



letter: June, 2022

Waves and prices

mar asset
management

Introduction

The global economy has experienced extraordinary moments since the beginning of the Covid-19 pandemic.

The speed at which efficient vaccines against the illness had been developed was surprising and unknown in history. Although still dramatic, social pain would be much greater if not for vaccines.

The economic impacts of the pandemic had also been intense. Like medical advances, unprecedented economic policies have been implemented worldwide and significantly reduced the pandemic's financial cost.

Although we have already been through the worst economic moment of the crisis, we still live with the consequences of adopting such strong measures. The main result is inflation.

The necessary cost to control inflation will define how the economy and the global markets will behave in subsequent quarters.

A soft landing would be excellent news for risky economies and assets. A hard landing would have relevant costs of activity, unemployment, volatility, and disorganization of current prices.

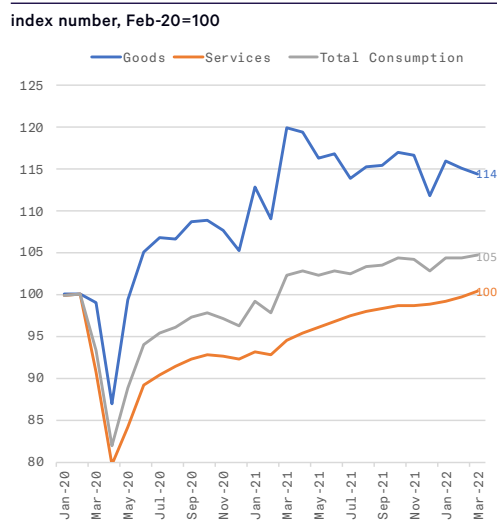
In the following pages, we dive into this theme to better understand the severity of the global inflation scenario, the potential cost to control it, and how to position the portfolio in the face of these challenges.

Contextualizing the inflationary environment

Our diagnosis of global inflation during the pandemic has gone through some steps. Initially, we considered inflation a temporary phenomenon and a consequence of a change in the household's consumption basket from services to goods. With the mobility restrictions due to the pandemic, several services were no longer provided, and families reallocated their share of the budget to purchase more goods.

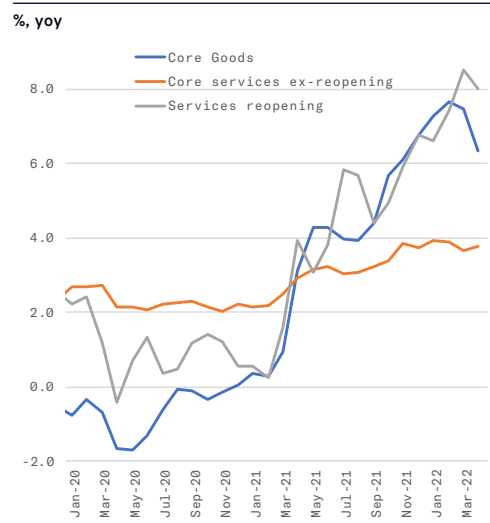
The deviation would have pressured the demand for goods and raised their prices. In the USA, for example, most of the increase in inflation until the first half of 2021 had been almost exclusively in goods and services related to the reopening. Until then, inflation of other services had hardly moved.

Chart 1: Composition of household consumption in the USA



Source: BEA, Mar Asset Management

Chart 2: Composition of the PCE core inflation in the USA



Source: BEA, Mar Asset Management

We understood that once mobility was normalized, the budget would migrate back to services. This would decrease demand and alleviate goods inflation.

This rebalancing would not be smooth, but even if it implied high volatility of current inflation, this price accommodation would occur without significant consequences for inflation in the medium term.

This diagnosis meant that we did not foresee the necessary size of interest rate hike and, consequently, the drop in the stock market in Brazil in the second half of 2021.

Gradually, our diagnosis moved from the interpretation of inflation purely caused by sudden changes in relative prices to aggregate demand inflation. Higher inflation would result from changing consumption profiles and strong fiscal and monetary stimuli. Coupled with the return of mobility and supply shocks, these factors put pressure on prices across the board.

Thus, we managed to capture the interest rate hiking cycle in Chile. In that country, fiscal stimuli (direct government transfers), plus pension fund redemptions, amounted to approximately 35% of GDP and significantly increased household income.

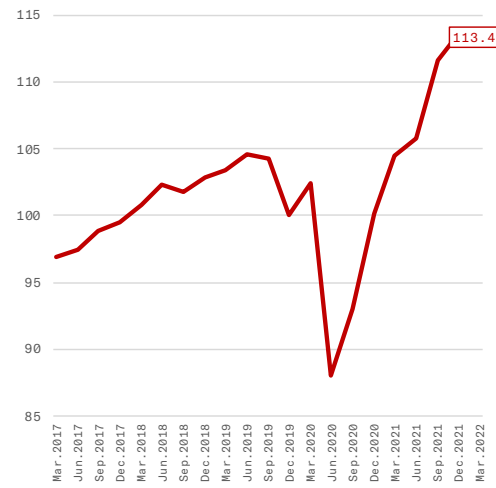
Chile was one of the countries that first vaccinated a relevant portion of its population against Covid-19, which implied that it was also one of the countries that most quickly lifted restrictions on mobility.

The combination of a very aggressive fiscal stimulus, rapid return of mobility, and interest rate at the zero lower bound (0.50% p.a.) formed an environment conducive to a quick and very strong resumption of the economy and an excellent opportunity to position our portfolio paying rates so as to benefit from a hiking cycle implemented by the Central Bank of Chile throughout 2021 and 2022.

A position we have carried for more than one year and generated a relevant return for the fund.

Chart 3: Chile's GDP

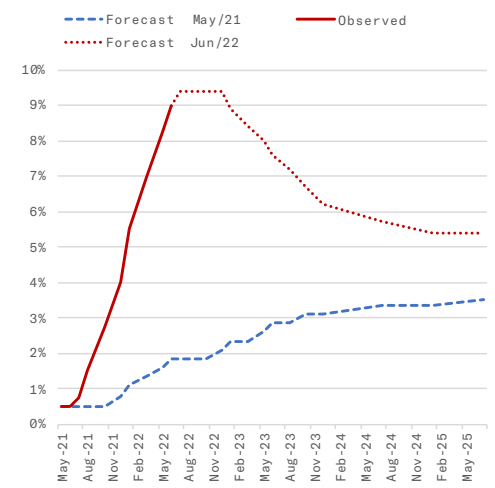
index number, Dec-19=100, s.a.



