mirova

October 2021

#08

Creating Sustainable Value

Understanding the markets

ECB: from market neutrality to carbon neutrality

Investing SLB and ESG: it's complicated

Engaging in dialogues Social Taxonomy

Measuring impact Impact reporting

mirova
Investing in sustainability

An affiliate of: NATIXIS INVESTMENT MANAGERS

ECB: from market neutrality to carbon neutrality

Do central banks overstep their mandate if they include climate risk management? Answering this question would require that we specify the mandate, but this debate dates back to the institution's creation and if there can be said to exist a consensus on this subject, it can only be that there is no consensus.

Despite all the attempts to develop definitive theories about central banks, no iron-clad rule has ever been established concerning their ideal role or their potential supervisory powers, their degree of dependence on the powers that be, the private or public nature of their capital, or their latitude to adapt to economic or demographic development. In summary, the debate comes down to two points:

1 – The extent to which they issue means of payment (not necessarily money per se), including the counterpart of such issues, such as discount notes or gold reserves, and for the benefit of which agents.

2 – Who should decide: the state that granted them the privilege of issuance? The Treasury, as in the case of the Bank of England (BoE)? The Parliament, as in the case of the Riksbank[1]? The private commercial banks that were often shareholders of the central banks until the 1940s or 1950s? A commission of experts? Legal and technical rules applied strictly or according to circumstance? An implacable algorithm, as the aficionados of cryptocurrencies or so-called smart contracts believe possible?

We believe that the time has come for central banks to take into account the risks posed by climate change. It is best to do this before the risks increase and materialise. The history of monetary policy teaches us that changes in dogma come too late, after a failure has been observed or a crisis has arisen. The crisis of stagflation[2] , predicted by the French liberal economist Jacques Rueff, prefigured the official termination of the Bretton Woods agreements, and prompted the triumph of the ideas of the Chicago School, embodied by Milton Friedman, and considered the party line still today. And yet...

1. Bank of Sweden
2. An economy that suffers from low or no economic growth and high inflation simultaneously

Monetarism, a zombie concept: when the unconventional becomes the consensus

The monetarist mandate advocated discipline in money creation and, in the absence of strict convertibility to a standard, held that central bankers should at least be protected from political influence. Liberals believed that policymakers were incapable of resisting the temptation to create deficits and inflation, especially since John Keynes had provided them with the theoretical material that, in their eyes, justified limitless recourse to these expedients. As early as the 1930s, Jacques Rueff denounced these policies as creating not only inflation but also, inevitably, job losses.

The independence of central banks therefore seemed to provide the answer, and it did indeed help to improve the situation in the circumstances at the time. With the Bundesbank[3] and the United States Federal Reserve[4] (Fed) as an unsurpassable model, most central banks decided to follow it, including the European Central Bank (ECB). However, this model has been crumbling since 2008, if not since 11 September 2001 and Alan Greenspan's reaction to these events. Either way, the so-called subprime crisis made official the 'unconventional' interventions of the Bank of Japan (BoJ), the People's Bank of China (PboC), the Fed, the ECB and the BoE, which by no means held back, and the Covid crisis has institutionalised these unconventional interventions. Let's not forget that the Fed has decided to intervene in high yield (HY) instruments by buying ETFs[5] in order to limit the risks of bankruptcy, nor that the BoJ is already buying shares, albeit indirectly…

The framework of the monetarist mandate has thus exploded, and the scope of intervention has been extended to 'financial system stability', which we must of course understand is tacitly aimed at maintaining the economic and political framework that the crises of 2008 and 2020 might have overturned. Central banks have, moreover, shown a certain efficacy in fulfilling these rescue missions. The monetarists have fallen off their pedestal and Joseph Schumpeter with them, which is not necessarily all to the good (Mirova#2: Do low interest rates threaten the environmental transition?).

But would a 'climate mandate' be so counter to their ideas? On the face of it, yes, and yet the answer is: not really.

Climate in the mandate: less funding for warming

As guardians of stability, how can central banks ignore climate change, a challenge that is more threatening by far than a financial crisis? Climate change poses systemic risks due to the scale of its economic, financial, insurance, political, demographic and migratory consequences. It is therefore only logical that central banks should include climate risk prevention and control instruments in their policies, as called for by the Network for Greening the Financial System (NGFS), which eight of these institutions founded four years ago and which has since delivered several convincing victories. Now that the Fed has finally joined the NGFS, we can even envisage that the future Basel V recommendations, over which the American banks will, as usual, exert a major influence, will in turn include the climate issue. The Basel IV recommendations do not incorporate climate, but the European legislator can still propose to add this notion to regulations, and why not via Pillar I?

It will have to be done, and no doubt by relying first on the regulatory function of central banks to influence commercial banks, whose power to act is an essential lever. As a reminder, the ECB's balance sheet amounts to approximately €8 trillion, while that of European commercial banks, combined is €24 trillion. Moreover, these commercial banks remain an engine of monetary creation through credit. So, will imposing climate stress tests be enough to help limit global warming to 2°C? Probably not, even if it does enable a restrictive correction to the probability of default for the least assiduous banks, with repercussions on their ability to distribute dividends, bonuses and AT1 coupons and to buy back shares. Nor will directing liquidity towards financing the environmental transition via the green weighting factor[6] be enough on its own. Forcing banks to already include in their accounts part of the 30% increase in provisions induced by climate risks over thirty years constitutes an interesting approach but is still not sufficient. Similarly, can green Targeted Longer-Term Refinancing Operations (TLTRO) based on granting loans to households and non-financial companies that would make investments in line with the European Union's taxonomy be envisaged?

3. Federal Reserve Bank of Germany
4. Central Bank of the United States
5. Exchange Traded Funds
6. Internal capital allocation mechanism to favour the most environmentally and climate friendly financing

The possibility of adjusting the ECB's sovereign debt holding limits for member states according to the carbon intensity of their economies should also be put on the table; states whose energy mix is de facto based on lignite will protest, but the ECB would finally show the independence it so often invokes.
In addition to all these efforts, an asset purchase policy will have to be added. On the model of the Pandemic Emergency Purchase Programme (PEPP), the ECB could envisage a Climate Emergency Purchase Programme (CEPP) consisting of buying only high-quality green bonds, for example, instead of simply modifying the allocation policy of the PEPP and the Corporate Sector Purchase Programme (CSPP) according to ESG[7] criteria, as the strategic review, unveiled last summer, indicated – a welcome, but not decisive, step forward.

None of these measures will provide a miracle solution, but their coordinated combination should make it possible to curb climate risk. Risk measurement and management is the foundation of any bank, even a central bank. If banks and insurance companies, the most powerful agents in capitalism, do not do enough to identify and reduce climate risk, who will?
Of course, our solutions would meet with fierce resistance: some Bundesbank representatives have constantly insisted on the need to safeguard market neutrality, i.e., the neutrality of monetary policy interventions, which they believe would be violated by an openly pro-climate policy.
We understand these oppositions, which are based on legitimate views, but which do not sufficiently take into account
1 – the extent of the climate risks and
2 – the fact that the neutrality they wish to respect appears, if not illusory, then at least much-distorted by the weighting of highly CO_2-emitting sectors on bank balance sheets. These sectors are very well-adapted to the carbon economy of the 20th century and are therefore still highly rated by credit rating agencies, which gives an advantage in terms of risk-weighted assets (RWA) to the banks that carry them, thus distorting monetary policy via the ECB's support of these bank balance sheets. In short, the ECB indirectly supports companies that will eventually be doomed if a low-carbon or decarbonised economy is established. Joseph Schumpeter would probably disapprove of the current PEPPs and CSPPs much more than he would of our CEPPs…

Neither climate-monetarism nor climate-Keynesianism

At the end of the war, monetary policy was only one component of the general credit policy, particularly in France, to support reconstruction. So how can monetary policy be enlisted to support an ESG credit policy? How can green TLTROs or a CEPP be implemented without returning to out-of-control inflation or underemployment?
Well, by being careful not to recreate the mechanisms that would lead to stagflation through the abuse of uncontrolled money creation.
Our solutions would not trigger such a phenomenon, because:
1 – By excluding certain very carbon-intensive sectors from its forthcoming CEPP, which would replace all or part of the PEPP and CSPP, the ECB would be restricting its field of intervention, not extending it; the rather exacting Jacques Rueff, who castigated the addition of liquidity as 'planning irrigation during the deluge', might have welcomed such a high-precision irrigation system
2 – Investments in the environmental transition do not share the purpose of Keynesian stimulus plans designed to create inflation in order to lower real salaries without workers perceiving it. The point is to direct capital to the financing of productive and competitive assets, those supporting the energy transition
3 – And lastly, financing the environmental transition, providing the West with production capacity for these renewable energies, will ultimately help curb imported inflation due to the rising cost of carbon-based energies, a rise that is not due solely to the drop in investment in oil exploration and production
For those who at first glance believe our solutions would only add another layer of unconventional policies, we would like to clarify that it is not so much a question of adding anything as it is of replacing all or part of such policies with paradoxically more conventional tools.

