



Economic Perspectives

Global Inflation | July 2019

Summary

Asian goods exporters appear to have taken a significant hit to their profitability over the past few months as a response to the impact of punitive tariffs. Accordingly, North American and European consumers have been shielded from their effects. Meanwhile service sector inflation continues to creep higher in most regions and contexts.



*“US inflation risks
are to the upside”*

Introduction

As keen observers of global inflation data, we are disturbed by a dominant market narrative that supposes that inflationary pressures have eased materially in the past 12 months. Although perceptions have shifted to the downside, there is scant evidence to support the proposition that the inflationary landscape is materially changed from last summer. The undeniable slump in traded goods prices that accompanied the sharp downturn in world trade volumes at the end of last year has weighed on Asian CPI and GDP inflation measures, but inflationary trends in Europe, EMEA and Latin America are, for choice, firmer.

The divergence of market pricing of future US inflation risk from consumer survey-based expectations replicates the 2015 scenario, which took almost two years to resolve. Hence we do not expect a quick or easy resolution of this uncomfortable disagreement. In support of our conservative view, a decomposition of inflation into its cyclical and acyclical components confirms that it is the latter that have weakened. The normalisation of idiosyncratic contributors to US inflation (upwards) looks to be a credible near-term development, rather than the sympathetic downward drift of cyclical inflation.

In February we commented that “central banks have become fearful and intolerant of deflationary shocks, real or imagined, and will act in a pre-emptory fashion.” This assessment looks to be well-founded as the US Fed gave a strong signal at its last meeting that a funds rate cut will be made at the end of this month. However, we are concerned that the pricing of further rate cuts is incompatible with the evolving economic reality. The next inflationary shocks are more likely to be to the upside, tilting the world towards stagflation. The implications for global equity investing are set out in the final section.

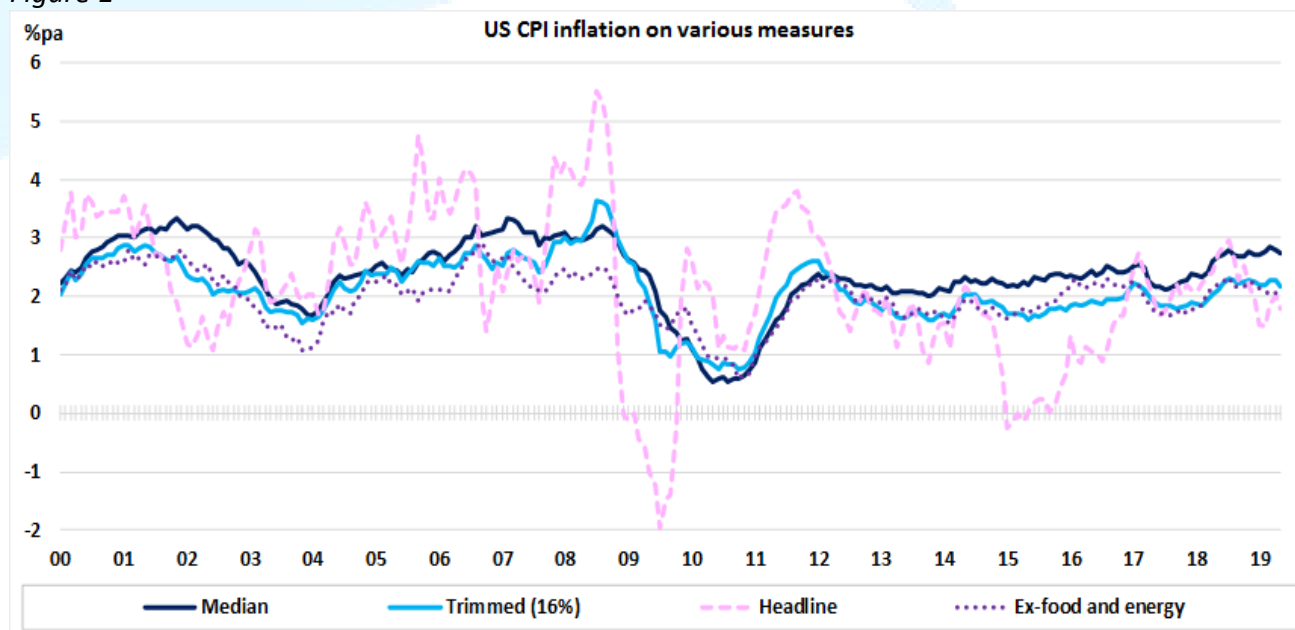
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The observation of inflation: a dying art?

The US president has tweeted variously that “inflation is very low” and that he sees “no inflation”. Some years ago, Professor Willem Buiter explained the third method of proof. Beyond proof by induction (logical propositions that lead eventually to a valid hypothesis) and proof by deduction (the elimination of false hypotheses which leaves the valid one) there is proof by repeated assertion. A great deal of public discourse seems now to revolve around this third method. The repetition of inaccurate or unproven information beats the opposition to a pulp and elevates the proposition to the thing “that all reasonable people believe” and becomes the received wisdom on the internet.

On no rational basis is it possible to claim that US inflation – much less global inflation – is very low. It was exceedingly low in 2009 and very low in 2015, but today, inflation (in its broadest sense) is as high as it has been since 2011. In the past 12 months, financial markets have been subjected to a perfect storm of inflation myths. The global inflation trend is little changed from last summer: the US is not the world. The prospects of an inflationary resolution – in the US and the world – over the medium-term have *risen* over the past few months, not fallen. This was the topic under consideration at our recent London seminar: “Blowing up the box!”, where we articulated the scale and imminence of the threat to the existing macro-policy framework from the forces of political economy. The transcript and slidepack from this seminar are available on request from info@economicperspectives.co.uk

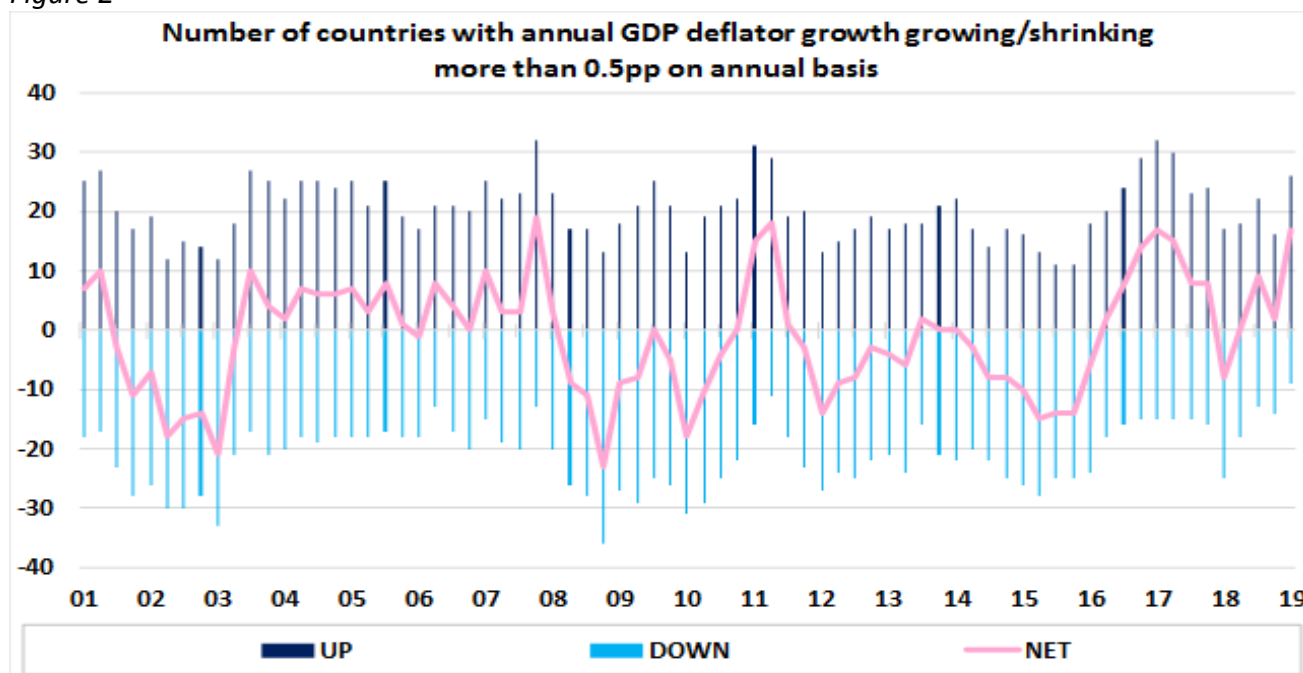
Figure 1



Data source: Cleveland Federal Reserve Bank

We have just completed the painstaking quarterly exercise of integrating the national accounts data for 53 countries, published as GDP heatmaps. Remarkably, despite a big hit to traded goods price inflation that had its largest impact in Asia, especially China, there is a clear majority of countries for which GDP inflation (the annual increase in the GDP deflator) is higher in 2019 Q1 than a year ago.

