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WELCOME REMARKS

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Check against delivery!

Monetary policy in uncertain times: Towards robustness and resilience

Opening remarks for the 50th OeNB Economic Conference and the 60th SUERF Anniversary Conference on 22 May 2023¹

Ladies and Gentlemen!

Let me start by thanking you all for joining us, both virtually and in person. I would also like to extend my sincere gratitude to the distinguished speakers, panelists and researchers who have agreed to honor us with their contributions to this event. A heartfelt “thank you” also goes to the OeNB and SUERF teams behind this event. In fact, this year’s edition of our conference marks a double anniversary. In 2023, we celebrate 50 years of OeNB Annual Economics Conference and 60 years of SUERF. Our long-standing joint efforts are a testament to the strong cooperation which we have successfully pursued for several decades.

I must say I personally have come to believe in the “prophetic capacities” of OeNB-SUERF annual conferences. For last year’s conference, we convened in late 2021 to decide on the main conference theme. Back then, we thought it would be wise to ask whether we would see a “return of inflation” in 2022. As you know, reality sadly answered this question extremely clearly. If you remember, in my opening speech last year I even had to replace the question mark in the conference title with an exclamation mark!

For this year’s event, we came together a couple of months ago and concluded it would be a good idea to organize a conference focusing on how to render our monetary policy more “robust and resilient” to shocks – only to experience significant turmoil on financial markets in spring. So, I

¹ I want to thank Kilian Rieder for his excellent research and support to these opening remarks.

am asking myself: what will come next? Perhaps we need to think about formulating more positive and optimistic conference topics. In any case, I should emphasize that our “prophecies” are purely Delphic in nature, and certainly not intended as Odyssean.

Defining robustness and resilience

On a more serious note: it seems obvious that a conference discussing robustness and resilience in policymaking requires a clear definition of these two terms as a starting point. Surprisingly, however, definitions are often missing when these terms are referenced in the contemporary press and academic work. For some, robustness and resilience even appear to have become quasi-synonyms, despite the fact that – as I am going to argue – their precise meaning is quite different. Being a central banker, I will always argue for using exact language to avoid misunderstandings when talking about our policies and how we wish to reform them: as you certainly know, and as *Session 3 tomorrow afternoon* will again emphasize, when it comes to monetary policy communication, a few words can make a huge difference for markets and the general public.

With this in mind, how are robustness and resilience defined? Robustness is understood as the ability to withstand shocks or changing conditions as they happen, all while remaining fully functional (Jen, 2003; Bankes, 2010; Mens et al., 2011). Hence, robustness clearly differs from stability, as the latter concept refers to the ability to maintain one’s current actual state, rather than maintaining functionality. In other words, I would call a policy robust if it continues to work well in the presence of shocks or under different conditions. More casually, one could also say a robust policy is an externally valid policy. To give you a concrete example, one could argue that conventional monetary policy did not prove robust to changing conditions. Both the effective lower bound on nominal interest rates in advanced economies and temporary impairments to the transmission mechanism in the euro area significantly reduced the ability of conventional monetary policy to achieve its price stability goal during the last decade.

Note that a robust policy can be very different from a resilient policy. Deriving from the Latin verb *resilire*, which means to bounce (back) or rebound, resilience may be defined as one’s ability to return to a stable equilibrium after a shock has caused dislocation (Davoudi et al., 2012; Alexander, 2013; Bond et al., 2014). For this reason, I think of resilient policies as policies that safely guide the system for which they were designed back to its pre-shock equilibrium. From this perspective, the last decade does not only suggest that conventional monetary policy was not always robust – it was not fully resilient either. In the face of the binding effective lower bound, conventional monetary policy alone would have likely proved incapable of steering the euro area out of looming deflationary spirals and back to its pre-shock equilibrium.

Reflecting on robustness and resilience in policymaking

These definitions raise several important questions. First and foremost, how are the concepts of robustness and resilience related to each other? At the very least, the definitions above suggest that enhancing the robustness of a policy does not necessarily raise its resilience, and vice versa. One could even imagine a certain trade-off: a highly resilient policy that is effective in bouncing a

system back to its very specific pre-shock equilibrium state is unlikely to be highly robust as it might be quite idiosyncratic, i.e. tailored to a specific system.

