Robert Holzmann
Governor
Oesterreichische Nationalbank

OPENING REMARKS

September 15, 2021

Raising r*: Why, how, and if not now, when?

Opening remarks at the SUERF-OeNB-Baffi Bocconi Workshop

Ladies and gentlemen,

Let me warmly welcome you to this workshop on "How to raise r*". It is a great pleasure to see that SUERF, Baffi Bocconi University and the OeNB have joined forces in bringing together such a fabulous group of experts to discuss this important and urgent topic!

Falling r*: Why a problem? How much do we really know?

The unobservable equilibrium real interest rate, called in central bank circles and academia r*, has been in decline across advanced economies over the last 30 plus years.[1] The decline is typically linked to declining productivity, population aging and an overhand of savings over investment. The fall in the estimated r* towards or below zero, together with very low inflation rates across much of the developed world, has brought policy rates close to the effective lower bound. Beyond that, it has led to the introduction of unconventional monetary policy measures. The use of these instruments was heavily accentuated with the economic fall-out of the Covid crisis.

---

[1] Brand et al. (2018), Borio et al (2017) Summers and Rachel (2019)

Chart 1 Range of point estimates of r* in the euro area obtained from econometric models

in %
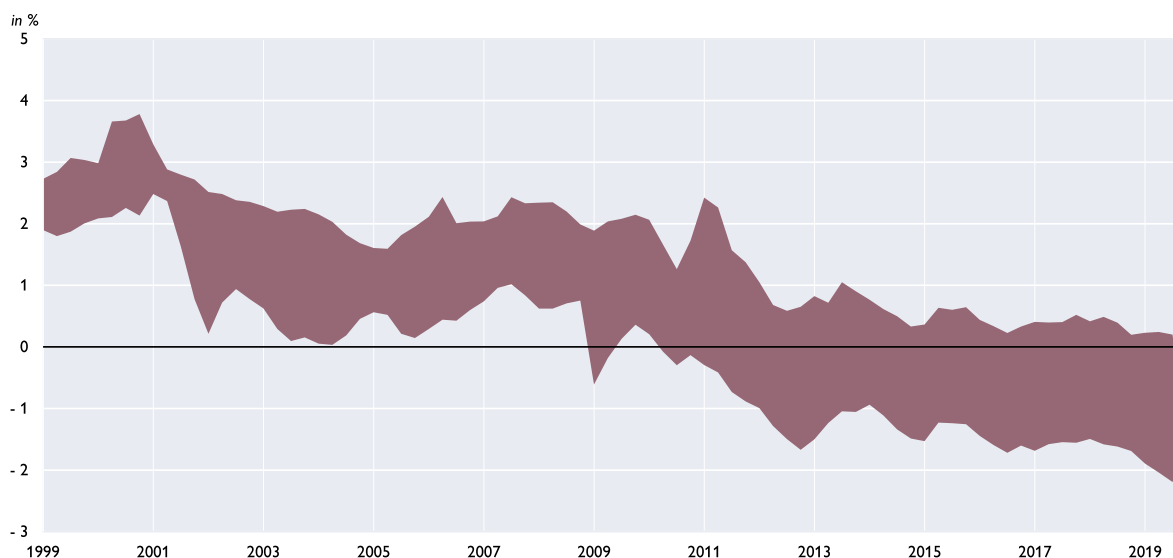
Source: *"The natural rate of interest: estimates, drivers, and challenges to monetary policy", OP, No 217; Ajevskis (2018); Brand, Goy, Lemke (2020); Brand, Mazelis (2019); Fiorentini, Galesi, Pérez-Quirós, Sentana (2018); Geiger and Schupp (2018); Holston, Laubach, Williams (2017); Jarocinski (2017); Johannsen and Mertens (2021).*

Notes: *Ranges span point estimates across models to reflect model uncertainty and no other source of r* uncertainty. The dark shaded area highlights smoother r* estimates that are*

Latest observation: *2019Q4*

Without a reversal of the trend for r*, the policy space for central banks will remain limited and economic perspectives dim. Central banks might have to extend current or implement new unconventional monetary policy instruments. While some argue that this is not a problem, because fiscal policy may step in and claim higher public debt is sustainable as long as interest rates remain low, this route is not promising, for several reasons: first, if inflation were to rise eventually, central banks would have to tighten policy, thus potentially provoking a sovereign debt crisis. This may question the credibility on their ability to safeguard price stability. A second, equally important reason why a reversal of the falling r* trend is urgent is that the underlying reasons themselves are a matter of concern since they cast a shadow on future living standards.