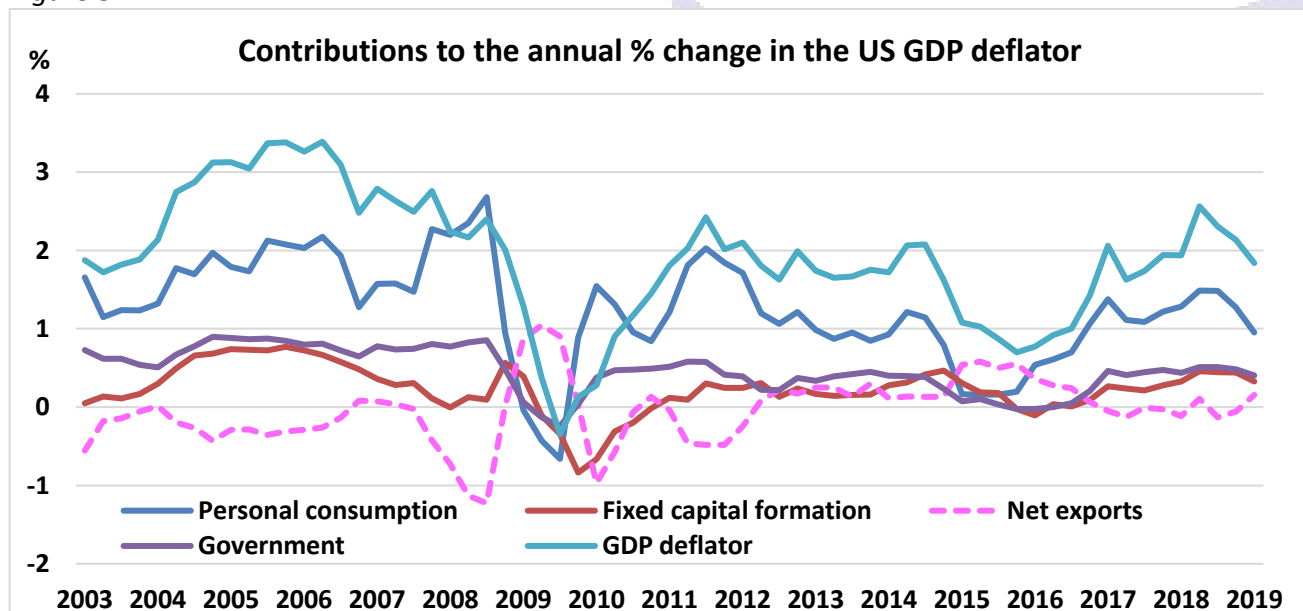
Figure 2



Data source: Thomson Reuters Datastream

GDP inflation in the US has fallen back from a peak of 2.5 per cent in 2018 Q2 to 1.8 per cent in 2019 Q1, aided by the appreciation of the US Dollar during 2018 and by the deflation of Asian traded goods prices in the final quarter of 2018. The growth of the US GDP deflator is running above private consumption expenditure (PCE) inflation (currently 1.5 per cent) because the contribution from net exports is inflationary (figure 3) and expected to become even more so.

Figure 3



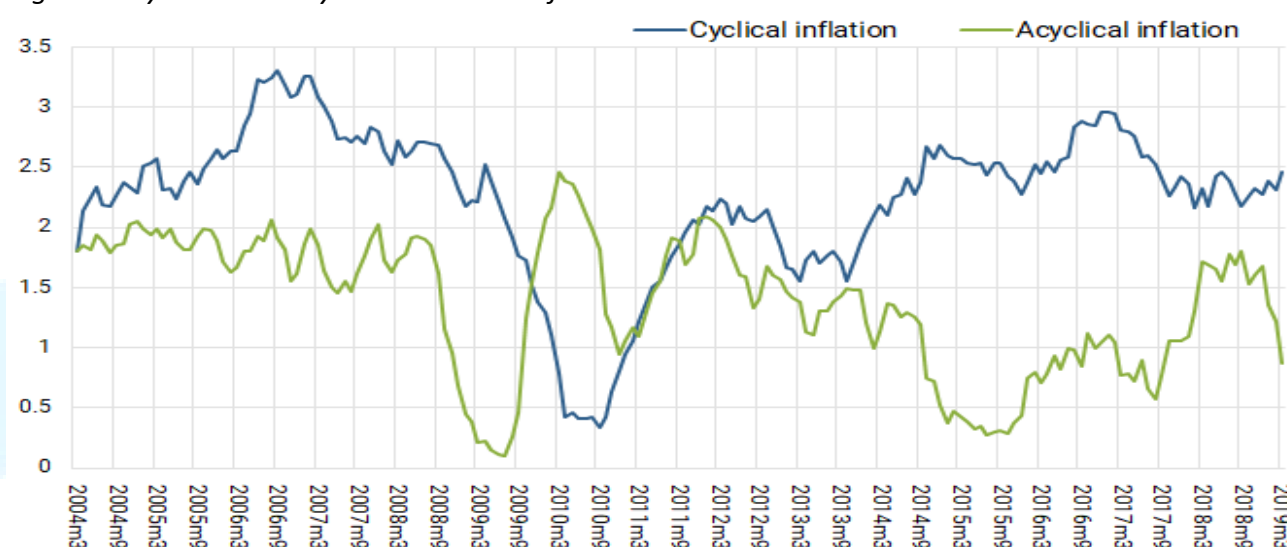
Data source: US Bureau of Economic Analysis

The US Federal Reserve is the only central bank we know that prefers the PCE deflator to the consumer price index as a timely measure of inflation. The CPI has its own flaws, but at least it is never revised as the PCE is. The detail of the PCE is only available on a quarterly basis and is also

subject to revision. If national accounts measures are judged preferable, then why prefer the PCE deflator to the GDP deflator, which is comprehensive? As figure 3 reveals, the contribution of net exports to the GDP deflator tends to move antithetically to the PCE, dampening the swings.

The cyclical component of US PCE inflation has not abated; it is the idiosyncratic components that have delivered the lower readings. It is also important to recognize that price indexes contain seasonal biases and annualization of quarterly movements is ill-advised. Inflation has structural and idiosyncratic components as well as cyclical ones. Cyclical inflation is a lagging indicator, following a loss of economic momentum typically by around 6 months. It is no surprise, therefore, that the San Francisco Fed's decomposition of US PCE inflation (figure 4) finds that acyclical – mostly idiosyncratic – components are responsible for the recent softness.

Figure 4: Cyclical and acyclical core PCE inflation



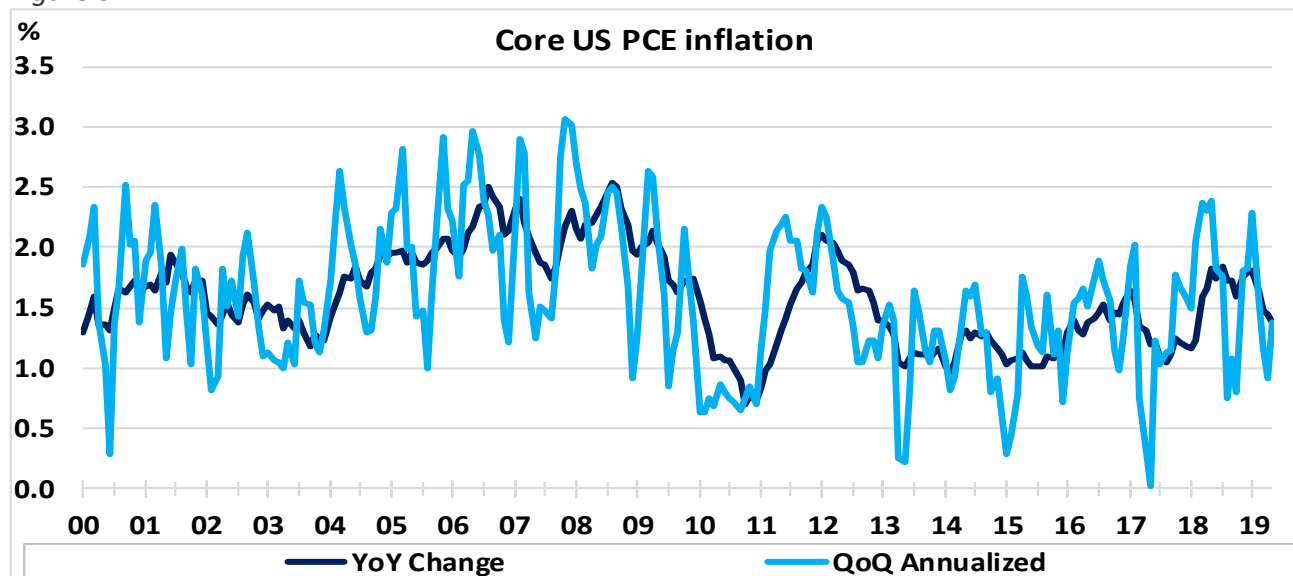
Source: San Francisco Federal Reserve

NB Cyclical and Acyclical Core PCE Inflation updates data on the contributions to core personal consumption expenditures from cyclical and acyclical components, based on the methods described in Mahedy and Shapiro (2017).

“US practice of annualization of quarterly price movements is a nonsense.”

A third pitfall in the representation of inflationary trends lies in the peculiar North American practice of annualizing quarterly changes. Seasonal adjustment of prices was difficult enough when all retailers were bricks-and-mortar and clearance sales were dependably seasonal. Today, pricing is dynamic and responsive to a thousand external influences, as global supply chains twist and turn, break and mend, lengthen and shorten in real time. The US practice of annualization of quarterly price movements is a nonsense. The noise greatly outweighs the signal. Trading or investing on annualized inflation data (see figure 5) will prompt a sequence of knee-jerk reactions.

