



## Impact of patterns on the US equity Markets.



Just as the seasons follow a continuous cycle, the markets also have their own rhythm. To take advantage of this, we must know how to pinpoint the hidden, recurring patterns that give us a major insight into the possible different ways in future to capitalise on the likelihood that events will occur.

We have therefore observed major patterns without seeking to ascertain, in this study, whether there could be a rational economic explanation behind this market behaviour.

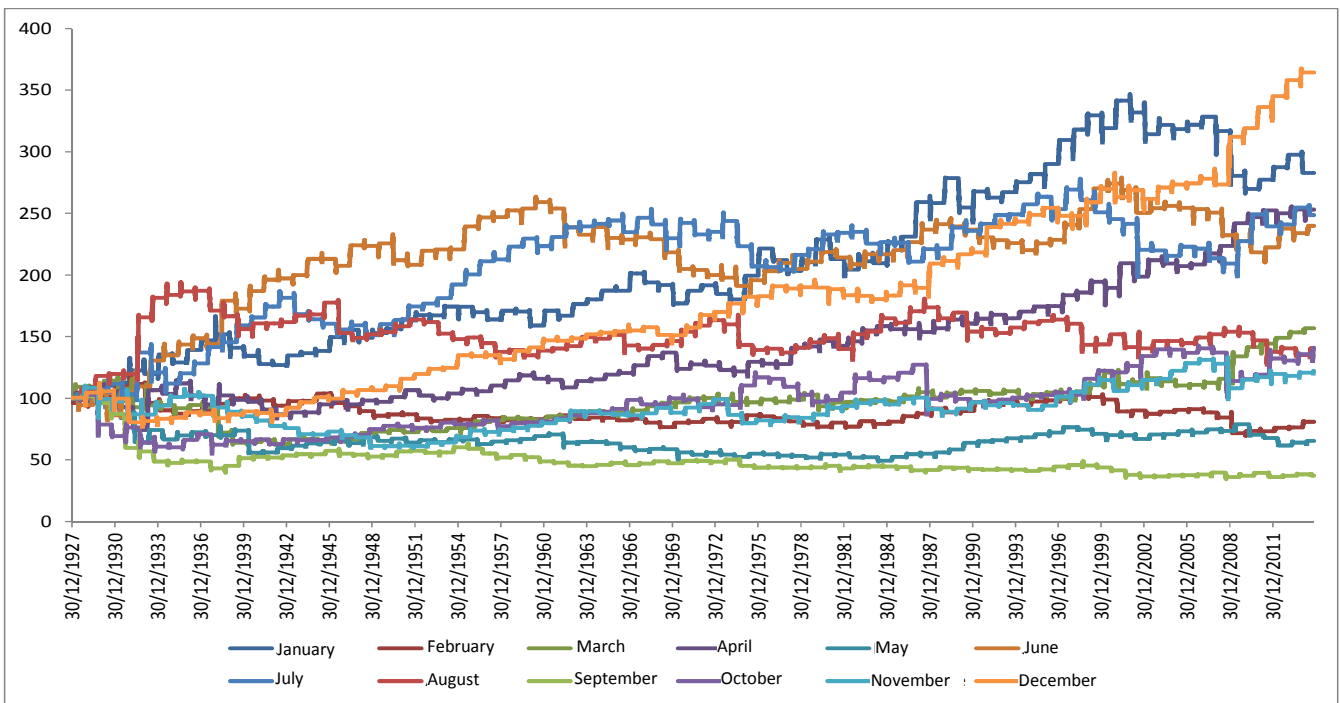
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The various patterns under analysis are linked to the seasons, quarters, presidential election years (post-election, midterm, pre-election, election) and political parties. We will also see how the month of January can be a good proxy for predicting the year ahead.

