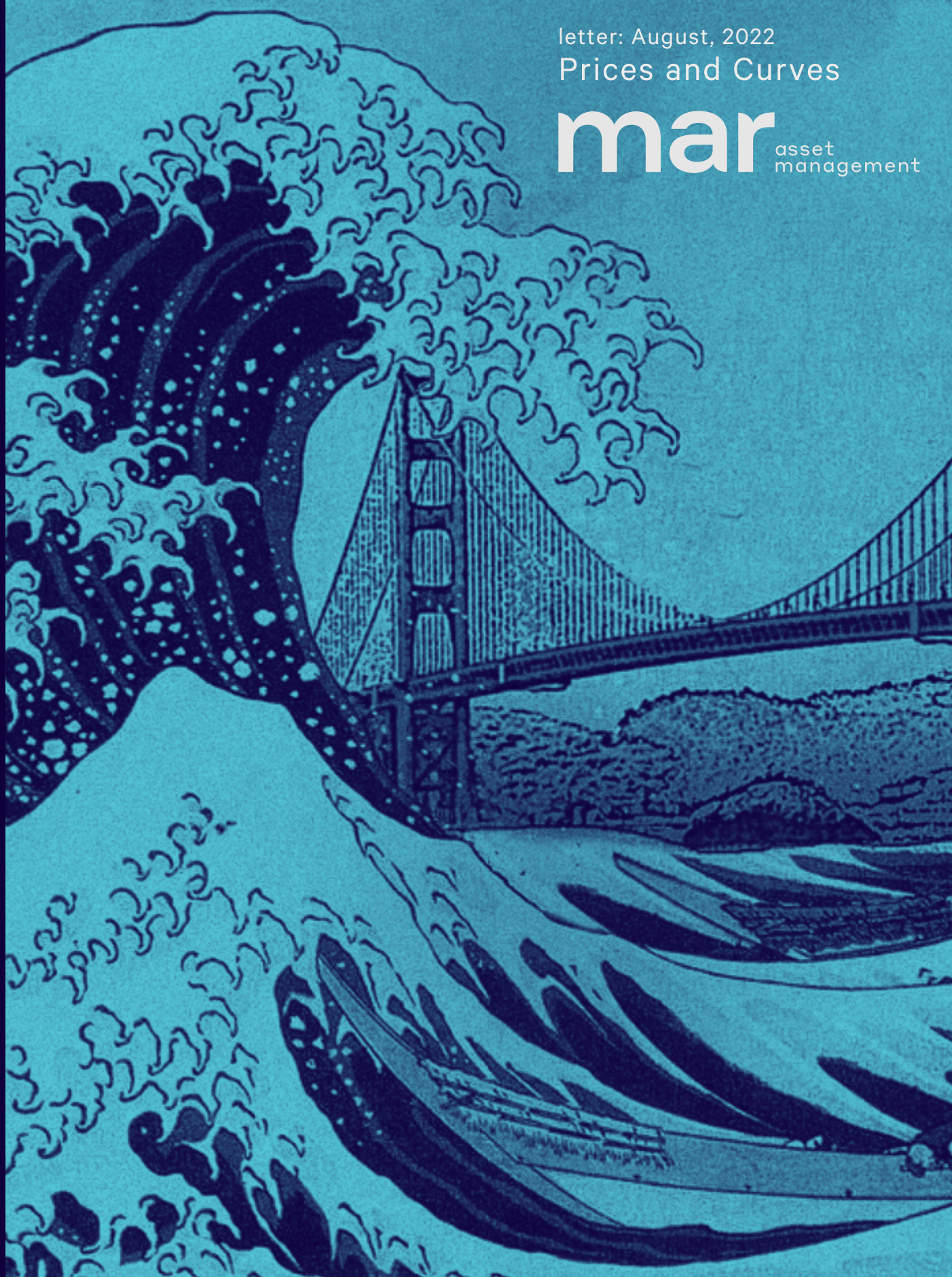


letter: August, 2022
Prices and Curves

mar asset
management



Interest rate repricing

Plenty has happened since our last letter, [“Waves and prices”](#), in which we laid out our view on the US inflationary issue. Since then, inflation has been on a surprisingly upward trend, which prompted the Fed to react aggressively, increasing the pace of the federal funds (Fed Funds) rate hikes to 75bps a meeting. The interest rate curve initially priced a tighter cycle, then retrieved, and now is heading back to a cycle with a terminal rate of about 4.0%.

The US inflation x Fed reaction is the most debated topic among experts, with great arguments on both sides. That is why we deem it essential to update investors regarding our vision on the subject and how our portfolio stands.

Mar Asset’s standpoint is that we find ourselves in a crucial moment for markets, where the discount rate of all global financial flows (i.e., US long-term interest rate) may be transitioning to a substantially higher level compared to the last decades.

Developments pertaining to household consumption in the short-term, together with the Fed’s reaction, will be the basis for the first set of available information, which shall aid us in responding to whether the structural interest rate has been altered and perhaps bring us some light on its magnitude. Thence we will piece together our outlook on the global market environment risk for years to come.

Needless to say, we have dedicated plenty of time to studying and thinking it over.

As counterintuitive as it may seem, we believe the faster we move into a recession in the US, the better it will be, structurally speaking, for

risk assets. Maintaining solid economic activity would force a critical US interest rate repricing process, negatively affecting long-duration risk assets.

We stand firm on the belief that the monetary tightening cycle will be greater than the one we see priced today in the market. Our portfolio represents this view by our stance on the US interest rate futures market. The exposure is concentrated in future contracts in the first semester of 2023, the time in which we believe to be the Fed Funds peak in the current tightening cycle.

This thesis is based on the perception that the US economy will not slow down as consensus currently expects and will push for the interest rate curve repricing.

It serves the purpose of recollecting that the US economy grew 5.5% in 2021 and that some slowdown is on the horizon. After all, it is not possible to maintain such growth indefinitely. Our doubt, however, is on how intense will be this deceleration in the short-term, not whether it will occur. This is where we disagree with the market consensus.

Maintaining even moderate levels of growth would prompt the market to consider a final interest rate of around 5% and question the monetary policy transmission mechanisms, given that contractionary financial policies implemented thus far would not have been made into a relevant economic slowdown.

The debate concerning neutral interest rate boosts in a post-pandemic future would gain momentum. Arguments such as deglobalization and changes to the Phillips and Beveridge Curves would become ever more present among market analysts to support the idea that the US structural interest rate could have gone up in a post-pandemic world [\(SEE THE APPENDIX\)](#).

This is the scenario we fear the most. Uncertainty about the neutral interest rate would let the long-term rate loose, provoking doubts about the “new” discount benchmark rate to be used for pricing global financial assets. Weighing an anchor like this could set intense disorganization of prices within financial markets.

On the other hand, even if the market is right and the US is already in or very close to a recession, current headline inflation of around 9% would force the Fed to deliver something not so different from what has already been signaled in the dot plot in its second to last meeting and ratified in the next one. It is the current market pricing.

Should we be wrong, our potential loss seems limited, given the current Fed Funds rate level. Notably, potential losses will decrease with each boost carried out by the FOMC in the coming months as the current Fed Funds rate closes in on the rates negotiated in futures contracts.

Should the current pricing be enough for inflation to converge to the target, the lesson would be that the most significant American inflation of the last 40 years has been solved with a modest nominal interest rate. Such a scenario would be compatible with the pre-pandemic levels: low structural level of interest rates and very favorable for risk assets, especially for long-term assets, such as stocks and fixed interest securities.

Monetary policy transmission channels

The neutral interest rate is the one that, in the long term, balances out conditions of aggregate supply and demand. Because the economy works in waves and is never effectively in balance, the effective interest rate must float around this neutral rate. When demand is above supply, the remedy is a current interest rate above the neutral rate. Conversely, when demand is weaker, the current interest rate must be below the neutral rate.

