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INSIGHTS

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Economic context of zero interest rates and a potential regime change in inflation

Investors should closely monitor inflation developments to be prepared for different inflation and interest rate scenarios

Summary

Thanks to low or falling inflation rates, interest rates in the U.S. and Europe have fallen continuously over the last forty years, resulting in negative real interest rates. Due to the Covid pandemic, many countries have launched enormous fiscal stimulus programs, largely financed by central banks. The key question for investors is whether this will trigger higher inflation, forcing central banks to raise interest rates earlier and more sharply than currently expected in the market. The paper compares the key arguments in favor of rising inflation with the main arguments against it and concludes with a brief outlook on what is likely to happen in two scenarios: one of rising inflation and one of continued low inflation. The implications for investors are fundamentally different.

Most of us have grown up in a world where inflation is no longer considered a serious risk. Only those over sixty years old have experienced periods of high inflation and the negative consequences of this. For more than four decades, inflation in the U.S. and Europe has fallen steadily or remained stable at a very low level. The main drivers of falling inflation were globalization and trade liberalization, China's entry into the world economy, the deregulation of financial markets, the weakening of trade unions and tax cuts. As a direct consequence of low inflation, interest rates have fallen continuously since the 1980s - in the U.S. from over 19% in the early 1980s to almost zero most recently. In Europe, nominal interest rates have even been negative for years. Real interest rates are negative in both the U.S. and Europe, ranging between -1% and -1.5%.

The fall in interest rates over the last forty years led to an enormous upswing and appreciation of global asset prices. When the discount factor in asset pricing models becomes smaller and smaller, valuations continue to rise. The decline in interest rates has created an unprecedented tailwind for asset prices over the past forty years. The U.S. stock market, for example, has increased almost fortyfold since 1980. The S&P 500 stood at 106 points on January 1, 1980. Today it stands at over 4000 points. This corresponds to an average return of over 9% p.a. The U.S. bond market has increased almost eighteenfold in the same period, which corresponds to an annual return of over 7%. Similar developments have occurred in other asset classes, e.g. real estate, private equity and venture capital.

How will interest rates develop in the future? When and how fast will they rise? The answer depends primarily on the development of inflation. Is higher inflation a plausible threat and what would it mean if it did return? These are certainly some of the most important questions investors confront.

What, then, are we to make of the latest inflation data from the U.S.? Consumer price inflation came in at an annualised rate of 4.2% in April 2021, well above the 2% inflation target of the Federal Reserve. Core inflation rose to 3% last month, the highest rate in 25 years. Is this just a temporary increase? Many experts think so, including the Federal Reserve. They argue that much of the recent increase in inflation is based on prices normalising after being temporarily depressed during the Corona pandemic last year. But there are prominent people who disagree. Several renowned thinkers, academics and investors have recently warned of a rise in inflation. Former Treasury Secretary Larry Summers, for example, has warned that "macroeconomic stimulus on a scale closer to World War II levels than normal recession levels will set off inflationary pressures of a kind we have not seen in a generation, with consequences for the value of the dollar and financial stability."

It is extremely difficult to detect macroeconomic regime changes at an early stage. Often, one only notices that a regime change has taken place when the new regime is already several years old. The question of whether we are facing a possible regime change from a deflationary regime to a more inflationary regime is therefore highly topical for every investor. The answer to this question has fundamental implications for which asset classes, currencies, and sectors to invest in and which to avoid. But the implications go much further and ultimately concern the confidence in and thus the stability of our economic and monetary system. It thus becomes one of the core issues for anyone striving to preserve and safeguard wealth for future generations.

This paper is intended as preparation for the btov Think Tank on June 17, 2021. It contrasts the core arguments in favor of rising inflation with the core arguments against rising inflation. In order not to prejudge the discussion of the participants during the think tank, no conclusion or evaluation of the arguments is deliberately made.