## US indices and seasons

The idea here is knowing which month of the year is the most profitable across US indices. To do this, we used the data of the SP500 (Bloomberg code SPX) from 30 December 1927 to 17 November 2014. For January, a long position was taken on the first day of the month and resold on the last day of the month. This operation was carried out every year for the month of January and the performance is cumulative since 1927. This operation was carried out for all the other months of the year. We can therefore compare the cumulative return of each month since 1927 for the SP500.

Cumulative performance of the SP500 by month



January	February	March	April	May	June	July	August	September	October	November	December
182.89%	-19.12%	56.69%	153.04%	-34.68%	139.90%	148.64%	40.42%	-62.85%	40.84%	22.14%	264.37%

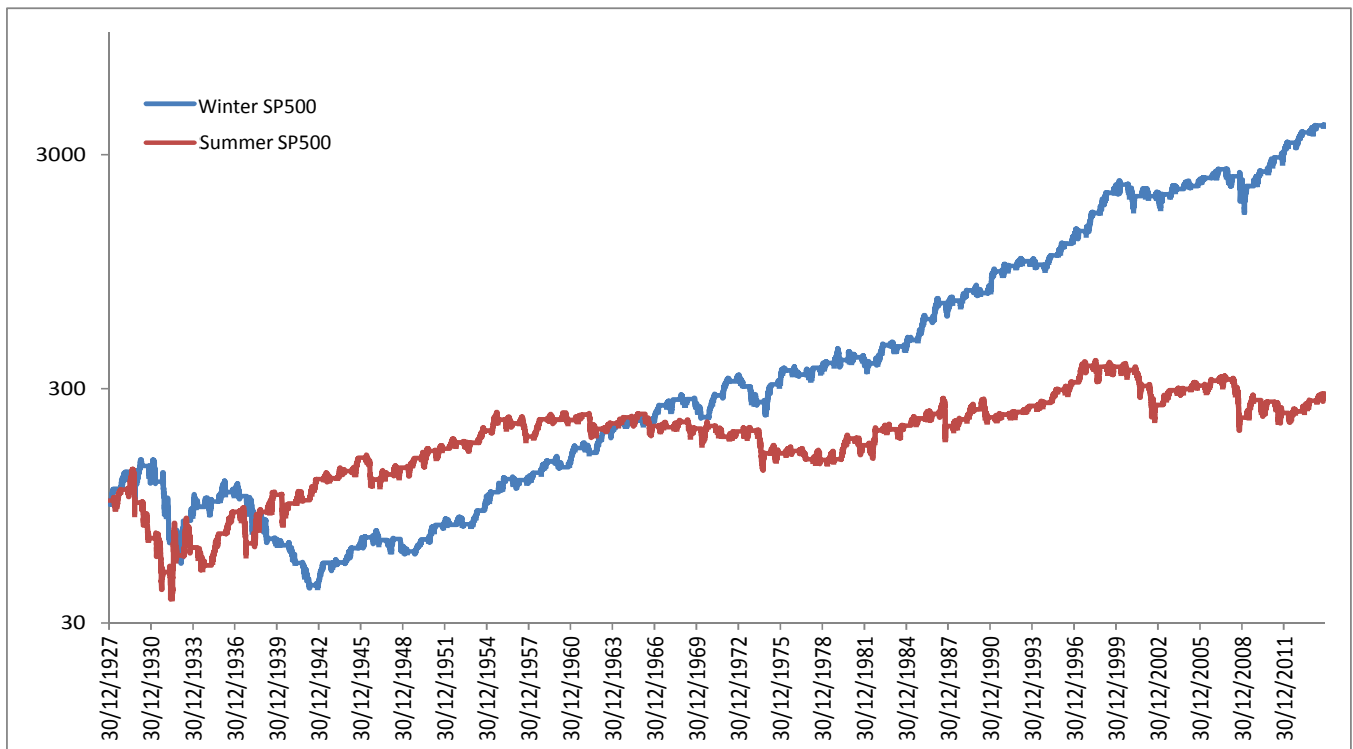
Source Seven Capital

Graph 1

Based on this study, we noticed that December was always very good (month of the great “year-end rally”, +264% over the period), while January is also very positive (+183%), but not as regular. Despite the insight gained, October is a positive month that frequently indicates a market low (so a good entry point to buy, +40.84%); historically, September is the most unpropitious month (-63% over the period). May is also a very poor month (-35% over the period).