Source: BCCh, Mar Asset Management

Chart 4: Chile's interest rate curve on different dates

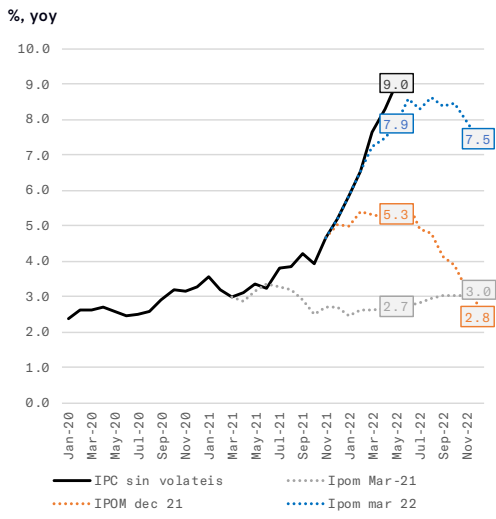
%, p.a.



Source: Bloomberg, Mar Asset Management

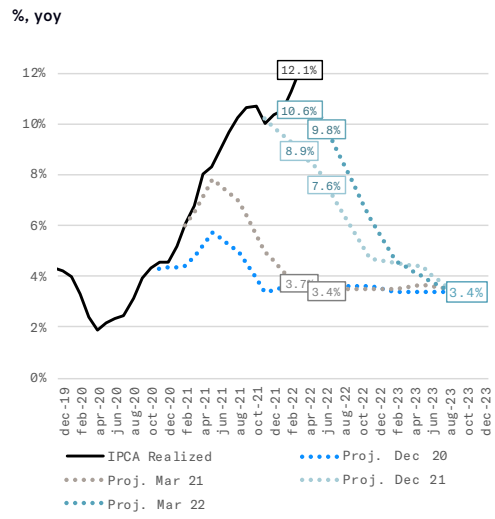
The inflationary phenomenon continued to surprise both the Central Banks of Chile and Brazil, the latter being the first amongst emerging countries to start a hiking cycle. Both made fast and aggressive policy rate increases but still were forced to review upwards their prospective hiking cycle and inflationary scenarios.

Chart 5: Chile – core CPI inflation (no volatiles) observed vs. projected by the Central Bank of Chile in different quarters (Inflation reports)



Source: BCCh, Mar Asset Management

Chart 6: Brazil - IPCA inflation carried out and projected by the Central Bank of Brazil in different quarters (Inflation reports)



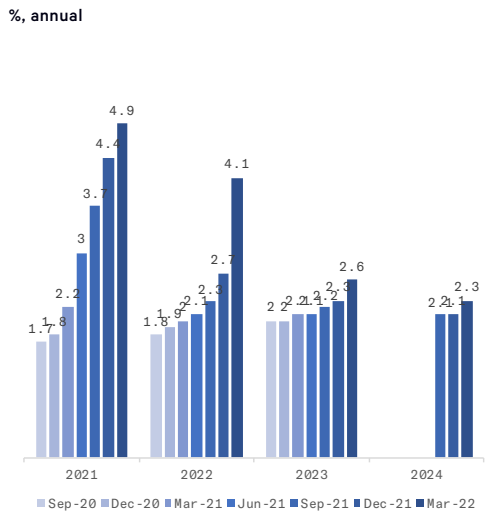
Source: BCB, Mar Asset Management

The path they followed was very similar. At first, there was a perception that they would not need to raise the interest rate for a long time, given the weakness of demand. After the period of mobility restriction, they

changed the message to: “we will rise, but very sparingly,” then: “we will go faster towards neutral interest,” then: “we will go above the neutral if necessary,” and finally: “we will enter very restrictive monetary policy levels to safeguard the purchasing power of the population.”

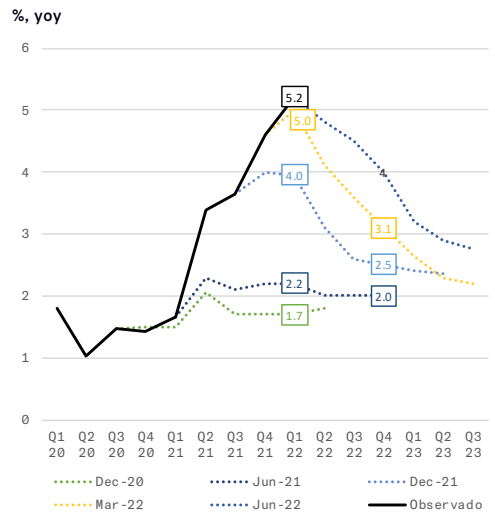
This roadmap for updating the scenario for monetary policy seems to be being followed by the Fed.

Chart 7: Fed projections for inflation for each year at different FOMC meetings



Source: Federal Reserve Board, Mar Asset Management

Chart 8: PCE inflation core - realized vs. projected by the market on different dates



Source: Bloomberg, Mar Asset Management

Our diagnosis of the inflationary phenomenon has continued to evolve over the past few months. We looked at it in an even more global and synchronized way and decided to take a step back to try to understand it more broadly.

Inflation from a historical perspective

In our investigation of what lies behind inflationary phenomena, we came across an excellent book on the history of large price waves since the 11th century.

The book “THE GREAT WAVE – Price Revolutions and the Rhythm of History” was written in the late 1990s and has as a striking feature the observation of the inflationary phenomenon through a historian’s perspective.

The author, David Hackett Fischer, argues that the price waves are the best reference to understand and contextualize history.

As surfers and admirers of Ray Dalio, an idea at the beginning of the book caught our attention.

Unlike Dalio, David H Fischer likes to treat the tremendous upward and downward price movements throughout history as waves and not as cycles.

David argues that cycles refer to symmetrical events with defined magnitudes and intervals. At the same time, waves would better represent the phenomenon that repeats itself with similar characteristics but with distinct periods, development, intensity, and strength between them.

Speaking of waves seemed more natural than cycles. The proper name of our firm already indicates our preference...

David H Fischer made us think less as economists/technicians and develop our historical view.

By understanding the large price movements and their consequences over the centuries, it would be possible to better contextualize inflationary dynamics and its costs..