The solutions we are advocating seem to us more conventional than the measures taken in the wake of 2008 and in 2020: for the ECB to favour green bonds financing tangible projects and productive assets, serving the environmental transition, is more in keeping with orthodoxy and neutrality than when it buys conventional bonds that can finance corporate acquisitions, share buybacks or maturity extensions, among other things… At the risk of sounding more classical than the orthodox monetarists, we still do not understand at times what such bonds are doing on the balance sheet of a central bank, which ceases to be neutral when its actions effectively refinance share buybacks or the acquisition of small companies via a bond, for instance. Last but not least, holding such conventional bonds, with no commitment as to the use of funds they raise, is not inherently relevant to a risk control mandate, unlike a well-designed green bond,

7. Environmental, Social and Governance

with clear and transparent use of proceeds.
Should, however, disciples of the French, Austrian or Chicago Schools fail to endorse all the avenues we are exploring, there are authors dear to their hearts who would appreciate the logic behind them. We mean those who, at the end of the 1930s, approved of their countries investing to prepare for the world war that was, alas, imminent. Environmental transition, a war? However you put it, global warming looks an awful lot like a collective enemy. Mirova and its clients have been fighting this enemy with the weapon of allocation since the company's foundation; we are delighted that central banks are joining us in this fight and welcome every economic agent that takes part.

FOCUS

The ghost train of stagflation is already in motion: central banks can stop it

At the beginning of 2021, we wrote to our clients that spikes of inflation were on the horizon. What sophisticated models, based on arcane data, did it take for us to arrive at this conclusion? None. We were satisfied with a simple line of reasoning, based on the magnitude of the phenomena, which bore witness to a clear inflationary perspective in our view, and could be easily detected by:

1 – observing the record volumes of money creation by Western central banks (graph 1)

2 – taking the measure of the roaring recovery ahead, which Mirova had been counting on since the end of March 2020, notably because of the savings that were accumulating and the massive stimulus plans, notwithstanding the inevitable base effects resulting from such strong shifts

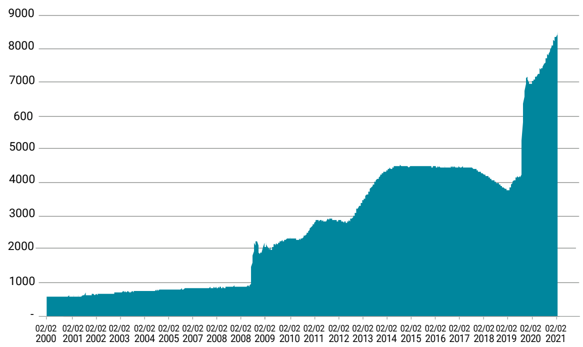
3 – integrating the fact that Asia was in need of raw materials to satisfy its own domestic markets rather than its subcontracting activities for large-scale exports, for which it had, moreover, successfully built an efficient supply chain over the years, which it is now reappropriating for its own uses (graph 2)

This combination of record Western money creation, abundant albeit poorly distributed savings, and expanding Asian domestic demand triggered an initial post-Covid phase that market participants quickly learned to love. And following a transitional period during which they ignored the inflation figures that appeared month after month, much as central bankers kept repeating

that it would remain temporary, it appears impossible to rule out the arrival of a second, much more unpleasant post-Covid phase, one punctuated by episodes – probably short-lived – of stagflation.

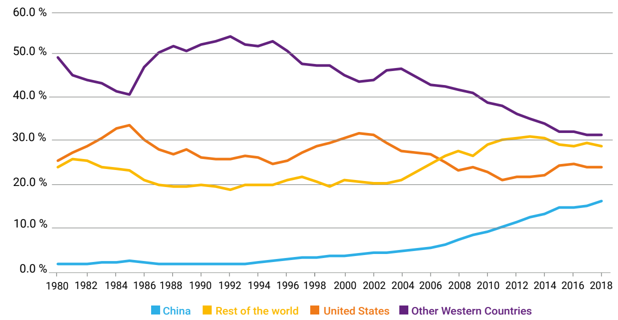
No one wants to face up to this old, forgotten ghost of the 1970s, as the markets retain their incorrigible, and understandable, propensity to prejudge the likelihood of an event's occurrence on the basis of its consequences. And yet, albeit not our core scenario, it is lurking… accompanied by shortages, which have also been described as 'temporary' for months.

GRAPH 1 – FED BALANCE SHEET, $BN



Sources: Bloomberg, FED, Mirova

GRAPH 2 – SHARE OF GDP BY COUNTRY IN GLOBAL GDP



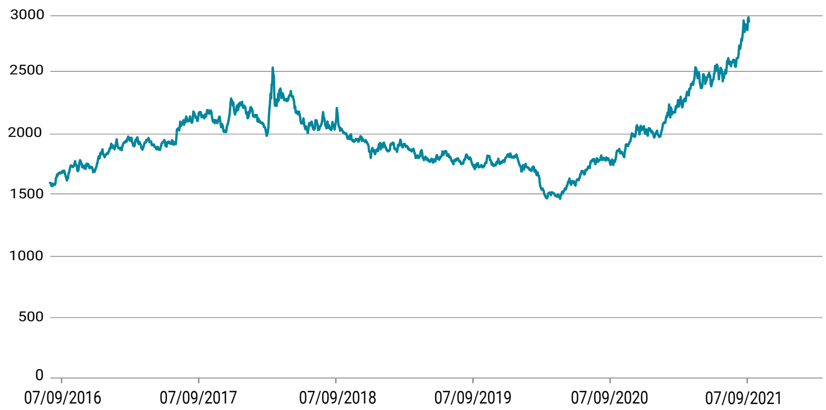
Sources: World Bank, Mirova

A few chips short and everything grinds to a halt

It's virtually impossible these days not to know that semiconductor shortages are disrupting global automotive production. According to IHS Markit, automakers are expected to assemble 72 million vehicles in 2021, compared to 100 million just a few years ago. It is also well known that this shortage is affecting the mobile phone, game console and computer industries, for which reliance on telecommuting has been a factor contributing to spectacularly increased demand. This explosion has been temporarily amplified by a number of production bottlenecks in Texas and Japan, and by the hoarding of precautionary inventory at Huawei, but there seems to be agreement that the increase in production capacity should gradually make up for these shortages.

The problem is that semiconductors are not the only concern – far from it. Agricultural products, metals and hydrocarbons are also caught up in a wave of rising prices. French carpenters and cabinetmakers are complaining about a dearth of quality oak wood, despite its being produced in their own country, and accuse China of monopolising the supply. The general press is reporting risks of pasta and flour shortages due to insufficient wheat harvests. Coffee is also in short supply, and fertilizer manufacturers are cutting back on production because of energy costs, reminding those who had forgotten that contemporary agricultural productivity is the offspring of mechanisation and fertilisation, themselves part of hydrocarbons' vast brood… To cite more measurable indicators, metal prices are soaring, with aluminium hitting its highest levels in nearly fifteen years (graph 3). Above all, energy prices have not lagged, whether for oil or natural gas (graph 4). Indeed, the latter are already having a political impact: the Spanish and British governments have been forced to improvise measures to prevent the working classes from being squeezed by rising energy costs as a cold winter approaches in the northern hemisphere. Germany may have considered itself safe, thanks to the

GRAPH 3 – ALUMINIUM PRICES, $/TONNE (LME)



Sources: Bloomberg, Mirova

completion of North Stream II[8] in September, but Gazprom has warned that the pipeline cannot be expected to reach full gas flow quickly, while gas transit through Ukraine seems set to decline for obvious geopolitical reasons.