Since the economy revolves around the break-even point, the average rate expected in the long term is very close to the neutral rate. Consequently, markets end up pricing long-term interest rates very close to what they understand to be the neutral rate. The discrepancy is the risk premium.¹

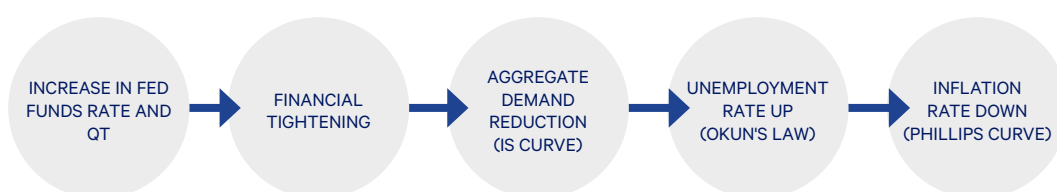
1 For a more comprehensive discussion on the topic, please refer to our paper [“What information can be obtained of the yield curve?”](#).

The neutral rate cannot be determined directly. It is a complicated theoretical concept to be estimated, which makes uncertainty about its real level very high.

Moments of paradigm shifts, such as the one we are witnessing, cast doubts on the premises we had about the US economy neutral rate. The Covid-19 shock, change in consumers and workers preferences (e.g., online shopping, home office, early retirement, immigration reduction, ESG policies), and keeping inflation rates at levels not seen since the Volcker Era could all have had structural effects and changed the long-term equilibrium rate.

It is not a market consensus, but until when will this hold true? In other words, what triggers the market to start believing in the probability that the structural interest rate has increased significantly?

It is important to remember how the monetary policy transmission process works to reduce inflation and how uncertain its effectiveness in each step is. We do not know (1) the effectiveness of the Fed's instruments in changing financial conditions in the economy, (2) how these conditions affect activity by means of aggregate demand (IS Curve), (3) how this demand reduction will affect the gap in the job market (Okun's Law) and (4) how the reduction in activity will affect inflation (Phillips Curve).



In the current cycle, the next stage in monetary policy transmission is the IS Curve. A necessary condition towards the effectiveness of monetary tightening already underway would be its negative impact on economic activity.

This seems to be the market focus for the months ahead. A significant slowdown would initially signal that the terminal rate of the current Fed Funds upward cycle priced by the market would already be beyond the neutral rate, or at least the market would interpret it that way, which would already serve as a relevant anchor to keep the US long-term rate in low levels.

Brazil as a parallel to the US economic situation

A US economy slowdown is not an obvious thing to happen. It is not hard to find similar situations in recent history in which vigorous activity growth took place hand in hand with a relevant tightening of financial conditions, eventually leading the market to discuss a structural change in equilibrium interest rate.

What has been seen in Brazil is an excellent example of this. The market consensus predicted Brazil would go into recession in 2022 due to the monetary contractionary policy implemented in mid-2021. This consensus was supported by weak activity numbers released throughout the rest of that year. However, economic activity proved much more resilient than expected due to personal consumption resiliency. These same forecasters ended augmenting their GDP growth estimates these last months, which is currently around 2.5% for 2022.

The Central Bank of Brazil's estimate for the equilibrium interest rate was rectified from 3.0%² to 4.0%³. In a recent interview, former Copom (Monetary Policy Committee) Economic Policy Director, Fábio Kanczuk, asserted that his estimate of Brazil's real neutral rate was 4.5%⁴

2 E.g., Correio Braziliense newspaper, August 8, 2021 [\(link\)](#)

3 Inflation Report, June 2002, pg. 53 [\(link\)](#)

4 Interview on Exame Invest, August 2, 2002 [\(link\)](#)

We believe there is a high probability of this also happening in the US. As we discuss further, we believe US activity will remain resilient, which will lead to a review regarding the Fed Funds rate hikes cycle, as observed in Brazil.

A more resilient activity and a longer cycle of interest rate boost, combined with the increased geopolitical risk narrative, deglobalization (reshoring), global energy transition towards ESG demands, and the end of the Chinese deflationary effect, would strengthen reviewing upwards the estimations of neutral rate. Should we factually be in a scenario where Fed Funds end up rising to 5-6%, with a debate on the neutral rate increasing and doubt on its new level, the long-term interest rate would become very volatile and, in turn, less useful as a reference to the discount rate used in pricing other financial assets.

In such an environment, market disorganization would be significant.

On the other hand, a relevant aggregate demand reduction would point out to a non-changing neutral rate. In this case, the long-term rate would find stability and become an anchor for other assets, thus stabilizing markets.

Such a scenario would show us an interest rate curve with inverted inclination, with short rates higher than long ones. This would be good news for markets in comparison to an alternative scenario with a flat rate curve, with both short and long rates at a high level.

It is much better for long-term assets to have a Fed Funds rate (FF) at 5% and ten-year rate (10y) at 2.5% than FF at 5% and 10y at 5%.

The long curve shows that the market believes the neutral rate remains structurally low. The 10-year Treasury bond is at 2.80% a year, close to the levels observed between 2015 and 2018. Maintaining the long rate in this baseline arises plenty of doubt, mainly because we believe the first sign of the effectiveness of the monetary tightening already implemented, a decrease in demand, will not come in the short term and will fuel the debate on the actual level of the neutral rate.

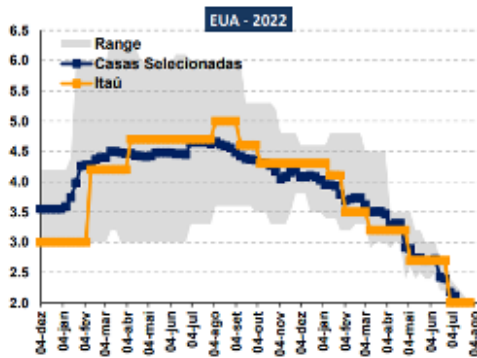
If the economic environment is so risky, why does the Market bet on such a modest interest rate cycle?

The most significant risk for paying rates is a recession in the US shortly. In this case, the Fed could determine it has done its job, and there would be no further need for additional adjustments on the interest rate. That is, at least not regarding the magnitude suggested by the Fed members in the dot plots.

Asset prices moved downwards between mid-June and the end of July due to a perception of higher probability of such an adverse scenario. On the eve of the FOMC’s last meeting, a group of coincident/leading indicators was compatible with an intense economic activity slowdown. This perception of weaker activity, together with the oil prices collapse, led to a reduction in inflation expectations and, consequently, in the scope of the cycle that Fed shall implement.

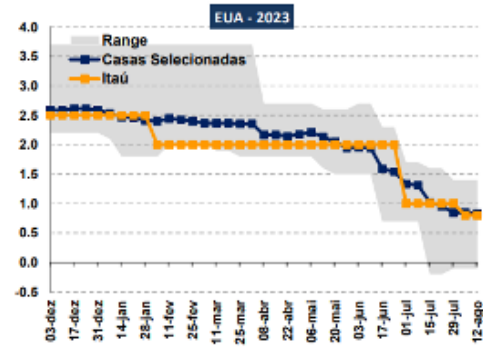
The expectation of activity cooling down has been continually confirmed by GDP growth projections being market down.

Figure 1: Evolution of US GDP growth expected in 2022
% a yr



Source: Itaú, Mar Asset Management

Figure 2: Evolution of US GDP growth expected in 2023
% a yr.



