CHAHINE CAPITAL
Performance Engineering

01/11/2021

STRATEGY OVERVIEW

Supply chain bottlenecks: from the boardroom to international politics

Summary

Shortages of semi-conductors have been a hot topic recently. The surge in their prices during the post-Covid recovery is unprecedented: a jump of almost 230% in the cost of a chip between the lows of Q4 2020 and the high in Q1 2021! Although prices have started to level off, they are still very high. In August they were 11.5% above their peak of 2014, during the preceding period of serious pressure. It certainly raises questions over the nature of this market.

The issue has clearly moved beyond corporate boardrooms and the economy and into international politics. Given that this technology will remain a key factor in maintaining or aspiring to world leadership, all of the major economic powers are seeking to safeguard their own supply chains and thereby guarantee their independence. A number of recent announcements bear witness to this concern. In the USA, Joe Biden's $1,200 billion infrastructure investment plan – still subject to congressional approval – includes $50 billion in semi-conductor R&D. In the EU, Ursula von der Leyen explained in her state of the Union address on 15 September that she wanted to confirm the bloc's technological sovereignty via a target of producing 20% of the world's semi-conductors by 2030, up from around 10% today. While the EU's ambitions are laudable, we should not lose sight of the fact that the European market is much smaller than that of its Chinese and American competitors and appears to lack dynamism.

Although technology gaps can always be closed, it would be a fair bet to assume that the market's main players – Taiwan and South Korea – will dominate the semi-conductor industry for some time yet. Not only is research in this area very onerous; the industrial process is itself extremely complex, involving high robotic content and several hundred stages of production. These characteristics tend to reinforce quasi-monopoly on the part of the market's current leaders and it will not be easy to dislodge them.

The past two US results seasons featured sharp upward revisions to earnings projections and a high positive surprise rate. The combination of the two has helped drive equity prices to new highs on Wall Street. Will the Q3 season be any different? So far, it seems not. American firms are demonstrating remarkable resilience to everything being thrown at them. The season just starting (23% of S&P 500 firms have already published) is going swimmingly: analysts currently expect EPS to be up 32.7% in Q3, compared with their end-September estimate of 27.5%. If it materialises, the gain would be the third-largest since 2010, trailing only Q2 2021 (up 92.4%) and Q1 2021 (up 52.7%). A powerful base effect from last year is still at work. As in previous quarters, the number of companies beating consensus estimates is at a record high, with 84% of positive surprises since this results season began. In aggregate terms, firms have so far announced earnings 13.4% higher than analysts predicted.

Our valuation model continues to suggest that European equities are more attractive than their American counterparts. At current interest rates, US markets could be facing a modest 5-6% correction, but they would be more or less fair value overall were 30-year yields to tick down to 1.75%. Corporate newsflow is clearly a support factor in Europe, where 2021 results are set to be better than previously expected. Our model indicates that European equities offer around 10% upside, especially given recent upward revisions to earnings estimates. Importantly, that is true of each scenario, as in the case of a slow recovery we would expect interest rates to fall back to around zero. We therefore continue to overweight European equities against US equities.

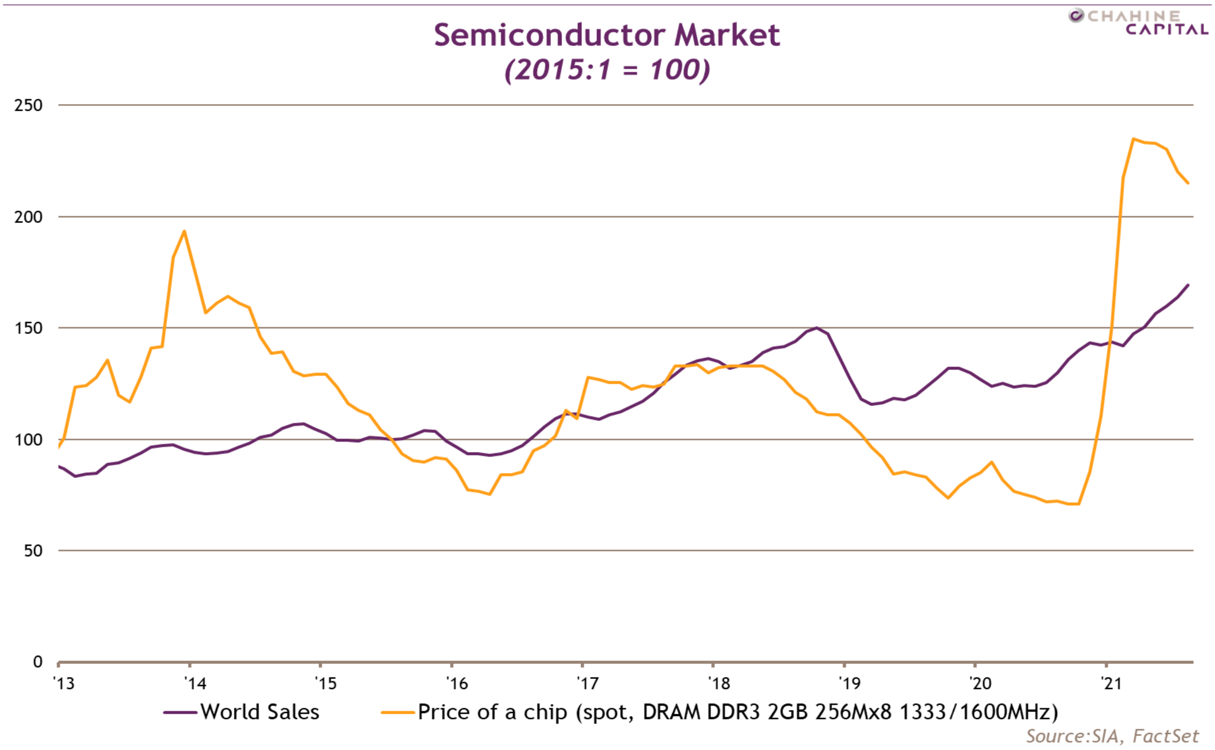
Michaël Sellam

Semi-conductor supply: the world economy's Achilles' heel and an international flashpoint

Shortages of semi-conductors have been a hot topic recently. The surge in their prices during the post-Covid recovery is unprecedented: a jump of almost 230% in the cost of a chip between the lows of Q4 2020 and the high in Q1 2021. Although prices have started to level off (see chart), they are still very high. In August they were 11.5% above their peak of 2014, during the preceding period of serious pressure. It certainly raises questions over the nature of this market.

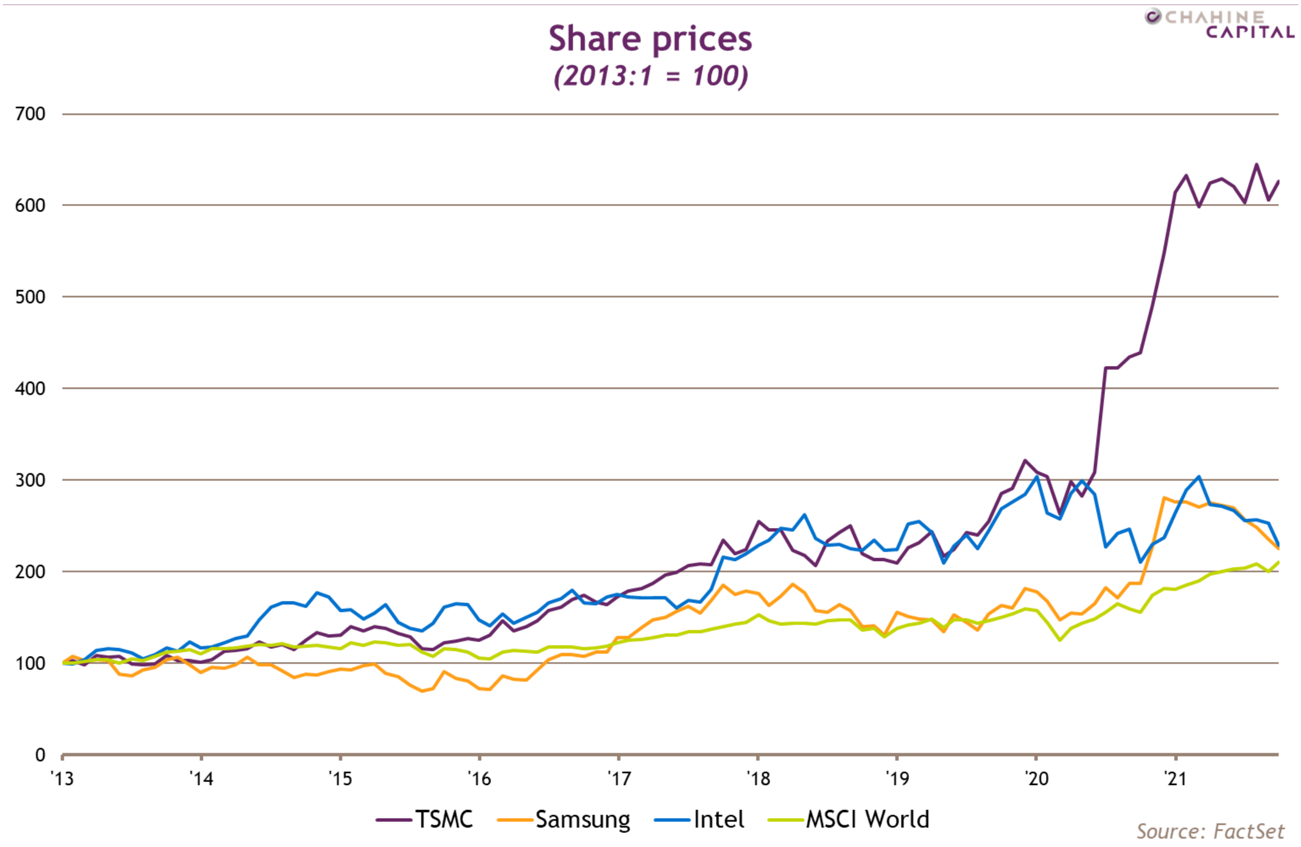
Extreme concentration highlights the vulnerability of an increasingly interconnected world economy. There are only three global players left that are capable of producing the latest generation of microchips (5-7 nanometres): Taiwan Semiconductor Manufacturing Company (TSMC), Samsung (South Korea) and Intel (USA). The world market has almost doubled over the past decade, reflecting the increasing spread of microchip use in remote working, smartphones and so on.

