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What is inflation?

Discussed by Prof. Paweł Grata and Cecylia Leszczyńska, Prof. UW

Paweł Grata: Good morning. Welcome to the next conversation in the series "What does economic history teach us? 12 conversations for tough times". A series that is the result of a project with the same title, funded by a programme of the Ministry of Science and Higher Education. Today's topic of conversation will be inflation, something we have been dealing with for several years, something that has affected us many times in the past and something that is very dangerous in economic life. And that is why it is worth talking about inflation and its causes, course and effects, and how to counteract it. My guest is Professor Cecylia Leszczyńska from the University of Warsaw, an economist specialising in the problems of monetary policy. Professor, first question: where did inflation come from?

Cecylia Leszczyńska: Which one? The contemporary one, or in general?

In general, because we know very well that there were times when there was no inflation.

Yes, where did inflation come from? How do we know that there is inflation, Professor? How do we know today that there is inflation? Well, because we go to the shop and observe the rise in prices. Or we learn from various communications from institutions, the media and so on that there is inflation. So, if we reject, if we imagine that here we have no media, well, the only, I would say, information that reaches us is the observation of prices, in the places where we shop, and we see that some goods go up like this, others go up a little bit more. Inflation today is equated with price increases. I would like to say, this is my caveat, the introduction shows boldly that if we go back in time, the knowledge that prices are rising was simply limited, so the further back we go, if we have, let us say, a simple commodity economy, commodity for commodity, well, *de facto* we do not see this inflation in the short term. Therefore, inflation is an economic phenomenon, sometimes also a social phenomenon, if it starts to worry some social groups, which, of course, historically has occurred quite often, although not too often, because here there is also the question of how much these prices are rising and over what time period, because if prices rise by, I don't know, 1% over the course of a year, such inflation would probably be unnoticeable. The word inflation, inflation, Latin, was introduced into the



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language of economics in the 19th century and at that time it was understood, by the way, this root meaning remained, as to inflate, to swell, something grows, it was not related to prices, it was related to the amount of money in circulation. And later, in retrospect, when people wrote about price rises in the past, well, they tended to study it, they equated it later with inflation, while the population, as it were, at a given time, used the word "price rise". Is that what we call inflation today, because it is actually a somewhat economic, statistical category, it needs to be measured, and in order to measure it, you need to have certain tools, an algorithm that gives us this CPI, because today we say "consumer price index, consumer inflation, producer inflation." So we have a price index and we have inflation. Historically, inflation in the 19th century, between the wars, was associated with an increase in the amount of money in circulation, while the increase in the price of goods and services itself was equated with, or was referred to as, dearness. Why, then, did this word inflation later move from this monetary aggregate, from this money supply to the prices of goods? Because according to the quantity theory of money, which was accepted as such a mainstream, mainstream, explanation of the mechanism of rising prices. So, if prices are rising, well the question is, why are they rising? Economists answered, they usually rise because the amount of money in circulation rises. That is, we have a supply of goods and services, today we call it GDP, Gross Domestic Product, over a period of time, yes, usually annually, and here we have an increase in the money supply. If this monetary aggregate grows faster than the supply of goods, well, there is this imbalance and the reaction to this becomes an increase in prices, and its basic cause is an increase in the amount of money.

Here I think we can refer to the 16th century.

Cecylia Leszczyńska: You can. Of course, it's the famous price revolution. It was such a first international inflation. Of course, today's research shows that the people of the time didn't see it too much precisely as an increase in prices. Because on a centennial scale, today's research shows that this price rise did take place. On the other hand, on an average annual scale, the word average annual, you divided the price increase by, say, a couple of decades and came out with an average annual value. Probably in some periods it was like this, and in some periods it was like that. And she averaged one per cent, two per cent per year. Today we wouldn't even note that as.... We would even be happy that these prices are going up slightly for us, because inflation is considered to be just that one to two per cent that the economy needs. It is needed by the economy, because this price rise to some extent accommodates such an adjustment process between the supply of goods, the demand for these goods, the stock of money, the money that people have, and going back to this price revolution, that is when the quantitative theory of



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Money was born. There was an influx of bullion from South America into Spain as a result of colonisation, well this increase in the money supply, this silver above all, smaller amounts of gold, led, spilling over through Spain, then through other countries, led to an increase in prices. But it was called, see, what? The price revolution. Yes, Copernicus' law, Gresham's law and so on. So they began to link this rise in prices precisely to this aggregate, the monetary factor of the money supply. But at that time the word inflation in the sixteenth, seventeenth century was not yet used. As I said, it appeared later, and there was this kind of juggling between just money and price increases.