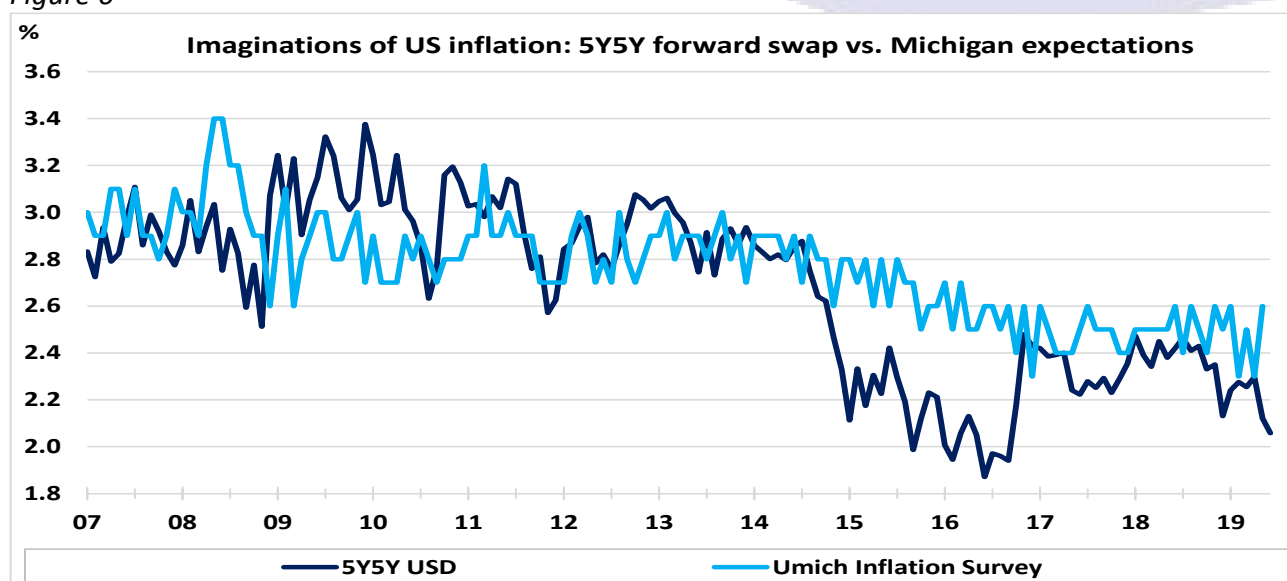
Figure 5



Data source: Eikon Reuters

Beyond the issue of fair representation of the published data for the CPI, PCE and GDP deflators, there is the more contentious issue of future inflation. Our mantra is: people have expectations; markets only have prices. In figure 6 we present two estimates of the 5-year ahead US inflation rate, one derived from the University of Michigan consumer survey and the other, the familiar market measure, the price of 5-year, 5-year forward inflation swaps. Consumer expectations have held steady over the past 3 years, while the 5Y5Y fell sharply in 2015 in response to negative economic news from China. Almost 2 years later, the two series converged, only to part company again this spring. A divergence of the *pricing* of future inflation risk from the average consumer expectation does not constitute a weakening of inflationary conditions.

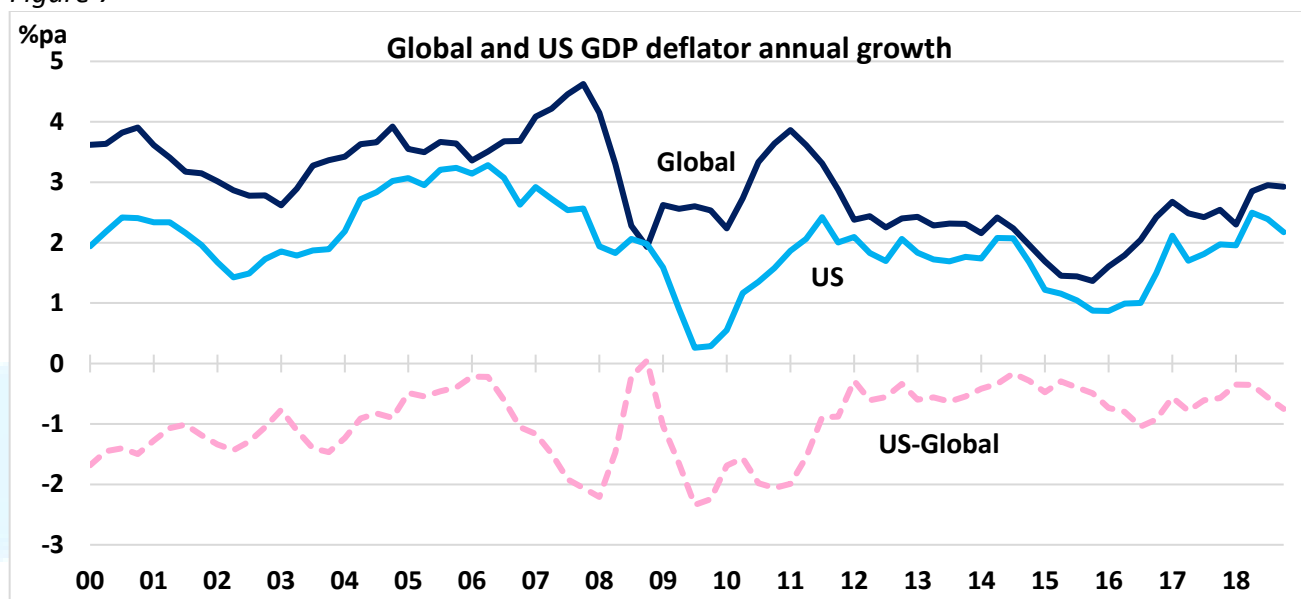
Figure 6



Data source: Eikon Reuters

Our final observation is that the US is not the global inflation-setter. While in so many financial market contexts the US is the global pace-setter, this does not apply to global economic indicators. As an empirical observation, for at least the past decade, US inflation responds to global trends rather than the reverse. There is compelling evidence that inflation brews at the base of global supply chains and percolates towards the apex. Specifically, energy and food price shocks are absorbed much more quickly in emerging than mature markets. Figure 7 shows that global GDP-weighted price measures have anticipated the direction of US inflation since 2008. By dint of global outsourcing, the US has become a price-taker.

Figure 7



Source: Economic Perspectives

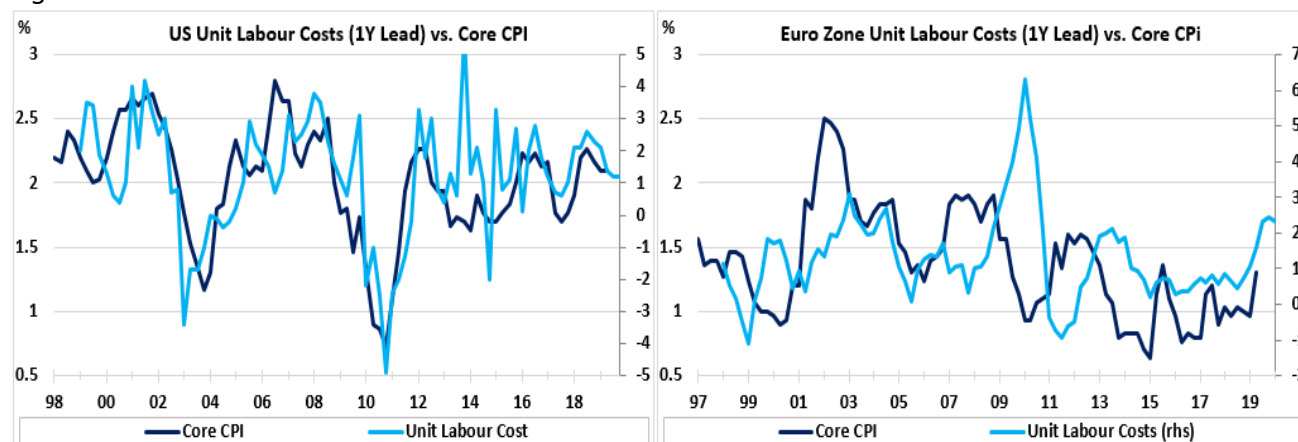
Global inflation dynamics: a short-term consolidation?

A. The rise of inflationary forces since 2015

In previous Global Inflation Perspectives, we have described five inflationary forces that have awakened since 2015, after the 2014 slump in oil prices had worked its way out of the annual comparisons. The first force is the global supply chain inflation, which directionally moves from emerging markets to developed markets, increased significantly in 2015 and 2016, fell in 2017 and is now back to neutral. The second one is the labour cost inflation in developed market economies, which is still in a positive trend coming from tight labour markets in this mature, extended cycle. Figure 8 (left frame) shows that unit labour costs tend to lead US core CPI by 1 year and suggest a firming of core prices in coming months. In the Euro area, the annual change in unit labour costs has picked up recently, pricing in higher core inflationary pressures in the quarters to come (figure 8, right frame).