None of these shortages in itself has the potential to cause undue concern; on the other hand, their concomitance – not entirely fortuitous because of the interdependence that globalisation has created in all economic infrastructures, especially freight – leads to a situation whose dangers should not be overlooked. This is all the more true as it remains as difficult as ever to measure the elasticity of supply or access exhaustive and reliable data on the availability of raw materials in the medium term – or even on reserves today. Most economists seem to think that these shortages are just a blip in the road due to the circumstances created by Covid-19 and that everything will soon be back to normal. They see these as base effects only, and while we believe they correctly identified the exceptional and transitory nature of some of the underlying factors that exacerbated the price rise, our view is that they overlooked more structural factors, including the struggle for supplies between different economic zones.

GRAPH 4 – SPOT NATURAL GAS PRICE, €/MWH (DUTCH TTF).

Sources: Bloomberg, Mirova

The West will have to share...

Alongside the Western middle classes, which have been in the majority since the 1950s at the latest, the Asian middle classes have been taking root for nearly twenty years, with some half a billion people who can be described as such today, to say nothing of the fact that the rest of the population, while perhaps less privileged, is also growing.

In the 1990s, China and the other Asian countries then known as the 'dragons' imported raw materials, which they then transformed, re-exporting most in the form of finished or semi-finished products to the West, which thus remained the de facto end user of these goods. Clearly, these commodities, even when they passed through Asia, and in particular China, which has become the world's largest importer, were mainly destined to meet Western demand. That has changed. Today, these raw materials must in part satisfy domestic demand in China, Korea, Vietnam, etc., and not only the United States, Canada, Japan and Western Europe. As a reminder, while the United States saw its GDP[9] fall from 30% of global GDP in the early 1960s to around 15% at the end of the 2010s, the share of China's GDP increased tenfold between 1980 and 2020, to exceed the same threshold of 15% in constant dollars. While China's domestic market is estimated to account for no more than 10% of global consumption, far behind that of the United States, it has acquired a weight that must now be taken into consideration.

Under these conditions, will there be raw materials for everyone? Yes, but not all the time, and the current situation does nothing to prove the contrary. We must insist that independently of what are certainly exceptional circumstances, our current economic organisation can indeed generate shortages. Erasing them will take time, especially as the reindustrialisation of the West will make the struggle for commodities even fiercer. However, the normalised situation ahead is likely to present another, arguably less spectacular, but more embarrassing concern if left unchecked: sustained high or rising prices for commodities that the world's producers and consumers are fighting over, to the point of eroding the growth of some economies to the benefit of others – there is no stagflation without a transfer of wealth – without this slowdown halting the inflationary spiral they are caught in. This is at a time when wages could take off again, with labour shortages, particularly visible in the United Kingdom, reinstating a form of the indexation of wages to inflation experienced in the 1970s.

8. Gas pipeline linking Russia and Germany
9. Gross Domestic Product

Chasing the spectre of stagflation before it haunts us

The circle is complete: the policies of inflating balance sheets of Western central banks had fulfilled their purpose even before vaccination came to their rescue, but now central bankers must understand that, combined with the global quest for resources, these policies could have costly effects by contributing to further inflaming the cost of supplies needed to keep their economies running.

Let us note that by pushing this logic to its extreme, a monster more frightening than the ghost of stagflation could resurface: indeed, it has not escaped the attention of commodity-producing countries that while the West was ceaselessly printing money, the Chinese authorities maintained a less permissive monetary policy during the Covid-19 crisis. It therefore does not seem at all illusory that some are considering invoicing their resources in an alternative currency to the dollar at some juncture, which the entry of several countries into the SCO[10], such as Iran recently, will facilitate when the time comes. The problem then will no longer be stagflation, but the summary eviction of several so-called developed economies.

So should we panic? Not yet. Four balancing forces should, in theory, stifle the features that lead to repeated episodes of stagflation, which should be less prolonged than in the late 1960s and 1970s

- the normalisation of monetary policies in the West, which we believe cannot wait as long as central bankers seem to (pretend to) believe
- the adjustment of component production and mineral extraction capacities, which has already begun
- the current ageing of the Chinese population, which may lead to a slowdown in the uninterrupted and vigorous growth of the past thirty years, a case that is probably unprecedented in history, and which is already fuelling the prospect of an easing of China's monetary policies
- the gradual lowering (not elimination) of dependence on carbon-based energies thanks to the development of renewable energies – or even nuclear power if it manages to make recent progress in fusion a reality – and thanks also to increasing reliance on a more circular economy.

The only one of these restorative forces that can be activated quickly is of course the policy of central banks. All they have to do is decide to stop the mechanism that seems to us to be at work. The sooner the better, paradoxically, because if they delay too much, they might have to raise rates with a lag on inflation.

The problem is that they cannot all act at the same speed, with the ECB remaining more reluctant to move too fast due to the debt levels of several member states and productivity differentials within the zone, but even the European Union will not have the luxury of delaying policy tightening for too long, no matter what it says. The Fed and BoE have more room to manoeuvre.

Moreover, contrary to the early 1980s when anti-Keynesian leaders de-indexed wages in order to curb inflation, it will not be so easy for our leaders to interrupt the mechanism at work. The lowest paid employees of our societies will find a legitimate reason for satisfaction, but it is wise to recall that in the 1970s these wage increases did not compensate for the depressive effect of inflation, being always a step behind.

We don't have oil, but we do have ESG

As a reminder, the first and second oil crises prolonged the stagflation of the 1970s, which began in the United Kingdom in the 1960s, and then fuelled fears about supply: quite simply, consumers were afraid of running out of oil. Today, despite the current supply crisis, it seems to us that the efforts made in the area of renewable energy are already changing the situation, even if wind power and photovoltaic energy are not yet replacing all carbon-based energy sources, as this winter is likely to illustrate for some countries.

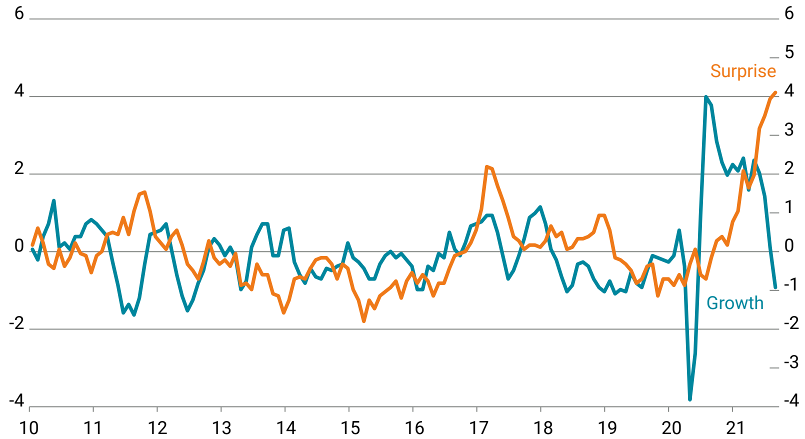
There is also the issue of food supply, where Europe and the United States have obvious advantages that we believe will be strengthened by the growing awareness of biodiversity issues, as Mirova expressed at the recent IUCN (International Union for Conservation of Nature) World Conservation Congress: preserving living things will become key to preserving agricultural production and its quality.

On our modest scale, Mirova will therefore pursue its policy on the circular economy and biodiversity preservation, which we have made priority sectors for investment. In our opinion, these represent a source of opportunities because of the solutions they provide. While in the 1970s we had no oil but did have ideas, forty years later we still have neither oil nor natural gas, but we do have ESG.

10. Shanghai Cooperation Organization

Current market tensions: what's going on?