Source: Itaú, Mar Asset Management

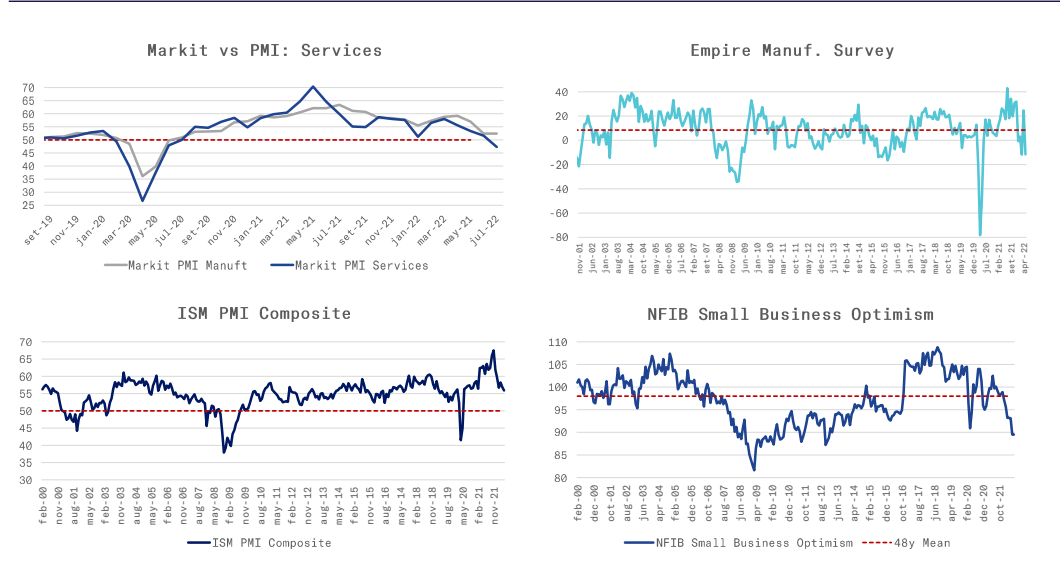
This GDP estimate reduction led to repricing the scope of the cycle expected by the market. The market priced a 4% terminal Fed Funds rate in mid-June. At the end of July, this rate went down to 3.2%.

Leading indicators (soft data) indicate a strong decline in American economic activity; how do we interpret it?

The market recognizes soft data as leading indicators of economic dynamics. These indicators are produced using qualitative survey with pre-defined groups, in a way that answers to preset questionnaires are given grades with signs of confidence or lack of certainty regarding the ongoing economy.

The last months have shown a general deterioration of soft indicators. ISM, NFIB, Markit, Philly Fed, among others, showed a relevant drop in business and consumer confidence.

Figure 3: Selected US economy confidence indicators

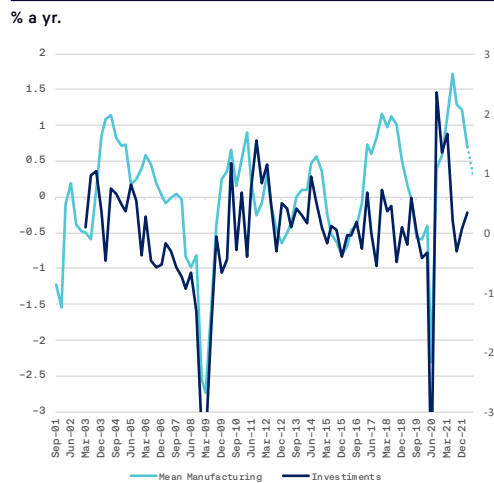


Source: ISM, Fed NY, Markit, NFIB, Mar Asset Management

Our first approach was trying to answer a simple question: is it possible that, throughout time, leading indicators really behave as such?

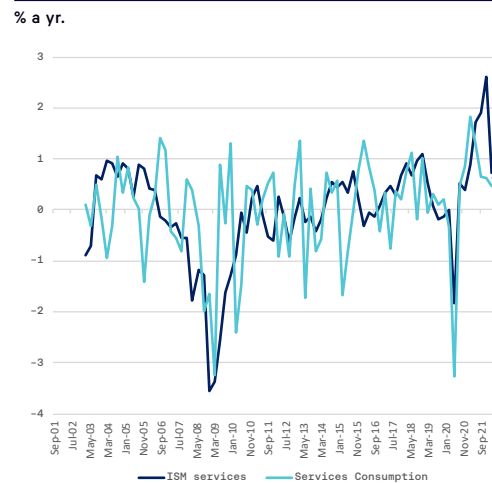
When analyzing the historical numbers, we did not find a correlation that justifies the credibility these indexes bear in the market. Except for moments of crisis, it seems there is not a relationship robust enough between soft indicators and economic activity.

Figure 4: Manufacturing PMIs vs. GDP investment



Source: Mar Asset Management

Figure 5: Services PMIs vs. GDP services



Source: Mar Asset Management

The second step was for us to understand the research methodology used in these surveys and how it could be distorting results. We investigated questionnaires from each research, the public to which the questions are made, and the qualitative character of the answers.

An apparent distortion in the results relates to the content of negative answers pertaining to future production expectations and new hiring. One of the main factors for a more bleak vision nowadays, if not the main one, is the lack of availability of workers and input. In many cases, it is not for lack of interest that companies are not hiring or producing, but rather because of a lack of supply. However, the final indicator only considers if there will be or not an increase in staff/production. The negative answer on hiring, for example, depresses the final indicator. Unlike the usual setting, the problem is not one of excess demand but instead a lack of supply.

Another variable that confuses the answers' orientation is the cost pressure effect. In many answers, businesspeople seemed pessimistic, even when passing on all the pressure from the higher input costs to their prices.

In the [BOX \(LOCATED IN THE APPENDIX AT THIS DOCUMENT'S END\)](#), we go into more detail about the construction and analysis of the consumer sentiment index by the University of Michigan, an indicator the market follows very much and is often discussed by Fed members.

Figure 6: Sampling of answers from the ISM survey – July 2022

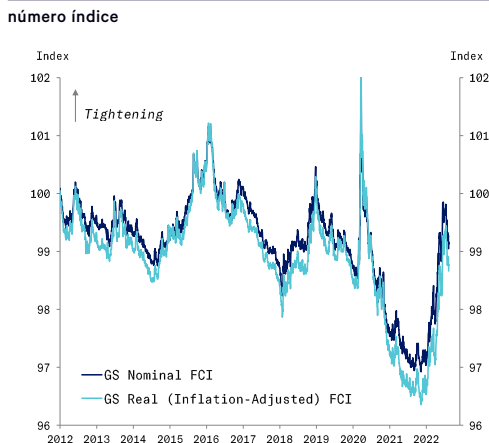
ISM Services - July 2022	
Labor Market	“Hiring demand remains robust in most industry sectors. Tech has had a slowdown in hiring and layoffs. It’s still a candidate’s market, as the number of job openings across all skill levels and positions remains far greater than the number of candidates for those roles.” [Professional, Scientific & Technical Services]
	Comments from respondents include: “Employee turnover, backfills taking longer to locate and onboard” and “Difficulties hiring new candidates as we lose more people who retire or leave the company for new opportunities.”
	“Rising costs across the board seems to be the big focus now. Fuel and food are the most common focus but it is across the board, and there is pressure of a job market shortage for qualified workers to increase wages and other benefits.” [Public Administration]
Supply Chain Issues	Comments from respondents include: “Lack of drivers for delivery companies due to labor shortages” and “Global supply issues are causing uncertainty on when and how many products will arrive.”
ISM Manufacturing - July 2022	
Supply Chain Issues	“Chip shortages remain; however, the COVID-19 lockdowns in China are presenting even worse supply issues.” [Transportation Equipment]
	New order entry has slowed down slightly; however, logistical issues have yet to improve. Long lead times for materials and labor shortages are still a major problem.” [Machinery]
Labor Market	“Material extended lead times still affecting business, and the challenging labor market is a huge factor too. Backlog is healthy; we just cannot deliver to customers due to material issues.” [Computer & Electronic Products]

Source: Business Surveys, Mar Asset Management

Are the tighter financial conditions in place causing a relevant US economy slowdown?

