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The Inflation Attention Cycle

Updating the Inflation Perception Indicator (IPI) up to February 2023 – a Research Note

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1 Introduction - Attention, Expectations and the News Cycle

A year ago, we set out to gauge the reporting patterns of (German) media with regard to inflation (Müller et al. 2022). Back then, the European Central Bank (ECB) hadn't even started raising interest rates, although consumer prices had been running above the two percent target for some time and kept on rising. The rationale behind our Inflation Perception Indicator (IPI) is the notion that there is a link between media coverage and expectations. As company executives, employees, and consumers obtain information about the macro economy from television, news websites, or newspapers, media content influences conceptions of price dynamics.

As Andre et al. (2021) have shown for the US, people's views on the causes of inflation go hand in hand with the reporting of the media brands they consume. Different perceived causes lead to differing expectations about the length of an impending inflationary period: If you believe soaring energy prices and strained supply chains were the main causes of inflation, you'd expect a more or less automatic slowdown of price rises, once these bottle necks have been worked out. In contrast, if you think that macroeconomic institutions (central banks, governments) are to blame for inflationary dynamics, you'll likely assume inflation to last longer. That's why the IPI model is calibrated to carve out the perceived causes and consequences of inflation, as they are reported by the media.

With respect to the gross volume of reporting, there is a connection to the "rational inattention" approach (for an overview, e.g., Maćkowiak et al. (2023)). People do not need to concern themselves with the specifics of the current state of macroeconomic affairs as long as things are going well. When growth is robust and inflation low and stable, there are plenty of issues to pay attention to that are more interesting, and more entertaining. This calculus changes, however, when things are not running smoothly anymore. When inflation is gaining speed, people start paying attention closely, as they strive to adapt to altered macroeconomic circumstances. As Federal Reserve chairman Jerome Powell stressed in his 2022 Jackson Hole address, "inflation has just about everyone's attention right now, which highlights a particular risk today: The longer the current bout of high inflation continues, the greater the chance that expectations of higher inflation will become entrenched" (Powell 2022). The volume of inflation-related reporting matters, because otherwise inattentive economic agents start paying attention and shift their expectations upwards, thereby potentially inducing further deviations from the goal of price stability.

To be sure, pointing out problems is the supreme role of journalism. When detrimental developments materialize, the media start reporting intensively. They address an issue with priority, which amounts to moving it upwards on the political agenda (Camargo et al. 2021; McCombs and Shaw 1972; McCombs et al. 2013). News cycles, or issue-attention cycles, typically follow a pattern where different aspects of an issue are stressed by the media in sequential ways (Downs 1972; Lörcher and Neverla 2015; Waldherr 2014). In modern-day media environments these patterns can amount to rather extreme outbursts of public attention encompassing not only traditional media, but also social media and other parts of the public sphere, a phenomenon Waisbord and Russell (2020) refer to as "news flashpoints".

The media stress what's new and problematic, but attention wanes eventually as newness fades, no matter if the underlying problem passes or persists. This type of media mechanism should have consequences for expectation formation. In the first phases of an attention cycle, rational inattention is overcome by the sheer volume of reporting, prompting economic agents to watch events closely and adjust their expectations accordingly. As media attention peters out, people revert to inattention. Expectations remain unaltered, even if economic conditions change. In our case, inflation expectations would stay at elevated levels somewhat irrespective of actual price developments, bar the emergence of another attention-arousing news shock. Hence, it would be media mechanisms that contributed to the well-known stickiness of inflation expectations (Carroll 2003). The resulting recognition lags of households and firms may complicate the central bank's job to rein in inflation.

This research note focuses on recent development of the inflation attention cycle that took off in the fall of 2021. It considers both the volume of reporting and the perceived causes and consequences, as they show up in the data up to 28 February 2023. We make use of a dynamic version of Latent Dirichlet Allocation (Blei et al. 2003), RollingLDA (Rieger et al. 2021), that allows for fitting new data to stochastic topic models in a consistent way. The specifics of the method and the database are identical to the ones described in Rieger et al. (2023).

We are happy to share the data with other researchers on request.