The price of semi-conductors started to level off in Q2 but the world market is still under pressure

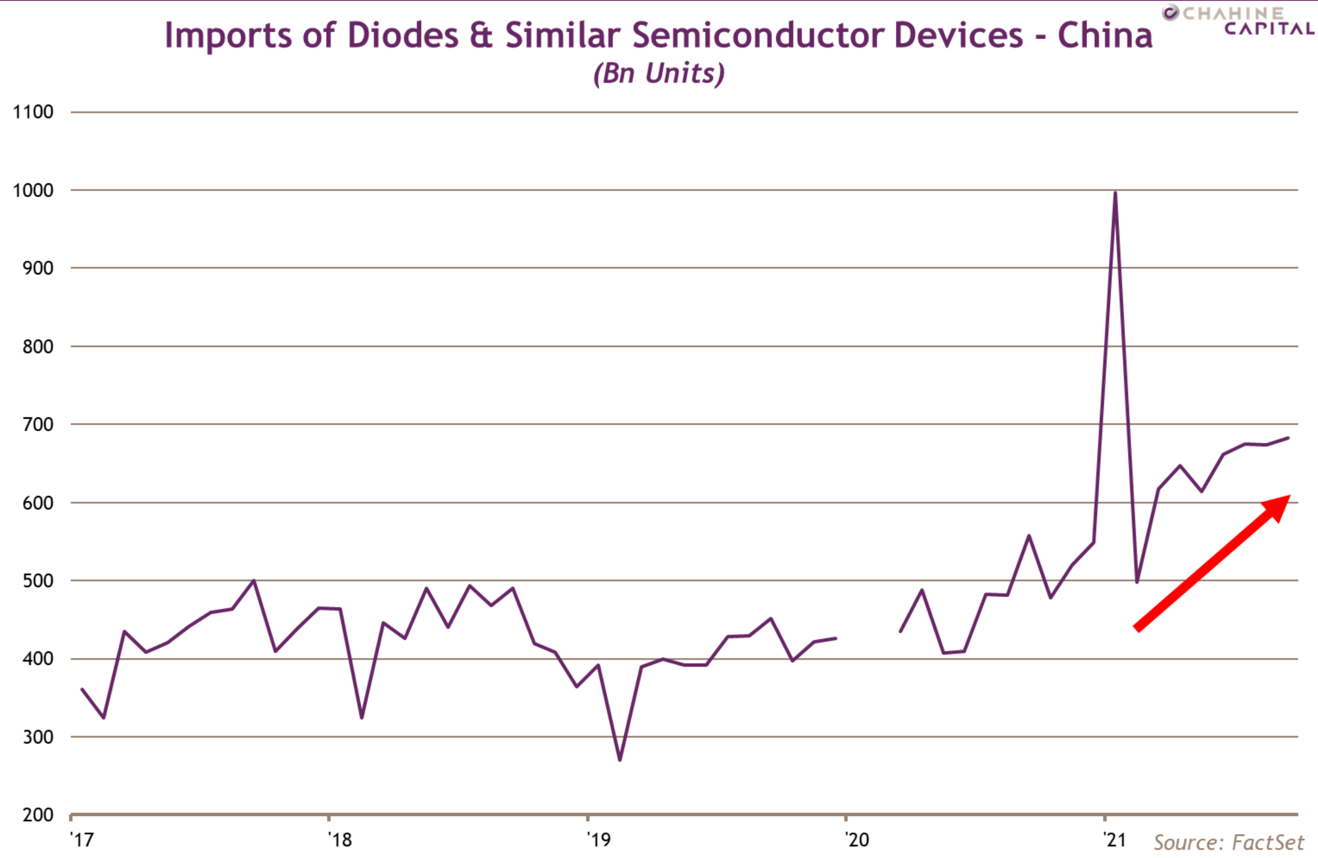


Asia clearly has a leadership position in this technology. For once we are not talking about China, but two 'dragons', Taiwan and South Korea. The stakes are so high that some commentators have recently asked themselves whether TSMC's know-how is enough of a reason for China to invade… Although Xi Jinping has offered reassurance on this matter – and we note that Joe Biden has reaffirmed America's "sacred commitment" to defend Taiwan militarily if needs be, proving the strategic nature of the problem – the question is legitimate. China's semi-conductor imports have jumped 60.1% since the start of the pandemic (see chart) and they are critical to the country's future economic growth.

Semi-conductor producer share prices vs. MSCI World index



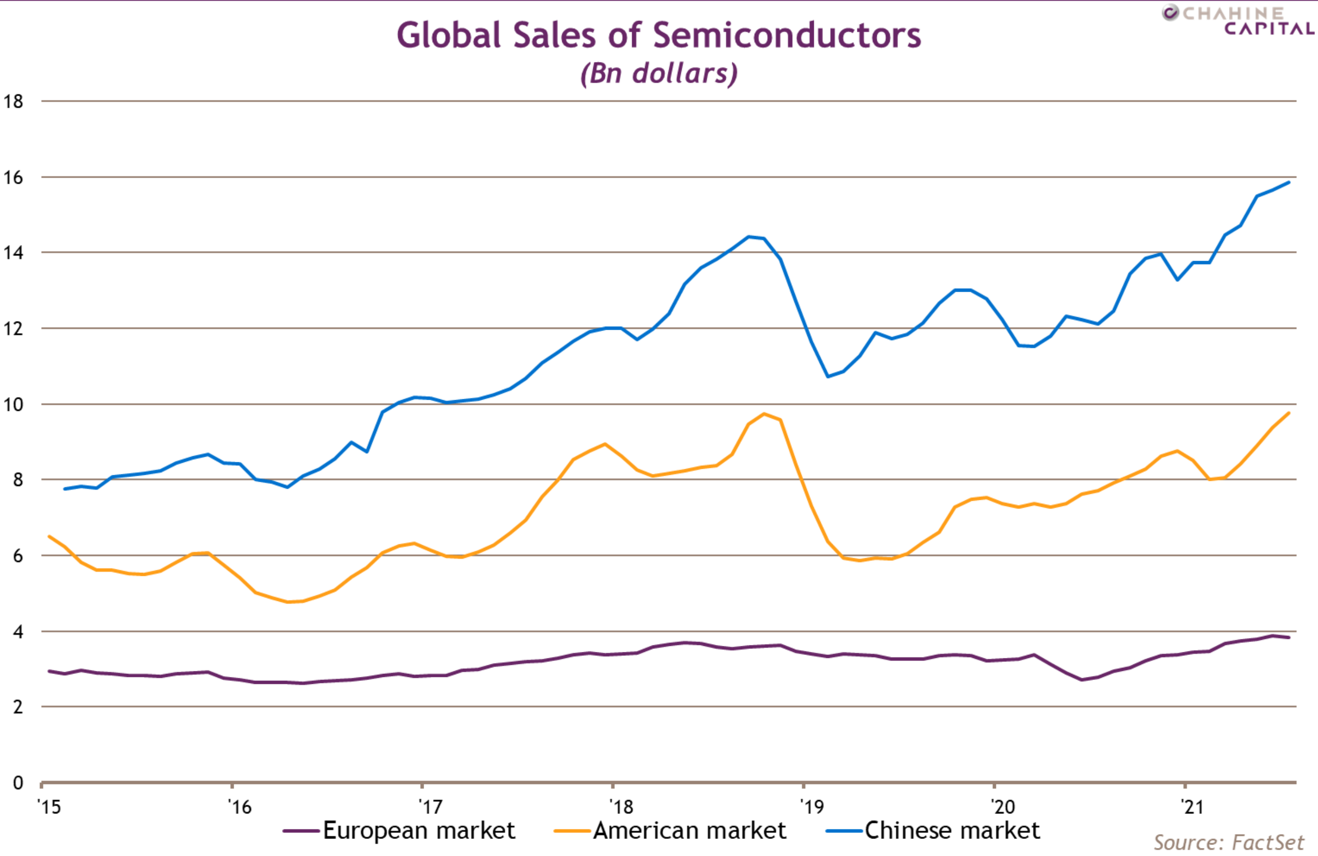
Chinese demand on international markets has sucked in production and boosted prices



Reducing dependence on foreign semi-conductor suppliers was already a priority for the Chinese government in 2015, when it published its 'Made in China 2025' report. At that time, it was hoping to meet around 70% of domestic demand from its own industry by 2025. This objective will not be met. China's self-sufficiency rate in semi-conductors will not be more than 20% by then.

The issue has clearly moved beyond business and the economy and into international politics. Given that this technology will remain a key factor in maintaining or aspiring to world leadership, all of the major economic powers are seeking to safeguard their own supply chains and thereby guarantee their independence. A number of recent announcements bear witness to this concern. In the USA, Joe Biden's $1,200 billion infrastructure investment plan – still subject to congressional approval – includes $50 billion in semi-conductor R&D. In the EU, Ursula von der Leyen explained in her state of the Union address on 15 September that she wanted to confirm the bloc's technological sovereignty via a target of producing 20% of the world's semi-conductors by 2030, up from around 10% today. While the EU's ambitions are laudable, we should not lose sight of the fact that the European market is much smaller than that of its Chinese and American competitors (see chart) and appears to lack dynamism.