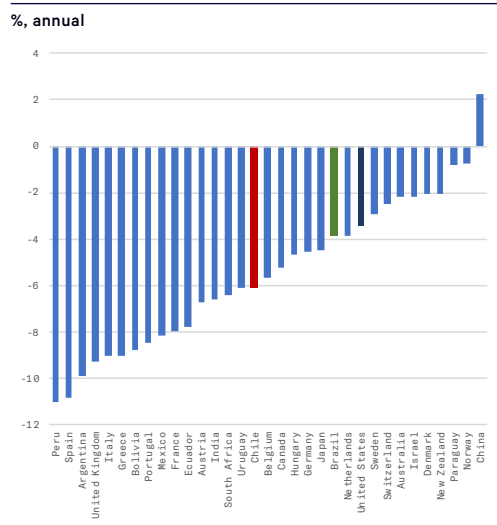
With this approach, we bring some points of the current phenomenon that brought us closer to a broader, structural, and problematic diagnosis of current inflation.

Covid-19, as we know, has spread globally, affecting regions and populations without distinction of wealth or social development.

The year 2020 was recorded by the IMF as the year in which more countries entered recession simultaneously. We have never had such synchrony of the global economy in modern history.

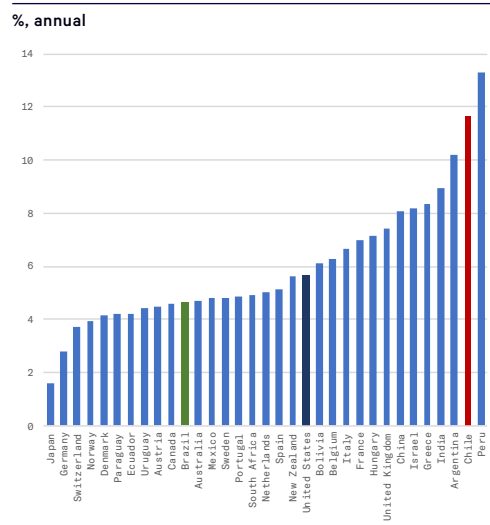
The economic impact generated by the aggressive reduction in mobility was surprisingly mitigated by the rapid and forceful economic policy decisions around the world.

**Chart 9: GDP growth in 2020
in several countries**



Source: IMF, Mar Asset Management

**Chart 10: GDP growth in 2021
in several countries**



Source: IMF, Mar Asset Management

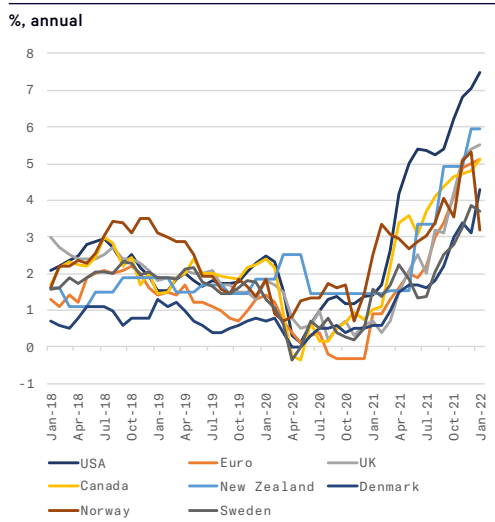
The government's economic response to the pandemic was the implementation of the most significant fiscal and monetary stimuli ever recorded. Thus, it also caused the largest synchronized demand shock ever experienced by modern economies. This occurred at the same time that global production was still suffering from critical supply bottlenecks.

The stimuli implemented were highly successful in containing the potential economic disaster. The activity recovery in 2021 occurred much faster and more synchronized than expected.

Although highly successful, these stimuli have generated side effects that must be addressed, so they do not create new structural issues.

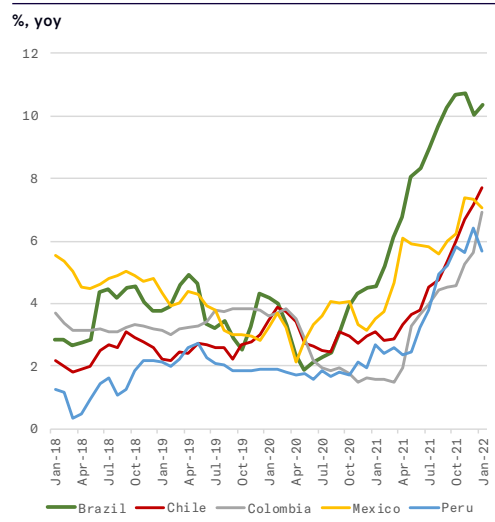
The most damaging of these side effects is inflation.

Chart 11: CPI inflation in some developed economies



Source: Bloomberg, Mar Asset Management

Chart 12: CPI Inflation in Brazil, Chile, Colombia, Mexico, and Peru



Source: Bloomberg, Mar Asset Management

Inflation, which initially and still eventually is called "caristia," is related to the imbalance between supply and demand, caused by the shortage/unavailability of goods.

Its effects can be as harmful as the effects of the pandemic itself.

Inflationary processes, in general, begin silently. They gradually erode the quality of life of the population, especially of low income, through the loss of consumption power, acceleration of inequality, financialization of the economy, and the extreme concentration of wealth generation.

Throughout history, imbalances between supply and demand have generated price waves that have led to wars, revolutions and even facilitated the expansion of terrible plagues by reducing the caloric consumption of societies, weakening collective immunity, causing suffering, and leading to significant social and political imbalances.

In the past, these price waves were controlled, in an extreme situations, through human catastrophes, such as the Black Death. The Black Death reduced the pressure of demand for food and energy, alleviating its prices while reducing the labor supply, increasing wages.

Therefore, there was an increase in average income concomitant with the sharp fall in consumer prices, representing the end of the tremendous inflationary wave of the fourteenth century and bringing a rebalancing of consumption power.

The cost of inflation control was extreme and drastic for the population of that period. Estimates indicate that the Black Death would have led to the death of 30% to 60% of the European population.

Fortunately, over the centuries, productivity, globalization, and better economic policy-making have made it possible for the management of price waves to be less and less costly for societies.

Even so, the inflation risk is severe, cannot be minimized, and must be treated effectively and carefully by the Central Banks. Thus making asymmetric the need to use the tools available to promptly contain the imbalances that generate the inflationary process.

Currently, we are facing a strong wave of demand inflation, global and disseminated among all components - energy, food, goods, and services. There is no break in inflationary indices that tells a different story than strong and widespread price contamination.