2 Results: When Inflation is Getting Boring

Figure 1 shows the overall volume of inflation reporting detected in our analysis corpus between January 2001 and February 2023. Over most of this period, inflation is only a minor news item. Even during the globalization boom preceding the global financial crisis of 2008, when consumer prices rose at an annual rate of three per cent at times, the newspapers represented in our corpus refrained from ringing the alarm bell. Over much of the observation period, the small swings in the IPI curve indicate that media coverage reacted to data releases, forecasts, or central bank decisions. But these events hardly kicked off issue attention cycles worth the name.

All this changed in the fall of 2021. When inflation rates kept rising after the Covid-19-induced shutdowns had ended, reporting on inflation became ever more intense. The IPI set off for an upswing that lasted for a year. At its maximum in September 2022, inflation-related content contributed 17 per cent to overall news coverage, up from merely four per cent in August 2021. Since the peak in September, however, inflation coverage has been slowly declining. In February 2023 it was still at 13 per cent. But this decline is somewhat out of sync with actual developments, as inflationary pressures have hardly receded. German CPI inflation remained stubbornly high at 8,7 per cent in January and February 2023; core inflation (without energy and food) even kept rising, to 5,7 per cent in February, almost three times the ECB's target.

In terms of Down's 1972 taxonomy of issue-attention cycle phases, we seem to be at the

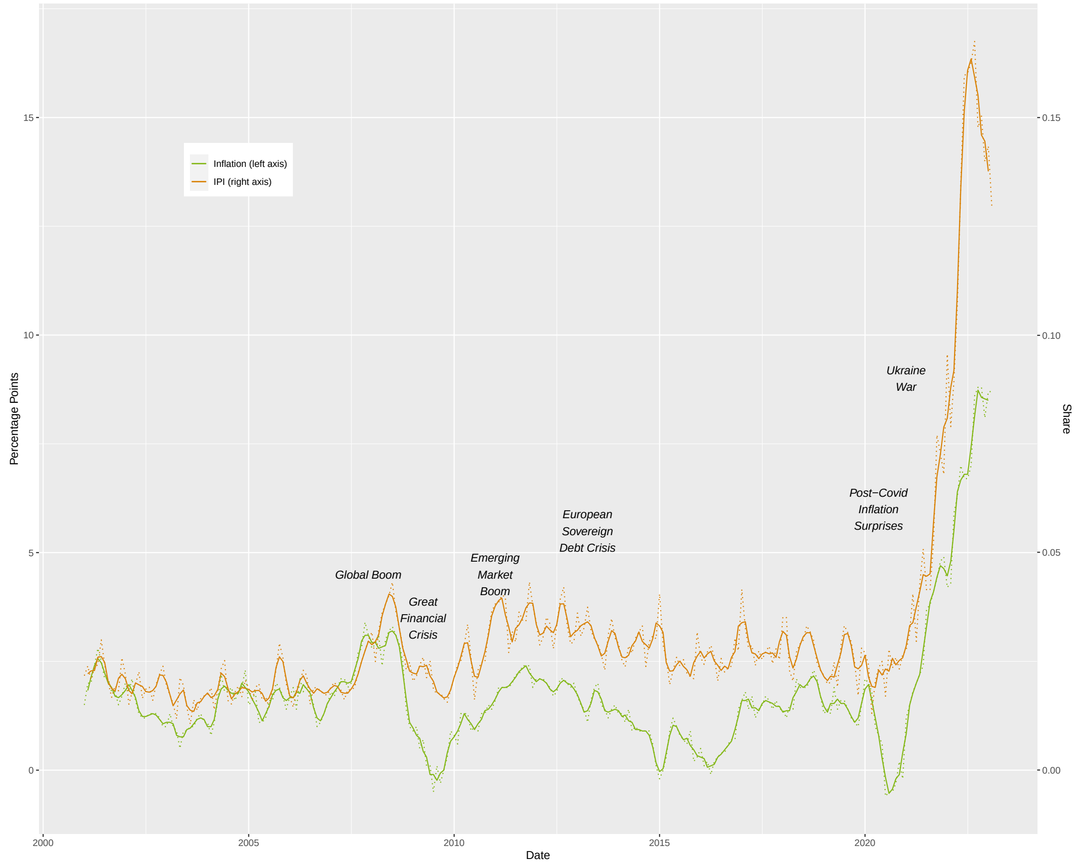

Figure 1: Inflation (CPI for Germany, y-o-y percentage change) and overall IPI (rhs) (analysis corpus relative to entire news coverage). The graph shows the three-month moving averages and monthly data (dotted lines). Source: Destatis, the authors