Compared with the China and the USA, the European semi-conductor market lacks dynamism



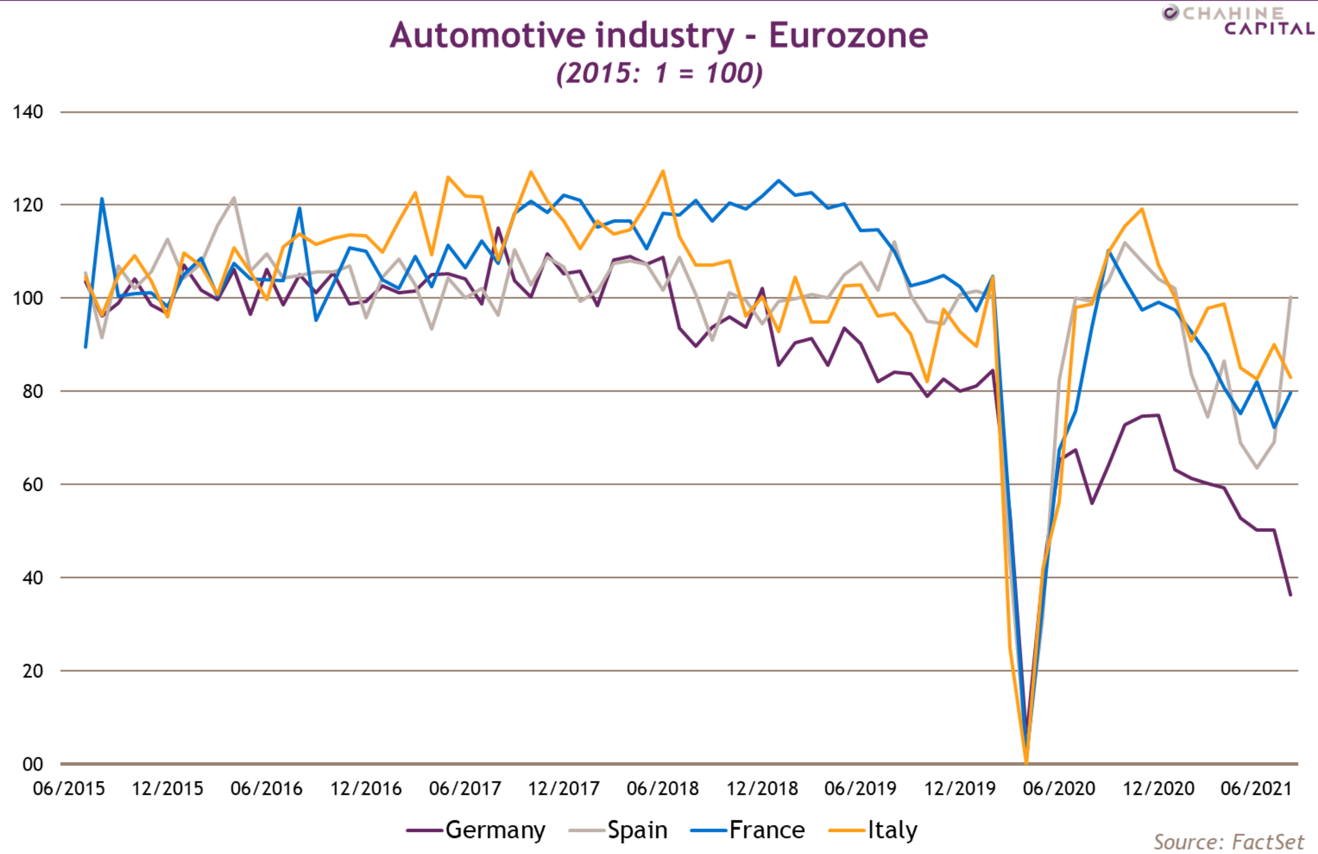
Although technology gaps can always be closed, it would be a fair bet to assume that the market's main players – Taiwan and South Korea – will dominate the semi-conductor industry for some time yet. Not only is research in this area very onerous; the industrial process is itself extremely complex, involving high robotic content and several hundred stages of production. These characteristics tend to reinforce quasi-monopoly on the part of the market's current leaders and it will not be easy to dislodge them.

Unable to produce enough on their own, the major powers will be keen to ensure their supplies of computer chips from elsewhere via trade agreements and strategic alliances, for example. The recent media attention over the AUKUS alliance (Australia, UK and USA) has overshadowed another initiative that is no less important: the 'Quadrilateral Security Dialogue' (QUAD) between the USA, Japan, Australia and India. The subject for its coming meeting will be nothing other than securing semi-conductor supply chains among these four countries. The stakes are enormous. The idea is to avoid in the future the sort of supply-side shock that is currently paralysing industrial production, and especially the auto sector.

Shortages cripple the automotive sector

In 2020 the auto sector recovered well from the first lockdowns and more or less shrugged off the second wave of the pandemic. But 2021 brought a world supply shock that is now seriously constraining vehicle production (see chart below). Eurozone production has dropped 34% since the start of the year. Germany is the largest producer in the bloc and has suffered the most: output down 42.5% since January, compared with an 18.4% drop in France.

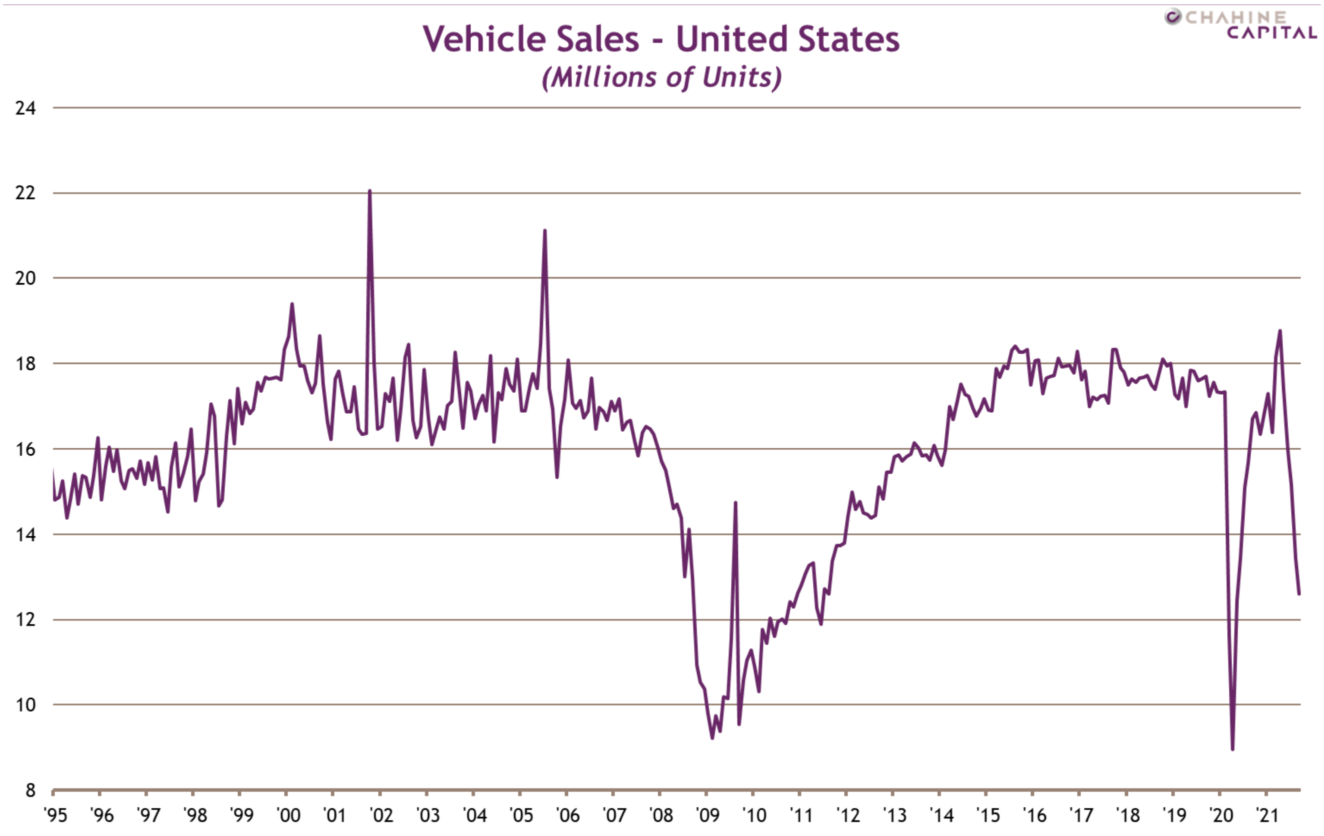
Shortages of semi-conductors severely damaged eurozone auto production in 2021



Source: FactSet

The situation is very similar in the USA: supply bottlenecks have badly damaged sales. In August, domestic car production was 36.4% less than a year before and 40.8% less than at the end of 2019, before the pandemic (see chart). In September, sales of all vehicles were down to 12.6 million units, down 24.6% year-on-year and down 27.4% relative to end-2019. The outlook is even worse. Stocks of vehicles assembled in the country are at their lows: fewer than 125,000 in September, which is less than a fifth of the level recorded at the end of the 2008-09 recession.

