

Negative Outlier prediction

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These are the results considering today's negative outlier condition (TRUE or FALSE), and having a look at a n-day ahead window, for each ticker (40 of them) and the whole available time series.

Calculations and plots

We apply the same methodology, first considering only one day ahead, then to a sequence of multiple days ahead window, ranging from 1 to 10 days. The outcome is the increase in 1-day probability of outlier, if today is an outlier.

One day ahead

Standard summary (probability increase w/r to today's condition

\$`FALSE`

##	Min.	1st Qu.	Median	Mean	3rd Qu.	Max.
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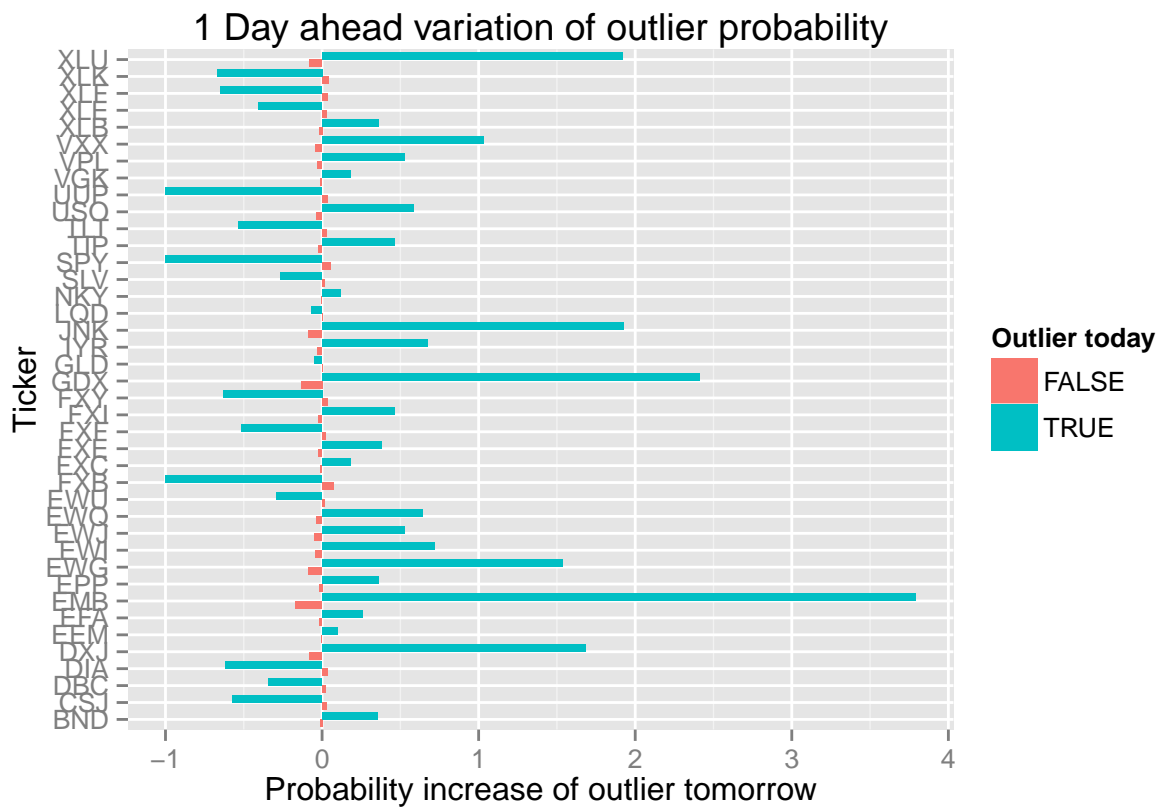
##	-0.1680	-0.0340	-0.0116	-0.0147	0.0252	0.0706
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##