Using again as reference the book "The Great Wave," David H. Fischer lists seven types of inflation by their cause:

1. Expansion of money supply
2. Increase in aggregate demand
3. Contraction of supply
4. Inflationary spiral of production costs
5. Controlled price inflation
6. Price Bubble Inflation
7. Contamination of inflation expectations

The different types of inflation coexist and feed one another. The presence of several of them in one exact period increases the phenomenon's consistency.

Today we have some types of inflation already underway in the global economy. We see the inflations type (1), (2), (3), (5), with a high risk of already facing (4), (7) and, recently, some inflection of (6).

The 1970s – last inflation wave in the US

The 1960s and 1970s were marked by mistakes in the conduct of monetary policy. By trying to minimize the costs of controlling inflation, policymakers of the time ended up producing stagflation, that is, inflation without demand pressure.

On the subject, we recommend the book by Professor José Julio Senna, who did exquisite research in: "Monetary policy: Ideas, experiences, and evolution." We devote particular attention to chapter 12, in which Senna details the debates and developments around American monetary policy in the 1960s and 1970s.

In the 1950s, policymakers' goals were a more crude but similar version to the current ones. The understanding of the economy that underpinned macroeconomic policy recommendations was similar. Differences in growth in relation to potential, a concept still incipient at the time, led to the acceleration or deceleration of inflation, which required adjustments in the interest rate to accommodate them.

The inflationary problem originated in the 1960s. There was a revolution in the vision of how the economy works by part of the policymakers of that period. Prestigious economists such as Samuelson, Solow, and Okun argued that achieving minimum levels of unemployment would be possible if a somewhat higher inflation rate were acceptable. The decade also saw growing social demands that put pressure on fiscal accounts, which added to the inflationary pressures of a loose monetary policy.

With the oil shock, inflation broke through in the early 1970s. The core of the PCE surpassed 10% in 1975. Arthur Burns, Chairman of the Fed at the time, did not believe that inflation could be controlled only by a tighter monetary policy. At least, not to an acceptable social cost. For him, inflation was rooted in structural changes in the economy, and

“monetary policy could do very little to calm inflation that was related to rising wage costs.”¹

Inflation in that decade was no longer due to an excess of demand – the economy was stagnant - but rather due to a price-wage spiral. Alternative policies, such as price and wage freezes, were implemented to break the inflationary spiral but were unsuccessful. Inflation remained high until the early 1980s when a new player emerged that would change the course of monetary policy.

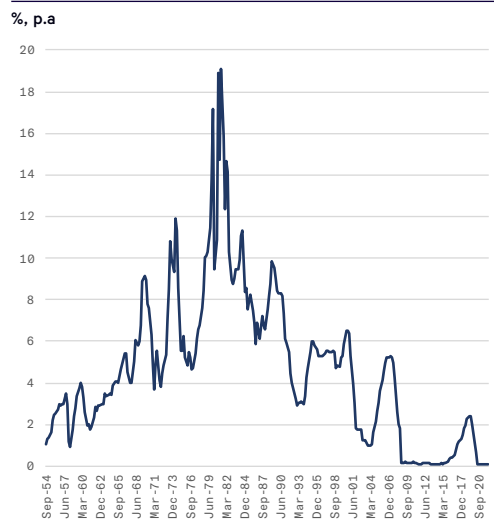
The monetary policy errors of the 1960s and 1970s culminated in the “Volcker Moment.” This was when Paul Volcker, Chairman of the Fed sworn in in 1979, finally raised the Fed Funds rate above 20% with the explicit aim of once and for all containing the persistent inflation that had prevailed in the previous two decades. And it did work! After almost half a decade of tight monetary policy, inflation has converged to much more acceptable levels.

Chart 13: Core Inflation PCE



Source: BEA, Mar Asset Management

Chart 14: Fed Funds Interest Rate



Source: Federal Reserve, Mar Asset Management

1 FOMC Minutes of June 8th 1971, p. 51.

We do not believe that it will be necessary to reissue the “Volcker Moment” precisely because the mistakes of that period are so well described and analyzed by the economic literature and widely debated by the current Fed².

Jerome Powell (current Chairman of the Fed) has repeatedly referenced former Chairman Volcker in symposiums, interviews, and public conversations with the market³. It does not seem to us that he would make the same mistakes as Arthur Burns and William Miller, who preceded Paul Volcker and were primarily responsible for inflation remaining at a high level in the 1970s.

The US Reaction to the Pandemic

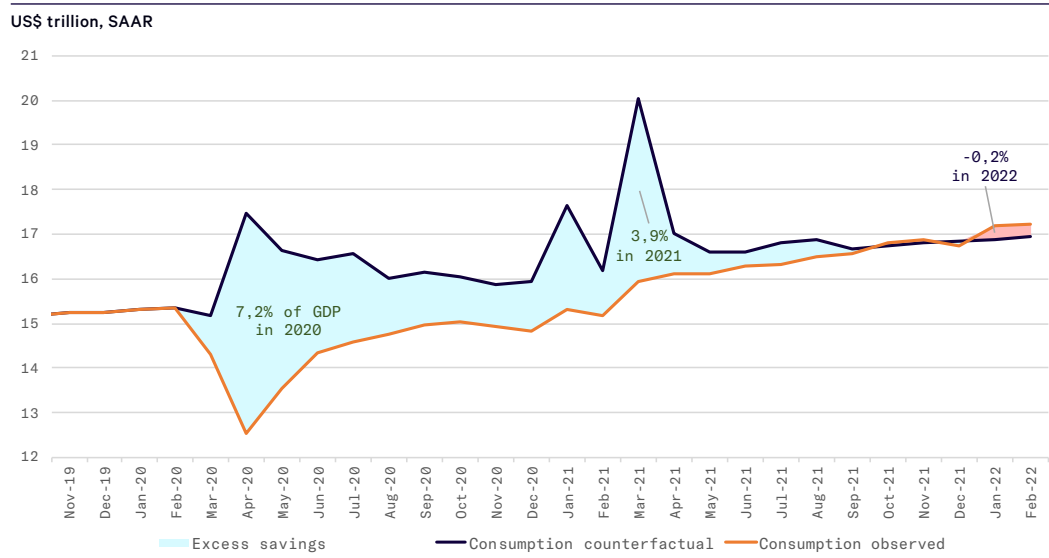
The US has made a fiscal stimulus of around 20% of GDP. The magnitude and, above all, the form of execution of the stimulus were unprecedented. Most of it was made through direct transfers to American families.

