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Synthesis

Energy Transition and Industrial Policy

Industrial policy is once again at the center of economic policy debates. This reflects both the consequences of the pandemic and the lack of room for maneuver of central banks.
The pandemic has brought to light the inability to have products considered essential. It also caused shortages during the recovery, thus curbing the ability of industrial economies to make up for the losses caused by the health crisis.
Central banks had, until autumn 2021, very low interest rates and very large balance sheets, limiting their ability to intervene.
Led by the White House, this revival of industrial policy reflects a distrust of China, which has become a cumbersome competitor, but also a world whose dynamics and contours are more blurred. Thinking about oneself is perceived today as the right strategy, as the cooperation that has enabled the development of emerging countries for 20 years.

Inflation and interest rates over time

The world is changing and with it the modes of adjustment of the global economy. Inflation, which has been very low for thirty years, will register at a higher level over time. The economy is changing, it is no longer that of globalization at all costs, it is becoming that of relocation and energy transition. A higher rate of inflation will help this transformation.

The higher inflation rate will restore the full role of the traditional modes of action of central banks and less appeal for asset purchases by the monetary authorities. The other point is that the investment needed for the energy transition will result in a higher demand for capital. This will result in higher long-term interest rates which will return to levels compatible with their role in allocating resources over time.

What medium-term projections?

Three scenarios. In the reference scenario, the renewal of economic policy is in phase with the energy transition. In this case, the trend in activity remains robust. However, the upheaval caused by the transition translates into a higher trend inflation rate. We are moving away from the 2% which is the target of central banks.
As a result, the strong investment need for the transition and higher inflation will translate into higher long-term interest rates over time.

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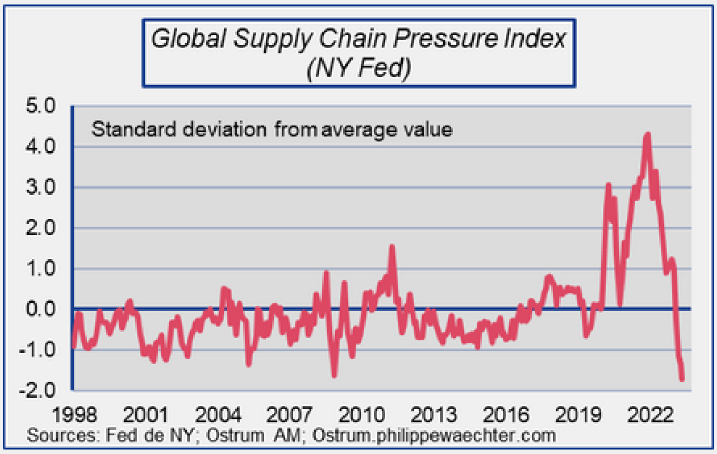
During the pandemic, industrialized countries took stock of the consequences of their deindustrialization. The shutdown of economies has resulted in shortages of certain goods considered essential. This was the case with artificial respirators but also paracetamol or even medical masks. The phenomenon was accentuated during the recovery with the semiconductor crisis. The demand for goods was considerable while companies were unable to meet it for lack of components, in particular these semiconductors. This has highlighted a security issue for developed countries.

On this question of security, let us recall that at the beginning of the 1990s, the United States and Europe produced 80% of semiconductors, of which more than 40% in Europe. Today this global figure is only 20% with more than 10% for the United States



We see, on the graph, the alert at the time of the exit from the pandemic. The demand for industrial goods from developed countries, highly dependent on semiconductors, could not be satisfied. This has been a major source of inflationary pressures. Since then, tensions have been significantly reduced, which, moreover, is a source of less pressure on consumer prices.

The situation of dependency is the most worrying because it is a source of fragility in industrialized countries. It is exacerbated because China has become a major player in this global game.
The political dimension of the Middle Empire has not escaped anyone and that is why there is a major question of security.

Moreover, Joe Biden went on this point, well beyond Donald Trump. The latter banned companies like ZTE or Huawei for their possible use of American data.
The current tenant of the White House has greatly reduced the possibilities of technology transfers from the US to China. He also facilitated the installation of TSMC, the Taiwanese firm producing semiconductors, in Arizona with two large factories.
In any case, the question of the technological independence of the US and that of American security have been put forward to justify these industrial policy orientations.