“Five inflationary forces that have awakened since 2015, after the 2014 slump in oil prices”

Figure 8



Data source: Eikon Reuters, Bloomberg

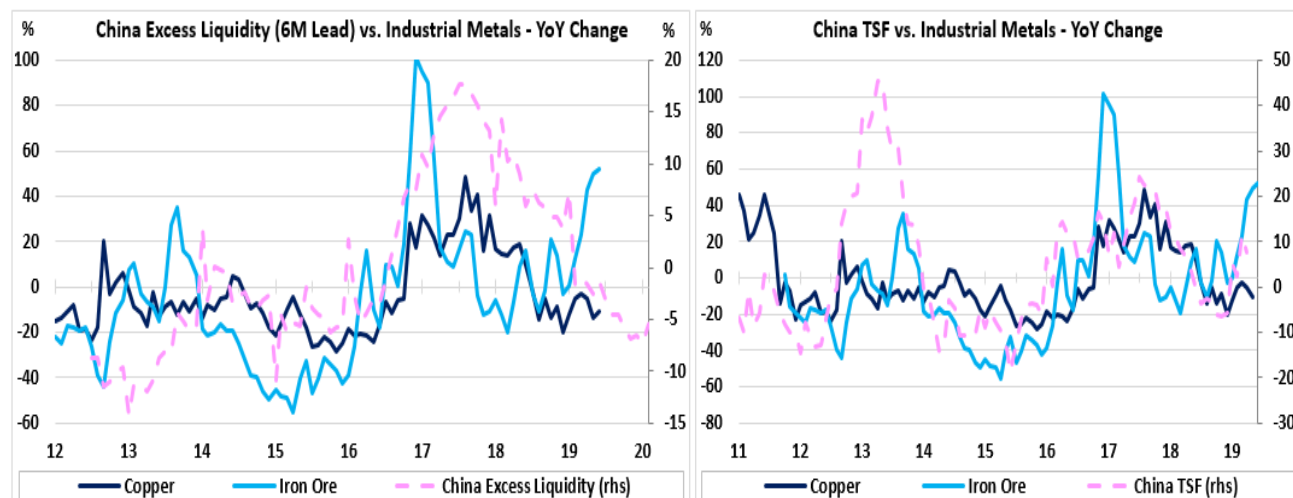
The third force is fiscal reflation, which has happened in the US and Canada and a variety of emerging market countries, especially China. We would say that the fiscal force still remains neutral for the time being but could switch to positive if Europe and Japan both start to run larger deficits. The 2015-16 Chinese reflation also generated a bull momentum in industrial metals, which have been the fourth force of accelerating inflation. Chinese excess liquidity, which is computed as the difference between real M1 money growth and industrial production, increased from -5 per cent in the first quarter of 2015 to 18 per cent in the third quarter of 2016. Figure 9 (left frame) shows that Chinese excess liquidity tends to lead industrial metals by 6 months. Hence as the annual growth in excess liquidity has fallen below zero percent in the past year, we would need to see a rapid increase in real money supply to justify a positive view on metals such as iron ore and copper.

“The 2015-16 Chinese reflation also generated a bull momentum in industrial metals”

Another leading liquidity indicator we prefer is the annual change in Chinese credit impulse. We saw a sharp rebound in the beginning of the year in the new Yuan loans, largely exceeding market expectations and switching the YoY change in China TSF from -6.5 per cent in November to 7.6 per cent in April. Figure 9 (right frame) shows a strong co-movement between China TSF and industrial metals over the years, and therefore could send the prices of copper and iron to higher levels if the trend persists. It is important to note that in the past couple of months, copper prices have come under significant downward pressure since the escalation of the US-China trade war, however the recent tightness in the refined copper market with the fall in global exchange inventories should be supportive of the commodity prices in the months to come.

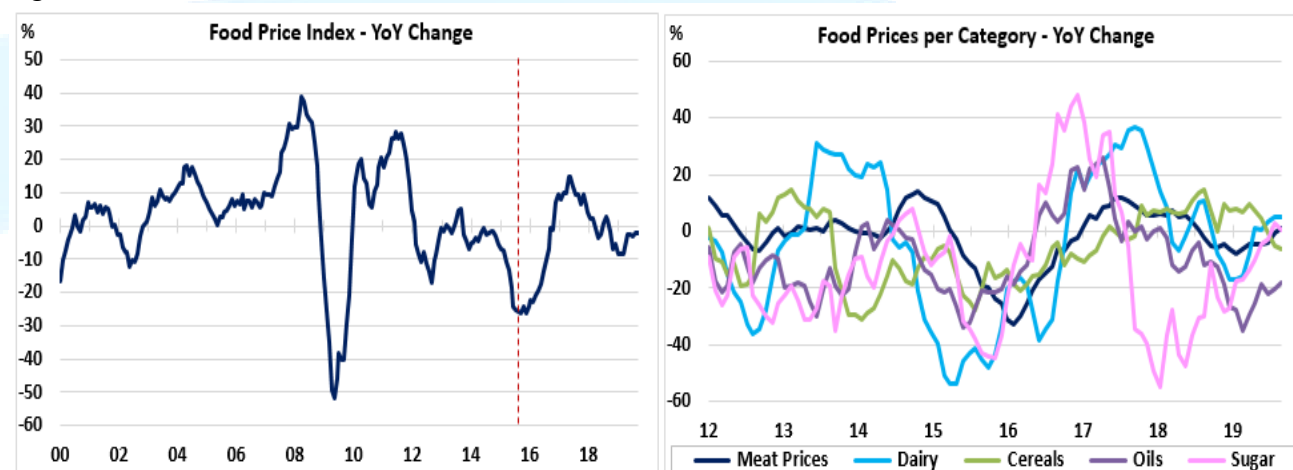
Eventually, there has also been an acceleration of global food prices; according to the FAO (Food Agriculture Organization) index, the annual change in food prices recovered from -30 per cent in May 2015 to 15 per cent in May 2017 before starting to decline again in the second of 2017 and 2018. However, food prices have started to pick up again this year on the back of a sharp recovery in sugar prices and firm momentum in oils, dairy and meat prices. The force is neutral at present, but it could switch to positive in the medium term if the pressure in sugar and meat prices persists. In addition, the deadly African swine fever is expected to remove up to 200 million hogs from the edible supply this year, bringing down the global supply by 5 to 7 percent and therefore boosting meat prices.

Figure 9



Data Source: Eikon Reuters

Figure 10

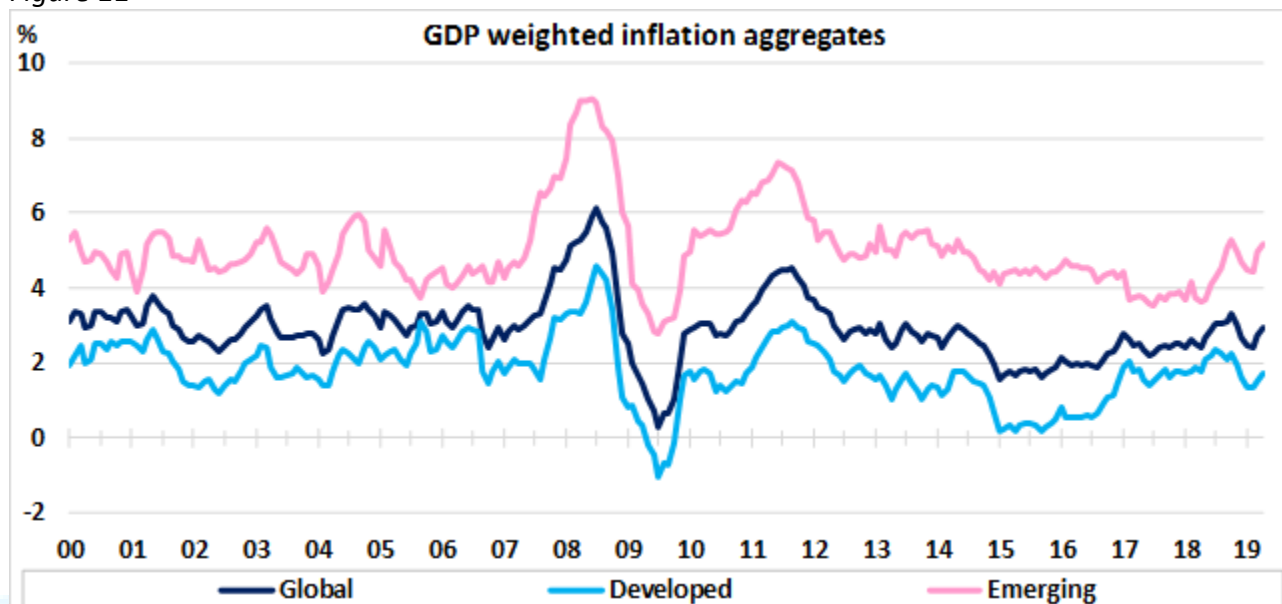


Data Source: FAO

Overall, inflationary forces are sending a neutral signal for the time being, which could gradually switch to positive in the coming months in our view. Therefore, the drop in global CPI inflation we saw in the last quarter of 2018, with GDP-weighted inflation falling from 3.3 per cent in October 2018 to 2.4 per cent in January 2019, was mainly coming from technical adjustments due to a sudden rise in price volatility for both equities and energy prices. Global inflation has started to pick up again in recent months, up to 2.8 per cent in May (figure 11). As we observe in the chart, while inflation has decelerated in the developed economies by 0.6 percentage points to 1.5 per cent in the past 12 months, it is still above 5 per cent in the emerging economies. Global CPI inflation is 15 basis points higher than a year ago.