Despite the substantial loss of employment during the most acute period of the pandemic, the average income of American families rose significantly due to government transfers. At the same time, household consumption showed a reduction due to mobility restrictions. This increase in income concomitant with the decrease in consumption allowed the accumulation of excess savings, which, in our estimates, amounted to close to 11% of GDP

2 As additional bibliography: [De Long \(1997\)](#), [Nelson \(2005\)](#) and [Romer \(2007\)](#).

3 E.g., On a recent interview to Marketplace website, Powell said: “We know that what Paul Volcker did was right in his situation, and it’s something like that might turn out to be right here.”

Chart 15: Observed and counterfactual household consumption and excess savings

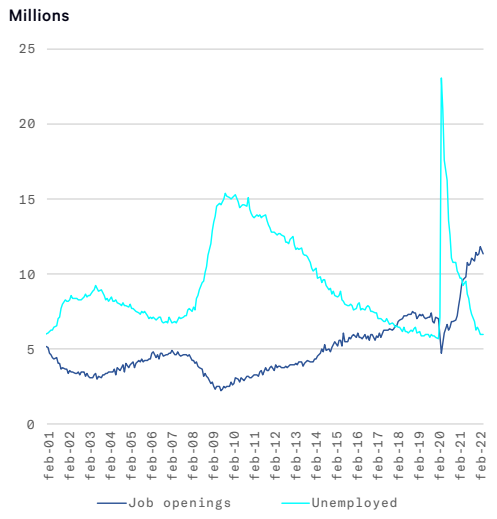


Source: BEA, Mar Asset Management

The excess savings accumulation process is key to our understanding about monetary policy effectiveness. The fiscal shock is not limited to the impulse of government spending in the years of the pandemic. The usage of the excess savings through time work as a delayed effect of the fiscal stimulus, causing household consumption to remain strong for a prolonged period. That is, the pressure on prices becomes longer and more lasting than if it were a canonical fiscal stimulus.

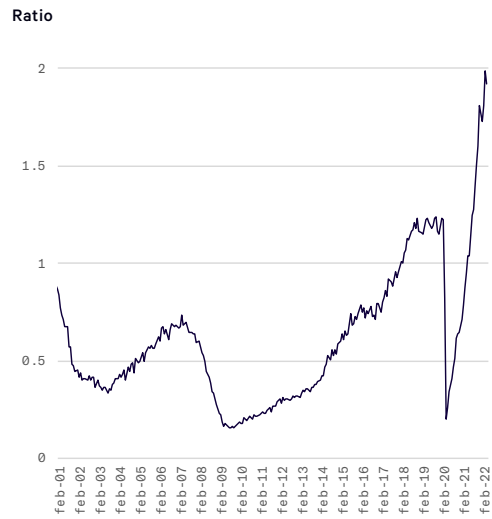
After the initial shock of the pandemic, economic activity's rapid and vigorous recovery triggered a strong hiring wave. The American labor market has never been tighter than it is today. Indicators of labor demand pressure, such as having two vacancies open for each unemployed person, illustrate a combination of solid demand for services and difficulty in recovering the workforce to pre-Covid levels.

Chart 16: Job vacancies and unemployed population



Source: JOLTS, BLS, Mar Asset Management

Chart 17: Number of vacancies per unemployed people

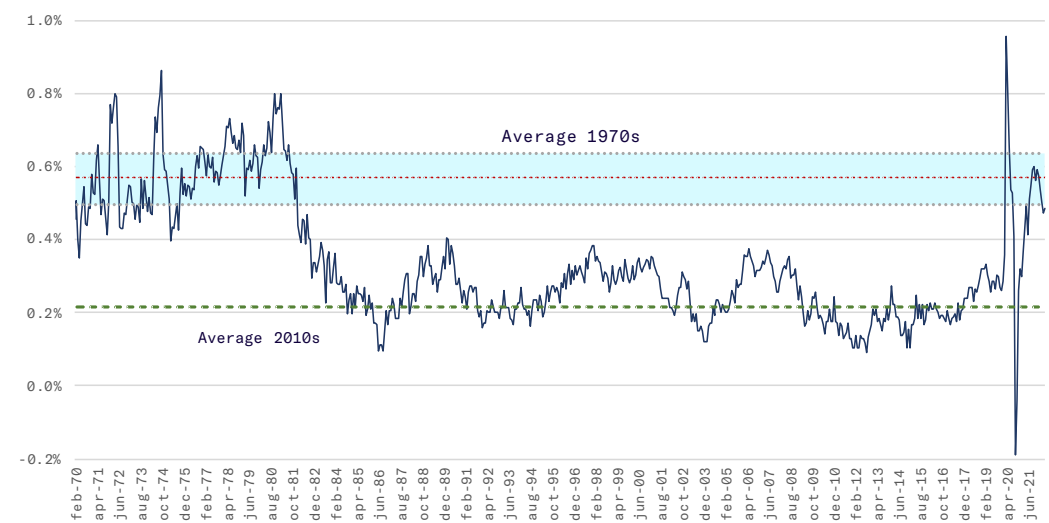


Source: JOLTS, BLS, Mar Asset Management

American families found themselves with excess savings while real income and the opening of new job vacancies continue to thrive. This generated a solid wage increase in parallels only in the 1970s.

Gráfico 18: Average Hourly Earnings for Production and Nonsupervisory workers

% , mom, 6-month moving average, s.a.



Source: BLS, Mar Asset Management

The FED is worried about the rise in wages at such a high pace. This increase is not directly related to supply bottlenecks or imbalance of the consumer basket. When the wages had increased because of an excess of demand for work, it became clear that a good part of the inflation could not be explained only by temporary aspects. In this case, the risk of entering an inflationary spiral dynamics is much higher.

Real wages began to rise in the late 1960s before the core of inflation was out of control. Powell doesn't want to repeat the 1970s.

What should the Fed do?

That's the question we've been trying to answer for the past few months. Although with a lot of limitations and difficulty in modeling, it seems asymmetric to us the need for more interest rate than that priced by the markets and not less.

Will the current strong inflation shock be passed on to future inflation through inertia? Or will the anchorage of the expectations be enough for fast convergence of the inflation to the goal?

To answer this question, we are facing the dilemma of two basic models for thinking about output gap and inflation. The New Keynesian Phillips Curve model, with rational expectations ($\alpha=1$), and the traditional Phillips Curve model, with adaptive expectations ($\alpha=0$)⁴.

$$\text{inflation}_t = \alpha E[\text{inflation}_{t+1}] + (1-\alpha)\text{inflation}_{t-1} - \beta(\text{unemployment rate}_t - \text{Nairu}^*)$$

The primary difference between them is that, in the first, current inflation is a function of inflation expectations. In the second, current inflation is solely driven by past inflation.