A quick look at the past

Globalization took hold, in the early 1980s, in a two-dimensional world with the United States and the USSR. It was first financial since the initial question was that of the financing of American expenditure, in particular military expenditure (Star Wars). This balance of power US vs USSR was more political than economic.

However, very quickly, the world became unipolar with the fall of the Berlin Wall and its political consequences.

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In this world, the economic dimension predominated. The extension of globalization was based on the idea that the increase in trade would make it possible to be a vector of peace. This worked well with a rapid increase in exchanges and an enlargement of the countries concerned. This also resulted in an allocation of resources conditioned by a highly mobile capital factor, whereas the labor factor was not.

This has enabled significant technology transfers to emerging countries and China in particular.
The associated virtuous dynamic has resulted in robust growth in emerging countries and solid expansion, but with a fairly marked deindustrialisation in developed countries.

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The situation changed when China adopted more marked political positions and the technology available within the Middle Kingdom was likely to compete with that of the Americans and to develop a technological standard that would escape the US.
Globalization rediscovered its two economic and political dimensions. Hence the mentioned reactions of D.Trump and then of J.Biden.

This double dimension is however not comparable with that of the time of the USSR. The reason is not political but economic because of the strong interdependencies between the US and China or even Europe and China.

Criticism of the past

Jack Sullivan, Joe Biden's national security adviser, aptly summed up the shift in economic policy at work with a major role for industrial policy.

His critique of the past is applicable to many of the comments made in industrialized countries.

4 points of articulation

1 - The lesser role of industry and the resulting deindustrialisation are consistent with the minor role taken by public investment and the confidence in the market's ability to allocate resources efficiently.

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2 - The world has changed and the analysis of the world has changed. Several points

A - The densification of international exchanges is not a guarantee of peace contrary to what has long been thought. China has experienced rapid and intense development, but its interventions in the China Sea or its positions on Russia after the invasion of Ukraine are perceived as conflicting behavior.

B- The geopolitical balance has changed. The world can no longer be as cooperative and coordinated as before because regional interests have emerged.

C- Security is no longer the same due to technological risks and data management.

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3 - The climate challenge and the energy transition have emerged recently and inevitably modify the trajectories of economies. This has a major impact on employment and it is also in this that the open world can no longer be so open.

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4 - Globalization has generated inequalities due to the transfer of jobs to emerging countries and the impact on the income of the middle classes. Joe Biden, since the start of his campaign, has been talking about a policy for the middle classes.

In this reading of the economy which has been built over the past forty years, we can read three key elements

1- The American economy has lost control, in particular leaving regulation mainly to the market

2- This loss of control is a source of internal fragility since it has affected middle-class employment. We come back to the middle class policy dear to Joe Biden.

3- Public power must be given a major role in guiding the economy.

The strategies that will*be implemented will not be identical, in particular via public investment, to which the Americans give a more important role in the impetus by invoking the complementarity between public investment and private investment. In Europe and in France, tax incentives are at the heart of industrial policy. In France, in particular, the State is ready to invest considerable amounts (cf. the contributions to GlobalFoundries and STElectronics in Grenoble) but without ex post control over the way in which its funds have been managed.

Beyond the elements put forward so far, the strong comeback of the industrial policy reflects the existence of support for its development.

In the 1950s and 1960s, industrial policy was justified by the reconstruction in Europe and by the management of the considerable innovations and the very diverse development of the economies. It was necessary to be able to prioritize and order. It is in this sense that the Commissariat Général du Plan should be seen in France.

Over time, the crises of the 1970s and finally globalization, States have changed roles. From authorizing officers, they have become instigators and regulators, leaving the markets the ability to allocate resources.

EIn other words, industrial policy has fallen into disuse for want of a fight.