Let me briefly touch upon three issues, which will be taken up in more detail later in this workshop: **first**, how much do we really know about r* and its drivers? **Second**, which policies should be implemented to raise r*? **Third**, what is the relationship between r* and monetary policy? Can r* be regarded as a sound benchmark for interest rate setting?

1. How much do we really know about r* and its drivers?

Concerning the first issue, analytically it is not yet clear what the main drivers of r* are. The empirical link of the estimated r* trend and the trend of its main possible drivers remains weak, as Claudio Borio has elegantly shown in several publications.[2] One of the conjectured drivers of r* (increase in excess savings) stems largely from equilibrium conditions of optimal consumption

---

[2] Borio et al. (2017, 2019)

allocation (à la Ramsey equation[3]) mixed with partial-equilibrium considerations such as the demographic fallout of population aging. Furthermore, our knowledge of how to increase productivity remains as limited as the policy instruments available to increase productivity. The same applies to the demographic fall-out of population aging, albeit I have more analytical confidence and policy vision in this area where I have worked for many decades.

An issue which is just coming to the fore is the question of how climate change will affect r*. Many would contend that due to sunk capital, bad harvests etc., climate change might further dampen r*. Indeed, recent reports point to dramatic economic costs in terms of lost GDP and lower productivity from insufficient action on climate protection. Also climate protection and the transition process might be viewed as a negative supply shock, thus lowering r* temporarily. At the same time, an opposite argument could be made in the sense that the huge investment needed for climate protection will soak up global savings, thus potentially tilting the savings investment balance towards a shortage of savings. I am very curious what the views on this will be at this workshop!

2. Which policies should foremost be taken to raise r*?

One of the motivations to launch the Monetary Policy Strategy Review back in 2020 was exactly to adjust our strategy to the lower level of r* compared to the situation we had in 2003. Thus, much of the work done in some of the workstreams was devoted to exploring the implications of a lower r* for monetary policy, both in the past and for the future. For this reason, we have invited Eurosystem economists that participated actively in the Strategy Review to share their insights with us. I look forward to hearing and discussing with those that analyzed the effects of climate change, digitalization, and globalization on growth, potential output, productivity, or r* itself.

There are two further important aspects related to r*, and again we have invited prominent economists to discuss both. First, the implications of the monetary and fiscal policy mix for r*? Second, what policies should be taken to counteract the negative effects of population aging?