Another slump in the US auto market in Q3

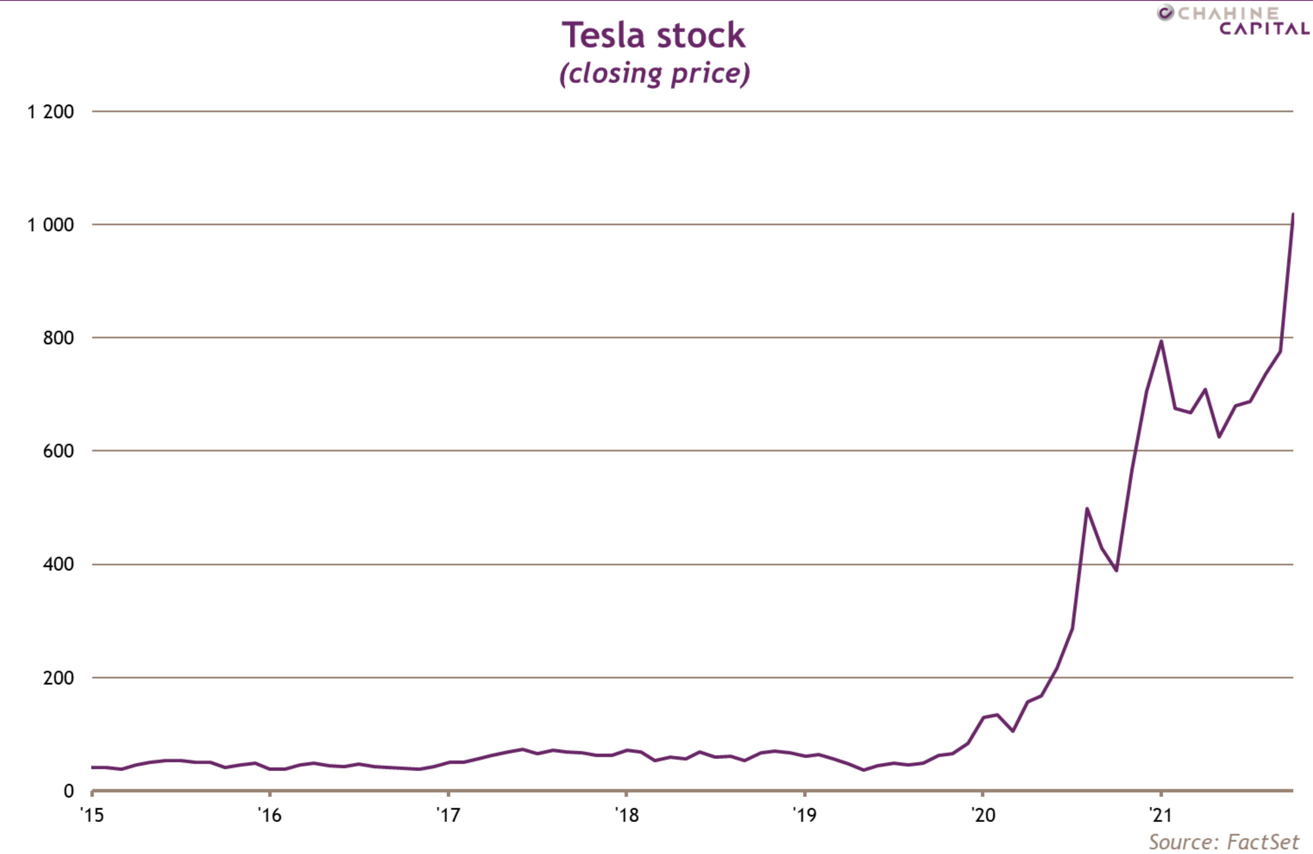


Source: FactSet

Hard times for carmakers – except Tesla

Even the heavyweights of the auto sector are struggling with the shortage of chips. This is reflected in their share prices: over the past three months, General Motors is down 5.3%, Volkswagen down 0.9%, Renault down 2.1% and Toyota down 2.4%, for example. The big exception is Tesla; interestingly, this is not because of its position in the electric car segment, as its main competitors – VW and Renault – are losing value. The difference seems to be that the American group has implemented an ingenious strategy to counter the semi-conductor problem, developing a new version of its software that is compatible with the various chips that are available. By widening the range of its potential suppliers, Tesla has been able to maintain production at a time when others have had to cut back. Investors have rewarded the Californian firm's capacity to innovate and flexibility with a 48.2% increase in its share price over three months, to $1,018.40 on 27 October (see chart).

Tesla's innovation credentials boost its share price, despite the semi-conductor crunch

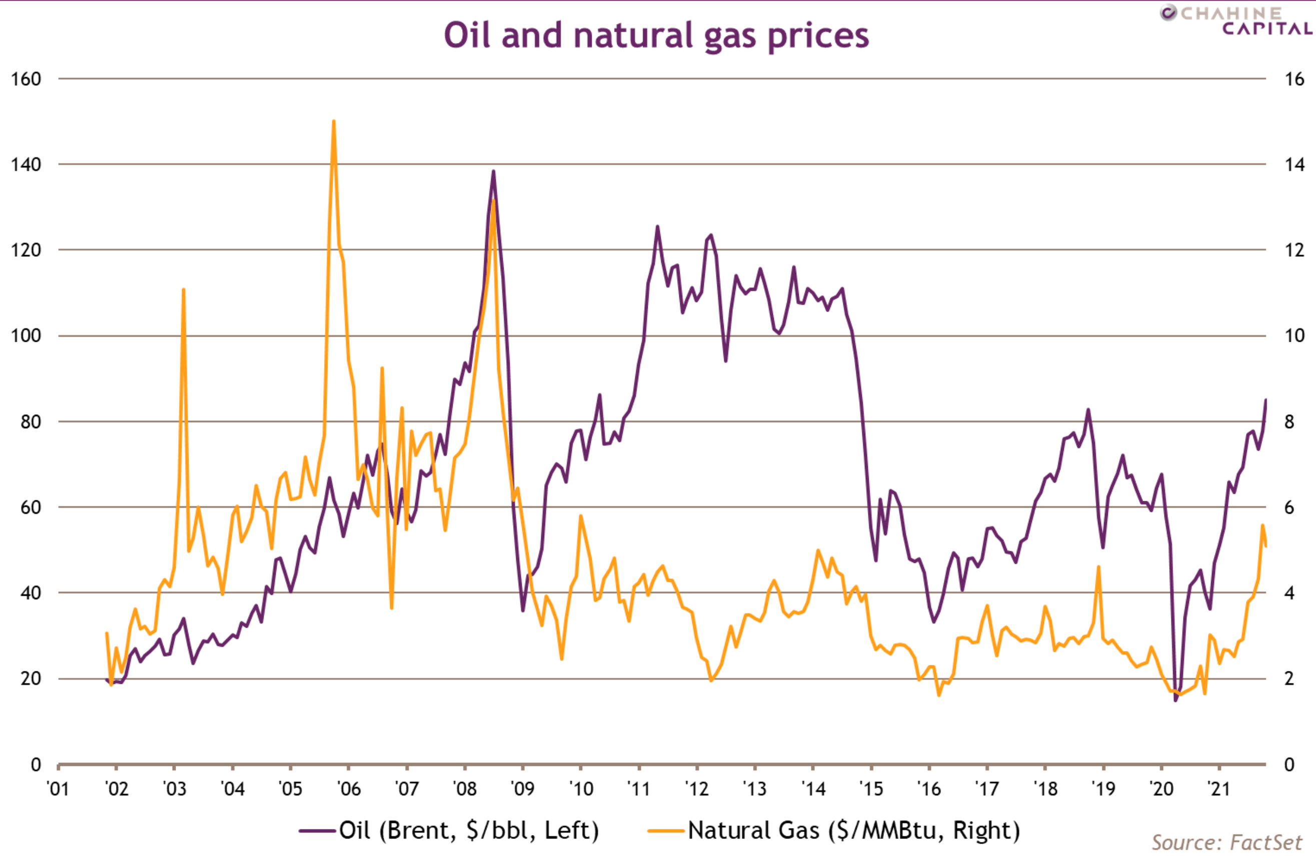


The Tesla example teaches us two things. First, the companies generating the best performance in the future will be those that can demonstrate flexibility and adaptability, irrespective of their sector. There is every reason to believe that the sort of situation we are seeing in microchips will repeat itself here and there before too long. Second, stock-picking within sectors is the best investment strategy in current market conditions.