This difference makes the prescription for monetary policy quite different between the models.

In the New Keynesian model, the anchoring of expectations serves as a gravitational factor for current inflation. Keeping long-term inflation expectations anchored, it would suffice for the Fed to bring the interest rate to the neutral level so that inflation would converge to the target over time.

4 See, for instance, Roeger and Herz (2018) and Cochrane (2022).

In this model, past inflation contamination for the future one is non-existent, as long as it does not affect future inflation expectations. The Fed's concern would be limited to maintaining the credibility that, in the long run, it will bring the Fed Funds rate to neutral.

In the traditional model, inflation inertia functions as the predominant force to predict future inflation. Starting from a level above the target, the Fed would need to take the economy to a contractionary level (Unemployment rate > Nairu) to ensure inflation convergence. In this case, the interest rate above the neutral level would do the job of slowing down activity, increasing unemployment, and, consequently, controlling inflation. In addition, the faster the Fed acts, the lower the cost in terms of product.

Markets and economists use the model of rational expectations as a reference for the US economy. What the market prices today is a Fed Funds rate of around 3.0% at the end of the current monetary tightening cycle. This level is very close to the neutral nominal interest rate estimated by the Fed.

In this scenario, the cost of bringing inflation back to target would be pretty low through a soft landing. This would be the ideal scenario, as it would cause less social costs and turmoil in the markets. It would be the "Soft Landing" that Powell craves for.

The worse scenario would be one in which inflationary inertia would be much greater than expected⁵. In this case, there would be a need for an intense cycle of high interest rates to control inflation. As a result, it would be a "hard landing."

"Hard Landing" would generate high global activity costs, increased unemployment, and disorganization in asset prices.

We believe that reality tends to develop between the two.⁶

5 An extreme case of such a scenario would be one in which the economy entered an inflationary spiral of price and wages. Increases in labor costs would be passed on to final prices, which would lead to a greater demand for wages and so on. Check our USA Macro Study (link).

6 Estimating the Phillips Curve in the USA at different periods since the 1970s, we find a coefficient related to surprisingly stable inflation expectations (≈ 0.5). The result suggests that

The Taylor Rule, followed relatively closely by Volcker and Greenspan at times when inflation exhibited greater volatility, suggests that the Fed Funds rate should be at 7.0%.

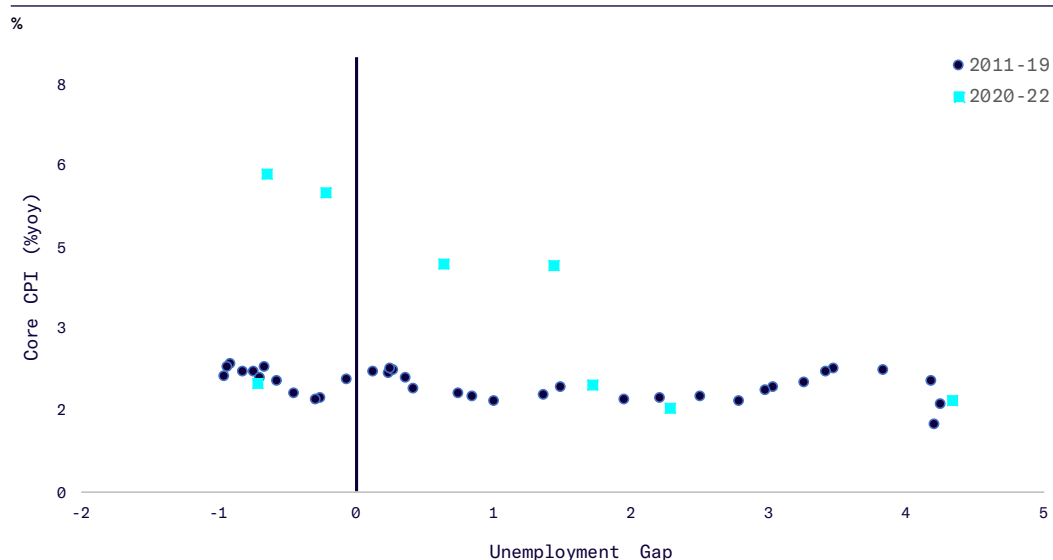
In addition to the issue regarding the real sensitivity to past inflation, the Fed's challenge is permeated by several other uncertainties, such as:

1. What is the current neutral interest rate?
2. What is the effectiveness of Fed instruments in affecting the output gap (IS Curve)?
3. What is the level of unemployment capable of generating a fall in inflation (Phillips Curve)?
4. Will long-term expectations remain around the target (Fed credibility)?

About (3), in particular, recent data suggest that we may have had a structural change in the Phillips Curve. Several papers have documented that the relationship between unemployment (output gap) and inflation was broken after the 2008 Great Recession. The strong post-Covid economic recovery may have resurrected it.

it was an undocking of expectations, not an increase in inertial mechanisms, that made inflation persistently high in the 1970s. Nevertheless, the regression is simple and we do not do any control for endogeneity. It is quite possible that inflation expectations had become a function of current inflation, which would bring a serious identification problem for the estimation of the coefficient of inertia.

Chart 19: Phillips Curve in the USA from 2011 to 2022



Source: BLS, Mar Asset Management

In our USA macro study, published at the beginning of the year⁷, we asked the following question: What would be the implication in terms of monetary policy if the Phillips Curve returned to the 1990s slope? The answer is that the expected inflation and, therefore, the need to raise the interest rate would be much higher.

As we are still very early in the process, we cannot answer if there was a change in the post-pandemic Phillips Curve slope. But inflation data, especially wages, are of great concern to us.

Empirical and risk approach to the potential interest cycle

The last interest rate hiking cycle implemented by the Fed began with Janet Yellen and ended with the current Chairman Jerome Powell.