The graph below compares the “winter” SP500 (November to April) and the “summer” SP500 (May to October) to observe whether there is a pattern depending on the season. The scale is logarithmic. For the “winter” SP500, we are long on the SP500 index from 1 November to 30 April and do not have a position for the rest of the year. For the “summer” SP500, we are long on the SP500 from May to October and do not have a position for the rest of the year. Brokerage fees and slippage are not taken into account. The data relate to the period from 30 December 1927 to 17 November 2014.

Cumulative performance of the “winter” SP500 and “summer” SP500



Source Seven Capital

Graph 2

	“winter” SP500	“summer” SP500
Overall return	3,937.44%	186.30%
Annualised return	4.35%	1.22%
Annualised volatility	12.27%	14.24%
Sharpe ratio	0.41%	0.16%

Source Seven Capital

Figure 1

According to the results, it is preferable to invest in the “winter” SP500, which had an overall return of 3,937% over the period, compared with 186% for the “summer” SP500.

This gives an annualised return of 4.35% versus 1.22%, also with lower volatility: 12.27% versus 14.24%. The Sharpe ratio of the “winter” SP500 is therefore nearly three times greater than that of the “summer” SP500: 0.41 versus 0.16.

## US indices and presidential election years

The US electoral cycle has a real impact on the markets. This four-year cycle comprises:

1. post-election: the year following the election for the President of the United States
2. midterm: the mid-point of the President's term
3. pre-election: the year before the presidential elections
4. election: the electoral year

Performance of the Dow Jones from 1921 to 2013 in the electoral cycle

Year	President	Party	Post-election	Midterm	Pre-election	Election
1921	Warren G. Harding	Republican	12.30%	21.50%	-2.70%	26.16%
1925	J. Calvin Coolidge	Republican	30.00%	0.34%	27.67%	49.48%
1929	Herbert C. Hoover	Republican	-17.17%	-33.77%	-52.67%	-22.64%
1933	Franklin D. Roosevelt	Democrat	63.74%	5.44%	<b>38.53%</b>	24.82%
1937	Franklin D. Roosevelt	Democrat	-32.82%	27.73%	-2.83%	-12.57%
1941	Franklin D. Roosevelt	Democrat	-15.38%	7.61%	<b>13.81%</b>	11.80%
1945	Harry S. Truman	Democrat	26.97%	-8.14%	<b>2.23%</b>	-2.13%
1949	Harry S. Truman	Democrat	13.10%	17.39%	<b>14.37%</b>	8.42%
1953	Dwight D. Eisenhower	Republican	-3.77%	43.96%	<b>20.78%</b>	2.27%
1957	Dwight D. Eisenhower	Republican	-12.77%	33.96%	<b>16.40%</b>	-9.34%
1961	John F. Kennedy	Democrat	18.71%	-10.81%	<b>17.00%</b>	14.57%
1965	Lyndon B. Johnson	Democrat	10.88%	-18.94%	<b>15.20%</b>	4.27%
1969	Richard M. Nixon	Republican	-15.19%	4.82%	<b>6.11%</b>	14.58%
1973	Richard M. Nixon	Republican	-16.58%	-27.57%	<b>38.32%</b>	17.86%
1977	Jimmy Carter	Democrat	-17.27%	-3.15%	<b>4.19%</b>	14.93%
1981	Ronald W. Reagan	Republican	-9.23%	19.60%	<b>20.27%</b>	-3.74%
1985	Ronald W. Reagan	Republican	27.66%	22.58%	<b>2.26%</b>	11.85%
1989	George H. W. Bush	Republican	26.96%	-4.34%	<b>20.32%</b>	4.17%
1993	Bill Clinton	Democrat	13.72%	2.14%	<b>33.45%</b>	26.01%
1997	Bill Clinton	Democrat	22.64%	16.10%	<b>25.22%</b>	-6.18%
2001	George W. Bush	Republican	-7.10%	-16.76%	<b>25.32%</b>	3.15%
2005	George W. Bush	Republican	-0.61%	16.29%	<b>6.43%</b>	-33.84%
2009	Barack Obama	Democrat	18.82%	11.02%	<b>5.53%</b>	7.26%
2013	Barack Obama	Democrat	26.50%			
<b>Average</b>			<b>5.98%</b>	<b>5.52%</b>	<b>12.84%</b>	<b>6.57%</b>

