De Økonomiske Råd
Formandskabet

PRODUCTIVITY 2017 SUMMARY AND RECOMMENDATIONS

Danish Economic Councils – The Chairmanship

Danish National Productivity Board

SUMMARY AND RECOMMENDATIONS

The Chairmanship of the Danish Economic Councils has been appointed National Productivity Board from 1 January 2017. Therefore, the chairmanship will present an annual productivity report. The first one was released on December 5 and contains four chapters.

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Summary and Recommendations provides an overview of the conclusions in the report. Furthermore, it contains the assessment of the chairmanship of initiatives that could potentially increase productivity. The assessment is based on the four chapters in the report.

1 DANISH NATIONAL PRODUCTIVITY BOARD

Danish National Productivity Board

The Chairmanship of the Danish Economic Council was appointed as the Danish National Productivity Board from 1 January 2017. In this connection, the legislation covering the Danish Economic Council was amended to include the following text.

THE DANISH NATIONAL PRODUCTIVITY BOARD

The Chairmanship shall also annually monitor the productivity performance of the Danish economy, analyse factors behind the productivity performance and international competitiveness, provide advice on productivity-enhancing policy initiatives, and evaluate the effectiveness of productivity enhancing measures.

See Law number 1751 of 27 December 2016.

Productivity boards in EU countries

Establishment of the Danish National Productivity Board occurred in autumn 2016 following the European Council's recommendation to countries in the Eurozone and encouraged other EU countries to set up national productivity commissions/councils.

Desire to promote structural reforms to counteract low economic growth

The EU's motivation for encouraging the establishment of national productivity boards was the significant fall in potential economic growth over recent decades in the Eurozone as well as in other member states. The purpose of the national productivity boards is to promote structural reforms at the national level, including reforms that support innovation, increase the skills of the workforce and the flexibility of the labour and product markets. [1]

Danish target

The Danish government has, moreover, set a target for higher productivity in the Danish economy by 2025.

1) See the press release from the Council of the European Union 20/09/2016 http://www.consilium.europa.eu/en/press/press-releases/2016/09/20/national-productivity-boards

THE GOVERNMENT WANTS HIGHER PRODUCTIVITY

The Government has set a target of an increase in GDP of 80 billion kroner by 2025. Of which, 35 billion is to come from higher productivity. See, *Vækst og Velstand, 2025*. (*Growth and Prosperity*)

Annual report and annual seminar

In its capacity as the Danish National Productivity Board, the Chairmanship must produce an annual productivity report: The present report being the first. The Chairmanship shall undertake its task as National Productivity Board in collaboration with other institutions that also analyse productivity and competitiveness. This collaboration will take the form of ongoing interaction with the relevant parties, which includes an annual productivity seminar organized by the Chairmanship, as well as through cooperation with the productivity boards of the other EU countries.

2 PRODUCTIVITY AND PROSPERITY

A large number of factors effect productivity performance…

Productivity performance is the result of a large number of factors in the economy. Shifts between the economy's industries, the speed at which companies implement new technologies, the workforce's educational level and competitiveness in the markets are examples of factors that determine how productivity evolves.

… including economic policy

Economic policy can affect productivity through a range of channels. For example, the design of the tax system affects companies' incentives to invest in new technology and incentives for employees to upskill and to seek better paid positions. Public spending in areas such as education and health can help create a more efficient workforce, and public infrastructure investment can also affect productivity. Competition laws also play a key role in ensuring efficient markets where high-productivity companies outperform less efficient businesses.

Economic policy should ensure the highest possible level of social welfare

The main goal of economic policy should be to ensure the highest possible level of social welfare, i.e., to aim to make the citizens as well off as possible. From a welfare point of view, economic policy measures should be justified on the grounds that they alleviate market or policy failures, or respect distributional preferences.

Some measures that mitigate market failures can be productivity enhancing

There are a number of examples that show that measures that mitigate market failures can be productivity-enhancing. Strengthening of competition laws can, for example, promote competition and enhance productivity. Another example is public support for research and development by private companies. If there are positive spillover effects associated with research and development, government support for research and development may align the private and socio-economic benefits of research while increasing the overall knowledge base and productivity level.

Government regulation can be appropriate even though productivity is weakened

However, there are also examples of market failures that justify government regulation that, seen in isolation, can weaken productivity. Workplace regulations, speed limits in traffic and environmental and climate regulation are examples of policy measures that can improve welfare even though productivity is weakened.

Redistribution of income can justify weakening

Also, an optimally designed economic policy that pursues the political objective of increasing equity can reduce productivity. For example, distributional considerations can justify progressive income taxation, which imposes high marginal taxes on high income earners, and this may weaken incentives to undertake education and hamper labour mobility, which lead to lower productivity.

Productivity should not be unnecessarily weakened

Different priorities can, therefore, justify policy measures that, in isolation, imply a weakening of productivity. However, it is important that economic policy is organized in such a way that productivity is not weakened unnecessarily.

3 CONTENTS OF THE REPORT

This first productivity report from the Chairmanship of the Danish Economic Council consists of four chapters.

The Chairmanship's key assessments and recommendations based on the analyses in the chapters are set out in the following section. The recommendations are based largely on the description in Chap-

ter III, which discusses previous recommendations and implemented measures.