end of phase 3. After a very long "pre-problem phase" and a period of discovery that there actually is a problem (phase 2), the media, and the public in general, realize "the cost of significant progress" and that solving the problem would require "sacrifices by large parts of the population" (p.40), i.e., (re)-distributional aspects take center stage. Who is to bear the costs and who might benefit from policy measures becomes the main occupation of the debate. During phase 3 media attention peaks, before it declines significantly in phase 4, when more and more people realize how hard it is to get to viable solutions and become discouraged or distracted. In phase 5, the "post-problem stage", the bygone bout of attention becomes part of collective memory, leading to low levels of attention, with occasional "spasmodic recurrences of interest" (Downs), when events occur that fit the frames established during the original attention cycle.

With regard to current inflationary developments, distributional issues have risen in prominence in recent months. While concerns over loose monetary policy were voiced in German media coverage for many years, even in periods when inflation was very low during the long pre-problem phase, it has declined since October 2022. Figure 2 depicts the IPI model's four topics related to different causes of inflation: monetary and fiscal policy, labor markets and social transfers, as well as raw materials.

With the start of Russia's assault on Ukraine in February 2022, monetary policy ceased to be named a major contributor to inflation, whereas wages, transfers, subsidies, tax cuts and other fiscal measures meant to ease the burden of inflation have risen in prominence. This is all the more remarkable, as monetary policy in the eurozone reacted very late to rising inflation. Instead, distributional issues – or second-round effects – have come to the fore: collective bargaining agreements and social transfers, captured by the topic "German Politics", have striven to alleviate the erosion of households' real incomes. We expect the decline towards the end of the observation period to be only temporary, as wage demands rise and strikes become more wide-spread. The topic "Eurozone", in turn, captures fiscal measures meant to cushion the effect of high energy bills for citizens and firms in Germany and elsewhere in the common currency area. It also includes the heated debate about subsidies targeted at speeding up the green transition, kicked off by the US administration's "Inflation Reduction Act". While there is some misassignment here in our model – after all, the IRA is less about reining in price pressures, as the program's name suggests, than about incentivizing corporations to invest in carbon-reducing technologies in the US – the topic captures the reluctance of governments to keep on spending, even if from a macroeconomic perspective dampening aggregate demand would be helpful in getting inflation under control. Social spending as well as an ensuing global subsidy race for green technologies, critical raw materials, and advanced computer chips has the potential to boost demand at a time when more restrained fiscal positions would be warranted.

