

Eurostat podcast: Stats in a Wrap

What is inflation? How do we measure inflation?

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SPEAKERS

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Jonathan Elliott 00:03

Stats in a wrap. The new podcast series from Eurostat.

Jonathan Elliott 00:09

Welcome to another episode of stats in a wrap, the podcast series from Eurostat, the statistical office of the European Union. With this podcast series, we want to immerse ourselves in the world of statistical data by wrapping them into small packages, intriguing stories, and fascinating conversations about the everyday and not so every day that we experience in our lives. No topic is too obscure or too obvious because we the data scientists at the frontiers of knowledge know that the numbers never lie. And they nearly always have something new to say. We hope to bring you interesting, delicious bites served piping hot from our wrap stall. I'm Jonathan Elliott, your host for this episode. And today, we're going to be talking about the prices of things and what happens when they just won't stop going up. Inflation is in the news a lot these days. For a while, it was a monster that every economist and finance minister believed could be tamed before it became a runaway problem or hyperinflation that can be incredibly destructive. And the cure can sometimes be as bad as the disease itself. Europe is not facing hyperinflation yet, but along with much of the rest of the world. It is in the grip of inflation fever, and that is affecting everyone. So what's going on? Prices are numbers, and they're everywhere. From supermarkets to petrol stations, online and offline. We've got more price data than we've ever had before. So if we can crunch those numbers, maybe we can find out what's going on with the EU's inflation problem and what might be done about it. We need data detectives we need number crunchers. We need Eurostat to bring you inflation's stats in a wrap. And I have a couple of people here with me today who are excellently placed to figure out the figures. Paul Konijn from Eurostat and Professor Ludwig von Auer from the University of Trier. Hello, gentlemen, thank you very much for joining stats in a wrap today, you're going to help us understand inflation and why it's rising in, in Europe. But first of all, let's just work out what it is that we're talking about here. What is inflation?

Person on street 02:46

I especially experience it when I go grocery shopping. It's just crazy how the sum when you pay your grocery shopping changes. And of course, yeah, with the fuel prices every time I go and I have a car, so I have to fuel it up. And yeah, the prices are just insane.

Jonathan Elliott 03:10

Let me just throw that at you. Ludwig. For the person in the street: how do you define inflation?

Ludwig von Auer 03:16

When you have inflation in an economy then the value of your money that you hold in cash or in a bank account decreases. And we don't like that, of course. So in other words, we have to spend more money to buy the same products than previously. Or, even simpler, inflation means that our cost of living increases.

Jonathan Elliott 03:39

So that's simple enough, it's a bit scary. But if your wages are rising, and you're keeping up with inflation, then why should we be worried? Why is it actually a bad thing?

Ludwig von Auer 03:49

Well, as long as your wages keep up with inflation, your living standard is fine. At least if you live only on wages. But if wages increase less than inflation, then you can buy from your wages, fewer apples, bananas and whatever you like to buy. So we have to worry about an inflation that is now almost 8%.

Person on street 04:15

I remember growing up in the 70s at a period of like heavy inflation and low growth. And it was awful. Three-Day week, candles, power cuts, lots of strikes. And I think for everybody who isn't used to inflation, it will be tough.

Jonathan Elliott 04:36

8% is doesn't sound a lot but of course it is a very high number compared to historically what Europe and the world has experienced. There was a time when anything getting above 1% was regarded as worrying so 8% is quite a lot. But historically, of course, there have been some extraordinary phases. Paul, we've discussing a little bit about hyperinflation when it gets completely crazy. There are some extraordinary historical examples out there, particularly in Germany in the 1920s. Can you tell us about that?

Paul Konijn 05:09

Well, in the 20s, in Germany, we had the, there was inflation of 100-1000s percent per day, almost it was, disappearing under your hands. So that is indeed, certainly not the situation we're in today. The levels that we see now, around 8%, are a bit similar to what we've seen in the 70s of the previous centuries, when there was the oil crisis. So we saw similar levels of inflation. But they also lasted for several years. And that is, of course, not yet certain that that will happen as well, right now.