PRODUCTIVTY REPORT 2017

This first productivity report consists of four chapters:

- Chapter I Productivity, prosperity and competition
- Chapter II Productivity performance
- Chapter III Previous recommendations and implemented measures
- Chapter IV Productivity variation between firms

Chapter I: Productivity, prosperity and competition

Chapter I explains what is meant by the term productivity and how productivity can be measured. Productivity is important because it is the primary source of prosperity in the long run. In general, a high level of productivity is desirable; however, higher productivity should not be the sole goal of an economy. There are factors other than productivity that affect welfare. These may include such things as the environment, health, road safety and the distribution of goods. These factors should be taken into account when considering a policy. International competitiveness is the relationship between business costs and productivity. The competitive position can be weak, but this is a temporary phenomenon that is self-correcting as a result of inbuilt economic mechanisms.

Chapter II: Productivity performance

Chapter II gives an overview of the Danish productivity performance. The review shows that Denmark has a high level of productivity and prosperity compared with other countries. Productivity growth, on the other hand, has been low in recent decades. However, the assessment shows that Denmark does not as such have a productivity problem compared to other comparable countries. The chapter also shows that the low productivity growth in Denmark is mainly due to low growth in individual sectors and only to a limited extent due to sectoral shifts.

Chapter III: Previous recommendations and implemented measures

Chapter III gives an overview of the recommendations for productivity-enhancing initiatives suggested by the Chairmanship, the Productivity Commission (2012-14) and other independent institutions over recent years. The chapter also gives an overview of some of the recent economic policy measures that are expected to affect productivity. These include*, inter alia*, amendments to competition laws,

sector-specific regulations in the service sector, climate and environmental policy, the tax system and the education system.

Chapter IV: Productivity variation between firms

Chapter IV contains an analysis of the variation in enterprise productivity. The analysis indicates that the group of firms with high productivity in the service sector outperformed the other firms (the main group), primarily since 2008. This trend is less pronounced than that experienced in the OECD overall. The results in Chapter IV indicate that the rising productivity differences within the service sector are due to an increasing technological gap between the most productive firms and the main group. Within manufacturing, the productivity gap has not widened. One possible explanation for the increasing productivity gap in the service sector is that the financial crisis has hit technological investment in firms in the main group particularly hard. Another possibility is that the development is due to a more long-term shift in the type of new technologies that have particularly benefited the most productive firms.

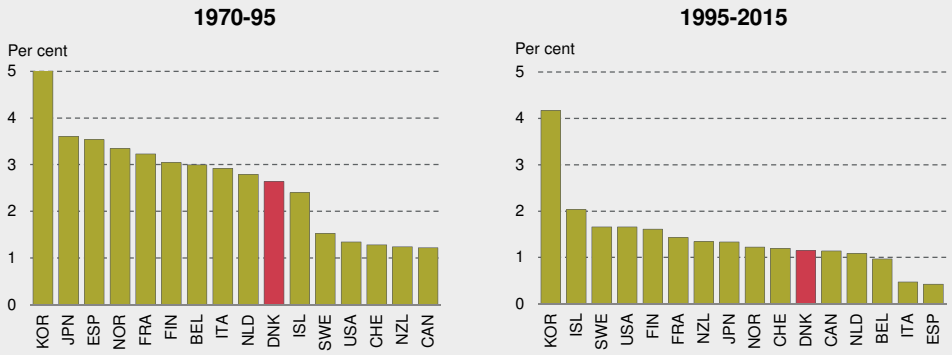
4 DENMARK'S PRODUCTIVITY

Fall in productivity growth has led to debate

Like many other OECD countries, Denmark has experienced a decline in hourly productivity growth in recent decades. However, the decline in hourly productivity growth is greater in Denmark than in many other countries, cf. Figure A, which has led to much debate about whether Denmark has a productivity problem.

FIGURE A HOURLY PRODUCTIVITY GROWTH IN SELECTED OECD COUNTRIES

Denmark had relatively low hourly productivity growth relative to other OECD countries, especially during the 1995-2015 period.



Notes: The Figure shows the average annual growth in hourly productivity The figure shows the average annual growth in hourly productivity calculated as GDP per capita. The figure shows all OECD countries where data is available. The *Y* axis has been cut by 5 per cent, for South Korea (KOR), average growth was 6.3 percent in 1970-95.

Source: OECD, OECD.Stats.

The advanced economies have a growth problem

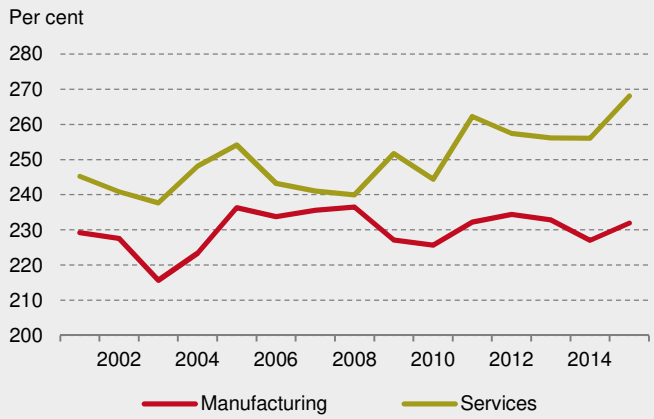
The figure shows that Denmark is part of the international trend of lower growth in the advanced economies. In that sense, Denmark has a productivity problem. This is an international phenomenon that is probably driven by factors that Denmark is unable to influence. For example, as argued by Gordon (2016) and others, invention may have become more difficult.

Slower proliferation of new technology?

Another possible explanation for the lower international productivity growth is that diffusion of new technology is slower than before. Andrews *et al.* (2016) show that productivity gaps among firms in 24 OECD countries have been expanding since 2001. This could indicate that the diffusion of new technologies has lost momentum. The analysis in Chapter III shows that the same trend has occurred in Denmark, but that it has been limited to the service sector, cf. Figure B.