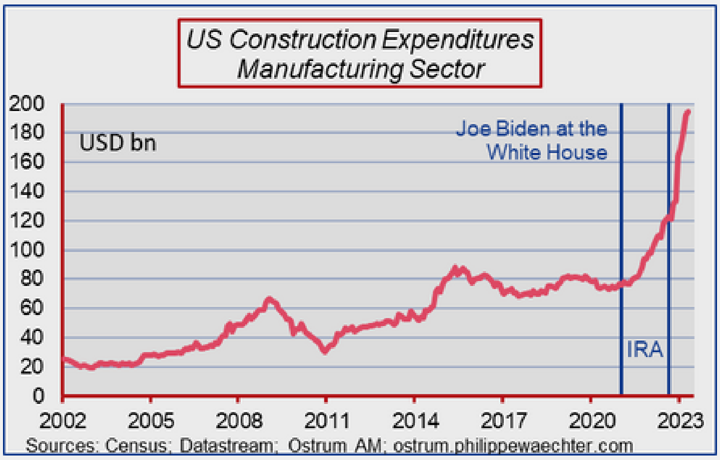
At the end of the 1970s and the beginning of the 1980s, the need for an industrial strategy to protect strategic sectors was mentioned. However, as the world opens up and develops rapidly, States have lost a large part of their direct prerogatives, preferring incentives to the implementation of a real policy.

Climate change is therefore the support and justification of industrial policy.
The long-term nature of the energy transition can justify state intervention.
It is also a way to regain control of the economy in a global macro framework that is no longer as homogeneous and where each region tends to seek greater autonomy.

Does it work ?

The change in strategy is still too recent to have convincing results. We note, however, that in the US, spending on the construction of factories has increased rapidly since the arrival of Joe Biden in Washington DC and especially since the vote on the IRA and the Chips Act.

In Europe, the collective dynamic still largely depends on the choices made country by country. Initiatives such as France 2030 are consistent with a new industrial policy. It will have to be long term.



What is the point of a proactive industrial policy?

What should be remembered from this renewed interest in industrial policy is 6 orders

- The first outcome of the health crisis is that of mastering one's own situation. Do not find yourself dependent on other regions of the world for production perceived as essential.
- The second point is that of security. It overlaps with the previous point but it also reflects the management of data, a major raw material, and the desire for less technological dependence compared to other regions (semiconductors).
- The world has become more complex. The cooperative framework of globalization is not so much anymore. Economic and political distrust creates dysfunctions.
- Rather than depending on the rest of the world, everyone seeks to define their own framework. From this point of view, Washington and Beijing are more direct than Brussels in making activity and employment the objectives associated with this change in economic strategy.
- Climate change is the support of this new strategy.
- The return on industry, for the industrial countries, should make it possible to make productivity gains and to internalize them rather than leaving them to emerging countries. This is not neutral in terms of internal revenue.

Some critical thoughts

Jack Sullivan's speech is probably the most accomplished on the return of industrial policy. A few comments

He makes the assumption that America will remain the leader of Western countries and that it is in Europe's interest to fit into this scheme which may seem a bit old despite everything.

Europeans may also want to define greater autonomy for growth and reduced dependence on the United States.

There are areas that are a little fuzzy in his remarks since one can imagine that a trade-off between security and economic efficiency could appear. There are no elements likely to define the arbitration implemented. However, recourse to industrial policy reflects the need to attract activity and employment to the US, but the need for security. Unless the US becomes autarkic, there is a gap in the effectiveness of industrial policy.

The vision of the world is a little particular since if the exchanges remain important, the bilateral agreements, not in phase with the rules of the WTO, will be privileged. This can be likened to a form of protectionism. Therefore, a final remark arises, which is that economies are still very intertwined and that industrial policy can only focus on high-tech products and game-changing innovations.

The US consumer, that of the middle class dear to Joe Biden, has his future probably conditioned by innovations but his daily life marked by ordinary products from the rest of the world.

Industrial policy is a choice for each government to regain power over its own economy. It is a way out of the crisis that began with the pandemic.

The energy transition is the means to implement it. We need to go further and integrate these two dimensions more closely.

Inflation and interest rates over time

The world is changing and with it the modes of adjustment of the global economy. Inflation, which has been very low for thirty years, will register at a higher level over time. The economy is changing, it is no longer that of globalization at all costs, it is becoming that of relocation and energy transition. A higher rate of inflation will help this transformation.

