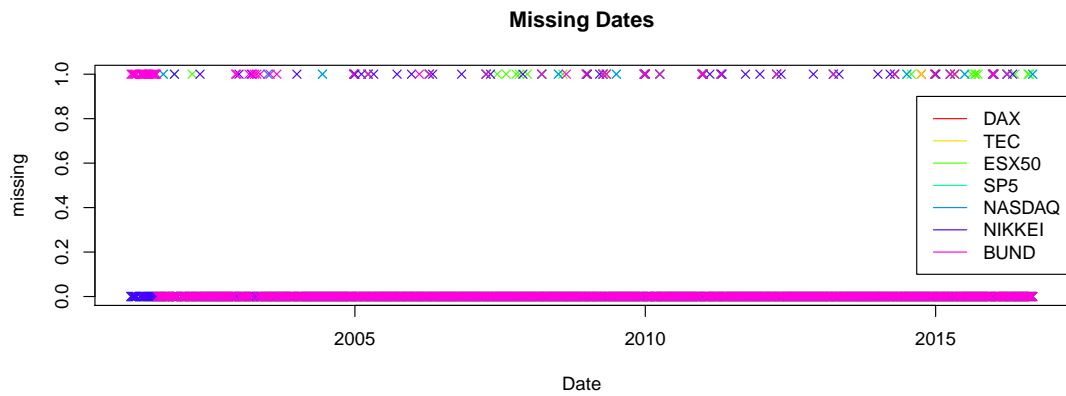
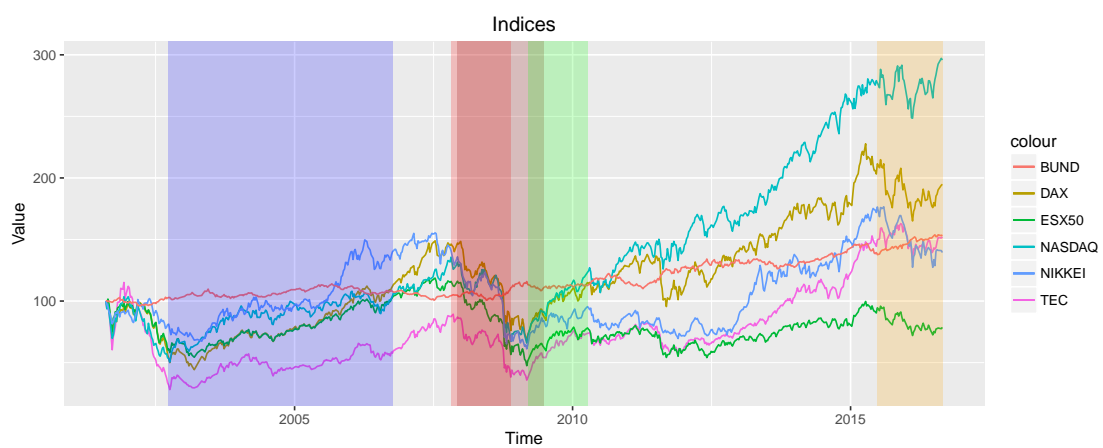


1 Data Import Preparation



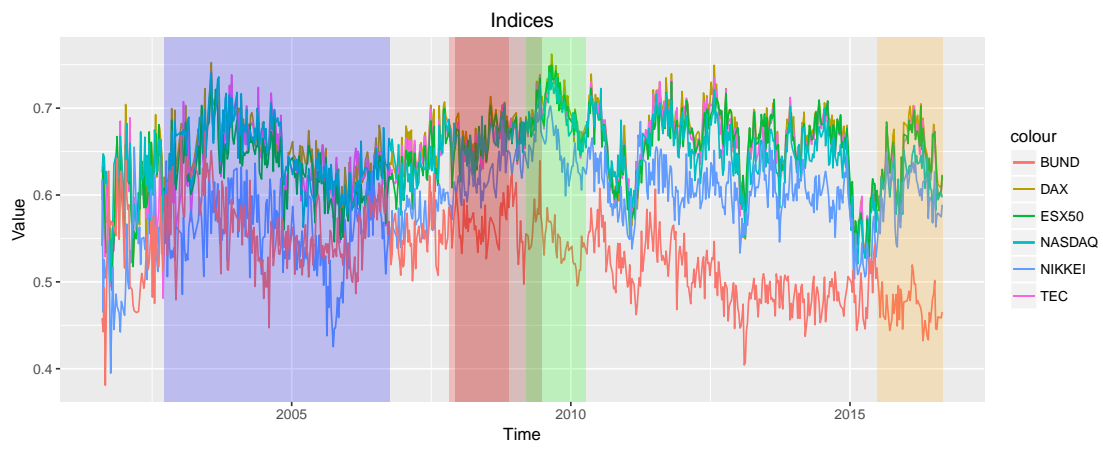
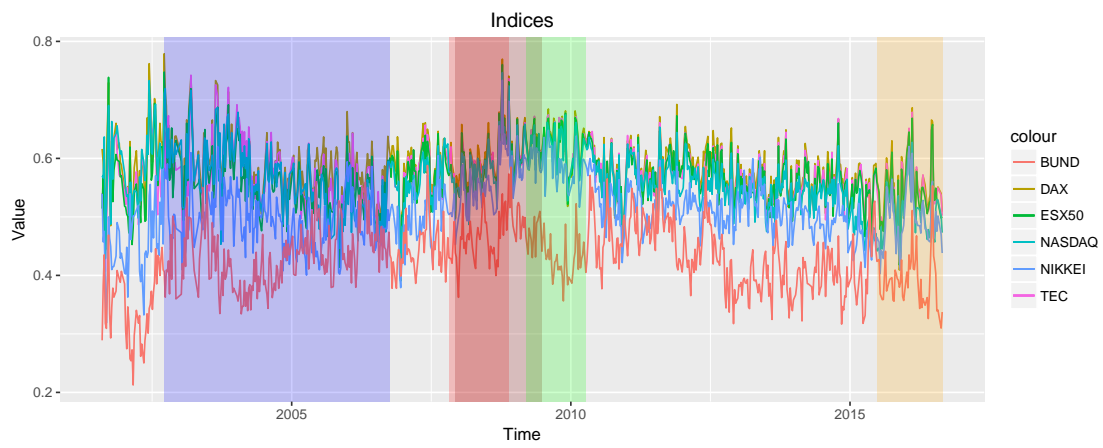
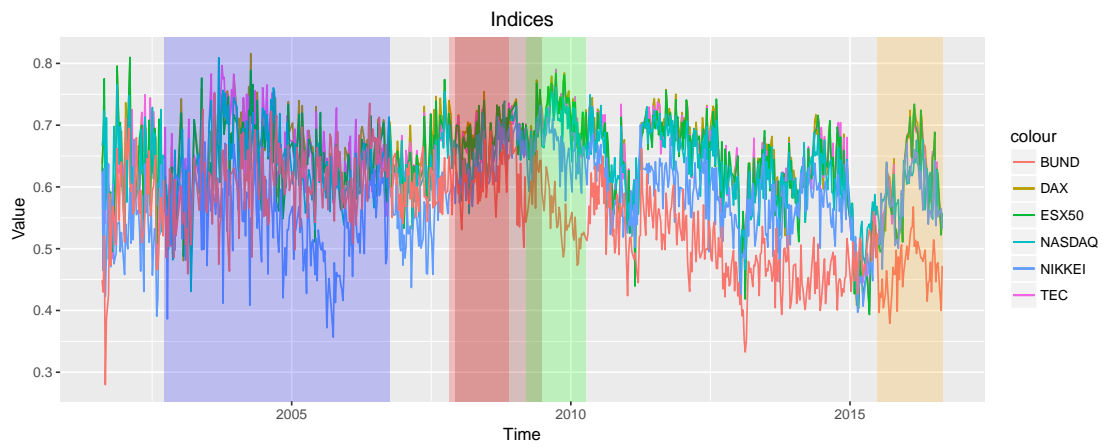
2 Data Visualization



2 Data Visualization

2.0.1 Dispersion





2 Data Visualization

2.0.2 Herfindahl





3 Analysis

3.0.1 Dispersion

P1

| | Row | Lag 0 | V1 | Lag 2 | V1 | Lag 4 | V1 |
|----|-----|--------|--------|--------|--------|--------|--------|
| 1 | 1 | DAX | 0.018 | DAX | -0.005 | DAX | -0.002 |
| 2 | | TEC | 0 | TEC | -0.01 | TEC | -0.01 |
| 3 | | ESX50 | 0.012 | ESX50 | -0.009 | ESX50 | -0.009 |
| 4 | | SP5 | 0.001 | SP5 | -0.005 | SP5 | -0.002 |
| 5 | | NASDAQ | 0.002 | NASDAQ | -0.005 | NASDAQ | -0.002 |
| 6 | | NIKKEI | 0.005 | NIKKEI | -0.008 | NIKKEI | -0.009 |
| 7 | | BUND | 0 | BUND | -0.002 | BUND | -0.002 |
| 8 | | | | | | | |
| 9 | 3 | DAX | 0.007 | DAX | -0.007 | DAX | -0.002 |
| 10 | | TEC | -0.031 | TEC | -0.021 | TEC | -0.001 |
| 11 | | ESX50 | 0.001 | ESX50 | -0.023 | ESX50 | -0.001 |
| 12 | | SP5 | -0.01 | SP5 | -0.005 | SP5 | -0.001 |
| 13 | | NASDAQ | -0.002 | NASDAQ | -0.007 | NASDAQ | 0 |
| 14 | | NIKKEI | -0.002 | NIKKEI | -0.007 | NIKKEI | -0.007 |
| 15 | | BUND | -0.002 | BUND | -0.004 | BUND | -0.005 |
| 16 | | | | | | | |
| 17 | 6 | DAX | 0.001 | DAX | 0 | DAX | 0.011 |
| 18 | | TEC | -0.034 | TEC | 0.006 | TEC | 0.026 |
| 19 | | ESX50 | -0.01 | ESX50 | -0.009 | ESX50 | 0 |
| 20 | | SP5 | -0.01 | SP5 | 0.002 | SP5 | -0.002 |
| 21 | | NASDAQ | 0 | NASDAQ | 0.004 | NASDAQ | 0.004 |
| 22 | | NIKKEI | 0 | NIKKEI | 0.002 | NIKKEI | 0 |
| 23 | | BUND | -0.006 | BUND | -0.008 | BUND | -0.006 |
| 24 | | | | | | | |

P6

| | Row | Lag 0 | V1 | Lag 2 | V1 | Lag 4 | V1 |
|----|-----|--------|--------|--------|--------|--------|--------|
| 1 | 1 | DAX | 0.001 | DAX | -0.002 | DAX | 0.005 |
| 2 | | TEC | -0.002 | TEC | -0.003 | TEC | -0.009 |
| 3 | | ESX50 | -0.004 | ESX50 | -0.003 | ESX50 | 0.005 |
| 4 | | SP5 | -0.001 | SP5 | -0.006 | SP5 | -0.002 |
| 5 | | NASDAQ | -0.003 | NASDAQ | -0.003 | NASDAQ | -0.005 |
| 6 | | NIKKEI | 0.014 | NIKKEI | 0 | NIKKEI | 0.005 |
| 7 | | BUND | 0.001 | BUND | 0.001 | BUND | 0.001 |
| 8 | | | | | | | |
| 9 | 3 | DAX | 0 | DAX | 0.004 | DAX | 0.002 |
| 10 | | TEC | -0.008 | TEC | -0.021 | TEC | 0 |
| 11 | | ESX50 | -0.012 | ESX50 | -0.001 | ESX50 | 0.004 |
| 12 | | SP5 | -0.016 | SP5 | -0.016 | SP5 | -0.01 |
| 13 | | NASDAQ | -0.013 | NASDAQ | -0.022 | NASDAQ | -0.002 |
| 14 | | NIKKEI | 0.02 | NIKKEI | 0.002 | NIKKEI | 0.019 |
| 15 | | BUND | 0.001 | BUND | 0 | BUND | 0.001 |
| 16 | | | | | | | |
| 17 | 6 | DAX | 0 | DAX | 0 | DAX | -0.001 |
| 18 | | TEC | -0.027 | TEC | -0.022 | TEC | -0.007 |
| 19 | | ESX50 | -0.01 | ESX50 | -0.013 | ESX50 | -0.003 |
| 20 | | SP5 | -0.03 | SP5 | -0.03 | SP5 | -0.027 |
| 21 | | NASDAQ | -0.03 | NASDAQ | -0.031 | NASDAQ | -0.024 |
| 22 | | NIKKEI | 0.026 | NIKKEI | 0.016 | NIKKEI | 0.032 |
| 23 | | BUND | 0.001 | BUND | 0.003 | BUND | 0.004 |
| 24 | | | | | | | |

| | Row | Lag 0 | V1 | Lag 2 | V1 | Lag 4 | V1 |
|----|-----|--------|--------|--------|--------|--------|--------|
| 1 | 1 | DAX | 0.034 | DAX | -0.008 | DAX | -0.007 |
| 2 | | TEC | 0.018 | TEC | -0.007 | TEC | -0.019 |
| 3 | | ESX50 | 0.029 | ESX50 | -0.003 | ESX50 | -0.008 |
| 4 | | SP5 | 0.017 | SP5 | -0.003 | SP5 | -0.002 |
| 5 | | NASDAQ | 0.018 | NASDAQ | -0.005 | NASDAQ | -0.006 |
| 6 | | NIKKEI | 0.021 | NIKKEI | -0.003 | NIKKEI | -0.003 |
| 7 | | BUND | -0.001 | BUND | 0 | BUND | 0 |
| 8 | | | | | | | |
| 9 | 3 | DAX | 0.028 | DAX | -0.025 | DAX | -0.004 |
| 10 | | TEC | 0.013 | TEC | -0.028 | TEC | -0.012 |
| 11 | | ESX50 | 0.025 | ESX50 | -0.02 | ESX50 | -0.003 |
| 12 | | SP5 | 0.014 | SP5 | -0.007 | SP5 | -0.008 |
| 13 | | NASDAQ | 0.019 | NASDAQ | -0.027 | NASDAQ | -0.002 |
| 14 | | NIKKEI | 0.022 | NIKKEI | 0 | NIKKEI | -0.003 |
| 15 | | BUND | 0.001 | BUND | 0.001 | BUND | 0 |
| 16 | | | | | | | |
| 17 | 6 | DAX | 0.01 | DAX | -0.009 | DAX | 0.002 |
| 18 | | TEC | -0.008 | TEC | -0.011 | TEC | -0.005 |
| 19 | | ESX50 | 0.003 | ESX50 | -0.012 | ESX50 | -0.006 |
| 20 | | SP5 | 0.002 | SP5 | -0.004 | SP5 | -0.006 |
| 21 | | NASDAQ | -0.002 | NASDAQ | -0.016 | NASDAQ | 0.004 |
| 22 | | NIKKEI | 0.021 | NIKKEI | 0.001 | NIKKEI | -0.011 |
| 23 | | BUND | 0.001 | BUND | 0.002 | BUND | 0.002 |
| 24 | | | | | | | |

| | Row | Lag 0 | V1 | Lag 2 | V1 | Lag 4 | V1 |
|----|-----|--------|--------|--------|--------|--------|--------|
| 1 | 1 | DAX | -0.004 | DAX | 0 | DAX | -0.005 |
| 2 | | TEC | 0.011 | TEC | 0.012 | TEC | 0.005 |
| 3 | | ESX50 | 0 | ESX50 | -0.004 | ESX50 | -0.004 |
| 4 | | SP5 | 0.004 | SP5 | 0.001 | SP5 | 0.001 |
| 5 | | NASDAQ | 0.003 | NASDAQ | 0.003 | NASDAQ | 0.002 |
| 6 | | NIKKEI | 0.019 | NIKKEI | 0.003 | NIKKEI | 0.008 |
| 7 | | BUND | 0.003 | BUND | 0.001 | BUND | 0.001 |
| 8 | | | | | | | |
| 9 | 3 | DAX | 0.008 | DAX | -0.012 | DAX | -0.01 |
| 10 | | TEC | 0.037 | TEC | 0.031 | TEC | 0.013 |
| 11 | | ESX50 | 0 | ESX50 | -0.001 | ESX50 | -0.01 |
| 12 | | SP5 | 0.004 | SP5 | 0.001 | SP5 | 0.008 |
| 13 | | NASDAQ | 0.018 | NASDAQ | 0.011 | NASDAQ | 0.007 |
| 14 | | NIKKEI | 0.031 | NIKKEI | 0.02 | NIKKEI | 0.025 |
| 15 | | BUND | 0.002 | BUND | 0.003 | BUND | 0.005 |
| 16 | | | | | | | |
| 17 | 6 | DAX | -0.012 | DAX | -0.016 | DAX | -0.017 |
| 18 | | TEC | 0.066 | TEC | 0.043 | TEC | 0.015 |
| 19 | | ESX50 | 0.004 | ESX50 | -0.009 | ESX50 | -0.017 |
| 20 | | SP5 | 0.009 | SP5 | 0.003 | SP5 | 0.002 |
| 21 | | NASDAQ | 0.038 | NASDAQ | 0.008 | NASDAQ | 0.002 |
| 22 | | NIKKEI | 0.059 | NIKKEI | 0.045 | NIKKEI | 0.033 |
| 23 | | BUND | 0.006 | BUND | 0.008 | BUND | 0.003 |
| 24 | | | | | | | |

G1

| | Row | Lag 0 | V1 | Lag 2 | V1 | Lag 4 | V1 |
|----|-----|--------|--------|--------|--------|--------|--------|
| 1 | 1 | DAX | 0.027 | DAX | -0.013 | DAX | -0.01 |
| 2 | | TEC | 0.006 | TEC | -0.011 | TEC | -0.019 |
| 3 | | ESX50 | 0.023 | ESX50 | -0.017 | ESX50 | -0.01 |
| 4 | | SP5 | 0.011 | SP5 | -0.007 | SP5 | -0.001 |
| 5 | | NASDAQ | 0.011 | NASDAQ | -0.009 | NASDAQ | -0.004 |
| 6 | | NIKKEI | 0.013 | NIKKEI | -0.003 | NIKKEI | -0.005 |
| 7 | | BUND | 0 | BUND | -0.003 | BUND | 0 |
| 8 | | | | | | | |
| 9 | 3 | DAX | 0.006 | DAX | -0.024 | DAX | -0.005 |
| 10 | | TEC | -0.018 | TEC | -0.028 | TEC | -0.017 |
| 11 | | ESX50 | -0.001 | ESX50 | -0.032 | ESX50 | -0.004 |
| 12 | | SP5 | 0.001 | SP5 | -0.01 | SP5 | -0.01 |
| 13 | | NASDAQ | 0.006 | NASDAQ | -0.014 | NASDAQ | -0.011 |
| 14 | | NIKKEI | 0.008 | NIKKEI | -0.002 | NIKKEI | -0.008 |
| 15 | | BUND | -0.002 | BUND | -0.003 | BUND | -0.003 |
| 16 | | | | | | | |
| 17 | 6 | DAX | -0.004 | DAX | -0.008 | DAX | 0.01 |
| 18 | | TEC | -0.034 | TEC | -0.005 | TEC | 0.015 |
| 19 | | ESX50 | -0.015 | ESX50 | -0.023 | ESX50 | -0.006 |
| 20 | | SP5 | -0.007 | SP5 | -0.014 | SP5 | -0.011 |
| 21 | | NASDAQ | 0.001 | NASDAQ | -0.009 | NASDAQ | -0.005 |
| 22 | | NIKKEI | 0.004 | NIKKEI | -0.004 | NIKKEI | -0.007 |
| 23 | | BUND | -0.004 | BUND | -0.005 | BUND | -0.002 |
| 24 | | | | | | | |

G6

| | Row | Lag 0 | V1 | Lag 2 | V1 | Lag 4 | V1 |
|----|-----|--------|--------|--------|--------|--------|--------|
| 1 | 1 | DAX | 0.001 | DAX | 0.001 | DAX | -0.001 |
| 2 | | TEC | 0.007 | TEC | -0.005 | TEC | -0.006 |
| 3 | | ESX50 | -0.001 | ESX50 | -0.002 | ESX50 | 0.003 |
| 4 | | SP5 | -0.001 | SP5 | -0.004 | SP5 | -0.005 |
| 5 | | NASDAQ | 0.002 | NASDAQ | 0.004 | NASDAQ | -0.001 |
| 6 | | NIKKEI | 0.02 | NIKKEI | 0.002 | NIKKEI | 0.002 |
| 7 | | BUND | 0.001 | BUND | 0.001 | BUND | 0.002 |
| 8 | | | | | | | |
| 9 | 3 | DAX | 0.004 | DAX | 0.004 | DAX | -0.005 |
| 10 | | TEC | 0.003 | TEC | -0.009 | TEC | 0.003 |
| 11 | | ESX50 | -0.005 | ESX50 | 0.007 | ESX50 | 0.004 |
| 12 | | SP5 | -0.009 | SP5 | -0.017 | SP5 | -0.012 |
| 13 | | NASDAQ | 0.002 | NASDAQ | -0.005 | NASDAQ | -0.011 |
| 14 | | NIKKEI | 0.035 | NIKKEI | 0.011 | NIKKEI | 0.016 |
| 15 | | BUND | 0.001 | BUND | 0.002 | BUND | 0.002 |
| 16 | | | | | | | |
| 17 | 6 | DAX | 0.001 | DAX | -0.004 | DAX | -0.016 |
| 18 | | TEC | 0.001 | TEC | -0.004 | TEC | 0.012 |
| 19 | | ESX50 | 0.006 | ESX50 | 0.001 | ESX50 | -0.007 |
| 20 | | SP5 | -0.025 | SP5 | -0.029 | SP5 | -0.029 |
| 21 | | NASDAQ | -0.014 | NASDAQ | -0.021 | NASDAQ | -0.026 |
| 22 | | NIKKEI | 0.051 | NIKKEI | 0.026 | NIKKEI | 0.021 |
| 23 | | BUND | 0.002 | BUND | 0.004 | BUND | 0.005 |
| 24 | | | | | | | |

3.0.2 Herfindahl

P1

| | Row | Lag 0 | V1 | Lag 2 | V1 | Lag 4 | V1 |
|----|-----|--------|--------|--------|--------|--------|--------|
| 1 | 1 | DAX | 0.019 | DAX | -0.007 | DAX | -0.008 |
| 2 | | TEC | -0.001 | TEC | -0.011 | TEC | -0.01 |
| 3 | | ESX50 | 0.009 | ESX50 | -0.009 | ESX50 | -0.005 |
| 4 | | SP5 | 0.004 | SP5 | -0.008 | SP5 | -0.005 |
| 5 | | NASDAQ | 0.002 | NASDAQ | -0.003 | NASDAQ | -0.004 |
| 6 | | NIKKEI | 0.005 | NIKKEI | -0.005 | NIKKEI | -0.008 |
| 7 | | BUND | 0.001 | BUND | -0.002 | BUND | 0 |
| 8 | | | | | | | |
| 9 | 3 | DAX | 0.005 | DAX | -0.032 | DAX | 0.006 |
| 10 | | TEC | -0.025 | TEC | -0.027 | TEC | -0.007 |
| 11 | | ESX50 | 0 | ESX50 | -0.021 | ESX50 | 0.007 |
| 12 | | SP5 | -0.009 | SP5 | -0.021 | SP5 | 0 |
| 13 | | NASDAQ | -0.002 | NASDAQ | -0.011 | NASDAQ | -0.008 |
| 14 | | NIKKEI | -0.001 | NIKKEI | -0.006 | NIKKEI | -0.001 |
| 15 | | BUND | -0.001 | BUND | -0.003 | BUND | -0.001 |
| 16 | | | | | | | |
| 17 | 6 | DAX | -0.014 | DAX | -0.014 | DAX | 0.011 |
| 18 | | TEC | -0.035 | TEC | -0.006 | TEC | 0.024 |
| 19 | | ESX50 | -0.005 | ESX50 | -0.013 | ESX50 | 0.001 |
| 20 | | SP5 | -0.017 | SP5 | -0.017 | SP5 | -0.003 |
| 21 | | NASDAQ | -0.007 | NASDAQ | -0.012 | NASDAQ | -0.016 |
| 22 | | NIKKEI | -0.003 | NIKKEI | 0.001 | NIKKEI | 0.002 |
| 23 | | BUND | -0.003 | BUND | -0.004 | BUND | -0.001 |
| 24 | | | | | | | |