Jonathan Elliott 05:43

Yes, so, history has some interesting lessons here during the 1920s. In Germany, it's said that wood fuel weight for weight was actually worth more than banknotes. So it was cheaper to burn banknotes to stay warm. And the worst inflation ever recorded was in Hungary in 1945, to 1946, when there was a daily inflation rate of 207%. It's difficult to understand that really, the price of things doubling within a single day. Fortunately, we're not quite there yet, but it is still not all good. So how have we got to this position in 2022? How have we arrived here? Ludwig, literally, what has led to this situation?

Ludwig von Auer 06:28

Well, I would say they are three obvious drivers of this high inflation numbers, first of all energy prices. But they are also bottlenecks in international transportation contributing to inflation. And of course, they are some output disruptions. So also, they contribute to inflation. But behind these three components, there are our basic forces at work. And maybe they will stay with us. For a while, some of them at least. Hopefully not the first one: the first one is certainly the Russian war on Ukraine. So that is an important factor currently. But a long run aspect is the need to fight the climate change. So this is related to energy prices. Then I would also list the pandemic. And its current handling, for example, in China, where we see that there are output disruptions in Shanghai and also the the supply chains. And the fourth one is a bit historical in the sense that there are a lot of cash savings in private households due to the pandemic. And that during that time, consumers accumulated money and now they spend it. So that also means a high demand and high demand raises prices. So this contributes as well.

Person on street 07:57

Yeah, I definitely have been trying to drive a lot less. And I used to fill up my car tank all the way but now it's too expensive. So I'll fill it up at like \$10 to \$20 increments at a time instead of the normal full tank.

Jonathan Elliott 08:12

So fascinating. I mean, what I'd really like to know is why everything goes back to energy, it seems like energy is the I mean, we will talk about some of the other aspects that you've talked about the pandemic, monetary policy and so on, but the fundamental driver as it was in the 1970s is, is energy. Now, why is that?

Ludwig von Auer 08:35

This is an interesting similarity to the 1970s. Again, the inflation is partly caused by high energy prices. The problem is that you'll find these prices in basically all manufactured goods; they all rely on energy. So if this input price increases the cost of producing these products increases and after a while, you will see that also you will pay as a consumer larger prices. This might take a while until the cost is passed on to the consumers. But in the end, it will be passed on. And so I guess at the end of the year, this process will be completed, hopefully.

Jonathan Elliott 9:20

Yes, indeed. Paul, it'd be really good to see how inflation breaks down. Obviously, energy is the leader here. It's driving inflation, energy prices are driving inflation, but it's percolating down to all the other groups of spending. Can you just talk us through the different categories of purchase that have been affected by energy inflation?

Paul Konijn 9:44

Yes, indeed. So overall, inflation currently stands at around 8%, for the month of May. And the big driver, as Ludwig says, is energy. So the 8% means that the price level now is 8%, higher than the price level in the month of May from last year, it's always the annual comparison. And we look at energy than this has increased by almost 40% since a year ago. This is extremely high. Of course, we have never seen there kind of numbers in the last 25 years.

Jonathan Elliott 10:20

I wanted to touch on another cause or driver of inflation that Ludwig alluded to, which is about supply chains. And about particularly in this case, China's response to COVID. And the way in which that has produced an effect on supply chains globally, what on earth has anything that affects China and COVID, how is that affecting us and the cost of things in the shops?

Ludwig von Auer 10:46

Well, for example, takes semiconductors, if you don't find your usual semiconductors that are best fitted to your product, let's say a car. And to get the car built, you try to find other semiconductors, maybe at a higher price, less suitable. So it means additional adjustments. So that then pushes up the price of finally of the car. So this is how we then finally see that bottlenecks in transportation, get into higher Final Consumption product prices.

Person on street 11:23

We already reached a top. So I don't think that it's gonna go up much, much more and I think there is not going to be a rise. But when it comes to what it's been hit, I think it's grocery.