“Global inflation has started to pick up again in recent months”

Figure 11



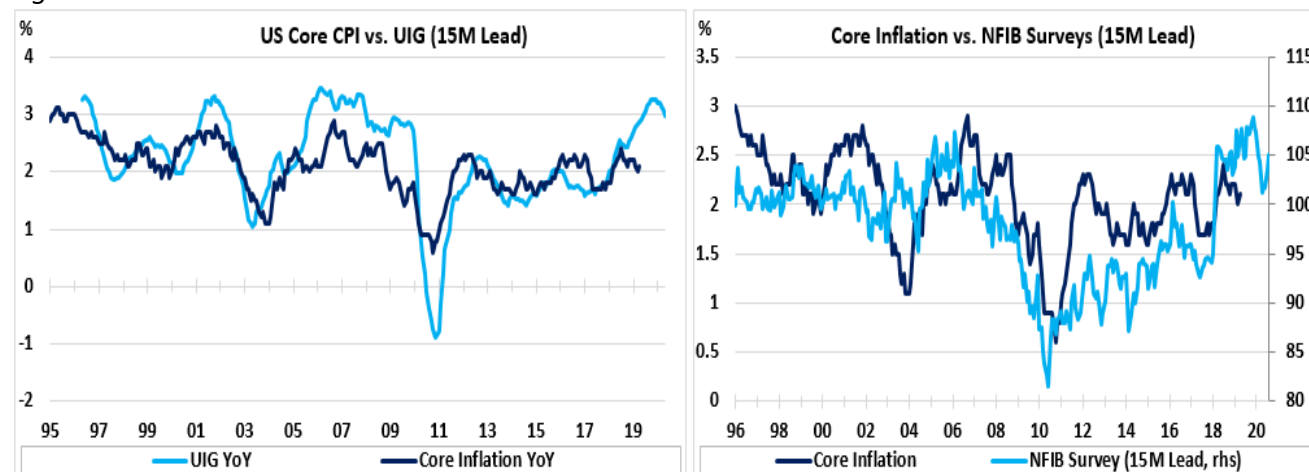
Data Source: CEIC, EP

B. Core inflation dynamics

We saw previously that unit labour costs are pricing in a steady and rising core inflation in within the next 12 months for the US and Euro zone, respectively. Figure 12 shows two other main leading indicators that we usually use for US core inflation pressure, which are the underlying-inflation gauge (UIG) measure reported by the New York Fed (right frame) and the Small Business Economics Trends (NFIB) surveys (right frame). Both time series indicate firmer pressure on core CPI in the next 15 months. Hence, we would start to feel concerned about the inflation outlook when both measures are starting to trend significantly lower.

“Leading indicators such as the NFIB surveys are showing firmer pressure on core CPI”

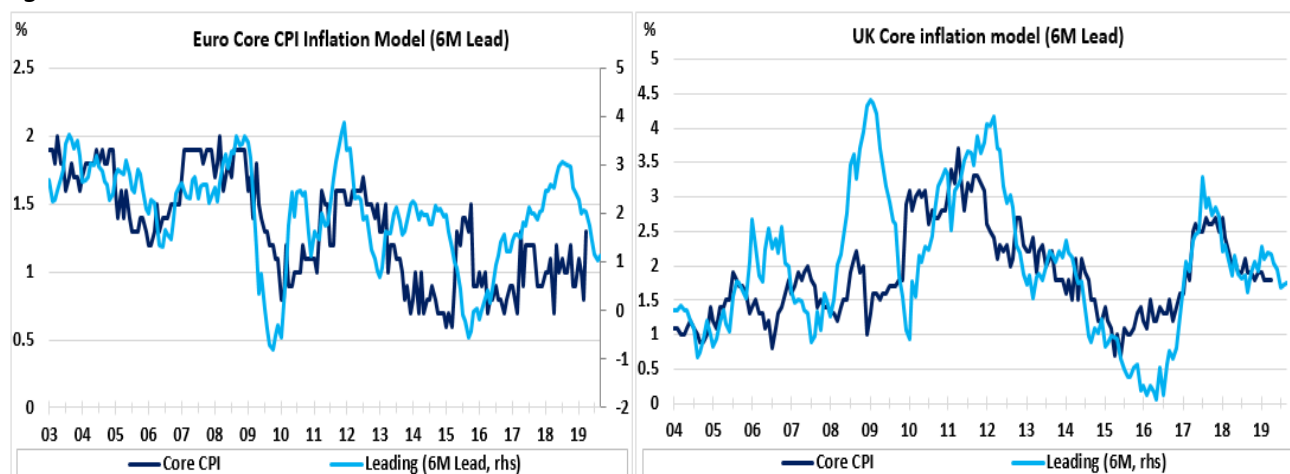
Figure 12



Data Source: Eikon Reuters, NY Fed, NFIB

In Figure 13, we illustrate our short-term leading indicators of Euro zone (left frame) and UK (right frame) core inflation. Even though both indicators have been either flat or decreasing in the past 12 months, they are clearly not pricing in a dramatic deceleration in core prices for the next 6 months to come. We use a set of lagged macroeconomic data (import prices, slack, inflation expectations...) for our explanatory variables in order to compute our short-term leading indicator.

Figure 13

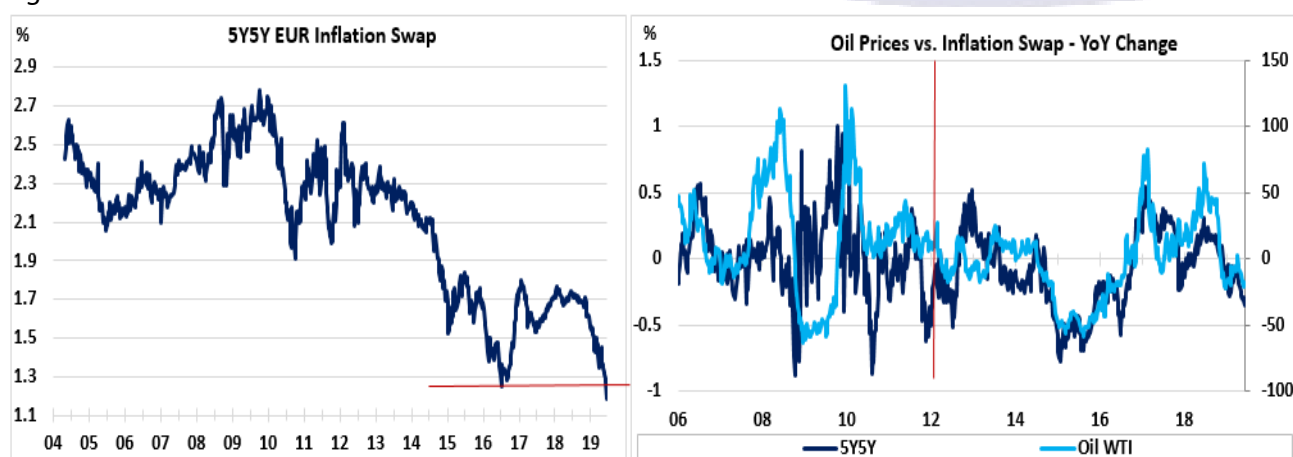


Data Source: Eikon Reuters, EP

C. The 2019 market story

However, when we look at the market, participants are pricing in a completely different narrative concerning the outlook of inflation, especially for the Euro zone. For instance, the 5Y5Y inflation swap in the Euro area has dropped to 1.16 per cent recently (down from 1.74 per cent last year), its record low since the inception of the times series in 2004 (figure 14, left frame). Even though the market could be wrong about the inflation outlook, we know that the 5Y5Y inflation swap is an important measure followed by ECB policymakers after Draghi's speech at Jackson Hole in August 2014.

Figure 14



Data Source: Eikon Reuters, Bloomberg

The pricing of 5Y%Y inflation swaps has also fallen in the US, dropping below 2.0 per cent, the lowest level since October 2016. This was partly due to the fall in oil prices: figure 14 shows that the annual change in the 5Y5Y inflation has co-moved significantly with the change in oil prices in the past 7 years. As we explained it in our February publication (*Global Inflation Perspective*), even though changes in oil prices are an important determinant of inflation expectations in the short term (1 to 3 years), we should not expect an inflation impact in the long run as central banks can use monetary policy to offset oil price shocks.

Will markets be proved correct in downgrading the pricing of distant inflation risk in the US or Euro area? Even though we may see technical adjustments in the short run, our fundamental outlook for global inflation has not changed. In February, we argued that cyclical inflation pressures are likely to weaken, typically with a lag to the cycle of around 6 months. Hence, if the economic activity fades in the second half of 2019, then cyclical inflation will soften in 2020. However, a variety of factor will tend to support global inflation in the medium term, which are:

- Geopolitical tensions/wars/sanctions that restrict oil supply
- Stunted development of natural resources that slow the addition of new global capacity
- Regulatory compliance costs, including living wage
- Protectionist policies that lift tariff barriers and restrict supply
- Growing dominance of private monopolies
- Skill shortages in the labour market

Slowing growth rates of credit and liquidity stocks will constrain nominal GDP growth, but we expect global inflation to remain around its current level with real growth taking the strain.

Tracking the inflation sensitivity of global equity sectors

Periodically, we are asked to provide examples of ways that investors can benefit from changing inflationary climates. While there are many contexts in which inflation protection may be found – commodities, precious metals, fixed income, currencies and collectibles – the dominant asset class for inflation sensitivity is equities. In varying degrees, companies possess commercial franchises that are linked to the inflationary climates in which they operate. Sometimes, this inflation sensitivity is enhanced by the differentiated nature of the company's products and services or by a strong market position, both of which confer additional pricing power.

First, we look at the performance of global equity sectors and subsectors in periods of accelerating and decelerating prices (rising or falling inflation). Then, we broaden the analysis and examine the performance of a variety of assets in different inflationary climates.