Market abuse in oil and maritime freight markets is aggravating shortages and adding to price pressures

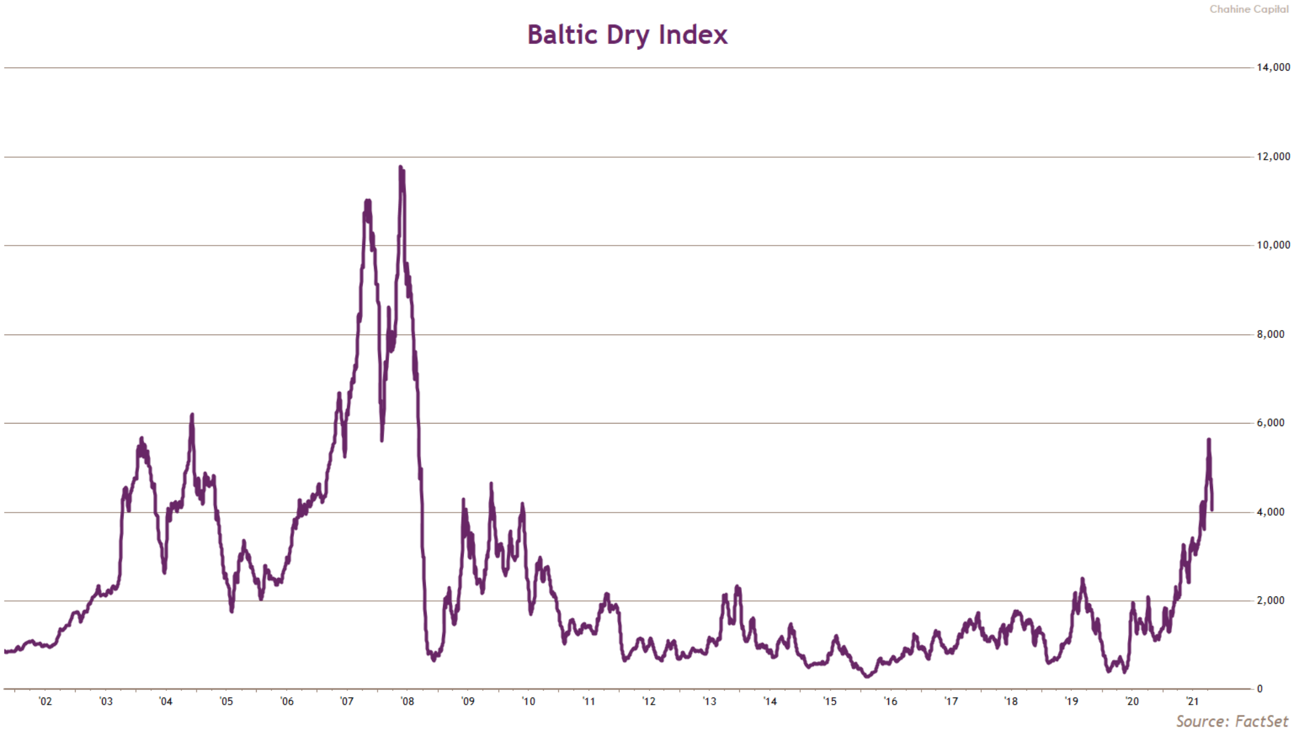
Once past the initial Covid shock, the recovery – especially in China – boosted energy and commodity prices. At over $5 /m Btu, gas prices have soared 105% over the past six months. Although this oft-quoted example has had a real impact on sentiment, there is nothing abnormal about it in the context of a general enthusiasm for gas-fired power stations. But there are other more worrying examples, such as a rise in oil prices to over $85/bbl (Brent crude) largely because of OPEC output restrictions. Once in August, and again in October, Russia and Saudi Arabia persuaded OPEC to turn down American requests to increase output to rebalance the market. In an attempt to keep a lid on WTI ($83/bbl), the Americans increased their own production to 12 million bbl/day in the summer, dipped into their reserves and could even resume shale oil production. But although the USA became the world's leading oil producer under President Trump, it could end up all alone against a coalition of producers over which it has no control.

Oil and gas prices may have moved in line but are subject to different factors



Maritime freight is another pinch point in international supply chains. The Baltic Dry Index, the key reference, has appreciated 55% over the past three months. At the beginning of October it hit 5,650 points, its highest level since 2008. Freight prices always reflect market conditions, but that market is steadily becoming more concentrated and is subject to more and more abuse in the form of consortia, a predilection for some sea routes over others, overpricing and so on. So much so that President Biden moved to strengthen antitrust legislation duing the summer and has repeated calls for transparency. In the light of the seriousness of the situation, he has asked the Federal Maritime Commission to investigate shipping lines and is encouraging US firms to sue freight operators over their pricing practices.

Maritime freight costs are climbing into historic territory



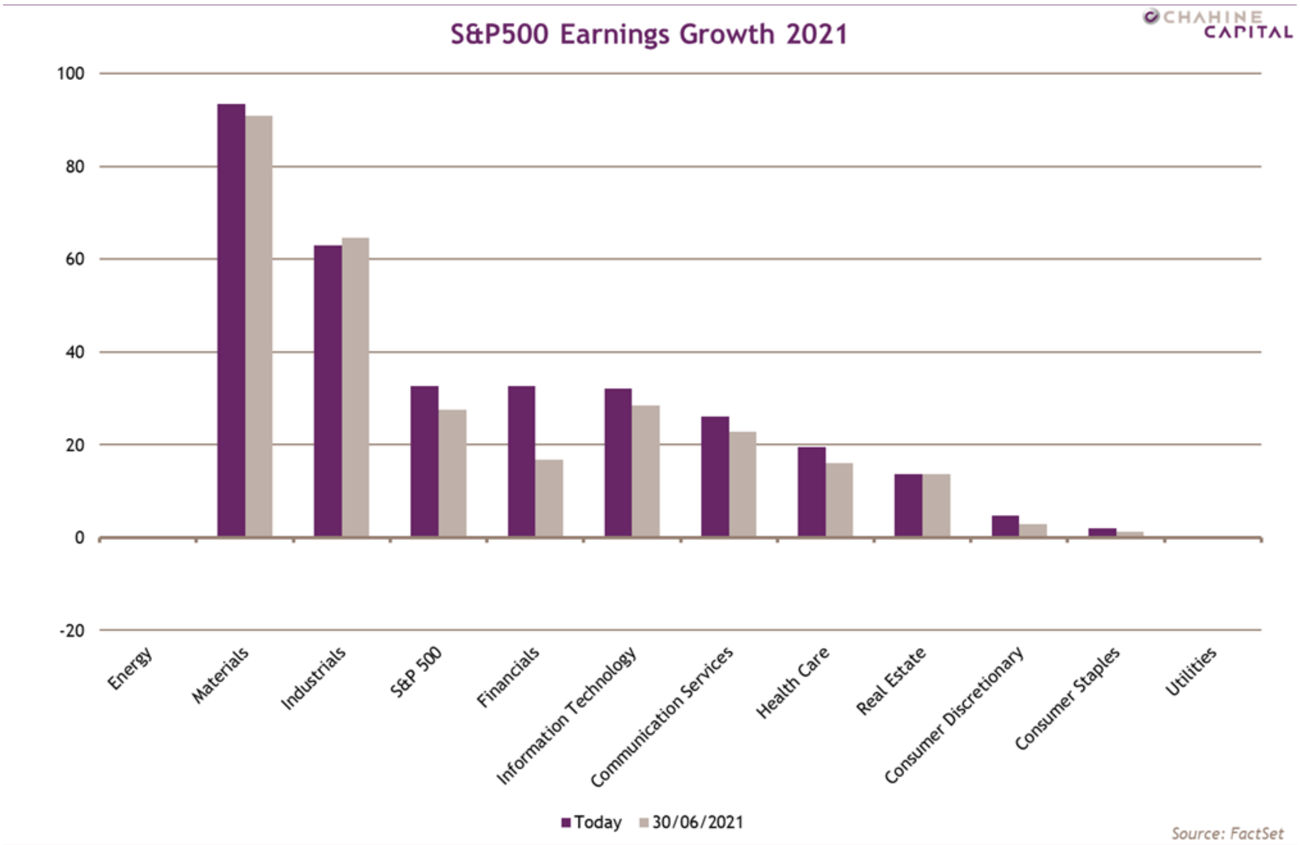
The Q3 results season and continuing upward revisions are bolstering equity markets

The past two US results seasons featured sharp upward revisions to earnings projections and a high positive surprise rate. The combination of the two has helped drive equity prices to new highs on Wall Street. Will the Q3 season be any different?

So far, it seems not. American firms are demonstrating remarkable resilience to everything being thrown at them. The season just starting (23% of S&P 500 firms have already published) is going swimmingly: analysts currently expect EPS to be up 32.7% in Q3, compared with their end-September estimate of 27.5%. If it materialises, the gain would be the third-largest since 2010, trailing only Q2 2021 (up 92.4%) and Q1 2021 (up 52.7%). A powerful base effect from last year is still at work. As in previous quarters, the number of companies beating consensus estimates is at a record high, with 84% of positive surprises since this results season began. In aggregate terms, firms have so far announced earnings 13.4% higher than analysts predicted.

As we remarked last month, sector dynamics are likely to remain the same as they have been in previous quarters, with sectors that suffered the most in 2020 rebounding strongly, notably energy, basic materials and industrials. The biggest upward revisions to earnings estimates concern the financial sector, reflecting continuing provision release and robust trading activity.