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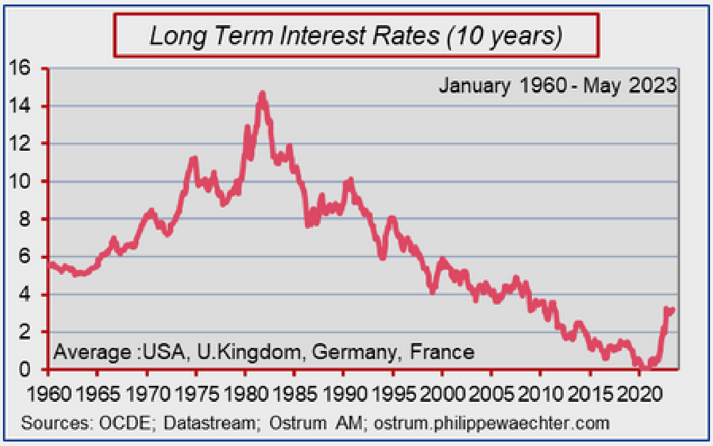
The world is turned upside down. The pandemic, inflation, the war in Ukraine, the awareness of climate issues or even the tense relations between the United States and China suggest that the world of tomorrow will not be a replica or an extension of the past. It is irrelevant to think that the framework in which the world economy will operate for the next 5 or 10 years is a copy of what happened from the financial crisis to the health crisis.

This point on the scale of the global economy must be extended to the financial markets and in particular to long-term interest rates, the profile of which has been downward since the beginning of the 1980s with the financial globalization that took hold during Ronald Reagan's presidency. This long period ended with the return of inflation and restrictive monetary policies



This long downward trend in long-term interest rates greatly benefited the banking and financial sector by revaluing all assets.

Five remarks:

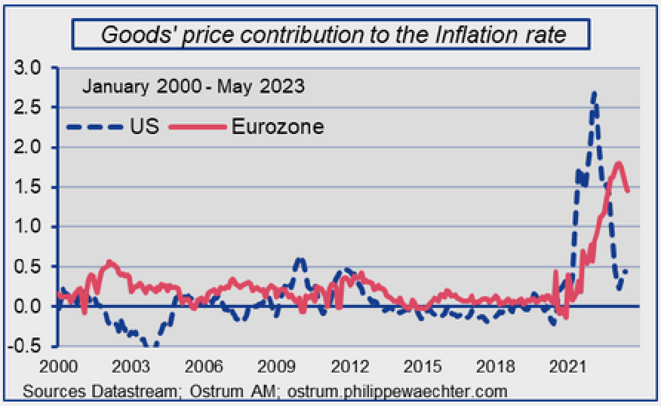
- The long phase of financial globalization is concomitant with a trend towards disinflation in all developed countries. In many studies, this common factor explains a large part of the fall in inflation and then its stability at a very low level.
- As long as globalization is the major macroeconomic factor, the risk of a resumption of inflation was of low probability.
- Each country also had an interest in not having an inflationary bias in order to remain competitive. Financial globalization has played a major disciplining role in economic policy behavior. France is well placed to know this.
- The low level of energy prices even though the price of oil fluctuated before and after the financial crisis. Deflated by consumer prices, the price of a barrel of Brent is at the same price as after the second oil shock, before the long period of the oil counter-shock. We also see that the price of oil never settles on a permanent upward trend.

The battle between producers is generally the source of fluctuation in the price of black gold.
This is why they should not be counted on if the objective is to drastically reduce the consumption of fossil fuels. The carbon tax will surely be more effective.

- Globalization has also had the effect of reducing the bargaining power of employees in industrialized countries. The threat of relocation of production tools with its negative counterpart in terms of jobs has been a weapon that has kept wage rates relatively low without preventing the development of jobs elsewhere and without reducing the phenomenon of deindustrialization either.

  This is a point developed by Joe Biden since his presidential campaign around the concept of “middle class economic policy’.