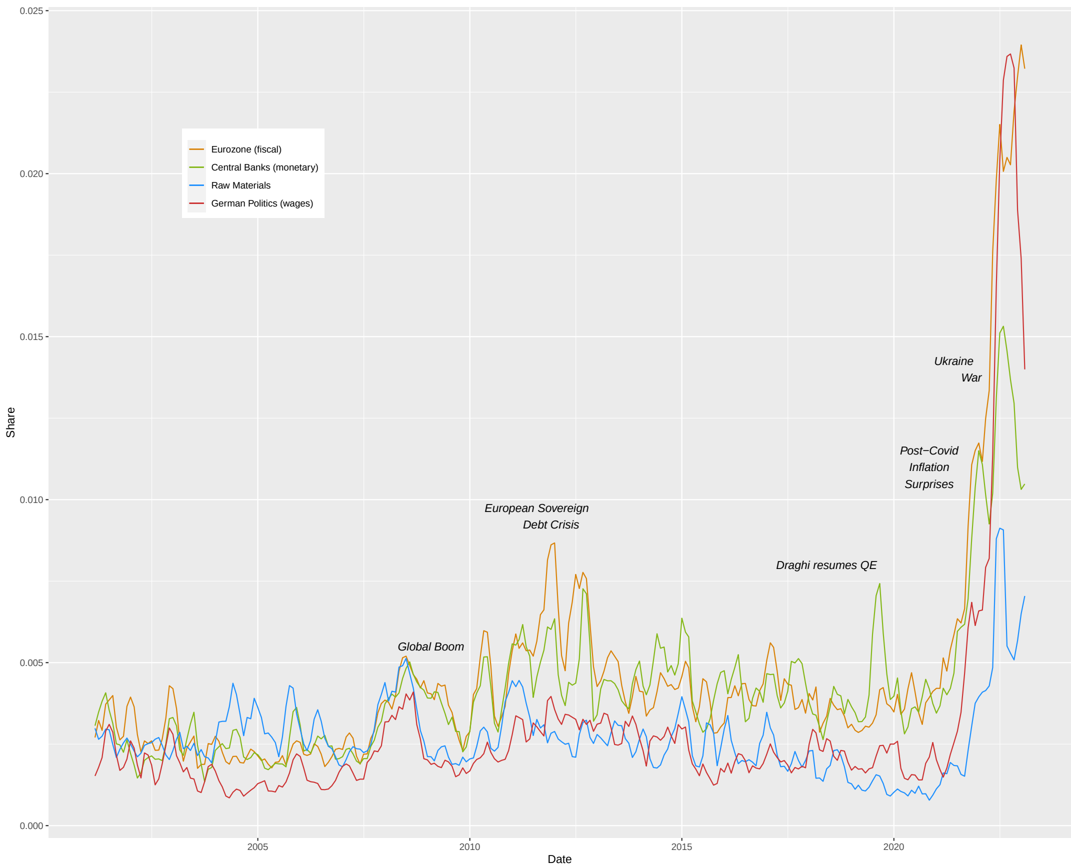

Figure 2: "Causes" IPI topics (three-month backward-looking moving averages). Values are weighted with the IPI to show their development in relation to the entire news coverage. Source: the authors

To arrive at a clearer picture of the current inflation attention cycle, figure 3 depicts the combined frequency curves of the IPI's causes and consequences topics, as well as changes in annual CPI.