Source Seven Capital

Figure 2

We can see that the pre-election year (in the case of 2015) largely outperforms the other years with an average performance of 12.84%, despite the crash of 1929 with a fall of 52.67%. Since 1933, the pre-election years have always been positive, except for one year at -2.83%.

	Post-election	Midterm	Pre-election	Election
DowJones	6.84%	5.52%	<b>12.84%</b>	6.57%
SP500	5.13%	4.49%	<b>13.46%</b>	7.00%
Nasdaq100	16.39%	10.25%	<b>41.50%</b>	1.92%

Source Seven Capital

Figure 3

The result is similar for the SP500 and the Nasdaq100, with performances outstripping the pre-election years.

In figure 4, we will study the impact of each quarter in the presidential cycle

Average performance by US index and by quarter depending on the presidential cycle

		Q1	Q2	Q3	Q4
<b>Dow Jones</b>	Post-election	-0.43%	4.67%	0.89%	1.57%
	Midterm	0.70%	0.10%	-0.80%	<b>5.70%</b>
	Pre-election	<b>5.59%</b>	3.62%	1.39%	1.54%
	Election	0.78%	-1.16%	4.56%	2.98%
<b>SP500</b>	Post-election	-0.89%	5.67%	0.54%	0.16%
	Midterm	0.80%	-1.41%	-1.04%	<b>6.47%</b>
	Pre-election	<b>5.65%</b>	4.74%	0.51%	2.07%
	Election	1.44%	-0.53%	5.15%	1.84%
<b>Nasdaq100</b>	Post-election	-4.54%	9.48%	2.30%	8.79%
	Midterm	4.01%	-3.09%	-4.60%	<b>12.95%</b>
	Pre-election	<b>14.12%</b>	7.65%	6.27%	8.91%
	Election	5.34%	0.36%	-1.49%	-3.34%

Source Seven Capital

Figure 4

As we observed in figure 1, the “winter” SP500, which is close to a Q4Q1 SP500 (fourth quarter and following first quarter) outperforms the other quarters. This applies even more when it’s a Q4 midterm and a Q1 pre-election.

We can explore this further by looking at the impact of political parties depending on the years of the presidential cycle.

For the Dow Jones, the data cover 1921 to 2013, for the SP500 the data cover 1927 to 2013, and for the Nasdaq100 the data cover 1985 to 2013.

Average performance of US indices depending on the political party in office

	Dow Jones	SP500	Nasdaq100
<b>Republicans</b>	<b>6.17%</b>	<b>4.42%</b>	<b>9.28%</b>
<b>Democrats</b>	<b>9.89%</b>	<b>10.41%</b>	<b>28.49%</b>

Source Seven Capital

Figure 5

Regardless of the indices, we see a much better performance when the Democrats are in power. We will therefore check whether the pre-election years also tend to outperform when the Democrats are in power (figure 6).