Jonathan Elliott 11:42

Okay, so it's all a bit of an unpleasant mix of a perfect storm, as they say, were different factors probably slightly unrelated, are all driving in together. And of course, we could be facing a long period of high energy costs, particularly. Supply chains, well, we hope eventually will sort themselves out. But with energy costs, if we have a future of high energy costs, do we need to worry about that? If they just stay high, and they kind of plateau out? Are we still in a dangerous space?

Ludwig von Auer 12:10

Of course, we then have to pay more for energy than we did in the past. That means we have left over less money for other things. So this is probably what we do not like. But on the other hand, inflation finally, will go back to zero because inflation is always a comparison of current price to this price one year ago, during that month. So, if prices for energy now remain on this high level that we currently see, then in 12 months' time, then inflation is back to zero. But that still makes doesn't make us happy.

Jonathan Elliott 12:49

Yeah. So that's fascinating. It's important to say here. And in the podcast, I think really important that we say that these measurements are not just done for abstract academic interest. They're actually the raw material of policy. They help governments and institutions decide how to steer the great ship. Ludwig, can you talk us through why it's so important that we get statistical measurements of inflation, particularly, absolutely as clear and as correct as we can? And what is then done with that data both within the countries, individual member states and also within the European Central Bank? Can you just talk us through the utility of these?

Ludwig von Auer 13:27

At the specific countries, there they compute the consumer price index, that's the official measure of inflation within a country. And as you said, that's the reference then for wage bargaining, for Social

Security benefits. Also for indexing rents, for example, or for other types of contracts, So for those contracts, it's nice if you know, over time that what is changing the cost of living, so you can arrange in a contract to compensate for that. And that's useful for both sides.

Jonathan Elliott 14:07

Okay, let's just talk about the measurement of these numbers. We are talking about prices and how we how we measure the rise in prices and costs in 27 different countries that's quite an undertaking, not carried out by Eurostat, of course, they are collating the data and having to make and they need to make sure that, they do need to make sure that the data is comparable. And this is a fascinating job. Paul, talk to us a bit about how you harvest this incredible variety of prices in 27 different countries, what do they all do and how do they go about it? How do you collect prices?

Paul Konijn 14:44

Basically, the approach for inflation measurement is that each country, each Statistical Office in Europe or around the world in fact, decides every year on the basket of goods or services that they are going to follow. Goods or services that are commonly purchased by households. And they follow from that basket of goods or services the prices every month. That means they send out people, to shops, service providers around the country, to observe what is happening to the prices in each of the countries, in each of these shops. And they bring that home or they send it to their statistical offices, which uses then this data to follow and measure this, this inflation. That's the basic approach. So really physical price collection, collection of data in in shops. What is also important is to, to weight these goods or services correctly. So because some goods and services are more important for households than others, in terms of what, of the share in the budget that the households have. So we also put a weight on each of these price changes. And together, they make up then an inflation, inflation number. This, this is the basic model that has been around for decades, in most countries or even for many years. It's now, also due to the digitalization of the retail trade, changing a lot. But there's a lot more information on the internet and from other data sources available that can be used to produce even better inflation measures to follow it, even more closely and in more detail.

Jonathan Elliott 16:305

There's another interesting problem, of course, for inflation measurement. And that's the seasonality of it. Paul, can you explain why you have to do it annually at a particular time of year? Why that specific time of year? What's the reason for that?

Paul Konijn 16:21

Well, the prices are collected and measured continuously. But if we look at the prices from one month to another month, and you have to take into account that the prices behave in different ways across the seasons for different products. So this is why our numbers are typically published as the change compared to the same period in the last year. So to have a measure that is not affected by these typical seasonal patterns.

Jonathan Elliott 16:46

Okay, I understand that. I mean, there are problems with doing measurements across periods like that, because of course products change and you have to compare like with like. The difficulty of a car in one

year, and the next year, it could be the same car but it has a whole number of new features. And are we looking at the same car? This is a sort of, a bit of a problem. Isn't it?

Ludwig von Auer 17:12

The problem is well known in the national statistical offices and they try to adjust then their measure of price increase. So if a product has increased in price by 10%, but its quality went up by 10% also, then in the end, you would say - stable price. Now, the difficulty is to evaluate the quality change in monetary terms. And there are quite a few sophisticated methods that you cannot use for all products because it's too much work. But for some very important products like cars, for example, you would use them.