- This globalization of the economy has been a major source of disinflation for Western countries. The relocation of production and its development in emerging countries have led to lower costs and very competitive import prices. From 2000 to 2020, the average contribution of the price of goods to the inflation rate was close to 0 in the Euro zone and zero in the US, we must see the effects of this relocation of production.



- Central banks have been credible in managing inflation. For the 4 reasons mentioned above, inflationary pressures were limited and when inflation rose sharply, mainly due to the rise in the price of oil, it never really lasted because the relay on wages was not marked.

  The role of central banks has therefore been to create the conditions so that nominal tensions do not exist apart from energy-related effects. This is why they generally responded more to activity signals than to price signals.

These factors have kept the inflation rate stable and low in developed countries. Now they are partly faded. Globalization no longer has exactly the same form as in the recent past. China no longer has the same status. From a source of impetus for the global economy, it has become a subject of mistrust. Companies are banned in some countries including Europe and the US has drastically reduced the possibility of transferring technology. The common dynamic that radiated allowing a long phase of disinflation and an efficient allocation of resources is no longer the dominant factor.

In any case, we can no longer assume that the contribution of the price of goods, the main driver of disinflation, is close to 0% as was the case from 2000 to 2020.

In addition, the situation is more complex because China remains a country where there is a lot of assembly of technological products on which developed countries are very dependent. China could bet that the relocation of activity within Western countries will not be as marked as expected in developed countries, at least not for all imported products.

This would allow it to fix the prices of these products at the level that the Middle Kingdom will determine, at the risk of causing a bullish bias on the contribution of the price of goods for developed countries. It is a dimension of the balance of power that is being established. The change in the pace of globalization will also have an impact on the labor market. This will no longer be as broad and in fact, employees will regain bargaining power in discussions on wages. The threat of investing elsewhere has thus found its limit.

We will also see what happens to the behavior of central bankers after the current episode of inflation. Could they keep the same type of inflation target if the trend inflation rate is a little higher. But what is price stability? We can expect a generalization of fuzzy targets as defined by the US Federal Reserve, which indicates an average inflation rate of 2% in the long term.

Inflation will not be the same

Besides these elements that have changed, the economy is also upset by other factors. Climate change and the energy transition is a new framework in which the global economy will have to fit quickly.

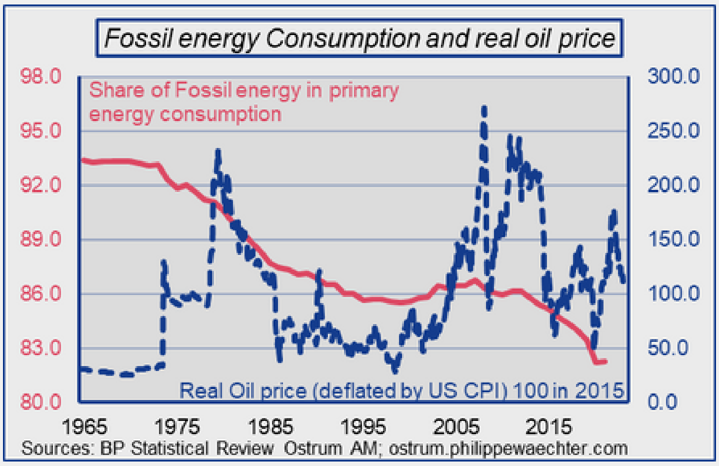
The reduction of greenhouse gas emissions will only find its reality in the decline in the use of fossil fuels. This will require increasing the cost of using these energies. In the short term, we welcome the fall in the price of gas or oil for cyclical reasons, but this is not compatible with the energy transition.

In a recent paper, Christian de Perthuis thus indicates that the reduction in emissions in France is not compatible with the Low Carbon Strategy. Since 1990, these emissions have fallen by a quarter following a trend of -1.8% per year. To be in phase with the achievement of the objective of -55% in 2030 (compared to 1990) it is necessary to move to a decline of -5% per year for the remaining years. How to do it without affecting the price?

The price must increase to discourage the use of fossil fuels. To put it another way, the real price of oil has changed little over the past forty years and the share of fossil fuels in primary energy consumption is relatively stable and still above 80% in 2021 (in the waiting for 2022 figures by BP).

