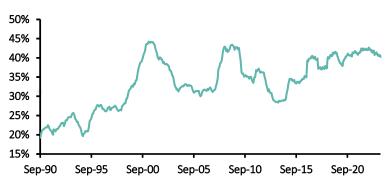
about 40% (Figure 1):

S&P 500 stocks move increasingly in line with their GICS® sectors. As a result, investors may look at sector rotation approaches to capture investment opportunities that would otherwise be more difficult to identify than focusing on individual stocks. Indeed, over the past 30 years the average correlation between individual stocks' excess return (vs. the S&P 500 Index) and their respective sectors' excess return follows an increasing trend and today stands at

Figure 1 shows that stocks excess returns are more correlated to their sectors' excess return. From the low point in 2012, when stocks and sectors excess returns were correlated, on average, at 25%, we have experienced a sustained and monotonic increase to 45% towards the end 2021 with a slight decrease since. If stocks and their sectors move simultaneously, then sector rotation approach may offer an interesting alternative. As a matter of fact, the pairwise correlation of sectors' excess returns over the same period has remained very low, and ranges between -10% and +10%.

The combination of (i) increasing comovements of stocks and sectors' excess return and (ii) a fairly stable pairwise correlation of sector's excess returns appears because both the S&P 500 index and some significant sectors have become extremely concentrated.

Figure 1: Average correlation of the excess return of individual stocks and of the excess return of their respective sector (21.09.1990 – 15.12.2023)



Source: Bloomberg, as of 15/12/2023. Calculation by Ossiam. Past performance does not predict future returns.

Figure 2: Average pairwise sector correlation (21.09.1990 – 15.12.2023)



Source: Bloomberg, as of 15/12/2023. Calculation by Ossiam. Past performance does not predict future returns.

To highlight this concentration, we use the adjusted Herfindahl metric, a measure of sector concentration normalized to take into account the different and changing number of stocks in sectors:

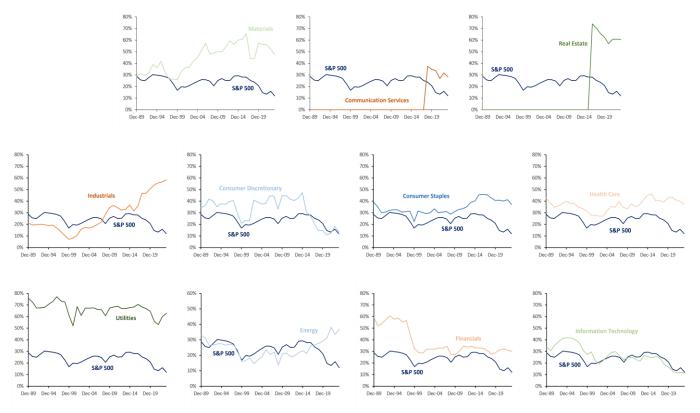
$$C := \frac{Herfindahl}{nb \ of \ stocks} = \frac{\frac{1}{\sum_{i} w_{i}^{2}}}{n}$$

Consequently, when C is close to 1, the sector is effectively diversified and tends toward an equal weight allocation of n stocks. When C is small and close to 1/n, then the sector is highly concentrated into few dominant stocks. This measure is not well adapted to small values of n, hence small sectors such as Real Estate.





Figure 3: Comparison of the adjusted Herfindahl of the 11 sectors versus the S&P 500 index (31.12.1989 – 31.12.2023)



Source: Bloomberg, as of 31/12/2023. Calculation by Ossiam. Past performance does not predict future returns

On the one hand, we notice how the S&P 500 index, over the past 30 years, has seen its adjusted concentration C ratio decrease from nearly 30% to 10%. It is quite an extreme measure today, meaning that it is substantially different from an equal weight allocation of nearly 500 stocks. On the contrary, many sectors have remained fairly diversified (Energy, Materials, Industrials, Cons. Staples, Health Care and Utilities) while we can clearly see how Financials, Cons. Discretionary and Information Technology have become more concentrated. Quite surprisingly, Information Technology seems to track fairly well the downward trend of the S&P 500 Index.

To conclude, it is clear that the S&P 500 index has become more concentrated over time, despite the fact that some sectors remained fairly diversified. Within this framework, stocks' and sectors' excess returns are becoming more correlated, making it challenging to find opportunity at individual stock level. Nevertheless, sectors' excess returns remain well "uncorrelated", i.e., within a small range around zero. Therefore, using sectors to identify investment opportunities continues to be a very attractive idea in today's market configuration.





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