

GROWTH RATES, REFORMS AND RISK OF OVERHEATING¹

2 October 2017

Economic growth is a subject of frequent debate. This paper elaborates on why future growth in the gross domestic product, GDP, can be expected to be lower than that seen in recent decades. The short-term risks of overheating are then discussed, and whether structural reforms could potentially counter them. Finally, there is a box on the interpretation of growth rates.

What is a realistic growth rate in the long run?

Potential output in a society, i.e. its economic capacity, is determined by the amount of work performed, the size of the capital stock available and how "smartly" people work (productivity). Increased economic activity creates a basis for higher demand, but demand for goods and services can also be covered via imports.

The underlying, or structural, growth in economic capacity is determined by underlying developments in productivity and hours worked, but in the short term growth may be higher or lower than its structural level, depending on demand.

Major imbalances between demand and economic capacity lead to inflation or deflation. So a good balance in the real economy is essential to the value of money and financial assets and liabilities.

There are several reasons why future economic growth rates, and hence expansion of economic capacity, are likely to be lower than in the 20th century. The most obvious explanation is the demographic shift from a growing to a stagnant population with a higher percentage of pensioners. Moreover, the historical increase in the participation rate of women cannot be repeated.

In addition, the last 10-20 years have seen a relative dampening of productivity growth rates. This is partly due to a shift in economic structures, away from agriculture and industry towards services, with less room for technological advances to enhance efficiency. Other aspects of the dampening are not so easy to explain. It is not a uniquely Danish phenomenon, but applies to nearly all of the western world. The OECD's long-run projections operate with annual GDP growth rates of around 1.5 per cent in western countries over the next 50 years. That is lower than in the previous 50 years.

One question is whether further structural reforms could change this outlook. In general, there are good reasons to implement structural reforms as they can help to increase the capacity of the economy. Successful structural reforms mean that the economic capacity will be higher than it

¹ This paper is background material for a presentation at the 35 board seminar on 2 October 2017. The calculations of growth rates, etc. have also been used in a presentation to the Association of Local Banks, Savings Banks and Cooperative Banks in Denmark on 18 May and in an interview in the business newspaper Børsen on 6 July 2017.

would otherwise be. But it can by no means be taken for granted that reforms will lead to higher growth rates in future than those seen previously.

Firstly, most of our technological advances come from abroad. Denmark is part of the western world, where productivity is already higher than elsewhere. Unlike poorer countries, we do not have a vast, unrealised potential for making easy gains by copying what others have done. It is not realistic that productivity should rise at a faster rate in Denmark than in comparable countries for a longer time period.

Secondly, a distinction should be made between level and growth. Many structural reforms have the potential to lift the *level*, e.g. by increasing the supply of labour. This will temporarily increase the rate of economic growth. But structural reforms can hardly be expected to bring about a permanent increase in the growth rate – i.e. not only lift the level, but also provide stimuli that constantly accelerate over time. As regards the *growth rate*, economic theory often focuses on research and development, while it is more debatable which policy would lead to both increased use of resources and more *results* from research and development.

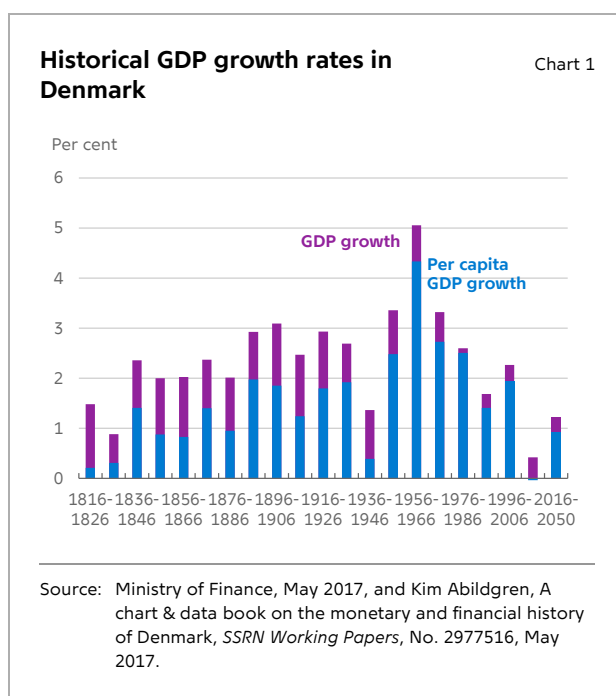
Thirdly, in Denmark and internationally economic policy has historically increased – or sought to increase – the output potential on a continuous basis, e.g. via expanded free trade, stronger competition, education and training, research and incentives to work more and be more productive. These efforts have been successful, and more can be done. But in order to achieve higher future *growth* it is thus necessary not only to do more, but actually to do it at a faster pace than in the structural reforms previously introduced.