To fix ideas, the scenario associated with carbon neutrality in 2050 suggests a consumption of fossil fuels close to 20% (BP Energy Outlook 2023). In view of current behavior, the projection for 2050 is 59%.

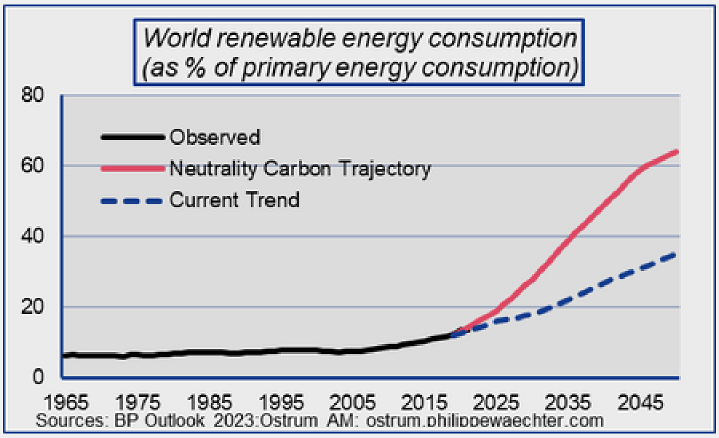
This is much less than currently but almost three times higher than the neutrality scenario. The price will have a key role in the future evolution of the consumption of gas, oil and coal.



The other point is that the increase in renewable energy consumption will be multiplied by 4.5 in 2050 while remaining in the carbon neutral scenario. It must increase from 14% of primary energy consumption to 64% in 2050 to respect neutrality.

At the same time, the share of electricity in final energy consumption is expected to increase from 21% in 2021 to 51% in 2050 (according to BP Energy Outlook 2023). These data to indicate the complete reversal of the development model and a demand associated with renewables and the production of electricity which will upset the market for raw materials, the market for what is useful for these developments.

There too the price of certain commodities will increase rapidly. The level of prices will be strongly affected but also their volatility. The transition will not be a long road made of tranquility. Moreover, this change in the prices of raw materials will not be without geopolitical consequences because the reserves of these materials not yet transformed are often located in countries which are not those which currently have the fossil fuels which have made them rich.



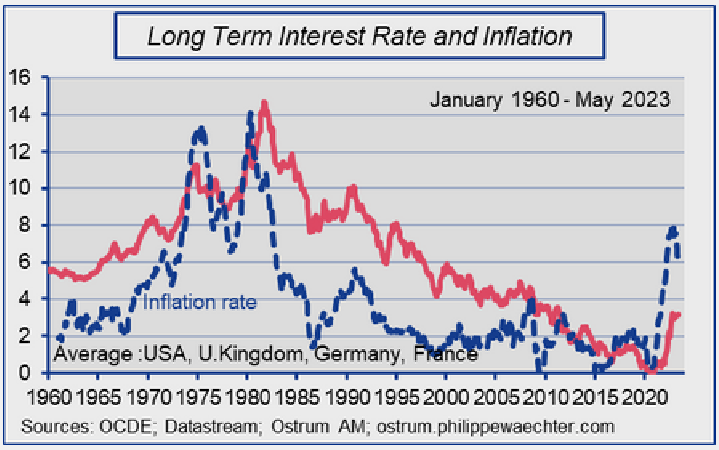
For the moment, the effort is insufficient to stall on the virtuous trajectory. All of these adjustments will be made by the will of everyone, by massive investments but also by prices. We cannot assume that these radical changes will be neutral on price dynamics, otherwise prices no longer play a role in macroeconomic adjustment. It's a bit excessive. On this point, we can cite the words of Alan Blinder who, analyzing the inflation of the 1970s, indicated that the transformation necessary following the rise in the price of oil and the structural changes at work at the time required a rate slightly higher than that associated with price stability in order to facilitate adjustments to get on the right trajectory.

What dynamics for long-term interest rates?