Person on street 17:52

You hear that there's a shortage of corn flour, or sunflower oil, your immediate reaction is to go to the supermarket and buy three bottles when you only need one. We're trying not to do anything differently. And I think if everyone carries on as normal, then I think you just trust the supply chains will be able to cope with that.

Jonathan Elliott 18:14

Eurostat's job, of course is to collect data from all the member states. And then it has to make sure that that data is really going to work. And each set of data from each country has to be genuinely useful. And that means you have to find out how that data was collated so that you can have a kind of evenness or harmonization. This is called harmonization between all the different data sets. So it's an enormous challenge. Paul, can you talk us through what you've got. Now you've got 27 Member States obviously but there are 19 members of the Eurozone. Just talk us through the challenge.

Paul Konijn 18:52

So this is one of our key challenges and our key mandate as well to ensure harmonized comparable data across the European countries. So, we have different ways of doing so effectively. So all the countries are sending us the data that they have or the indexes that they have calculated, and they tell us also how they have calculated these indexes these inflation measures. So we have all the data and the metadata, as we call it to, to understand that the inflation measures, what we do is to analyse that and to come up with further measures to make this further comparable. So this, the big measure we take is legal acts. So we actually define by legislation, how countries should calculate certain statistics, including inflation, and what it should cover what it should not cover, and what are the minimum standards for the quality of this of these indicators. And we build on that with manuals guidelines, we talk, we have intensive contact with all the member states about how these statistics are being produced and to ensure that we move continuously in in the further direction of further comparability and higher quality. That includes also these areas where we're now working hard on where new data sources are being used, digital data sources are being used, which is also a key challenge to ensure comparability across countries.

Person on street 20:21

I would say inflation, at this point is a global thing. But there are definitely a few regions that are affected more than others. I think Europe, especially with the gas prices, is a region that really affected,

and maybe also north America. But yeah, I can't speak that well of other regions, because honestly, I don't really know and haven't read that much about other places.

Jonathan Elliott 20:48

Yes, so there's something unique about energy price hikes at the moment, as we've discussed, they're critically important part of inflation, the driver of inflation, but they're dramatically different across the European Union at the moment, the nearer you are to Russia, the more likely you are to feel energy inflation and its impact. So how is Eurostat able to measure those and then harmonize them? I mean, I think I got this right, the energy prices are fluctuating very widely across the different countries.

Paul Konijn 21:14

Yes, so there are huge differences ,across Europe in terms of inflation measures, for different reasons. So, we see it higher rates currently in Eastern European countries than in Western European countries, on the whole. The Baltic States, Estonia, Lithuania, Latvia, they are the highest affected at the moment. And maybe that is also partly due to the war in Ukraine. That is one element that could play a role here. There are also other elements that play a role. So if we look at comparison across countries, even between Germany and France, has already included measures to compensate households for the increased energy prices earlier this year. Germany is only starting with that now. So we see probably soon that inflation in Germany will be lower, lowered because of the big measures taken by the German government recently whereas in France, it is already quite a bit lower. Another factor is that the French use a lot of nuclear energy, so their energy prices are not as much affected by the gas and oil price increases.

Person on street 22:21

I don't think that an ordinary person can change the current situation a lot. But I definitely think that it's important that we make our voices heard that we don't agree with the situation, and that we definitely need some solutions. And, yeah, I think it's important to let our politicians know that.

Jonathan Elliott 22:44

I'd say, as someone who grew up in an era of both of high inflation in the 1970s, and then also an era of incredibly low inflation and low interest rates, there was always this belief that you could control inflation by raising interest rates. And so the question remains, that why is it that our central banks both nationally and the European Central Bank, why aren't they just putting up interest rates to deal with the problem? And in fact, why didn't they do it a long time ago, what stopped them from trying to act the way that they're supposed to in the classical response to high inflation and just put up the interest rates?