Average performance of US indices depending on the political party in office and the electoral cycle

	Dow Jones	SP500	Nasdaq100
<b>Post-election year if Republican</b>	<b>2.56%</b>	<b>-0.39%</b>	<b>12.13%</b>
<b>Post-election year if Democrat</b>	<b>11.89%</b>	<b>10.65%</b>	<b>22.07%</b>
<b>Midterm year if Republican</b>	<b>6.72%</b>	<b>3.81%</b>	<b>-8.58%</b>
<b>Midterm year if Democrat</b>	<b>4.22%</b>	<b>5.10%</b>	<b>35.34%</b>
<b>Pre-election year if Republican</b>	<b>10.71%</b>	<b>10.57%</b>	<b>35.82%</b>
<b>Pre-election year if Democrat</b>	<b>15.15%</b>	<b>16.08%</b>	<b>49.06%</b>
<b>Election year if Republican</b>	<b>5.00%</b>	<b>4.21%</b>	<b>-2.26%</b>
<b>Election year if Democrat</b>	<b>8.29%</b>	<b>9.79%</b>	<b>7.50%</b>

Source Seven Capital

Figure 6

Regardless of the electoral cycle, the performance is always better when a Democrat president is running the country. The sole exception is for the midterm on the Dow Jones where, historically, the average performance is better when there is a Republican president.

## US indices and fifth year of the decade

It is also worthwhile looking at whether there is a certain recurrence depending on the years in a decade. For the Dow Jones, the data cover 1921 to 2013, for the SP500 the data cover 1927 to 2013, and for the Nasdaq100 the data cover 1985 to 2013.

Performance of US indices depending on the year in the decade

Year	Performance			Upward %		
	Dow Jones	SP500	Nasdaq100	Dow Jones	SP500	Nasdaq100
0	<b>-2.00%</b>	<b>-0.32%</b>	<b>-9.35%</b>	<b>44.44%</b>	<b>77.78%</b>	<b>33.33%</b>
1	-0.70%	-1.24%	11.68%	60.00%	44.44%	66.67%
2	3.29%	2.50%	-3.97%	70.00%	66.67%	66.67%
3	15.73%	15.41%	31.56%	70.00%	77.78%	100.00%
4	8.44%	5.78%	5.97%	77.78%	62.50%	100.00%
5	<b>25.11%</b>	<b>25.32%</b>	<b>22.01%</b>	<b>88.89%</b>	<b>100.00%</b>	<b>100.00%</b>
6	9.23%	9.15%	18.74%	77.78%	75.00%	100.00%
7	1.51%	-0.97%	16.60%	66.67%	62.50%	100.00%
8	11.59%	12.13%	18.99%	66.67%	77.78%	66.67%
9	7.72%	8.11%	60.55%	66.67%	66.67%	100.00%

Source Seven Capital

Figure 7

We note that years ending in 5 are fairly positive with an average performance of 25.11% for the Dow Jones, 25.32% for the SP500 and 22.01% for the Nasdaq100.