But the 19th century was a period of fairly stable prices. Here the notion appears, while in the nineteenth century, apart from the wars of the beginning of this century, it is difficult to find such cases of hyperinflation as after World War I or as in Poland in the 1990s. Why?

As we were talking about the price revolution in the sixteenth century, this rate of inflation, using today's language and various statistical measures, was very low. High inflation is the child of wars, revolutions, upheavals, high inflation, that is, inflation where, over the course of a year, prices rise by several tens of percent or sometimes several hundred percent. We then have inflation that is already galloping or even hyperinflation, when prices are already changing from day to day. So these kinds of great inflation, high inflation, high price rises are the product, they are the child of these extraordinary phenomena. Not financial crises, because the 19th century financial crises moved deflation. The great crisis of the 1930s carried deflation, it was characterised by falling prices. So this is where we should not equate that every crisis is inflation. Besides, the 2008-2009 crisis did not bring inflation as such either. Inflation when did it occur? After COVID, during COVID, during the war, disrupted supply chains, price explosion in commodities, right, gas, etc. So some such, or we say demand shocks, I mean demand shocks, in the sense that suddenly for some reasons, we know what reasons, there is a large mass of money in the market and this large mass of money in relation, as I mentioned before, to this relatively stable supply of goods and services, generates inflation for us. The wars, the First World War generated European inflation, but already a small one in England, for example, and a very high one in our part of Europe. The Napoleonic Wars, which you mentioned, caused quite high inflation in England, but in other parts this inflation was moderate. After the Second World War, inflation was quite low, and we can now compare this brilliantly through the First and Second World Wars. After the first high, after the second low. Why low after the second world war? Because by exchanging money, or by invalidating some part of the paper money circulating, the state took, colloquially speaking, this money out of the resources of the population, of



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businesses, that is, it removed this surplus. After the First World War, states acted very democratically, we say, they made equivalent exchange, if they exchanged money. And therefore this surplus money, which appeared during the war, it already remained on the market in times of peace. And here we have two elements, that is, in the course of wars there is a surplus of paper money, not bullion, paper money on the market. Central banks usually lend to the state that is at war, Well, and this money goes in, the state spends it. It makes purchases for the military, etc., it goes to the population. The state also sometimes issues government debt, sells bonds to the people, the people buy them, lend them to the state. But when this surplus of paper money grows during wars, at the same time, the states control the prices of basic goods, whether through the card system, rationing, various ways, well, not to lead to what? Well, an explosion in the prices of these absolutely basic products, food, fuel, that sort of thing. And then when the wars end, because that's the mechanism, of course we're speaking in shorthand, both the first and the second war. And then when the war ends, that money stays in the hands of the population, after the second war it was taken away. But first it stays, prices are released, rationing systems are gradually abolished. After the Second World War, we had price controls in England, price controls in Poland, ration cards and so on, but in Poland there was a different system. The market system in the West is also characterised by rationing. And when price controls are lifted, prices simply start to rise. I would say a bit like this, the first war was such a laboratory. One learned what this excess of money meant and then such a somewhat spontaneous completely adjustment process on the price side. And after the Second World War, of course, people lost their war money, but you could say, well, if prices had risen, because the purchasing power of the money they had as savings, inflation would have eaten that money, those savings, too.

Here one can give the example of Ludwig Erhard's reforms in the western occupation zones.

Very restrictive, Today I encourage viewers to google for themselves somewhere how much German citizens had their savings taken away. Almost that they were deprived, meaning they could only spend what they earned on an ongoing basis. This 1948 reform was very restrictive.

Yes, and one can now also mention this situation of the Polish hyperinflation of the early 1990s. You said, Professor, that hyperinflation usually means wars, great dramas, whereas here the situation was somewhat different. This inflation was partly due to the system that was in place in Poland. Here we have a very clear



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discrepancy between the amount of money on the market and the amount of goods available.