FIGURE B PRODUCTIVTY DIFFERENCE BETWEEN SECTORS

The ratio of the productivity of the five per cent most productive firms to the main group has been relatively constant in manufacturing, but has increased within services.



Notes.: The productivity ratio is measured by TFP in the top five percent relative to TFP in the main group. The top-five per cent are the companies with the five percent highest TFP within their own sector in that year. This means that the top typically does not consist of the same companies from year to year. Only non-financial, non-agricultural private sectors are included in the estimations.

Source: Own calculations based on register data and Statistics Denmark, Statbank.

Does Denmark have a relative productivity problem?

There has also been debate about whether Danish growth has fallen more than in other comparable countries, and, whether Denmark therefore has a relative productivity problem. Danish productivity growth has undeniably been lower than in many other OECD countries in the years since 1995. However, there are a number of factors that should be considered before concluding that Denmark has a relative productivity problem.

Denmark has a high level of productivity

First, Denmark has a high level of productivity. Purchasing power adjusted GDP per working hour is at approximately the same level as in the United States. This suggests that high productivity growth cannot be expected in Denmark. The high level of productivity indicates that the latest technologies are used and that the production process

has already been properly organized, making it difficult to achieve further productivity gains. In countries with lower productivity levels there is greater potential for efficiency gains.

Differences are limited and Denmark has experienced demographic headwinds.

In addition, the difference in productivity growth between 1995 and 2015 between the middle ranked countries in Figure X.1 is limited. The difference in the average annual hourly productivity growth for Denmark in 13th place and New Zealand in 7th place is 0.26 percentage points. Although this is a significant difference, it is not alarming, given Denmark's high productivity level. In addition, growth rates over a 20-year period may be influenced by differences in business cycles and demographic trends. In Chairmanship of the Economic Council (2016) it was shown that changes in the age distribution have been unfavourable for Denmark in recent decades.

Denmark has low productivity growth, but not a problem compared to other countries

All things considered, the factors mentioned above mean that, compared with other countries, Denmark hardly has a real productivity problem, and if a problem exists, it is only related to the growth in productivity not to its level. However, Denmark is following the international trend of lower productivity growth and, in that sense, has a productivity problem.

PROSPERITY IN RELATION TO OTHER COUNTRIES

Prosperity doesn't just depend on per hour productivity

Productivity is important because it is the primary contributor to prosperity. However, there are a number of other factors that affect prosperity.

Terms of trade correction increases Danish productivity growth

This applies, for example, to the terms of trade, i.e., the ratio of export prices to import prices, where Denmark has experienced continual improvement over recent decades, cf. the Chairmanship of the Economic Council (2016). When hourly productivity growth is corrected for the change in the terms of trade, Danish productivity growth is on par with the growth in Germany and the UK, cf. Figure C.

GNI is GDP plus net foreign income

The trend in prosperity also depends on net income from abroad. When net income from abroad is added to GDP, gross national income (GNI) is obtained. The impact of net foreign income on the prosperity trend can, therefore, be calculated as the difference between GNI growth and GDP growth.

Higher GNI growth is largely due to increasing foreign assets

In Denmark GNI grew annually by 0.2 percentage points more than GDP in the years 1995-2015, cf. Figure D. The relatively big increase in Danish GNI is largely due to increasing net interest income on net foreign assets. Due to many years of high savings, Denmark has turned a net foreign debt of 25 per cent of GDP in 1995 to a net foreign asset of 32 per cent of GDP in 2015.

FIGURE C PRODUCTIVTY GROWTH

Terms of trade correction increases Danish productivity growth

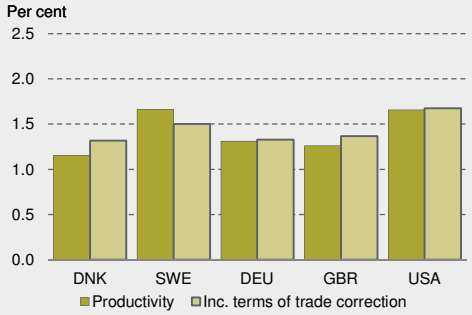
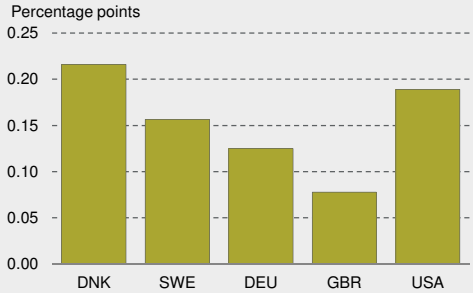


FIGURE D MORE GROWTH IN GNI COMPARED TO GDP

Denmark's GNI has grown more than GDP



Notes: The figure on the left shows the annual growth in GDP and the terms of trade corrected GDP. The figure on the right shows the annual growth in GNI minus the growth in GDP.

Source: OECD, OECD.Stats.

Hourly employment per capita is relatively low in Denmark

The annual number of hours worked also affects prosperity. In Denmark, annual hours worked per capita is lower than in many other countries, which leads to lower material prosperity. However, this is offset by a large consumption of leisure time. The low annual hours worked per capita employment in Denmark is due to the fact that people under the age of 15 and over the age of 64 make up a larger proportion of the population than in several of the other countries. In addition, the proportion of 15-19 year olds who are mainly in the education system is relatively large.