Drivers of Inflation

Massive Fiscal and Monetary Response during Covid Pandemic

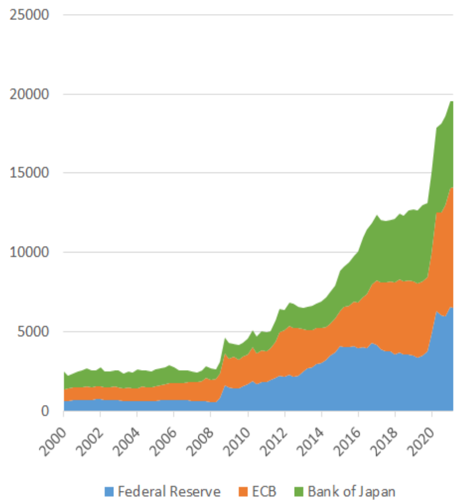
Countries and governments around the world have attempted to cushion the economic damage of the Covid pandemic with massive fiscal stimulus programs. The size of the fiscal programs has taken on unprecedented proportions. This is due to the following reasons, among others: i) historically low interest rates allow countries to borrow at extremely favourable conditions, and in many countries real interest rates are negative; ii) the willingness of central banks to finance the fiscal programs by buying up government bonds; iii) prevailing opinion in many countries that the fiscal policy measures taken after the financial crisis of 2008 were too small, and that it was imperative to avoid this mistake in the Covid crisis.

Since the Covid pandemic, massive fiscal stimulus programs have been launched worldwide. In the U.S., fiscal programs worth about 5,700 billion USD have been launched since Corona. This corresponds to about 27% of U.S. GDP. Germany has launched direct fiscal programs of more than 550 billion EUR (16% of GDP) and additionally provided government guarantees of more than 750 billion EUR (23% of GDP). The EU has approved further fiscal aid of about 10% of GDP. In comparison: In the aftermath of the financial crisis 2008, the U.S. launched fiscal programs of about 5% of its GDP, Germany of about 3.5%.

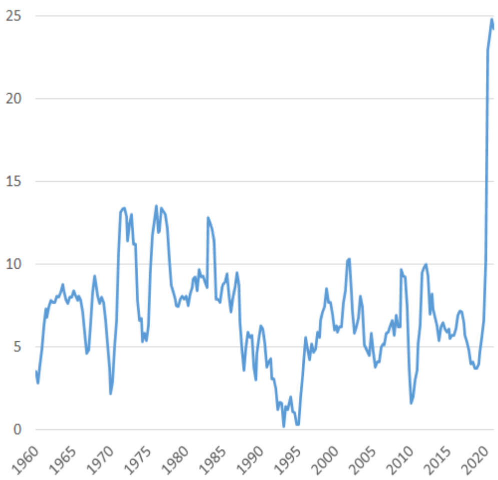
These gigantic fiscal programs are being financed primarily by central banks, which have expanded the purchase of government bonds and thus the financing of their governments significantly during the Covid pandemic. The three major central banks alone, Fed, ECB, and Bank of Japan, have increased their total assets by a total of 6,400 billion EUR since the Covid pandemic. This enormous sum is significantly higher than the amount that central banks spent after the financial crisis. The Fed, for example, spent 50% more in the four months after Covid than it did in the entire ten years after the financial crisis. The Fed spent about 3,000 billion USD between March 2020 and June 2020, compared to about 2,000 billion USD between 2008 and 2018. The ECB has also expanded its assets by more since the Covid pandemic than during the ten years after the financial crisis. The ECB increased its balance sheet by 2,900 billion EUR (equivalent to 24% of EU GDP in 2020) since Covid, compared to an increase of 2,600 billion EUR in the ten years between 2008 and 2018.

Fiscal policy measures have been used in particular for direct transfer payments to companies and households hit by Covid (e.g. short-time working allowances in Europe, extended unemployment benefits and direct transfer checks in the U.S.). As a result, the money supply has risen sharply in both the U.S. and Europe since the Covid pandemic. In the U.S., for example, annual money supply growth has recently exceeded 24%, the highest annual increase in the last sixty years.