But this mechanism, an excess of money, created not because of the war, but because of strikes and so on, was known in the 1980s, that this imbalance between the supply of money and the stock of goods, goods were growing, but very slowly, because the economic system was in crisis. After all, ration cards, common already in the eighties, that is, rationing, which used to be appropriate for war time. Here we have a peacetime economy, well, there is no war after all, there is martial law, but it is not an open war, true, the army is conducting, the state is conducting some military actions, etc. Nevertheless, this money creation goes on, because there are expectations of wage increases. So the state gives this increase in wages. So what? This increase in wages is taking place, everyone is aware of the fact that this gap, which is then called the inflationary gap, that is, the gigantic stock of money held by the population, businesses, etc., in savings accounts, more and more, more and more, while the supply of goods is stagnating, or growing very little. So the gap was already there in the late 1970s. After all, the ration cards, sugar, then more commodities, is nothing more than a response to the state wanting to keep the prices of these basic commodities, a bit like in wartime, stable. Because if it deviated from that, well, those prices would go up. In parallel, what is happening? A parallel economy, a black market, and on that black market the prices of the same goods are n times higher. And as the Professor mentioned, at the end of the 1980s, the state moves away from this price control.

And here we already have an analogy with the situation after the First World War.

That's right. And this inflation, which before was stifled, suppressed through this control, price maintenance, it erupts. Of course, it explodes violently, in a short period of time. It was probably possible to spread this process somehow. Somehow, various instruments have been used historically. Here it has been refused, we say that market deregulation has taken place and prices have gone up. But those who are a bit old, I remember those times, yes, well it was just immediately that goods appeared on the market. A bit like in the time of Ludwig Erhard, Economic miracle, suddenly shops full of goods, even before the reform, everything is bought up, hot money, investment expectations, people get rid of this money losing value, whatever we buy, because the purchasing power of the money we have is getting lower and lower, so let's buy anything. Unnecessary carpets, not carpets, when we come across a product in a shop, we buy, We buy and that's it. Necessary, unnecessary, we buy, possibly pass it on to someone there. So that's the economy, that's the imbalance, that imbalance, that money supply, that money stock



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doesn't meet the supply and when those regulations are released, well then the prices go up and then there's meat on the market, and there's groceries, slowly, slowly it fills up, but when it comes to the private sector, well then there's this sudden explosion. So these goods were there somewhere, well they just weren't quite transferred to the trade either.

It didn't pay to sell them.

It didn't pay, because what to do with the money? Paper.

We have the latest example of inflation, which kind of exhausts all these components that you, Professor, talked about. There is COVID...

The economy closed down a bit, there are expectations, there is uncertainty about what will happen. It wasn't that long ago, we remember, some people run to the shop, they buy up, of course this mass of goods is big, because there was no war economy before, or socialist economy and so on, so this supply is big. It would be difficult to buy it all up, but we can imagine that if it had lasted a little longer, we would have seen pictures from shops that there were these shelves, whether in England or somewhere else, in Poland too, by the way, announced. As you mentioned, Professor, why sell for this empty paper, well we know the pictures, they appear from the German inflation of 1923, the beginning of 1924. What do people do with these banknotes? Well, they wallpaper the walls. Wallpaper is more expensive than pretty good quality paper, so it's worth it. But coming back to our contemporary inflation, of course, it was international, as we know, and it also resembled a bit, because it was such an overlapping process, it also resembled at a certain point the shock of the 1970s. It may have been less visible in our country under socialism, but in the American economy, in the Western economy, the oil crises. The first oil crisis, the second oil crisis, that is where inflation went from the supply shock. They rose very sharply, the wars, the two wars in the Middle East, right, Israel, then the second issue of Iran, these are the two peaks in the rise of oil prices and then through the energy carriers, through oil, the prices of many product groups moved up. Well, and here we find some analogies in the case of the outbreak of war in Ukraine, when Russia invades and there are already, as we know, we can see now the exposure of statistics, in real time we have also seen them, how already in December 2021 the prices of energy carriers start to rise. Then, of course, there were still suspicions of this war, it's going to break out, it's not going to break out, we remember, the troops are here, they're going to come in, they're not going to come out and so on, intelligence says one thing, others say maybe it won't break out, but nevertheless the market is already, in a way, anticipating, preparing for a supply shock, gas prices, oil prices. And overlapped, as it were, these pocovid stories with this



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war situation, when the prices of energy carriers that generate costs, everywhere the price of petrol enters as an important component.

And on the first day of the war immediately queues.

Immediately also queues. And here they were probably preparing a bit for it, I mean, these preparations for war probably made it possible to accumulate reserves, they always are, but nevertheless to control relatively, I don't know, within a few weeks, yes, it's difficult to accumulate petrol reserves, it's dangerous. Although it was written in the press somewhere that there were those who prepared some tanks, but their risk, you could say.