P6

| | Row | Lag 0 | V1 | Lag 2 | V1 | Lag 4 | V1 |
|----|-----|--------|--------|--------|--------|--------|--------|
| 1 | 1 | DAX | -0.005 | DAX | -0.006 | DAX | 0.001 |
| 2 | | TEC | -0.005 | TEC | -0.01 | TEC | -0.01 |
| 3 | | ESX50 | -0.006 | ESX50 | -0.004 | ESX50 | 0.006 |
| 4 | | SP5 | -0.005 | SP5 | -0.01 | SP5 | 0 |
| 5 | | NASDAQ | -0.008 | NASDAQ | -0.005 | NASDAQ | -0.004 |
| 6 | | NIKKEI | 0.01 | NIKKEI | 0.001 | NIKKEI | 0.004 |
| 7 | | BUND | 0.002 | BUND | 0.001 | BUND | 0 |
| 8 | | | | | | | |
| 9 | 3 | DAX | -0.016 | DAX | -0.005 | DAX | -0.007 |
| 10 | | TEC | -0.026 | TEC | -0.03 | TEC | -0.015 |
| 11 | | ESX50 | -0.018 | ESX50 | -0.001 | ESX50 | 0.001 |
| 12 | | SP5 | -0.025 | SP5 | -0.016 | SP5 | -0.006 |
| 13 | | NASDAQ | -0.021 | NASDAQ | -0.02 | NASDAQ | 0.002 |
| 14 | | NIKKEI | 0.009 | NIKKEI | 0.002 | NIKKEI | 0.012 |
| 15 | | BUND | 0.003 | BUND | 0.001 | BUND | -0.003 |
| 16 | | | | | | | |
| 17 | 6 | DAX | -0.019 | DAX | -0.019 | DAX | -0.019 |
| 18 | | TEC | -0.048 | TEC | -0.046 | TEC | -0.035 |
| 19 | | ESX50 | -0.015 | ESX50 | -0.018 | ESX50 | -0.015 |
| 20 | | SP5 | -0.035 | SP5 | -0.028 | SP5 | -0.018 |
| 21 | | NASDAQ | -0.037 | NASDAQ | -0.025 | NASDAQ | -0.016 |
| 22 | | NIKKEI | 0.012 | NIKKEI | 0.011 | NIKKEI | 0.02 |
| 23 | | BUND | 0.002 | BUND | -0.002 | BUND | 0 |
| 24 | | | | | | | |

| | Row | Lag 0 | V1 | Lag 2 | V1 | Lag 4 | V1 |
|----|-----|--------|--------|--------|--------|--------|--------|
| 1 | 1 | DAX | 0.024 | DAX | -0.008 | DAX | -0.002 |
| 2 | | TEC | 0.01 | TEC | -0.007 | TEC | -0.009 |
| 3 | | ESX50 | 0.02 | ESX50 | -0.004 | ESX50 | -0.005 |
| 4 | | SP5 | 0.016 | SP5 | -0.005 | SP5 | -0.002 |
| 5 | | NASDAQ | 0.012 | NASDAQ | -0.006 | NASDAQ | -0.004 |
| 6 | | NIKKEI | 0.009 | NIKKEI | 0.001 | NIKKEI | -0.001 |
| 7 | | BUND | 0 | BUND | 0 | BUND | 0 |
| 8 | | | | | | | |
| 9 | 3 | DAX | 0.022 | DAX | -0.027 | DAX | -0.008 |
| 10 | | TEC | 0.003 | TEC | -0.022 | TEC | -0.014 |
| 11 | | ESX50 | 0.015 | ESX50 | -0.022 | ESX50 | -0.006 |
| 12 | | SP5 | 0.011 | SP5 | -0.013 | SP5 | -0.007 |
| 13 | | NASDAQ | 0.011 | NASDAQ | -0.024 | NASDAQ | 0.002 |
| 14 | | NIKKEI | 0.017 | NIKKEI | 0.006 | NIKKEI | 0.001 |
| 15 | | BUND | 0.002 | BUND | 0 | BUND | 0.001 |
| 16 | | | | | | | |
| 17 | 6 | DAX | -0.005 | DAX | -0.027 | DAX | -0.007 |
| 18 | | TEC | -0.022 | TEC | -0.018 | TEC | -0.014 |
| 19 | | ESX50 | -0.006 | ESX50 | -0.022 | ESX50 | -0.004 |
| 20 | | SP5 | -0.003 | SP5 | -0.016 | SP5 | -0.012 |
| 21 | | NASDAQ | -0.007 | NASDAQ | -0.01 | NASDAQ | 0.011 |
| 22 | | NIKKEI | 0.018 | NIKKEI | 0.004 | NIKKEI | 0.004 |
| 23 | | BUND | 0.002 | BUND | 0.001 | BUND | 0.003 |
| 24 | | | | | | | |

| | Row | Lag 0 | V1 | Lag 2 | V1 | Lag 4 | V1 |
|----|-----|--------|-------|--------|--------|--------|--------|
| 1 | 1 | DAX | 0.005 | DAX | -0.005 | DAX | -0.003 |
| 2 | | TEC | 0.009 | TEC | 0.008 | TEC | 0.009 |
| 3 | | ESX50 | 0.005 | ESX50 | -0.003 | ESX50 | -0.003 |
| 4 | | SP5 | 0.006 | SP5 | 0.002 | SP5 | 0.003 |
| 5 | | NASDAQ | 0.001 | NASDAQ | 0.004 | NASDAQ | 0.002 |
| 6 | | NIKKEI | 0.009 | NIKKEI | -0.002 | NIKKEI | 0.01 |
| 7 | | BUND | 0.002 | BUND | 0 | BUND | 0.002 |
| 8 | | | | | | | |
| 9 | 3 | DAX | 0.013 | DAX | -0.014 | DAX | -0.012 |
| 10 | | TEC | 0.032 | TEC | 0.031 | TEC | 0.018 |
| 11 | | ESX50 | 0.006 | ESX50 | 0.002 | ESX50 | -0.006 |
| 12 | | SP5 | 0.009 | SP5 | 0.004 | SP5 | 0.004 |
| 13 | | NASDAQ | 0.013 | NASDAQ | 0.014 | NASDAQ | 0.011 |
| 14 | | NIKKEI | 0.017 | NIKKEI | 0.019 | NIKKEI | 0.019 |
| 15 | | BUND | 0.002 | BUND | 0.003 | BUND | 0.004 |
| 16 | | | | | | | |
| 17 | 6 | DAX | 0.003 | DAX | -0.023 | DAX | -0.011 |
| 18 | | TEC | 0.069 | TEC | 0.041 | TEC | 0.012 |
| 19 | | ESX50 | 0.01 | ESX50 | -0.004 | ESX50 | -0.007 |
| 20 | | SP5 | 0.011 | SP5 | 0.001 | SP5 | -0.003 |
| 21 | | NASDAQ | 0.035 | NASDAQ | 0.022 | NASDAQ | 0.015 |
| 22 | | NIKKEI | 0.046 | NIKKEI | 0.028 | NIKKEI | 0.011 |
| 23 | | BUND | 0.006 | BUND | 0.005 | BUND | 0.001 |
| 24 | | | | | | | |

G1

| | Row | Lag 0 | V1 | Lag 2 | V1 | Lag 4 | V1 |
|----|-----|--------|--------|--------|--------|--------|--------|
| 1 | 1 | DAX | 0.018 | DAX | -0.013 | DAX | -0.011 |
| 2 | | TEC | 0.013 | TEC | -0.011 | TEC | -0.016 |
| 3 | | ESX50 | 0.011 | ESX50 | -0.021 | ESX50 | -0.008 |
| 4 | | SP5 | 0.007 | SP5 | -0.011 | SP5 | -0.003 |
| 5 | | NASDAQ | 0.008 | NASDAQ | -0.006 | NASDAQ | -0.004 |
| 6 | | NIKKEI | 0.008 | NIKKEI | -0.004 | NIKKEI | -0.005 |
| 7 | | BUND | 0.002 | BUND | -0.002 | BUND | 0 |
| 8 | | | | | | | |
| 9 | 3 | DAX | -0.001 | DAX | -0.029 | DAX | -0.003 |
| 10 | | TEC | -0.009 | TEC | -0.034 | TEC | -0.014 |
| 11 | | ESX50 | -0.009 | ESX50 | -0.034 | ESX50 | 0.002 |
| 12 | | SP5 | -0.008 | SP5 | -0.018 | SP5 | -0.005 |
| 13 | | NASDAQ | 0.006 | NASDAQ | -0.015 | NASDAQ | -0.01 |
| 14 | | NIKKEI | 0.006 | NIKKEI | 0.001 | NIKKEI | -0.002 |
| 15 | | BUND | 0.002 | BUND | -0.003 | BUND | 0.002 |
| 16 | | | | | | | |
| 17 | 6 | DAX | -0.016 | DAX | -0.018 | DAX | 0.006 |
| 18 | | TEC | -0.028 | TEC | -0.019 | TEC | 0.002 |
| 19 | | ESX50 | -0.022 | ESX50 | -0.029 | ESX50 | 0.001 |
| 20 | | SP5 | -0.016 | SP5 | -0.019 | SP5 | -0.008 |
| 21 | | NASDAQ | -0.005 | NASDAQ | -0.016 | NASDAQ | -0.011 |
| 22 | | NIKKEI | 0.013 | NIKKEI | 0.003 | NIKKEI | 0 |
| 23 | | BUND | 0.003 | BUND | -0.001 | BUND | 0.002 |
| 24 | | | | | | | |

G6

| | Row | Lag 0 | V1 | Lag 2 | V1 | Lag 4 | V1 |
|----|-----|--------|--------|--------|--------|--------|--------|
| 1 | 1 | DAX | 0.003 | DAX | -0.001 | DAX | 0.004 |
| 2 | | TEC | -0.003 | TEC | -0.006 | TEC | -0.008 |
| 3 | | ESX50 | -0.004 | ESX50 | -0.009 | ESX50 | 0.007 |
| 4 | | SP5 | -0.003 | SP5 | -0.005 | SP5 | -0.001 |
| 5 | | NASDAQ | -0.005 | NASDAQ | 0.003 | NASDAQ | -0.002 |
| 6 | | NIKKEI | 0.01 | NIKKEI | -0.001 | NIKKEI | 0.001 |
| 7 | | BUND | 0.003 | BUND | 0.001 | BUND | 0.001 |
| 8 | | | | | | | |
| 9 | 3 | DAX | 0.004 | DAX | 0.006 | DAX | -0.003 |
| 10 | | TEC | -0.012 | TEC | -0.017 | TEC | -0.007 |
| 11 | | ESX50 | -0.019 | ESX50 | -0.003 | ESX50 | 0.007 |
| 12 | | SP5 | -0.013 | SP5 | -0.016 | SP5 | -0.005 |
| 13 | | NASDAQ | -0.006 | NASDAQ | -0.007 | NASDAQ | -0.003 |
| 14 | | NIKKEI | 0.018 | NIKKEI | 0.001 | NIKKEI | 0.016 |
| 15 | | BUND | 0.003 | BUND | 0.003 | BUND | -0.001 |
| 16 | | | | | | | |
| 17 | 6 | DAX | 0.001 | DAX | -0.003 | DAX | -0.012 |
| 18 | | TEC | -0.02 | TEC | -0.022 | TEC | -0.005 |
| 19 | | ESX50 | -0.014 | ESX50 | -0.014 | ESX50 | -0.009 |
| 20 | | SP5 | -0.026 | SP5 | -0.026 | SP5 | -0.021 |
| 21 | | NASDAQ | -0.017 | NASDAQ | -0.014 | NASDAQ | -0.016 |
| 22 | | NIKKEI | 0.027 | NIKKEI | 0.009 | NIKKEI | 0.016 |
| 23 | | BUND | 0.005 | BUND | 0.002 | BUND | 0.002 |
| 24 | | | | | | | |

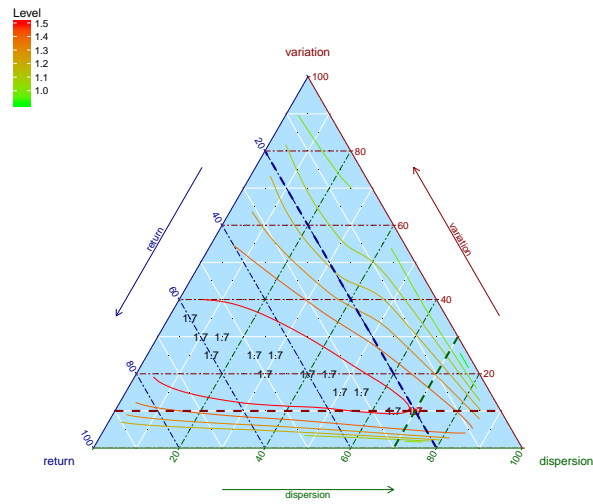
4 Results

4.1 Ternary

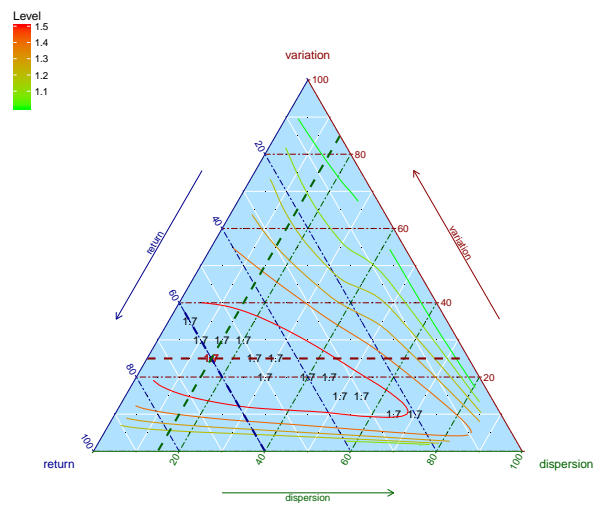
4 Results

4.1.1 Ternary-Dispersion

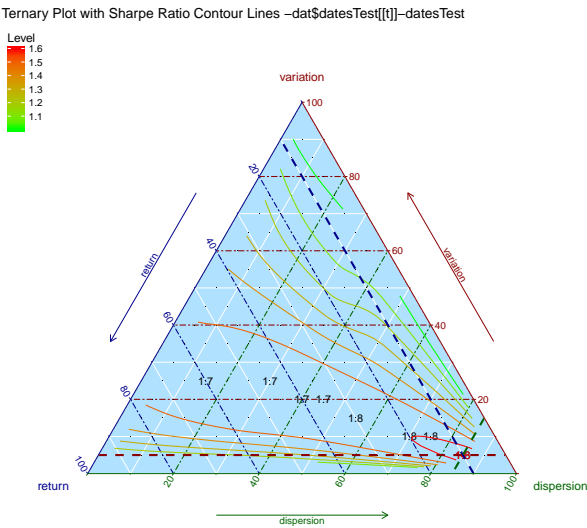
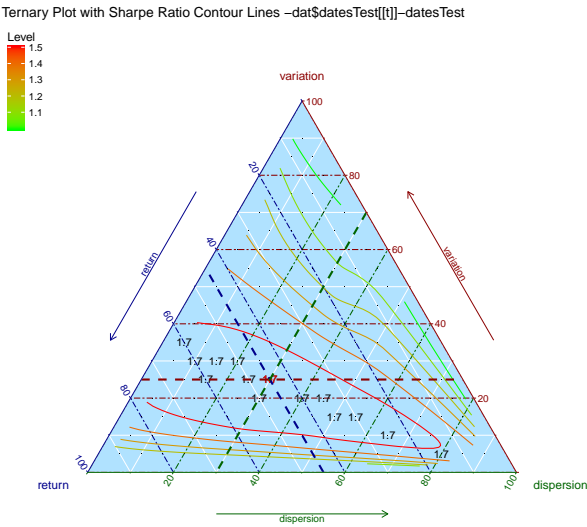
Ternary Plot with Sharpe Ratio Contour Lines –dat\$datesTest[[1]]–datesTest



Ternary Plot with Sharpe Ratio Contour Lines –dat\$datesTest[[1]]–datesTest

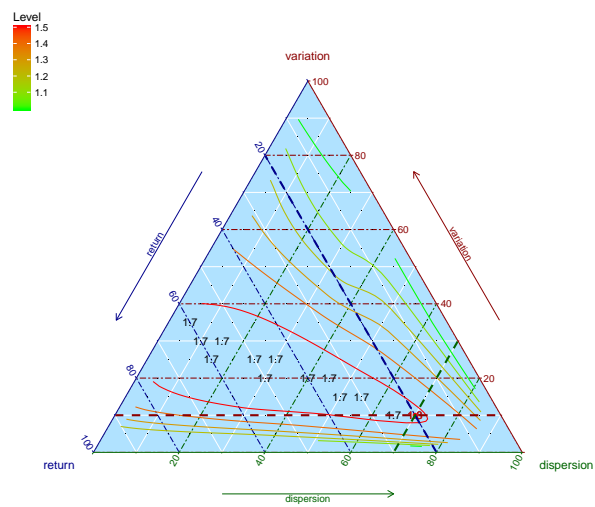


4.1 Ternary

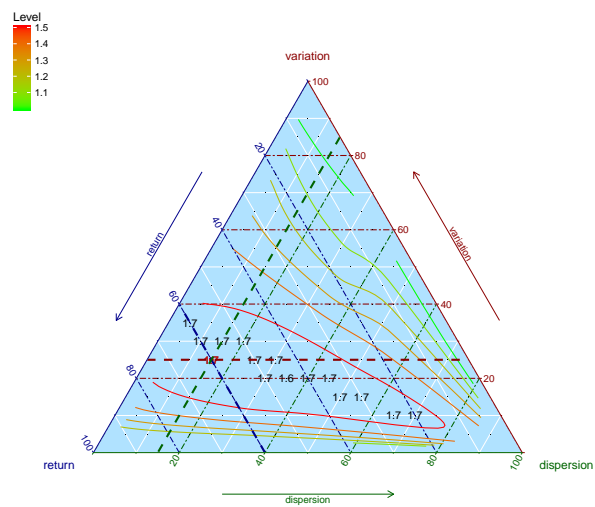


4 Results

Ternary Plot with Sharpe Ratio Contour Lines –dat\$datesTest[[1]]–datesTest

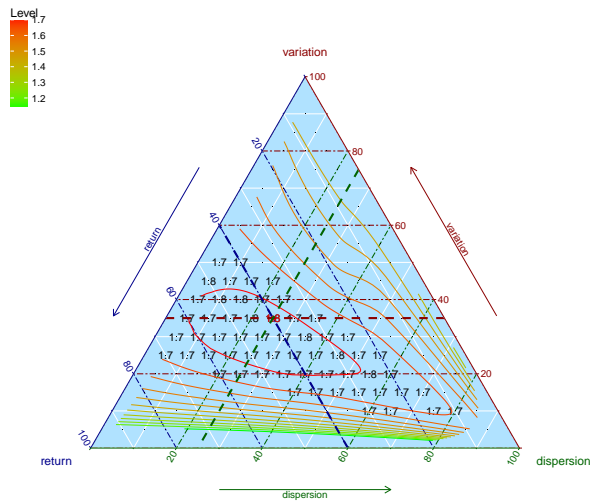


Ternary Plot with Sharpe Ratio Contour Lines –dat\$datesTest[[1]]–datesTest

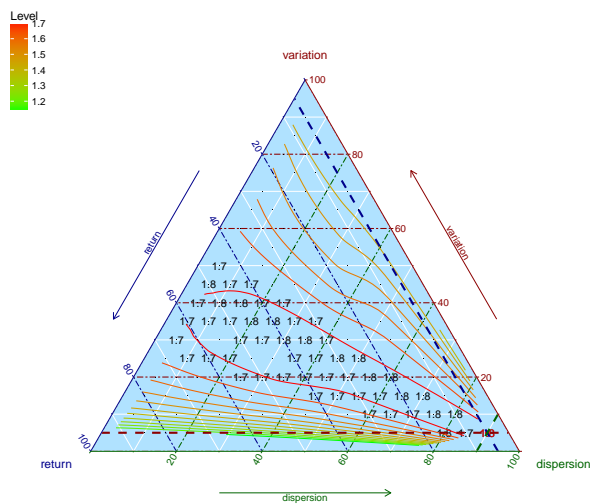


4.1.2 Ternary-Dispersion-No-Risk-Free

Ternary Plot with Sharpe Ratio Contour Lines –dat\$datesTest[[1]]–datesTest

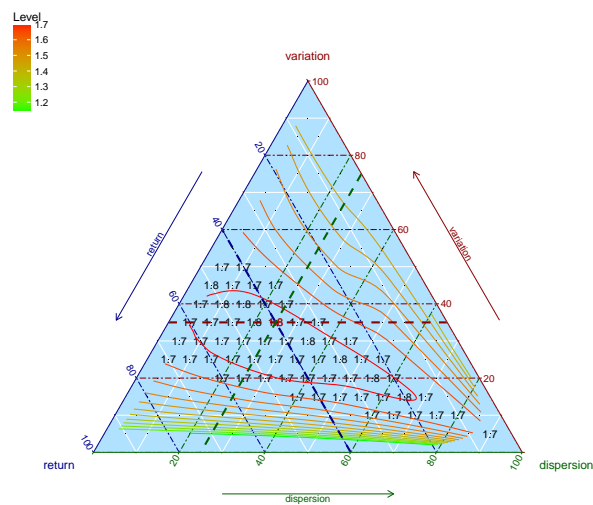


Ternary Plot with Sharpe Ratio Contour Lines –dat\$datesTest[[1]]–datesTest

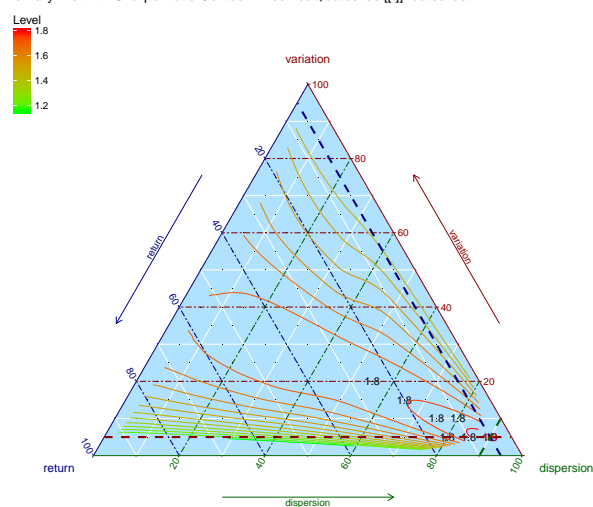


4 Results

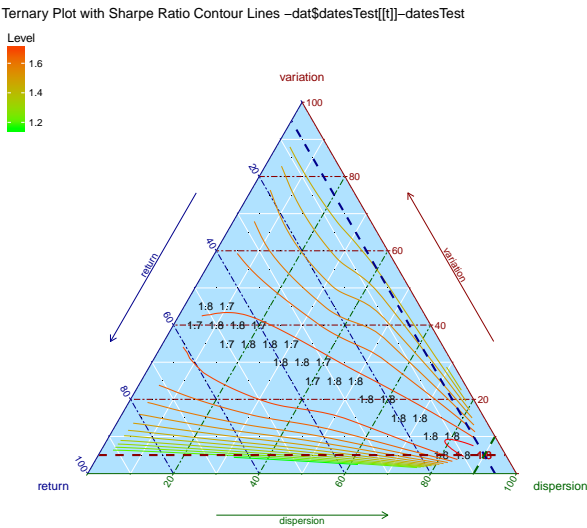
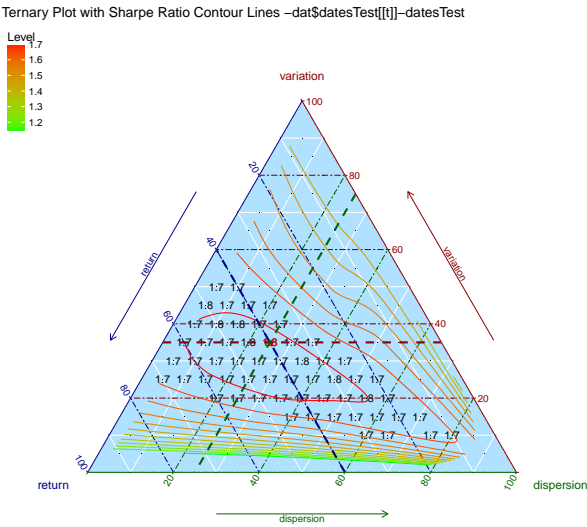
Ternary Plot with Sharpe Ratio Contour Lines –dat\$datesTest[[1]]–datesTest



Ternary Plot with Sharpe Ratio Contour Lines –dat\$datesTest[[1]]–datesTest



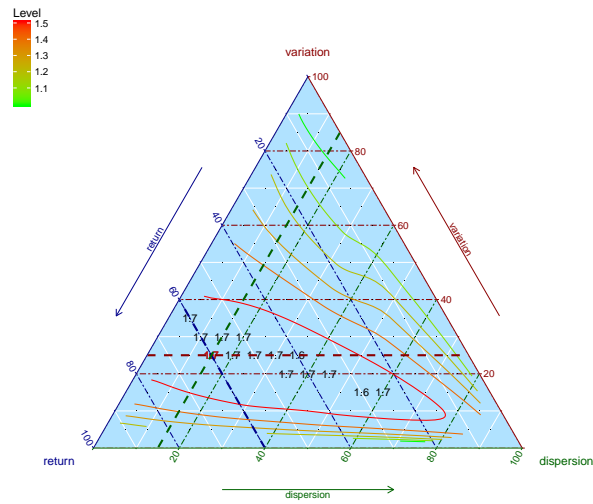
4.1 Ternary



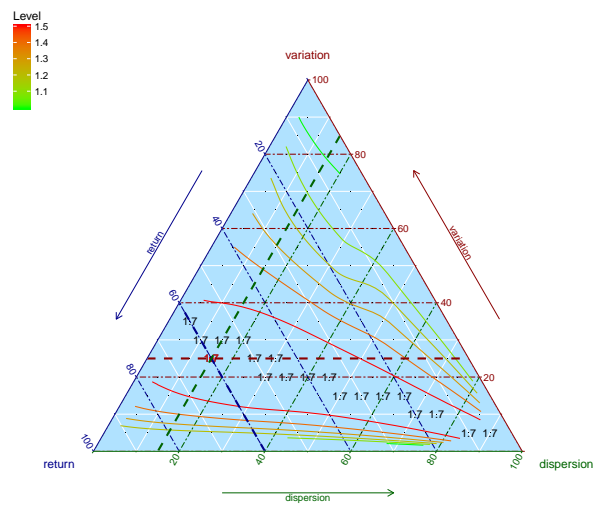
4 Results

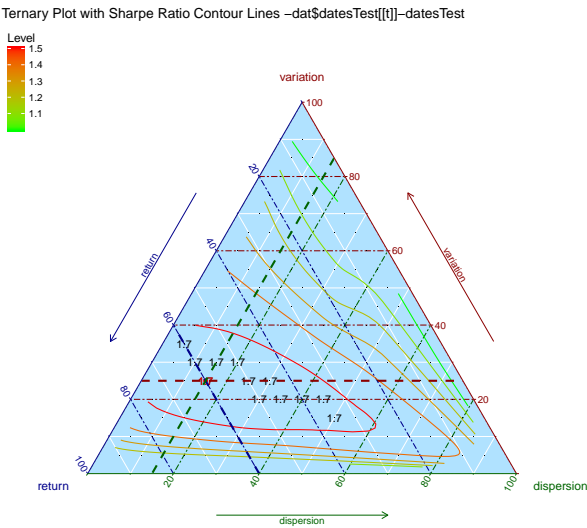
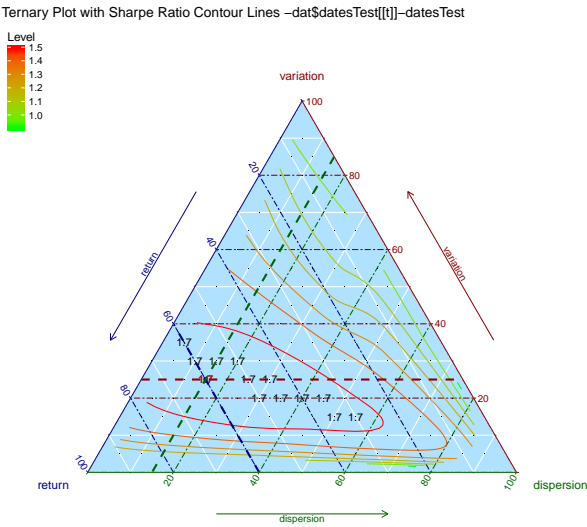
4.1.3 Ternary-Herfindahl

Ternary Plot with Sharpe Ratio Contour Lines –dat\$datesTest[[1]]–datesTest



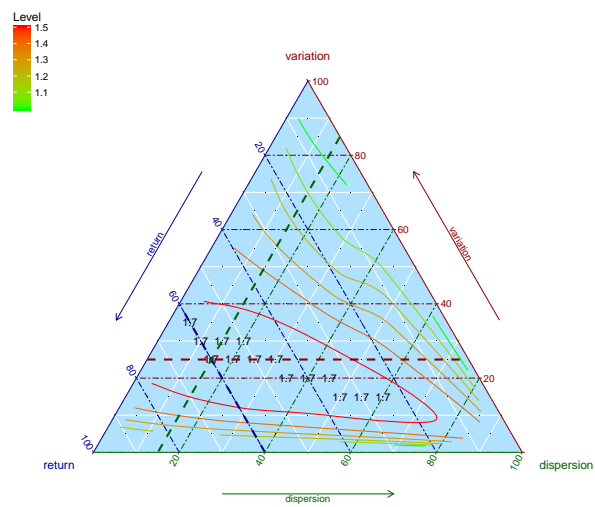
Ternary Plot with Sharpe Ratio Contour Lines –dat\$datesTest[[1]]–datesTest