Fiscal and monetary policy interactions as well as the implications from and for r* were extensively discussed and analyzed not only during the Monetary Policy Strategy Review but also during the Covid crisis. It is clear that in many areas fiscal policy is better equipped than monetary policy at stimulating growth and productivity. The problem is that in countries with the largest needs the fiscal space may also be constrained the most. Let me connect this aspect with one of the drivers of r*: the disequilibrium in the savings-investment identity. Some argue that safe asset scarcity could be solved by governments or the EU issuing more debt. In my view this could be self-defeating when higher debt ratios threaten debt sustainability. The problem has to be solved by channeling excessive savings to more productive investment, while increasing the demand for savings by stimulating investment. This would also contribute to increasing the supply of safe assets if debt ratios fall and fiscal positions are improved. I am convinced that an ultra-loose monetary policy is not the best tool to achieve this. Fiscal and structural policies are much better equipped to stimulate investment in productivity-enhancing technologies. E.g., fiscal policy can
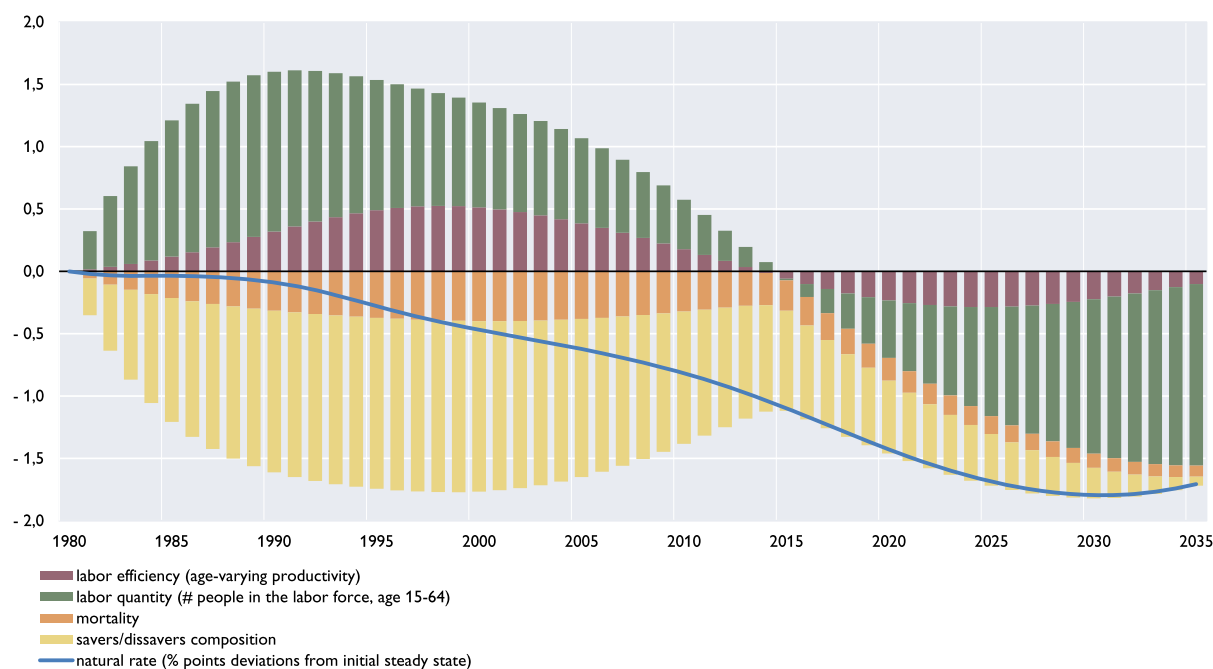
---

[3] The Ramsey equation states that along the optimal path, the rate of return from saving (i.e. deferring consumption) has to equal the rate of return on consumption. Ramsey (1928)

contribute to increasing the level of human capital, which could facilitate diffusion and adaptation of new technologies, therefore boosting productivity.

Chart 2 Demographic drivers of euro area r* estimates

in %

- labor efficiency (age-varying productivity)
- labor quantity (# people in the labor force, age 15-64)
- mortality
- savers/dissavers composition
- natural rate (% points deviations from initial steady state)

Source: Papetti (2018).

Second, let me share with you what I think should be done to address aging. An aging population dampens r* through several channels. While an increase in savings for retirement depresses r*, a smaller labor force decreases productivity by decreasing the marginal return on capital. Also, the hump-shaped productivity profile of individuals leads in the aggregate to lower productivity as the elderly get more numerous and this may have accentuated the claimed negative effects of rising income inequality on r*. Last but not least, as population aging is not only driven by higher life expectancy but also lower fertility rates in industrial countries, the resulting lower labor force growth directly affects r* (a la Samuelson′s natural rate of interest). In contrast, a higher dependency ratio decreases the savings ratio and should thus have the opposite effect on r*, as argued by Charles Goodhart. So far, this last possible positive effect on r* has been more than compensated by the negative effects.

Fortunately, there are some steps that can be taken to solve some of these problems. First, there is an urgent need to increase the retirement age. This would not only increase the labor force level and growth during the initial catching-up phase, but also permanently if the retirement age were indexed to longevity progress. This measure would also reduce the fiscal burden for pay-as-you go pension systems and decrease the need to save for retirement. Furthermore, we should also implement policies aimed at increasing labor participation, for example, by encouraging higher labor participation of women and marginalized groups.

3. The relationship between r* and monetary policy – a simple decision tree

Let me now turn to the relationship between r* and monetary policy by distinguishing three cases, like a simple decision tree. There are three cases:

Case 1: r* is exogenous with respect to monetary policy. In this case, monetary policy can do nothing about r*. As a corollary, there is also no risk that monetary policy would do anything undesirable to r*. It is for other policies as described above to take the necessary measures. So much for the bad news. The good news is, first, central banks can use moral suasion to convince governments to implement necessary but often unpleasant structural reforms. An event like today's falls in this category. The second good news would be that we could use r* as a reliable guidepost for monetary policy setting. So, our life as central bankers would be fairly simple; we might more or less pursue a simple rule (albeit the effective lower bound on interest rates and the use of non-conventional instruments has made such a rule far from simple in practice, bringing central banking closer to an art again…).