Yes, these factors are generally similar, factors that cause inflation. Now the question is, how do we combat inflation? We already have historical experience and we have contemporary experience. In your opinion, what are the best, most effective instruments to curb inflation or minimise its negative effects?

Yes. And here what we would say is important, in responding to inflation, the mechanism of inflation and its source is important. Because if its, I would say, cause is monetary in nature, well then, necessarily, the remedy is primarily on the monetary side. Well you cannot, you must necessarily stop, this outflow of money into the market. This can be painful for the population, because it means stabilising wages and so on, that is, the income of the population stands still, or falls in real terms, because income nominally stands still, wages do not rise, and prices rise, so in real terms this income falls. This is painful, unpleasant. Democratic countries have a problem with this, well, because the population doesn't necessarily, it hits different occupational groups differently, right, because our consumption structure is not homogeneous between pensioner households and wealthy people's households, and there's still a whole palette in the middle. So one way or another, it's monetary action through I would say stabilising the money stock, read, wages, incomes of the population stand still. That is one solution, but of course it goes on the side of the so-called real economy. That is to say, the economic entities, public, private hold it would say, these wages in place. Perhaps with the effect of the form of unemployment, see the historical Philips curve, where Philips showed, unemployment exchanges with inflation, low unemployment, then you get it with low inflation, if inflation goes up, the economy goes into inverted commas, right, unemployment goes down, but that doesn't work at the moment anymore, you already negate the Philips curve. Milton Friedman once wrote, yes, monetary economists, because here different schools of economics, different propose solutions, no matter what the cause of inflation is. It has to be suppressed by monetary methods. That is, expensive credit, tools to make credit



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expensive, and the central bank. Through its high rates, high rates go down to the commercial banks, credit becomes expensive, in inverted commas I won't say we kill, but we reduce all the demand that is generated by credit. There are no mortgages, or they are very expensive, so the demand for mortgage-financed real estate goes down. Instalment credit. High lending rates, demand financed by instalment credit falls. Lots of things are bought on credit, credit card. We don't shop on credit anymore because interest rates are high. So, regardless of where this inflation came from, Milton Friedman once said, in fact to this day monetarists still say this, act through expensive money. That is how this inflation should be reduced. Of course, this hits the economy, because we have mentioned, demand for housing falls, well, because expensive mortgage credit, purchases of durable goods fall, because expensive instalment credit, manufacturers suffer. That can put the economy into recession. And those who sell washing machines, fridges, etc., there are no takers for them or property, unemployment appears, and so we have this somewhere in the back of our minds, this Philips curve. But this is the most effective, truth be told, or what I would say is a fairly simple instrument. Raise interest rates and that's it. And it will go further.

But an expensive one.

Especially as it is then that we can get to deflation. I recall that there was still, right, during the 2008-2009 crisis, what was the fear about? That there would be deflation. Deflation is terrible. Please remember one more thing. There is such a thing as inflationary expectations, deflationary expectations. Inflation is sometimes pushed by inflationary expectations. What does that mean? Psychology, truth, social and so on, behaviour. We expect prices to rise, we expect prices to rise and what do we do? We buy in advance. The higher the inflation, the higher these expectations and we buy in advance. In this way, as it were, we generate price increases ourselves. We'll go and buy, it's like just during COVID. We remember how quickly the prices of certain goods went up. Well, we will go, we will buy. Why don't traders or sellers take advantage of that? Well, they will. After all, they can make money out of it. And the opposite is deflationary expectations. They are more difficult to manage sometimes. Because what do we expect? We are holding off on purchases.

Waiting for prices to fall.

Until prices fall. And then prices fall and that hits businesses, Prices fall, revenues fall and so on. The economy collapses, in inverted commas. This is the mechanism that was rehearsed during the crisis of the 1930s. When it seemed that deflation would be so cool at first. Well here prices will be in place, they will fall a bit, everything will adjust to each