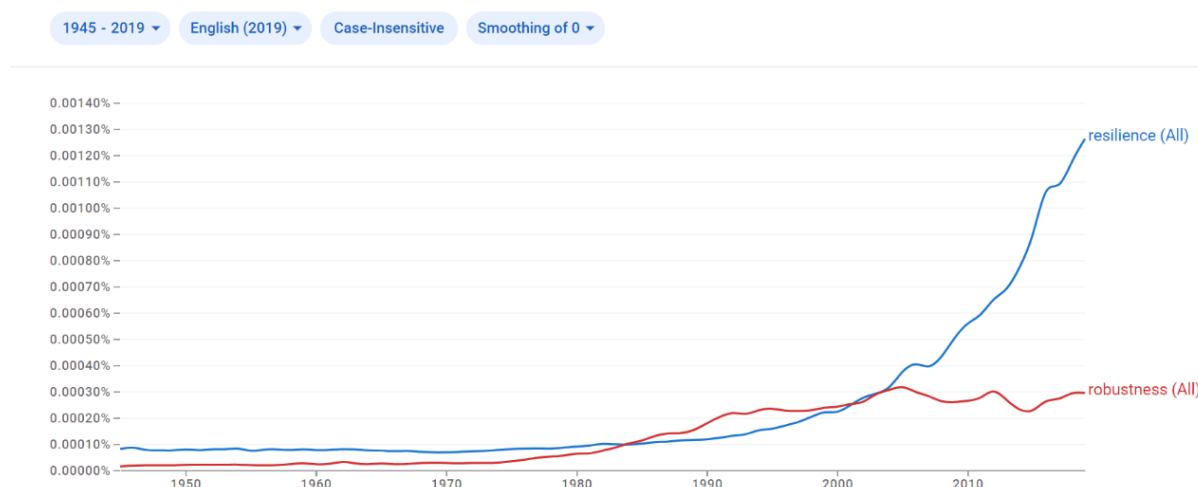
Second, how do robustness and resilience relate to optimal policymaking? As a rule, neither fully robust, nor fully resilient policies necessarily maximize aggregate welfare. The degrees of robustness and resilience that are preferable from an aggregate welfare perspective depend on the probability of shocks, the likelihood of changes in the environment and the desirability of a return to the pre-shock equilibrium.

Third, turning to robustness and resilience separately, who determines whether a given policy has effectively remained functional in the presence of a shock? What does policy functionality involve in the first place? When it comes to devising resilient policies, does resilience require a bounce-back to the pre-shock equilibrium within a given time? And if so, who determines how long this lag should effectively be? Finally, and perhaps most fundamentally, what are “shocks” in the sense of the definitions mentioned above? All these questions are non-trivial, and I am looking forward to the *opening keynote and Session 1* shedding more light on them in the context of monetary policymaking.

Robustness versus resilience: where do we stand?

Moving on from normative to positive questions, where do we now stand when it comes to the balance between robustness and resilience in modern policymaking? You may have heard of the Google Ngram Viewer: it allows to search for word frequency data over time in a vast collection of millions of books scanned by Google. I could not resist the temptation and plotted the frequency of the two terms: “robustness” and “resilience” in the English book corpus between 1945 and 2019. Naturally, the resulting patterns need to be interpreted with the usual degree of caution for these types of correlations over time. Yet, I found them quite surprising. As graph 1 shows, we seem to have entered an era of increasing literary dominance by one of the two concepts since the mid-2000s: resilience.

Graph 1²



This is not the place to speculate about the reasons for this trend, but let me just mention that it can be observed in the German corpus too (see graph 2 in the appendix). It would also be really interesting to see how the recent pandemic and the current high inflation environment shaped the relative frequencies. Sadly, the current Google Ngram Viewer database ends in 2019. Instead, I would like to pause for a moment and reflect on what a potential trend toward resilience – were it to extend beyond the world of books – could mean for the design of policy and whether we should think of this trend as something unambiguously positive.

The pitfalls of resilience

Let me start my excursion by making a simple point about the concept of resilience. Recent examples suggest that this term tends to be used to inspire confidence, for example in the context of heightened financial volatility. For instance, reacting to the failure of Silicon Valley Bank, the US Treasury, the Federal Reserve and the Federal Deposit Insurance Corporation issued a joint statement on 12 March 2023 that closed with the following sentence: “*The U.S. banking system remains resilient and on a solid foundation, in large part due to reforms that were made after the financial crisis that ensured better safeguards for the banking industry.*”³ Similarly, on 19 March 2023, on the occasion of the state-brokered takeover of Credit Suisse by UBS in Switzerland, ECB President Christine Lagarde stated that “*the euro area banking sector is resilient, with strong capital and liquidity positions.*”⁴ Note that while both statements explicitly mentioned resilience, neither included any reference to robustness.

