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Low interest rates and fiscal policy implications in a fixed exchange rate regime

Assistant Governor Thomas Harr's panel speech at the conference "The Long-run Outlook for Interest Rates"
1 September 2021

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The fall in r* in Denmark can partly be explained by lower potential growth

r* in Denmark has fallen since the 1990s

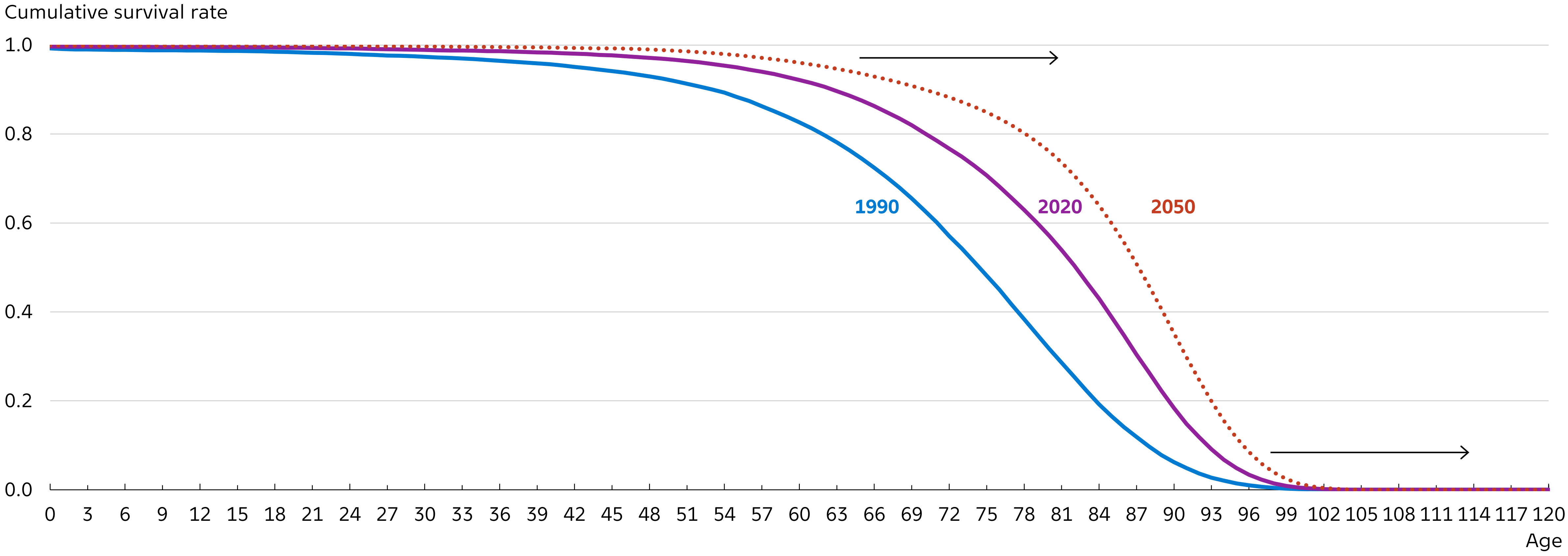
Source: Pedersen (2015).

Lower potential growth since the 1990s has pushed down r*

Source: Adolfsen and Pedersen (2019).

Higher life expectancy is likely to continue to exert downward pressure on r* in Denmark