A. Case study 1: inflation vs. global equity sectors

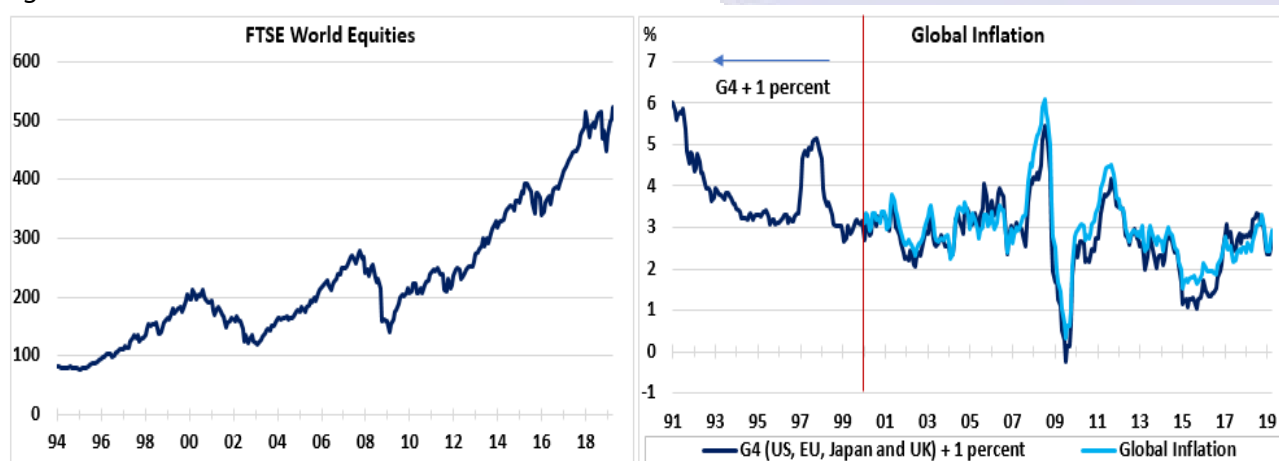
For this analysis, we use FTSE Total Return monthly time series for 45 equity sectors and subsectors since January 1994. We then compute monthly returns, using the following methodology:

$$r_{i,t} = \ln \left(\frac{TR_{i,t}}{TR_{i,t-1}} \right)$$

Where $TR_{i,t}$ represents the Total Return Index of sector i at time t .

Figure 15 (left frame) shows the evolution of the composite index since 1994. We then use the global CPI inflation rate for the classification of the monthly returns, and then examine the 1-year and 3-year changes to define our inflationary / disinflationary environment. For instance, if the 1Y differential of the annual inflation rate is positive (i.e. $\Delta_1 inflation > 0$), we will classify our returns on the inflationary table.

Figure 15



Data source: Eikon Reuters, FTSE, EP

As our time series of global CPI inflation, which is computed as the GDP-weighted average of 53 countries, is available only from January 2000, we compute a proxy prior that date using a weighted average of 4 economies (EU, US, UK and Japan) with a positive adjustment of 1 percent to calibrate

the series. Figure 15 (right frame) shows that the G4 inflation + 1 percent tracks global inflation very closely over time.

Figure 16

Differential	Months of increasing inflation	Months of decreasing inflation
1 year	156	146
3 years	114	188

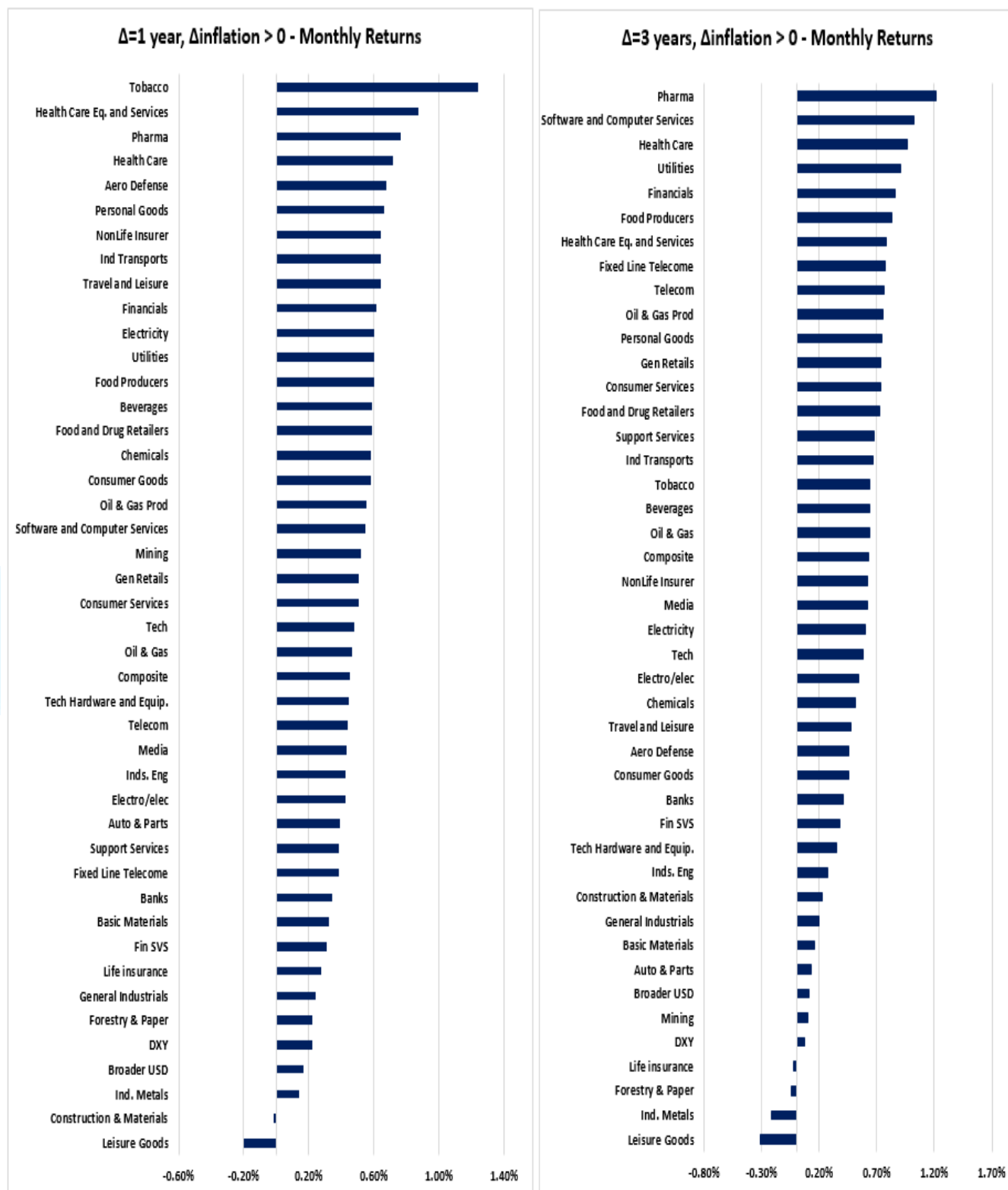
In Figure 17, we report the average monthly returns of each sector in periods of rising inflation. Using a 1-year differential (left frame), tobacco companies are the best performers recording, on average, 1.24 per cent in monthly returns since 1994, followed by healthcare equipment and services and pharmaceuticals, averaging 0.87 per cent and 0.76 per cent in monthly returns, respectively. At the foot of the table, we find that both leisure goods and construction and materials have registered negative monthly returns of -0.20 per cent and -0.02 per cent, respectively.

If we look at the performances of each sector using a 3-year change in inflation, the pharmaceuticals sector tops the list, averaging 1.22 per cent in monthly returns. Software and computer services and healthcare are next averaging 1.02 per cent and 0.97 per cent in monthly returns, respectively. Bringing up the rear, we discover leisure goods (once more) with -0.31 per cent, followed by industrial metals (-0.22 per cent), forestry and paper (-0.05 per cent) and life insurance (-0.03 per cent).

In Figure 18, we report the average monthly returns of each sector in periods of slowing inflation. This is the most equity-friendly inflationary climate, in which typically all sectors record positive returns. Software and computer services are the best performer using a 1-year differential, averaging 1.57 per cent in monthly returns, followed by healthcare equipment and services (1.24 per cent) and personal goods (1.2 per cent), respectively. At the bottom of the league, we can find travel and leisure stocks (0.42 per cent), food and drug retailers (0.43 per cent) and financials (0.46 per cent).