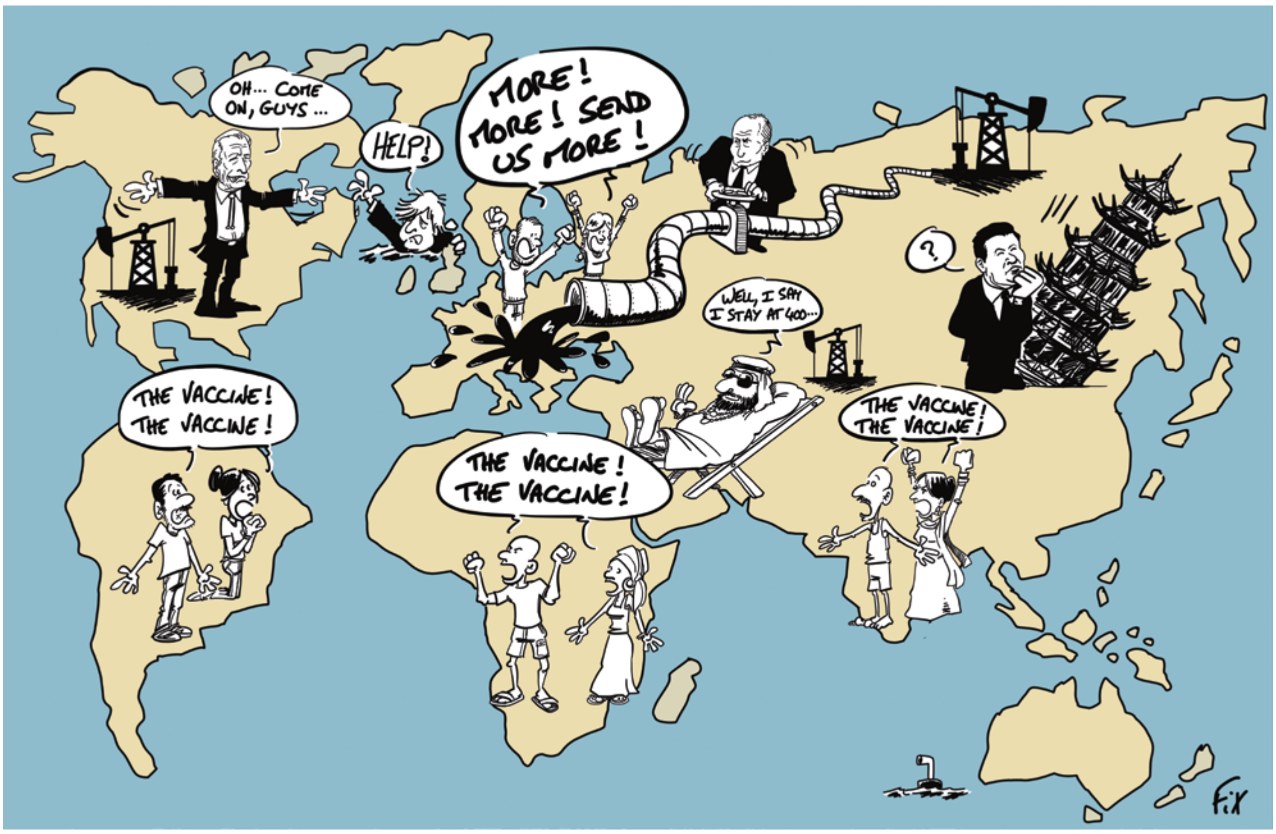
GRAPH 5 – G10: GROWTH AND INFLATION SURPRISE INDICES (Z-SCORE)



Source: les cahiers verts de l'économie

After a long period of bullishness and low volatility, the stock markets have finally faltered in recent weeks due to the accumulation of multiple risks (deceleration of global growth, fears about real estate and Chinese growth momentum, raw material and intermediate goods prices fuelling a rise in inflation, the United States debt ceiling, etc.), all this as the process of monetary normalisation seems imminent, particularly in the United States with the forthcoming implementation of a gradual tapering of asset purchases by the Fed.

In late September, in addition to questions about growth in China and the persistent supply shortages that are hampering all strata of the global economy, a surge in energy prices, particularly gas, added further pressure on input costs. Meanwhile, the stimulus plans sought by Biden (infrastructure, social and environmental spending) have still not been voted on due to dissension within the Democratic Party, leaving uncertainty about the direction of fiscal policy in the United States over the next few years. This fuels fears of a return to stagflation, i.e. a situation in which price rises remain

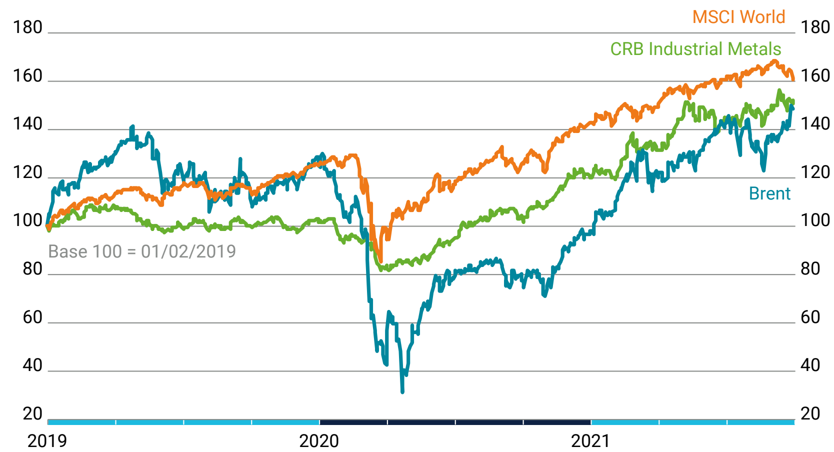


high while economic momentum weakens for a prolonged period. This scenario remains hypothetical at this stage, given that overall growth is still solidly above potential, but it could complicate the actions of central banks in the long term if inflation, which they consider to be transitory, were to settle permanently above their target level and/or if growth were to seriously slow down. Clearly, while we are currently ruling out a lasting episode of stagflation similar to that of the 1970s at this stage, episodes lasting a few months could nevertheless occur. Central banks have ample means of halting this phenomenon.

For the time being, Western macroeconomic indicators remain strong with a dynamic labour market, high household savings and rising corporate capex[11]. The Fed's recent change of tone has caused a clear acceleration in the rise of interest rates, particularly their real component, with investors betting on a faster than expected normalisation of United States monetary policy. The risk for equity markets would be to find themselves caught between rising interest rates and a downward revision of corporate earnings growth prospects. Rising energy prices and persistent shortages could weigh on margins and dampen activity.

However, this is not our central scenario. While the recent volatility may well persist in the short term, we maintain our fundamental view that macroeconomic dynamics are robust over the next few quarters. We also believe that real yields will eventually stabilise.

GRAPH 6 – MSCI WORLD, BRENT AND INDUSTRIAL METAL PRICES



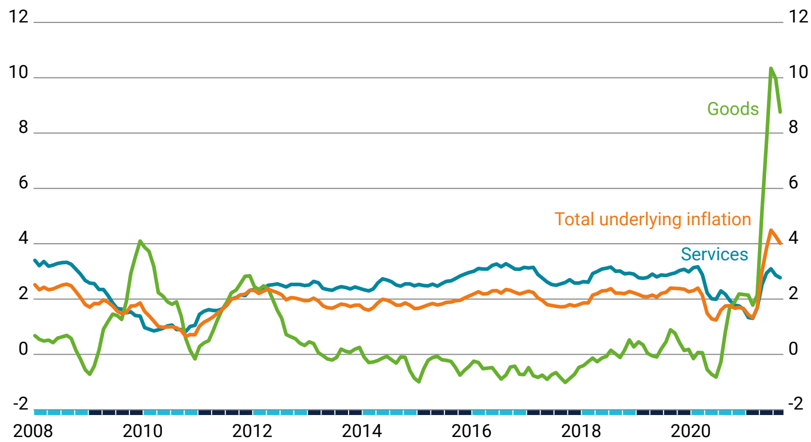
Source: Bloomberg

The supply shock must subside before it is absorbed

It is true that an inflation hump has formed, higher and is proving more durable than initially anticipated. Bottlenecks are appearing, causing localised price spikes.

The rebound in consumption has created demand for durable goods that outstrips supply, and the lack of raw materials to make them, or container ships to transport them, has made them more expensive. According to the OECD[12], the increase in the price of raw materials and sea freight explains most of the rise in consumer prices in G20 countries. In contrast, this increase remains modest in services, and inflation, excluding food and energy, remains comparable to that of the pre-crisis period in advanced economies.