However, even if the complication of unconventional instruments were not here, it is doubtful that a central banker's life is really so simple. There are good reasons to hypothesize that r* actually is endogenous with respect to monetary policy, in other words, monetary policy itself affects r*. Again, there are two cases, a benign one and an unpleasant one. Let me start with the benign one.

Case 2a: r* is endogenous with respect to monetary policy. Expansionary monetary policy also encourages productive investment and incentives for more R&D. Thus, besides its short-run effect, expansionary monetary policy also raises long-term productivity growth and potential output. This view goes in the same direction as the Keynesian hysteresis argument. By supporting growth, employment and firms in the short term, monetary policy would prevent long-term damage to the economy and, might, in the extreme, even support long-term productivity, growth and thus r*.

This unfolding of events would be really welcome. Is it likely? We do not know, and indeed one should at least raise serious doubts about it. In fact, although monetary policy has been highly accommodative for many years, we have not seen an increase in inflation, nor in productivity and estimates of r* remain close to zero. Besides the euro area, the example of Japan is even more telling. We are very happy to have an expert on the Japanese experience with us here today.

If the positive effects dominate and we can increase r* with an accommodative monetary policy, we could still use r* as a guidepost, since the errors we would make would be beneficial. Over time, r* would increase and therefore we would gain policy space, which should also facilitate exit from the low interest rate environment.

There are three possible explanations for the persistently low inflation and productivity growth. First, we are either confronted constantly with negative shocks or find ourselves in a low-growth equilibrium from which we are not able to leave. Second, monetary policy might not be as accommodative as we think, this would imply we are mismeasuring the output gap or r* itself.

The third possible explanation leads me to **Case 2b in my decision tree: In this case, an expansionary monetary policy, particularly if it were highly expansionary and for a very long period, would encourage unproductive investments, keep**

unproductive firms alive for longer, bind capital and labor in these activities and keep them from seeking more profitable activities. If this were the case, then such expansionary monetary policy in the long run depresses r* even further and leads to a vicious circle of lower productivity growth, even lower r* and more expansionary and unconventional monetary policy in an effort to stimulate aggregate demand by pushing interest rates below r*.

Clearly, this scenario would be highly undesirable. It would entail lower output and welfare, it would further erode the policy space for monetary policy, it would create more pressure on – and due to the very low interest rates: also stronger incentives for – highly expansionary fiscal policy, ultimately endangering fiscal sustainability and central bank independence. It is only a small step to imagine scenarios of fiscal dominance in this case. Clearly, in such a scenario, using r* as a guidepost would be self-defeating since we would erode our policy space by depressing growth and productivity even further.

Monetary policy should, to the extent possible, support policies to increase productivity and potential output without prejudice to the price stability target. At the current state of economic knowledge, the effects of an accommodative monetary policy on productivity and on r* are, however, ambiguous. We could thus be doing more harm than good with an ultra-loose monetary policy if the negative effects dominate. More research efforts should be dedicated to clarifying these effects. In the meantime, we should err on the side of caution, recognize the limitations of monetary policy, take potential real and financial side effects very seriously, and focus our attention on other policy areas to raise r*.

4. If not now, when? What are we waiting for?

Let me summarize: The current mainstream assumption is that r* is exogenous to monetary policy. r* is therefore regarded a useful guidepost for monetary policy decisions, despite the uncertainty surrounding its measurement.

However, r* may also be endogenous with respect to monetary policy. If anything, so far policy makers consider only the benign case that expansionary monetary policy might prevent hysteresis and thus help to prevent a further reduction in r*. But the unfavorable case of a vicious circle between highly expansionary monetary policy for very long and an even lower r* cannot be discarded. Monetary policy should thus adopt a cautious approach on this.

What I think we can all agree on is that there is a need to increase r* for reasons that go beyond monetary policy decision making. This implies that fiscal and structural policies urgently need to implement policies that contribute to solving the population aging problem and to fostering productivity. As central bankers, we can, and should, use moral suasion to encourage such policies.

The purpose of this workshop is to offer an opportunity to bring brilliant minds together to explore the options we have and should pursue to raise r*.

Chart 3: Stylized decision tree on relationship between monetary policy and r*