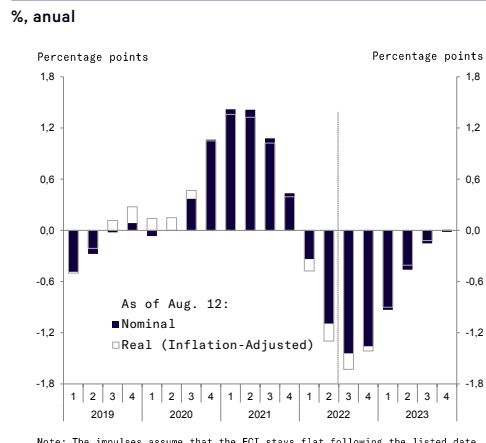
Since the beginning of the year, the economy’s financial conditions in the US have been tightened. The S&P shrunk 10%, mortgage rates went up by 200 bps, the American dollar gained 11% (DXY index), and credit spread (CDX HY) increased by 150 bps. The Goldman Sachs (GS) FCI, an index that compiles financial conditions according to its estimated impact on activity, rose by 200 bps, all since the beginning of the year. By construction of the index, such a move would bring the negative impulse in the same magnitude to GDP growth.

Figure 7: GS Index for US financial conditions



Source: Goldman Sachs, Mar Asset Management

Figure 8: Impulse estimate on GDP due to financial conditions variations



Source: Goldman Sachs, Mar Asset Management

As a whole, the outlook among those who view activity most pessimistically sits on this financial conditions contractionary process.

Even though it may be correct every now and then, we find this basis frail. GS’s own research team, who created the index and estimated such a negative monetary impulse, does not work with the foresight of a strong US economic contraction. For them, GDP trimestral growth will remain around 1.0-1.5% SAAR until the end of 2023⁵.

Brazil presents itself again as an interesting parallel for the situation in the US. The tightening of financial conditions took place long before in the US and was followed by a deterioration of confidence indicators (soft). However, real activity has not slowed down in accordance to how economists and the markets saw it coming.

The dark blue in the Figure below shows the financial conditions index for Brazil, while the light blue line shows the Industry Confidence Index (ICI FGV, Getúlio Vargas Foundation). Throughout 2021, the ICI suffered strong retraction, 20pts at its highest, in the midst of financial conditions

5 The historical relationship between financial conditions and activity is fragile. Research from Goldman Sachs shows an enormous confidence interval for the estimate of impact a 100bps squeeze on financial conditions would have on GDP, which is between -0.3% and -1.5%.

tightening. The release of current activity data more robust than expected at the beginning of 2022 led to a partial reversal of pessimism.

These dynamics were reflected in the GDP growth expectations for Brazil. In the third quarter of 2021, many low-growth reviews were made for 2022, concurrently with tightening financial conditions. The Boletim Focus (Brazilian Central Bank newsletter) predicted growth lower than 0.3% in 2022. Most research institutions, which tend to review projections more frequently, project a recession at a given moment.

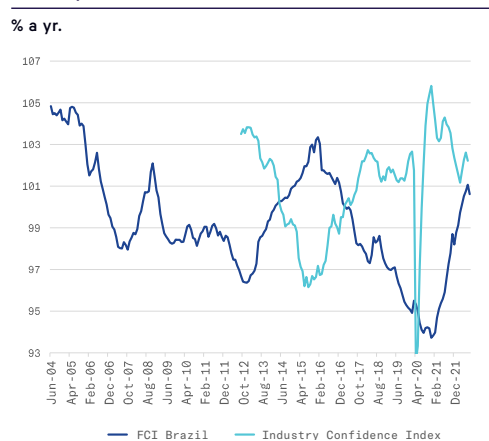
Since the beginning of this year, these more pessimistic projections were reviewed and recalled, inasmuch activity showed more resilience than expected. The consensus among analysts in the Focus newsletter is already projecting growth close to 2.0%, while other research institutions project even higher.

Figure 9: Brazil's Financial Conditions Index and GDP growth expectation



Source: Goldman Sachs, FGV, Mar Asset Management

Figure 10: Brazil's Financial Conditions Indexes and Industry Confidence



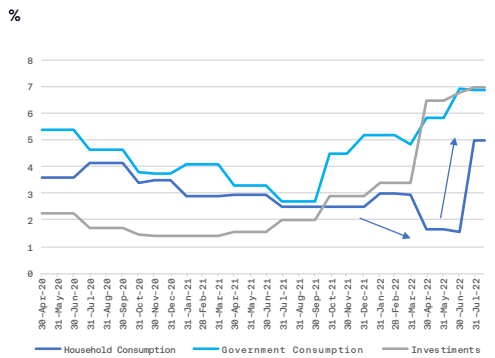
Source: Goldman Sachs, BCB, Mar Asset Management

New Zealand is another excellent example. It is a developed country with structurally low inflation and a monetary authority with high credibility, having been the first to adopt an inflation target system. The economic developments and the reaction to the RBNZ (New Zealand Central Bank) in the current cycle have been very much in tune with what we expect to see in the US.

New Zealand inflation is the highest and most disseminated in decades, supported by an activity above potential. The biggest surprise, however, has been the resilience of household consumption, which, as per the monetary authority, lies on a solid job market and a very healthy household balance sheet. The personal consumption expectation in 2022 increased from 1.7% to 5.0% between April and July this year.

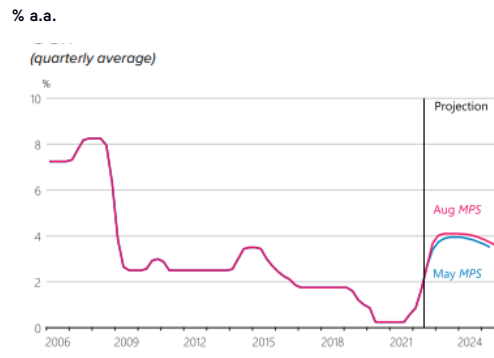
The RBNZ responded by promoting the highest cycle of interest rate boosting in 30 years, raising the OCR rate (overnight interest rate, equivalent to the Fed Funds) from 0.25% to 3.0% APR and pointing to a terminal rate of 4.0%.

Figure 11: Projeção crescimento dos componentes da demanda interna do PIB da Nova Zelândia em 2022



Source: Bloomberg, Mar Asset Management

Figure 12: Taxa OCR realizada e projetada pelo RBNZ



Source: RBNZ, Mar Asset Management

For us, the most interesting part of the communiqué after the monetary policy decision in August was the remark from the monetary authority on the neutral interest rate⁶. The communiqué reads explicitly that the Committee discussed the possibility of a neutral interest rate and that Bank staff will undertake new studies to review its estimations (currently around 2%). In other words, output and inflation persistently higher than expected cast doubt on the monetary authority concerning the neutral rate level. That is what also happened in Brazil, which can happen in the US.

6 See [link](#).

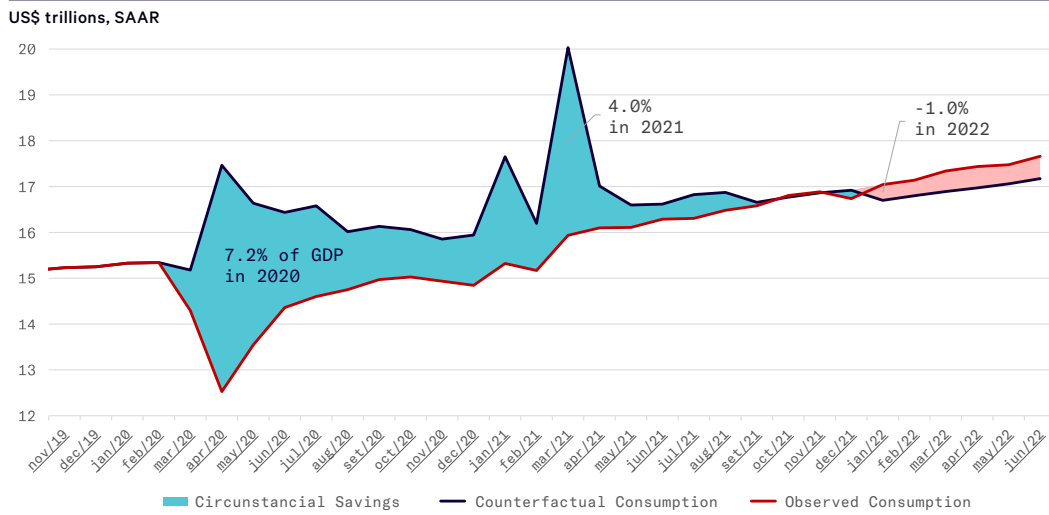
Why do we believe activity in the US will remain resilient?