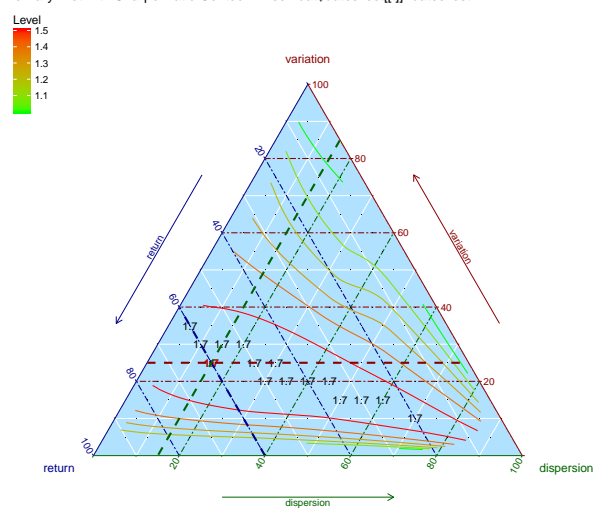


4 Results

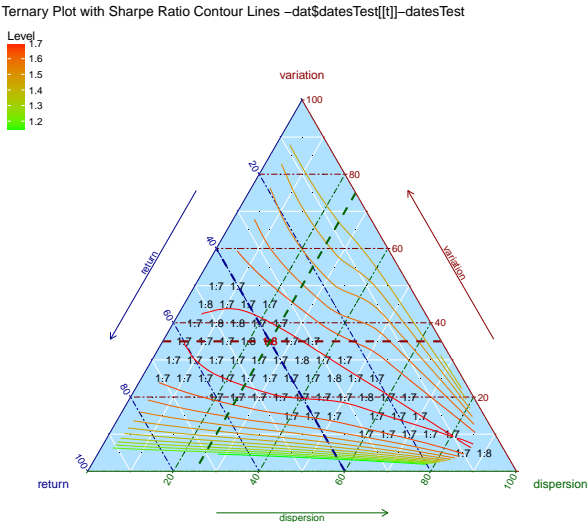
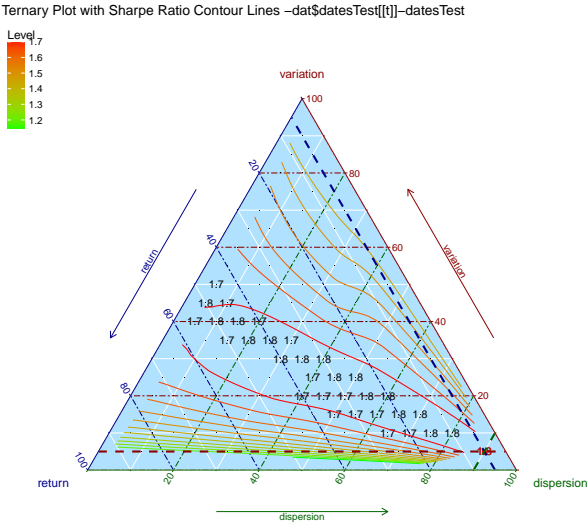
Ternary Plot with Sharpe Ratio Contour Lines –dat\$datesTest[[1]]–datesTest



Ternary Plot with Sharpe Ratio Contour Lines –dat\$datesTest[[1]]–datesTest

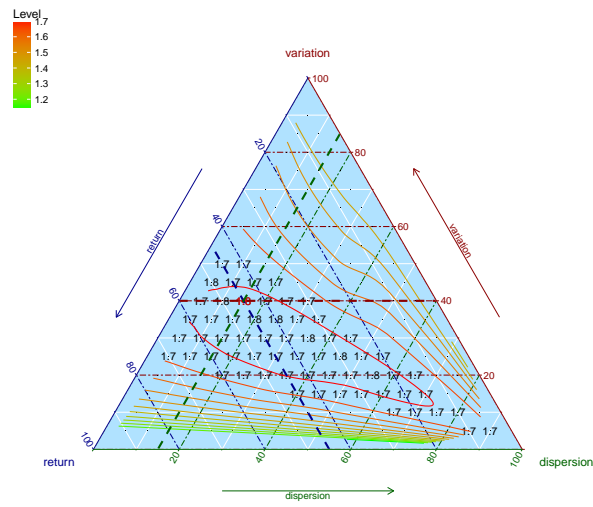


4.1.4 Ternary-Herfindahl-No-Risk-free

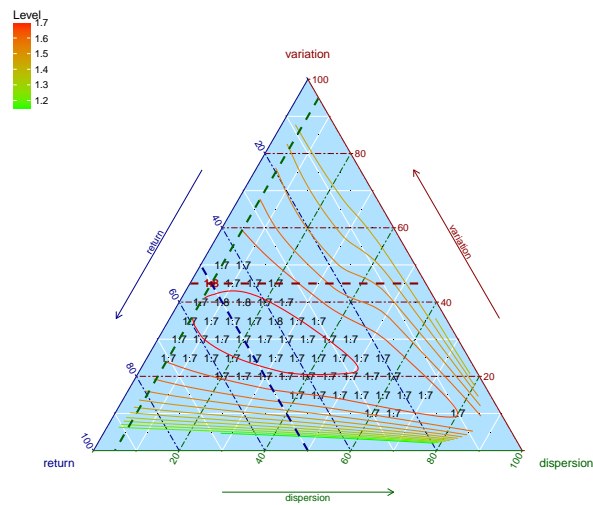


4 Results

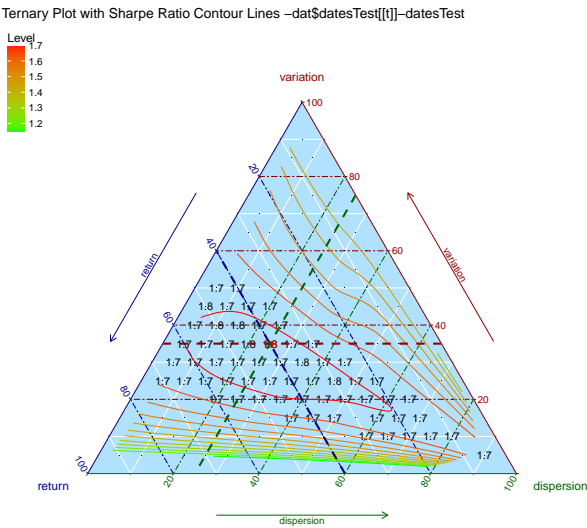
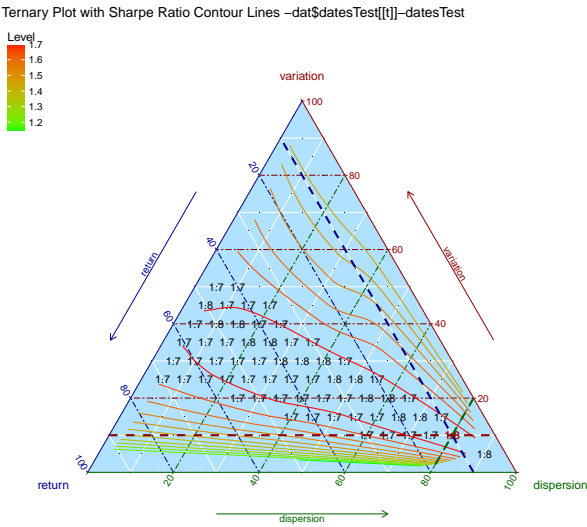
Ternary Plot with Sharpe Ratio Contour Lines –dat\$datesTest[[1]]–datesTest



Ternary Plot with Sharpe Ratio Contour Lines –dat\$datesTest[[1]]–datesTest



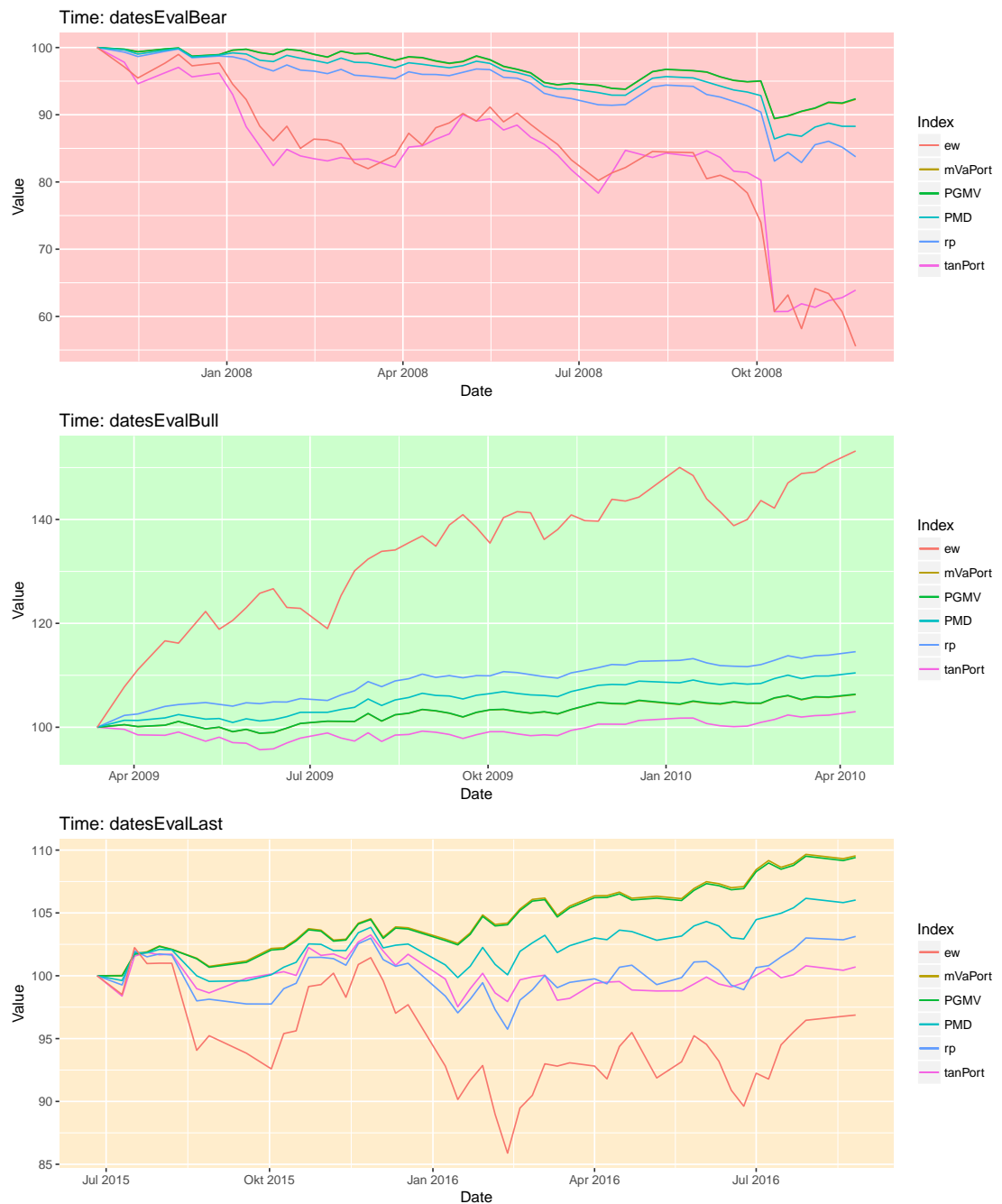
4.1 Ternary



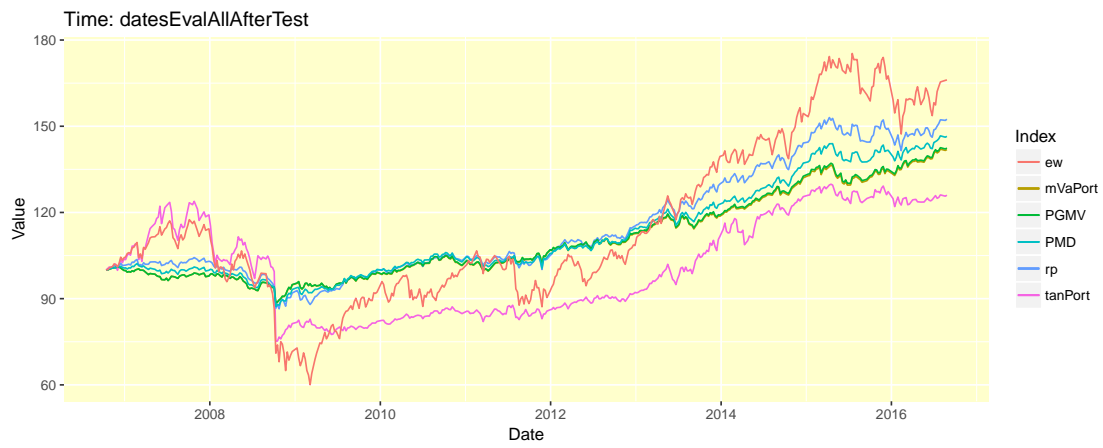
4 Results

4.2 Performance

4.2.1 classic - constant weights

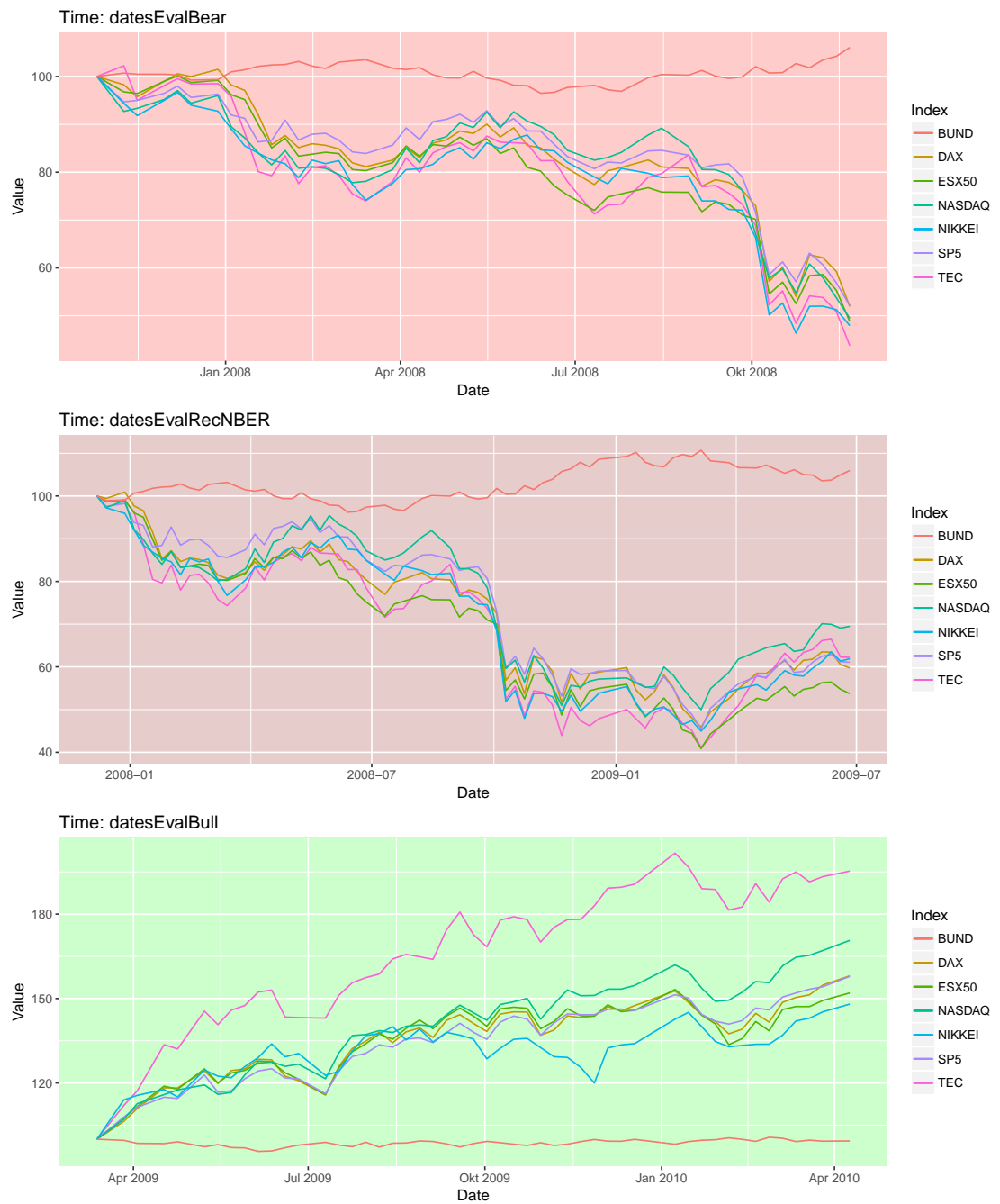


4.2 Performance

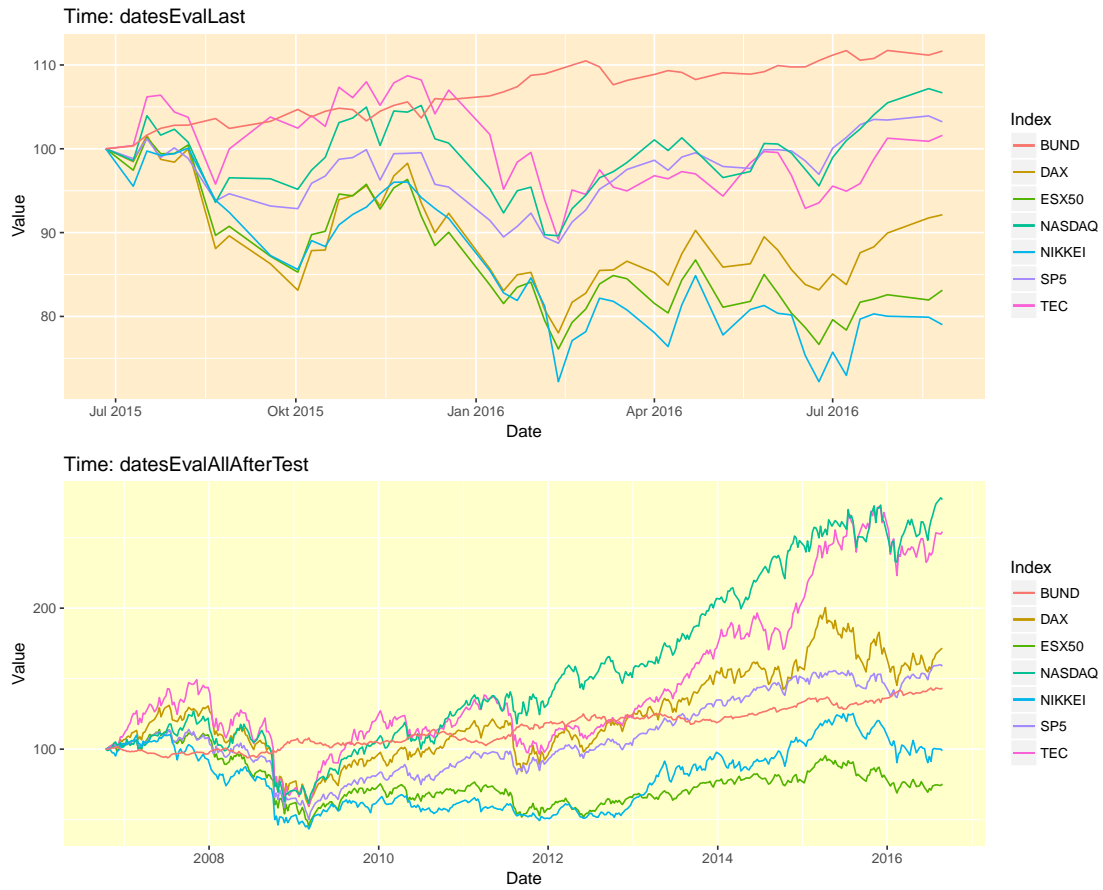


4 Results

4.2.2 Performance-Indices

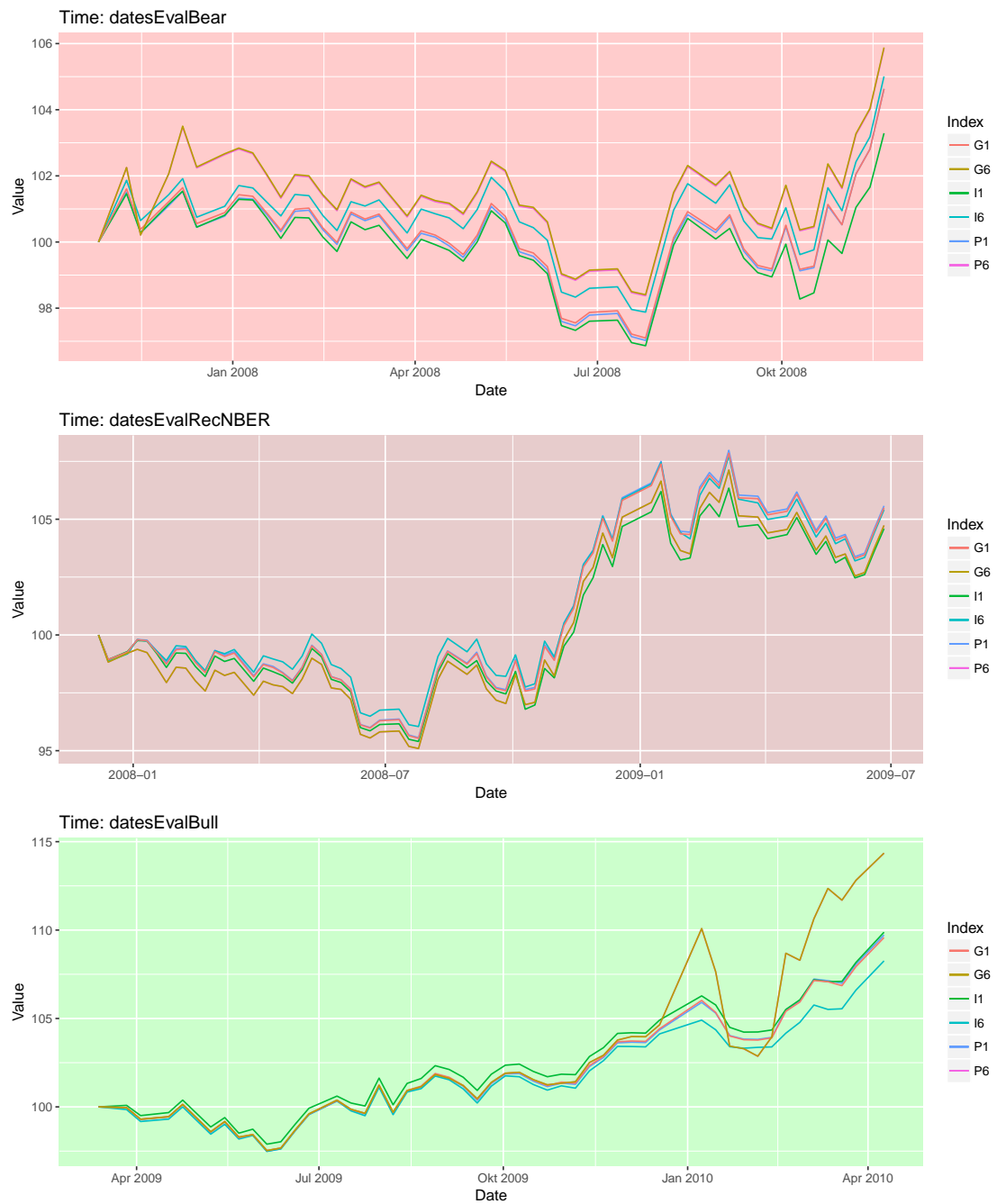


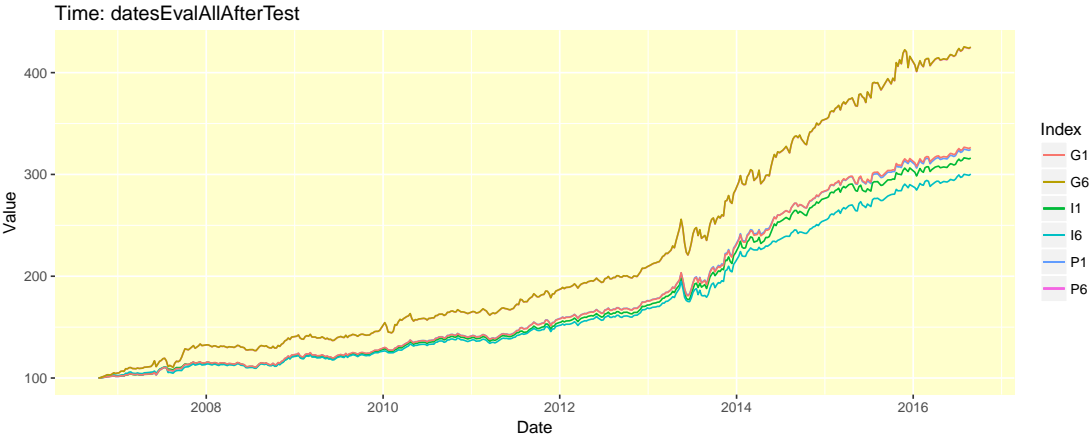
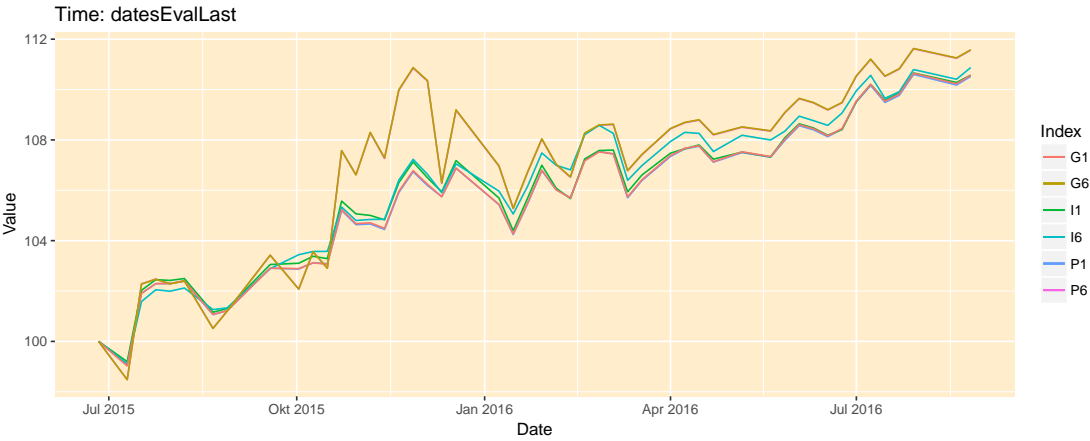
4.2 Performance



