Murray's Musings

THE ACHIEVEMENT OF DIVERSIFICATION

It would seem to be arithmetically self-evident that if various constituent members of an index have such low weightings as to be statistically irrelevant, then they cannot, arithmetically, play any role in diversification. Eighteen members of the S&P 500 index now have only a 1-basis point (0.01%) weight. There are 38 index constituents that have a 2-basis point weight, 41 that have a 3-basis point weight, 41 with a 4-basis point weight, and 46 at 5 basis points.

These 184 constituents of the 500 S&P Index are arguably statistically irrelevant. To go further, one could designate members with 6-basis point weights as also statistically irrelevant. If one draws the boundary of irrelevance in this manner, there are another 36 such positions, bringing the total number of statistical irrelevancies to 220, or 44% of the names in the index.

If one wishes to assert, as an issue of statistical irrelevance, that at least 50% of the S&P 500 names fall into this category, one has only to include the 7-basis point positions. There are 29 constituent members with that weight. Thus, the grand total of statistically-irrelevant positions is 249, or 49.8% of the names in the S&P 500 index.

A summary of the index weightings of approximately half of the constituent members of the S&P 500 is shown in the following table.

Table 1: Selected S&P 500 Index Weightings

Number of Companies	Weighting *(basis points)*	Total Weight *(basis points)*
18	1 bp	18 bp
38	2 bp	76 bp
41	3 bp	123 bp
41	4 bp	164 bp
46	5 bp	230 bp
36	6 bp	216 bp
29	7 bp	203 bp
Total: 249		*1030 bp or 10.3%*

Source: iShares

Roughly one-half of the number of corporations in the S&P 500 index have, in aggregate, 10.3% of the index's market capitalization.

Interestingly, there are only 17 positions with an 8-basis point weight, and another 28 9-basis point positions. If these positions, in addition to those listed above, were considered as statistically irrelevant, the total number of irrelevant positions would equal 295, or 59% of the index and would have a collective weight of 14.27%. One could continue in this manner, because there are 20 10-basis point positions.

As noted, there are 295 positions of 9-basis points weight or less that comprise 59% of the number of members of the S&P 500 index and 14.27% of its market value. To assess the importance of these firms to the index, assume that—for only the 295 companies in question—a recession occurs that is equivalent in severity to the recession of 2008. In this scenario, assume that these 295 companies as a group decline in share price by (37)%, which was the S&P 500 return for 2008. The result is a 37% loss on 14.27% of the index or (5.28)%—which is not a significant decline during a major recession.

This is hardly the same thing, though, as saying that these companies are unimportant businesses or are statistical irrelevancies within the U.S. economy. One way of understanding index weight versus economic impact is to select ten well-known firms with statistically immaterial S&P 500 weights and calculate their economic impact by a metric other than stock market capitalization. I chose these ten companies that are familiar to investors: Discovery, Inc., News Corp., Sealed Air, Newell Brands, Franklin Resources, Mohawk Industries; American Airlines, Carnival Corporation, Textron, and Lumen Technologies, otherwise known as CenturyLink, Inc.

Table 2: 10 Firms with Immaterial Weights in the S&P 500

Ticker	Name	Weighting
DISCA	Discovery, Inc. - Series A	3 bp
NWSA	News Corporation Class A	3 bp
SEE	Sealed Air Corporation	2 bp
NWL	Newell Brands	2 bp
BEN	Franklin Resources, Inc.	2 bp
MHK	Mohawk Industries, Inc.	2 bp
AAL	American Airlines Group, Inc.	2 bp
CCL	Carnival Corporation	3 bp
TXT	Textron Inc.	3 bp
LUMN	Lumen Technologies, Inc. (CenturyLink, Inc.)	3 bp

Source: iShares

Those ten firms collectively have a 25-basis point weight in the S&P 500. One might compare them to Apple Inc. (APPL), which has a 6.45% index weight. In other words, the weight of Apple in the index is 25.8x the weight of these ten well-known companies.

The metric I have chosen to assess these firms' economic impact is the number of their employees. This statistic is significant, because in a horrendous recession some of the employees presumably would lose their employment. Together, these firms have 485,800 employees. In contrast, Apple has 137,000 employees.

Table 3: Number of Employees in 10 Firms with Immaterial Weights in the S&P 500

Ticker	Name	Number of Employees
DISCA	Discovery, Inc. – Series A	9,000
NWSA	News Corporation Class A	28,000
SEE	Sealed Air Corporation	16,500
NWL	Newell Brands	49,000
BEN	Franklin Resources, Inc.	9,700
MHK	Mohawk Industries, Inc.	42,100
AAL	American Airlines Group	133,700
CCL	Carnival Corporation	120,000
TXT	Textron Inc.	35,000
LUMN	Lumen Technologies, Inc. (CenturyLink, Inc.)	42,800
Total:		*485,800*
AAPL	Apple, Inc.	*137,000*

Source: Company Reports

Some argue that if the ten aforementioned firms were to have difficulties—and obviously some of these firms now face serious challenges—the economic impact would be heaviest from those firms with the largest number of employees. In industry terms, a 20% layoff rate from the diverse group with a 25-basis point collective weight would be far more damaging to the U.S. economy than if Apple were compelled to undertake a 20% layoff. If the object of diversification is to reflect economic impact, then surely one can argue that the weightings of an index should reflect the impact of a company on the economy. *Market capitalization weights reflect valuation rather than economic impact*.