GRAPH 7 – UNITED STATES: UNDERLYING INFLATION OF GOODS AND SERVICES YEAR-ON-YEAR



Source: les cahiers verts de l'économie

The first signs of stabilisation in the so-called global bottlenecks are appearing, but have yet to touch certain markets such as semi-conductors. Easing of the epidemic in Southeast Asia (Malaysia, Vietnam) should help return to better utilisation rates of global production lines. On the negative side, power shortages disrupted production in China and the supplier delivery index in the latest United States ISM[13]

11. Capital expenditure
12. Organization for Economic Cooperation and Development
13. Institute for Supply Management

manufacturing report rose slightly after two consecutive months of decline. Business inventories remain depleted in some sectors.
In terms of wages, the situation seems very different from that of the 1970s when they were indexed to price inflation, fuelling a spiral from which it was difficult to escape. Wage pressures are increasing, given the difficulties in hiring in the short term, but they mainly concern low wages. And productivity gains have been able to absorb the increase in wage costs so far.
As regards household and business inflation expectations, we are not seeing an acceleration for the time being. Rates have remained steady since May in the United States.
However, the evolution of energy prices is a risk to watch closely. Inflation over the next few months could rise to nearly 6% year-over-year in the United States.
Similarly, the speed at which labour supply normalises will be key to understanding inflation dynamics in the coming quarters. The end of extraordinary unemployment benefits has not had as much impact on the participation rate as expected. Hope now lies in the gradual return of workers as the health situation improves.

How are central banks responding to this context?

For the first time, a G10 central bank has decided to raise rates. The strength of the recovery and an economy positively impacted by the rise in oil prices convinced Norway's Norges Bank to raise its main benchmark by a quarter point to 0.25%.
The Bank of England (BoE) hinted at its latest committee meeting that it would have to accelerate its timetable, as inflation is proving less transitory than initially expected (projected at over 4% by the end of the year), while acknowledging that economic activity was becoming less favourable due to constraints on supply chains and staff shortages. A first rate hike before the middle of next year seems highly likely.
The Fed continues to prepare the ground for an announcement of a tapering in its asset purchase programme at the beginning of November with a decline of $15bn per month for eight months (current QE[14] at $120bn). However, the Fed's chairman, Jerome Powell, is making an increase in key rates conditional on a return to full employment (a situation that is still far off for the time being) and is insisting on the transitory nature of inflation, even though he is less comfortable with its high level. It is worth noting that 13 of the 18 FOMC[15] members see upside risks.
As for the ECB, it seems quite possible that, like the Fed, it will reduce its asset purchase programme over the next few quarters, but it does not seem to be in a hurry to raise rates, given the still relatively high level of unemployment, and pressure on wages which remains contained for the time being.
Ultimately, a mix of high inflation and low interest rates remains the best cocktail to quickly reduce the public debt rates that exploded after Covid and increase the investments needed to meet the environmental and social challenges ahead (energy transition, health, education, etc.) States, and therefore implicitly central banks, are keeping this objective in mind (see our Editorial).

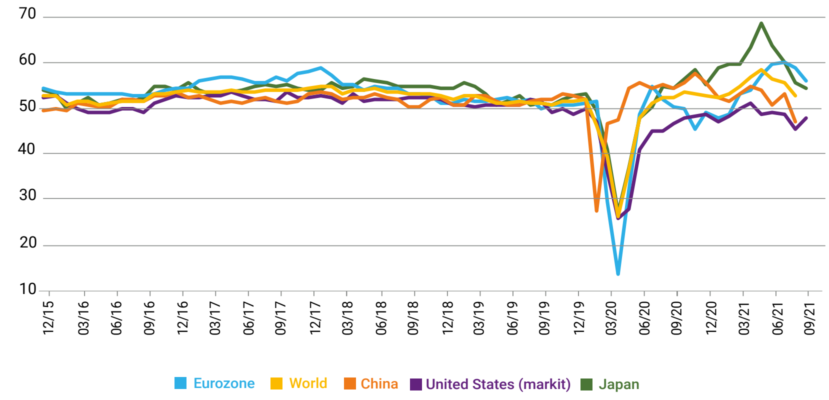
Macro context: under the inflation, the dynamics

What about the growth trajectory after the impressive rebound at the beginning of the year?
Business momentum remains solid, but the acceleration peak is clearly behind us at the global level. Macro dynamics are levelling off (economic surprises, PMI[16] leading indicators, etc.) The delta variant has had relatively little impact on demand, but is increasing the constraints on supply, which were already significant (raw materials, sea freight, semiconductors, labour shortages, more recently the energy crisis, etc.)
However, in the medium term, the cycle seems to be well underway. Margins have increased and profits are robust, which will encourage investment. The outlook for employment is still favourable and household savings are well above their historical average, which should support consumption. The banking system is in good shape.
As vaccination levels increase, the epidemic risk is expected to decrease, especially in the emerging world, and supply-side constraints should decrease as well.
In Germany, negotiations for the formation of a coalition following the elections have begun. While these are expected to last for weeks, the prospect is emerging of an alliance between the Social Democratic Party (SPD), the Greens and the Liberals (FDP) led by SPD leader Olaf Scholz, who will become the

14. Quantitative easing
15. Federal Open Market Committee
16. Purchasing Managers Index

future chancellor. This could lead to an increase in public spending, as well as greater European budgetary integration favourable to growth within the zone.
The situation in China, on the other hand, is concerning. The slowdown is confirmed, with the Caixin manufacturing PMI now in contraction territory (49.6 in September) for the first time since the start of the pandemic. In addition, the real estate sector (15% of GDP) will suffer following the near-bankruptcy of Evergrande and private consumption is slowing. China will undoubtedly do its utmost to counteract an excessive slowdown in its economy in the short term, but we must be prepared for a more marked deceleration in its trend growth over the next few years.

GRAPH 8 – GLOBAL: COMPOSITE PMI



Source: Bloomberg

Markets: in the energy haze

Short-term visibility remains low, with concerns mounting that could fuel volatility in the markets for some time to come. The question is to what extent the supply shocks described above will affect corporate earnings and how quickly they will return to normal. This will determine the dynamics of corporate earnings revisions, which will be the main driver of equity market performance in the quarters ahead. It is difficult to rely on monetary policy to support valuations at present.
So, while we believe that stagflation fears appear to be overdone from a fundamental point of view in the long run due to strong potential demand, we believe that it is a little early to be aggressively returning to risky assets given the current combination of rising inflationary pressures, slowing growth and rising real rates, which are likely to scare investors.
In the current context, we maintain a neutral equity/bond allocation and are taking a wait-and-see attitude from a directional point of view due to the lack of short-term catalysts supporting a sustainable market rebound. We balance portfolios between cyclical and defensive stocks and favour companies with strong pricing power that can defend their margins. The gradual rise in interest rates and the rotation in favour of value stocks should continue. We favour Europe from a geographical point of view.

ChargePoint is well positioned to remain the leader in the fast-growing EV charging market

Countries around the world are setting ambitious targets for electric vehicle (EV) penetration. The latest was Joe Biden's executive order setting a target to make half of new vehicles sold in 2030 zero-emission vehicles.

To put this into context, only 2% of new vehicles sold in the United-States in 2021 are estimated to be electric. We therefore expect an unprecedented disruption in the automotive sector during the decades ahead. Automotive manufacturers have an improved EV model lineup with a record number of new EV launches expected in 2022.

EV infrastructure build-up will be key to achieving these ambitious carbon reduction targets in the transport sector. Historically, charging ramp up has closely tracked EV sales. The current installed base of public charging (excluding home charging) in the United States is about 100,000 outlets. This number is expected to grow by 30% compound annual growth rate (CAGR) until 2030 to 1 million chargers and to reach 2.4 million chargers in 2035 implying a 24% CAGR.

Charging infrastructure has three components **– 1 –** home charging, **– 2 –** Level 2 (L2) charging and **– 3 –** Direct current (DC) Fast Charging. Currently, 80% of United States charging is done at home. This is likely to decline somewhat in the future as battery range improves and charging infrastructure builds up, however, we expect home to remain the primary site for charging.

The average United States vehicle travels 11,600 miles per year. Of this, 60% takes place within a 'local daily network' of school, work and shopping etc. We therefore expect most of the public charging infrastructure to be L2 infrastructure built around the 'local daily network' constituted by work sites, shopping malls and other public places. L2 charger can charge a 100-mile range in about 3 hours, so for daily use there is no need for DC Fast Charging, which tends to be located on highways for long-distance travelling.