Central Bank Assets, in € bn



US Money Supply M2, Annual % change



Source: Bloomberg

Pent-up Demand post Covid Coupled with High Excess Savings

Households in the U.S. and Europe have significantly increased their savings rate during the pandemic and are therefore sitting on significant cash resources. The governments' rescue packages, by providing cash payments and extended unemployment benefits, have done a lot to limit damage to people's finances. As a result, households are in a much better financial position than after the 2008 financial crisis, when they were plagued by high mortgage loans and excessive debt.

People's capacity to spend is evident in the significant rise in the U.S. personal savings rate, which climbed to 21% of disposable income at the end of the first quarter 2021, compared with 7% at the end of 2019. Goldman Sachs estimates that households in the U.S. alone have excess savings of 2,300 billion USD at the end of the first quarter 2021. It is therefore highly likely that there will be significant catch-up effects on the consumption side after the Covid pandemic. In the classic inflation literature this is known as demand-pull inflation. A rise in demand outpaces the ability of the supply side to respond, putting upward pressure on prices.

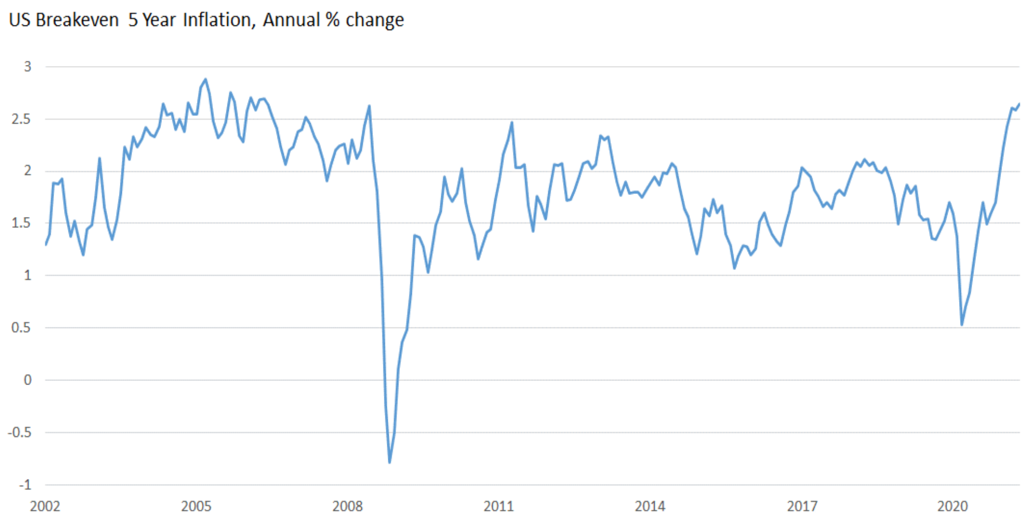
Supply Chain Disruptions and Deglobalization

Some businesses, such as restaurants, hotels, stores, or smaller suppliers, will simply have disappeared after the pandemic, reducing the capacity available to meet resurgent demand. This effect is mainly of a short-term nature, as new businesses will naturally emerge over time to fill the supply gap. Nevertheless, there are developments on the supply side which will lead to restrictions in the longer term. These include structural changes in the labour and production landscapes, including deglobalization (e.g. onshoring of supply chains, protectionist policies including higher tariffs, reduced labour migration), intensified corporate concentration and disrupted mobility of people. These changes lead to a "cost push" element on the supply side.

Patient Central Banks and Rising Inflation Expectations

Both the Fed and the ECB have as recently as last year revised their long-term monetary policy in a way that allows for more inflation. Previously, both central banks aimed to hit their 2% inflation target regardless of how far or how long inflation had deviated from that objective in the past. Now both the Fed and the ECB have adopted so-called “average inflation targeting”, which means inflation will have to exceed 2% for a significant time to offset the many downside misses that have accumulated over the past decade. In other words, both central banks expressed their willingness to let inflation run higher for longer to offset past downside mises.