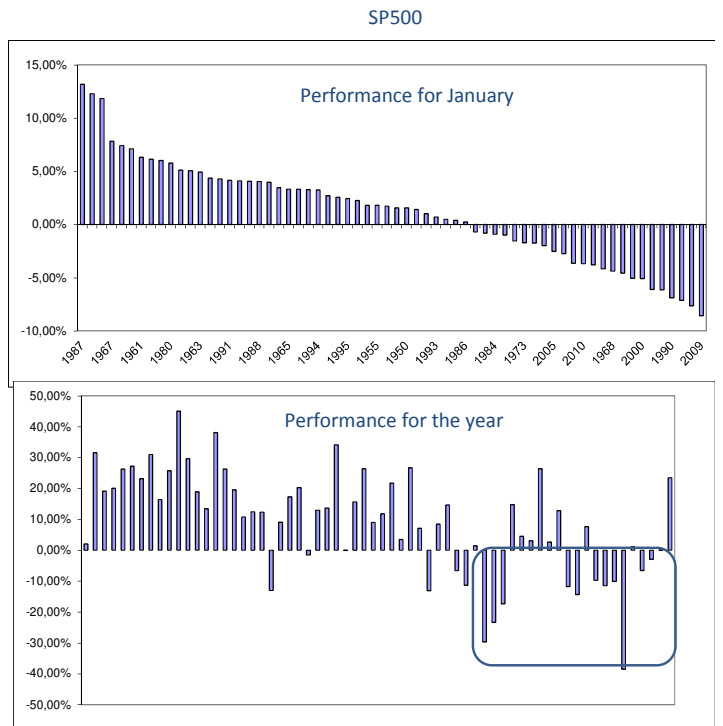
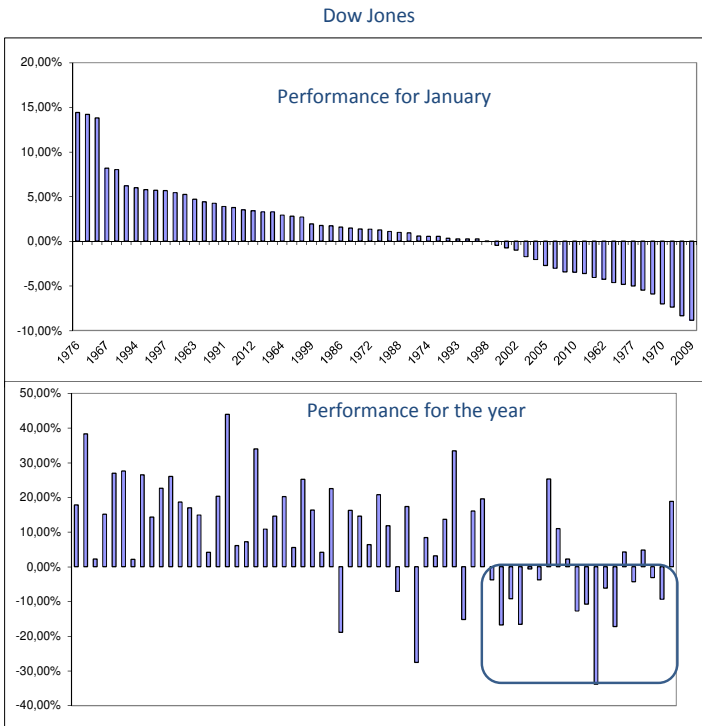
In addition, a year ending in 5 is positive in 88.89% of cases for the Dow Jones and in 100% of cases for the SP500 and Nasdaq100.

Years ending in 0 are fairly poor with an average performance of -2% for the Dow Jones, -0.32% for the SP500 and -9.35% for the Nasdaq100.

This result is therefore promising for a positive performance for 2015.

## Impact of the month of January on annual performance

We will now see how January's performance is a good indicator of the upcoming performance over the year.



Source Seven Capital

Figure 8

Source Seven Capital

Figure 9

For the Dow Jones and the SP500, we can see that if January posts a positive performance, there is a significant probability that the market will post a positive annual performance; conversely, if January were to post a negative performance, the year would tend to be negative.



## US equity pattern *January 2015*

### Conclusion

Based on this study, we see therefore that US indices regularly follow certain patterns.

The performance for December is good, which is equivalent to the year-end rally.

The “winter” SP500 outperforms the “summer” SP500.

The pre-election years in the US electoral cycle are the most profitable, which is especially true if a Democrat president is in power.

Years ending in 5 are also very good years.

Lastly, if January is positive, this bodes well for a good year.

Based on these statistics, 2015 should therefore be favourable for the US equity markets as we are in a pre-election year ending in 5, with a Democrat president.

US indices could therefore appreciate by between 10% and 15% on average. This performance may therefore be improved by adjusting allocation according to the months and/or seasons.

Despite all this, we should remain cautious as a “black swan event” can always emerge; although these patterns give a significant statistical advantage over the long term, we should retain drastic risk management in terms of diversification and capital protection in order to avoid any accidents. In fact, a low and/or rare probability event may have a devastating impact if it materialises. We must therefore always manage the risks of such an event despite the statistical advantages discovered.