The business case for charging infrastructure is not simple. Level 2 chargers cost on average $3,000, while a DC Fast Charger costs between $25,000 to $125,000 depending on Kw rating. In addition, there are costs associated with electric grid updates, electrical installation, etc. Furthermore, grid load sets limitations on volume. We therefore do not expect sale of electricity to be a successful business model in EV charging.

ChargePoint is the leading L2 charging company in the United States with 59% market share. It offers its clients an integrated offering of hardware, software and services. The company provides charging solutions to commercial (retail, workplace, parking, education, recreation, highway fast charge), fleet (delivery, logistics, transit, carpool, shared mobility), and residential segments (homes, condos, apartments). Its clients include companies such as Facebook (employee and visitor charging), Whole Foods (client charging) and FedEx (fleet charging).

The company has an asset light

service model, meaning it does not own charging infrastructure. Chargers are always installed on a customer order. Clients pay up front for the hardware and an annual subscription fee for services and software. Therefore, the company assumes no risk regarding the utilisation rate of the charger, or the margins achieved by selling electricity. ChargePoint's client usually provides charging as a perk to employees or to attract customers and thus monetise charging in other ways than selling electricity.

ChargePoint management targets a 20% market share in Europe, compared to 2% today. The European market is very fragmented and consequently the company has recently made two acquisitions to consolidate its market share. ChargePoint has also partnered with leasing companies, with over ten utilities and energy supply companies and with several automotive OEMs (Daimler and BMW). EV penetration and near-term growth outlook are higher in Europe than the United States. Furthermore, as the charging market is fragmented with a lot of weak players that suffer from issues of reliability, we expect ChargePoint to have a competitive advantage with its proven integrated hardware, software and services concept.

ChargePoint is currently loss making. As sales ramp up covering fixed costs and the portion of higher margin software sales increases, the company is expected to reach breakeven at operating and net profit level in 2025. Once the company achieves profitability, we would expect a rapid growth in profits and cash flows due to the increase in high-margin and recurring software & service sales.

As the clear market leader with significant scale advantage, ability to invest in R&D and a proven product, we believe ChargePoint to remain the preferred partner in building charging networks for a range of customer groups. Furthermore, we believe that the company's business model, which does not rely on usage rate or sales of electricity, but on providing a one stop full charging solution to B-to-B clients is likely to be a winning combination in the long term.

Carbios

The issues of global warming and biodiversity have led governments, especially but not exclusively in Europe, to set targets for the collection and recycling of plastics.

For example, the 'EU Single Use Plastics Directive' sets targets for the percentage of recycled plastic in PET bottles[17] (30% by 2030)[18] while the 'UK Plastics Pact' introduces a similar objective on a larger perimeter of plastic packaging, and a new tax has been of 800 euros per tonne of non-recycled packaging will henceforth be paid by European Union Member States. While the vast majority of plastics are of fossil-fuel derived and recycling plastics has many benefits such as reducing greenhouse gas emissions and carbon footprint, saving energy and water, and reducing plastic dissemination our ecosystems (rivers, ocean), the recycling rate remains low all over the world. Better collection and more efficient sorting of our waste are important aspects, however, improving recycling processes, reducing contamination of products to be recycled, improving the quality of recycled products and finding alternative solutions to petroleum products are all essential.

Carbios, a green chemistry company founded by Jean-Claude Lumaret in 2011, offers innovative solutions to meet these challenges. The company has designed and developed a technology to improve the recycling process of plastic or textiles and has also demonstrated its ability to make a bioplastic 100% biodegradable at home.

The recycling process consists of depolymerizing the PET contained in various plastics or textiles with the help of an enzyme. This is an innovative chemical recycling technology. The advantages are many. In true circular economy fashion, the monomer obtained is similar to the initial product, of the same quality and can be reused infinitely. More complex or contaminated plastics containing PET are thus more easily recycled.

The introduction of enzymes within the plastic materials to make them biodegradable is the company's second line of R&D through Carbiolice which has this year begun commercialising a solution form making the bioplastic PLA compostable under domestic conditions[19].

The addressable recycling market is substantial. Some 70 million tonnes of PET[20] are produced per year, most of which are used in fibres for the textile industry or as resin for beverages, cosmetics, films, food... The bioplastics market is much smaller, with 2.1 million tons produced annually[21]. Such bioplastics are not all considered biodegradable or compostable.

The company has developed noteworthy partnerships with Michelin, L'Oréal, Nestlé Waters

17. Polyethylene Terephthalate, material of the bottles
18. Source: https://ec.europa.eu/environment/topics/plastics/single-use-plastics_en
19. Polylactic acid
20. Source: IHSmarkit2018
21. Source:https://www.european-bioplastics.org/market/

and Pepsi. They have partnered with Novozymes for the supply of enzymes and with Technip Energies for industrial development.
Research & development remains a major focus of the strategy and is based on multiple collaborations with French academic institutions including the INSA[22] INSA, INRAE[23] the CNRS[24] and has established a strategic alliance with INSA Toulouse. The company is studying the possibility of using enzymatic recycling on other polymers than PET.

Moving towards industrialisation

During the pilot stage, which is almost completed, batches of food-grade PET bottles were produced from PET monomers derived from bottles or textile waste, a world first. Carbios is the only company in the world using enzymes to have demonstrated such results, with unrivalled efficiency. The construction of an industrial demonstrator in France began in 2020 and its inauguration was announced at the end of September, in keeping with the scheduled timeline. As a very important step, this demonstrator will be used for further engineering studies and serve as a reference unit for the future marketing of licenses and enzymes to polymer manufacturers.

There's more...
This technology was the subject of an article in the scientific press (Nature) and Carbios was recognised as a 'Technology Pioneer' by the World Economic Forum.

- 39 patents were filed in different geographical areas (Europe, United States, etc.)
- The technology allows a return to the monomers most commonly used in the PET industry, which are PTA and MEG[25]
- The technology employs a low temperature process: 60 to 70°C

Plastic recycling
There are two types of plastic recycling, mechanical and chemical.
Mechanical recycling is the most widespread, the most mature in terms of process and industrialisation, and above all remains simple and less expensive. It consists in washing the plastic, then reducing it into pieces and extruding it as a new product. The main disadvantage of this recycling method is the retention of impurities, which calls for either a finer sorting of the different types of plastic upstream, or the use of recycled plastic for products of lesser quality (this is called downcycling) and limits the number of possible recycling operations (finite recycling).
Using pyrolysis to crack plastics is an example of chemical recycling. The process consists in heating the plastic to obtain a naphtha/diesel mixture. The main advantage is the possibility of treating a large number of types of plastics that are abundant in quantity and under-recycled at this time. The treatment of mixed plastics allows a decontamination of the impurities. This process has some disadvantages such as a high sensitivity to oxygenated (PET), chrome and brominated plastics and a less favourable carbon footprint than mechanical recycling.
Chemical depolymerisation of the plastic, whether partial or total, makes it possible to recover monomers of identical quality to the original material, as well as eliminating impurities. There are three distinct technologies extant today: methanolysis (reaction between methanol and PET), glycolysis (reaction between ethylene glycol and PET) and that employed by Carbios, namely enzymatic hydrolysis of PET.
Many of these technologies are still at the experimental, pilot or pre-industrialisation stage.

22. National Institute of Applied Sciences
23. National Institute for Agricultural Research
24. National Centre for Scientific Research
25. Monoethylene glycol

SLB and ESG: it's complicated

Two years ago, the Italian group ENEL innovated by issuing the first sustainability linked bond (SLB) on the market.

Since then, SLBs have grown significantly, especially in recent months, with a total of €50 billion issued since the beginning of 2021 and a growing number of issuers, approaching 80 in total. These issuers hail from all regions of the world, including companies from North America, France, Spain, China, the United Kingdom, Brazil, Australia and Germany, among others; this type of instrument is also well suited to high yield (HY) players such as Rexel, Pfleiderer, Picard ou Nemak.

As a reminder, these SLBs are bonds whose yield may vary, contingent on meeting predefined environmental, social and governance objectives, measured according to established key performance indicators (KPIs).

SLB: ESG OK, but let's not get carried away...