Prosperity can be calculated as NNI per inhabitant

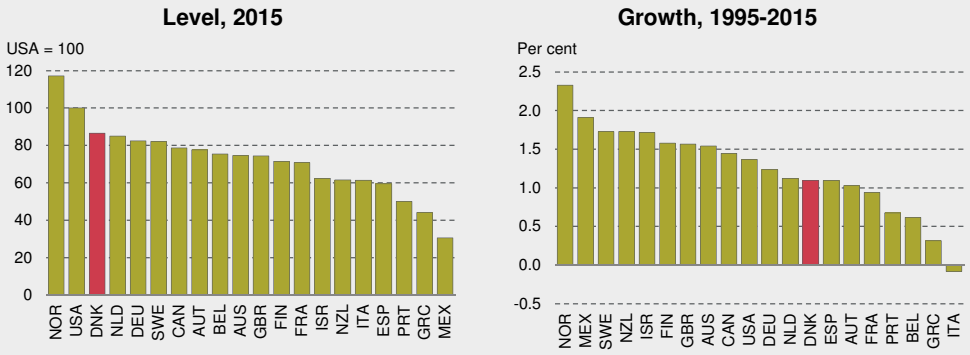
Net national income (NNI) per capita is an indicator of prosperity that captures the significance of all the above conditions. This measure shows the income available for consumption per capita when depreciation of the capital stock is allowed for.

Denmark has a high level, but low growth in NNI per capita

Measured as NNI per capita, Denmark ranks among the most prosperous countries. However, the trend in prosperity, like hourly productivity growth, has been relatively weak over the period 1995-2015, cf. figure E. Growth in Danish NNI per capita was 0.2 percentage points lower than in the average of the other countries.

FIGURE E NET NATIONAL INCOME PER CAPITA

Denmark had a high level of NNI per capita, but low NNI growth over the period 1995-2015



Notes.: The figure shows the purchasing power and terms of trade adjusted NNI per capita in levels (left) and average annual growth over the years 1995-2015 (right). NNI is calculated as GNI less depreciation of the capital stock according to the OECD's calculations. The purchasing power correction has been made with purchasing power parities in 2010.

Source: OECD, OECD.Stats.

5 ASSESSMENT AND RECOMMENDATIONS

Several policy initiatives in recent years

In recent years a number of policy initiatives have been implemented that could affect productivity in all or part of the economy. In this first productivity report from the Chairmanship of the Economic Council, the Chairmanship assesses some of these initiatives and highlights various measures within the aforementioned areas that can enhance productivity.

GENERAL LEGISLATION AFFECTING COMPETITION

Competition is crucial for productivity

Competition legislation and its enforcement framework are central to productivity development. The degree of competitiveness in the markets helps determine the incentives that firms have to use resources for innovation and to implement new technologies[2]. At the same time, fierce competition helps to ensure that production resources move from less productive to more productive companies.

Strengthening of competition legislation in 2015

Competition law was strengthened in 2015. The independence of the competition authorities from the political system and stakeholders has been strengthened. Among other things, members of the Competition Council will be appointed solely on the basis of their professional skills in the future, and the size of the Council has been reduced. It is beneficial that the independence of competition authorities has been strengthened. This improves the possibilities for ensuring enforcement of the Competition Act, which is expected to contribute positively to productivity.

Limitation on non-compete clauses in employment contracts can in increase labour force

Another measure for increasing competition was introduced following the adoption of the Growth Plan 2014. This measure limits the ability of companies to include non-compete clauses in recruitment contracts. These changes are expected to increase labour mobility and knowledge dissemination by limiting the capacity of companies to impede their employees' ability to switch jobs.

Important to continually ensure that competition legislation is adequate

It is important to continually review the competition legislation to ensure it remains adequate and that the competition authorities have sufficient power to enforce the legislation. There are still sections of the legislation where the institutional framework in Denmark differs from the corresponding framework in other countries. For example, the Danish competition authorities do not have the authority to impose fines for breaches of the regulations, and it is more difficult to penalise a company that abuses its dominant market position than in many other countries.

2) There may be cases where increased competition reduces the incentive for innovation and implementation of new technology, cf. Chapter IV.

Potential for increased competition in the mortgage sector

One of the areas where there may be potential for boosting productivity through increased competition is in the mortgage sector. For instance, lending fees[3] have risen considerably in recent years. In its 2017 report, the Competition Council pointed out that there are clear signs of a lack of competition in the mortgage sector. The weak competitive situation may be due to the fact that there are only a few players in the industry and there are barriers that prevent new players from entering. At the same time, customer mobility is very low compared to other markets, such as banking and insurance, where the products are also very complex.

Need for measures in the mortgage sector

The Chairmanship therefore supports the Competition Council's recommendations that both national and EU legislation be reviewed in order to remove unnecessary barriers to competition and to introduce measures that increase transparency and customer mobility. If these measures prove insufficient, more extensive measures should be considered, for example, imposition of a ceiling on all borrowing costs other than the lending fee. This could help make real borrowing costs more transparent and focus competition on one visible parameter – the lending fee rate.

Participation in the banking union could increase competition

The issue is somewhat related to the question of whether Denmark should participate in the Eurozone banking union. In the banking union the countries have joint supervisory and settlement authorities, which leads to more uniform practices across countries. Denmark is not a member of the banking union, but if Denmark chooses to participate, Danish banks and mortgage institutions will be more closely aligned with Eurozone banks in terms of regulatory practice. This could help increase competition in the Danish banking sector, as it may make it more attractive for foreign banks to expand their activities in Denmark. However, there are several aspects that should be considered in relation to possible Danish participation in the banking union

GOVERNMENT REGULATION

Weak productivity growth in the service sector for a number of years

The importance of the service sector for the economy has grown over time, and the sector currently accounts for approximately 70 percent of private employment. In light of this, it is remarkable that productivity growth has been low in the service sector for a number of years.