Finally, the significance of growth rates cannot be separated from the level of GDP, cf. Box 1 at the end of this paper. For example, the expected increase in GDP is approximately kr. 40 billion in 2017. This is equal to growth (relative to 2016) of approximately 2 per cent. But in the 1960s, GDP growth of kr. 40 billion at present value would have been equivalent to growth of 5-6 per cent, given the much lower GDP level. The higher GDP gets, the more difficult it may be to achieve high growth rates.

Growth may exceed the underlying capacity expansion, but only briefly

The underlying growth potential, i.e. the speed at which output can rise, should not be confused with short-term cyclical movements driven by fluctuations in demand. Over the last 20 years, average growth in Denmark has been approximately 1.5 per cent, cf. Chart 1. This period comprises both overheating and a deep recession, so it is difficult to say anything about the structural growth rate. Indications are that it has been lower than in the preceding decades. This does not mean that there cannot have been one year or several consecutive years in which annual growth exceeded its structural level, e.g. in an upswing.

Over longer periods, actual and structural growth are linked, however. This is because excessive growth in the short term, i.e. the build-up of imbalances in the economy, involves the risk of subsequent prolonged downturns with low or negative growth. In three of the last four decades, the Danish economy has seen overheating followed by lengthy downturns lasting up to seven years.



The risk of imbalances often arises if domestic capacity is overestimated and excessive demand unleashed, e.g. via expansionary fiscal policy or easing of financial regulation. It is not sound economic policy to do so in an upswing when actual growth exceeds structural growth.

The situation today (autumn 2017)

Traditionally, the most important areas in relation to economic imbalances are the housing market, the labour market and growth in lending by financial institutions. The housing market has now been picking up for some years, but except for the market for owner-occupied flats it has not overheated – yet. The labour market has also been recovering markedly and there are increasing pressures and signs of labour shortage. But at present the labour market overall cannot be said to be overheated either – yet. So far, lending growth has been limited in the current upswing. There are indications that demand has been driven mainly by earnings and savings. Finally, the large balance of payments surplus and improved financial regulation make it possible to test the capacity limit a little more than previously.

This time around, economic growth has been more balanced than in many previous periods. That is how it should continue to be. There is no need to jam on the fiscal or financial brakes in order to dampen demand yet. But nor is there any need for more accommodative economic policy.

Can overheating be countered by structural reforms?

Overheating occurs when society's demand for consumption and investment and demand from abroad substantially exceed the capacity of the economy. So it is relevant to ask whether overheating can be avoided – by curbing a rise in demand, and by introducing extraordinary expansions of the economic capacity – including whether the latter might even replace the former.

Basically, the answer to the last questions is no, or rather: this is very unlikely. It requires the implementation of supply reforms where the capacity increase materialises as rapidly, as strongly and with as much certainty as measures to curb demand do.

There is one historical example to show that this is to some extent possible. The second half of the 1990s saw a protracted upswing in which the threat of economic overheating was countered several years in a row by introducing fast-acting measures to increase the supply of labour and lower structural unemployment. But the situation has changed since then and the instruments applied cannot be re-used. At that time, structural unemployment was 8-10 per cent. Today it is 3-4 per cent and mainly comprises short unemployment spells between jobs. At that time, schemes such as leave of absence and transitional allowance, which had been introduced a few years earlier, could be abolished at short notice. They cannot be abolished once more.