Central banks directly influence inflation expectations of households and businesses with their monetary and interest rate policies. This matters, because inflation expectations are usually an important determinant of actual inflation outcomes. People adjust their actions in response to the inflation they expect. If workers expect higher inflation, they will demand higher wages. If firms expect higher input costs, they will raise prices. Thanks to the last forty years of falling or stable inflation, inflation expectations in the U.S. and Europe are (still) firmly anchored at low levels, which is positive. Nevertheless, inflation expectations have risen in recent months and are as high as they were last in 2008. Currently, the expectation is that average inflation in the U.S. will be above 2.6% per year over the next five years, about 0.6% per year above the Fed's long-term inflation target of 2%.



Source: Bloomberg

Emergence of Policies Focusing on Redistribution

Inflation in the real economy, as measured by consumer prices, is a dynamic driven by volume. It is triggered when the volume of demand exceeds the volume of supply, creating a scarcity premium in prices.

To boost physical demand in the real economy, it is vital to increase the income of as many households as possible, and in particular those households that are most likely to spend it. Empirical evidence shows that the propensity to consume is higher among low-income households, that are inherently consumption-constrained. Moreover, these households have a higher propensity to consume physical goods over services, and commodity intensive goods than higher income households. It is probably no surprise, then, that all major recent commodity bull markets and inflationary periods have been accompanied by redistributional policies that have reduced income and wealth inequality.

Inequality in society has grown steadily in Western countries since the early 1980s. The Covid pandemic has further exacerbated this development and made the inequality in wealth and income between the relatively small number of high-income households and the large number of low-income households even more obvious. In the wake of this, a political shift toward more redistributional policies can be seen in many countries (especially in the U.S., with the election of Joe Biden as president).

It is too early to tell how far this political shift will go. But if the pendulum that swung under Reagan and Thatcher in the early 1980s towards capitalism and free market economics is now swinging towards more redistribution and higher taxes, this will most likely lead to higher commodity prices and higher inflation.

Continued Creation of Money and Credit

One of the greatest economic challenges of our time is that many countries and governments have too high expenditures compared to their revenues and, as a result, their debts have continued to rise in recent decades. Fiscal stimulus programs in the wake of the 2008 financial crisis and the current Corona pandemic have further exacerbated this trend on a massive scale. Governments have four options to restore their public finances and reduce their debt burden to a tolerable level:

- Spending less
- Debt restructurings or defaults
- Raising taxes to redistribute income and wealth
- Printing money and devaluing it

The first two options, austerity and debt defaults or restructurings, have a strong deflationary effect, are politically extraordinarily painful and are therefore used by politicians only in extreme emergencies. Redistribution and higher taxes for the rich, while not easy to implement politically, is often part of the solution. The fourth option, printing money and devaluing it, is the option that has been used most often in historically comparable situations. The reason is simple. Ray Dalio, founder and co-chief investment officer of Bridgewater Associates, puts it this way: Creating money and credit "seems good rather than bad to most people because it helps to mitigate debt squeezes, it is difficult to identify any harmed parties (though they are the holders of money and debt assets), and in most cases it causes asset prices to go up in the depreciating currency that people use to measure their wealth in so that it appears that people are getting richer".

The process described above is being further accelerated by the Covid pandemic. Today, central banks already hold a significant share of government debt and continue to finance large parts of new debt by buying their governments' bonds. As a result, the money in circulation, i.e. the money supply, is rising sharply. Central banks are actively creating money. This in turn is causing the value of money to fall. This is mainly because the demand for money from the real economy (e.g. in the form of demand for credit for investment) does not increase to the same extent. This means that there is a supply surplus of money, especially when compared to the volume of products and services that exist in the real economy. Money becomes worth less. The incentive to hold money decreases. This is even more true for investing in government debt (which essentially is the government's promise to give the investor money in the future). In the future, however, the value of money will have declined further as more money will have been created.