[3] The lending fee is an ongoing fee charged by financial institutions to cover their costs of administering the loan and their risk. It is charged as a percentage of the principal balance of a loan and varies across institutions.

Naturally, the question arises as to whether government regulation of the service sector is appropriately well designed.

The Productivity Commission recommended a range of changes to government regulations

The Productivity Commission recommended a number of changes to the regulation of the service sector that would likely enhance productivity. Some of these proposals have subsequently been fully or partially implemented, while others have not. Among the proposals that have subsequently been partially implemented are liberalisations of the Planning Act and the Taxi Act.

Further potential for Planning Act amendments to improve retail sector productivity, ...

In 2016 parliamentary agreement was reached to relax provisions in the Planning Act for retail trade. Among other things, the Planning Act provide a framework for how large retail stores may be and where they must be located. The legislative amendment makes it possible to establish larger retail stores. However, from a purely productivity based perspective, there is potential for further liberalisation to enhance productivity in the retail sector. For example, the Planning Act does not permit the construction of the so-called hypermarkets, which are large department stores that combine supermarkets and department stores. Prior to the Planning Act coming into force in 1992, it possible to set up a hypermarket.

… but other priorities come into play

There are various priorities behind the drafting of the Planning Act. Among other things, the legislation reflects a policy for shops to be located in centrally in cities and town. These policy priorities must be balanced against the potential productivity gains that could be achieved through further liberalisation of the provisions in the Planning Act.

AMENDMENTS TO THE PLANNING ACT

In 2016 Parliament amended the Planning Act. One of the changes was the relaxation of retail trade regulations. The Planning Act distinguishes between grocery stores and retail stores, which sell more durable consumer goods such as clothing, books and white goods.

With the amendment to the Planning Act, the size limit (gross area) for grocery stores became:

- in local centres or freestanding stores: 1,200 m^2 previously 1,000 m^2
- In city centres and commercial centres: 5,000 m^2 previously 3,500 m^2
- in out-of-town areas (such as found outside medium and large towns) 3,900 m^2 previously 3,500 m^2.

The amendments also gave local authorities the power to give planning approval for department stores without size restrictions.

Recent changes to the Taxi Act are appropriate …

In 2017 the Parliament passed amendments to liberalise the legislation covering taxis with effect from 2018. The changes include, among other things, the removal of a number restrictions and geographical constraints. These changes seem appropriate. It is very difficult to see any reason that could justify obstacles to competition in the taxi industry.

… but the Taxi Act may continue to provide barriers to competition

However, the tax legislation maintains the requirements for seat sensors, video surveillance and taximeters. This is primarily based on the need to prevent tax evasion. However, these requirements can constitute a barrier that prevents potential competition in the taxi market and discourages increased use of digital technologies. Consequently, for productivity reasons, there may be further potential to ease these rules. Therefore, the extent to which seat sensors, video surveillance and taximeters are necessary to counteract tax evasion should be investigated, as well as whether existing digital technologies could help prevent tax evasion.

Relaxation of ownership restrictions

As mentioned above, there are also parts of the Productivity Commission's recommendations for changes to regulation in the service sector that have not been implemented. For example, the Commis-

sion proposed removing ownership restrictions in some parts of the healthcare sector and in the legal industry. As this type of regulation may entail significant restrictions on competition, whether the regulations serve their purpose in the most efficient way should, therefore, be investigated.

Fixed term commercial lease agreements …

In 2016, the Minister for Industry and Growth made a proposal to make it easier to make fixed-term commercial lease agreements that has not been adopted. Therefore, there are still legal restrictions, which means that very few fixed-term agreements are concluded.

… can increase productivity and competition

Relaxation of these restrictions would be desirable as it could increase mobility in the rental market for commercial property and benefit competition and productivity. By allowing time-limited contracts, more freedom is given to both landlords and tenants to consider the pros and cons of lease agreement length, rent, renegotiation conditions, and other terms and conditions, and find a compromise that best suits their respective requirements.

CLIMATE, ENVIRONMENT AND TAX POLICY

Taxes, charges and environmental regulations influence behaviour of households

The structure of the tax system, together with the general environmental regulation, affects the conditions under which firms operate. Taxes affect, for example, a firm's choice of factors of production and, thus, the efficiency of the production process, just as government regulations affect a firm's costs. The design of the tax system can also affect households' incentives, including the types of jobs wage earners want to switch to and, thereby, affect mobility in the labour market.

Amendments to the PSO Scheme are appropriate

In 2016 Parliament decided that the additional electricity tariff (PSO) which finances the renewable energy incentives program, including support for wind turbines is to be phased out by 2022 and funding of incentives for renewables is to be financed out of the general government budget. Analyses by the Chairmanship and the Taxation Ministry's tax and subsidy analysis have indicated that the funding of the PSO scheme through extra charges on electricity bills has resulted in a significant welfare loss compared to funding through, for example, the lowest tax bracket. The reorganization of PSO funding will, therefore, contribute to a productivity boost for firms and a welfare benefit for society.

PSO

PSO (Public Service Obligation) is a government scheme that provides support for, among other things, electricity generation with wind turbines and research and development of renewable energy technologies. In 2015, the subsidies amounted to 8.3 billion DKK.