Financials lead continuing upward revisions

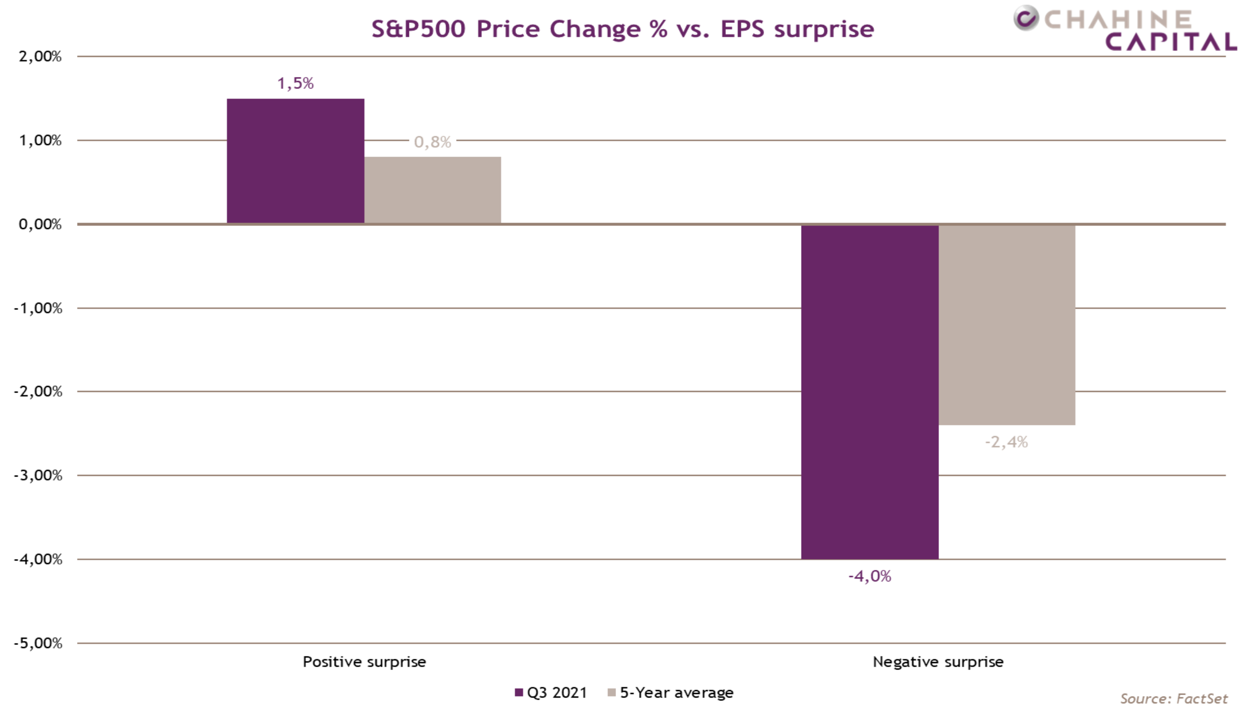


In an environment that remains generally positive for equities, investors have welcomed the good results that have been published so far. The S&P 500 recovered its 5.2% loss between 2 September and 4 October to post new highs close to 4,600 points. In fact the market has rewarded positive surprises more than usual, raising share prices of the companies concerned by 1.5 %[1] compared with an average 0.8% over the past five years.

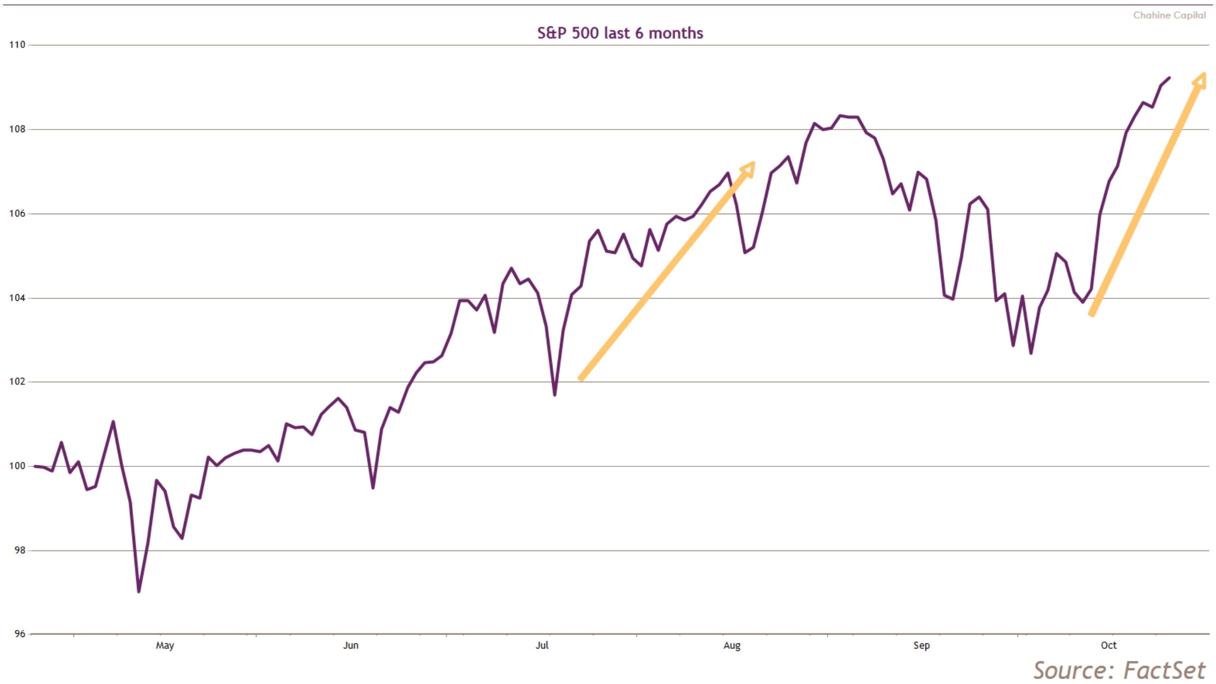
The reverse of the coin is that in contrast with the preceding quarter, investors have so far punished firms announcing negative surprises by more than usual: by 4% rather than an average 2.4% over the past five years.

[1] Change in share price between -2 and +2 days of the results announcement.

Investors are rewarding positive surprises, but punishing disappointment more severely too



The past two results seasons have been one of the factors bolstering Wall Street

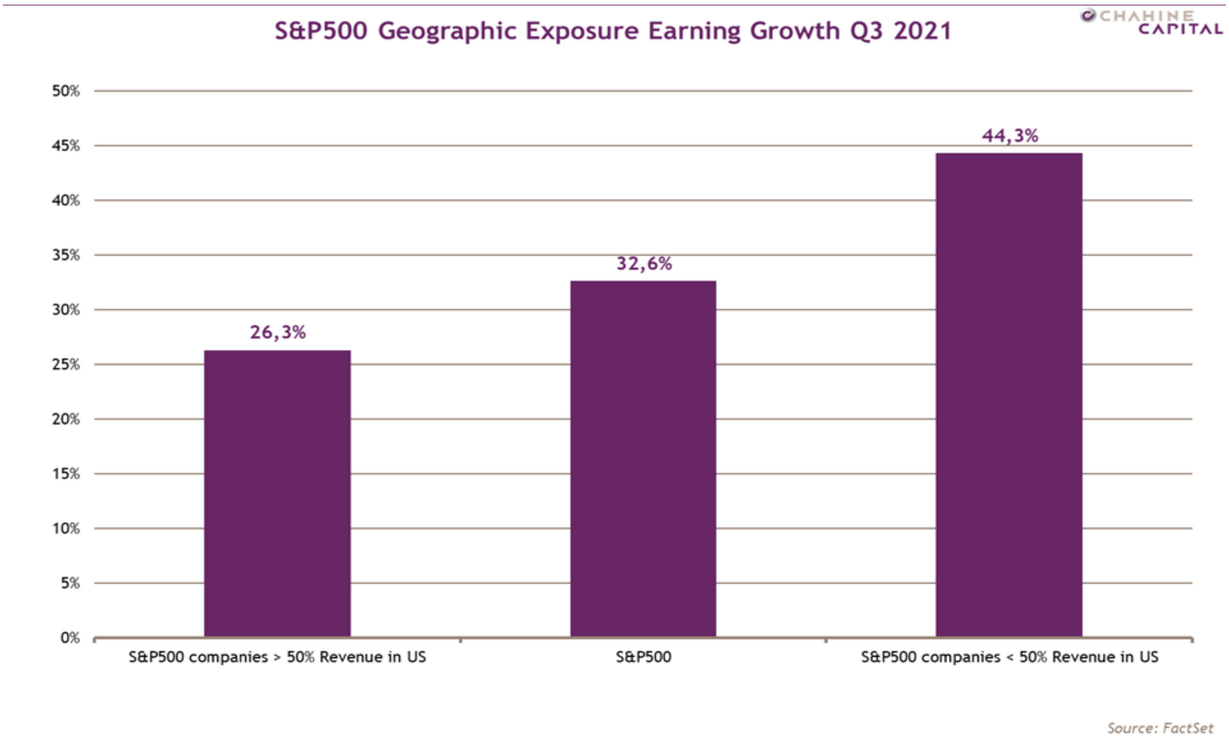


Given that investors appear to be more sensitive to corporate news than they were in the past, they require reassurance amid today's high multiples.

From a fundamental point of view, it is worth noting that the most international S&P 500 companies are posting the biggest rebounds in earnings in Q3. If we divide the index into two groups, the first comprising firms that generate more than 50% of their revenue outside the USA and the second all those firms generating most of their revenue on the domestic market, we observe that earnings growth for the first group is 44.3%, compared with 26.3% for the second group.