As a trend, the inflation rate will be higher than that observed for twenty or thirty years. This corresponds to the upheaval of the world, to the change of balance. The framework for coordinated and cooperative globalization is partly complete. The balance of power between the great powers now guides international relations with a particularity that reflects the strong economic dependence between the major regions of the world. In the past, such a situation was not observed because economic or political rivalry was never enough. This is no longer the case. It is a new situation.

The global economy will no longer be able to be as well coordinated as in the past.

A higher trend inflation rate should cause higher long-term interest rates over time. We must bear in mind what happened in the 1960s. The rise in inflation, due in particular to tensions on the productive apparatus, only resulted in higher interest rates with time limit. The phenomenon is symmetrical when inflation declines, the interest rate takes time to adjust to a new equilibrium. While I do not believe in an inflation rate that would settle at levels comparable to those of the 1970s, it is likely that an inflation rate, for all the reasons mentioned above, would result in rates permanently higher interest rates.



This inflationary phenomenon is essential for understanding the profile of interest rates. We can add three other phenomena.

- Central banks will recover the management of short-term interest rates. These will no longer be condemned to be close to 0% as has often been the case since the financial crisis.

  The reason central banks bought assets on a large scale was because their own interest rates were hitting the low limit of 0%.
  By regaining room for maneuver on short-term interest rates, the monetary authorities are putting these unorthodox measures in the background. Barring a large-scale shock, the attitude of central banks will no longer make it possible to keep long-term interest rates low over time. This is normal due to higher inflation. This will also have disciplinary virtues on budgetary policies since the debts issued will no longer be purchased by the banks of issue.

- Potential growth will be at the heart of the issues raised over the next few years. Relocation and industrial policy, which are two sides of the same coin, aim to revitalize industrial activity and the productivity associated with it. If indeed this strategy is effective, then potential growth will be stronger, validating higher real interest rates.

- In a remarkable remark highlighting excess savings, Ben Bernanke explained, in 2005, the low level of interest rates by this imbalance between excessive savings and insufficient investment. Regardless of inflation issues, the real interest rate reflects the balance between savings and investment.

  In the coming years, the need for investment to meet the energy transition will be considerable. Jean Pisany Ferri and Selma Mahfouz spoke, in a recent report, of 70 billion per year across France to meet this objective. Massive investment will drive up long-term interest rates. The real equilibrium interest rate will certainly be higher than that observed in recent years.

The world is changing, and interest rates are regaining the power of intertemporal resource allocation.

What medium-term projections?

IThere are several issues raised: The first is that of the expected growth over the next 5 years. The second is that of inflation. The third is that of the interest rate trend.

What about Growth ?

Setting medium-term growth figures means knowing whether the trend over the coming period will be an extension of that observed in the past or whether there is an element allowing us to expect an improvement or a deceleration in relation to this reference. In the US, average growth before the health crisis was 2.2% per year, it was 1.6% in the Euro zone.

The constraint is that of the energy transition. It must result in a reduction in GHG emissions by 2030. All the countries are below the objectives they have set themselves.

The means is the industrial policy which must make it possible to revitalize the activity and to decarbonize the production.

The reference scenario is the one in which the proactive industrial policy compensates for the recessionary effects of the reduction in emissions. This ultimately allows the past trend to be extended. In the short term, the penalizing effects of monetary policy will keep activity below this trend.

A low scenario in which the will associated with industrial policy withers and does not compensate for the negative effects resulting from the reduction of GHG emissions.

The high scenario combines strong political will and collective awareness of the need to converge towards the trajectory consistent with the energy transition.

What about Inflation ?

The second point is that of inflation. I indicated that I did not believe in a return to the previous framework in which the trend inflation rate was between 1.5 and 2% in the Euro zone and close to 2% in the US.

In the very short term, the inflation rate will slow down. I do not believe in the persistence of current inflation. The sources that caused the current inflation have disappeared and wages are adjusting to past inflation, which is frankly slowing down.

In the medium term, the reference scenario is based on a higher inflation rate than that observed, as a trend, during the years before the crisis. I developed these points in the previous chapter.

The degraded scenario would be one in which the current inflation rate does not slow down and the effects associated with the energy transition are added to the current trajectory.