4 Results

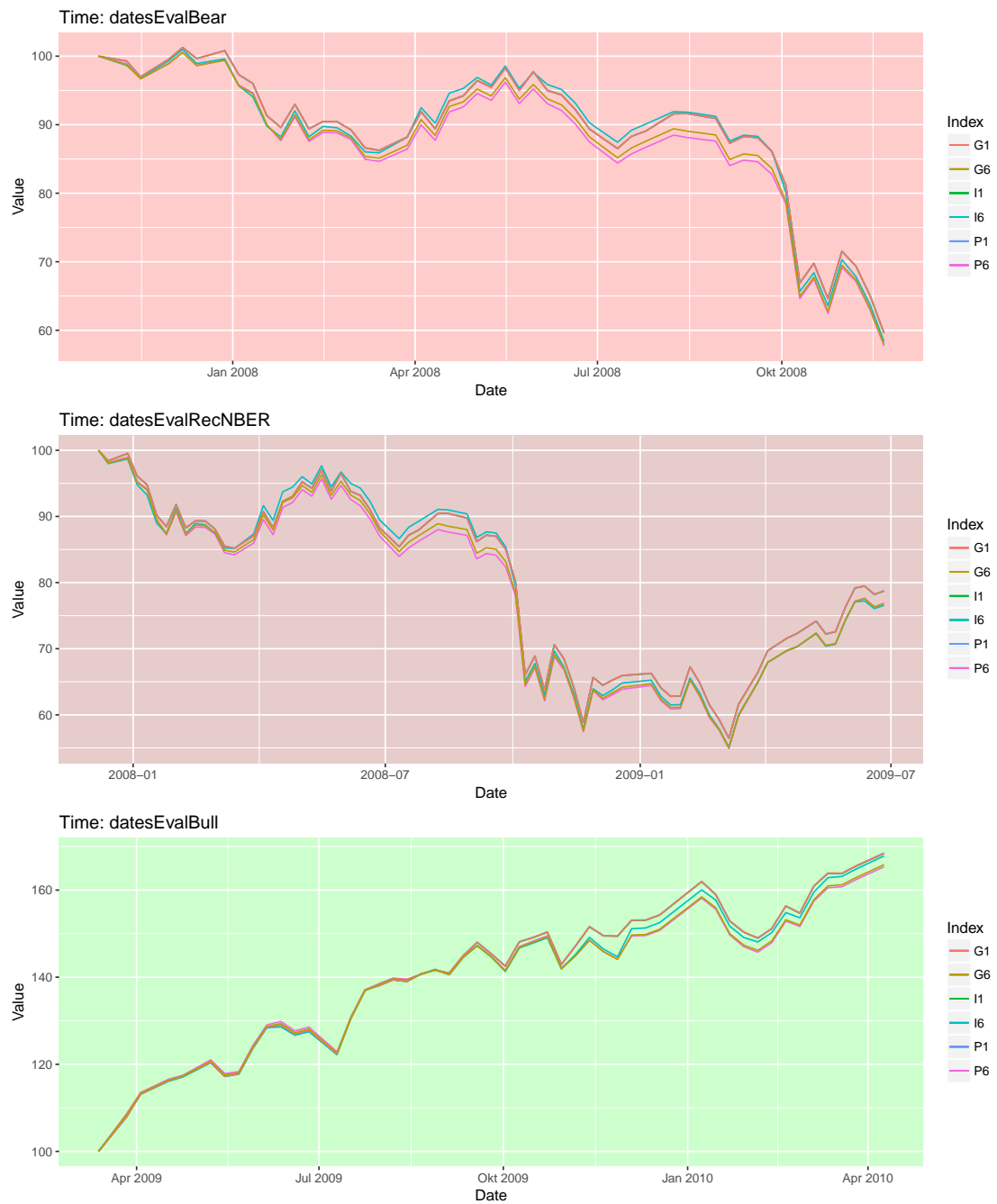
4.2.3 Performance-Sentix-Dispersion





4 Results

4.2.4 Performance-Sentix-Disperion-No-Risk-Free

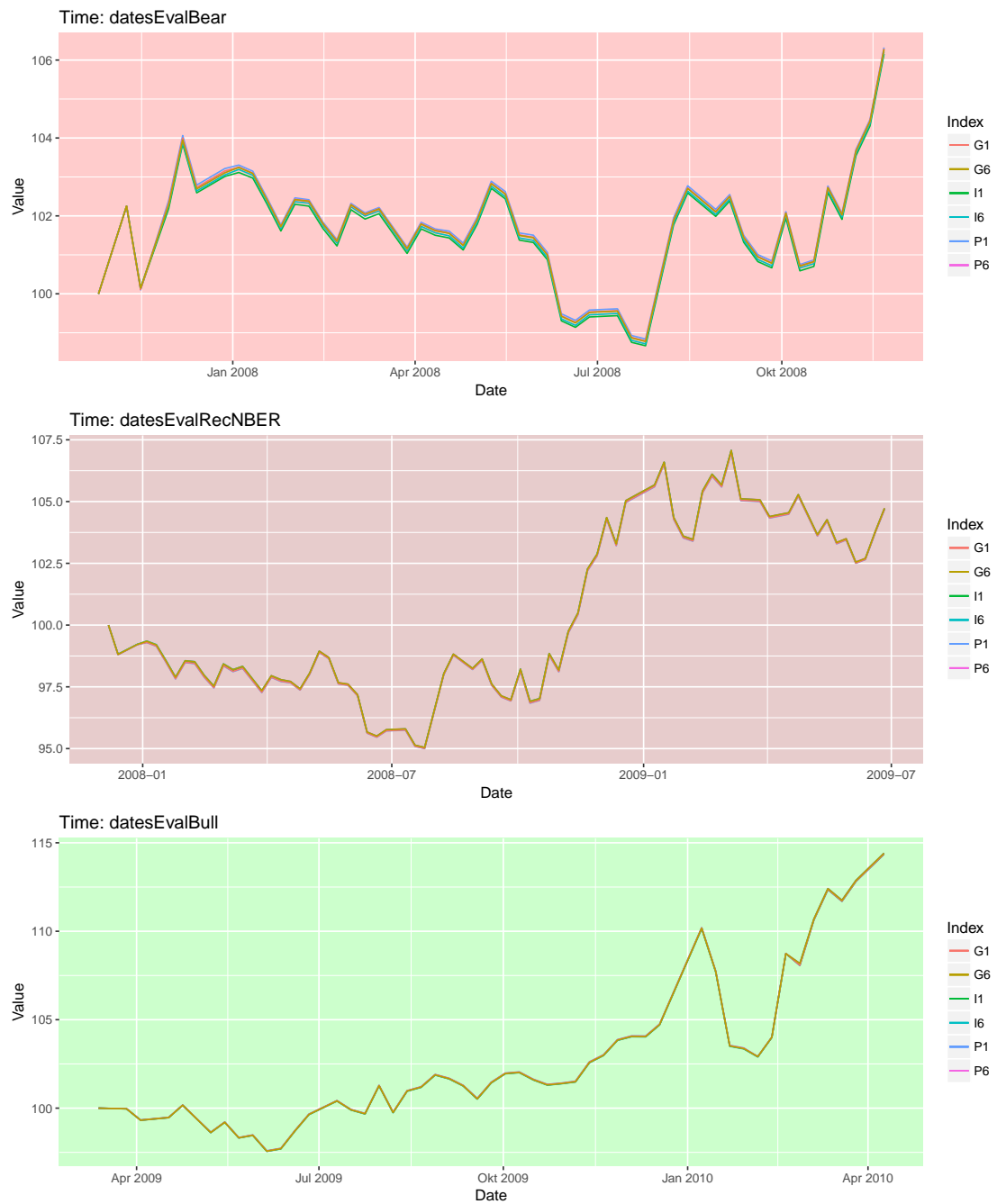


4.2 Performance

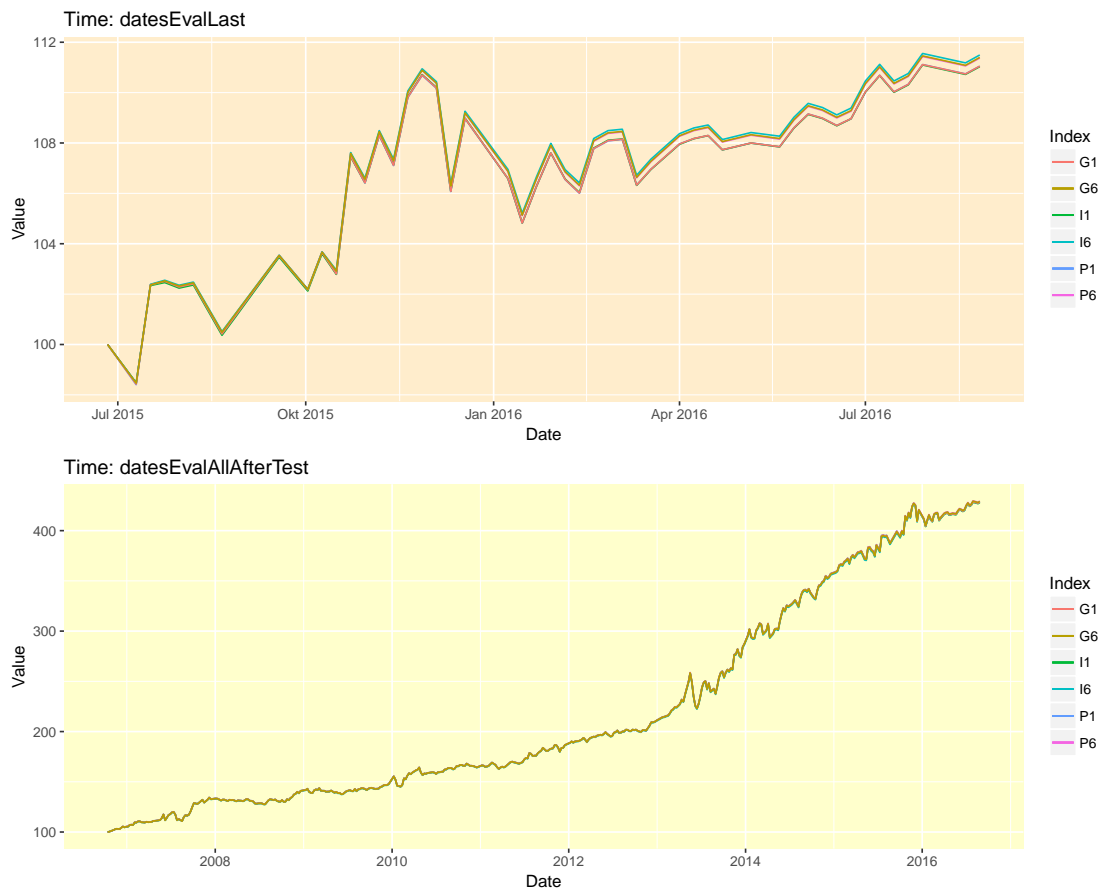


4 Results

4.2.5 Performance-Sentix-Herfindahl

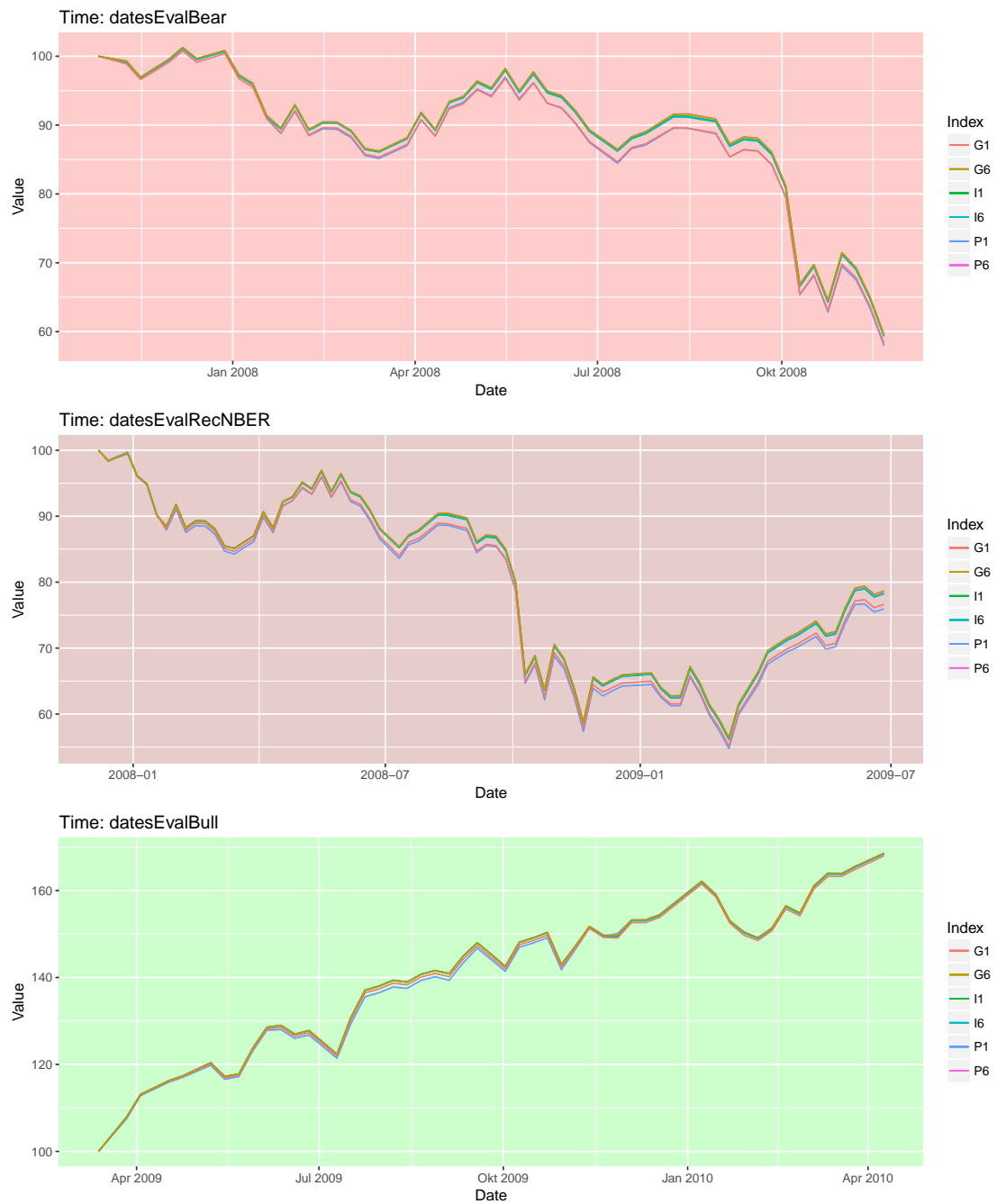


4.2 Performance

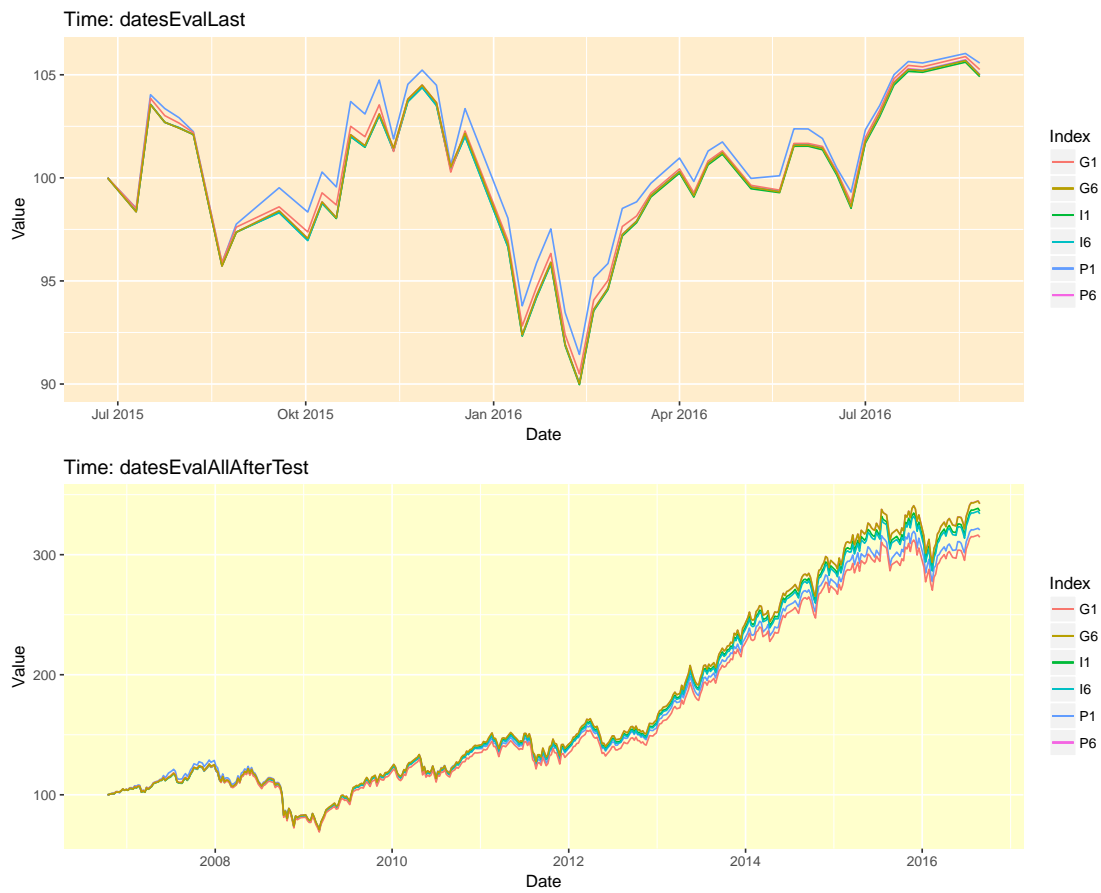


4 Results

4.2.6 Performance-Sentix-Herfindahl-No-Risk-Free

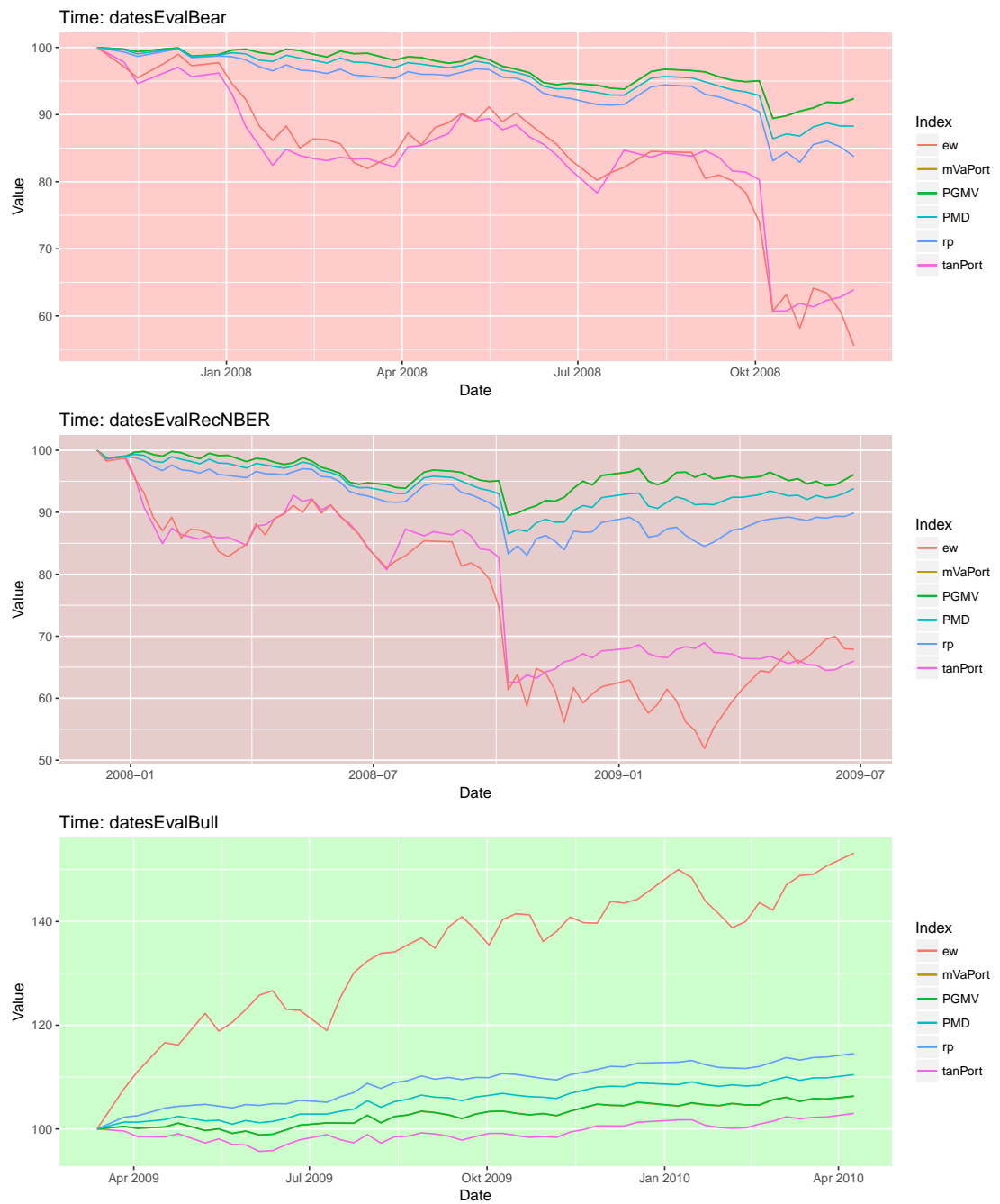


4.2 Performance

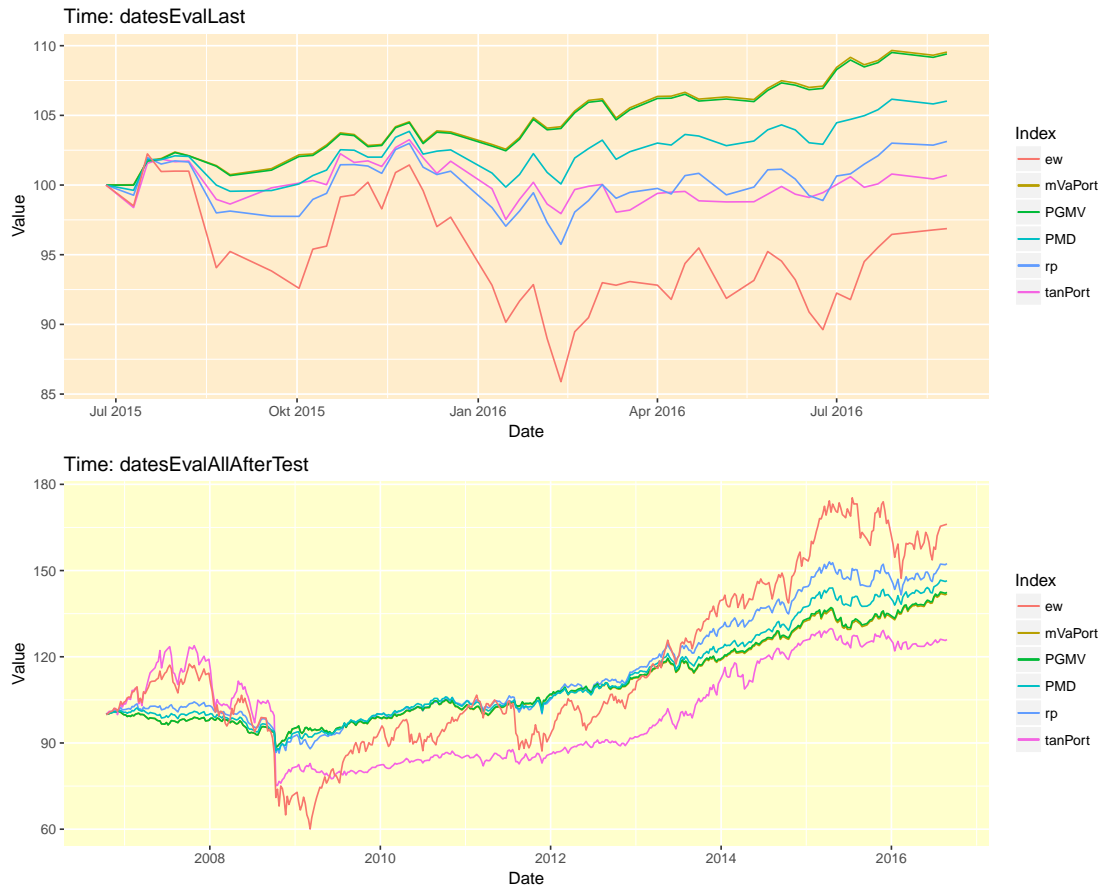


4 Results

4.2.7 Performance-Classic

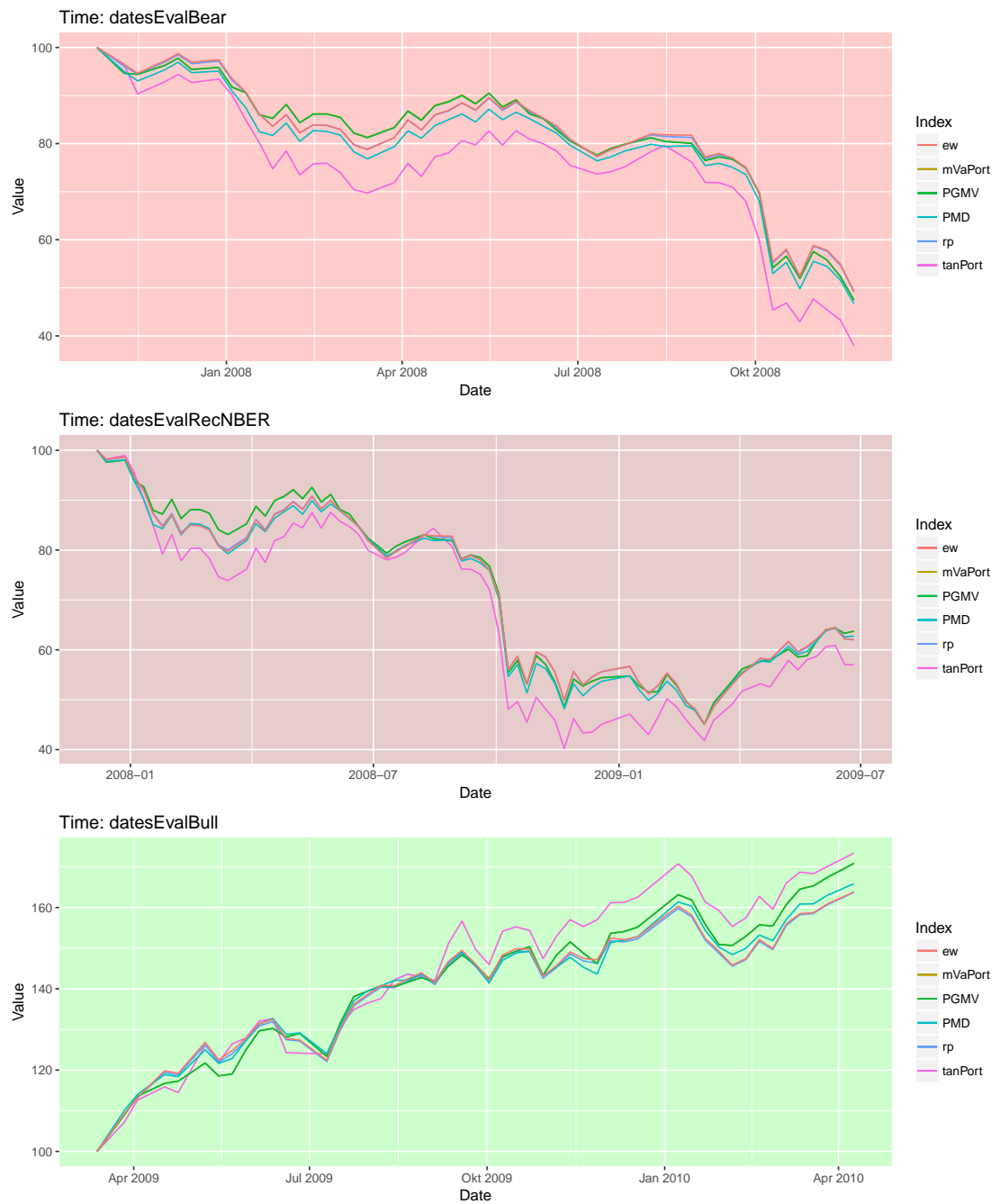


4.2 Performance

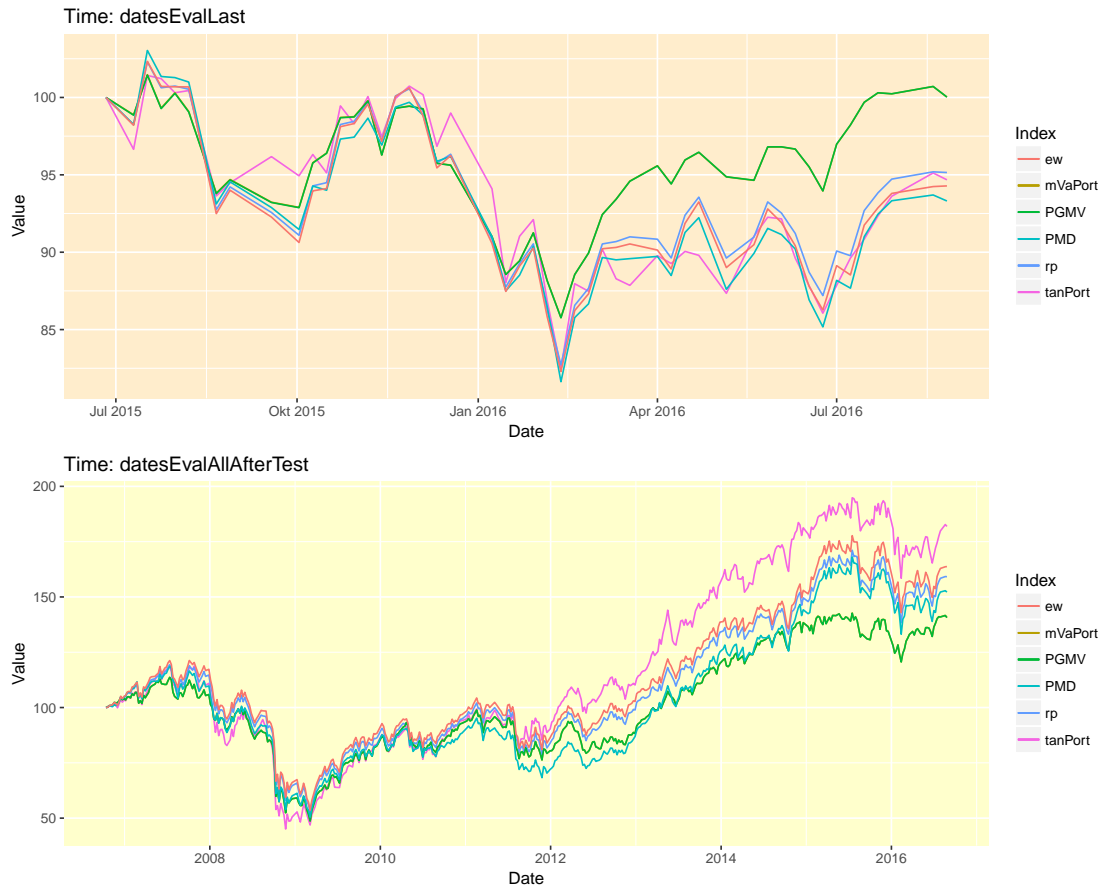


4 Results

4.2.8 Performance-Classic-No-Risk-Free

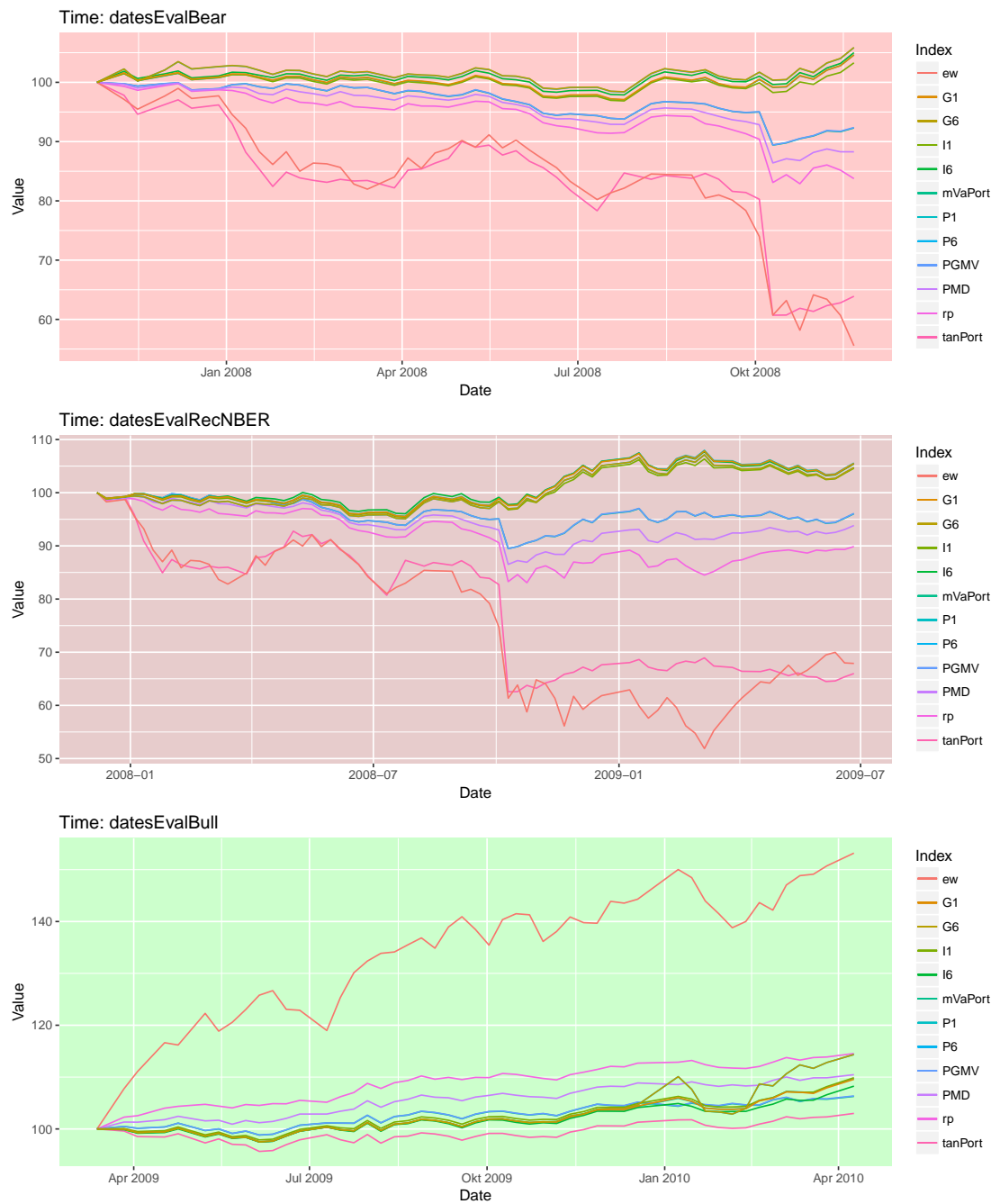


4.2 Performance

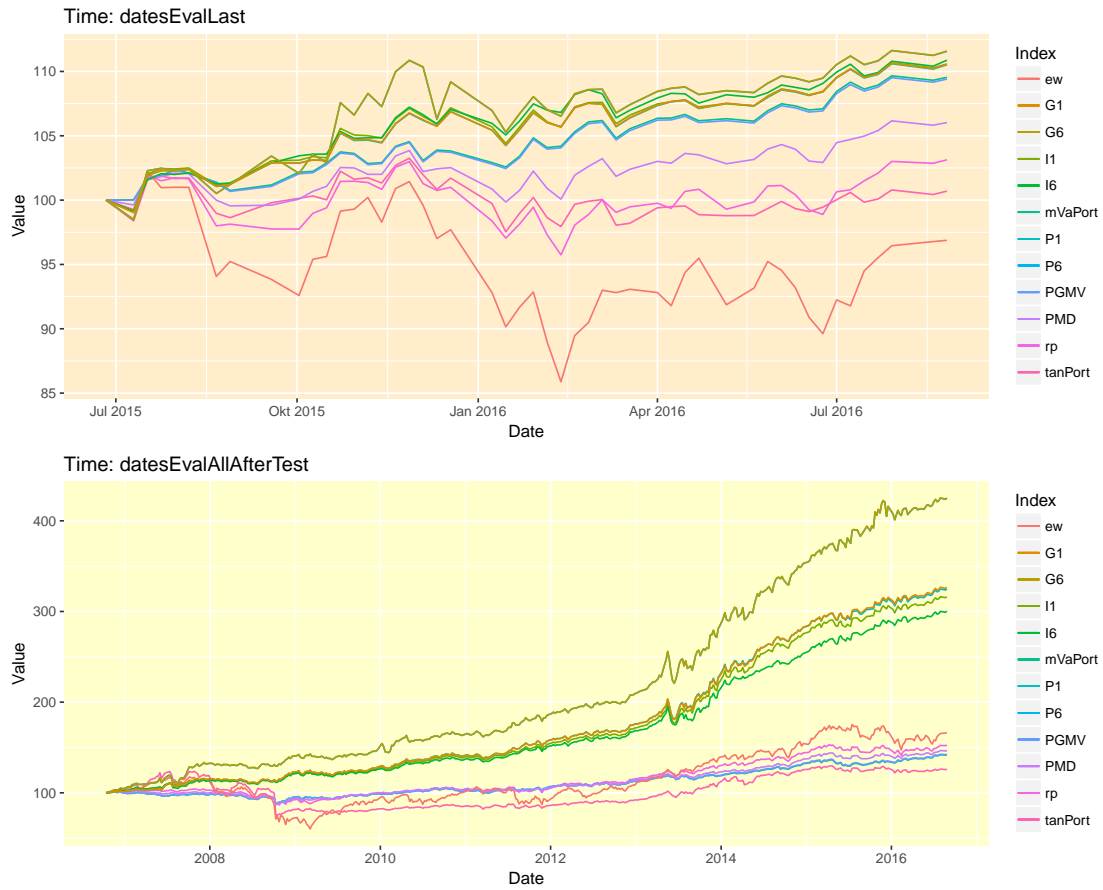


4 Results

4.2.9 Performance-All-classicWithRiskFree

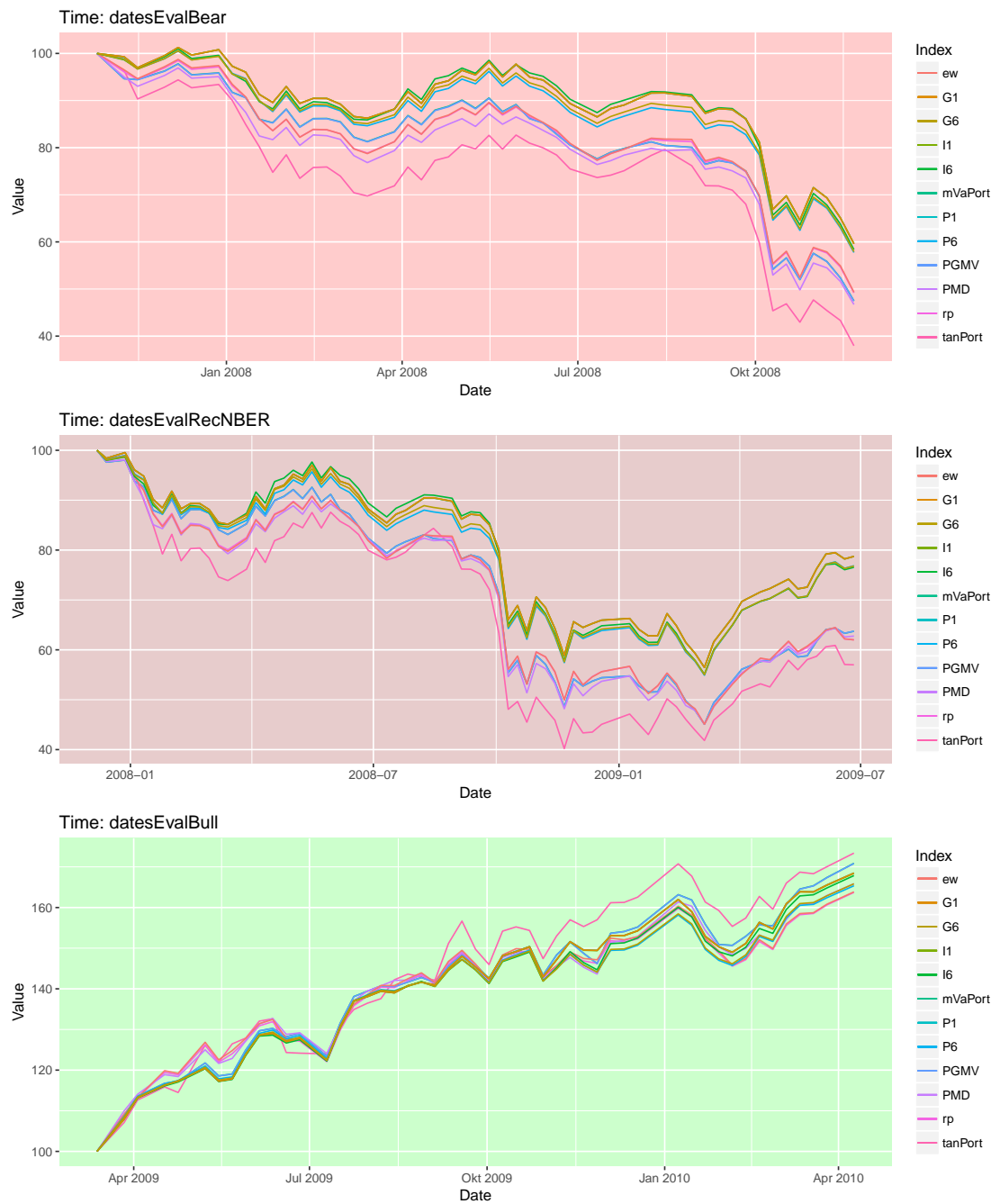


4.2 Performance

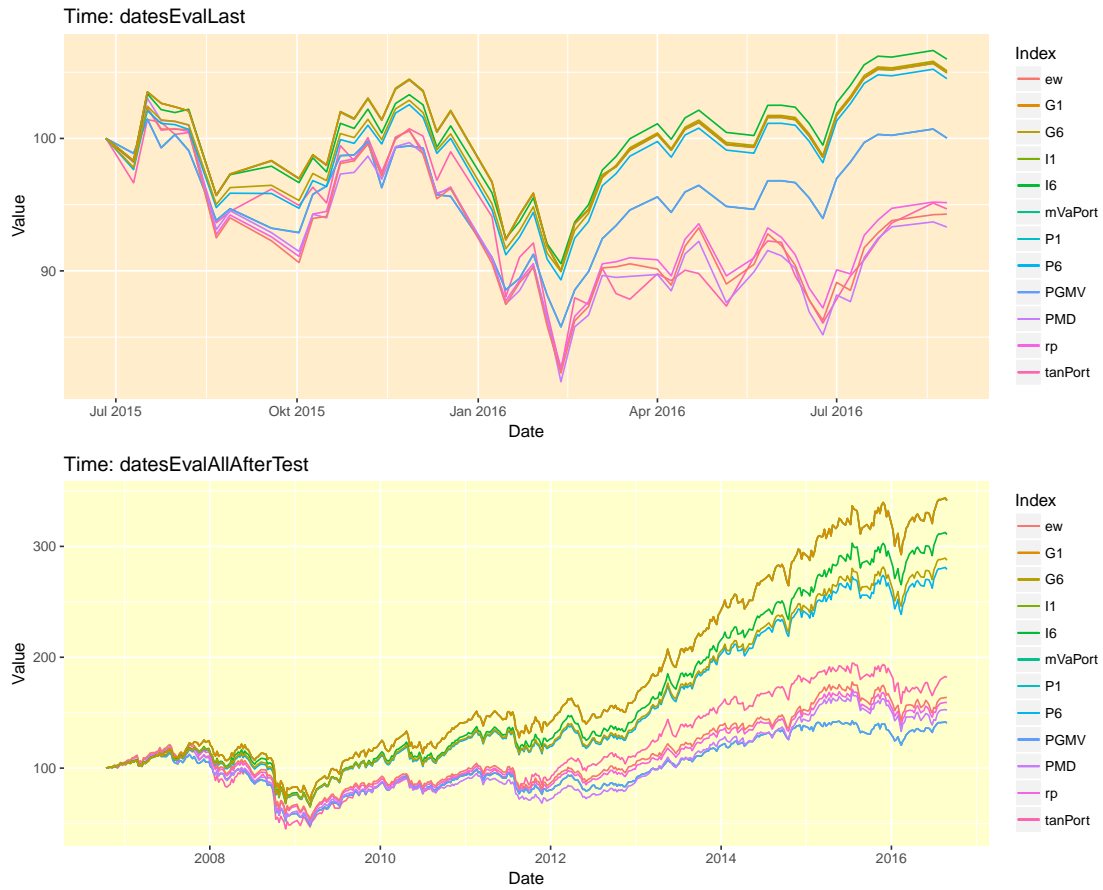


4 Results

4.2.10 Performance-All-classicNoRiskFree



4.2 Performance



4.3 Analysis

4.3.1 Summary-Indices

datesEvalBear

| | DAX | TEC | ESX50 | SP5 | NASDAQ | NIKKEI | BUND |
|-------------------|-------|-------|-------|-------|--------|--------|-------|
| Mean Return (an) | -0.46 | -0.54 | -0.50 | -0.47 | -0.50 | -0.51 | 0.07 |
| Volatility (an) | 0.37 | 0.45 | 0.35 | 0.32 | 0.33 | 0.38 | 0.08 |
| Sharpe Ratio (an) | -1.25 | -1.21 | -1.45 | -1.48 | -1.49 | -1.34 | 0.90 |
| Omega | 0.48 | 0.51 | 0.42 | 0.45 | 0.48 | 0.45 | 1.37 |
| VaR | -0.09 | -0.11 | -0.07 | -0.08 | -0.08 | -0.07 | -0.01 |
| CVaR | -0.19 | -0.19 | -0.19 | -0.15 | -0.12 | -0.21 | -0.02 |

datesEvalRecNBER

| | DAX | TEC | ESX50 | SP5 | NASDAQ | NIKKEI | BUND |
|-------------------|-------|-------|-------|-------|--------|--------|-------|
| Mean Return (an) | -0.26 | -0.21 | -0.31 | -0.26 | -0.19 | -0.24 | 0.05 |
| Volatility (an) | 0.40 | 0.47 | 0.38 | 0.35 | 0.34 | 0.38 | 0.08 |
| Sharpe Ratio (an) | -0.65 | -0.45 | -0.82 | -0.75 | -0.56 | -0.62 | 0.58 |
| Omega | 0.75 | 0.83 | 0.69 | 0.72 | 0.80 | 0.76 | 1.21 |
| VaR | -0.09 | -0.09 | -0.08 | -0.07 | -0.08 | -0.07 | -0.02 |
| CVaR | -0.15 | -0.17 | -0.16 | -0.12 | -0.10 | -0.19 | -0.02 |

datesEvalBull

| | DAX | TEC | ESX50 | SP5 | NASDAQ | NIKKEI | BUND |
|-------------------|-------|-------|-------|-------|--------|--------|-------|
| Mean Return (an) | 0.67 | 1.12 | 0.60 | 0.66 | 0.80 | 0.57 | -0.00 |
| Volatility (an) | 0.23 | 0.29 | 0.24 | 0.20 | 0.20 | 0.28 | 0.07 |
| Sharpe Ratio (an) | 2.88 | 3.82 | 2.52 | 3.24 | 4.06 | 2.07 | -0.07 |
| Omega | 2.13 | 2.79 | 1.96 | 2.53 | 3.01 | 1.88 | 0.98 |
| VaR | -0.04 | -0.04 | -0.04 | -0.04 | -0.03 | -0.04 | -0.02 |
| CVaR | -0.05 | -0.05 | -0.05 | -0.04 | -0.04 | -0.05 | -0.02 |

datesEvalLast

| | DAX | TEC | ESX50 | SP5 | NASDAQ | NIKKEI | BUND |
|-------------------|-------|-------|-------|-------|--------|--------|-------|
| Mean Return (an) | -0.05 | 0.04 | -0.15 | 0.04 | 0.09 | -0.19 | 0.13 |
| Volatility (an) | 0.26 | 0.23 | 0.25 | 0.14 | 0.20 | 0.29 | 0.06 |
| Sharpe Ratio (an) | -0.20 | 0.19 | -0.60 | 0.31 | 0.47 | -0.65 | 2.18 |