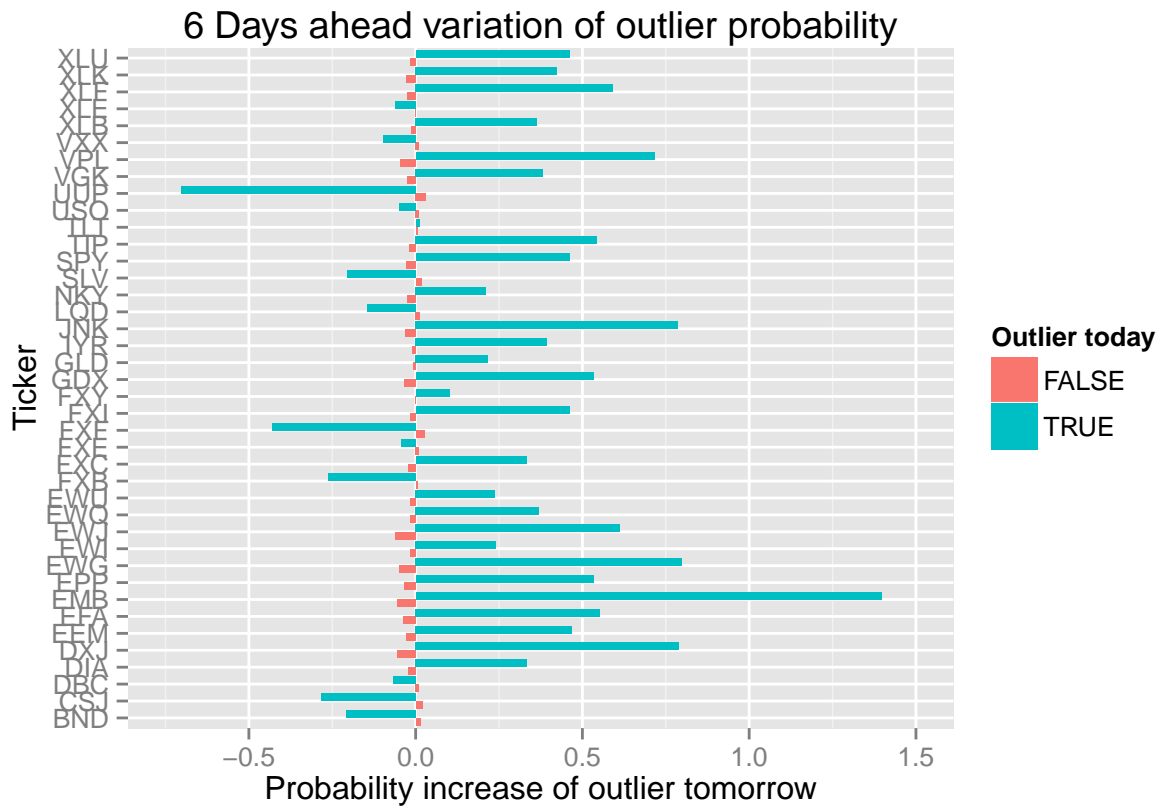
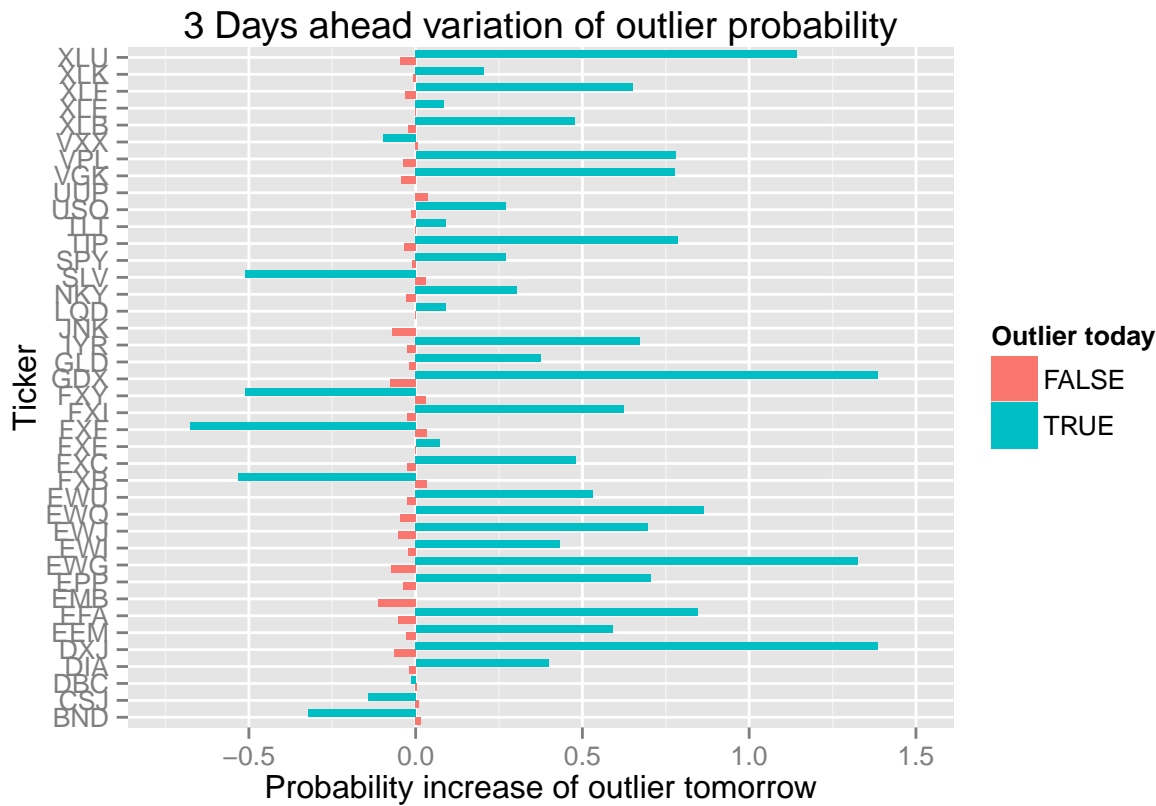
\$`TRUE`