Rational investors will demand adequate compensation in the form of positive real interest rates in order to be adequately compensated for this risk. Central banks will therefore soon be faced with the difficult question of whether to i) let real interest rates rise enough to make government debt a sensible investment for rational investors again; or ii) keep real interest rates at zero or in negative territory by continuing to buy government bonds on a massive scale. The option of raising real interest rates is politically much more painful, since rising real interest rates usually lead to falling asset prices, can cause major liquidity and solvency problems for debtors, whether at the government or corporate level (since many debtors cannot afford the higher interest burden), and have often been the trigger for recessions.

Of great importance is how wisely governments use the money created by central banks. The more it is used to achieve sustainable productivity advances in the real economy (e.g. by investing in education, infrastructure, health care, green energy, technological innovation, etc.) and thus to sustainably increase value creation in the real economy, the better. If, on the other hand, the money created is not invested productively, but mainly consumed, the problems mentioned above will intensify.

The mechanism of monetary devaluation proceeds slowly and insidiously. Almost silently. All the more so because all major economies of the Western world have followed the same path. The consequences of continued money creation, which otherwise would show itself in the devaluation of the country's currency (in relation to a currency in which no or less money is being created), is therefore more difficult to recognize. However, it becomes all the clearer if one looks at the development of major global currencies compared to gold. A hard asset whose supply is physically limited and that has been used as a storehold of wealth for centuries. Since 2000, the major reserve currencies have depreciated relative to gold as follows: USD -85%; EUR -82%; GBP -87%; JPY -86%; CHF -73%. This shows that the devaluation of fiat currencies is already in full swing.

Demographic Change and Shrinking Working Age Population

Demographic changes have a major impact on the economy and inflation. To better understand this, it is worth looking at the last forty years. One of the most important economic developments over the last forty years has been the rise of China and its integration into the global trading economy. Deng Xiaoping started to open China to pragmatic market economics in the 1980s that led to China's eventual inclusion in the World Trade Organization in 1997. As Goodhart/Pradhan point out in their book "The Great Demographic Reversal" (2020), China's integration into the global trading system more than doubled the available labour supply for the production of tradable goods in the advanced economies. The increase in the working age population (population between 15 and 64) in China was more than four times the increase in the working age population in the U.S. and Europe combined between 1990 and 2017. China gradually became the workbench of the world during this period. In 2004, the share of world manufacturing output produced by China was 8.7%; by 2017, it had reached 26.6%.

Other factors that positively influenced the global labour supply during this period were: the fall of the Berlin Wall in 1989 and the integration of Russia and Eastern Europe into the global trading system, the decline in the dependency ratio in advanced economies, i.e. a rise in the number of workers relative to dependents, and the rise in women's employment. As a result of these factors, the effective labour supply in the advanced economies more than doubled in this period. The enormous expansion of the labour supply boosted global economic growth during this period but reduced the bargaining power of labour. The real wages of unskilled and semi-skilled labour have fallen in many countries during that time. The demographic development of the last three to four decades and the resulting increase in labour supply have therefore been strongly deflationary for the global economy.

The future, however, looks different. Many demographic factors that have provided a tailwind to the global economy in recent decades will turn and provide headwinds in the future. Falling birth rates will lead to a reduction in the labour force in many countries in the coming years and decades. This will affect Germany, Spain, Italy, Poland, Japan, and China, among others. In China, for example, the working age population has been declining since 2013. At the same time, rising life expectancy is leading to a sharp rise in the population over sixty-five and thus to rising dependency ratios. This means that the number of dependents who consume but do not produce will rise faster than the number of workers.

As a result of current demographic trends, the labour supply in most advanced economies will decline in the future, which should in all likelihood have a positive impact on the development of real wages and thus increase inflation. Already today there are numerous examples of companies which are being forced to raise wages significantly to find enough qualified employees and workers.