| Omega | 0.93 | 1.07 | 0.80 | 1.11 | 1.17 | 0.77 | 2.04 |
| VaR | -0.05 | -0.05 | -0.06 | -0.04 | -0.05 | -0.07 | -0.01 |
| CVaR | -0.09 | -0.07 | -0.08 | -0.04 | -0.06 | -0.09 | -0.02 |

datesEvalAllAfterTest

| | DAX | TEC | ESX50 | SP5 | NASDAQ | NIKKEI | BUND |
|-------------------|-------|-------|-------|-------|--------|--------|-------|
| Mean Return (an) | 0.10 | 0.15 | -0.00 | 0.07 | 0.15 | 0.03 | 0.04 |
| Volatility (an) | 0.25 | 0.26 | 0.25 | 0.20 | 0.21 | 0.25 | 0.07 |
| Sharpe Ratio (an) | 0.39 | 0.58 | -0.00 | 0.38 | 0.70 | 0.13 | 0.66 |
| Omega | 1.15 | 1.24 | 1.00 | 1.16 | 1.27 | 1.05 | 1.25 |
| VaR | -0.05 | -0.06 | -0.05 | -0.04 | -0.05 | -0.06 | -0.02 |
| CVaR | -0.11 | -0.13 | -0.11 | -0.09 | -0.08 | -0.12 | -0.02 |

4.3.2 Summary-Sentix-Dispersion

datesEvalBear

| | P1 | P6 | I1 | I6 | G1 | G6 |
|-------------------|-------|-------|-------|-------|-------|-------|
| Mean Return (an) | 0.05 | 0.07 | 0.04 | 0.06 | 0.05 | 0.07 |
| Volatility (an) | 0.07 | 0.07 | 0.06 | 0.07 | 0.07 | 0.07 |
| Sharpe Ratio (an) | 0.77 | 0.87 | 0.57 | 0.83 | 0.77 | 0.88 |
| Omega | 1.32 | 1.37 | 1.23 | 1.35 | 1.32 | 1.37 |
| VaR | -0.01 | -0.01 | -0.01 | -0.01 | -0.01 | -0.01 |
| CVaR | -0.01 | -0.02 | -0.01 | -0.01 | -0.01 | -0.02 |

datesEvalRecNBER

| | P1 | P6 | I1 | I6 | G1 | G6 |
|-------------------|-------|-------|-------|-------|-------|-------|
| Mean Return (an) | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 |
| Volatility (an) | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 |
| Sharpe Ratio (an) | 0.62 | 0.53 | 0.53 | 0.60 | 0.61 | 0.53 |
| Omega | 1.24 | 1.20 | 1.21 | 1.23 | 1.24 | 1.20 |
| VaR | -0.01 | -0.01 | -0.02 | -0.01 | -0.01 | -0.01 |
| CVaR | -0.02 | -0.02 | -0.02 | -0.02 | -0.02 | -0.02 |

datesEvalBull

| | P1 | P6 | I1 | I6 | G1 | G6 |
|-------------------|-------|-------|-------|-------|-------|-------|
| Mean Return (an) | 0.11 | 0.16 | 0.11 | 0.09 | 0.10 | 0.16 |
| Volatility (an) | 0.06 | 0.10 | 0.05 | 0.05 | 0.06 | 0.10 |
| Sharpe Ratio (an) | 1.86 | 1.56 | 1.99 | 1.69 | 1.83 | 1.56 |
| Omega | 1.87 | 1.87 | 1.95 | 1.75 | 1.85 | 1.87 |
| VaR | -0.01 | -0.02 | -0.01 | -0.01 | -0.01 | -0.02 |
| CVaR | -0.01 | -0.02 | -0.01 | -0.01 | -0.01 | -0.02 |

datesEvalLast

| | P1 | P6 | I1 | I6 | G1 | G6 |
|-------------------|-------|-------|-------|-------|-------|-------|
| Mean Return (an) | 0.11 | 0.13 | 0.11 | 0.12 | 0.11 | 0.13 |
| Volatility (an) | 0.06 | 0.11 | 0.06 | 0.06 | 0.06 | 0.11 |
| Sharpe Ratio (an) | 1.81 | 1.23 | 1.78 | 2.02 | 1.80 | 1.23 |
| Omega | 1.90 | 1.57 | 1.89 | 2.00 | 1.90 | 1.57 |
| VaR | -0.01 | -0.02 | -0.01 | -0.01 | -0.01 | -0.02 |
| CVaR | -0.01 | -0.02 | -0.01 | -0.01 | -0.01 | -0.02 |

datesEvalAllAfterTest

| | P1 | P6 | I1 | I6 | G1 | G6 |
|-------------------|-------|-------|-------|-------|-------|-------|
| Mean Return (an) | 0.15 | 0.18 | 0.14 | 0.14 | 0.15 | 0.18 |
| Volatility (an) | 0.08 | 0.10 | 0.08 | 0.07 | 0.08 | 0.10 |
| Sharpe Ratio (an) | 1.90 | 1.78 | 1.88 | 1.81 | 1.89 | 1.79 |
| Omega | 2.00 | 1.92 | 1.97 | 1.96 | 1.99 | 1.92 |
| VaR | -0.01 | -0.02 | -0.01 | -0.01 | -0.01 | -0.02 |
| CVaR | -0.02 | -0.03 | -0.02 | -0.02 | -0.02 | -0.03 |