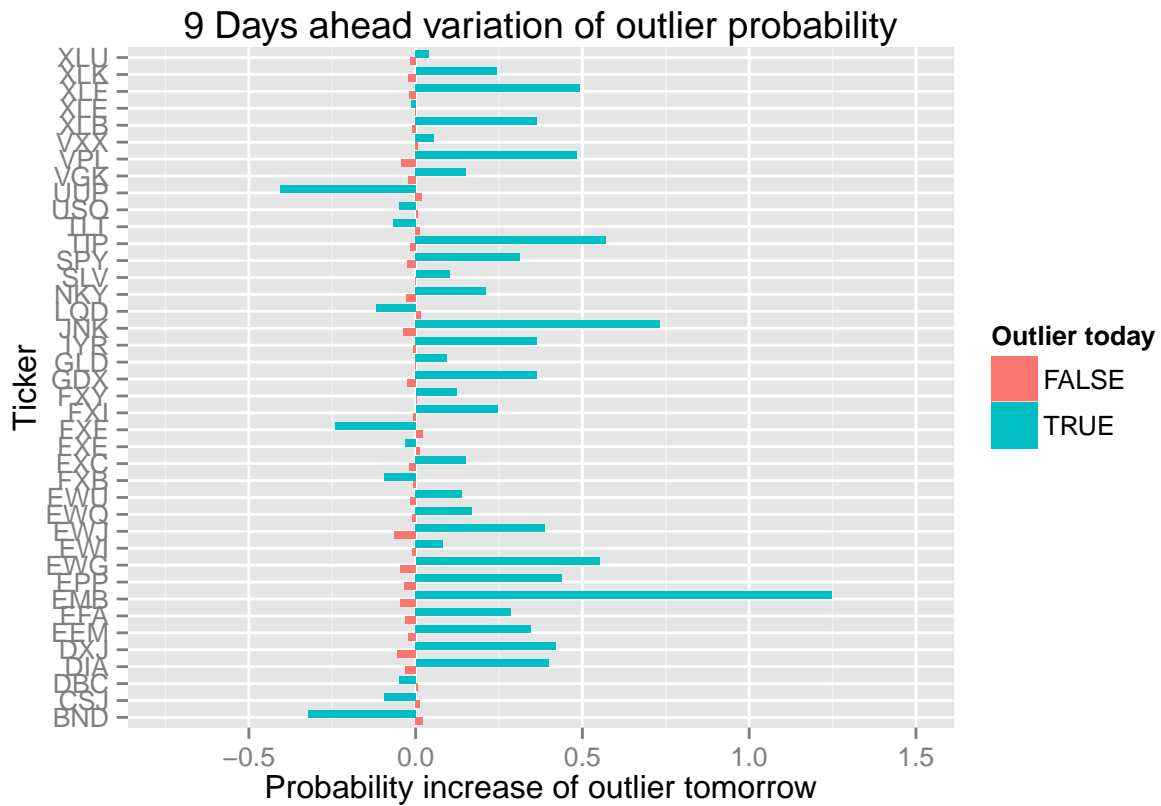
##	Min.	1st Qu.	Median	Mean	3rd Qu.	Max.
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##	-1.000	-0.434	0.222	0.315	0.601	3.790
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Multiple days ahead