And even in the 1990s, capacity expansion was not a standalone solution. In 1998 a tax reform was introduced that not only brought long-term structural improvements, but also dampened demand in the short term (the "Whitsun Package"). This was one of the reasons why the subsequent cyclical downturn was mild and brief.

In theory, a similar measure is available today, i.e. immediately to increase the early retirement and retirement ages. But they are already being increased gradually, and there seems to be broad political consensus that retirement ages should be increased at longer notice. That is a political priority.

Suggestions for other potential measures are more speculative, but they have one thing in common: it is far more uncertain how rapid and strong their effect, *if any*, is. This applies regardless of whether such measures are aimed at productivity or incentives to work more.

For some time, the number of people in employment relative to the number of 20-64-year-olds has been close to a level not previously seen, even in an international context. One option could be to increase average working hours, which are not high by historical or international standards. However, working hours are determined by complex interaction between individual choice, collective agreements and cultural norms. Even if it was possible markedly to change the incentives to work more – e.g. through a sizeable reduction of the marginal tax rate – this would take effect with a lag, and we have very little knowledge about how long this lag would be. Moreover, uncertainty about the ultimate impact is considerable.

If the marginal tax rate would be reduced to provide an incentive to work more, and this would be done by way of fiscal easing, i.e. not fully financed, it is very unlikely that the capacity-enhancing effects would balance the additional increase in demand.

Obviously, a lower marginal tax rate should not necessarily be unfinanced. It could be implemented as part of an actual tax reform and funded by increasing the tax base, i.e. by reducing existing tax deduction options and reducing selective tax benefits. As a main rule, reduction of tax deductibility in itself entails structural improvement, as tax deductibility often provides an incentive to engage in economic activity where the motivation is tax savings rather than other economic advantages. But there are considerably fewer tax deductibility options left to weed out than there used to be.

Another way to finance a lower marginal tax rate is to reduce (growth in) public sector spending. In that case, the net impact on capacity pressures in both the short and long term would depend on the actual tax and expenditure cuts introduced. If funding is achieved by reducing public sector spending, this can be expected to have a dampening effect, in net terms, on overall demand in the economy. This is mainly because the import share of public consumption is lower than the import share of private consumption triggered by lower taxes².

As regards the issue of labour market pressure, the short-term question is whether the type of labour released via e.g. lower growth in public sector spending can fully or only partially make up for the extra labour required when lower income taxes push up private consumption. The lion's share of public expenditure is made up of payroll costs for staff in schools, day care facilities, healthcare and social security systems, while increased private consumption – triggered by lower taxes – boosts demand for other goods and services, often produced by labour with other qualifications.

In relation to long-term capacity in the labour market, it may be of significance whether the positive impact on the labour supply of lower marginal taxes is countered by any negative effects on the labour supply from lower public consumption. This will depend on whether the cuts relate to areas of importance to families' work patterns, e.g. day care facilities and residential institutions. We have very little knowledge of the magnitude of such effects.

Conclusion regarding overheating

All in all, there are good reasons to be highly aware of developments in demand and in economic capacity. The balance between these two must be right if we are to avoid large fluctuations in the economy.

In the current situation, this gives reason to caution against easing fiscal policy or financial regulation. If good structural reforms have been identified, they should be implemented within this framework. In theory, it is possible that the impact of fully financed structural improvements is underestimated, i.e. how strong the impact is or how soon it is felt. If this underestimation is of major significance to the economy, it is still possible subsequently to adjust fiscal policy in step with the stronger-than-expected improvement in economic capacity, and hence also in government finances.

Conversely, it is easy to see the advantages of fully financed structural reforms. They reduce the risk that imbalances build up, leading to prolonged downturns with little or no growth.

² In economic lingo this is referred to as "the balanced budget multiplier".

Growth dynamics in brief

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It should be specified what growth rates indicate. Unchanged growth rates do not indicate a stagnant or constantly growing economy, but an exponentially accelerating economy. Growth rates are typically calculated by looking at output relative to output one year earlier. When output increases, output "one year earlier" keeps growing. Albert Einstein called compound interest the most powerful force in the universe.

