

Report No. 12 Further demystification of supply chain disruptions Part II 17/2/2022

The story for investors

In Part I of this report we examined the putative supply chain (SC) disruptions, always in the context of Covid, such as labor, container and port shortages, the impact of SC on food prices and, hence, on inflation. Here we focus on the likely impact of Covid on microchips, on LNG and the cost of energy, and the power shortages in China. We revisit again the sharp acceleration of inflation in the US and re-examine the cause-effect of Covid. In other words we continue to pursue and try to quantify how, if at all, Covid triggered SC disruptions and of their consequences. We point at SC disruptions which pre-existed the outbreak of Covid, but which nonetheless Covid could have aggravated. We delineate which disruptions could be attributed to Covid and which could not, and in the process explore any investment implications.

SC disruption and inflation: Revisiting the theme.....

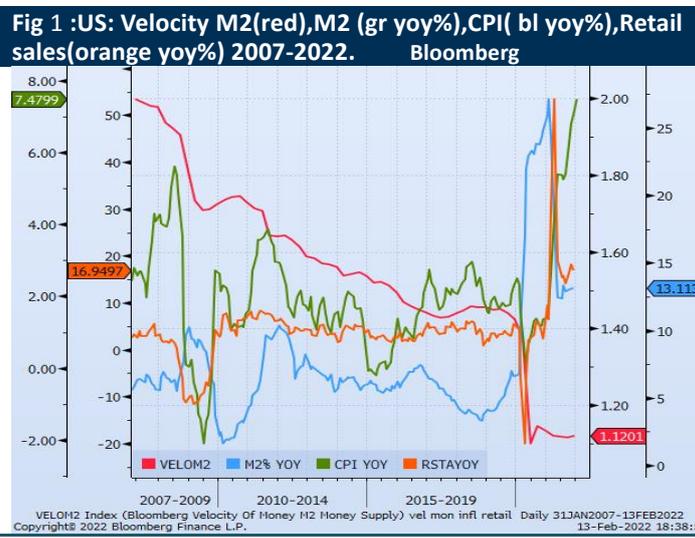
The current preoccupation with inflation, especially by the US Fed has, once again, brought in focus the impact of SC disruption on CPI. This impact apparently took two different forms. **First**, sudden increases in demand met with unresponsive supply and forced prices up, or sudden SC disruptions met with unchanging demand and that, too, caused shortages and price hikes. **Secondly**, the massive fiscal and monetary initiatives, especially by the G3 economies, in response to the disruptions, lockdowns, etc of Covid led to increases in demand and, hence, forced prices up. The **first** set of causes are, by definition sectoral and affected individual markets differently. For example the massive leap in unemployment in the US and EU in 2020-21 did not lead to massive fall in wages and earnings in the labor market neither did it lead to a collapse in the prices of McDonnell hamburgers in the restaurant sector or of duplex penthouses in the Manhattan property scene ! True enough some goods, such as energy or microchips, enter the production of other good and hence their price increases can be reflected in the CPI. The **second cause** is much trickier to explain in terms of Covid and SC disruptions and their impact on inflation. In the case of the US, the massive influx of funds from the Fed after March 2020 to the banking system through the purchase of govies and bonds led to a sharp increase in the M2 money stock. However this was a one-off injection and not a permanently rising increase as Fig. 1 shows. To make the matter more complex starting even before 2007 and up to date, there is no clear link

Investment conclusions

The conclusions we have drawn is that SC disruptions have to be carefully investigated before blame can be apportioned on the sectoral and macro damage caused by Covid alone. This might sound academic, but it is not, especially in the case of the accelerated inflation and the attendant higher interest rates. We are not convinced that the high inflation rates do not have “one-off and SC disruptions causes which can last long but are temporary. We are skeptical of any “monetarist/liquidity” cause of inflation triggered in response to Covid. In terms of investment proposals the shortage of microchips ,which was triggered by Covid, will last longer and points to the shares of microchip producers which will benefit, including Taiwanese manufacturers.