Conceptually, it is complicated to make a scenario of macroeconomic upheaval in which inflation cannot be a source of adjustment. Price stability, historically, does not seem compatible with a rupture situation. Nevertheless, in the enthusiastic growth scenario, inflation could be somewhat lower than in the reference scenario.

What about long term interest rates ?

In view of the inflation scenario and for the reasons developed in the previous chapter, I anticipate higher interest rates over time. I do not believe in a return to very low interest rates comparable to those observed from the financial crisis to the pandemic. Central banks are not going to inflate their balance sheets because over time, they would lose their credibility.

The degraded scenario would be the one compatible with a higher inflation rate. The scenario consistent with that of enthusiastic growth would result in somewhat lower rates.

	GDP Growth Rate					
	United States			Eurozone		
	Pessimistic	Benchmark	Optimistic	Pessimistic	Benchmark	Optimistic
2023	0.5 - 1.0	1.3 - 1.8	1.5 - 2.0	-0.2 - 0.3	0.2 - 0.7	0.5 - 1.0
2024	0.0 - 0.5	0.5 - 1	1.0 - 1.5	-0.2 - 0.3	1.0 - 1.5	1.5 - 2.0
2025	2.0 - 2.5	2.5 - 3.0	2.0 - 2.5	0.5 - 1.0	1.5 - 2.0	1.8 - 2.3
2026	1.5 - 2.0	2.0 - 2.5	2.3 - 2.8	1.0 - 1.5	1.5 - 2.0	1.8 - 2.3
2027	1.5 - 2.0	2.0 - 2.5	2.3 - 2.8	1.0 - 1.5	1.5 - 2.0	1.8 - 2.3
2028	1.5 - 2.0	2.0 - 2.5	2.3 - 2.8	1.0 - 1.5	1.5 - 2.0	1.8 - 2.3

Source: Economic Research - Ostrum AM

	Inflation Rate					
	United States			Eurozone		
	Pessimistic	Benchmark	Optimistic	Pessimistic	Benchmark	Optimistic
2023	3.5 - 4.0	2.5 - 3.0	2.5 - 3.0	3.5 - 4.0	2.5 - 3.0	2.5 - 3.0
2024	3.0 - 3.5	2.0 - 2.5	2.0 - 3.5	3.0 - 3.5	1.8 - 2.3	1.8 - 2.3
2025	4.0 - 4.5	2.5 - 3.0	2.5 - 3.0	4.0 - 4.5	2.5 - 3.0	2.5 - 3.0
2026	4.0 - 4.5	2.8 - 3.3	2.5 - 3.0	4.0 - 4.5	2.8 - 3.3	2.5 - 3.0
2027	4.0 - 4.5	3.0 - 3.5	2.5 - 3.0	4.0 - 4.5	3.0 - 3.5	2.5 - 3.0
2028	4.0 - 4.5	3.0 - 3.5	2.5 - 3.0	4.0 - 4.5	3.0 - 3.5	2.5 - 3.0

Source: Economic Research - Ostrum AM

	Long Term Interest Rate (10 year)					
	United States			Eurozone		
	Pessimistic	Benchmark	Optimistic	Pessimistic	Benchmark	Optimistic
2023	3.5 - 4.0	2.5 - 3.0	2.5 - 3.0	3.5 - 4.0	2.5 - 3.0	2.5 - 3.0
2024	3.0 - 3.5	2.0 - 2.5	2.0 - 3.5	3.0 - 3.5	1.8 - 2.3	1.8 - 2.3
2025	4.0 - 4.5	2.5 - 3.0	2.5 - 3.0	4.0 - 4.5	2.5 - 3.0	2.5 - 3.0
2026	4.0 - 4.5	2.8 - 3.3	2.5 - 3.0	4.0 - 4.5	2.8 - 3.3	2.5 - 3.0
2027	4.0 - 4.5	3.0 - 3.5	2.5 - 3.0	4.0 - 4.5	3.0 - 3.5	2.5 - 3.0
2028	4.0 - 4.5	3.0 - 3.5	2.5 - 3.0	4.0 - 4.5	3.0 - 3.5	2.5 - 3.0

Source: Economic Research - Ostrum AM