a climate proposal, which is to be negotiated by the Parliament and the Council of Ministers. Among other things, the Commission proposes to introduce a new quota system for providers of heating and road transport fuel. It is positive if these emissions are covered by quotas, but it should be done under the existing quota system so that the price of greenhouse gas emissions is uniform. This will ensure that the reductions are undertaken in the places where it is cheapest to reduce.

**Denmark should not support sector-specific objectives in the EU**

The Commission also proposes increased targets for energy efficiency, the share of renewable energy and phasing out of new sales of fossil-fuelled cars. Denmark should lobby for a tighter supply of quotas and reduction targets in the non-quota sector instead of supplementary targets such as these. Supplementary targets can increase the cost of achieving the targets for greenhouse gas reductions in the EU and in Denmark. This is because measures that cost-effectively increase, e.g., energy efficiency, do not reduce greenhouse gas emissions cost-effectively. For example, an initiative that improves energy efficiency by reducing electricity consumption will reduce both the consumption of electricity produced by wind turbines and coal-fired power plants. As a result, the measure has not had a full impact on greenhouse gas emissions. As the overall objective is to reduce greenhouse gas emissions, it is cheaper to introduce uniform greenhouse gas taxation, including through the EU quota system.

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