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other. And it turned out that this deflationary mechanism, yes, also falling prices at 50, sometimes 60% was killing businesses. And then Keynes explained it, that it's this kind of rollback of this economy. So when we talk about this fight against inflation, we have to understand its mechanism, where it comes from. And this monetary intervention in the form of interest rates, he is obviously, I would say, effective, restrictive. It can generate, in inverted commas one says euphemistically, social, economic costs. And that's why, if, for example, inflation is triggered by some kind of shock, where we know it's an artificial shock, isn't it some kind of built into the economic system, like in the People's Republic of Poland, that throughout the 1980s, what happened, the imbalance grows, grows, grows. And such a one-off explosion. And it's stabilised, well that means that under the given conditions this inflation won't go any further and all you have to do is, I would say, what to do? Well, don't set fire to it. Not to set fire through money creation and so on, easy, cheap credit, to further price increases. And it seems that just, you can see this inflation, remember, it was, 2022, the outbreak of war and all over our region, from the north, Lithuania, Latvia, Poland, Romania, all over our belt, right, the outbreak of this inflation, it then moved further west, but it was lower, it was lower. These supply chains, uncertainty and so on and so forth, these factors we have already characterised for ourselves. So this nature of inflation, it's good to understand it. So that we don't, with some very radical moves, create a crisis. Let's remember, for example, consider that US inflation in the 1970s, which was generated by the oil crisis, and the prices of oil in particular, petrol and so on, went up. Paul Volcker came in and implemented a very restrictive monetary policy. High rates. They actually went rates up to a dozen percent. Interest rates. And the economy went into a deep recession. And then, of course, the question of how big a level, a high level of income we were falling from, On how far it was going down. But the fact is then that there was high unemployment. So again here, as I said, this back of the curve, then this Philips curve. Inflation was going up, but unemployment was going up beginning of the eighties. And this crisis, it was a supply-side crisis, a monetary crisis, And it also, it's believed, later hit also, well the States largest economy, the countries that sold to the US market, Latin America. And some aftermath of these problems, high interest rates, debt crisis, where? In communist Poland. Poland in the early 1980s is *de facto* bankrupt. It is unable to service its debt. The crisis in Latin America, because these countries in the 1970s were taking these cheap loans on the US market, well then high interest rates come and what are they supposed to do? They don't have the resources to run the credit service. They get into a debt crisis. Latin America, Poland, Hungary, our whole region that opened up in the 1970s and took advantage of convenient credit.



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The same thing happens to the individual consumer who takes a loan from a bank in good times agreeing to floating interest rates.

For floating interest rates, or for franking credits, that is, here the rates are low, the rate, well we don't anticipate, we don't assume.

That the franc will become more expensive.

And how? Twice, twice. So here these experiences, some say so every 10 years, I mean people forget. Probably if someone came today and offered franking credits like that, because of course there are already regulations. But probably people still remember, but in ten years or so they don't. Because crises, franking credits had Australia in the 1990s, Scandinavia in the 1990s, Austria. It's not that in our country they were the first. It's just that it wasn't in our country before, somewhere in the world, but whoever studied it, analysed what that case looked like. Anyway, today we have access to the web, it is easier, at that time 20 years ago or 15 years ago it was difficult. But, as the Professor mentioned, exactly the same mechanism, of course its effects are different. Still to this, whether the American economy is affected, or the Asian economy, China for example, well we know that this will spill over far, far into other regions.

Approaching the end, one can conclude that inflation is better avoided than fought, because always wanting to stifle inflation, we have to incur costs.

Yes. That is why, for the last twenty, maybe fifteen years, this strategy of, why do you say it, inflation targeting, has been adopted. It's called direct inflation targeting. So what, we hold the inflation rate, that is, inflation is. Not that prices are not rising at all, but the inflation target is what? 2,5%. That is to say, we tolerate, we understand that price increases reaching this order of magnitude, 2.5% increases with a deviation of one point up, one point down is sort of beneficial and natural for the economy. Yes, so we have come to a certain, as they say, consensus. It used to be said before, well it was also looked for. We know that this GDP grows statistically on average how? Also about these one and a half, two points, right, per year. Sometimes three, four, sometimes one. In the long term, this smoothes out, if there are no turbulences or crises, and so more or less, maybe a little higher, but with similar dynamics somewhere in there, so that it doesn't come to what? Well, to this divergence. And the growth of entrepreneurs, we are talking about transaction costs rising, various things, external costs, ecology, environmental protection, all this generates some costs for companies. And this inflation occurs. And it is acceptable. So the golden rule, as the Professor mentioned.



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Not even so much to avoid as to control. And here not to make mistakes. And I think we will end with this conclusion. Thank you very much, our guest was Professor Cecilia Leszczyńska, we talked about inflation.

Thank you.



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