Previously, the PSO scheme was funded by a surcharge on electricity bills (PSO), which was 22.5 øre / kWh in 2015. In autumn 2016 the scheme was changed so that the PSO tariff is gradually abolished over a five year period and the costs of PSO Support are instead financed in the government Budget Bill.

Government spending should be funded via broad based taxes

In general, specific excise taxes should only be imposed for two reasons. First and foremost, these should reflect any negative externalities associated with the consumption of the product concerned, such as particle pollution from wood burning stoves. In addition, policy objectives or international agreements on lower consumption of certain goods may justify specific excise taxes. An example of this could be a target for CO2 reductions, which can be achieved by a tax on fossil fuels. If goods are subject to additional taxes to provide a tax profit, business and household decisions are distorted leading to a loss of productivity and welfare. Funding of government spending should, instead, be levied via broad-based taxes. For example, it may take the form of a uniform VAT rate on all consumer goods or income tax. The PSO tariff is an example of an excise tax that was not charged on electricity consumption because of the negative effects of electricity consumption but for revenue reasons.

Electricity excise tax should be reduced

One of the excise taxes that the Chairmanship has recommended be reduced is the excise tax on electricity. Both in terms of CO2 content and energy content, the excise tax on electricity is higher than other fuels, which distorts firms' and households' energy consumption with productivity and welfare losses. [4]

4) On 12 November 2017, the government entered into an agreement with a number of parties on a business and entrepreneurial initiate. The agreement is briefly mentioned in Box III.3 of Chapter III, but as a result of the date of conclusion of the agreement, the it has not been possible for the Chairmanship to assess the individual elements in relation to the completion of this report. As part of the agreement, the excise tax on electricity for heating will be lowered.

Taxation is generally preferable to regulation

In order to achieve political goals, regulations are also extensively used, for example, specific requirements for insulation in new buildings via the building regulations. Generally, it is more cost-effective to achieve goals by imposing targeted taxes, as it gives both firms and households the opportunity to choose the cheapest solution, and provides an incentive for research and development in technical solutions that can help meet the political goals. Shifting from regulation to taxation may, therefore, in many cases contribute to a welfare gain. The increased flexibility arising from such a scheme also increases productivity without reducing target performance in other areas.

Changes to vehicle taxes

The Chairmanship has also pointed out that one-off new vehicle registration fees (stamp duty) have been higher than environmental factors and other externalities could justify and that these fees could be lowered as a part of a reorganization that simultaneously introduced road pricing. Road pricing is the most direct way of regulating congestion externalities, and would, therefore, increase productivity by reducing congestion. The Parliament has recently adopted a reduction in new vehicle registration fees, which is primarily funded through higher annual vehicle excise duties on vehicle owners and is based on the petrol consumption of the different types of vehicles. The lower new vehicle registration fee is considered appropriate, as such fees generally distort more than owner taxes, but a shift that had more emphasis on direct driving charges would had been more appropriate.

High top marginal taxes can weaken productivity

Recent labour income tax reforms have reduced marginal taxes on labour income. Nevertheless, the taxation of the highest labour incomes remains relatively high in Denmark. High marginal taxes on labour income can be justified on the basis of income distribution, but at the same time, they inhibit productivity. Among other things, high marginal taxes on labour income will limit returns to education, and it also has the potential to reduce labour mobility.

Abolition of the freeze on property values, but property taxes still under the neutral level

From spring 2017, the Housing Tax Agreement abolished the freeze on the nominal value of properties for tax purposes. While this is an appropriate change, the effective property value tax continues to be maintained at a level that is lower than the neutral property tax rate. This means that the tax system continues to favour investment in real estate relative to other types of investments. Against this background, it would be appropriate to increase the property value tax rate. A higher property tax rate would also allow for reductions in distorting taxes on, for example, labour or other types of capital income, potentially increasing productivity.

Favours debt over equity financing

The current structure of corporate taxation favours debt financing over equity financing. This is because it is possible to deduct interest expenses from taxation of profits, while there is no deduction for the equity returns. This encourages companies to have a high degree of leverage.

ACE-deduction should continue to be considered

In 2016 the Government proposed the introduction of an Allowance for Corporate Equity (ACE) deductions, which involves deductions in corporate taxes for new equity financed investments. If such a tax allowance is set so that it corresponds to the normal return on investments, the distortion resulting from the preferential treatment of debt financing would be removed and corporate taxation would actually act as a tax that does not affect the investment volume. There are, therefore, several reasons why such an equity-capital-deduction might be appropriate. However, there may be practical problems associated with correctly setting an equity deduction, and the proposal has not yet been passed by Parliament.

Business taxation committee formed in conjunction with Growth Plan 2014

The Government's business taxation committee, which was formed in conjunction with the Growth Plan 2014, will probably make recommendations on how to solve the practical challenges associated with the introduction of an ACE deduction. [5] The general aim of the business taxation committee is to investigate whether a more neutral and symmetric set of regulations can be established for the taxation of business income and capital returns.

Lower inheritance tax for family owned businesses …

In 2017 the inheritance tax was reduced from 15 to 5 per cent for generational change of family-owned businesses. As a consequence of this change, inheritance by generational change will not taxed in the same way as other inheritance in future. This distorts the choice of forms of inheritance because it gives incentives to family-owned businesses to transfer the business to the next generation rather than sell to third parties.

… can reduce productivity …

The reduced inheritance tax can have a negative impact on productivity by, for example, leading to businesses not using the most efficient management and ownership forms. Several studies have suggested that family-owned companies that have been through a generational shift are less well-managed and achieve lower earnings than other companies.