We expect personal consumption dynamics in the US like the ones we saw recently in Brazil, Chile, and New Zealand. In our viewpoint, surprising consumption resilience has its root in the rebound of mobility and normality in services consumption, combined with excess savings. This has led to very positive dynamics for the job market in these countries, helping to support the activity expansion cycle, regardless of negative monetary and fiscal impulses. It is most likely that the same will unfold in the US.

These forces are not taken into consideration by some sacred macroeconomic models, hindering their predictive power. These models were built under normal demand environments centered on potential and have not functioned well in an out-of-recession environment, economic reopening, and mobility comeback.

As is with the US, the relevant excess savings formed during the pandemic remains in households' balance sheets. We can already see some marginal consumption of savings, which underlines that families, for now, are not reducing their consumption standard established during the pandemic.

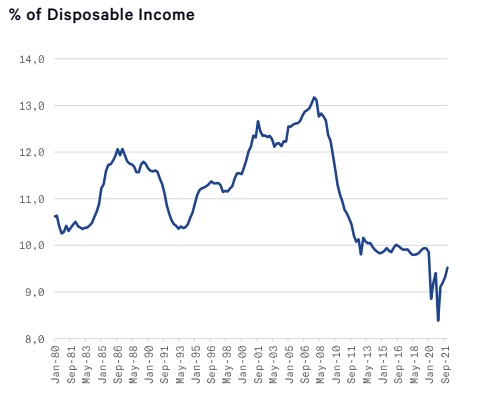
Figure 13: Observed and counterfactual personal consumption, excess savings



Source: BEA, Mar Asset Management

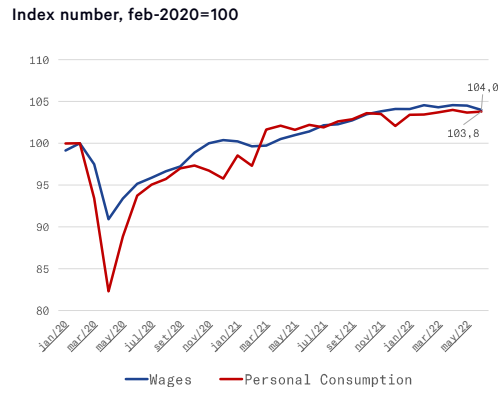
Meanwhile, the debt service cost is close to the lowest historical levels, the job market remains vigorous, and therefore, the wage bill keeps increasing in real terms despite high inflation in 2022.

Figure 14: Households' debt service in the US as a proportion of Disposable Income



Source: Federal Reserve, Mar Asset Management

Figure 15: Wage bill and personal consumption in real terms

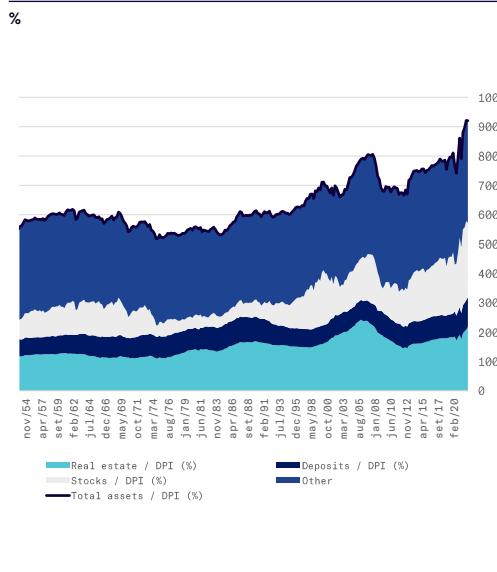


Source: BEA, Mar Asset Management

A commonly used argument to ratify an economic slowdown is the wealth effect. A strong S&P retraction and a potential price correction by institutions would reduce US families' wealth. This would lead them to more moderate behavior, thus reducing consumption intention and increasing savings rate.

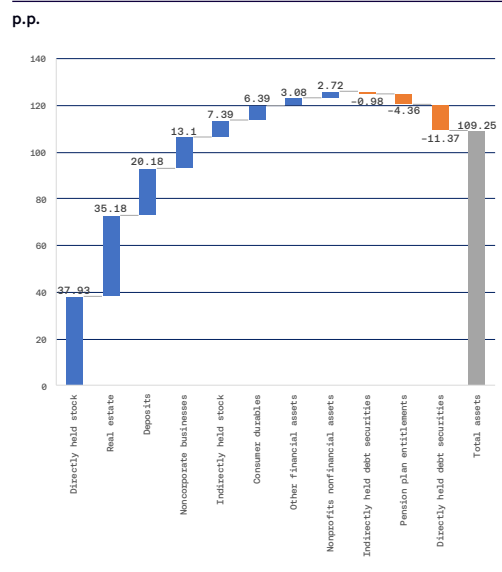
Be it as it may, US household net worth is close to its highest level in history.

Figure 16: US household total assets by asset class proportional to disposable income



Source: Federal Reserve, Mar Asset Management

Figure 17: Increase in total household assets by asset class between 4Q19 and 1Q22



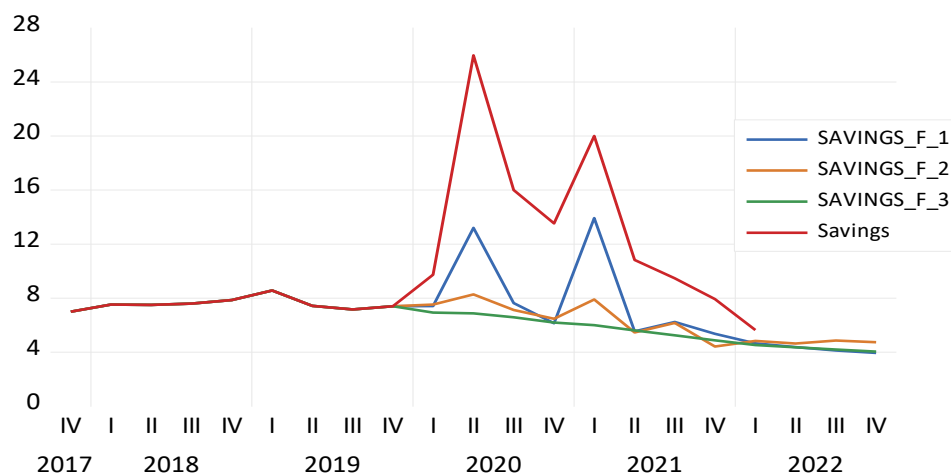
Source: Federal Reserve, Mar Asset Management

The S&P's example is handy. If all governmental transferences had been used in purchasing S&P's index, the average price would still be well below the current price. In other words, wealth would have gone up because of such allocation, and indeed, it would be much higher than in the pre-crisis period.

The savings rate should remain at this low level for quite a while. Even after the strong price correction done to financial assets, households' wealth as a proportion of income remains very high in historical terms and debt service shallow. Our econometric models that take into account these factors suggest the savings rate should stay between 4% and 5% for the rest of 2022, which is close to the current level.

