MACKENZIE Investments | CONFIDENCE IN A CHANGING WORLD

Risk Concentrations in US Equity Markets

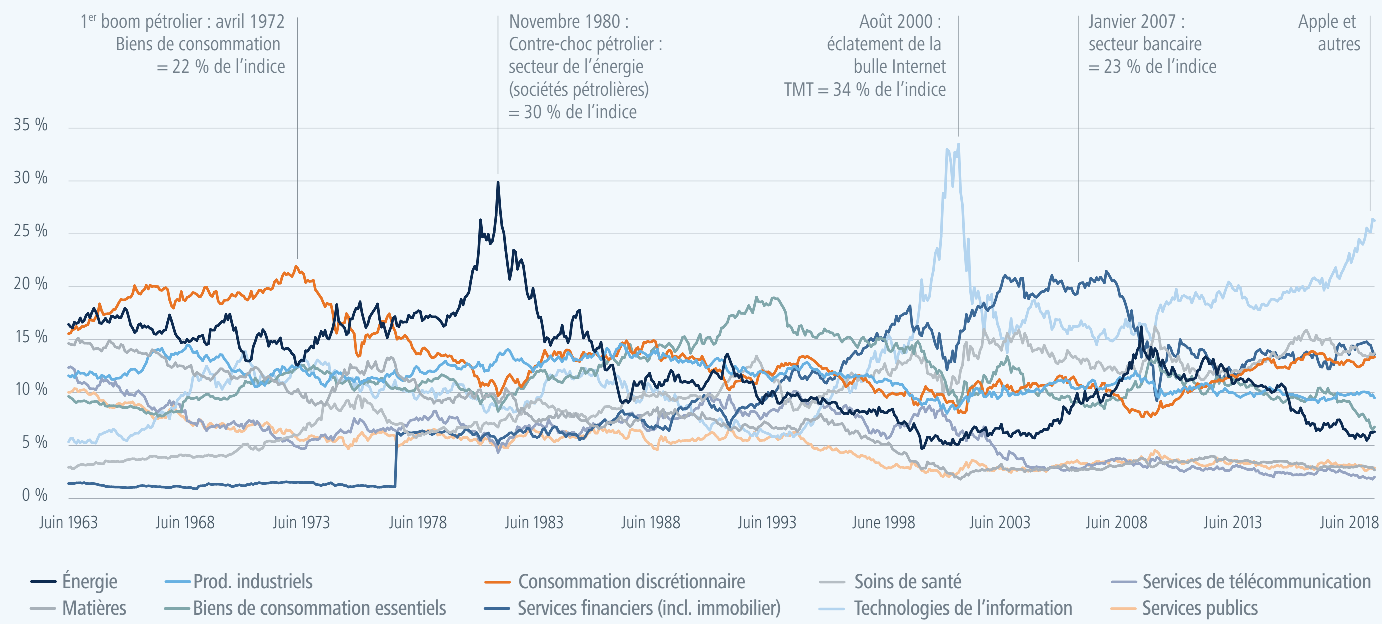
The current market environment in US equities has inspired us to publish this note. Even casual observers likely can't help noticing that a small group of companies – Facebook, Amazon, Apple, Netflix and Google, collectively known as the FAANGs – have come to dominate stock market conversations. As the performance of the IT sector has accelerated, the FAANGs' share of the market has grown significantly. As a result, US Equity markets have become increasingly concentrated, creating a significant degree of vulnerability for investors who believe passive indexes provide adequate diversification. It's definitely worth exploring given Facebook's recent market correction.

TOBAM* CORE INVESTMENTS

Introduction

Market cap-weighted indices, by construct, can take on heavy structural biases that evolve over time. This methodology makes implicit bets which will maximize an investor's allocation to a specific stock or sector at the worst possible time. Taking a closer look at the US equity market sector weights since December 1963 in Figure 1 below, one can see the behaviour of these implicit bets.

Figure 1: US Equity Markets – Sector weights



Source: TOBAM calculations. Figures as of June 2018. Key Risks: The value of your investment and the income from it will vary and your initial investment is not guaranteed.