5) One of the initiatives in the recent industry and entrepreneurial agreement is to analyze the possibilities for introducing an ACE deduction

… but counteract liquidity constraints

If the capital markets are not functioning properly and it is not possible to borrow for inheritance tax payments, a lower inheritance tax may be beneficial as it strengthens liquidity at the time of the business transfer. Thus, the disposal of important assets or, at worst, the closure of otherwise healthy businesses can be avoided. There can also be a positive impact on the level of investment in the businesses. This can, in principle, constitute an argument that lower tax on family transfer is efficiency and productivity improving.

Delayed tax payment schemes could be an alternative

However, there are other ways to try to avoid such liquidity constraints. For example, the possibilities for delayed inheritance tax payment schemes could be extended. Such a solution is a more direct way of dealing with the liquidity problem, and, at the same time, such a solution will not distort the decision on generational change.

FUNCTIONING OF THE PUBLIC SECTOR

Functioning of the public sector is important for overall efficiency

The public sector is a significant part of the overall economy in Denmark, and the public sector's efficiency thus has a major impact on the efficiency of total resource utilization in society. It is important to continually review whether the public sector operating effectively, including whether the individual public entities have sufficient incentives to provide public services in the most cost-effective manner. However, there are significant challenges in assessing the efficiency of the public sector, as public services are not traded in a market, making it difficult to estimate their value.

Probably significant efficiency potential

In a number of areas it is possible to quantify targets for resource utilization and the results thereof. For example, , based on analyses of primary schools, elderly and day care, the Productivity Commission assessed that there is significant potential for improving resource efficiency if the less efficient entities could achieve the same level of efficiency as the most efficient entities. Similar studies have found similar results for other areas.

Differences in efficiency can be due to lack of competition

One of the possible reasons that there may be a significant difference in the efficiency of the individual entities in the public sector is the lack of competition. In this way, the public sector is fundamentally different to the private sector. For a number of years, there has been a focus on increasing competition through outsourcing. In some areas this has been a success, while conversely there have also been examples where outsourcing has proved to be counterproductive.

Increased focus on public sector management appropriate

One of the factors that can determine the efficiency of the public sector is the quality of the management. Good public sector leadership is important for ensuring public funds are used appropriately and for encouraging employees to do their best. It is, therefore, positive that in spring 2017 the government established a management commission. Among other things, the commission will make recommendations for improving the quality of public management. The commission must report by the end of 2017.

Budget law since 2014

The Budget Act was introduced in 2014 with the primary objective of ensuring sound public finances in the short and long term. The budget ceilings and economic sanctions have led to greater compliance with the established spending limits, and the budget law has thus strengthened the budget compliance discipline.

The Budget Law can affect efficiency

The Budget Act may affect the efficiency of public sector resource utilization. Clear and well-defined long-term spending ceilings can, on the one hand, enable sharper and more effective public sector priorities. On the other hand, yearly sanctions can prevent long-term and effective planning.

Carrying unused funds across years would prevent the "use-it-or-lose-it syndrome"

The current sanction legislation means there are limited opportunities for using saved funds. This may mean that public authorities maintain a certain level of conservative spending in the first part of the year as budgetary buffer and then consume more at the end of the year when there they are certain that the budget won't be exceeded. At worst, it may cause so-called "use-it-or-lose-it syndrome" at the end of the year, meaning that remaining funds are used for projects with a low socio-economic value. With more flexible options for carrying unused funds across years, each institution would be able to manage its resources so that they can be used when needed. This would help prevent "use-it-or-lose-it syndrome".

Expenditure growth only allocated one year at a time

Despite four-year spending ceilings, expenditure rights are only allocated to the state, regions and municipalities on an annual basis. The spending ceilings do not, therefore, give a fair multi-annual planning perspective for the individual levels of government, which can hamper long-term planning.

Multi-annual focus must not undermine budget discipline

There are, therefore, several arguments for a more long-term planning perspective. However, more flexible arrangements for individual institutions to carrying funds across years may risk endangering the public finance objectives in years when the government deficit is close to its limit. A more long-term planning perspective for expenditure policy and more flexible arrangements for consuming saved

funds must be set up in such a way that the budgetary discipline and sanctions mechanisms are not undermined.

THE HIGHER EDUCATION SYSTEM

Important that the education system is appropriately designed

A well-trained workforce is a prerequisite for new technologies to be used and for the labour market to adapt quickly to new organisational and production methods. Denmark, in comparison with other countries, uses many resources for education, but there are a number of indications that there are significant challenges related to the education system. It is important to continually review whether the education system is designed appropriately, including whether students and educational institutions have the right incentives.

Two measures aimed at improving employment prospects for higher education

In 2014, the government introduced a ceiling for admission to higher education programs that have high graduate unemployment. The aim was to increase the proportion of young people who choose to take degrees with good employment prospects. In 2017, the government further proposed to reallocate funding to higher education institutions so as to provide relatively more funding for degrees with a better employment prospects, measured by the employment rate among graduates. The current funding system encourages the production of many graduates, but is not aimed directly at ensuring good employment prospects. [6]

Productivity potential by improving employment prospects

There is a big difference in the pay gap associated with the various higher education programs. What's more, for a number of years there has been a tendency for admissions to increase relatively more in degrees with poorer employment prospects. This suggests that there are potential productivity gains to be had by redistributing the students so that relatively more students choose the programs with the best employment prospects, or by changing the curriculum in programs with poor earnings prospects so that the job prospects for these programs are improved.