4.3.3 Summary-Sentix-Disperion-No-Risk-Free

datesEvalBear

| | P1 | P6 | I1 | I6 | G1 | G6 |
|-------------------|-------|-------|-------|-------|-------|-------|
| Mean Return (an) | -0.39 | -0.41 | -0.39 | -0.41 | -0.39 | -0.41 |
| Volatility (an) | 0.30 | 0.30 | 0.30 | 0.31 | 0.30 | 0.30 |
| Sharpe Ratio (an) | -1.29 | -1.37 | -1.29 | -1.31 | -1.29 | -1.36 |
| Omega | 0.53 | 0.50 | 0.53 | 0.51 | 0.53 | 0.50 |
| VaR | -0.07 | -0.07 | -0.07 | -0.07 | -0.07 | -0.07 |
| CVaR | -0.15 | -0.15 | -0.15 | -0.15 | -0.15 | -0.15 |

datesEvalRecNBER

| | P1 | P6 | I1 | I6 | G1 | G6 |
|-------------------|-------|-------|-------|-------|-------|-------|
| Mean Return (an) | -0.12 | -0.13 | -0.12 | -0.13 | -0.12 | -0.13 |
| Volatility (an) | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 |
| Sharpe Ratio (an) | -0.36 | -0.41 | -0.36 | -0.41 | -0.36 | -0.41 |
| Omega | 0.87 | 0.85 | 0.87 | 0.84 | 0.87 | 0.85 |
| VaR | -0.06 | -0.06 | -0.06 | -0.06 | -0.06 | -0.06 |
| CVaR | -0.12 | -0.12 | -0.12 | -0.12 | -0.12 | -0.12 |

datesEvalBull

| | P1 | P6 | I1 | I6 | G1 | G6 |
|-------------------|-------|-------|-------|-------|-------|-------|
| Mean Return (an) | 0.77 | 0.74 | 0.77 | 0.77 | 0.77 | 0.74 |
| Volatility (an) | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 |
| Sharpe Ratio (an) | 3.93 | 3.72 | 3.93 | 3.86 | 3.93 | 3.75 |
| Omega | 2.89 | 2.74 | 2.89 | 2.81 | 2.89 | 2.75 |
| VaR | -0.03 | -0.03 | -0.03 | -0.03 | -0.03 | -0.03 |
| CVaR | -0.04 | -0.04 | -0.04 | -0.04 | -0.04 | -0.04 |

datesEvalLast

| | P1 | P6 | I1 | I6 | G1 | G6 |
|-------------------|-------|-------|-------|-------|-------|-------|
| Mean Return (an) | 0.07 | 0.06 | 0.07 | 0.08 | 0.07 | 0.07 |
| Volatility (an) | 0.17 | 0.16 | 0.17 | 0.16 | 0.17 | 0.16 |
| Sharpe Ratio (an) | 0.40 | 0.39 | 0.41 | 0.48 | 0.40 | 0.43 |
| Omega | 1.15 | 1.15 | 1.15 | 1.18 | 1.15 | 1.16 |
| VaR | -0.04 | -0.04 | -0.04 | -0.04 | -0.04 | -0.04 |
| CVaR | -0.05 | -0.05 | -0.05 | -0.05 | -0.05 | -0.05 |

datesEvalAllAfterTest

| | P1 | P6 | I1 | I6 | G1 | G6 |
|-------------------|-------|-------|-------|-------|-------|-------|
| Mean Return (an) | 0.17 | 0.14 | 0.17 | 0.16 | 0.17 | 0.15 |
| Volatility (an) | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 |
| Sharpe Ratio (an) | 0.89 | 0.76 | 0.89 | 0.83 | 0.89 | 0.78 |
| Omega | 1.37 | 1.31 | 1.37 | 1.34 | 1.37 | 1.32 |
| VaR | -0.04 | -0.04 | -0.04 | -0.04 | -0.04 | -0.04 |
| CVaR | -0.08 | -0.08 | -0.08 | -0.09 | -0.08 | -0.08 |

4.3.4 Summary-Sentix-Herfindahl

datesEvalBear

| | P1 | P6 | I1 | I6 | G1 | G6 |
|-------------------|-------|-------|-------|-------|-------|-------|
| Mean Return (an) | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 |
| Volatility (an) | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 |
| Sharpe Ratio (an) | 0.92 | 0.92 | 0.90 | 0.91 | 0.91 | 0.92 |
| Omega | 1.40 | 1.39 | 1.39 | 1.39 | 1.39 | 1.39 |
| VaR | -0.01 | -0.01 | -0.01 | -0.01 | -0.01 | -0.01 |
| CVaR | -0.02 | -0.02 | -0.02 | -0.02 | -0.02 | -0.02 |

datesEvalRecNBER

| | P1 | P6 | I1 | I6 | G1 | G6 |
|-------------------|-------|-------|-------|-------|-------|-------|
| Mean Return (an) | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 |
| Volatility (an) | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 |
| Sharpe Ratio (an) | 0.52 | 0.53 | 0.53 | 0.53 | 0.52 | 0.53 |
| Omega | 1.20 | 1.20 | 1.20 | 1.20 | 1.20 | 1.20 |
| VaR | -0.01 | -0.01 | -0.01 | -0.01 | -0.01 | -0.01 |
| CVaR | -0.02 | -0.02 | -0.02 | -0.02 | -0.02 | -0.02 |

datesEvalBull

| | P1 | P6 | I1 | I6 | G1 | G6 |
|-------------------|-------|-------|-------|-------|-------|-------|
| Mean Return (an) | 0.16 | 0.16 | 0.16 | 0.16 | 0.16 | 0.16 |
| Volatility (an) | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 |
| Sharpe Ratio (an) | 1.55 | 1.56 | 1.55 | 1.56 | 1.55 | 1.56 |
| Omega | 1.86 | 1.87 | 1.86 | 1.87 | 1.86 | 1.87 |
| VaR | -0.02 | -0.02 | -0.02 | -0.02 | -0.02 | -0.02 |
| CVaR | -0.02 | -0.02 | -0.02 | -0.02 | -0.02 | -0.02 |

datesEvalLast

| | P1 | P6 | I1 | I6 | G1 | G6 |
|-------------------|-------|-------|-------|-------|-------|-------|
| Mean Return (an) | 0.12 | 0.13 | 0.12 | 0.13 | 0.12 | 0.13 |
| Volatility (an) | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 |
| Sharpe Ratio (an) | 1.15 | 1.19 | 1.15 | 1.20 | 1.15 | 1.19 |
| Omega | 1.52 | 1.54 | 1.52 | 1.55 | 1.52 | 1.55 |
| VaR | -0.02 | -0.02 | -0.02 | -0.02 | -0.02 | -0.02 |
| CVaR | -0.03 | -0.03 | -0.03 | -0.02 | -0.03 | -0.02 |

datesEvalAllAfterTest

| | P1 | P6 | I1 | I6 | G1 | G6 |
|-------------------|-------|-------|-------|-------|-------|-------|
| Mean Return (an) | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 |
| Volatility (an) | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 |
| Sharpe Ratio (an) | 1.78 | 1.79 | 1.78 | 1.79 | 1.78 | 1.79 |
| Omega | 1.91 | 1.92 | 1.92 | 1.92 | 1.91 | 1.92 |
| VaR | -0.02 | -0.02 | -0.02 | -0.02 | -0.02 | -0.02 |
| CVaR | -0.03 | -0.03 | -0.03 | -0.03 | -0.03 | -0.03 |

4.3.5 Summary-Sentix-Herfindahl-No-Risk-Free**datesEvalBear**

| | P1 | P6 | I1 | I6 | G1 | G6 |
|-------------------|-------|-------|-------|-------|-------|-------|
| Mean Return (an) | -0.41 | -0.39 | -0.40 | -0.40 | -0.41 | -0.39 |
| Volatility (an) | 0.31 | 0.31 | 0.30 | 0.30 | 0.30 | 0.31 |
| Sharpe Ratio (an) | -1.34 | -1.29 | -1.30 | -1.30 | -1.34 | -1.29 |
| Omega | 0.51 | 0.53 | 0.52 | 0.52 | 0.51 | 0.53 |
| VaR | -0.07 | -0.07 | -0.07 | -0.07 | -0.07 | -0.07 |
| CVaR | -0.15 | -0.15 | -0.15 | -0.15 | -0.15 | -0.15 |

datesEvalRecNBER

| | P1 | P6 | I1 | I6 | G1 | G6 |
|-------------------|-------|-------|-------|-------|-------|-------|
| Mean Return (an) | -0.14 | -0.12 | -0.12 | -0.12 | -0.13 | -0.12 |
| Volatility (an) | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 |
| Sharpe Ratio (an) | -0.43 | -0.36 | -0.37 | -0.37 | -0.41 | -0.36 |
| Omega | 0.84 | 0.86 | 0.86 | 0.86 | 0.85 | 0.87 |
| VaR | -0.06 | -0.06 | -0.06 | -0.06 | -0.06 | -0.06 |
| CVaR | -0.12 | -0.12 | -0.12 | -0.12 | -0.12 | -0.12 |

datesEvalBull

| | P1 | P6 | I1 | I6 | G1 | G6 |
|-------------------|-------|-------|-------|-------|-------|-------|
| Mean Return (an) | 0.77 | 0.77 | 0.77 | 0.77 | 0.77 | 0.77 |
| Volatility (an) | 0.19 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 |
| Sharpe Ratio (an) | 3.97 | 3.94 | 3.94 | 3.93 | 3.92 | 3.94 |
| Omega | 2.91 | 2.90 | 2.90 | 2.89 | 2.89 | 2.90 |
| VaR | -0.03 | -0.03 | -0.03 | -0.03 | -0.03 | -0.03 |
| CVaR | -0.04 | -0.04 | -0.04 | -0.04 | -0.04 | -0.04 |

datesEvalLast

| | P1 | P6 | I1 | I6 | G1 | G6 |
|-------------------|-------|-------|-------|-------|-------|-------|
| Mean Return (an) | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 |
| Volatility (an) | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 |
| Sharpe Ratio (an) | 0.43 | 0.41 | 0.40 | 0.41 | 0.42 | 0.40 |
| Omega | 1.16 | 1.15 | 1.15 | 1.15 | 1.16 | 1.15 |
| VaR | -0.04 | -0.04 | -0.04 | -0.04 | -0.04 | -0.04 |
| CVaR | -0.05 | -0.05 | -0.05 | -0.05 | -0.05 | -0.05 |

datesEvalAllAfterTest

| | P1 | P6 | I1 | I6 | G1 | G6 |
|-------------------|-------|-------|-------|-------|-------|-------|
| Mean Return (an) | 0.16 | 0.17 | 0.17 | 0.17 | 0.16 | 0.17 |
| Volatility (an) | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 |
| Sharpe Ratio (an) | 0.84 | 0.89 | 0.88 | 0.87 | 0.83 | 0.89 |
| Omega | 1.34 | 1.37 | 1.36 | 1.36 | 1.34 | 1.37 |
| VaR | -0.04 | -0.04 | -0.04 | -0.04 | -0.04 | -0.04 |
| CVaR | -0.08 | -0.08 | -0.08 | -0.08 | -0.08 | -0.08 |

4.3.6 Summary-Classic

datesEvalBear

| | tanPort | mVaPort | rp | PGMV | PMD | ew |
|-------------------|---------|---------|-------|-------|-------|-------|
| Mean Return (an) | -0.35 | -0.08 | -0.17 | -0.08 | -0.12 | -0.44 |
| Volatility (an) | 0.29 | 0.08 | 0.11 | 0.08 | 0.09 | 0.29 |
| Sharpe Ratio (an) | -1.20 | -1.00 | -1.54 | -0.99 | -1.37 | -1.51 |
| Omega | 0.45 | 0.61 | 0.45 | 0.61 | 0.48 | 0.45 |
| VaR | -0.04 | -0.01 | -0.02 | -0.01 | -0.01 | -0.07 |
| CVaR | -0.17 | -0.06 | -0.08 | -0.06 | -0.06 | -0.15 |

datesEvalRecNBER

| | tanPort | mVaPort | rp | PGMV | PMD | ew |
|-------------------|---------|---------|-------|-------|-------|-------|
| Mean Return (an) | -0.24 | -0.03 | -0.07 | -0.03 | -0.04 | -0.21 |
| Volatility (an) | 0.24 | 0.08 | 0.11 | 0.08 | 0.08 | 0.31 |
| Sharpe Ratio (an) | -0.97 | -0.34 | -0.66 | -0.33 | -0.50 | -0.68 |
| Omega | 0.54 | 0.87 | 0.74 | 0.87 | 0.79 | 0.75 |
| VaR | -0.03 | -0.01 | -0.02 | -0.01 | -0.01 | -0.06 |
| CVaR | -0.09 | -0.05 | -0.07 | -0.05 | -0.06 | -0.13 |

datesEvalBull

| | tanPort | mVaPort | rp | PGMV | PMD | ew |
|-------------------|---------|---------|-------|-------|-------|-------|
| Mean Return (an) | 0.03 | 0.07 | 0.16 | 0.07 | 0.11 | 0.60 |
| Volatility (an) | 0.06 | 0.05 | 0.04 | 0.05 | 0.04 | 0.18 |
| Sharpe Ratio (an) | 0.60 | 1.48 | 3.50 | 1.50 | 2.74 | 3.35 |
| Omega | 1.23 | 1.62 | 3.24 | 1.63 | 2.41 | 2.56 |
| VaR | -0.01 | -0.01 | -0.01 | -0.01 | -0.01 | -0.03 |
| CVaR | -0.02 | -0.01 | -0.01 | -0.01 | -0.01 | -0.04 |

datesEvalLast

| | tanPort | mVaPort | rp | PGMV | PMD | ew |
|-------------------|---------|---------|-------|-------|-------|-------|
| Mean Return (an) | 0.01 | 0.10 | 0.04 | 0.10 | 0.07 | -0.02 |
| Volatility (an) | 0.08 | 0.05 | 0.09 | 0.05 | 0.06 | 0.17 |
| Sharpe Ratio (an) | 0.13 | 2.10 | 0.42 | 2.06 | 1.03 | -0.11 |
| Omega | 1.05 | 2.02 | 1.16 | 2.00 | 1.44 | 0.96 |
| VaR | -0.02 | -0.01 | -0.02 | -0.01 | -0.01 | -0.04 |
| CVaR | -0.02 | -0.01 | -0.03 | -0.01 | -0.02 | -0.05 |

datesEvalAllAfterTest

| | tanPort | mVaPort | rp | PGMV | PMD | ew |
|-------------------|---------|---------|-------|-------|-------|-------|
| Mean Return (an) | 0.04 | 0.04 | 0.05 | 0.04 | 0.05 | 0.08 |
| Volatility (an) | 0.13 | 0.05 | 0.07 | 0.05 | 0.06 | 0.18 |
| Sharpe Ratio (an) | 0.28 | 0.77 | 0.72 | 0.78 | 0.78 | 0.43 |
| Omega | 1.14 | 1.33 | 1.31 | 1.34 | 1.34 | 1.17 |
| VaR | -0.02 | -0.01 | -0.01 | -0.01 | -0.01 | -0.04 |
| CVaR | -0.02 | -0.03 | -0.04 | -0.03 | -0.04 | -0.09 |

4.3.7 Summary-Classic-No-Risk-Free

datesEvalBear

| | tanPort | mVaPort | rp | PGMV | PMD | ew |
|-------------------|---------|---------|-------|-------|-------|-------|
| Mean Return (an) | -0.61 | -0.52 | -0.50 | -0.52 | -0.52 | -0.50 |
| Volatility (an) | 0.41 | 0.34 | 0.34 | 0.34 | 0.35 | 0.34 |
| Sharpe Ratio (an) | -1.50 | -1.52 | -1.45 | -1.52 | -1.50 | -1.44 |
| Omega | 0.41 | 0.41 | 0.45 | 0.41 | 0.42 | 0.45 |
| VaR | -0.11 | -0.08 | -0.08 | -0.08 | -0.09 | -0.08 |
| CVaR | -0.20 | -0.19 | -0.18 | -0.19 | -0.19 | -0.18 |

datesEvalRecNBER

| | tanPort | mVaPort | rp | PGMV | PMD | ew |
|-------------------|---------|---------|-------|-------|-------|-------|
| Mean Return (an) | -0.27 | -0.23 | -0.25 | -0.23 | -0.24 | -0.25 |
| Volatility (an) | 0.43 | 0.35 | 0.36 | 0.35 | 0.36 | 0.36 |
| Sharpe Ratio (an) | -0.63 | -0.66 | -0.68 | -0.66 | -0.67 | -0.68 |
| Omega | 0.77 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 |
| VaR | -0.08 | -0.07 | -0.07 | -0.07 | -0.07 | -0.07 |
| CVaR | -0.17 | -0.17 | -0.15 | -0.17 | -0.16 | -0.15 |

datesEvalBull

| | tanPort | mVaPort | rp | PGMV | PMD | ew |
|-------------------|---------|---------|-------|-------|-------|-------|
| Mean Return (an) | 0.84 | 0.80 | 0.72 | 0.80 | 0.75 | 0.73 |
| Volatility (an) | 0.23 | 0.20 | 0.21 | 0.20 | 0.21 | 0.21 |
| Sharpe Ratio (an) | 3.58 | 3.93 | 3.41 | 3.93 | 3.56 | 3.38 |
| Omega | 2.58 | 2.88 | 2.49 | 2.87 | 2.62 | 2.47 |
| VaR | -0.04 | -0.03 | -0.04 | -0.03 | -0.03 | -0.04 |
| CVaR | -0.05 | -0.04 | -0.04 | -0.04 | -0.04 | -0.04 |

datesEvalLast

| | tanPort | mVaPort | rp | PGMV | PMD | ew |
|-------------------|---------|---------|-------|-------|-------|-------|
| Mean Return (an) | -0.04 | 0.01 | -0.03 | 0.01 | -0.05 | -0.04 |
| Volatility (an) | 0.21 | 0.15 | 0.19 | 0.15 | 0.20 | 0.20 |
| Sharpe Ratio (an) | -0.17 | 0.08 | -0.17 | 0.08 | -0.26 | -0.20 |
| Omega | 0.94 | 1.03 | 0.94 | 1.03 | 0.91 | 0.93 |
| VaR | -0.05 | -0.04 | -0.05 | -0.04 | -0.05 | -0.05 |
| CVaR | -0.06 | -0.05 | -0.06 | -0.05 | -0.06 | -0.06 |

datesEvalAllAfterTest

| | tanPort | mVaPort | rp | PGMV | PMD | ew |
|-------------------|---------|---------|-------|-------|-------|-------|
| Mean Return (an) | 0.10 | 0.06 | 0.08 | 0.06 | 0.07 | 0.08 |
| Volatility (an) | 0.24 | 0.20 | 0.21 | 0.20 | 0.21 | 0.21 |
| Sharpe Ratio (an) | 0.43 | 0.30 | 0.37 | 0.30 | 0.34 | 0.39 |
| Omega | 1.17 | 1.13 | 1.15 | 1.13 | 1.14 | 1.15 |
| VaR | -0.05 | -0.04 | -0.04 | -0.04 | -0.05 | -0.05 |
| CVaR | -0.12 | -0.12 | -0.11 | -0.12 | -0.12 | -0.11 |

4.3.8 SummaryAll-classicWithRiskFree**datesEvalBear**

| | tanPort | mVaPort | rp | PGMV | PMD | ew | P1 | P6 | I1 | |
|-------------------|---------|---------|-------|-------|-------|-------|-------|-------|-------|----|
| Mean Return (an) | -0.35 | -0.08 | -0.17 | -0.08 | -0.12 | -0.44 | 0.05 | 0.07 | 0.04 | 0 |
| Volatility (an) | 0.29 | 0.08 | 0.11 | 0.08 | 0.09 | 0.29 | 0.07 | 0.07 | 0.06 | 0 |
| Sharpe Ratio (an) | -1.20 | -1.00 | -1.54 | -0.99 | -1.37 | -1.51 | 0.77 | 0.87 | 0.57 | 0 |
| Omega | 0.45 | 0.61 | 0.45 | 0.61 | 0.48 | 0.45 | 1.32 | 1.37 | 1.23 | 1 |
| VaR | -0.04 | -0.01 | -0.02 | -0.01 | -0.01 | -0.07 | -0.01 | -0.01 | -0.01 | -0 |
| CVaR | -0.17 | -0.06 | -0.08 | -0.06 | -0.06 | -0.15 | -0.01 | -0.02 | -0.01 | -0 |

datesEvalRecNBER

| | tanPort | mVaPort | rp | PGMV | PMD | ew | P1 | P6 | I1 | |
|-------------------|---------|---------|-------|-------|-------|-------|-------|-------|-------|----|
| Mean Return (an) | -0.24 | -0.03 | -0.07 | -0.03 | -0.04 | -0.21 | 0.04 | 0.04 | 0.04 | 0 |
| Volatility (an) | 0.24 | 0.08 | 0.11 | 0.08 | 0.08 | 0.31 | 0.07 | 0.07 | 0.07 | 0 |
| Sharpe Ratio (an) | -0.97 | -0.34 | -0.66 | -0.33 | -0.50 | -0.68 | 0.62 | 0.53 | 0.53 | 0 |
| Omega | 0.54 | 0.87 | 0.74 | 0.87 | 0.79 | 0.75 | 1.24 | 1.20 | 1.21 | 1 |
| VaR | -0.03 | -0.01 | -0.02 | -0.01 | -0.01 | -0.06 | -0.01 | -0.01 | -0.02 | -0 |
| CVaR | -0.09 | -0.05 | -0.07 | -0.05 | -0.06 | -0.13 | -0.02 | -0.02 | -0.02 | -0 |

datesEvalBull

| | tanPort | mVaPort | rp | PGMV | PMD | ew | P1 | P6 | I1 | |
|-------------------|---------|---------|-------|-------|-------|-------|-------|-------|-------|----|
| Mean Return (an) | 0.03 | 0.07 | 0.16 | 0.07 | 0.11 | 0.60 | 0.11 | 0.16 | 0.11 | 0 |
| Volatility (an) | 0.06 | 0.05 | 0.04 | 0.05 | 0.04 | 0.18 | 0.06 | 0.10 | 0.05 | 0 |
| Sharpe Ratio (an) | 0.60 | 1.48 | 3.50 | 1.50 | 2.74 | 3.35 | 1.86 | 1.56 | 1.99 | 1 |
| Omega | 1.23 | 1.62 | 3.24 | 1.63 | 2.41 | 2.56 | 1.87 | 1.87 | 1.95 | 1 |
| VaR | -0.01 | -0.01 | -0.01 | -0.01 | -0.01 | -0.03 | -0.01 | -0.02 | -0.01 | -0 |
| CVaR | -0.02 | -0.01 | -0.01 | -0.01 | -0.01 | -0.04 | -0.01 | -0.02 | -0.01 | -0 |

datesEvalLast

| | tanPort | mVaPort | rp | PGMV | PMD | ew | P1 | P6 | I1 | |
|-------------------|---------|---------|-------|-------|-------|-------|-------|-------|-------|----|
| Mean Return (an) | 0.01 | 0.10 | 0.04 | 0.10 | 0.07 | -0.02 | 0.11 | 0.13 | 0.11 | 0 |
| Volatility (an) | 0.08 | 0.05 | 0.09 | 0.05 | 0.06 | 0.17 | 0.06 | 0.11 | 0.06 | 0 |
| Sharpe Ratio (an) | 0.13 | 2.10 | 0.42 | 2.06 | 1.03 | -0.11 | 1.81 | 1.23 | 1.78 | 2 |
| Omega | 1.05 | 2.02 | 1.16 | 2.00 | 1.44 | 0.96 | 1.90 | 1.57 | 1.89 | 2 |
| VaR | -0.02 | -0.01 | -0.02 | -0.01 | -0.01 | -0.04 | -0.01 | -0.02 | -0.01 | -0 |
| CVaR | -0.02 | -0.01 | -0.03 | -0.01 | -0.02 | -0.05 | -0.01 | -0.02 | -0.01 | -0 |

datesEvalAllAfterTest

| | tanPort | mVaPort | rp | PGMV | PMD | ew | P1 | P6 | I1 | I6 | G1 |
|-------------------|---------|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Mean Return (an) | 0.04 | 0.04 | 0.05 | 0.04 | 0.05 | 0.08 | 0.15 | 0.18 | 0.14 | 0.14 | 0.15 |
| Volatility (an) | 0.13 | 0.05 | 0.07 | 0.05 | 0.06 | 0.18 | 0.08 | 0.10 | 0.08 | 0.07 | 0.08 |
| Sharpe Ratio (an) | 0.28 | 0.77 | 0.72 | 0.78 | 0.78 | 0.43 | 1.90 | 1.78 | 1.88 | 1.81 | 1.89 |
| Omega | 1.14 | 1.33 | 1.31 | 1.34 | 1.34 | 1.17 | 2.00 | 1.92 | 1.97 | 1.96 | 1.99 |
| VaR | -0.02 | -0.01 | -0.01 | -0.01 | -0.01 | -0.04 | -0.01 | -0.02 | -0.01 | -0.01 | -0.01 |
| CVaR | -0.02 | -0.03 | -0.04 | -0.03 | -0.04 | -0.09 | -0.02 | -0.03 | -0.02 | -0.02 | -0.02 |