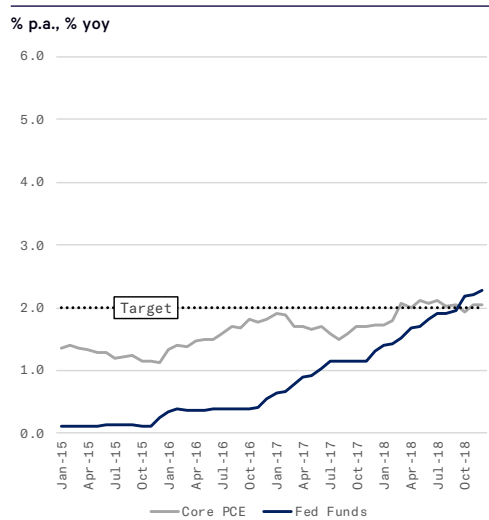
Powell became chairman of the Fed in November 2017. At that time, Janet Yellen's FOMC had already implemented four 25bps hikes and

⁷ <https://www.marasset.com.br/en/mar-content/>

brought the Fed Funds rate to 1.25%. Powell continued the hiking cycle, bringing it to 2.50% in December 2018.

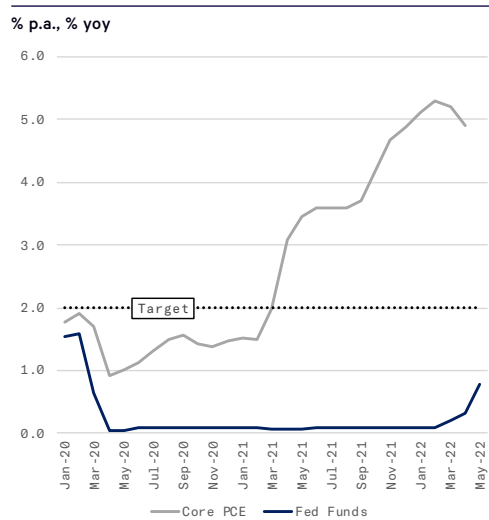
The approach of that cycle was purely one of a normalization of the interest rate. There was no apparent inflationary pressure, although the unemployment rate was the lowest recorded since the 1960s. The interest rate was being taken up to the level considered neutral only as a precaution⁸.

Chart 20: USA Fed Funds Interest Rate Rising Cycle between 2015 and 2018



Source: Federal Reserve, BEA, Mar Asset Management

Chart 21: Current USA Fed Funds Interest Rate Rising Cycle



Source: Federal Reserve, BEA, Mar Asset Management

At present, with the unemployment rate as low as in the previous cycle but with widespread inflation pressures, it would not make sense for the cycle to end below the neutral interest rate.

In this context, supply shocks spread faster and more intensely than when the economy is in balance, increasing the risk of inertia.

⁸ E.g, as FOMC Minutes as of September 2018: “In discussing their projections, almost all participants continued to express the view that the appropriate trajectory of the federal funds rate would likely involve gradual increases. This view was predicated on several factors, including a judgment that a gradual path of policy firming would appropriately balance the risk of a buildup of inflationary pressures or other imbalances associated with high levels of resource utilization,(...)”

An example of this is the spread of rising food and energy commodity prices due to the war between Russia and Ukraine. In the current already inflationary scenario, shocks like this significantly increase the risks, according to the Fed.

In an environment of global overheating, anti-globalization, supply shocks around the world, and disseminated price pressure between energy, food, goods, and services, it is natural to imagine that the Fed Funds rate exceeds 2.5% p.a., the peak of the previous cycle.

It seems, therefore, high the probability that the tightening cycle in the USA will develop similarly to what we recently saw in emerging countries, a sequence of upward revisions of the prospective inflation and interest rates scenario.

As the experience of the 1960s and 1970s taught, from the point of view of risk management, the Fed should not put its own credibility at stake. The cost of resolving the inflationary process becomes more expensive the longer it takes to solve it⁹.

Risk of short-term recession?

One discussion that dominates the markets today is the risk of a recession in the American economy in the short term. Such a scenario would reduce inflationary pressures without the need for the Fed to promote stricter monetary tightening. We do not believe that this is the case.

The main argument for fear of recession is the recent change in financial conditions. Conditions have shown significant tightness and will

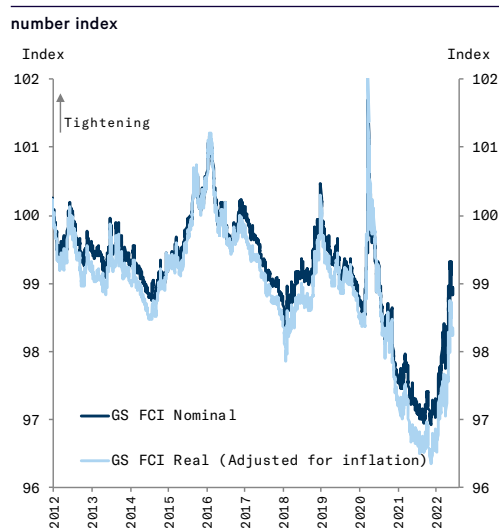
9 In our discussion of the rational expectations model, we note that inflation eventually converges to long-term expectations under the New Keynesian Phillips Curve hypothesis. That is, what is a gravitational positive factor when expectations are anchored becomes a very negative factor when expectations are unanchored. The only way to end up with inflation on target would be to keep the unemployment rate above Nairu until long-term expectations were restored. No one knows how this process takes place. Economic literature is very incipient in explaining how inflation expectations are formed.

have some contractionary effect on activity. Nevertheless, we believe that they are still, at the level, accommodative

Alternatively, it seems to us that the impulse of demand through household consumption and resumption of the service sector will overlap the recent worsening of financial conditions. This boost will keep activity above potential, albeit with some deceleration of current levels of GDP growth.

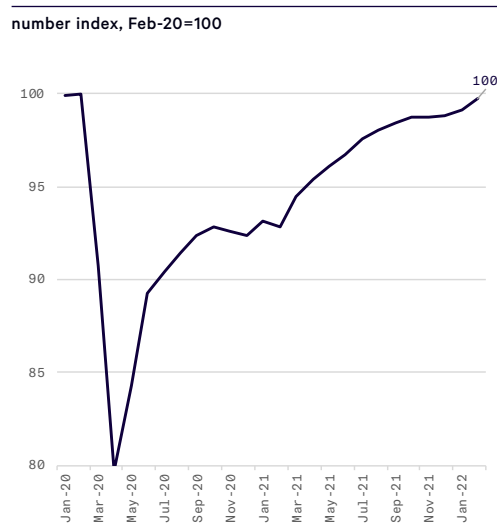
There is no clear risk factor that could lead to a USA recession other than one generated by the Fed itself via a substantial tightening of monetary conditions.