² Live link to this graph on Google Books Ngram Viewer (last accessed 2 May 2023):

https://books.google.com/ngrams/graph?content=resilience%2C+robustness&year_start=1945&year_end=2019&case_insensitive=on&corpus=en-2019&smoothing=0

³ The statement can be read in full on the US Federal Reserve’s website (last accessed 19 April 2023):

<https://www.federalreserve.gov/newsevents/pressreleases/monetary20230312b.htm>

⁴ The statement can be read in full on the European Central Bank’s website (last accessed 19 April 2023):

<https://www.ecb.europa.eu/press/pr/date/2023/html/ecb.pr230319~744758829c.en.html>

As suggested above, high resilience implies a full return to the pre-shock equilibrium. Although this sounds like an unconditionally desirable feature, not everything about it may be rosy. Most importantly, the successful return to a prior equilibrium point alone does not at all guarantee that the sources of instability or risk that characterized the pre-shock equilibrium are sufficiently resolved (Capano and Woo, 2017). What if the pre-shock equilibrium is bad in the sense that it endogenously produces shocks? In other words, what if high policy resilience reproduces dynamics that regularly generate turbulence (MacKinnon and Derickson, 2013)? By definition, the concept of resilience has a bitter aftertaste. It begs the question of whether a policy system should merely aspire to become resilient to shocks or whether it should seek to adapt or transform to preempt shocks in the first place.

Let me illustrate this point with a concrete example. While the debate is still ongoing, so-called unconventional monetary policy (UMP) may have partly enhanced the resilience of the euro area to large recessionary shocks and impairments of the transmission mechanism. Yet, these policies do not address the underlying weaknesses that caused the predicament for our conventional tools in the first place: UMP *per se* does not reduce the future probability of hitting the effective lower bound, nor can it replace sustained capital market integration in the medium to long run. To resolve these problems, we need to go beyond mere resilience and openly discuss new remedies such as asymmetric reaction functions, makeup strategies, structural policies to raise the equilibrium real rate, r^* , and measures to foster a true capital markets union.

In the following, I will intentionally not focus on further ramifications for prices, expectations, monetary or fiscal policy, as the conference features *two excellent academic sessions and one policy session related to this topic tomorrow*. Instead, and to provide a little teaser for the discussion on the *high-level policy panel this afternoon*, I will concentrate on financial stability policies and financial regulation.

Resilience and moral hazard in the financial system

It is widely known that well-intentioned policy responses to financial turmoil can be a hotbed for future financial stability risks. Lending of last resort and deposit insurance serve as prominent examples.

While effective lending of last resort can mitigate the negative financial and real effects of liquidity shocks (Carlson et al., 2011; Richardson and Troost, 2009), it is frequently associated with the notion of moral hazard (Freixas et al., 1999). Counterparties that experienced a functional lender of last resort during past episodes of liquidity distress may become tempted to “bank” on the safety net provided by the central bank. As observing and learning agents, they form expectations based on their experience and project them forward. Anticipating central bank support, counterparties thus have an incentive to downsize their holdings of non-interest-bearing liquid assets (Calomiris et al., 2021; Anderson et al., 2020; Carlson and Wheelock, 2018). This behavior may significantly increase the financial sector's reliance on central bank funding to buffer future dislocations (Rieder et al., 2023). By reducing aggregate private financial sector liquidity, individually optimal behavior can diminish the financial system's ability to cope with future systemic shocks or

contagion, and endogenously increase the probability of future crises. Hence, the lender of last resort is a case in point for a policy that makes the financial system more resilient but does not necessarily address the underlying weaknesses generating the vulnerability to regular shocks. Worse still, due its moral hazard implications, a functional lender of last resort can even compound this vulnerability.

Deposit insurance is a second infamous example to drive home the same point. While deposit insurance reduces liquidity risk in the short run, it encourages reckless behavior by banks: it removes the market discipline that would otherwise constrain uninsured financial intermediaries, e.g. via funding withdrawals by monitoring investors (Calomiris and Jaremski, 2019). Unless accompanied by specific design features to prevent moral hazard and adverse selection, deposit insurance is historically associated with increases, rather than decreases in systemic risk (Calomiris and Jaremski, 2016).

Lest we forget robustness

Ask yourself: when did you last review the balance sheets, investment strategy, and profits and loss statement of your home bank? Well, there you have it: over time, the public safety net dissipated our monitoring incentives and we grew accustomed to delegating bank monitoring to specialized institutions – financial market and banking supervisory authorities. To be sure: both lending of last resort and deposit insurance represent valuable tools to nip financial panics in the bud. Yet, their side effects need to be checked.

Today, centrally monitored, stringent liquidity and capital standards for banks are our first line of defense against morally hazardous behavior deriving from resilience-enhancing policies such as lending of last resort and deposit insurance. Minimum standards serve to prevent unsound practices. In addition to binding regulation, two other elements are key. First, stress tests that subject banks to adverse scenarios and analyze their capacity to withstand future, yet unseen shocks. Second, actionable resolution and restructuring plans for inviable banks are crucial to credibly check bail-out expectations in case of insolvency and to forestall too-big-to-fail standoffs. As you might have guessed, regulation, stress tests and orderly resolution belong to the realm of robustness-enhancing rather than resilience-enhancing measures. While not necessarily returning the financial system to the pre-shock status quo, these policies are designed to allow the system to remain functional under changing conditions, that is, in the presence of a previously unknown shock or when an individual bank gets hit hard by idiosyncratic risk or fails.