4.3.9 SummaryAll-classicNoRiskFree**datesEvalBear**

| | tanPort | mVaPort | rp | PGMV | PMD | ew | P1 | P6 | I1 | |
|-------------------|---------|---------|-------|-------|-------|-------|-------|-------|-------|----|
| Mean Return (an) | -0.61 | -0.52 | -0.50 | -0.52 | -0.52 | -0.50 | -0.39 | -0.41 | -0.39 | -0 |
| Volatility (an) | 0.41 | 0.34 | 0.34 | 0.34 | 0.35 | 0.34 | 0.30 | 0.30 | 0.30 | 0 |
| Sharpe Ratio (an) | -1.50 | -1.52 | -1.45 | -1.52 | -1.50 | -1.44 | -1.29 | -1.37 | -1.29 | -1 |
| Omega | 0.41 | 0.41 | 0.45 | 0.41 | 0.42 | 0.45 | 0.53 | 0.50 | 0.53 | 0 |
| VaR | -0.11 | -0.08 | -0.08 | -0.08 | -0.09 | -0.08 | -0.07 | -0.07 | -0.07 | -0 |
| CVaR | -0.20 | -0.19 | -0.18 | -0.19 | -0.19 | -0.18 | -0.15 | -0.15 | -0.15 | -0 |

datesEvalRecNBER

| | tanPort | mVaPort | rp | PGMV | PMD | ew | P1 | P6 | I1 | |
|-------------------|---------|---------|-------|-------|-------|-------|-------|-------|-------|----|
| Mean Return (an) | -0.27 | -0.23 | -0.25 | -0.23 | -0.24 | -0.25 | -0.12 | -0.13 | -0.12 | -0 |
| Volatility (an) | 0.43 | 0.35 | 0.36 | 0.35 | 0.36 | 0.36 | 0.32 | 0.32 | 0.32 | 0 |
| Sharpe Ratio (an) | -0.63 | -0.66 | -0.68 | -0.66 | -0.67 | -0.68 | -0.36 | -0.41 | -0.36 | -0 |
| Omega | 0.77 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.87 | 0.85 | 0.87 | 0 |
| VaR | -0.08 | -0.07 | -0.07 | -0.07 | -0.07 | -0.07 | -0.06 | -0.06 | -0.06 | -0 |
| CVaR | -0.17 | -0.17 | -0.15 | -0.17 | -0.16 | -0.15 | -0.12 | -0.12 | -0.12 | -0 |

datesEvalBull

| | tanPort | mVaPort | rp | PGMV | PMD | ew | P1 | P6 | I1 | |
|-------------------|---------|---------|-------|-------|-------|-------|-------|-------|-------|----|
| Mean Return (an) | 0.84 | 0.80 | 0.72 | 0.80 | 0.75 | 0.73 | 0.77 | 0.74 | 0.77 | 0 |
| Volatility (an) | 0.23 | 0.20 | 0.21 | 0.20 | 0.21 | 0.21 | 0.20 | 0.20 | 0.20 | 0 |
| Sharpe Ratio (an) | 3.58 | 3.93 | 3.41 | 3.93 | 3.56 | 3.38 | 3.93 | 3.72 | 3.93 | 3 |
| Omega | 2.58 | 2.88 | 2.49 | 2.87 | 2.62 | 2.47 | 2.89 | 2.74 | 2.89 | 2 |
| VaR | -0.04 | -0.03 | -0.04 | -0.03 | -0.03 | -0.04 | -0.03 | -0.03 | -0.03 | -0 |
| CVaR | -0.05 | -0.04 | -0.04 | -0.04 | -0.04 | -0.04 | -0.04 | -0.04 | -0.04 | -0 |

datesEvalLast

| | tanPort | mVaPort | rp | PGMV | PMD | ew | P1 | P6 | I1 | |
|-------------------|---------|---------|-------|-------|-------|-------|-------|-------|-------|----|
| Mean Return (an) | -0.04 | 0.01 | -0.03 | 0.01 | -0.05 | -0.04 | 0.07 | 0.06 | 0.07 | 0 |
| Volatility (an) | 0.21 | 0.15 | 0.19 | 0.15 | 0.20 | 0.20 | 0.17 | 0.16 | 0.17 | 0 |
| Sharpe Ratio (an) | -0.17 | 0.08 | -0.17 | 0.08 | -0.26 | -0.20 | 0.40 | 0.39 | 0.41 | 0 |
| Omega | 0.94 | 1.03 | 0.94 | 1.03 | 0.91 | 0.93 | 1.15 | 1.15 | 1.15 | 1 |
| VaR | -0.05 | -0.04 | -0.05 | -0.04 | -0.05 | -0.05 | -0.04 | -0.04 | -0.04 | -0 |
| CVaR | -0.06 | -0.05 | -0.06 | -0.05 | -0.06 | -0.06 | -0.05 | -0.05 | -0.05 | -0 |

datesEvalAllAfterTest

| | tanPort | mVaPort | rp | PGMV | PMD | ew | P1 | P6 | I1 | I6 | G1 |
|-------------------|---------|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Mean Return (an) | 0.10 | 0.06 | 0.08 | 0.06 | 0.07 | 0.08 | 0.17 | 0.14 | 0.17 | 0.16 | 0.17 |
| Volatility (an) | 0.24 | 0.20 | 0.21 | 0.20 | 0.21 | 0.21 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 |
| Sharpe Ratio (an) | 0.43 | 0.30 | 0.37 | 0.30 | 0.34 | 0.39 | 0.89 | 0.76 | 0.89 | 0.83 | 0.89 |
| Omega | 1.17 | 1.13 | 1.15 | 1.13 | 1.14 | 1.15 | 1.37 | 1.31 | 1.37 | 1.34 | 1.37 |
| VaR | -0.05 | -0.04 | -0.04 | -0.04 | -0.05 | -0.05 | -0.04 | -0.04 | -0.04 | -0.04 | -0.04 |
| CVaR | -0.12 | -0.12 | -0.11 | -0.12 | -0.12 | -0.11 | -0.08 | -0.08 | -0.08 | -0.09 | -0.08 |

4.3.10 Dispersion - p-Values that sharpe of Row is not higher**datesEvalBear**

| | tanPort | mVaPort | rp | PGMV | PMD | ew |
|----|---------|---------|--------|--------|--------|--------|
| P1 | 0.1232 | 0.0741 | 0.0736 | 0.0757 | 0.0665 | 0.0930 |
| P6 | 0.1079 | 0.0795 | 0.0630 | 0.0809 | 0.0624 | 0.0725 |
| I1 | 0.1379 | 0.0771 | 0.0776 | 0.0788 | 0.0674 | 0.1030 |
| I6 | 0.1160 | 0.0698 | 0.0682 | 0.0711 | 0.0618 | 0.0853 |
| G1 | 0.1239 | 0.0757 | 0.0743 | 0.0772 | 0.0674 | 0.0933 |
| G6 | 0.1075 | 0.0791 | 0.0626 | 0.0806 | 0.0622 | 0.0720 |

datesEvalRecNBER

| | tanPort | mVaPort | rp | PGMV | PMD | ew |
|----|---------|---------|--------|--------|--------|--------|
| P1 | 0.1285 | 0.1531 | 0.2296 | 0.1561 | 0.2042 | 0.3026 |
| P6 | 0.1381 | 0.1922 | 0.2602 | 0.1958 | 0.2375 | 0.3324 |
| I1 | 0.1314 | 0.1458 | 0.2326 | 0.1491 | 0.2004 | 0.3153 |
| I6 | 0.1271 | 0.1546 | 0.2329 | 0.1577 | 0.2060 | 0.3062 |
| G1 | 0.1294 | 0.1557 | 0.2320 | 0.1588 | 0.2065 | 0.3050 |
| G6 | 0.1380 | 0.1919 | 0.2599 | 0.1954 | 0.2371 | 0.3321 |

datesEvalBull

| | tanPort | mVaPort | rp | PGMV | PMD | ew |
|----|---------|---------|--------|--------|--------|--------|
| P1 | 0.0039 | 0.6433 | 0.1677 | 0.6631 | 0.2889 | 0.5819 |
| P6 | 0.3236 | 0.9858 | 0.0999 | 1.0000 | 0.2883 | 0.3577 |
| I1 | 0.0013 | 0.5106 | 0.1942 | 0.5291 | 0.3367 | 0.6343 |
| I6 | 0.0028 | 0.7657 | 0.1395 | 0.7910 | 0.1858 | 0.5335 |
| G1 | 0.0063 | 0.6778 | 0.1597 | 0.6977 | 0.2770 | 0.5674 |
| G6 | 0.3233 | 0.9854 | 0.1000 | 0.9996 | 0.2885 | 0.3579 |

datesEvalLast

| | tanPort | mVaPort | rp | PGMV | PMD | ew |
|----|---------|---------|--------|--------|--------|--------|
| P1 | 0.0001 | 0.6809 | 0.1051 | 0.7173 | 0.2697 | 0.0631 |
| P6 | 0.0783 | 0.4379 | 0.3926 | 0.4558 | 0.8594 | 0.1670 |
| I1 | 0.0001 | 0.6504 | 0.0988 | 0.6866 | 0.2666 | 0.0588 |
| I6 | 0.0002 | 0.9046 | 0.1107 | 0.9423 | 0.2325 | 0.0682 |
| G1 | 0.0001 | 0.6770 | 0.1068 | 0.7131 | 0.2758 | 0.0637 |
| G6 | 0.0785 | 0.4388 | 0.3925 | 0.4567 | 0.8590 | 0.1668 |

datesEvalAllAfterTest

| | tanPort | mVaPort | rp | PGMV | PMD | ew |
|----|---------|---------|--------|--------|--------|--------|
| P1 | 0.0118 | 0.0035 | 0.0038 | 0.0037 | 0.0049 | 0.0021 |
| P6 | 0.0171 | 0.0275 | 0.0132 | 0.0289 | 0.0248 | 0.0032 |
| I1 | 0.0110 | 0.0031 | 0.0028 | 0.0033 | 0.0039 | 0.0017 |
| I6 | 0.0145 | 0.0058 | 0.0084 | 0.0062 | 0.0092 | 0.0045 |
| G1 | 0.0121 | 0.0041 | 0.0041 | 0.0044 | 0.0055 | 0.0022 |
| G6 | 0.0171 | 0.0274 | 0.0131 | 0.0287 | 0.0247 | 0.0032 |

4.3.11 Herfindahl - p-Values that sharpe of Row is not higher**datesEvalBear**

| | tanPort | mVaPort | rp | PGMV | PMD | ew |
|----|---------|---------|--------|--------|--------|--------|
| P1 | 0.1035 | 0.0787 | 0.0593 | 0.0802 | 0.0604 | 0.0663 |
| P6 | 0.1034 | 0.0775 | 0.0592 | 0.0789 | 0.0600 | 0.0667 |
| I1 | 0.1047 | 0.0786 | 0.0602 | 0.0801 | 0.0608 | 0.0681 |
| I6 | 0.1042 | 0.0779 | 0.0599 | 0.0793 | 0.0604 | 0.0678 |
| G1 | 0.1038 | 0.0787 | 0.0595 | 0.0801 | 0.0605 | 0.0668 |
| G6 | 0.1035 | 0.0775 | 0.0593 | 0.0789 | 0.0600 | 0.0669 |

datesEvalRecNBER

| | tanPort | mVaPort | rp | PGMV | PMD | ew |
|----|---------|---------|--------|--------|--------|--------|
| P1 | 0.1381 | 0.1930 | 0.2602 | 0.1966 | 0.2374 | 0.3324 |
| P6 | 0.1375 | 0.1907 | 0.2585 | 0.1942 | 0.2356 | 0.3308 |
| I1 | 0.1378 | 0.1919 | 0.2594 | 0.1954 | 0.2367 | 0.3317 |
| I6 | 0.1379 | 0.1918 | 0.2596 | 0.1954 | 0.2368 | 0.3319 |
| G1 | 0.1380 | 0.1927 | 0.2599 | 0.1963 | 0.2372 | 0.3322 |
| G6 | 0.1376 | 0.1910 | 0.2589 | 0.1945 | 0.2360 | 0.3311 |

datesEvalBull

| | tanPort | mVaPort | rp | PGMV | PMD | ew |
|----|---------|---------|--------|--------|--------|--------|
| P1 | 0.3322 | 0.9912 | 0.0984 | 0.9947 | 0.2873 | 0.3507 |
| P6 | 0.3253 | 0.9851 | 0.0999 | 0.9992 | 0.2899 | 0.3558 |
| I1 | 0.3304 | 0.9899 | 0.0988 | 0.9960 | 0.2878 | 0.3521 |
| I6 | 0.3256 | 0.9857 | 0.0997 | 0.9998 | 0.2894 | 0.3556 |
| G1 | 0.3309 | 0.9900 | 0.0987 | 0.9959 | 0.2879 | 0.3517 |
| G6 | 0.3255 | 0.9854 | 0.0998 | 0.9995 | 0.2897 | 0.3557 |

datesEvalLast

| | tanPort | mVaPort | rp | PGMV | PMD | ew |
|----|---------|---------|--------|--------|--------|--------|
| P1 | 0.1000 | 0.4006 | 0.4375 | 0.4175 | 0.9248 | 0.1885 |
| P6 | 0.0888 | 0.4208 | 0.4127 | 0.4382 | 0.8906 | 0.1753 |
| I1 | 0.0994 | 0.4027 | 0.4353 | 0.4196 | 0.9220 | 0.1871 |
| I6 | 0.0849 | 0.4259 | 0.4051 | 0.4435 | 0.8803 | 0.1718 |
| G1 | 0.0996 | 0.4014 | 0.4366 | 0.4184 | 0.9237 | 0.1879 |
| G6 | 0.0880 | 0.4216 | 0.4112 | 0.4391 | 0.8887 | 0.1746 |

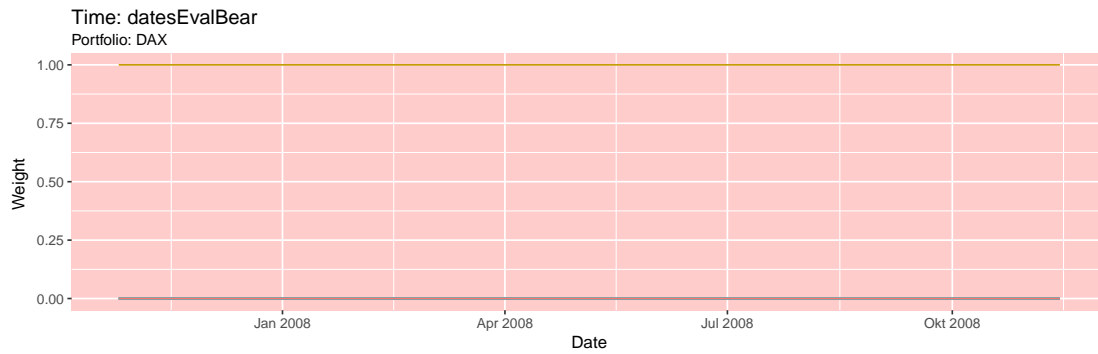
datesEvalAllAfterTest

| | tanPort | mVaPort | rp | PGMV | PMD | ew |
|----|---------|---------|--------|--------|--------|--------|
| P1 | 0.0171 | 0.0285 | 0.0131 | 0.0298 | 0.0252 | 0.0031 |
| P6 | 0.0169 | 0.0273 | 0.0127 | 0.0286 | 0.0243 | 0.0030 |
| I1 | 0.0171 | 0.0280 | 0.0130 | 0.0293 | 0.0248 | 0.0031 |
| I6 | 0.0170 | 0.0276 | 0.0129 | 0.0289 | 0.0245 | 0.0031 |
| G1 | 0.0171 | 0.0283 | 0.0131 | 0.0297 | 0.0251 | 0.0031 |
| G6 | 0.0169 | 0.0274 | 0.0127 | 0.0287 | 0.0244 | 0.0030 |

4.4 Weights

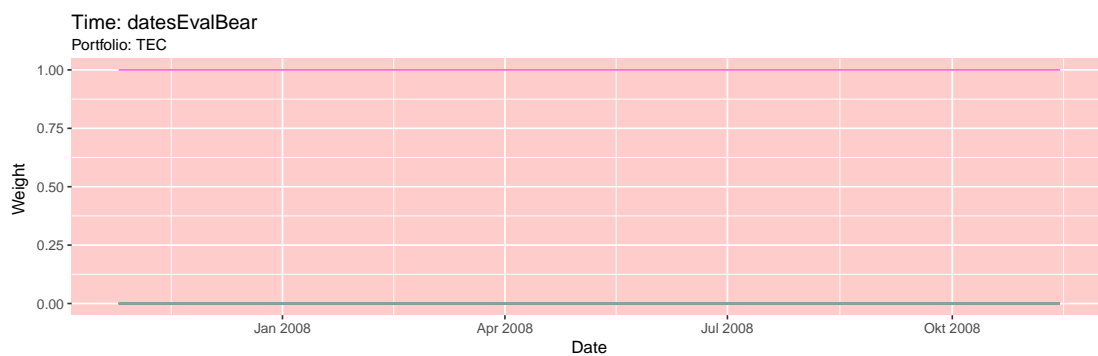
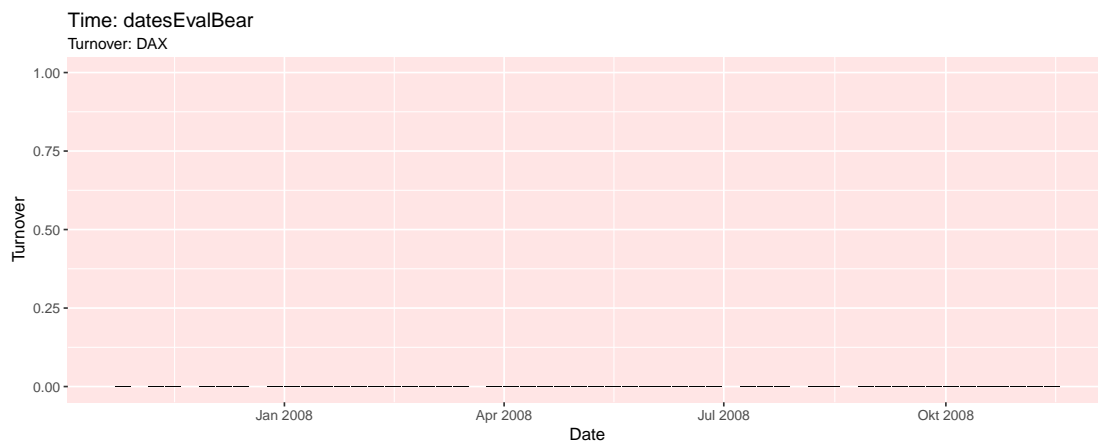
4.4.1 Weights-Indices

Weights-Indices - datesEvalBear



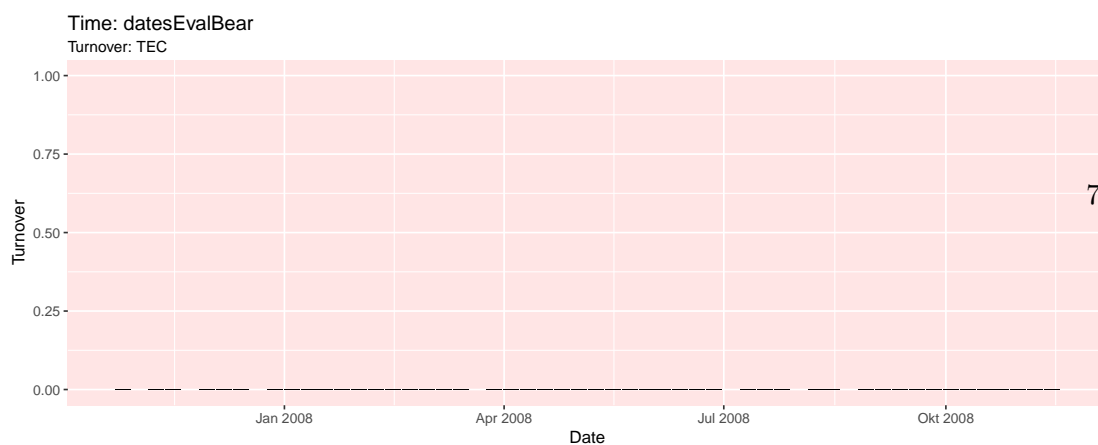
Portfolios

| | | | |
|------|--------|--------|-----|
| BUND | ESX50 | NIKKEI | TEC |
| DAX | NASDAQ | SP5 | |

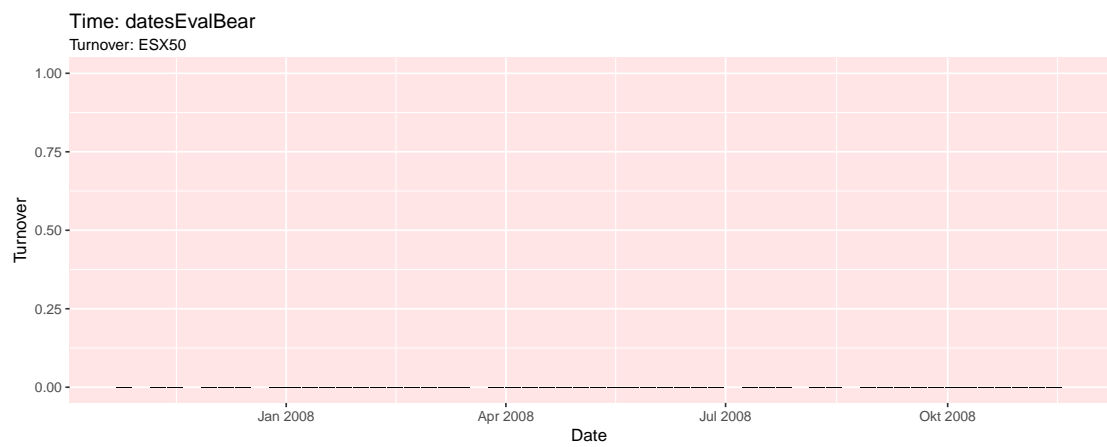
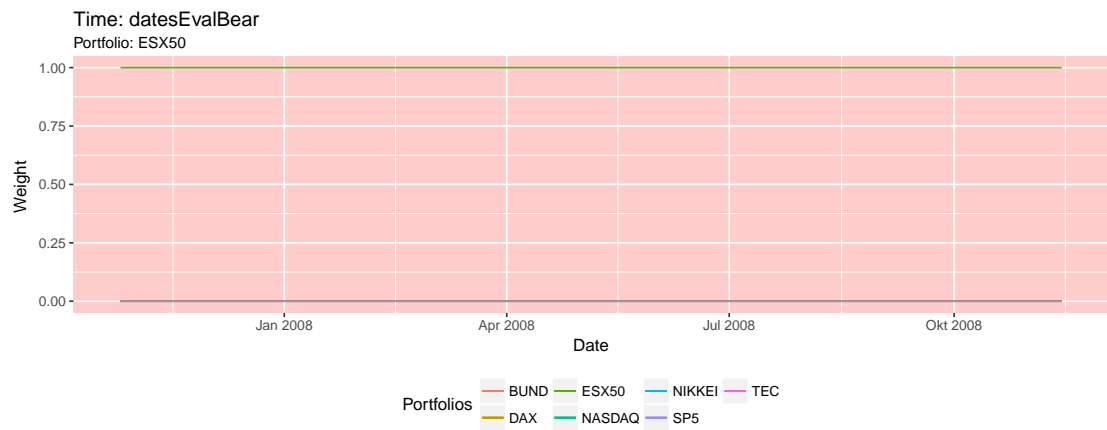


Portfolios

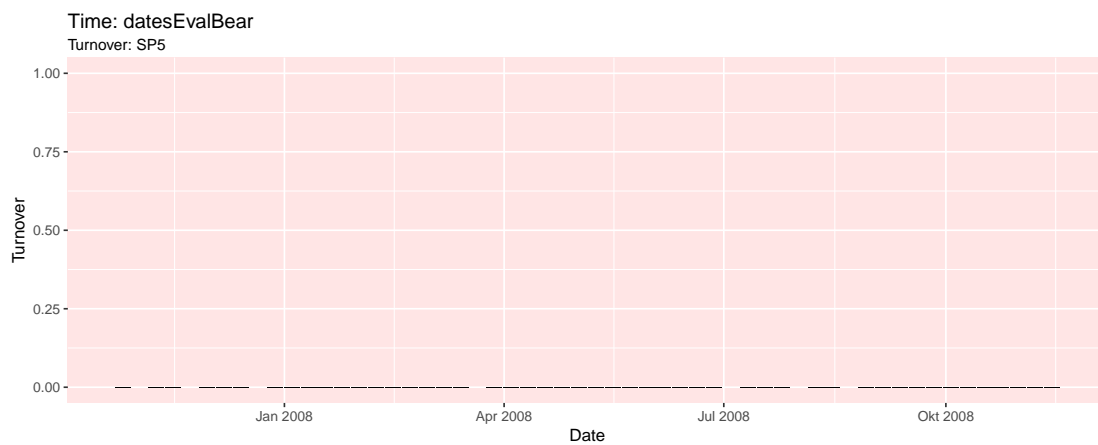
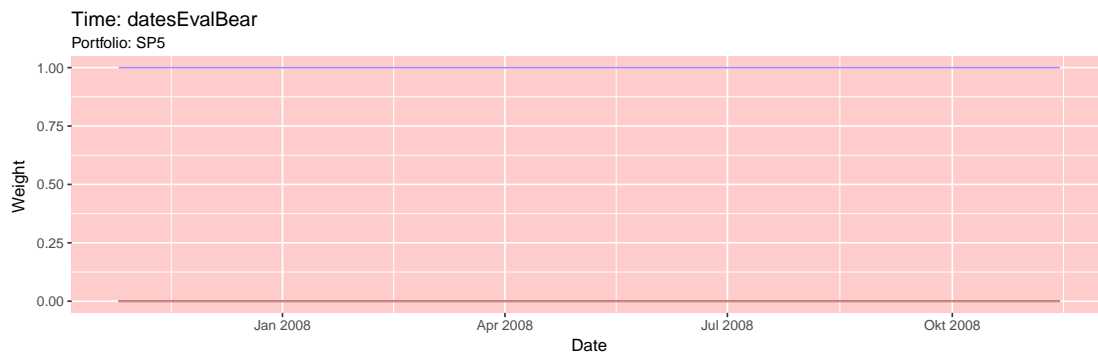
| | | | |
|------|--------|--------|-----|
| BUND | ESX50 | NIKKEI | TEC |
| DAX | NASDAQ | SP5 | |