Ludwig von Auer 23:20

So, the central bank was a bit afraid of the recession that might follow when you increase interest rates. Now, why is that? Why should there be a recession, when you increase interest rates, when the central bank increases its rates at which it lends to the private banks, then the private banks increase their interest rate at which they lend money to firms and private consumers. So if that rate goes up, then it's less attractive to invest, for firms, to buy houses, and to borrow, also. What happens is, the buyers are more careful to buy anything. So there's less demand, we would say, in general. And when there is less

demand, then well, and you reduce growth, or you even go into recession, that was the worry of the central bank so far. But now with these high inflation numbers, they must rebalance the evaluation. Now we really have a high inflation and now there is a need to do something about it, even if there is some risk of recession. The difference to the 70s is that the labour market is rather robust currently, that is we do not have high unemployment rates currently, probably because of demographic differences between today and the 70s. So maybe the risk is much lower this time when the European Central Bank raises their interest rates, maybe we can do it without a recession. And at the same time, reduce inflation.

Jonathan Elliott 25:01

Sorry, Ludwig, I just think I'd like to pick up that point that we were making a little bit further, which is why that inflation can produce winners and losers, it can create greater economic divisions, does that mean that it can lead to greater inequality? If so, have we got historic recent history of that with the 1970s? Did that did it change the way that economies were there were that you found that owners and people who had property were suddenly far better off than people who didn't?

Ludwig von Auer 25:28

Yeah, this is one reason why we have to fight inflation or because it leads to stronger inequality. Usually, the richer ones have property and so they are more secured better secured against inflation. And those who live on wages, they have maybe a little bit of savings, but this is typically cash or other simple financial. Fighting inflation is, in a sense, a social policy. So that maybe explains also the current need to reduce inflation again and possible within the next half year next year. It's certainly no good idea to let it run for another two, three years. So that should not happen because this badly increases inequality in all the member states.

Jonathan Elliott 26:19

The comparison with the 70's is also interesting, because of course, there was loose monetary policy in the 1970's. And there's been loose monetary policy in the ... recently, as well. Is that a valid comparison?

Ludwig von Auer 26:33

Yes, in the 70's these government and central banks responded by a rather loose monetary policy at least where central banks were not independent from the government. And this strategy did not really work out very well. And this time might be different. Because we have this more robust labour market currently, and smaller danger of recession.

Jonathan Elliott 27:02

So we're in set for a long haul. Paul, I can't ask you about that, to predict the future. But maybe you can tell us about the latest data that you have and whether there are any changes in the acceleration or there are unusual patterns or things of note that you've seen about the different categories of prices and whether we can learn anything from that? Not necessarily what the future is, but whether it's anything of note about changing patterns in the last 10 months of rising prices?

Paul Konijn 27:33

The developments in the last 10 months have been unprecedented. So anything is unusual. At the moment, everything is new and unusual. I think we see, the main big pattern that we see now. And I think this will continue for a while even if energy might flatten out or go a bit down. We see that it will increase in the other categories. We've seen that already in the last month in the food and other products and also in the services eventually, that's the last category.

Jonathan Elliott 31:20

Okay, that's fascinating. Gentlemen, it's been a truly revealing podcast today. I know far more about inflation and data collection than I did and it makes inflation that little bit easier to understand and perhaps a little less worrying. That just about wraps it up for stats in a wrap today. It only remains for me to say thank you to our guests Paul Konijn from Eurostat.

Paul Konijn 31:44

Goodbye. Thank you!

Jonathan Elliott 31:45

And Professor Ludwig von Auer from the University of Trier.

Ludwig von Auer 31:49

Yeah goodbye, Jonathan. Thank you.

Jonathan Elliott 31:51

If you've enjoyed the show, don't forget to share with friends and colleagues where Stats in a Wrap can be found on Spotify, Apple, Google and all the usual places. And of course, join us for the next episode, when we'll be dishing up more flavoursome insights from Eurostat. This time an unusual edition because we'll be checking out the work of our young data detectives, the secondary school student winners of the 2021 and 2022 European statistics competition, they created some amazingly clever and creative videos about the environment and the spread of misinformation. Join us then and for now. Goodbye!