Conclusion: recent events, resilience and robustness

What do recent research and events tell us about how we do on the robustness front when it comes to safeguarding financial stability? To be frank, the evidence is mixed at best. The effectiveness of prudential regulation has long been questioned on the basis of incentive problems: public bank supervisors may not have the same “skin in the game” as do investors of uninsured financial intermediaries (Calomiris and Jaremski, 2016). Others have argued that higher safety buffers are not empirically associated with lower odds of banking crises in the long run (Jordà et

al., 2021). Moreover, in some parts of the world, initially stringent liquidity and capital standards devised in the aftermath of the 2007–2008 financial crisis have been significantly watered down since. If one believes political economy explanations, this should not come as a surprise: deposit insurance can result from a political motive to subsidize risky banks (Calomiris and Haber, 2014). From this perspective, it would defy logic if prudential regulation were too effective in preventing risk-taking as this would diminish previously extracted economic rents. How to avoid succumbing to these temptations is an important question for future robust regulatory policy design.

Stress tests have helped to gauge the extent of exposure to future risks such as climate change (ECB, 2022). At the same time, such “innovative” stress test scenarios should not distract us from keeping an eye on more basic, short-term developments. Recent evidence suggests that US stress tests failed to encompass – with hindsight fairly obvious – scenarios that eventually led to the demise of Silicon Valley Bank: pronounced and fast interest rate hikes (Mason and Mitchener, 2023).

Finally, when it comes to resolution and restructuring plans, the recent takeover of Credit Suisse by UBS serves as a wake-up call to regulators around the world. Despite many years of preparation, the resolution plans for Credit Suisse were still incomplete in 2022 (FINMA, 2022). Moreover, it remains unclear whether the Swiss Financial Market Authority would have implemented these plans even if they had been ready: the resolution of Credit Suisse was deemed too risky for Switzerland’s financial industry (Stuart, 2023).

Let me stress that, from the point of view of the euro area, the US and Swiss experiences leave absolutely no room for *Schadenfreude*, nor for complacency: we need to make sure now that our tools are fully functional, rather than mere paper tigers. In order to be robust and resilient, policies must preclude any inability or unwillingness on the part of policymakers to use the full arsenal of tools when push comes to shove. Reneging on such policies would only fuel moral hazard.

Thank you.

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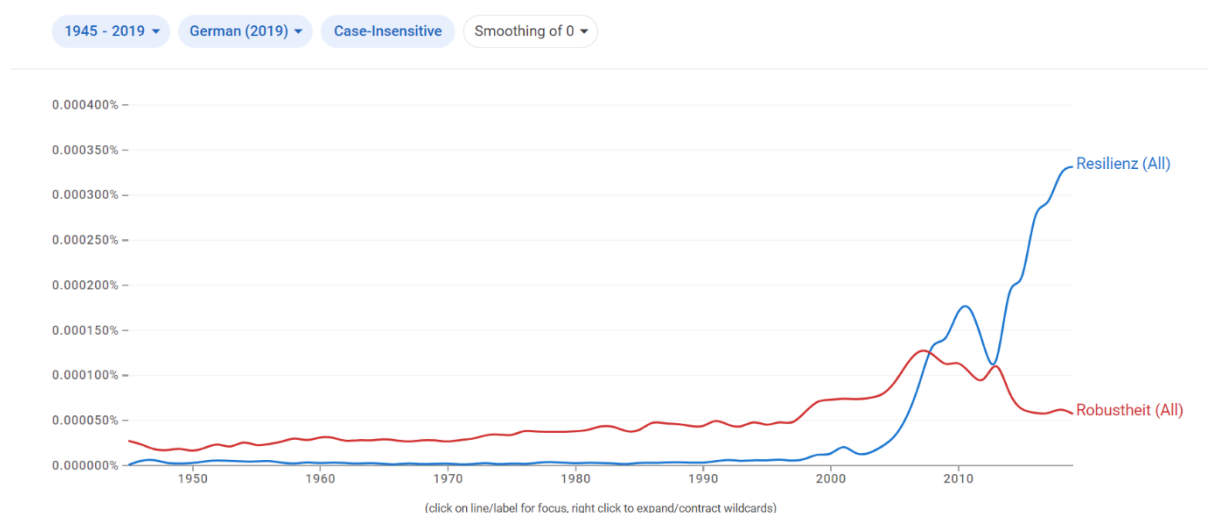
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APPENDIX

Graph 2⁵



⁵ Live link to this graph on Google Books Ngram Viewer (last accessed 2 May 2023): https://books.google.com/ngrams/graph?content=Resilienz%2CRobustheit&year_start=1945&year_end=2019&case_insensitive=on&corpus=de-2019&smoothing=0