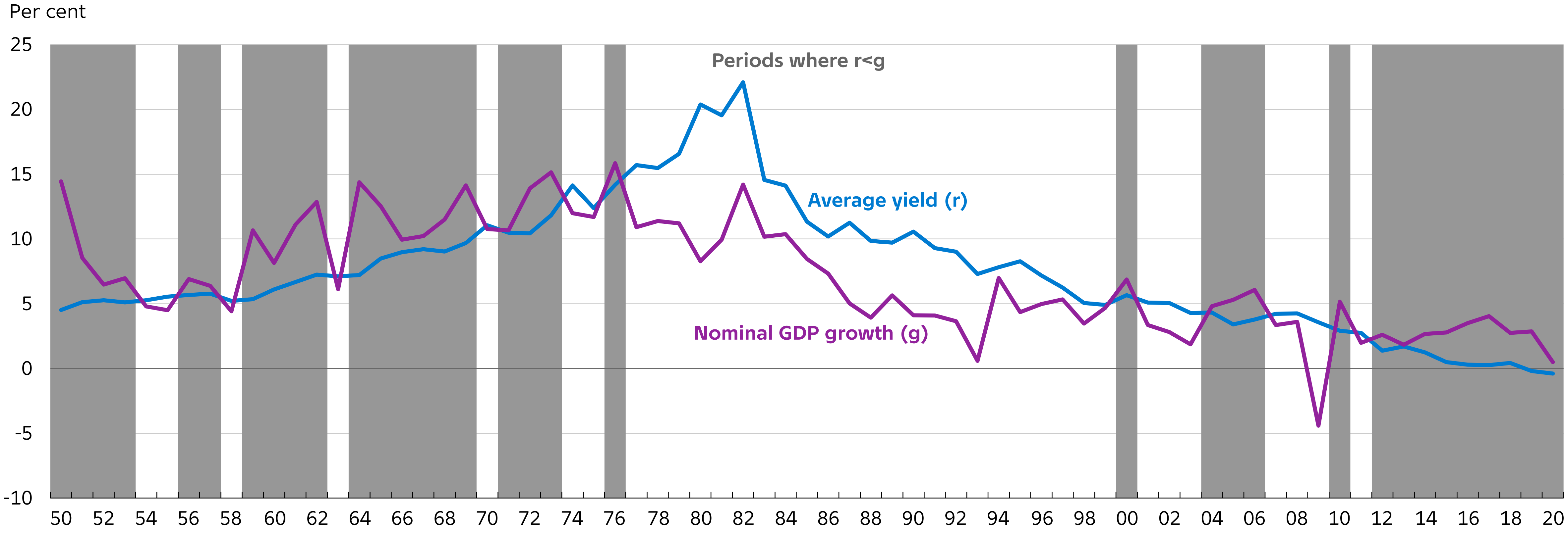
Longevity has increased in Denmark, and trend is likely to continue



Source: Own calculations based on DREAM.