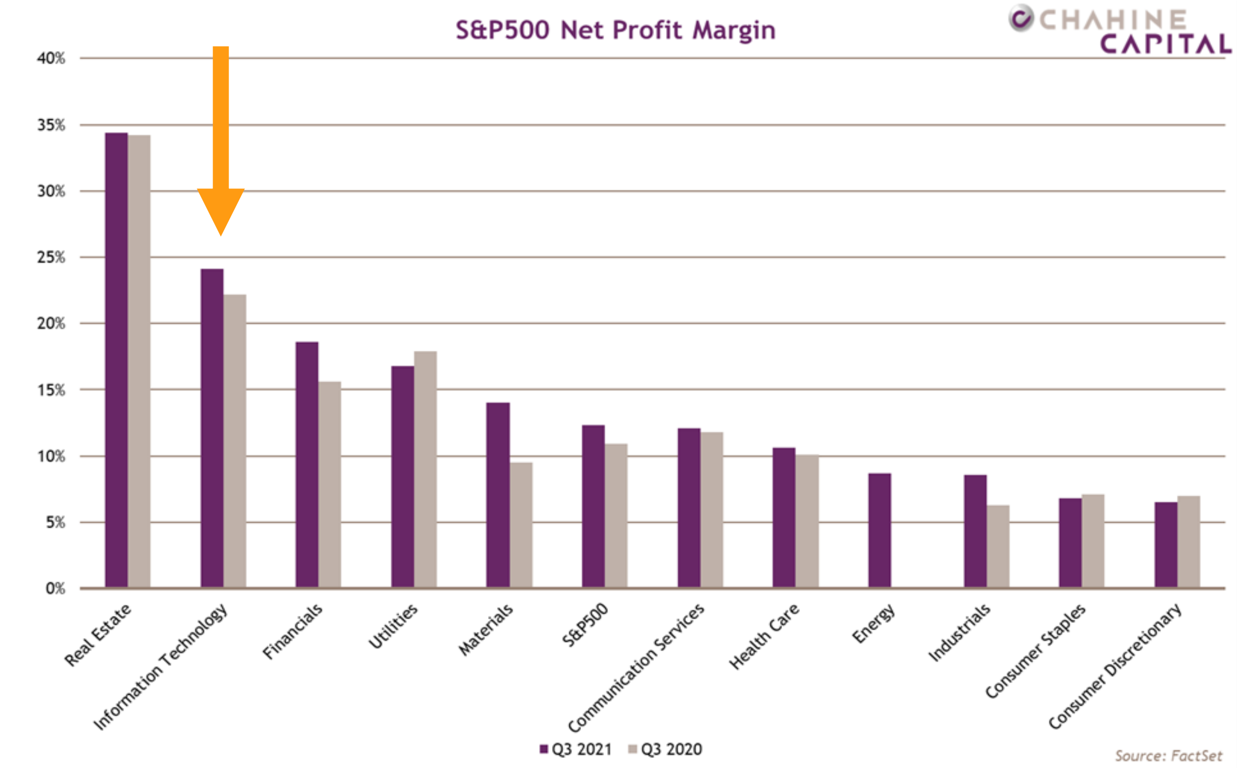
This differential is not all that it seems, however. If we remove the four largest contributors to the first, international group - Apple and Google on the tech side and Exxon and Chevron in the energy sector – the group's earnings growth in Q3 is 'only' 29.9%, which is not much higher than the domestic group. What it boils down to is that US firms are generally pretty homogenous in terms of earnings performance, irrespective of their profile.

Firms with international exposure are reporting better results, but not by as much as first seems



As we have mentioned often enough in the past few months, the tech sector is still performing strongly. Apart from real estate, it is posting the highest margins of all, at 24.1% in Q3 compared with 22.2% a year earlier. We have long argued that the bearish commentary that has proliferated this year – based on fears of higher interest rates and expectations of tougher regulations – is premature. For as long as the rules of the game remain unchanged in practice, we would see current tech sector valuations, and for GAFAM first and foremost, as high but sustainable. All the more so as interest rates are structurally low and will remain low for some time. Jerome Powell clearly indicated that rates would stay close to zero even during the Fed's imminent tapering programme.

The tech sector's remarkable and resilient business model

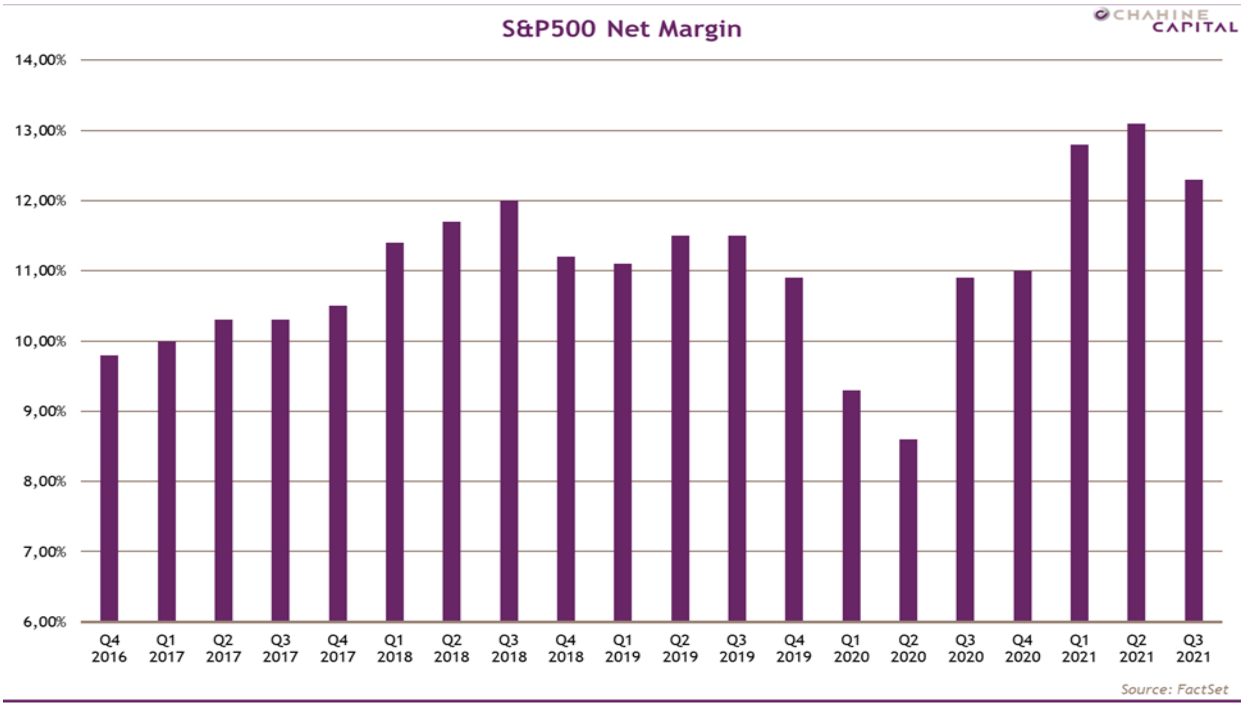


S&P 500 firms' margins are generally stabilising at record highs. The biggest increases since last year are found in the energy and basic materials sectors, buoyed by higher commodity prices. Analysts expect margins to increase further into mid-2022: 12.1% in Q4, 12.5% in Q1 2022 and 12.8% in Q2 2022.

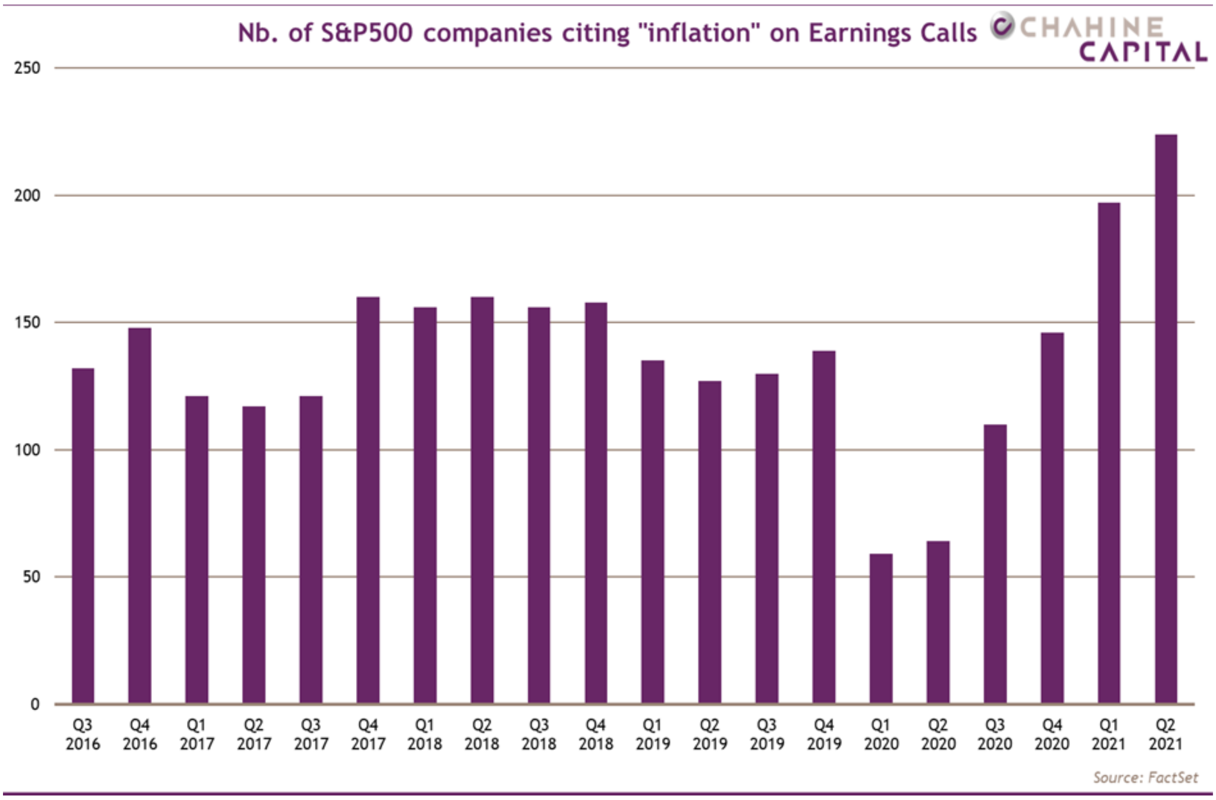
We believe that these forecasts are very (and even over-) ambitious. We would repeat that coming tax changes and the producer price inflation affecting American firms should not be ignored. Those firms are certainly not complacent themselves: the 224 of the S&P 500 companies mentioned inflation in their Q2 announcements, the highest proportion since 2010 according to FactSet (using the current composition of the index as the reference). Were pressures on commodity prices to persist through the point at which 2020 base effects fade out, we would be likely to see a wave of downward revisions and negative surprises next year. This would be a first for quite some time and would leave current market valuations in a vulnerable position.