Chart 22: Goldman Sachs Financial Conditions Index



Source: Goldman Sachs, Mar Asset Management

Chart 23: Growth in consumption of services by US households



Source: BEA, Mar Asset Management

To some extent, today's discussion for the USA reminds us of the debate in Brazil during Q3 last year. At the time, market analysts concluded that the monetary tightening practiced by the BCB would generate a substantial economic slowdown, even leading to a recession in 2022.

Our counter-argument was that such predictions were based on models that worked reasonably well in a typical environment, but that could be out of calibration in an environment of impulses as extraordinary as those seen during the pandemic. Continued mobility and expansion of the service sector should more than offset the contractionary effect of monetary tightening.

By in large, it is what we are seeing today. Analysts have been revising their estimates for 2022 GDP in recent months, from a recession to an expansion of around 2.0% in the year.

The exact process took place in Chile. At the turn of the year, both BCCh and market analysts anticipated a substantial slowdown in activity due to the end of fiscal stimuli. As in Brazil, they have revised their estimates of activity and inflation on household consumption resilience.

We believe that the same phenomenon must happen in the US and that the Fed will have to do a more complex and costly job to control its price wave.

Conclusions and Portfolio:

Today we are facing an inflationary phenomenon that carries characteristics of the great price waves pointed out by David Hackett Fischer.

Inflation is global and disseminated between energy, food, goods, and services. It is the most complex and challenging wave we have observed in the last 30 years and is generated by the unprecedented global synchronization of economic stimulus responses.

Such unprecedented economic stimuli during the pandemic may have released the inflation dragon, which has volatile and unpredictable behavior and must be fought by effective and aggressive measures, but not unprecedented.

Therefore, given the very high level of inflation, our diagnosis behind its reasons, and its possible adverse effects on society, we believe it is necessary and probable that the Fed uses the available control instruments - the interest rate, *quantitative tightening* and *forward guidance* - vigorously and for the time needed to control inflation.

We are confident that the endpoint of this chapter will be an environment of low inflation and controlled uncertainties. The path chosen to achieve this goal may take more or less time and be accompanied by intense price volatility.

Therefore, we will address what is priced by the different markets.

The interest curve with FF terminal rate pricing around 3% represents, in our view, something close to the ideal scenario, a “soft landing.” At its peak, the monetary tightening cycle would reach an interest rate level slightly above that considered neutral by the Fed itself (2.5% p.a.).

If a final rate of 3% is sufficient to control inflation, there would be no debate about a structural change in the equilibrium interest rate or even the slope of the Phillips Curve. We would only be experiencing a brief price shock in a controlled inflation environment, structurally very low interest rates, and pro-risk markets.

In this environment of controlled inflation, we could quickly have the “Fed Put” return to protect the markets, which would be a great reducer of risk.

However, as we describe throughout the letter, our central scenario is that the effort of monetary squeeze needs to be more significant to reach the end point of this chapter.

In a scenario where a “Hard Landing” is necessary, the Fed, as well as some central banks of emerging countries earlier in the cycle, will have to take its interest rate to levels much higher than that priced in the curve.

At current prices, the asset that seems most asymmetric to us is the US interest rate future.

But what if we're wrong?

We understand as legitimate the Fed's intention to aim at a "Soft Landing" through a limited monetary tightening cycle and reduced social cost. Although it is not our central scenario, we attribute a reasonable probability that the Fed is correct.

However, the Fed scenario would not necessarily imply significant losses for our portfolio.

We believe that there is a good asymmetry in paying rates in the US market (benefiting from the "Hard Landing" scenario) and, at the same time, being long in risk assets that would benefit from a "Soft Landing".

If we are wrong in our central scenario and a shorter monetary tightening cycle prevails, our share of stocks in the portfolio, concentrated in fundamental cases – bottom up – would benefit from reduced risk perception. The good performance of this portion of the portfolio would balance the potential losses arising from our interest rates paying positions.

They are strategies of opposition, but that, combined, improve the expectation of return.

Given our central scenario, however, we have more risk assigned towards betting on higher interest rates.

Finally, controlling the US inflationary wave would bring excellent opportunities in several markets.

The Fed is the player that will inflect the global cycles of high interest rates when it contains its inflation.

This moment will indicate that the surge in interest rates around the world has ended and will signal the beginning of a new global cycle of monetary loosening. Probably, starting with the countries at the forefront in the tightening process, such as Brazil and Chile.

It will be time to receive interest rates in these countries.

As always, after certain and successful monetary tightening cycles, once inflation is controlled, opportunities for long loosening cycles will emerge.

Is there currently a competitive advantage in being an investor in an emerging country?

A recurring question we received is the following: “Do you, from Mar Asset, have a differential to trade the US interest curve?”

Our answer is honest. We do not believe in having a structural differential to trade USA interest rates. However, in particular situations, we were trained for the scenario.

As we are dealing with an inflationary environment and the potential reaction of the Fed, we believe to be more familiar with the process of errors of diagnosis on the part of the markets and the Central Banks.

As the last 30 years were of low inflation in the US, with greater concerns of inflation slipping below rather than above the target, the tools for monitoring a normal inflationary process were left aside.

The credibility that the Fed has built up in recent decades makes the US market's lack of trust in the scenario presented by the institution very low, which makes room for major surprises and market price movements.

Obviously, we can be wrong in our assessments. However, in this environment, our more suspicious training on how much effort it takes to put the inflationary genie back in the bottle seems more appropriate.

Management philosophy in moments of doubt and scenario transitions

Our management model has the function of defining a directional risk exposure using different asset classes.

The process considers different scenarios, repeatedly updating their weights in our decision-making. Nevertheless, our model mainly seeks assets that present good price asymmetries, both for the central and alternative scenarios, with the objective of reducing risks and improving the expected return.

The search for balance in the portfolio vis-a-vis prospective scenarios is always very delicate. It is the result of a lot of debates, exercises with risk metrics, and team reflection.

We continue to evaluate our allocation regularly to move our risk exposure/aversion according to the development and update of our future scenario.

Keeping a good dose of doubt regarding our conclusions and reflections is a relevant part of the process of walking in an environment as unstable as the one we are living in.

In these moments, we remember Vilém Flusser in his book "On doubt" when he says: "Doubt is a multipurpose state of mind. It can mean the end of one faith, or it can mean the beginning of another. It can also, if taken to the extreme, be seen as "skepticism," that is, a kind of inverted faith. In moderate doses, it stimulates thinking. In excess, it paralyzes all mental activity."

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