r has not always been less than g

Since 1950, r has been less than g slightly more than half of the time

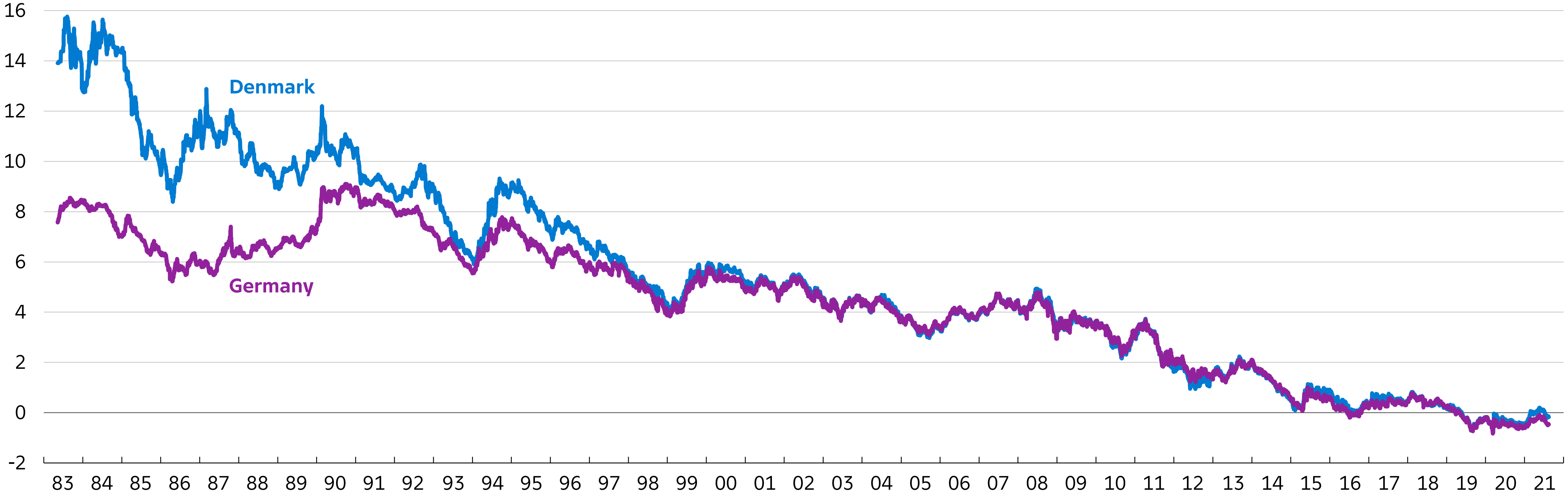


Note: From 1983 and onwards the chart shows a 10-year government bond yield. Before that, it shows the yield on a long-term government bond.
Source: Macrobond, Abildgren(2017) and own calculations.

Still, Danish government bond yields are likely to remain low for some time

Denmark's government bond yields follow Germany's yields closely

10-year government bond yields, per cent



Note: Generic benchmarks.
Source: Macrobond.

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In Denmark, fiscal policy must be used to stabilise the business cycle, which constrains expansion despite low r

In a fixed exchange rate regime, fiscal policy should be used to stabilise fluctuations in output and inflation

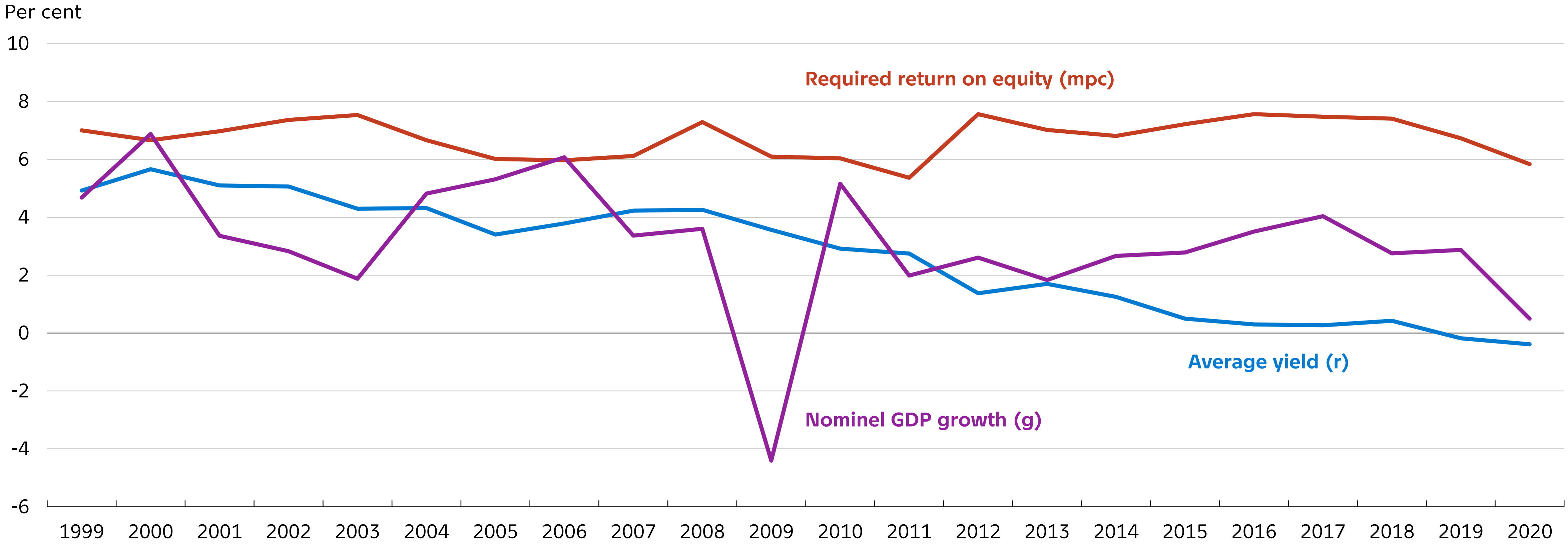
If the government pursues a persistently expansionary fiscal policy and the Danish economy is hit by a shock, the following may occur:

Higher credit spreads

Pressure on the krone

If mpc>g, higher government debt may impact welfare if it crowds out private investment

The required return on equity in Denmark has been substantially higher than g and r since the global financial crisis



Note: The chart shows a 10-year government bond yield.
Source: Return on equity is taken from Autrup and Hensch (2020), Macrobond, Abildgren (2017) and own calculations.

References

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PANEL SPEECH

NOTES FOR ASSISTANT GOVERNOR THOMAS HARR'S PANEL SPEECH AT THE CONFERENCE "THE LONG-RUN OUTLOOK FOR INTEREST RATES" 1 SEPTEMBER 2021

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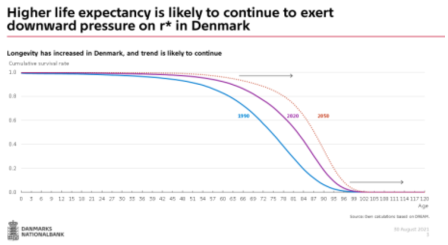
CHECK AGAINST DELIVERY

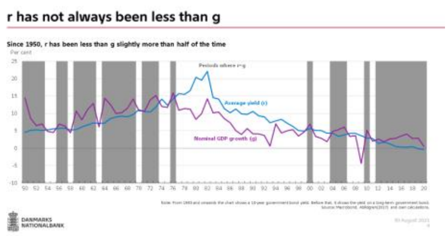
Slide 2:

- The equilibrium real rate of interest, r*, has fallen substantially in many economies, including Denmark.
- The chart to the left illustrates Danmarks Nationalbank's estimates of r* in Denmark, see Pedersen (2015).
- The fall in r* since the mid-1990s can be explained by reduced growth potential in Denmark, as well as changes in international demographics, global savings and financial uncertainty, cf. Adolfsen and Pedersen (2019).
- The model uncertainty and the unobservability of r* imply that the focus should be on the trend of r* and not the exact level.
- However, the secular decline in r* is a common and very robust finding across many economies and across models, including for Denmark.



Slide 3:

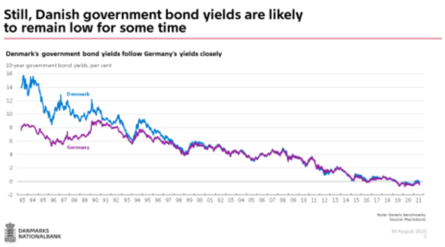
- Demographics is one of the key drivers of the secular decline in r*, and population projections can, among other indicators, serve as a guide for the future trend in r*.
- The demographic transitions can affect r* through three channels, see e.g. Brand et al. (2018):
    - A downward impact from lower labour input, which lowers the marginal product of capital.
    - A downward impact from higher life expectancies, which raises savings.
    - An upward impact from a higher dependency ratio, which lowers savings.
- Preliminary results based on a multi-period, two-economy, overlapping generation model (OLG) with financial frictions built at Danmarks Nationalbank suggest that demographic changes have affected r* negatively in Denmark for several decades, see Christensen and Pedersen (2021).
- We expect the projected increase in longevity to push r* down further in coming decades.
- Note, however, that the indexation of the retirement age to changes in life expectancies in Denmark should reduce the impact from increased longevity on r*.



Slide 4:

- Regarding fiscal sustainability, there has been a prominent discussion in recent years about the nominal interest rate level, r, relative to the nominal GDP growth rate, g.