Summary

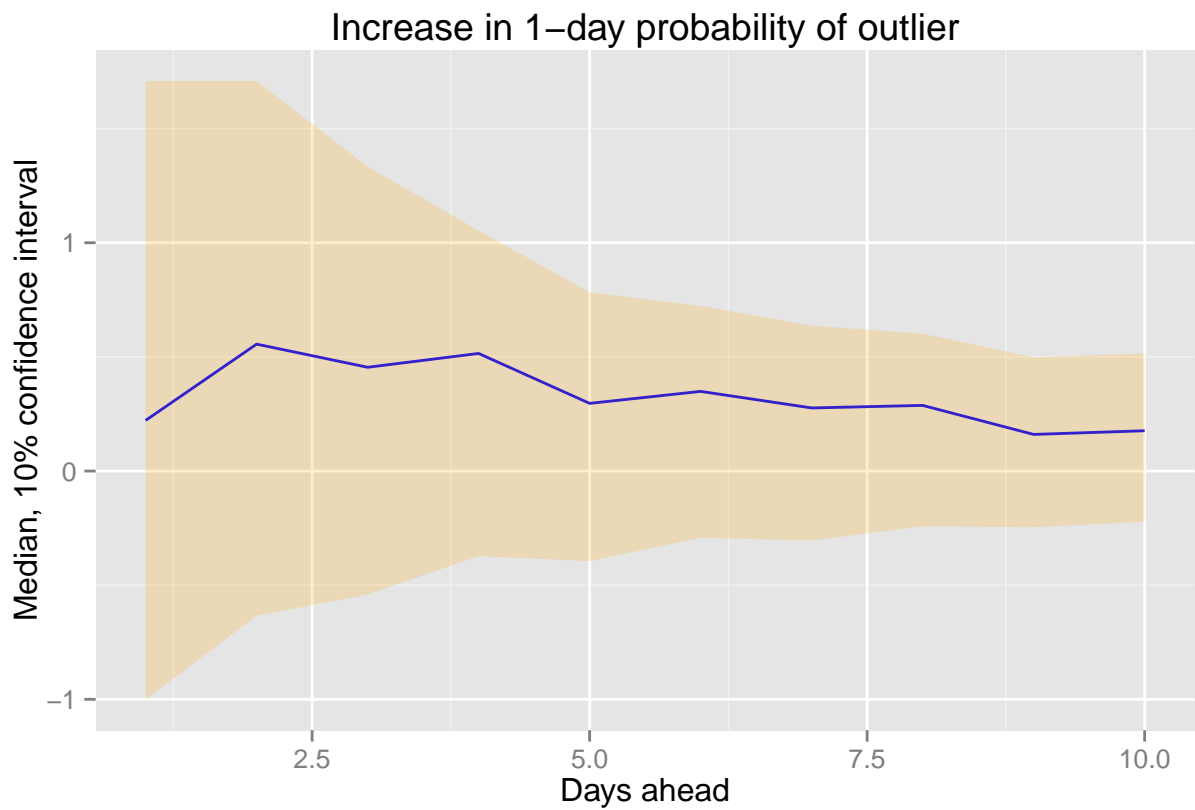
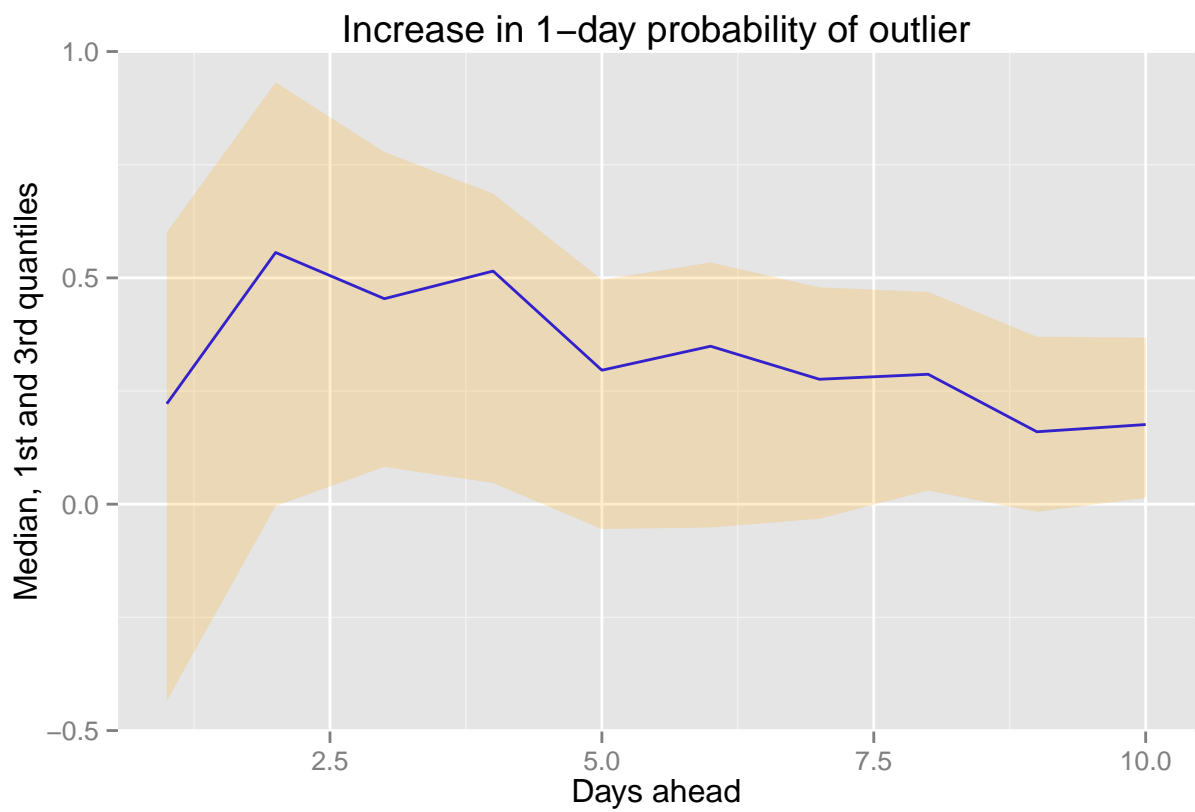
Here we can see the summary of result for different days ahead prediction. It can be shown that typically there is an increase in probability of outlier (although the variability is high), but this probability fades progressively if we increase the time window. The increase in probability is higher than in the general outlier case (positive and negative), and there is a trend to have bigger probability increase in a 2 days ahead window than a 1 day ahead window.