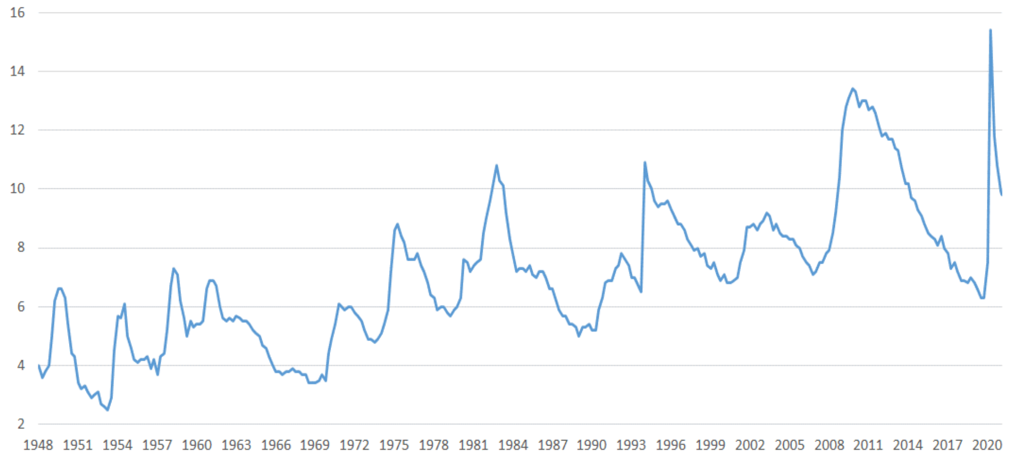
Drivers of Deflation

Slack in Labour Market

The global economy suffered a severe setback during the Corona pandemic and is a long way from operating at full capacity. In many countries there is still a large gap to fill between actual and potential output. Goldman Sachs estimates that U.S. output was about 6% below potential end of 2020. At the same time it expects U.S. potential output to grow 1.75% this year. This means that even a very high U.S. growth rate of 7% to 8% this year will only bring actual output to the level of potential output, which should not trigger strong inflationary tendencies. Only when actual output rises above the level of potential output will noticeable inflation be triggered. For Europe, the difference between potential output and actual output is even higher than in the U.S. This is not surprising considering the real growth rates in 2020. Real GDP was down 2.4% year-on-year as of late 2020 in the U.S., compared to 5% in Europe and 8% in the UK. Accordingly, it will take longer in Europe than in the U.S. until its economy would be operating at full capacity, the point at which inflation pressures are likely to become problematic.

To measure the untapped potential of the U.S. labour market, the so-called slack, the U.S. augmented unemployment rate is primarily looked at. The augmented unemployment rate takes into account not just the officially unemployed, but also the pool of available workers, i.e. people who would like a job, but are not officially registered as unemployed. In April 2021, the augmented unemployment rate in the U.S. was 9.8%. Before the Corona pandemic, the figure was 6.3%. There is still considerable unused potential in the labour market.

US Augmented Unemployment Rate, in %



Source: US Bureau of Labor Statistics

Well-Anchored Inflation Expectations

Over the past forty years, the U.S. and Europe have benefited from low and stable inflation rates. People have become accustomed to low inflation rates. When people are accustomed to low inflation, their expectations are well-anchored. A lot has to happen before people adjust their inflation expectations. Workers and businesses need to see inflation stay high for a while before they start asking for higher wages and charging higher prices, setting off a self-reinforcing upward spiral. The short-run Phillips curve is very flat.

However, the above also applies in reverse: Once people have adjusted their inflation expectations upward, it is often a difficult and painful process to lower inflation expectations. Most often this works only by raising interest rates.

The last time the U.S. struggled with high inflation was in the 1970s and early 1980s. During this time, annual inflation in the U.S. rose to over 14%. To fight inflation and to lower people's inflation expectations, Paul Volcker, the Fed Chairman at that time, was forced to temporarily raise interest rates in the U.S. to 19%. From today's perspective, this is an unimaginably high number. That said, it shows that today's situation of zero or negative interest rates should not be regarded as a given forever.

Technology, Innovation, and Rising Productivity

Productivity gains in the real economy have a deflationary effect. Rising productivity lowers the prices of goods and services the economy is producing. As a result of falling prices, society becomes wealthier. Ultimately, wealth is buying power.