Figure 18: Observed vs. estimated savings rate, based on net worth, debt service, and income growth

US\$ trillions, SAAR



Source: BEA, Mar Asset Management

When we combine these aspects, we find it difficult to see consumption slowdown, as expected by the market in the short term.

Considering the corporate sector balance sheet, which also finds itself in historically low levels of leveraging, we suspected that in an environment of small private sector debt, the monetary policy effectiveness tends to be lower than estimated by canonical models.

The asymmetry in the position adopted on the American interest rate

Even if we are wrong and the economy shows a relevant slowdown in the short term, it is still quite possible for the Fed to boost the Fed Funds rate to close to what is priced by the interest rate curve. As of now, the market prices a terminal rate of the current cycle at 3.70%.

As previously discussed, the the movement along the IS Curve is but one is but one of the necessary stages of effective monetary policy transmission. After confirmation that activity is really slowing down, we would still have to check the speed at which the economy increases its idleness (Okun) and lastly, how it would lead to lower inflation (Phillips).

Each stage is filled with uncertainties. In our “Waves and Prices” letter, we discussed the possible difficulty of bringing inflation back to target within a Phillips Curve context. Namely, economic output decline has an uncertain capacity to slow down very high inflation levels, at risk of having less effect than expected.

This additional uncertainty shields our portfolio. If our main stake fails, inflation's resilience will remain an upward risk to the current cycle terminal Fed Funds rate.

On the other hand, the potential for an upward shift in the interest rate curve is very high. Looking at it from a different angle, should the weaker economic activity scenario not fulfill itself, where would the market and economists review their projections for terminal interest rates?

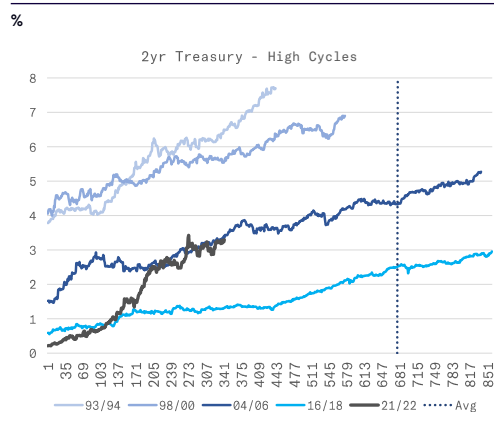
A more robust activity scenario is where the real upside of our portfolio is in the short term. If the activity does not slow down in response to tighter financial conditions, interest rates will have to go up in a relevant way to, finally, cool down economic activity and then, with the same uncertainty degree as of today, tame inflation. It would be clear from the onset (IS Curve) that the monetary tightening implemented so far would not be sufficient to control inflation.

Curiosities about interest rate increase cycles in the US

In the last four cycles of interest rate hikes in the US, the increase in the two-year futures contract lasted, on average, 706 days from beginning to end. The shortest, between 1993-94, lasted 441 days, while the longest (2016-2018) lasted 678 days. We have thus far gone through 339 days of the current cycle since the beginning of a two-year contract spike, that is, 50% of the average from the last four cycles.

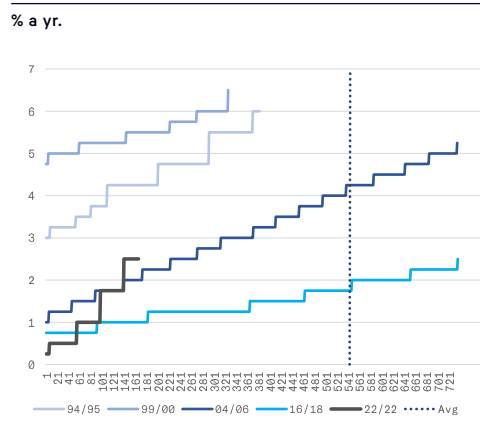
The same analysis for the Fed Funds yields an average of 544 days in terms of the duration of increase cycles. From the beginning to the end of the cycle implemented by the Fed, the shortest one (1999-2000) lasted 326 days, with the longest (2016-2018) lasting 736 days. The current cycle is 163 days, or 30% of the average time.

Figure 19: Increase in 2y futures contract rate in the US during the last monetary tightening cycles



Source: Bloomberg, Mar Asset Management

Figure 20: Increase in Fed Funds rate in the US during the last monetary tightening cycles



Source: Bloomberg, Mar Asset Management

Another curiosity regards our learning about the price action of a higher US interest rate cycle.

Contrarily to monetary tightening cycles in emerging economies, the interest rate curve is priced higher than that indicated by central banks since markets tend to be more pessimistic regarding inflation control capability. It is the opposite in the US, though. The curve has priced fewer spikes than the Fed has advocated for as a necessary tool to contain the inflationary process.

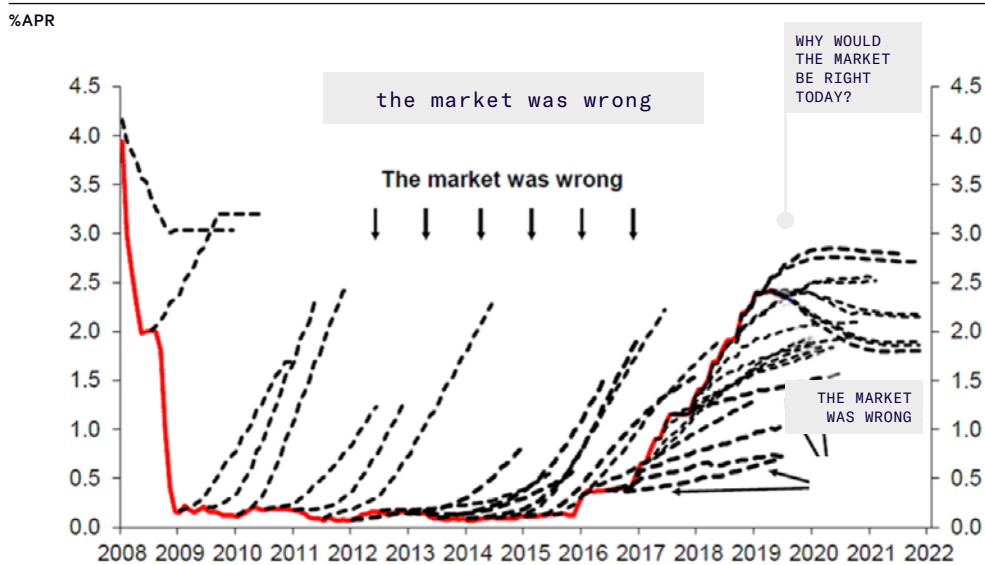
We believe this pricing behavior is due to three main reasons.

Firstly, the US dollar is the leading global reserve currency, and in each event of risk aversion, investors seek Treasuries as a refuge, cashing in on its rates of return (Safe Haven). Secondly, there is a perception that the Fed is more concerned with activity rather than inflation. Lastly, inflation has not been a problem in the US since the beginning of the 1980s.

We believe that only the dollar’s Safe Haven aspect fits the current situation.

To conclude, the market consistently mistakes terminal rate projections within US cycles. Not only in downward cycles but also in upward cycles, markets tend to underestimate the magnitude and total duration of the movement. In other words, too significant a change in market expectations would not contradict the historical pattern

Figure 21: Fed Funds futures rate in different moments



Source: Deutsche Bank, Mar Asset Management

A rule of thumb here at Mar Asset is that in hiking interest rate cycles, we operate either paying rates or without exposure. Once in it, we never know how long each cycle will last. The Figure above clearly depicts this strategy’s effectiveness.

Conclusion

In the previous pages, we focused on the effect the first channel of which tighter financial conditions run into the economy, namely the impact on aggregate demand.