For example, during the Dot-com bubble of the early 2000s, IT stocks wound up representing more than 30% of the S&P 500 due to the hype surrounding the advent of a new technology-driven era. By the end of 2002, IT stocks tumbled to 15% of the S&P. The financial industry exhibited the same pattern prior to the financial crisis of 2007. Now just over a decade later, the IT sector is again stretching into territory last seen just prior to the bursting of the Dot-com bubble. History, at least when it comes to market behaviour, seems to have a habit of repeating itself.

[1]For a deeper analysis of the performance of Technology and Financial sectors please refer to the appendix.

The Current State of Concentrations within the MSCI USA Index

1.1 A Sector Perspective

The IT sector has experienced impressive returns since mid-2016, with the annualized gain exceeding 30% over the past two years (Figure 2). By construction, market cap-weighted indices bet on past successes. This means that the strong performance of IT and to a lesser degree Financials, over the past few months has driven up their weights in the MSCI USA[1], as shown in Figure 3.

Currently, 26% of the index is allocated to IT and 14% to Financials. What this shows is that, essentially, two out of eleven sectors account for close to 40% of the index, as measured by weight. Figure 3 also shows that the weighting of IT and Financials have increased by 32% and 14% respectively over a 23-month period from June 2016 to May 2018. Meanwhile, seven of the eleven GICS sectors' index weighting decreased over the period, demonstrating the compounding nature of the market cap weighted methodology.

Figure 2: Variation in weights of GICS in MSCI USA from June 30, 2016 to May 31, 2018

Sector	30/06/2016	31/05/2018	Delta Weight	Variation
Information Technology	19.1%	26.39%	6.48%	32.57%
Financials	12.23%	13.92%	1.69%	13.81%
Industrials	9.34%	9.80%	0.46%	4.91%
Consumer Discretionary	13.08%	13.29%	0.22%	1.65%
Materials	2.98%	2.93%	-0.05%	-1.84%
Energy	7.11%	6.24%	-0.87%	-12.21%
Health Care	15.55%	13.54%	-2.01%	-12.94%
Real Estate	3.47%	2.77%	-0.70%	-20.19%
Utilities	3.62%	2.80%	-0.82%	-22.75%
Consumer Staples	9.85%	6.51%	-3.35%	-33.95%
Telecomm Services	2.86%	1.82%	-1.04%	-36.36%

Figure 3: Sector Performance MSCI USA from June 30, 2016 to May 31, 2018

Sector	Annualized Return
Information Technology	32%
Energy	21%
Consumer Discretionary	18%
Financials	12%
Industrials	10%
Materials	9%
Health Care	5%
Real Estate	1%
Utilities	1%
Telecommunication Services	-1%
Consumer Staples	-8%

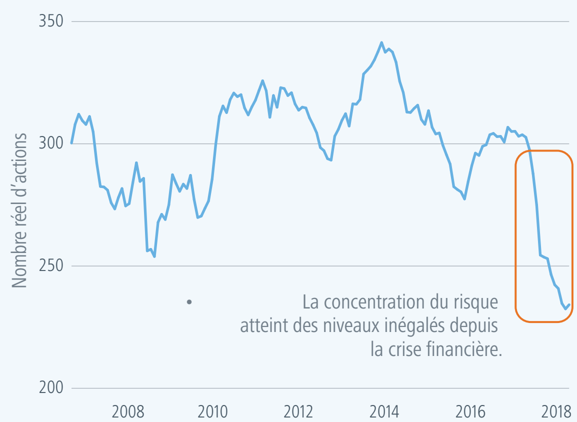
Source: TOBAM and Bloomberg. Data as of May 31, 2018.

1.2 The Effective Number of Risk Contributors

A corollary to looking at sector concentrations is to look at the number of factors that contribute to the total equity market risk. The more risk contributors, the more the market is diversified, and thus less exposed to negative news in any one area.

The Herfindahl Index is a commonly accepted measure of risk concentration. It shows the effective number of risk contributors to the overall equity market. In Figure 4 below, we compute the Herfindahl index for the MSCI USA Index. The lower the number, the smaller the number of stocks/companies contributing to the overall risk of the US equity market. As of the end of May 2018, this number was close to the lowest level observed since 2003. It illustrates the dangerously low levels of risk contributors to the overall MSCI USA risk.

Figure 4: Volatility weighted Herfindahl Index of MSCI USA from Dec 31, 2006 – May 31, 2018



Source: Bloomberg.