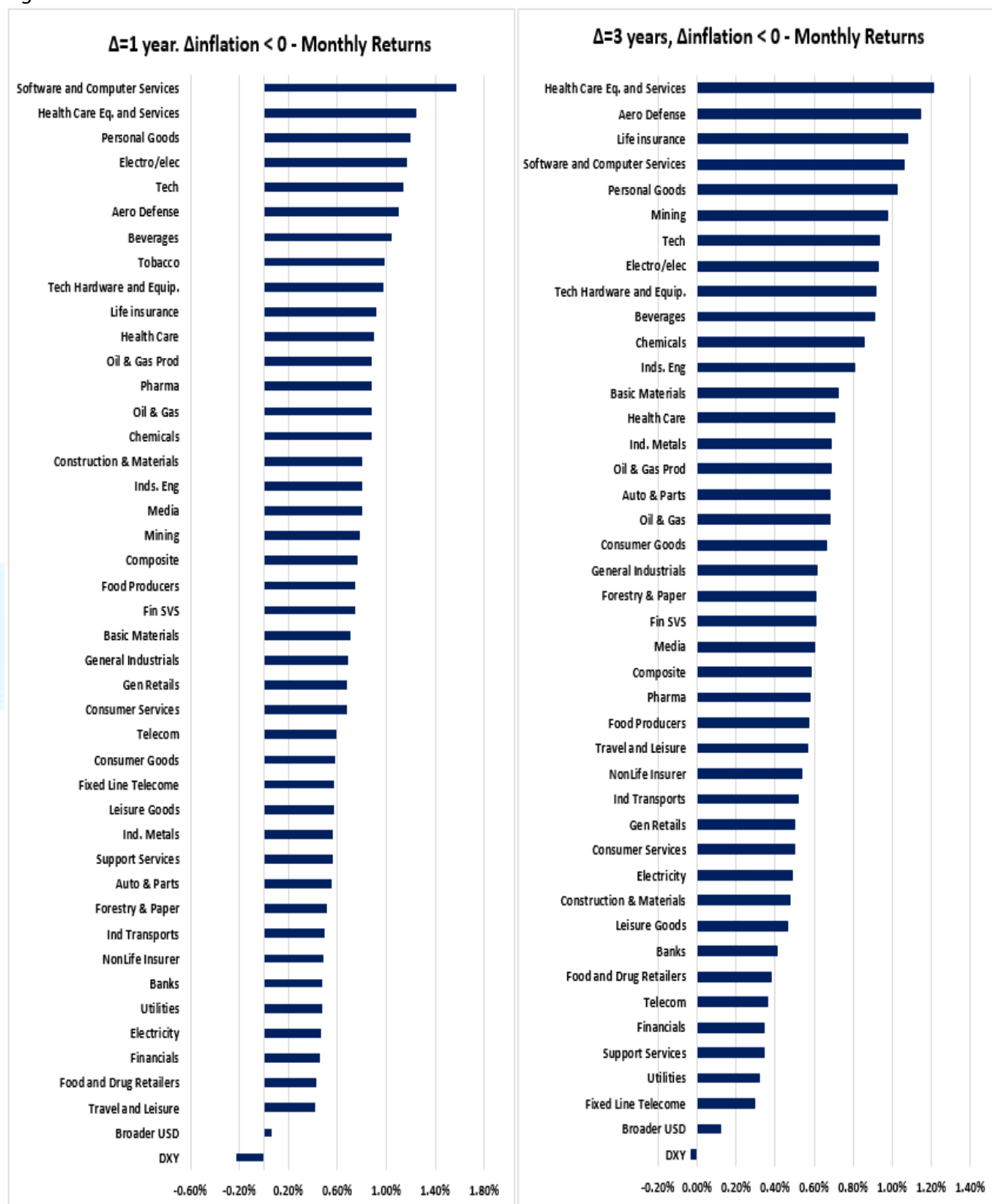
If we look at the 3-year change in the annual inflation rate, healthcare and equipment services outperform over time, averaging 1.21 per cent in monthly returns. Aerospace and defence stocks and life insurance are the runners-up, with performance of 1.14 per cent and 1.08 per cent, respectively. The worst performers are fixed line telecoms (0.29 per cent), utilities (0.32 per cent) and support services (0.34 per cent). Again, all sectors generate positive monthly returns on average in periods of falling inflation.

Figure 17



Data source: Eikon Reuters, EP

Figure 18



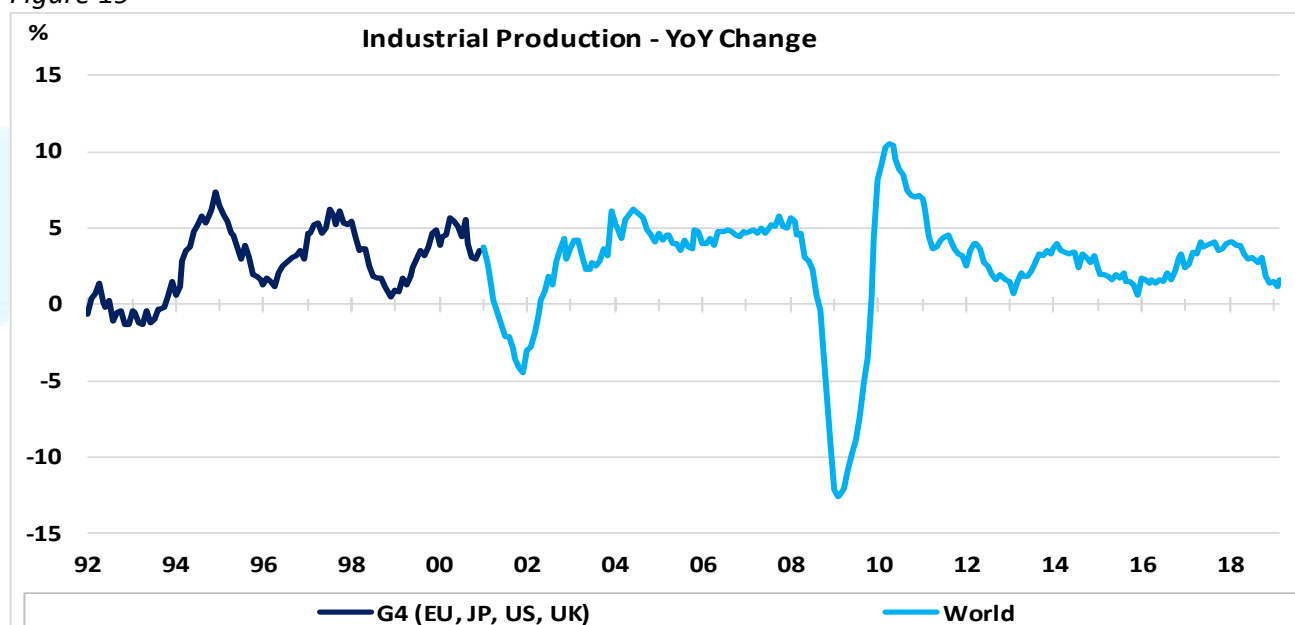
Data source: Eikon Reuters, EP

A development of this analysis is to acknowledge that global inflation has structural as well as cyclical components. Examples of structural inflation forces are distortions to competitive market structures, such as oligopoly and monopoly, government intervention in the pricing of goods and services through taxes, subsidies and regulatory regimes, natural disasters relating to weather and climate, and man-made disruptions to supply such as military strikes or acts of terrorism. Even when cyclical inflationary pressures are fading, it is possible that structural inflation pressures will prevail. Hence, in the second case study, we look at the performance of global equity sectors during periods of rising and falling inflation including the dynamics of the business cycle.

B. Case study 2: inflation and economic activity vs. global equity sectors

In this section, we use the annual change in global industrial production as a proxy for general economic activity. The CPB Netherlands Bureau for Economic Policy Analysis publishes a monthly times series of the world industrial production since 2000. Hence, we use the annual change of the index since 2001 and build a G4 (EU, US, UK and Japan) measure for the years prior the that (figure 19, left frame).

Figure 19



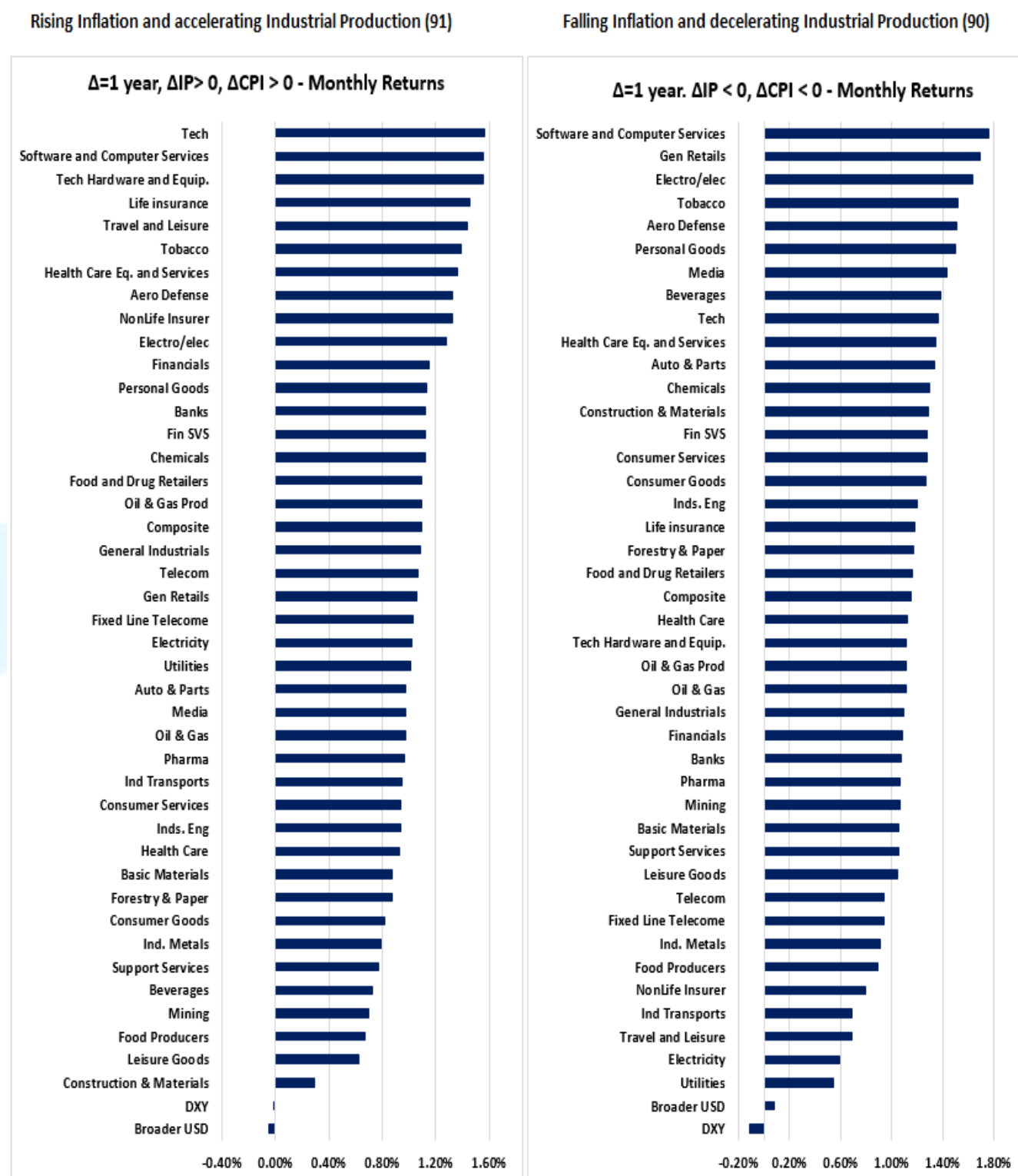
Data Source: Eikon Reuters, EP, CPB Netherlands Bureau for Economic Policy Analysis