6) Shortly before the completion of this report, an agreement was reached in the Parliament regarding a change to the system of funding for higher education. The agreement introduces a result-based funding system, which will depend, *inter alia*, on the employment of new graduate and the students' average study time.

Fundamental argument for improving employment prospects through regulation

At the same time, there is a fundamental argument for regulating the educational choices so that more weight is placed on employment prospects. As mentioned above, marginal taxes on labour income in Denmark are a relatively high. This can distort the educational choices such that too much emphasis is placed on the consumer element of education, as this is an untaxed good, and too little emphasis is on employment prospects.

Clear incentives important

In their present form the admission ceilings on higher education do not provide direct incentives for higher education to result in good employment prospects. The government's proposal that higher education funding be dependent on employment outcomes may lead to improved graduate employment prospects. This could increase productivity as degrees with low graduate unemployment typically have high wage rates. In the context of the proposed restructuring of the student grant system, it would also be natural to consider ways to ensure that the student grants take account of differences in the students' academic backgrounds prior to them starting in higher education, so the higher education institutions are rewarded for their ability to elevate the level of the students and for not their ability to attract the brightest students and exclude the less-talented ones.

Measures that increase incentives to choose degrees with good employment prospects

Efforts to increase the focus of higher education on employment outcomes can be strengthened by supplementing the initiatives aimed at the educational institutions (supply side) with measures aimed at the students (demand side). This could be done by lowering taxes on labour income, which would increase the financial gain from choosing high-earnings education programs and thus enhance productivity. The organisation of the student grant system can also play a role in the students' education choices.

Consequences for income distribution and social mobility

However, reforming the income tax and student grant systems could also have consequences for income distribution and social mobility. These consequences must be weighed from a political view point against the productivity gains.

SUMMARY

High level of prosperity

Denmark has a high level of prosperity, which is largely the result of a high productivity level. Growth in productivity has, however, been relatively low for a number of years, which is a trend that Denmark shares with many other countries.

Prosperity can be increased through higher productivity

It is always important that society utilises its resources as efficiently as possible, and regardless of the high level of Danish prosperity, higher productivity is an often-expressed political goal.

Measures have been implemented, but still a number of options to enhance productivity

There have been a number of policy initiatives in recent years that are expected to affect productivity. However, there are still areas where consideration should to given to ways that economic policy can be applied more effectively to be less competition-inhibiting and increase productivity. Government regulations, the operation of the public sector, the structure of the education system, the conditions of competition, and infrastructure are examples of these areas.

Consequences for productivity and welfare of larger political initiatives should be evaluated

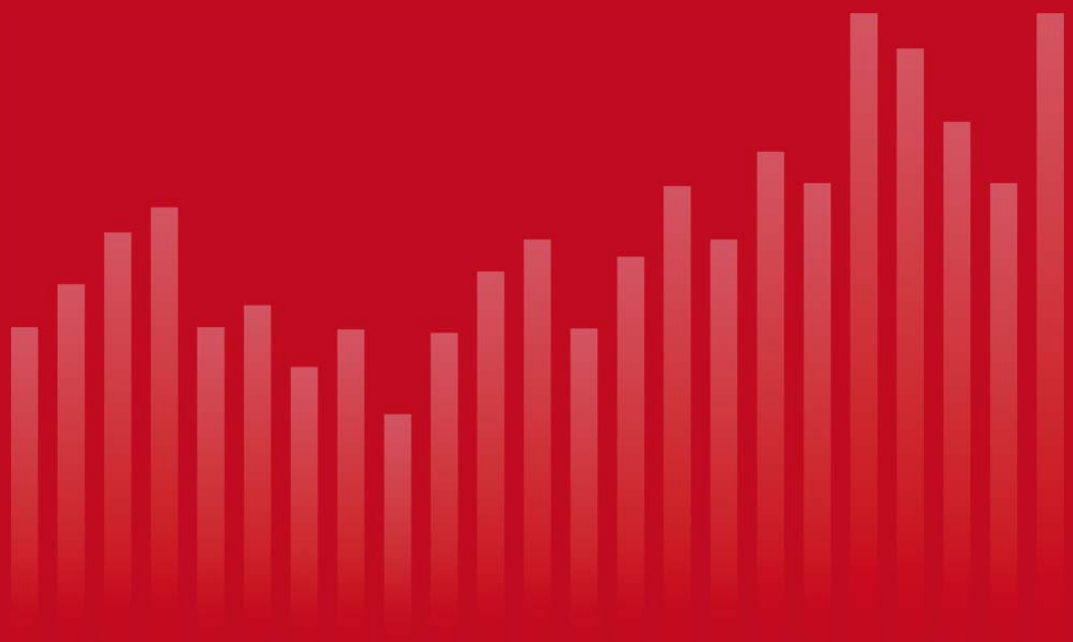
Although increased productivity is generally beneficial, policy measures will often affect the environment, health, social security, the workplace environment and income distribution. These effects should, as far as possible, be taken into consideration when considering measures to increase productivity. Likewise, when considering major policy initiatives that serve other purposes, their expected impacts on productivity should be estimated and taken into consideration, and these initiatives should be designed to minimize any negative impacts on productivity.

LITERATURE

Andrews, D., C. Criscuolo og P.N. Gal (2016): The best versus the rest: The global productivity slowdown, divergence across firms and the role of public policy. Productivity working papers, November 2016, no. 05. OECD.

Chairmanship of the Economic Council (2016). *Dansk Økonomi, forår 2016.*

Gordon, R.J. (2016): *The rise and fall of American growth*. Princeton University Press.



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