Mirova is watching this growth in SLBs with great interest... and caution. In our view, these instruments have a major drawback: in theory, they can allow issuers with a poor ESG profile to issue a bond that is supposed to promote the ongoing environmental and social transition without having to make too great an effort to improve their practices or the ESG impact of their operations. It is not so much a question of possible greenwashing which is easy to detect, but rather the risk of issuers setting themselves ESG objectives that are not very ambitious, not ambitious enough in relation to their potential, or less ambitious than those they would have set themselves if they had had to issue real green bonds, social bonds, or sustainability bonds. This represents a real problem, at a time when the climate emergency seems to us to require a commitment from every economic actor who can take action. In short, baited by the possibility of financing themselves on the most dynamic segment

MAJOR ISSUERS OF SLBS AS AT 15 SEPTEMBER 2021

	Issuer	Country	Total issued in SLB format, in $M
1	ENEL	Italy	8,607
2	Suzano	Brazil	2,750
3	Novartis	Switzerland	2,196
4	NRG Energy	United States	2,000
5	Public Power Corporation	Greece	1,515
6	Repsol	Spain	1,491
7	FEMSA	Mexico	1,449
8	ENI	Italy	1,217
9	China Construction Bank	China	1,150
10	Orbia	Mexico	1,100

of the bond market, ESG, these issuers find SLBs to be a means of accessing it cheaply, since, as a reminder, they themselves set the objectives they wish to achieve.
As for asset managers who are not convinced by SRI[26] but see that their clients are asking for it, these SLBs allow them to add an environmental and social touch without having to make the effort of adapting their management and portfolios in depth to what a true ESG strategy implies.

Step up coupon is a contradiction

Another disadvantage, which is better known, stems from the apparent contradiction linked to the step-up coupon that most of these instruments include if their KPIs are not achieved.
This is because granting additional remuneration to SRI investors who have chosen to support a company because it has done less well than expected in terms of environmental performance, for example, may indeed seem somewhat contradictory, if not cynical. The banks that advise issuers of SLBs have circumvented this problem by suggesting the introduction of step-downs if targets are met. It is up to each investor to make up his or her mind on this point.
It is up to each investor to form his/ her own opinion on this misalignment of interest but to have a procedure for maintaining or exiting the SLB which it appears that the issuer becomes likely not to respect the KPIs will ultimately constitute an obligatory passage.
Implicitly, this invites to choose both the SLBs of which KPIs are the most ambitious and among those, those who have the best probability of being reached: this requires a double challenge, since the more ambitious and more difficult the issuers impose themselves ambitious KPIs and the more difficult the possibility of achieving them will prove to be. From there, it will take the investor to provide meticulous but essential work to ensure that by adding an SLB to a portfolio, he is indeed doing ESG.

An instrument that could be of greater interest, especially for HY

Does this mean we should reject SLBs outright? Certainly not, because they could play a favourable role in financing the current environmental and social transition, provided that their issuers really take the trouble to do so. And there is nothing to prevent them from doing so. If companies set themselves really good and ambitious KPIs, but prefer to avoid predefining a use of proceeds that is too restrictive in their case, then SLBs can help them.
We are thinking in particular of companies, such as HYs, that are implementing a serious ESG strategy but do not have the means to issue green or social bonds, where the use of funds, so valuable for measuring their impact, may lack flexibility. This may also be the case for smaller or fast-growing groups that need more flexibility than larger, well-known issuers, particularly in order to cope with unforeseen cash flow pressures or to seize a development opportunity that may present itself.
Other issuers for whom SLBs may have an interest in the distant future: those who have already financed and implemented most of their environmental transition, for example through the issuance of green bonds in the 2020s, and who by issuing an SLB to refinance such green bonds, will show the validity and confidence they have in the effects that these investments will have had on their operations. In the case of these issuers, the green bonds will have financed their transition and started operating the assets necessary for it, and the issuance of a subsequent SLB will show that these assets do have an impact, which the KPIs will measure. This phase is however not for now: it will be necessary to wait until the 2030s or even 2040.

The road to greenwashing is paved with good intentions

Now that we know the generic term 'SLB' can conceal bonds that are not really ESG in nature, if at all, as well as others that actually contribute to the environmental and social transitions underway, there remains the question of how to sort them out.
As we have already written, and will repeat, the success of SRI, like all successes, will inevitably attract its share of free riders who want to take advantage of the windfall without having to devote too many resources to it. Some issuers are finding a way to adopt this strategy with SLBs, but they will only fool the least meticulous investors.
There is still no secret method: investors committed to a conviction-based SRI approach will conduct a rigorous analysis of each SLB before adding it to their portfolios, if appropriate. As for the less sincere or more reticent investors, they take the risk of investing in SLBs issued by the least sincere or most hesitant issuers: *asinus asinum fricat*[27]

26. Socially responsible investment
27. Literally, 'The donkey rubs the ass.'

Any securities mentioned above are for illustrative purposes only and in no way constitute investment advice, a recommendation or a solicitation to buy or sell.

FOCUS Social Taxonomy

The Sustainable Finance Platform, the stakeholder group officially responsible for advising the European Commission on implementation of its taxonomy project, published a draft report for a social taxonomy proposal this summer. The European Commission must decide by the end of the year whether or not to develop such a taxonomy, based on the platform's recommendations.

This draft report provides a line of though quite distinct from the environmental taxonomy currently being developed. The latter lists activities that can be considered green for investors in order to meet the European Union's environmental objectives. Through two dimensions, described as 'vertical' and 'horizontal', the social taxonomy project takes into account not only the activities of a company (those with added value in terms of access to essential products and services), but also its processes (decent work, consumer protection, communities...) In this respect, it is closer to a social evaluation criterion. For each objective, the principle of 'do no harm' must also be respected. The social taxonomy may also include criteria relating to governance as related to environmental and/or social objectives (e.g., diversity in the governing bodies / senior management, share of executive compensation linked to environmental and social considerations, etc.)

While finalisation of the environmental taxonomy is still a matter of much debate, the implementation of a social taxonomy is an opportunity not to be missed to ensure social issues remain on the sustainable finance agenda. A decision expected by the end of 2021.

Advocacy Update

The autumn and the end of the year will be marked by a particularly busy calendar and the completion of a number of European texts on sustainable finance. The European Union's environmental taxonomy, given the anticipated finalisation of the draft delegated act for climate objectives, is the focus of much attention.

This text is at the heart of negotiations among Member States, the Parliament and the Commission, with the challenge of deciding whether to integrate sensitive sectors in a second text, planned for the autumn (nuclear, natural gas, agriculture, aviation, etc.) The 'green' taxonomy for the other environmental objectives (water, pollution, circular economy, biodiversity) is currently being developed. By the end of the year, the European Commission will also have to make a decision as to whether it undertakes to develop other taxonomies (for instance, a taxonomy of 'significantly harmful' or brown activities, those 'without significant impact' or neutral, social, etc.)

Finalisation of texts implementing the SFDR[28] regulation is also on the agenda, as well as the announcement (a priori scheduled for early 2022) of an initiative to promote sustainable governance at European companies.

28. Sustainable Finance Disclosure Regulation

Measuring impact

Mirova Consolidated Equity

31/09/2021 – Index: MSCI Europe

Impact on the achievement of the SUSTAINABLE DEVELOPMENT GOALS (SDGs)

EXPOSURE TO POSITIVE/COMMITTED IMPACT ON SDGS

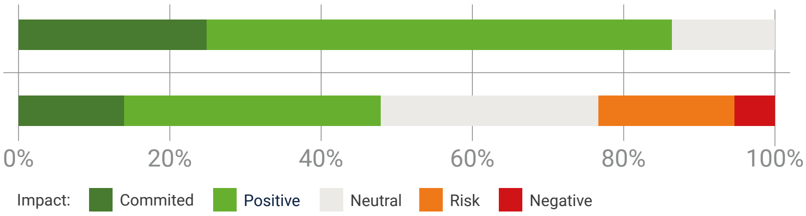
Strategy 86%

VS.

Index 48%

Coverage rate for strategy: 100%
Coverage rate for the index: 100%

% OF ASSETS*



*Cash and cash equivalent excluded

Source: Mirova

Key impact indicators

CLIMATE CHANGE

Climate change trajectory

Strategy +1.5°C

VS.

Index +3.5°C

Coverage rate for strategy: 96%
Coverage rate for the index: 98%

Source: Carbone4/Mirova

GENDER EQUALITY

Women in executive committees

Strategy 20%

VS.