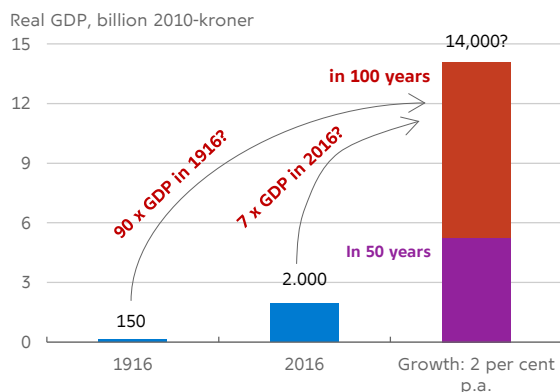
From 1916 to 2016, the economy grew by an average of 2.6 per cent a year, net of inflation. This means that the economy is actually 12.5 times as large as it was in 1916. This is partly attributable to population growth. Measured per capita, average annual growth over the last 100 years has been 1.9 per cent. This corresponds to GDP per capita almost having increased by a factor 7. The present value of GDP in 1916 is approximately kr. 150 billion. Today GDP is approximately kr. 2,000 billion. To compare, 100 years growth by 3 per cent per annum will 19-double GDP to just below kr. 40,000 billion.

What is the consequence of slightly more modest future growth, e.g. 2 per cent p.a. over the next 100 years, i.e. until 2116? A continuous growth rate of 2 per cent for 100 years would lead to an economy seven times today's size (i.e. $12.5 \times 7 =$ almost 90 times as large as in 1916). In that case, GDP would increase to approximately kr. 14,000 billion at present value.

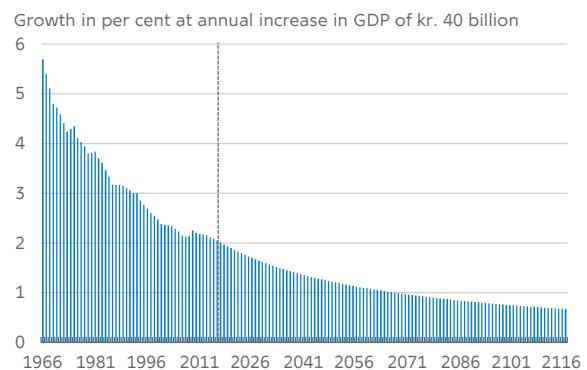
So to realise growth of 2 per cent over the next 100 years, it is not enough "simply" to repeat the progress we have seen over the last 100 years. We need an *increase* no less than six times the size of that seen over the last 100 years. That is the result when we add growth rates to output that is outstandingly larger than the output we have based previous growth rates on.

Another angle on this: at present an annual increase in output of kr. 40 billion is equal to growth of 2 per cent, as GDP is approximately kr. 2,000 billion. In the 1960s, we had a period with nostalgic growth rates of around 5 per cent. Does this mean that the increase in the economy was greater in the 1960s than today? That depends on how you view the matter. Back then, GDP was only one third of what it is now, i.e. approximately kr. 750 billion at present value. At that time, the economy also increased by around kr. 40 billion, resulting in annual growth of 5-6 per cent, cf. the right-hand chart. So the outlook for 2017 is an increase in the economy of more or less the same magnitude as in a typical year in the 1960s.

A GDP growth rate of e.g. 2 per cent will 7-double production in 100 years



The growth rate depends on the level of GDP



Note: Own calculations.

Finally, let us assume that the economy continues to increase by kr. 40 billion a year over the next 100 years. In that case, the annual growth rate will gradually decline from 2 per cent today to around 0.7 per cent in 2116 – and kr. 40 billion per year for 100 years in a row (with the resultant declining growth rate) will still treble GDP to approximately kr. 6,000 billion at present value.

If we instead take future growth rates of 2 per cent p.a. as our point of departure, resulting in GDP of kr. 14,000 billion in 2116, the annual increase in the economy 100 years down the line would have to be approximately kr. 280 billion a year at present value.

There is absolutely nothing wrong with applying growth rates, but their significance to economic progress cannot be separated from the level of GDP. This becomes more evident as the time horizon increases.