As we include the industrial production variable in this second case study, we now have four different types of scenarios:

- **Scenario 1:** rising inflation / accelerating industrial production (91 months)
- **Scenario 2:** falling inflation / decelerating industrial production (90 months)
- **Scenario 3:** rising inflation / decelerating industrial production (65 months)
- **Scenario 4:** falling inflation / accelerating industrial production (56 months)

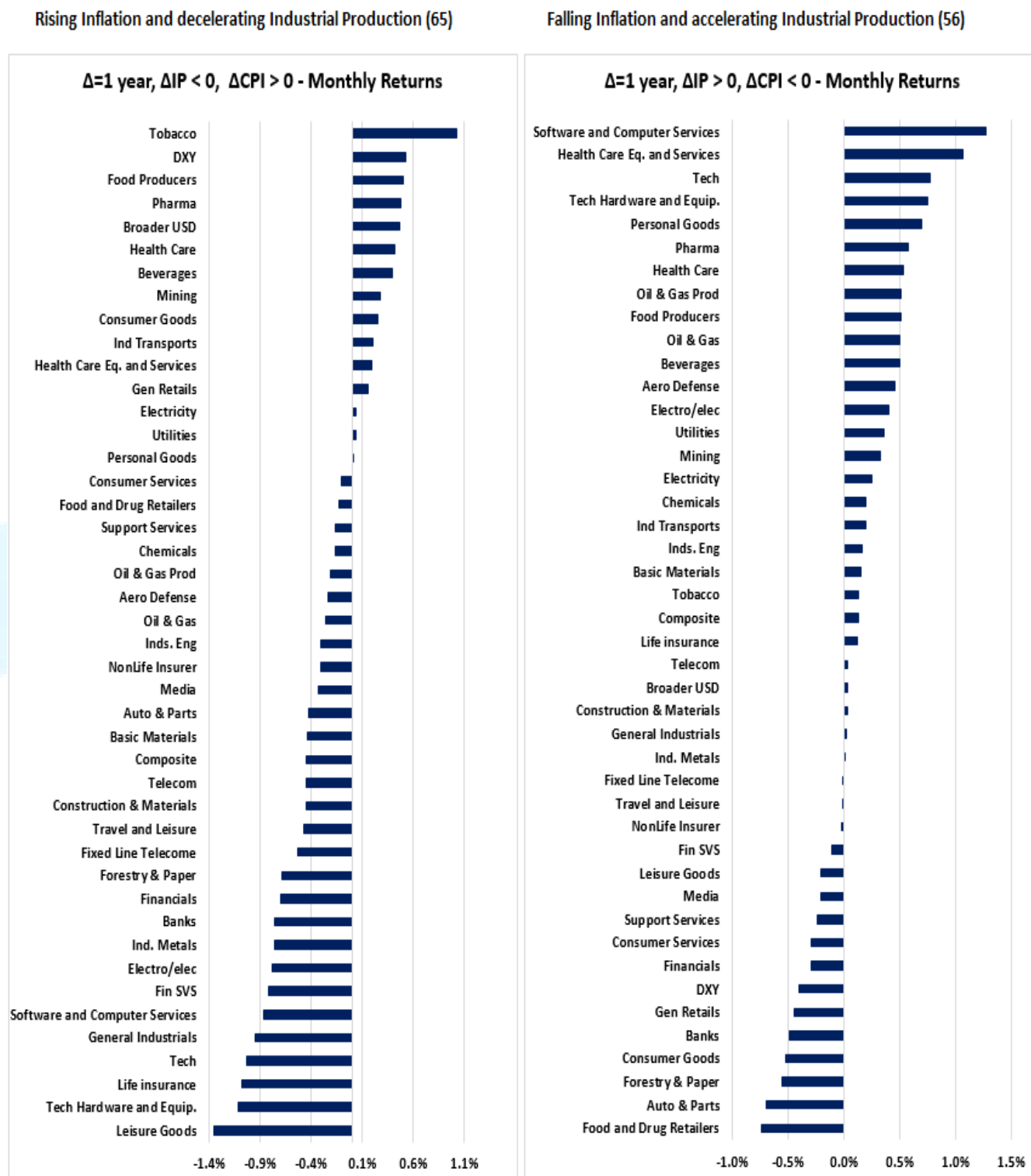
Scenarios 1 and 2 are explored in figure 20. Scenarios 3 and 4 are described in figure 21.

Figure 20: Sector performance in periods of rising inflation and positive industrial production growth and in periods of falling inflation and negative industrial output growth (reflation and deflation)



Data source: Eikon Reuters, EP

Figure 21: Sector performance in periods of rising inflation with negative industrial production growth and falling inflation with rising industrial output growth (stagflation and disinflationary growth)

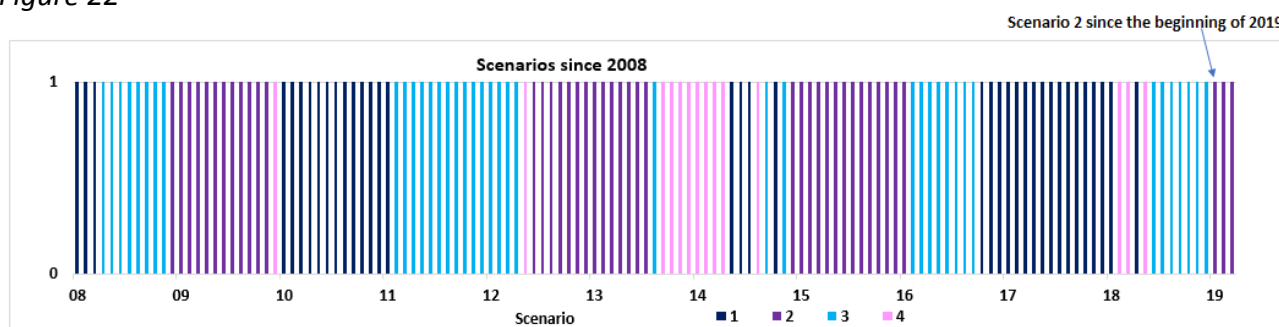


Data source: Eikon Reuters, EP

In summary, it is important to notice that all sectors perform positively during periods of nominal acceleration and deceleration; the worst performances are obtained in the scenario characterized by a deceleration of economic activity with a rising inflation rate.

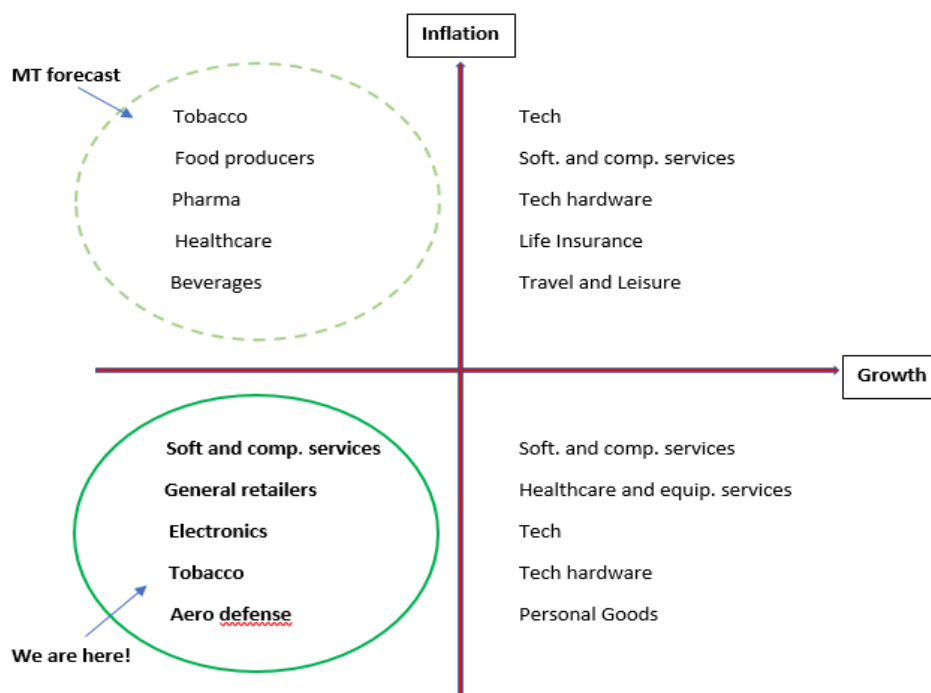
Figure 22 shows that since the start of the year, we have entered scenario 2 (moderating inflation and industrial production), which is likely to persist. In scenario 2, typically software and computer services and general retailers are the key outperforming sectors the market (figure 23).

Figure 22



However, as we expect inflationary pressures to remain firm in the medium term, the likelihood is that the global economy will switch to the stagflation quadrant (upper left in figure 23). This is the worst environment for stocks according to our analysis, with defensive sectors, such as healthcare, food producers, beverages and pharma, taking the lead. Tobacco stocks tend to perform well when the economic activity slows, *regardless* of inflationary pressures.

Figure 23: Inflation vs. Growth: Top sectors





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