STRATEGY OVERVIEW

Margins stabilise at record levels



S&P 500 firms more concerned about inflation than at any time since 2010



Valuation model: upward revisions in Europe make its equity markets more attractive than Wall Street

Both the American and European markets rebounded in October. The S&P 500 appreciated 6.9%, clawing back its 5.2% correction the month before, while the Euro Stoxx 50 rallied 5.9% after its 5.6% drop in September. US indices are back to new highs. 30-year yields stabilised in the USA (2% as of the time of writing), and eased from 0.71% to 0.65% in Europe over the period.

Earnings estimates for 2021 are still being revised on both sides of the Atlantic. We still expect 2021 to be as rosy as analysts suggest, but their EPS growth projections beyond that look far too optimistic. This is especially true of the USA, at 7.9% in 2022 and 8.8% in 2023.

Our valuation model continues to suggest that European equities are more attractive than their American counterparts. At current interest rates, US markets could be facing a modest 5-6% correction, but they would be more or less fair value overall were 30-year yields to tick down to 1.75%. Our scenario with tax hikes that reduce US profits by around 5% from 2023 onwards does not appear to have been priced into the market; were it to materialise, it would indicate another 12% or so in downside with unchanged interest rates. It would therefore be prudent to exercise caution around US equities.

S&P 500 - Valuation end 2021 except implied scenario

CAGR Compounded Annual Growth Rate from 2021	30 Years Gvt bonds				
	1,50%	1,75%	**2,00%**	2,25%	2,50%
Tax increase to 25% (approx. -5% impact on EPS) - CAGR 3.3%	**4 604**	**4 310**	4 046	3 808	3 593
Implied Scenario CAGR 5.2% over 8 years	5 240	4 901	**4 596**	4 322	4 075
Return to normal: 40% in 2021, 7.9% in 2022 - CAGR 4.2%	4 910	**4 596**	**4 314**	**4 060**	3 830
Current Index S&P 500			**4 596**		

Corporate newsflow is clearly a support factor in Europe, where 2021 results are set to be better than previously expected. Our model indicates that European equities offer around 10% upside, especially given recent upward revisions to earnings estimates. Importantly, that is true of each scenario, as in the case of a slow recovery we would expect interest rates to fall back to around zero. We therefore continue to overweight European equities against US equities.

MSCI EMU - Valuation end 2021 except implied scenario

CAGR Compounded Annual Growth Rate from 2021	30 Years Gvt bonds				
	0,00%	0,50%	**0,64%**	1,00%	1,25%
Slow recovery: 62% in 2021, 4% in 2022	**175**	**149**	143	130	122
Implied Scenario: 62% in 2021, 5.2% in 2022	186	158	**152**	138	129
Return to normal: 62% in 2021, 5.2% in 2022	206	175	**168**	**152**	**142**
Current Index MSCI EMU			**152**		

Conclusions

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Main ratios for markets and sectors as of 29/10/2021 (in local currency)

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Data as of 10/29/21	Weight vs World	Perf 2021	Perf 2020	Weighted P/E 2022	Weighted P/E 2021	% Wted EPS Chge 2022	% Wted EPS Chge 2021	% Wted EPS Chge 2020	Div Yield 2021	Revision vs M-2% Fiscal 22	Revision vs M-2% Fiscal 21
World - Developed	**100,0%**	**13,08%**	**15,04%**	**18,2 x**	**20,2 x**	**10,80%**	**63,88%**	**-19,09%**	**1,84%**	**0,9%**	**1,3%**
United States	56,6%	20,18%	20,22%	22,2 x	24,6 x	10,99%	60,13%	-15,61%	1,28%	0,6%	1,6%
Japan	7,4%	-0,27%	11,46%	14,9 x	16,9 x	12,92%	32,80%	-8,89%	2,06%	-1,7%	-1,8%
Eurozone	10,8%	11,55%	8,66%	16,1 x	17,6 x	9,68%	95,62%	-38,92%	2,55%	1,3%	0,9%
Europe	20,0%	12,27%	7,19%	16,1 x	17,5 x	8,94%	84,80%	-35,66%	2,74%	2,0%	2,0%
Austria	0,2%	24,37%	-3,26%	11,1 x	11,9 x	7,20%	103,56%	-41,33%	3,23%	5,2%	5,7%
Belgium	0,4%	5,84%	-2,41%	19,2 x	20,6 x	7,78%	29,61%	-25,07%	2,52%	-4,3%	-1,3%
Denmark	0,8%	13,56%	40,90%	22,8 x	23,3 x	2,50%	62,63%	-7,16%	1,75%	7,2%	1,2%
Finland	0,4%	4,99%	27,09%	18,5 x	19,3 x	4,31%	36,20%	-13,69%	2,82%	-0,3%	2,2%
France	3,6%	16,53%	6,34%	17,4 x	20,3 x	16,27%	166,05%	-55,00%	2,36%	2,6%	-0,1%
Germany	2,8%	5,55%	13,28%	14,4 x	15,5 x	7,66%	72,80%	-20,06%	2,68%	1,0%	1,3%
United Kingdom	4,0%	11,51%	-8,98%	13,3 x	14,5 x	9,23%	93,43%	-39,94%	3,61%	1,7%	2,2%
Ireland	0,1%	16,63%	11,11%	19,9 x	29,1 x	46,73%	4498,09%	-105,07%	1,19%	-0,3%	1,4%
Italy	0,9%	14,49%	1,91%	12,2 x	14,0 x	15,21%	67,46%	-41,54%	3,64%	1,7%	2,1%
Netherlands	1,4%	17,82%	21,86%	20,7 x	21,6 x	4,08%	90,06%	-27,12%	1,49%	-0,1%	1,3%
Norway	0,5%	18,05%	5,88%	14,7 x	16,3 x	11,10%	230,20%	-55,06%	3,16%	13,7%	8,3%
Spain	0,8%	3,96%	-4,61%	14,9 x	14,1 x	-5,00%	94,88%	-42,71%	3,47%	1,0%	0,5%
Sweden	1,5%	20,45%	31,77%	20,7 x	20,2 x	-2,54%	92,55%	-38,43%	2,50%	3,2%	5,9%
Switzerland	2,5%	10,96%	10,73%	19,1 x	21,4 x	12,08%	21,47%	-7,91%	2,48%	1,5%	4,2%
Europe / Commercial Services	0,6%	9,96%	3,13%	21,7 x	25,9 x	19,10%	61,50%	-29,26%	1,79%	1,1%	1,6%
Europe / Communications	0,5%	0,65%	-3,23%	14,0 x	11,7 x	-16,45%	4,81%	4,86%	4,66%	-0,5%	-11,0%
Europe / Consumer Durables	0,9%	20,37%	18,46%	9,2 x	10,0 x	8,96%	280,72%	-58,41%	3,42%	2,7%	0,8%
Europe / Consumer Non-Durable	3,1%	9,42%	8,89%	22,9 x	25,7 x	12,41%	26,89%	-21,01%	2,05%	1,2%	1,3%
Europe / Consumer Services	0,4%	12,50%	-1,65%	23,3 x	150,9 x	566,60%	145,18%	-122,49%	1,33%	-5,3%	-22,2%
Europe / Distribution Services	0,2%	17,77%	22,70%	20,9 x	22,1 x	6,07%	58,51%	-15,06%	1,95%	-0,6%	8,7%
Europe / Electronic Technology	0,8%	16,32%	8,85%	21,1 x	25,8 x	22,34%	172,29%	-51,15%	1,09%	2,2%	2,0%
Europe / Energy Minerals	0,7%	25,28%	-27,63%	8,6 x	9,6 x	11,00%	13789,74%	-92,11%	4,54%	13,7%	7,9%
Europe / Finance	3,7%	17,38%	-5,87%	11,8 x	11,9 x	0,72%	71,79%	-34,64%	3,95%	1,6%	4,2%
Europe / Health Services	0,2%	13,16%	12,06%	22,3 x	22,9 x	2,91%	20,55%	-0,81%	1,52%	0,2%	-0,3%
Europe / Health Technology	2,3%	13,81%	8,87%	20,6 x	23,3 x	13,27%	11,83%	-0,94%	2,09%	1,1%	0,6%
Europe / Industrial Services	0,3%	7,41%	-9,31%	15,1 x	20,1 x	33,72%	74,92%	-51,28%	2,92%	-0,7%	-1,1%
Europe / Miscellaneous	0,0%	29,76%	33,67%	12,9 x	10,5 x	-21,42%	142,77%	-81,20%	3,06%	0,2%	0,0%
Europe / Non-Energy Minerals	0,6%	11,47%	17,23%	8,4 x	7,0 x	-17,04%	115,05%	27,68%	6,80%	0,0%	1,4%
Europe / Process Industries	0,8%	7,25%	17,61%	18,5 x	19,0 x	2,61%	52,37%	-13,98%	2,57%	1,5%	2,3%
Europe / Producer Manufacturin	1,8%	18,47%	31,52%	22,4 x	27,2 x	21,11%	84,31%	-32,22%	1,69%	-1,6%	1,5%
Europe / Retail Trade	0,5%	-0,53%	21,69%	21,8 x	27,2 x	24,55%	81,20%	-24,63%	2,08%	-0,7%	2,6%
Europe / Technology Services	1,1%	4,58%	23,86%	27,9 x	32,1 x	15,19%	30,25%	-5,83%	0,72%	0,8%	3,1%
Europe / Transportation	0,6%	20,31%	3,88%	14,8 x	30,9 x	108,87%	146,59%	-255,23%	2,82%	9,6%	5,3%
Europe / Utilities	0,9%	-5,25%	24,35%	16,0 x	17,1 x	7,25%	19,50%	-17,21%	3,90%	2,6%	0,2%

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