Standard Summary

##	Min	Q1	Median	Mean	Q3	Max	days_ahead
## 1	-1.000	-0.43400	0.222	0.315	0.601	3.79	1
## 2	-1.000	-0.00406	0.556	0.558	0.932	2.73	2
## 3	-1.000	0.08240	0.454	0.441	0.778	2.55	3
## 4	-0.777	0.04680	0.515	0.411	0.686	2.06	4
## 5	-0.822	-0.05490	0.296	0.268	0.496	1.77	5
## 6	-0.703	-0.05150	0.349	0.269	0.534	1.40	6
## 7	-0.618	-0.03210	0.276	0.246	0.479	1.21	7
## 8	-0.443	0.03030	0.287	0.264	0.469	1.20	8
## 9	-0.405	-0.01710	0.160	0.202	0.370	1.25	9
## 10	-0.376	0.01420	0.176	0.208	0.368	1.24	10

Summary of quantiles

##	Q0.05	Q0.25	Q0.5	Q0.75	Q0.9	days_ahead
## 1	-1.0000	-0.433921	0.2216	0.6009	1.7086	1
## 2	-0.6338	-0.004063	0.5559	0.9318	1.7086	2
## 3	-0.5408	0.082444	0.4544	0.7776	1.3329	3
## 4	-0.3726	0.046759	0.5150	0.6861	1.0530	4
## 5	-0.3949	-0.054901	0.2964	0.4956	0.7830	5
## 6	-0.2917	-0.051536	0.3489	0.5337	0.7229	6
## 7	-0.3049	-0.032133	0.2763	0.4791	0.6369	7
## 8	-0.2421	0.030334	0.2874	0.4691	0.6016	8
## 9	-0.2461	-0.017120	0.1604	0.3696	0.4987	9
## 10	-0.2221	0.014228	0.1765	0.3681	0.5149	10



This heatmap shows the detail about the particular trend of every ticker. There's a particular group of tickers with stronger increase of outlier probability, whereas there are a few tickers with a decrease trend in its outlier probability following an outlier day.