- If r<g, the arguments goes that a government can issue debt and roll it over forever, and nonetheless the ratio of debt to GDP shrinks over time.
- In fact, a country with r<g may run a persistent primary deficit, and debt will not explode regardless of the level of such primary deficit.
- Since 1950, the long-term government bond yield in Denmark has been lower than the nominal GDP growth rate for slightly more than half of the time.
- The conclusion is broadly similar if one compares Danmarks Nationalbank's lending rate to the nominal GDP growth rate.
- Hence, r<g is not a given, a higher debt-to-GDP ratio will tend to raise r, while some of the structural factors that put downward pressure on r will also exert a negative influence on g.
- Still, it should be noted that r has been lower than g since 2012.



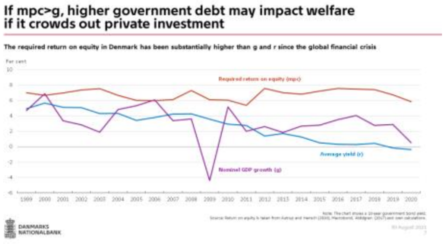
Slide 5:

- Since the late 1990s, Denmark's government bond yields have followed German government bond yields closely.
    - This reflects very small exchange rate movements between the euro and the Danish krone since the introduction of the euro.
    - It also reflects the fact that both countries have the highest credit rating from the three major rating agencies.
- The fixed exchange rate implies that Denmark imports the ECB's unconventional monetary policy.
    - Danish government bond yields have fallen in line with the lowering of German yields due to the ECB's unconventional monetary policy, cf. Jensen, Mikkelsen and Spange (2017).
    - This is due to the fact that ECB buying reduces the supply of German bonds for private investors. Some private investors rebalance their portfolio towards other bonds with similar characteristics, including Danish bonds.
- German bonds have a safe asset premium, which has risen since the European debt crisis, cf. Paret and Weber (2019).

- This likely reflects a combination of regulatory factors, flight-to-safety flows and the ECB's asset purchase programme, cf. Cœuré (2017).
- Danish government bonds are likely to continue to benefit from the safe asset premium of German bonds due to the strong fundamentals of the Danish economy and the credible fixed exchange rate regime.

Slide 6:

- In a fixed exchange rate regime such as Denmark, fiscal policy should be used to stabilise fluctuations in output and inflation, particularly in the event of significant diverging economic developments relative to the eurozone.
- In Denmark, fiscal policy did not stabilise output and inflation in the period leading up to the global financial crisis. At the time, fiscal policy contributed to the boom and likely the following downturn, cf. Pedersen and Ravn (2014).
- In a fixed exchange rate regime, the government should not pursue a persistently expansionary fiscal policy diverging from the one of the anchor region.
- If the government behaves imprudently and the economy is hit by a shock, the following may occur:
  - An increase in credit spreads, especially if fiscal policies stay on a non-sustainable path.
  - Pressure on the krone, which will necessitate higher policy rates to defend the fixed exchange rate.
- Both effects will tend to lead to an increase in r.
- Clearly, we are currently very far from such a situation in Denmark due to our low r*, strong fundamentals and AAA ratings, and the safe asset premium of German government bonds, which correlates closely with Danish government bonds.



Slide 7:

- The literature has pointed out that even if governments can roll over their debt forever in the case of r being lover than g, increasing debt may not improve welfare if g is lower than the marginal product of capital (mpc), see e.g. Blanchard (2019).
    - g<mpc is the condition for a dynamically efficient economy.
    - If g<mpc, increasing government debt could hurt welfare, as the higher debt level may crowd out private investments through an increase in r*.
- Slide 7 illustrates an estimate for mpc for Denmark based on the required return on equity, alongside the average yield, r, and the nominal GDP growth rate, g, cf. Autrup and Hench (2020).
    - The required return on equity has risen substantially relative to the nominal GDP growth rate and government bond yields since the global financial crisis.
    - To the extent that the required return on equity is an appropriate estimate for mpc, higher government debt may decrease welfare if it crowds out private investments.
- Note that the crowding out may also occur through an increase in government employment at the expense of private sector employment. This is potentially an important consideration in today's context.