Beyond sectors: the mega-cap factor

2.1 Return Contribution of Top 10 Performing Stocks in MSCI USA Index

Perhaps as interesting as the analysis of sector concentrations is a closer look at the main performance contributors of the MSCI USA over the first half of 2018. Figure 5 shows the concentration of performers and the role of the FAANG stocks (**F**acebook, **A**mazon, **A**pple, **N**etflix, **G**oogle (i.e. Alphabet) in the current US equity market: nine out of ten are IT stocks, with the remaining stock being Amazon. Amazon, while being consumer discretionary, has comparable market behaviour to an IT stock.

Figure 5: Top 10 performance contributors (December 31st 2017 to June 28th 2018)

Company	Total Return	Market cap weight	% of MSCI USA Return	Sector
Amazon.com Inc.	45%	2.5%	45%	Cons. Discr.
Microsoft Corp.	16%	2.8%	18%	IT
Apple Inc.	10%	3.7%	15%	IT
Netflix Inc.	104%	0.5%	22%	IT
Facebook Inc. – A	10%	1.8%	7%	IT
Alphabet Inc. – Cl C	7%	1.4%	4%	IT
Alphabet Inc. – Cl A	7%	1.3%	4%	IT
Mastercard Inc. – A	30%	0.7%	8%	IT
Visa Inc. – Class A Shares	17%	0.9%	6%	IT
Adobe Systems Inc.	39%	0.4%	7%	IT
Nvidia Corp.	23%	0.6%	5%	IT
Top 10 Contributors	**21%**	**16.8%**		
MSCI USA	**3%**	**100.0%**		

Source: TOBAM and MSCI. Alphabet Inc-Cl A & Alphabet Inc-Cl C are counted as the same company i.e. Google.

The trend of these mega-cap IT stocks is not new – since June 2016, the weighting of IT in the index has surged by an incredible 32% – but the pace of increase has accelerated in 2018. At this point, for every new dollar invested in the MSCI USA Index, 26% is being invested in the IT sector, which itself is being led by a small number of high-performing stocks. These mega-cap stocks represent implicit bets of the benchmark, meaning that when one invests in the MSCI USA index, it is based on the expectations that these stocks will continue to outperform other stocks in the index. If they don't, investing such a large proportion in those stocks is not a good idea!

2.2 Correlation Analysis: Top 10 holdings of the MSCI USA Index

A final way to assess the degree of risk concentrations of the US equity market, we look at the rolling pair-wise average correlation of the top 10 holdings in the index and compare them to the full universe of the MSCI USA. We are essentially looking at how closely the top 10 holdings shown in Figure 5 are driving the overall index. And by placing the behaviour of the top 10 holdings within a historical context to the rest of the market we are able to determine if such a pattern has previously occurred.

Figure 6: Rolling difference between volatility-weighted average pair-wise correlation of the top 10 holdings and the entire MSCI Universe

Source: TOBAM and MSCI. Data from May 1997 to May 2018. The pair-wise correlation is a measure of the 1-year rolling correlation between any two stocks of the universe. The figure above plots for each date the average of all the pair-wise correlations for each respective universe (top 10 and MSCI USA).

As we can see from Figure 6, the volatility-weighted average pair-wise correlation has reached historical peaks not seen since December 31, 1999. This illustrates how the MSCI top 10 holdings behave differently than the rest of the market. In fact, when compared to the last 20 years, the behaviour is unprecedented.

Conclusion

Clearly, we are witnessing increasing sector concentrations in US Equities after a near two-year period of IT sector outperformance.

Notably, the behaviour of mega-cap & FAANG stocks is different from anything observed in recent history. The pattern of correlation is different from what has been observed in the past twenty-plus years in US equities. Recent events such as the sharp corrections of Facebook in March and July 2018 can be interpreted as a warning to diversify.

It could also serve as a reminder to always look at the risk concentration in portfolios. **As evidenced through this short note and various studies TOBAM have published[2], there is a marked difference between being passive (or very close to passive) and being neutral.**

Risk concentrations are a source of concern as history has repeatedly demonstrated that excessive concentrations are eventually corrected. Risk concentrations challenge the most fundamental rule of portfolio management: diversification.

[2] *An oxymoron gone too far: why passive management isn't suitable as a core investment* – March 2015
Active managers can't beat a benchmark, they are the benchmark – Financial Times, January 2016
Debunking some of the biggest investment myths – July 2017

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