.....but reaching no clear or simple conclusions

between money growth and CPI inflation nor is there with retail spending. Worse, for the simple monetarist view of inflation, the velocity of circulation of M2 has collapsed during the last 15 years (actually before that..) and, hence, as more money was injected it was not spent but more of it was held as % of nominal GDP. We cannot, therefore, easily blame the recent rise in inflation on the anti-Covid monetary policy.



Chips with everything

The shortage of semiconductor/microchips is easier to explain. **First**, the onset of the pandemic from March 2020 onwards led to a sharp fall in the demand for chips by industry in general, and motor cars in particular, based on fears of a sharp fall in output. **Second**, as chip producers reacted, home demand for PCs, electronic equipment and related, shot up and first signs of shortages appeared, later on made worse by a recovery in the demand from motor cars. **Third**, there were the SC shortages, including in transport and shipping which added to the woes, especially port closures in China, such as those of Yentian port dedicated to electronics shipments. **Fourth**, there were incidents such as a major fire in Renesas, a major Japanese chip producer, weather related shortages from Texas producers and a drought in Taiwan causing water shortages to chip production. Taiwanese producers such as TSMC and UMC

FactBox: Don't blame it on Covid: China's power crisis

During 3Q.21 China experienced a significant power crisis in the form of power shortages, outages and forced rationing of the uses power. The shock caused considerable dislocation of production while the authorities dealt and remedied its causes. These causes included: **First**, rising coal prices from 3Q.21, with coal accounting for 50.0% of power generation in the PRC, which squeezed profit margins of power producers, who were not permitted to pass the cost hikes to residential and industrial consumers. They reacted by cutting back production. **Second**, Coal price hikes were the result of restrictions of imports from Australia and rising coal prices caused by the start of the global economic recovery from Covid. **Third**, power cutbacks resulted from pressure on power supplier to meet CO² emission targets before yearend 2021. At the end, the authorities allowed price hikes and permitted expansion of coal production and use.

promised expansion of capacity, the former by USD 100 bl over a three year period (2022-5). This type of investment takes time to implement, let alone start producing chips. Most current industry estimates are for the chip shortages persisting to 2023 before truly peaking. In-between major, global producers of semiconductors, have seen their share prices rise at the back of rising chip prices and by the expectations that the shortages will persist. (Fig.2).

The LNG shock and energy crisis in the EU. The crisis has medium to long term causes and was not triggered per se by the Covid crisis. It was aggravated, however, with the crisis worsening the already underlying causes of shortages of LNG which then drove prices high and caused social as well as

Fig 2: Share prices of TSMC (red), UMC (blue) 2019-22



Source: Bloomberg

Continuing and concluding

economic problems in the EU. The crisis was due to a combination of unfavourable conditions, which involved rising demand for LNG, its falling supply from U.S., Norway and Russia, especially to the European markets, less power generation by renewable energy sources such as wind, water and solar energy, and the cold winter in 2021-22 that left European gas stocks depleted. It must be noted, however, that demand for LNG has been rising on a global scale in the last few years as the movement to phasing out coal in power production led to rapid LNG substitution. Hence Covid, with the initial drop in power demand which led to destocking followed by the recovery which led to increases in demand, added to the instability of the market. Latest blows included the Ukrainian crisis which accentuated the continuing threats to the Nord Stream 2 Pipeline of LNG between Russia and Europe.

Covid on its own was, and is, a unique event, but attributing to it all SC disruptions and, directly or indirectly, the present inflation threat is not based on facts. Looking at the consequences of the crisis for investment opportunities is not obvious, and not all the "usual suspects", and especially the social media, did not benefit a lot, or even at all, by the lockdowns and the surges of consumer spending. Hence we are cautious in turning to microchip producers such as TSMC and UMC purely at the back of the chip shortages unless there is reason to believe that these instances of SC disruptions will take longer to ameliorate. This is a similar reasoning we used in our investment proposals on container lines.

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