Tesla, Inc. (TSLA) has a $392 billion market capitalization and, viewed from that perspective, is by far the largest automobile company on the planet. General Motors (GM) has a $52.7 billion market capitalization, and Ford Motor (F), $32 billion. When Tesla enters the S&P 500 index, it will obviously overwhelm the weightings of GM and Ford. GM, in a reasonably good year, would build 7.7 million vehicles, Ford might produce 2.4 million vehicles, and Tesla, somewhat more than 400,000.

Thus, the question of the meaning of the term diversification arises. Diversification of the S&P 500 index is meant to reflect the U.S. economy, but the fact that the S&P 500 does not do so is plain to see. If diversification is based upon market capitalization, then diversification is effectively based upon valuation. The conclusion would logically follow that the index would have a bias in favor of higher valuation.

Valuation is not the only bias within a national stock market. Most large firms have become global multinational companies, regardless of their nation of origin. If the country of incorporation is a small one, then that country is probably financially irrelevant to a global multinational firm. The obvious example of this phenomenon is Switzerland. The large index members of the iShares MSCI Switzerland ETF (EWL) are surely not Swiss with respect to the geographic diversification of their businesses. The following table lists the ten largest positions in that index.

Table 4: iShares MSCI Switzerland ETF (EWL) Ten Largest Positions

Ticker	Name	Weighting
NESN	Nestlé SA	21.07%
ROG	Roche Holding PAR AG	12.90%
NOVN	Novartis AG	9.73%
ZURN	Zurich Insurance Group AG	3.87%
ABBN	ABB Ltd.	3.70%
LONN	Lonza Group AG	3.56%
UBSG	UBS Group AG	3.47%
GIVN	Givaudan SA	3.04%
SIKA	SIKA AG	2.88%
CFR	Compagnie Financiere Richemont SA	2.82%
Total:		*67.04%*

Source: iShares

In 2019, Switzerland accounted for 1.26% of Nestle's sales. For Roche, 1.94% of sales were attributed to Switzerland. The fact that these firms cannot possibly achieve an acceptable level of growth for their investors by confining their business activities to Switzerland should be apparent. For many years, Nestlé, Roche, and Novartis expanded outside of Switzerland. These three firms collectively represent 43.7% of the MSCI Switzerland index, which is still considered to be a diversified index. MSCI Switzerland is an index that cannot possibly be a successful investment without the success of Nestlé, Roche and Novartis.

The historical return of MSCI Switzerland, since inception on March 12, 1996, is 7.18% annually. Is this an acceptable return, with that level of concentration? The difficulty with weightings based on market capitalization is that eventually some company within the index will either become the best performing investment or, alternatively, achieve enormous size by raising capital via share issuance. There exists no objective limiting principle to reestablish diversification other than placing an arbitrary limit on the size of position. Most index providers would not allow a single position to become 25% or more of an index. Another reasonably popular limiting principle is to restrict the number of 5% positions to about 50% of the portfolio. All indexes, nevertheless, seem to have accumulated statistically irrelevant smaller holdings.

MSCI Switzerland has only 39 positions, therefore, concentration might be inevitable. The smallest position in the index is Banque Cantonale Vaudoise, with a 44-basis point weighting.

An alternative approach, if one wants to invest in Switzerland itself on a diversified basis, might be to purchase Swiss real estate companies, on the theory that the real estate is, after all, located in Switzerland. Valuations of those companies must, therefore, reflect conditions in that country.

There are four primary publicly traded real estate companies in Switzerland: Swiss Prime Site, PSP Swiss Property, Allreal Holding and Mobimo Holding.

Table 5: Four Primary Traded Real Estate Companies in Switzerland

Ticker	Names	Market Capitalization (CHF in billions)
SPSN	Swiss Prime Site AG	6.05
PSPN	PSP Swiss Property AG	5.15
ALLN	Allreal Holding AG	3.12
MOBN	Mobimo Holding AG	1.75

Source: Bloomberg

Of these four, only Swiss Prime Site, with a 74-basis point weighting, qualifies for inclusion in the MSCI Switzerland index. One could argue that these four real estate firms have collectively become a more representative and diversified Swiss market index than MSCI Switzerland, by virtue of the total number of properties they hold and of their diversification by geography and property type.

The following table lists the number of properties held by the four primary Swiss real estate companies.

Table 6: Holdings of Four Swiss Public Real Estate Cos.

Ticker	Names	Number of Buildings
SPSN	Swiss Prime Site AG	187
PSPN	PSP Swiss Property AG	160
ALLN	Allreal Holding AG	64
MOBN	Mobimo Holding AG	138
Total:		*549*

Source: Company filings

This table raises a profound question about the nature of indexation. If one wishes to invest in the nation of Switzerland, is this best achieved by building a concentrated portfolio of giant multinational firms that have proportionately little business activity in Switzerland? Or, alternatively, can one devise a weighting system among the four publicly traded Swiss real estate firms that have their entire investment located within Switzerland? The fact should be obvious that a portfolio of Swiss real estate firms is a superior means of investing in Switzerland.

The limiting factor is that if specific Swiss diversification is to be achieved in this manner, this diversification is not scalable. The aggregate market capitalization of these four Swiss real estate companies is only 16.07 billion CHF. Nestle, alone, has a market cap of 300 billion CHF. Mass-scale indexation must necessarily be global multinational investing, because only global-scale firms have sufficient equity liquidity to support indexation at the trillion-dollar level.

Concentrated—not diversified—investing can be rewarding during a period of declining interest rates and increasing globalization. If these economic variables are not dominant in the future, an entirely different form of indexation will probably take their place.

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