Index 16%

Coverage rate for strategy: 95%
Coverage rate for the index: 99%

Source: Mirova

EMPLOYMENT

Average yearly change in workforce (2016-2019)

Strategy 6%

VS.

Index 3%

Coverage rate for strategy: 100%
Coverage rate for the index: 100%

Source: Mirova, from company reports

Impact mapping to the SDGs

		Share of positive/commited contributors* (Strategy)	(Index)	Corresponding SDGs
ENVIRONMENT	CLIMATE STABILITY Limit GHG levels to stabilize global temperature rise under 2°C	55%	27%	9 Industry, innovation and infrastructure; 13 Climate action
ENVIRONMENT	HEALTHY ECO-SYSTEMS Maintain ecologically sound landscapes and seas for nature and people	37%	12%	14 Life below water; 15 Life on land
ENVIRONMENT	RESOURCE SECURITY Preserve stocks of natural resources through efficient and circular use	38%	16%	12 Responsible consumption and production
SOCIAL	BASIC NEEDS Basic services (Food, water, energy, shelter,health, etc.) for all	15%	15%	1 No poverty; 2 Zero hunger; 3 Good health and well-being; 6 Clean water and sanitation; 7 Affordable and clean energy; 10 Reduced inequalities
SOCIAL	WELL BEING Enhanced health, education, justice and equality of opportunity for all	40%	24%	3 Good health and well-being; 4 Quality education; 5 Gender equality; 10 Reduced inequalities; 11 Sustainable cities and communities; 16 Peace, justice and strong institutions
SOCIAL	DECENT WORK Secure, socially inclusive jobs and working conditions for all	28%	18%	8 Decent work and economic growth; 9 Industry, innovation and infrastructure; 10 Reduced inequalities

Strategy VS. Index

*Sum of strategy/index holdings with Positive or Committed opinion

Source: Mirova

Mirova Consolidated Fixed Income

31/09/2021 – Index: Barclays Euro Aggregate Corporate

Impact on the achievement of the SUSTAINABLE DEVELOPMENT GOALS (SDGs)

EXPOSURE TO POSITIVE/COMMITTED IMPACT ON SDGS

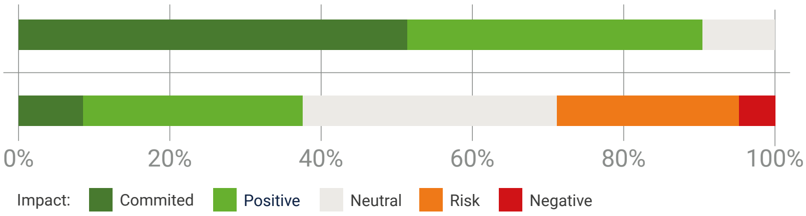
Strategy 90%

VS.

Index 37%

Coverage rate for strategy: 100%
Coverage rate for the index: 100%

% OF ASSETS*



*Cash and cash equivalent excluded

Source: Mirova

Key impact indicators

CLIMATE CHANGE

Climate change trajectory

Strategy

+1.5°C

VS.

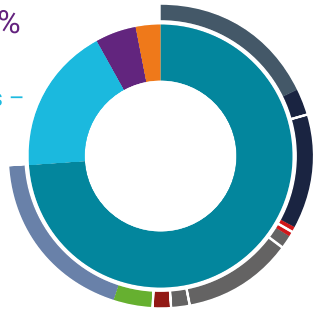
Index

+3.5°C

Coverage rate for strategy: 50%
Coverage rate for the index: 84%

Source: Carbone4/Mirova

SUSTAINABILITY BONDS



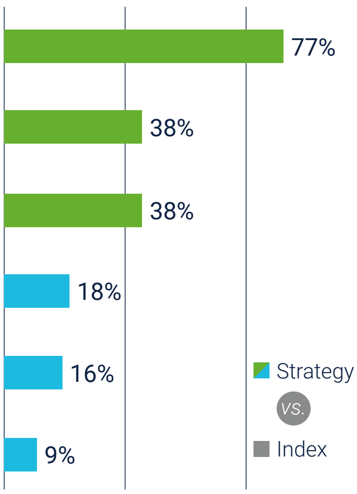
Sustainability bonds 74%

- 18% Renewable energy
- 15% Energy efficiency
- 1% Sustainable waste & water management
- 15% Clean transportation
- 2% Other environmental
- 0% Affordable housing
- 4% Other social
- 19% Diversified

Source: Mirova

Impact mapping to the SDGs

		Share of positive contributors*	Corresponding SDGs
ENVIRONMENT	CLIMATE STABILITY Limit GHG levels to stabilize global temperature rise under 2°C	77%	9, 13
	HEALTHY ECO-SYSTEMS Maintain ecologically sound landscapes and seas for nature and people	38%	14, 15
	RESOURCE SECURITY Preserve stocks of natural resources through efficient and circular use	38%	12
SOCIAL	BASIC NEEDS Basic services (Food, water, energy, shelter, health, etc.) for all	18%	1, 2, 3, 6, 7, 10
	WELL BEING Enhanced health, education, justice and equality of opportunity for all	16%	3, 4, 5, 10, 11, 16
	DECENT WORK Secure, socially inclusive jobs and working conditions for all	9%	8, 9, 10



*Sum of strategy/index holdings with Positive or Committed opinion

Source: Mirova

October 2021
Non-contractual document, issued in october 2021

Contributors :

David Belloc .... Cross Asset Portfolio Manager
Hélène Champollion-Morel .... Head of Communication
Laurène Chenevat .... Advocacy Lead
Adrien Dorleac .... Investment Specialist
Emmanuel Gautier .... Portfolio Manager - Impact Investing
Felipe Gordillo .... Senior ESG Analyst
Hervé Guez .... CIO Equity & Fixed Income
Clémence Peyraud .... Investment Specialist
Bertrand Rocher .... Fixed income portfolio manager and senior credit analyst
Christine Tricaud .... Portfolio Manager
Anna Vaananen .... Senior Portfolio Manager
Louis Wuyam .... Data Reporting Officer

Mirova aims, for all its investments, to propose portfolios consistent with a climate trajectory of less than 2°C defined in the Paris Agreements of 2015, and systematically displays the carbon impact of its investments (excluding Social impact and Natural Capital funds), calculated from a proprietary methodology that may involve biases.

ESG INVESTING RISK & METHODOLOGICAL LIMITS

By using ESG criteria in the investment policy, the relevant Fund's objective would in particular be to better manage sustainability risk and generate sustainable, long-term returns. ESG criteria may be generated using Mirova's proprietary models, third party models and data or a combination of both. The assessment criteria may change over time or vary depending on the sector or industry in which the relevant issuer operates. Applying ESG criteria to the investment process may lead Mirova to invest in or exclude securities for non-financial reasons, irrespective of market opportunities available. ESG data received from third parties may be incomplete, inaccurate or unavailable from time to time. As a result, there is a risk that Mirova may incorrectly assess a security or issuer, resulting in the incorrect direct or indirect inclusion or exclusion of a security in the portfolio of a Fund.
For more information on our methodologies, please refer to our Mirova website: www.mirova.com/en/research

MIROVA
French Public Limited liability company with board of Directors
Regulated by AMF under n°GP 02-014
RCS Paris n°394 648 216
Registered Office: 59, avenue Pierre Mendès France – 75013 – Paris
Mirova is an affiliate of Natixis Investment Managers.

NATIXIS INVESTMENT MANAGERS
French Public Limited liability company
RCS Paris n°453 952 681
Registered Office: 43, avenue Pierre Mendès France – 75013 – Paris
Natixis Investment Managers is a subsidiary of Natixis.

MIROVA US
888 Boylston Street, Boston, MA 02199; Tel: 212-632-2803
Mirova U.S, LLC (Mirova US) is a U.S. - based investment advisor that is wholly owned by Mirova. Mirova is operated in the U.S. through Mirova US. Mirova US and Mirova entered into an agreement whereby Mirova provides Mirova US investment and research expertise, which Mirova US then combines with its own expertise, and services when providing advice to clients.

MENTIONS LÉGALES

An affiliate of:

PERISCOPE R.C.S 422 233 650 - PHOTO CREDITS: MIROVA, ADOBESTOCK – COVER : UNSPLASH / KLAUDIA PIASKOWSKA – DRAWINGS: FX CHENEVAT

ADDITIONAL NOTES