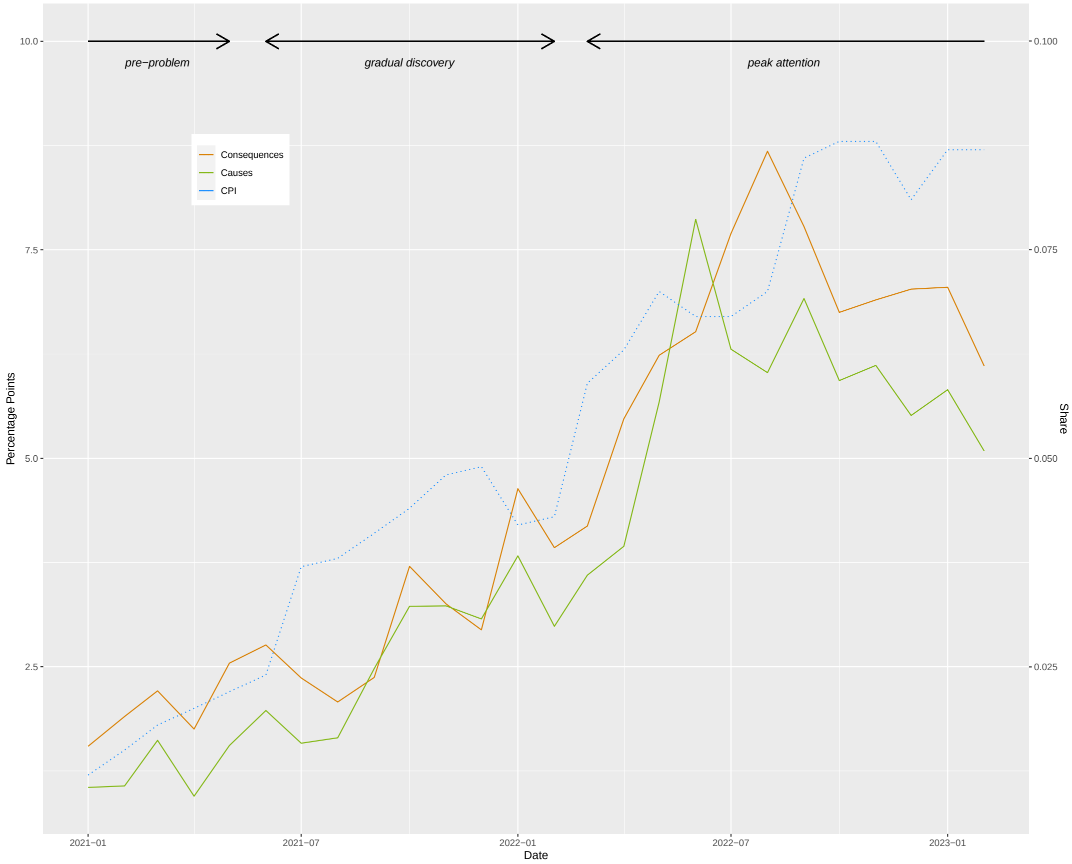

Figure 3: Share of overall news coverage, annual percentage change; causes topics: Central Banks, Eurozone, German Politics, Raw Materials; consequences topics: Private Investment, Financial Markets, Companies. Sources: Destatis, the authors

As the frequency curves indicate, it took the media quite a while to realize that inflation was a problem that was not going to go away by itself anytime soon. When CPI data releases crept up starting in the summer of 2021, the initial media reaction was somewhat cautious. At the time, central bankers and economic forecasters mostly considered inflation to be "transitory", caused by temporary supply bottlenecks due to Covid-19 related production hold-ups. Accordingly, the newspapers in our corpus kept their coverage at rather low volumes. German CPI inflation rose from two per cent in April 2021 to five per cent by the end of that year, with reporting intensity reacting only modestly.

From March 2022, however, three developments coincided: first, as headline and core inflation kept rising, it became clear that underlying price pressures would not fade away automatically. Second, the Russian assault on Ukraine and the ensuing energy embargoes and sanctions drove price indices up severely. Third, central banks realized that they had been complacent for too long and started signaling that they were ready to step on the brakes; the Fed started hiking policy rates on 17 March 2023, the ECB followed on 27 July 2022.

Note that there is no clearly detectable key event in the inflation attention cycle. As is often the case with economic phenomena, tensions build up slowly and mostly unnoticed by the public. Developments are rather abstract; there are no relatable images or photos, for example. From a journalistic point of view, it is hard to tell compelling stories about invisible trends that may only become potentially problematic. What may seem obvious in hindsight, is highly uncertain at the time when editorial choices need to be made. As a result, media attention does not take off at a distinct point in time, but the "alarmed discovery" (Downs' terminology) that there indeed is a problem only sinks in gradually. But at some point, the untenability of the situation becomes unequivocally obvious. In this case, it was central banks' admission that decisive monetary tightening was needed, that triggered "peak attention". In this phase of reporting, the media primarily focus on the causes of inflation, including (re-)distributional second-round effects. Consequences of inflation only play a secondary role, as figure 3 shows. Eventually, the issue goes into "gradual decline of intense public interest", Downs' 4th phase. Even though the underlying problem remains unsolved, public attention is turning to other issues that enter phase 2. At the time of writing, we are apparently at the end of the peak attention-phase, as intensity of media coverage is trickling away, but inflation remains high, and core inflation is still on the rise.

3 Conclusion: What Else Could Go Wrong?

In this short research brief we updated the Inflation Perception Indicator (IPI) now including data until the end of February 2023. We found that the recent bout of inflation has triggered an issue-attention cycle that seems to be waning towards the end of the observation period. If current trends continue, rational inattention may set in again, prompting households and firms to adapt their inflation expectations more slowly. In such circumstances, sticky inflation expectations could stay at elevated levels, further complicating the disinflationary process central banks strive for.

However, further shocks may re-start the current attention cycle, or kick-off another related one. Candidates involve social unrest, including broad-based waves of strikes, as unions and opposition parties drum up public support for rising wages and transfers to recapture lost real incomes. The fall-out from rapidly rising interest rates, in turn, is bound to put severe stress on financial institutions as overvalued assets acquired during times of ultra-low interest rates need to be written down (the recent closure of US Silicon Valley Bank and the resulting contagion rippling through financial markets could well be a harbinger of more stress to come); such developments may hinder central banks to tighten monetary policy to a point where inflation can be slowed down effectively. What's more, rapidly rising spreads within the Eurozone, pushing highly indebted member states to the brink of default, could prompt the ECB to put off rate hikes needed to rein in inflation. Geopolitical tensions between the West and China have the potential to entail trade restrictions triggering additional price pressures, and thus re-focusing public discourse on inflation.

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