We contemplated the following steps, unemployment augmentation (Okun's Law) and the effect on inflation (Phillips Curve), as a protection for our rates receivers position in case of a relevant demand slowdown. If we are taken by an upward demand surprise, as was the case in Brazil, Chile, and New Zealand, it would be enough for repricing interest rates, which would bring about the potential for the worst-case scenario: the structural doubt regarding the neutral rate and long interest rate curve.

Appendix

For those still eager to do some more reading, **a bit more technical henceforth**, we will expand our topic to the public debate between Blanchard, Domash e Summers⁷, on the one hand, and Figura and Waller⁸, on the other, with regards to the possibility of controlling inflation without an unemployment rate increase. In other words, they are discussing whether soft landing is possible.

These economists "exchanged" good arguments through dense articles, which we summarize our understanding below and, at the end, add our own insight into the topic.

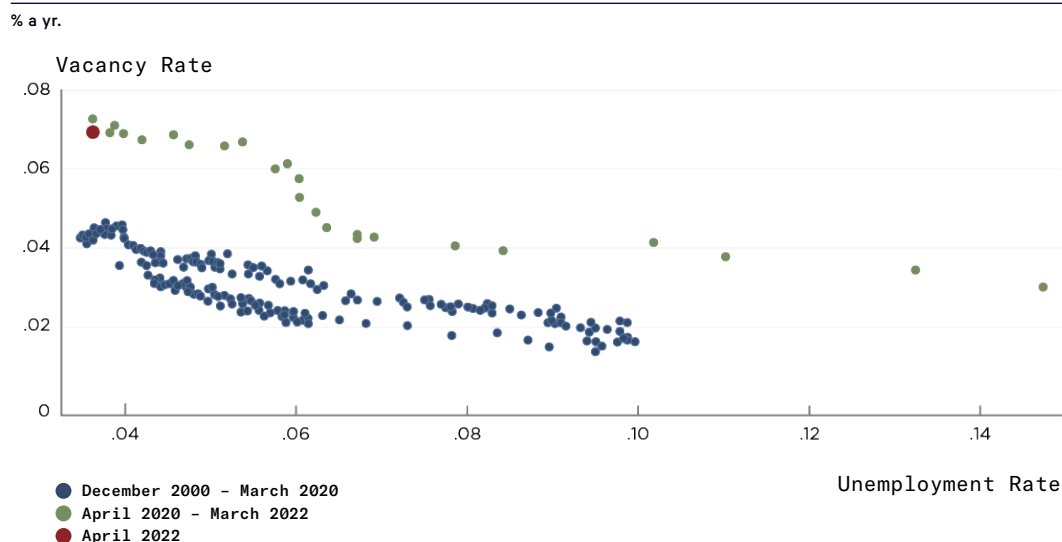
The debate revolves around Beveridge's curve, which is the relationship between vacancy and unemployment (v/u ratio) in different periods in time.

7 See [link](#).

8 See [link](#)

The relationship between the two variables is not stable. Figure A-1 is great at showing this. Currently, unemployment is at 3.6% and vacancy at nearly 7%. In the pre-crisis period, the unemployment rate was at the same 3.6%, but vacancy at a mere 4.0%.

Figure A-1: Beveridge's curve observed – unemployment rate and vacancy rate in the US



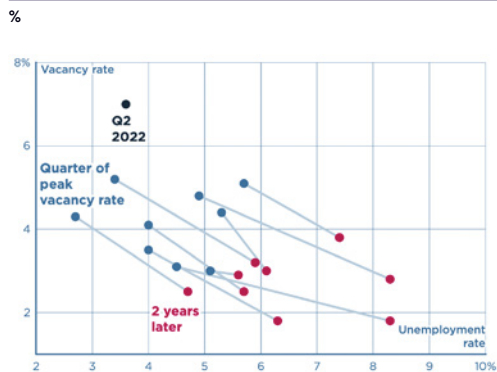
Source: Blanchard, Domash e Summers (2022), Mar Asset Management

The authors of both articles understand that the job market is very tight, and it needs to slow down for inflation to come under control. They agree that a necessary condition for this is a considerable reduction in the v/u ratio.

However, they disagree on its impact on the unemployment rate. Blanchard et al. argue that it is not possible to bring the vacancy rate back to its pre-pandemic level without increasing the unemployment rate, which would mean a shift of the entire Beveridge Curve, but not a change on its inclination. The curve's inclination would be the same as in pre-pandemic time, so any movement along the vertical axis (vacancy reduction) demands variation in the horizontal axis (unemployment rate increase).

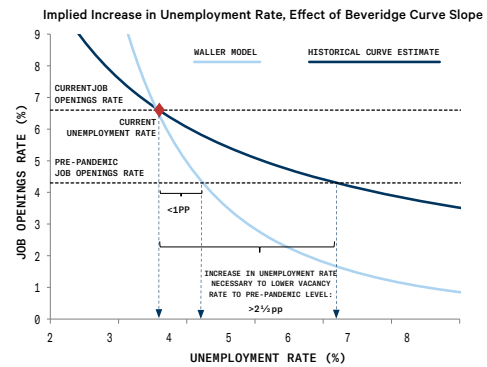
Figura and Waller argue the opposite. For them, a soft landing is possible as the Curve's inclination would be much higher as closer as it moves towards the vertical axis. Thus vacancies could fall without unemployment moving up too much. The Beveridge Curve would then not have changed level. All we would have seen is a movement along the Curve.

Figure A-2: Unemployment and vacancy rate reduction and in past crises in the US



Source: Blanchard, Domash e Summers (2022), Mar Asset Management

Figure A-3: Movements along vs. movement of the Beveridge Curve



Source Goldman Sachs, Mar Asset Management

Figura and Waller’s argument seems fragile. Their reason for believing in the possibility of vacancy reduction without a respective unemployment spike is based on an assumption about the Beveridge Curve shape with no empirical backing. They extrapolate an estimated convexity for the Curve with data from pre-crisis time to the current v/u level and suppose future movements will take place along this curvature. The problem is, as Blanchard et al demonstrate, such curvature does not make itself present in periods of recession.

On the other hand, Blanchard’s argument on the curve’s shift seems more plausible for the short-term rather than long-term, for it would be a surprise to have so structural a change in the US job market in such a short time.

When we observe Beveridge’s and Phillips Curves and contrast the current situation with the pre-pandemic scenario, we find a similar behavior among them. Both shifted up.

For the same unemployment rate, the Beveridge Curve currently shows a vacancy rate much higher than it was in pre-pandemic time. Concurrently, the Phillips Curve shows inflation much more elevated than pre-pandemic levels for this same unemployment rate.

We connected the Beveridge and Phillips Curves with the 2008 crisis recovery and found an eye-popping difference.

In the 2008 crisis panorama, employment comeback was much slower. It took ten years for the unemployment rate to move from 10% down to the

pre-pandemic level of 3.6%, a period in which the PCE core inflation never crossed the 2% mark. Regarding the 2020 crisis, the unemployment rate dropped from 15% to the pre-pandemic 3.6% level in just two years.