The ground-breaking advances in artificial intelligence (AI) will create entirely new possibilities for having machines and software perform tasks that are currently being done by employees and workers. AI will lower the cost of goods and services because it will be able to replace labour at a fraction of its cost in many areas. Examples include self-driving cars, robot-operated assembly lines, automated delivery systems, AI-based processes and systems in government administrations, offices, banks and insurance companies or AI-based education and school systems. At the same time, combining AI with major advances in genetics and the ability to link the human brain directly to machines and software offers unprecedented opportunities to cure previously incurable diseases, improve quality of life and human productivity, and reduce the overall cost of healthcare. Likewise, there is enormous potential in AgriTech and FoodTech to produce food in a healthier, more sustainable and cost-effective way. Advances in energy could lead to energy costing a fraction of what it costs today in the future.

Moore's Law powerfully describes the exponential power of technological innovation in semiconductors: in past decades, chips doubled in performance every two years. Provided that a similar dynamic unfolds in the above-mentioned areas, the productivity advances in society will be enormous in the future.

Other drivers that could have deflationary effects include the greater integration of India and Africa into the global trading system and the resulting increase in global labour supply. There is also the question of whether the aging population in large parts of the world will lead to secular stagnation. A situation in which private investment cannot fully absorb private savings (the so-called savings glut) and therefore real interest rates remain low in the long-term.

All told, there are many good reasons why inflation should not rise. Just as there are many valid points for inflation to rise. It is not the aim of this paper to predict the future development of inflation - also in order not to prejudge the inflation survey among btov investors. That said, it is certainly interesting to look at the question of what will happen if one or the other scenario materializes.

What is likely to happen if inflation rises more sharply than expected? Central banks would probably first argue that this is only a temporary increase in inflation. Moreover, they would be keen to point out that inflation is temporarily allowed to rise above 2% to compensate for the low inflation of recent years, in line with their new „average inflation targeting“ approach. Central banks would therefore in all likelihood raise interest rates later than usual, which may further increase inflation expectations. Indebted governments and levered businesses would have a strong incentive to try to influence central banks to keep interest rates lower for longer. Debt is becoming less burdensome through inflation. At some point, though, central banks would need to tighten monetary policy and raise interest rates. The transition to higher interest rates is likely to be painful for financial markets. If inflation persists and interest rates keep rising, valuation levels will fall. Bonds will be hit particularly hard. Equity markets have also performed poorly during periods of high inflation. In addition, higher interest rates pose additional challenges for indebted governments, businesses, and households. The consequences could be rising debt restructurings and defaults. There is also the risk that higher interest rates could trigger a recession.

What happens if deflationary forces prevail, and inflation remains low? In all likelihood, this will lead to a continuation and probably acceleration of the monetary and fiscal trends of recent years. Central banks would continue to create money. Governments and businesses would see no incentive to reduce their debt burden because interest rates would likely remain low or negative. Savers and pensioners would have no opportunity to earn a positive real return on their savings. The transfer of wealth from savers and lenders to debtors would continue. Ongoing money creation would further devalue money and savings. Asset markets would in all likelihood remain highly valued, in particular due to the ever-increasing supply of money. The newly created money would continue to flow primarily into financial assets (e.g. stocks, bonds) and real assets (e.g. real estate, gold) in order to provide the best possible protection against the devaluation of money. This cycle could continue to go on for a while, even though existing problems like wealth inequality, ever-increasing debt burdens and the inefficient distribution of resources would become more and more prominent. The cycle could continue as long as the confidence in the stability and value of the respective currency does not fade. Once confidence wanes, things can unravel quickly.

Of course, and quite fortunately, there are various intermediate scenarios between the two described above. Irrespective of this, the question of whether we will see a rise in inflation is fundamental for every investor. I would like to close the paper with a beautiful quote from the American political journalist Theodore H. White from 1982. Shortly before, inflation had peaked in the US at 14.8% in 1980:

“Inflation is a disease of money, and when money goes, order goes with it. Inflation comes when a government has made too many promises it cannot keep and papers over the shortfall with currency which, ultimately, becomes confetti — and faith is lost.”

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