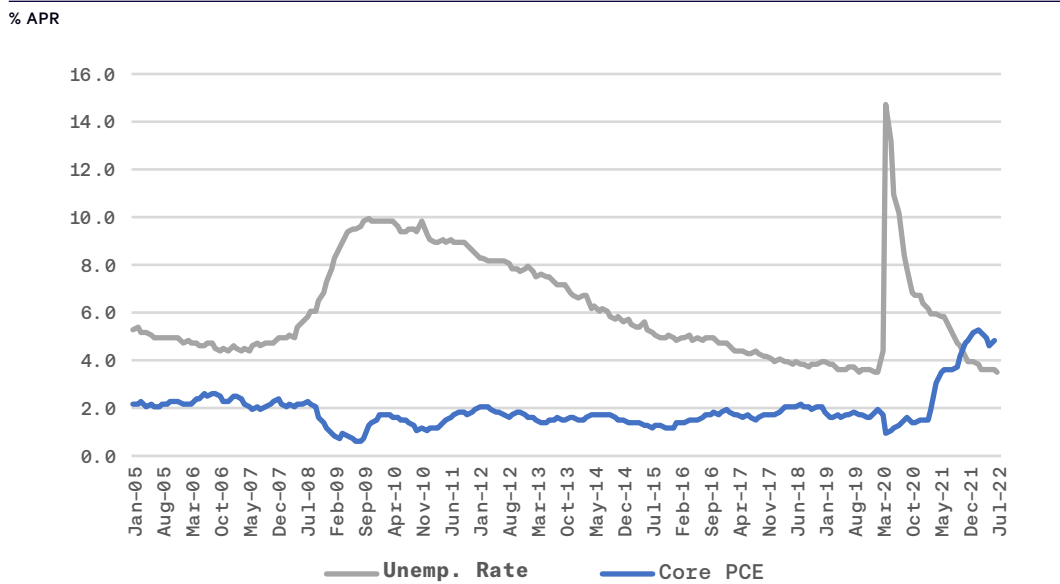
In other words, the speed of the unemployment rate drop could be the primary variable capable of messing up inflation and vacancy.

In this regard, we would position ourselves between Waller and Blanchard/ Summers because not only did NAIURU not rise, but also the inclination close to the vertical axis is not so high.

The issue would be in the speed of change, not the unemployment level itself. Speed is a result of the aggressiveness of monetary and fiscal stimuli.

In other words, reestablishing the pre-pandemic unemployment rate level would not be a problem per se, but rather the speed with which it managed to be accomplished. Employment reduction was much faster in this crisis recovery than in others. Even if we consider part of the rate increase, explained by temporary unemployment, it is implied that under normal circumstances, the current rate would only be reached in 2025.

Figure A-4: Fed Funds rate in different moments



Source: BLS, Mar Asset Management

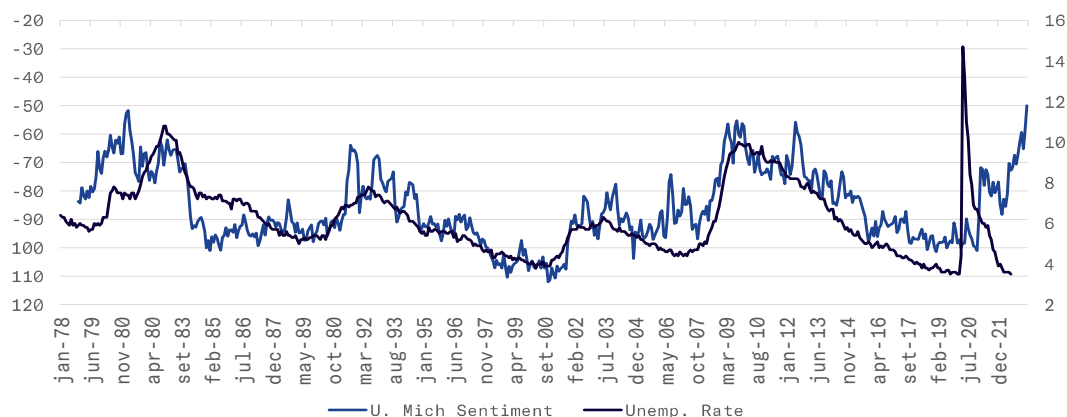
In this situation, the Fed would only have the option to adopt a strategy opposed to the one adopted in the post-2008 Recession, in which the unemployment rate would rapidly go back to pre-crisis levels. Still, inflation would converge in the medium/long term.

As we all know, the problem with this strategy is that inflation grows its own legs and eventually grows roots in the economy, producing inertia and discouraging expectations. Thus, the optimal monetary policy prescription would set out to find the ideal speed of unemployment, which does not pressure inflation in turn. It would not have to be as slow as it was the case in 2008, but without a doubt, not as fast as it has been in post-pandemic recovery.

Box – Consumer Confidence

The indicator that suggests a more concerning situation is the Consumer Sentiment Index by the University of Michigan. This index is at its lowest level ever, which does not relate to the resilient growth in household consumption observed in the last quarter.

Figure A-5: Consumer Sentiment index (inverted and ten months forward) vs. unemployment rate



Source: Universidade de Michigan, Mar Asset Management

Different from other indicators, the U. Michigan's indicator (current conditions) is an average of two types of questions. One pertains to the interviewees' financial health compared to the same period last year. In other words, its comparison basis is year-on-year (yoy). The other one asks about **plans to purchase durable goods**.

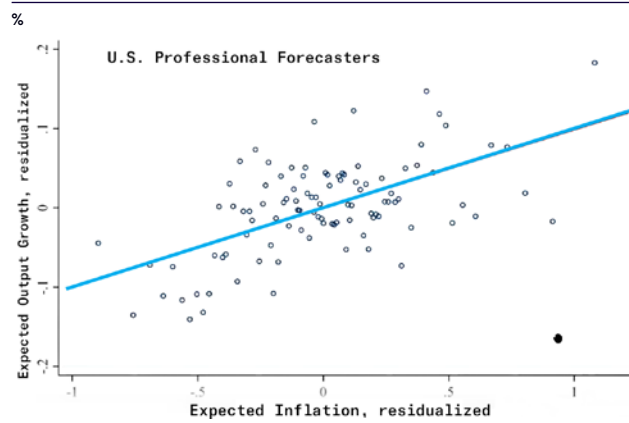
Families' consumption growth yoy remains very healthy and far from being compatible with the contraction suggested by confidence numbers. We have some conjectures that may be acting behind this dichotomy. Consumption of goods has declined for the last months, replaced by services consumption. As the question pertains to the perspective of purchasing durable goods, this rebalancing of products and services tends to yield negative results.

The second conjecture relates to the comparison basis and financial health. Same time last year, US families' income had been complemented by several stimulus packages (checks in the mail, additional unemployment benefits, mortgage payment forbearance, etc.)

The third one pertains to inflation effects. Recent academic research shows a clear negative relationship between high inflation and GDP growth among families⁹. The higher the inflation expectation, the more pessimistic the consumer will be in relation to GDP growth.

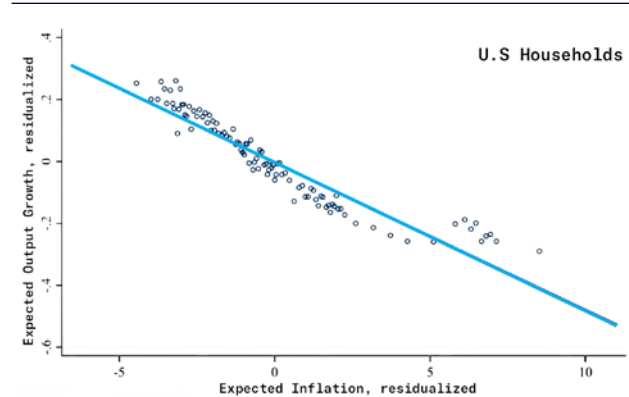
The substantial drop in consumer confidence goes hand in hand with this observation of how expectations regarding inflation are formed in the US. Strong inflation leads to a very negative growth expectation among families, despite the vibrant economy. In other words, the Phillips Curve would be negative in these agents' perception, contrary to the perception of professional forecasters. This may explain the dichotomy between consumer sentiment and activity data.

Figure A-6: Inflation and GDP growth expectations carried out by professional US forecasters



Source: Gorodnichenko et. Al (2022), Mar Asset Management

Figure A-7: Inflation and GDP growth expectations from different families in the US



Source: Gorodnichenko et. Al (2022), Mar Asset Management

9 See, for example, [seminar with Yuriy Gorodnichenko](#)



Investor Relations

Igor Galvão

55 21 99462 3359

contato@marasset.com.br

rio de janeiro – rj • av. ataulfo de paiva 1351, 3rd floor, leblon • zip code 22440 034
marasset.com.br