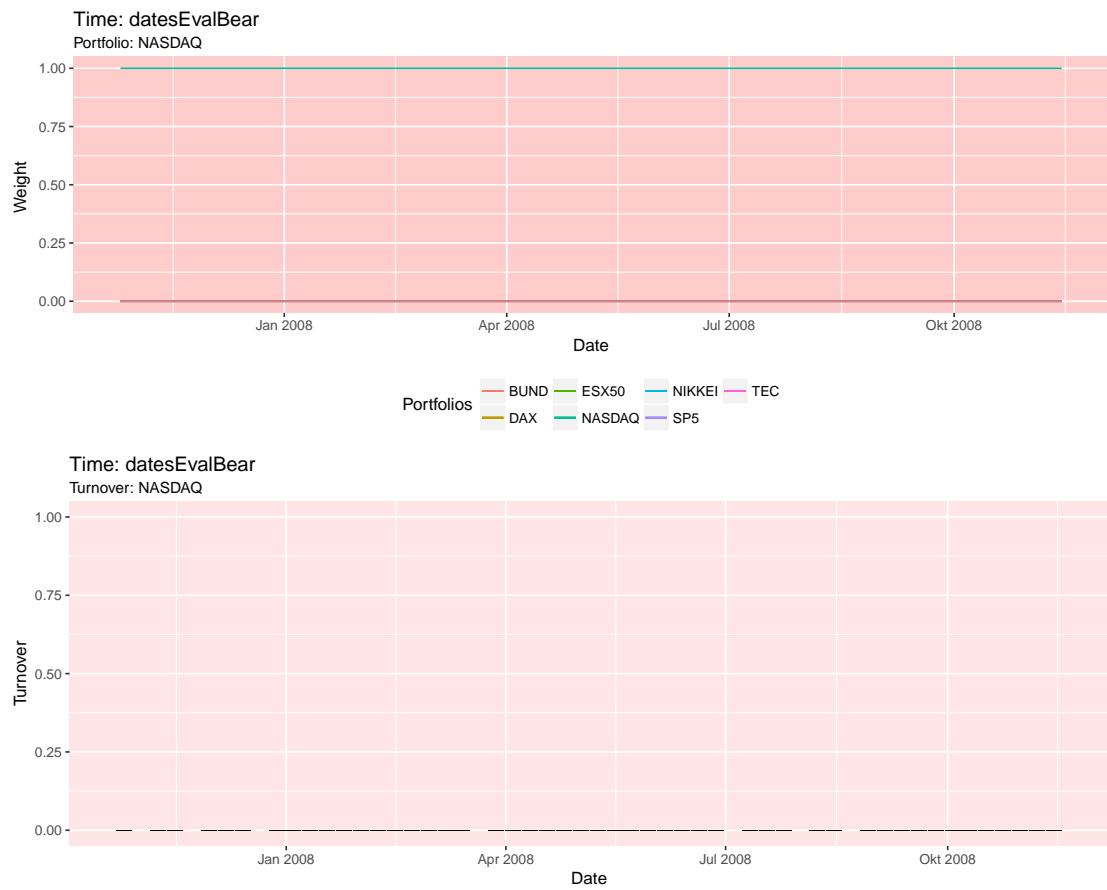
4 Results



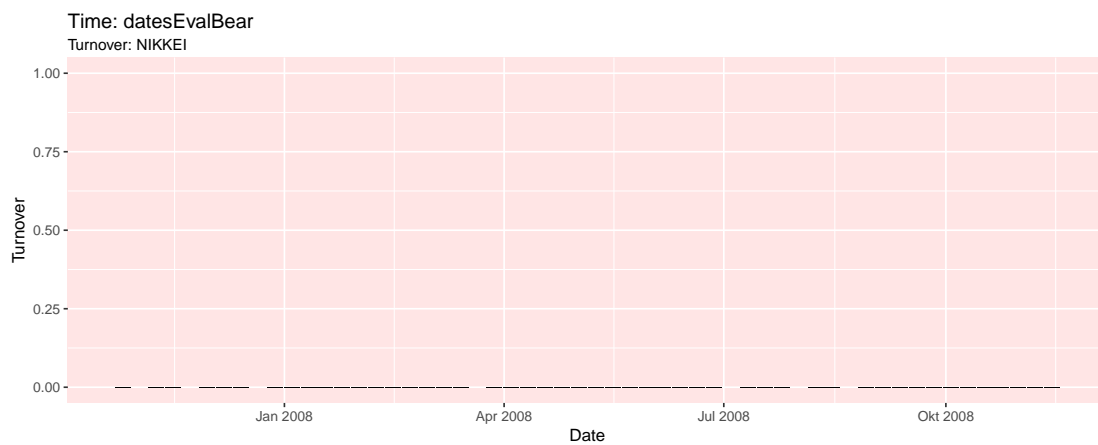
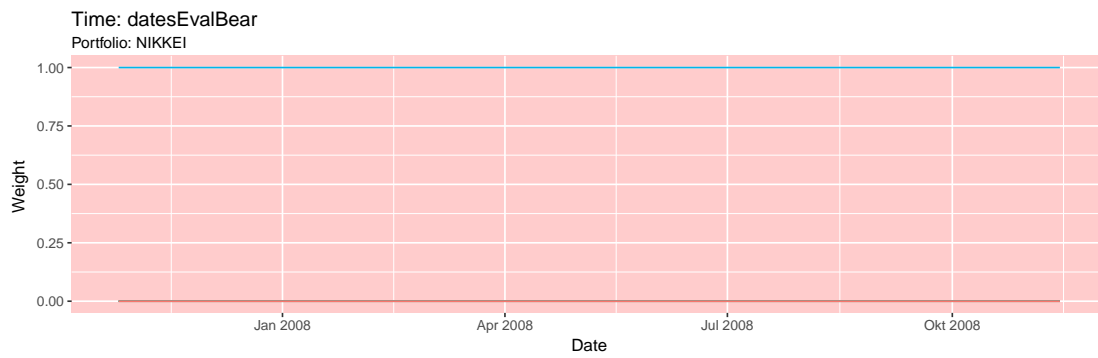
4.4 Weights



4 Results



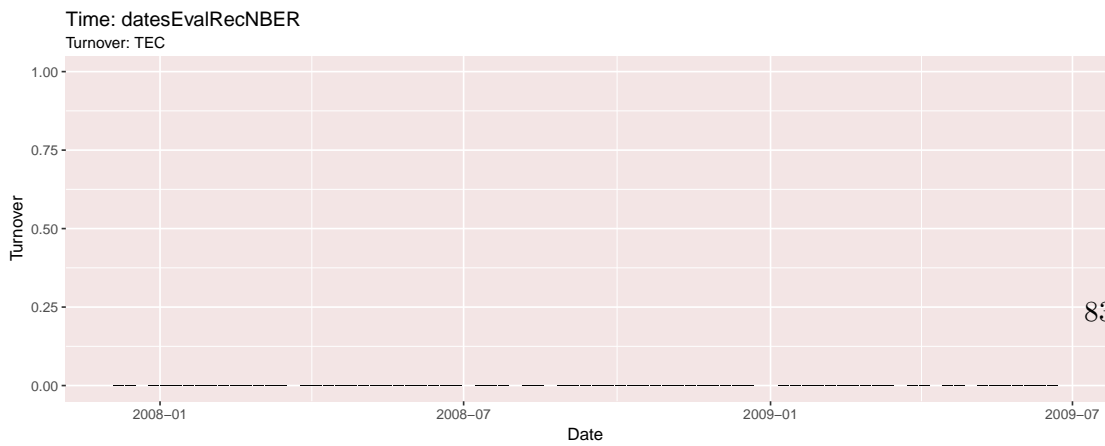
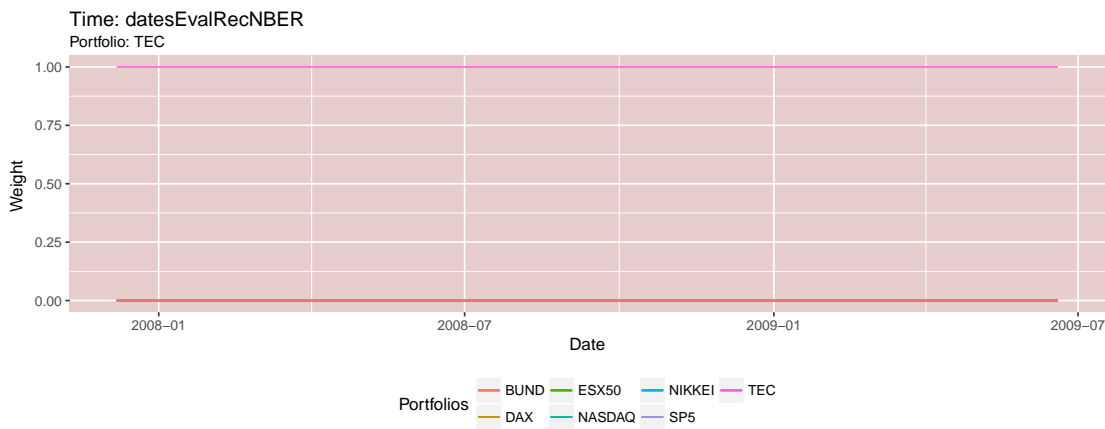
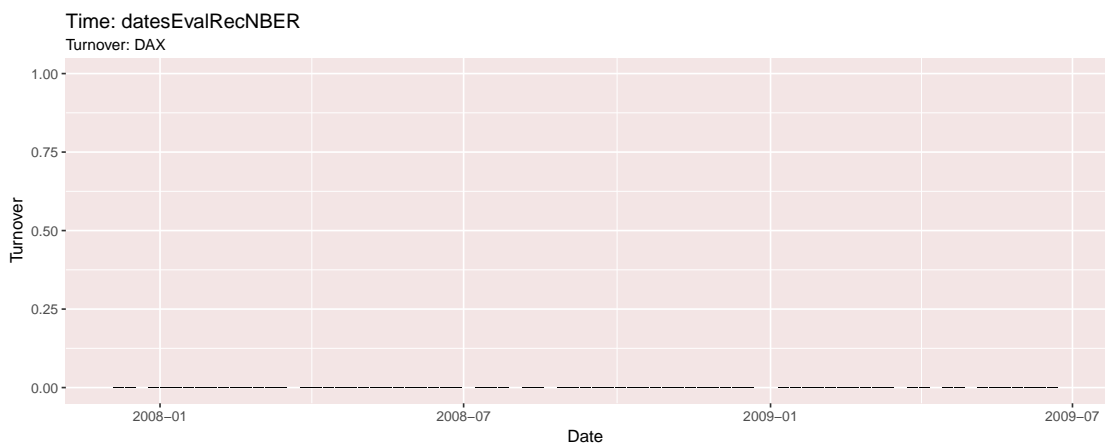
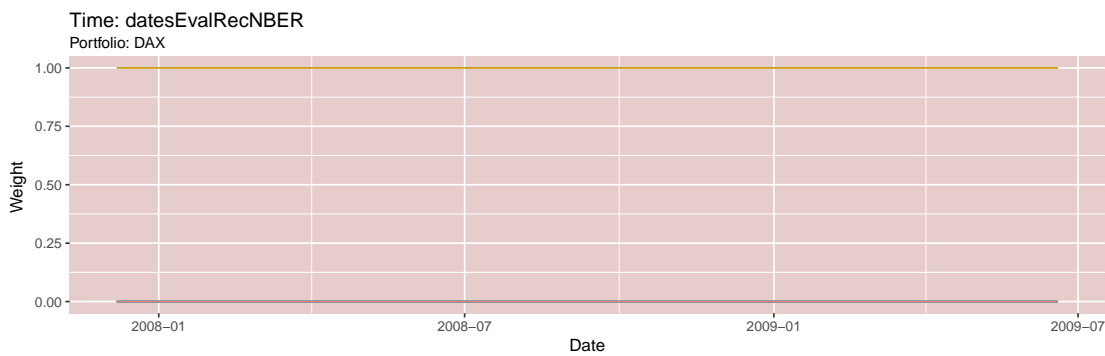
4.4 Weights



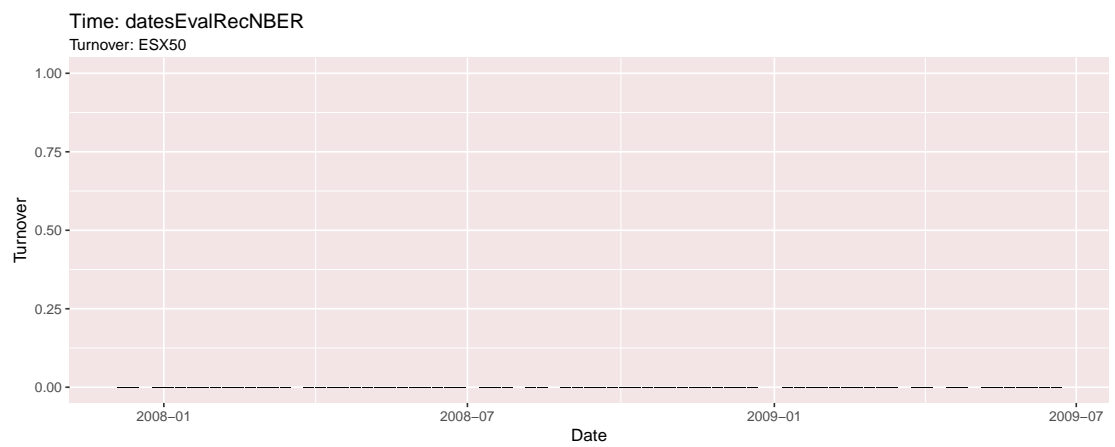
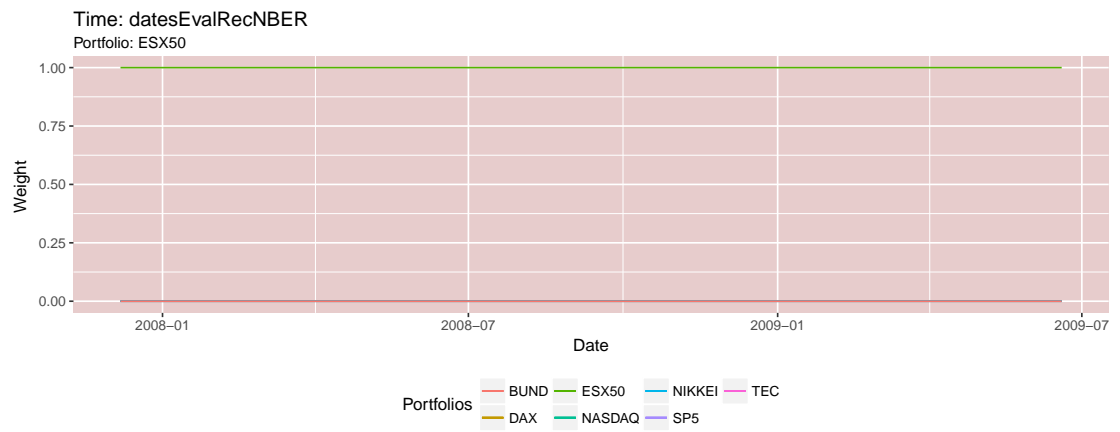
4 Results



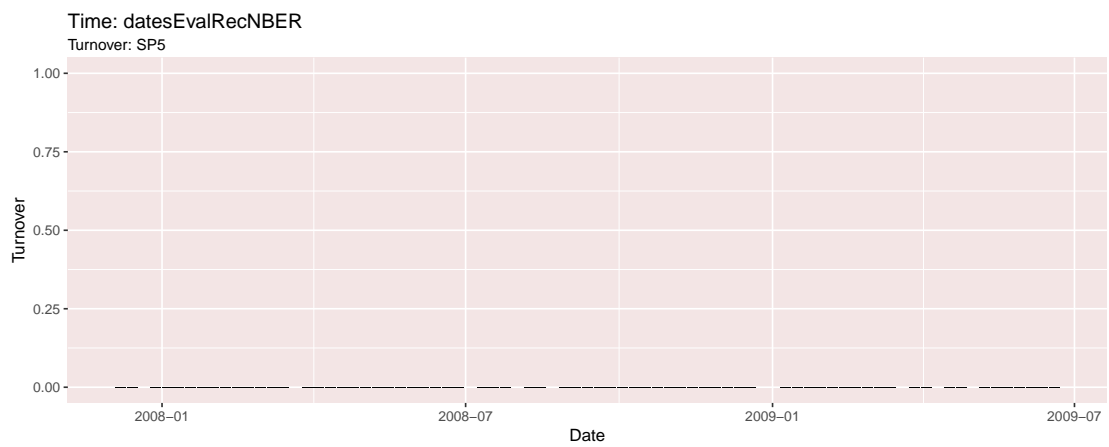
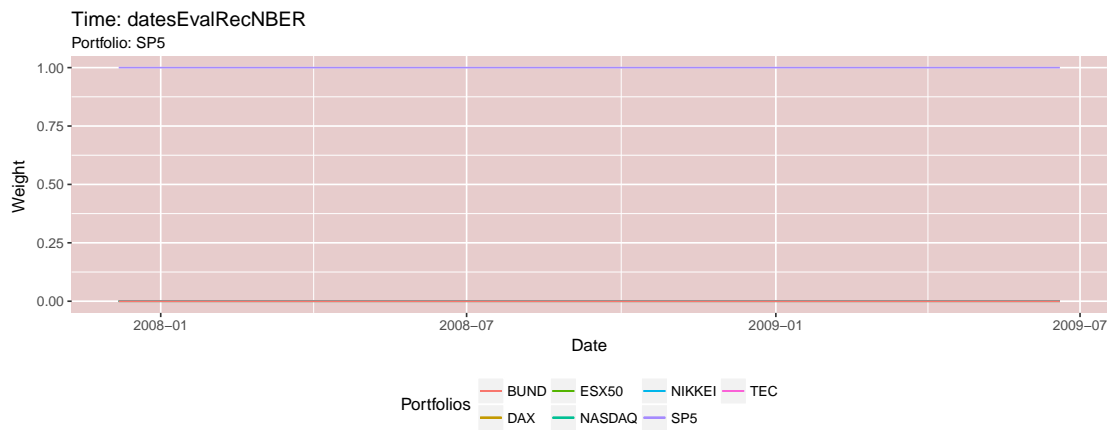
Weights-Indices - datesEvalRecNBER



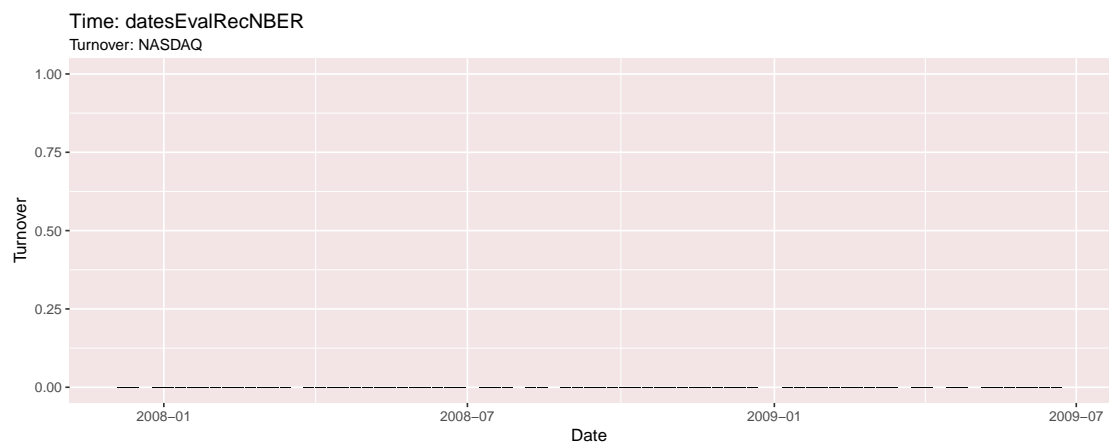
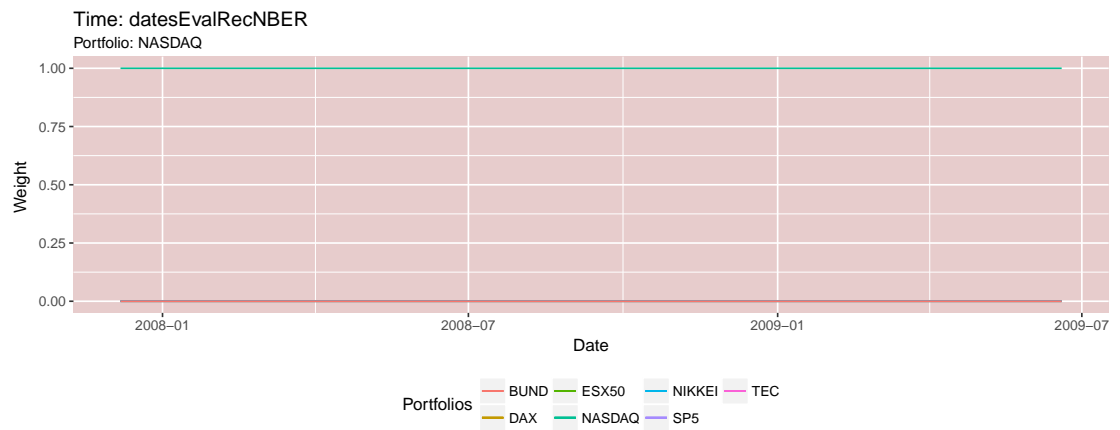
4 Results



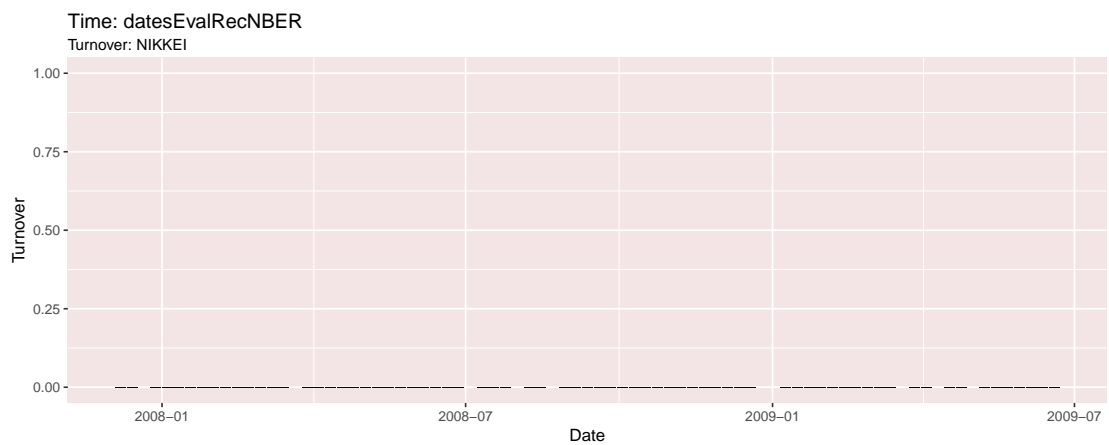
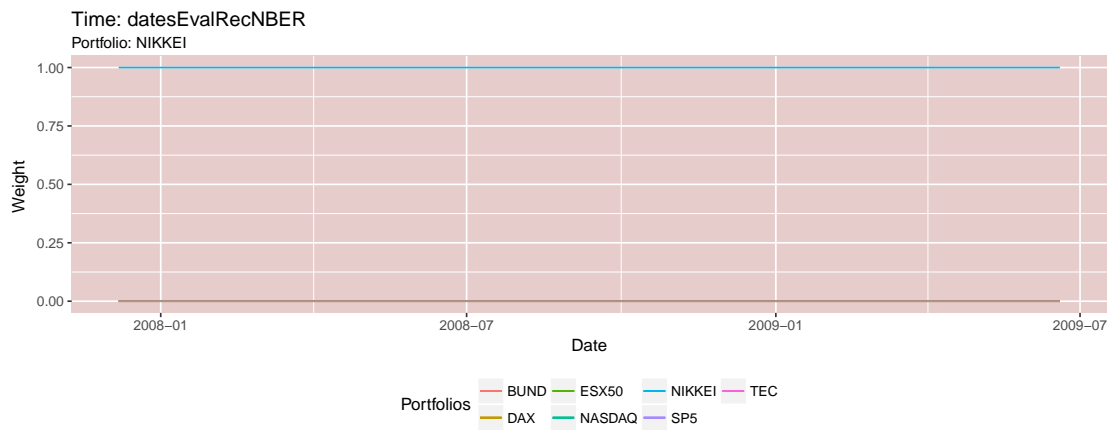
4.4 Weights



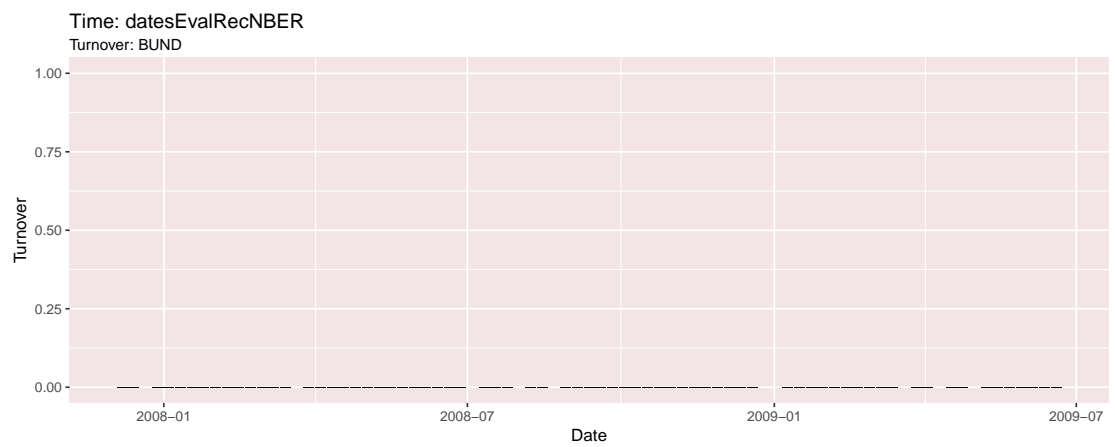
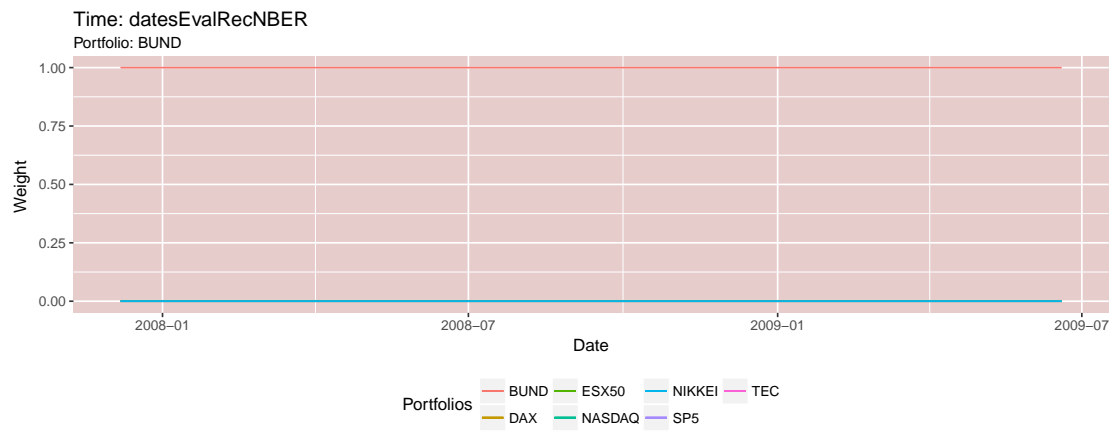
4 Results



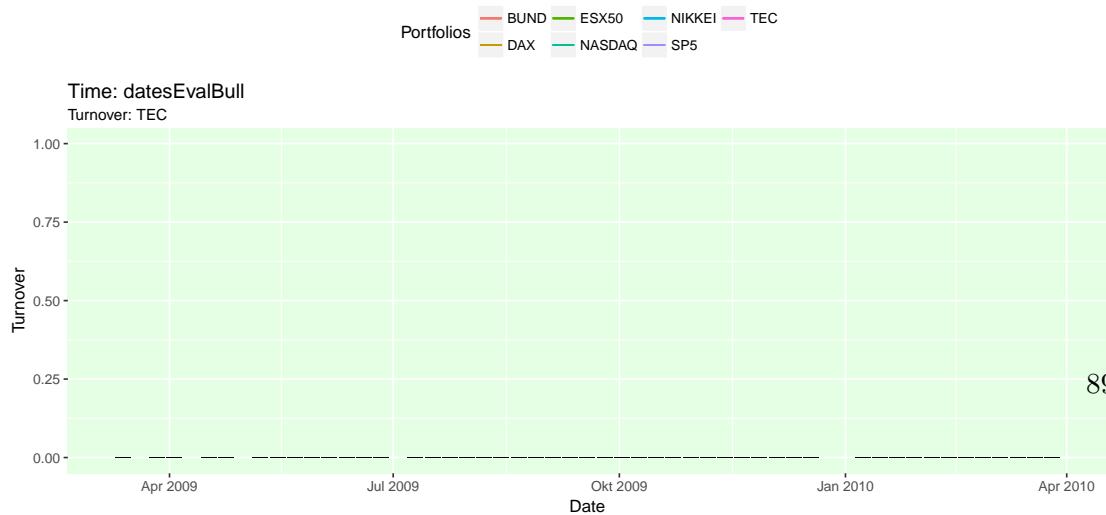
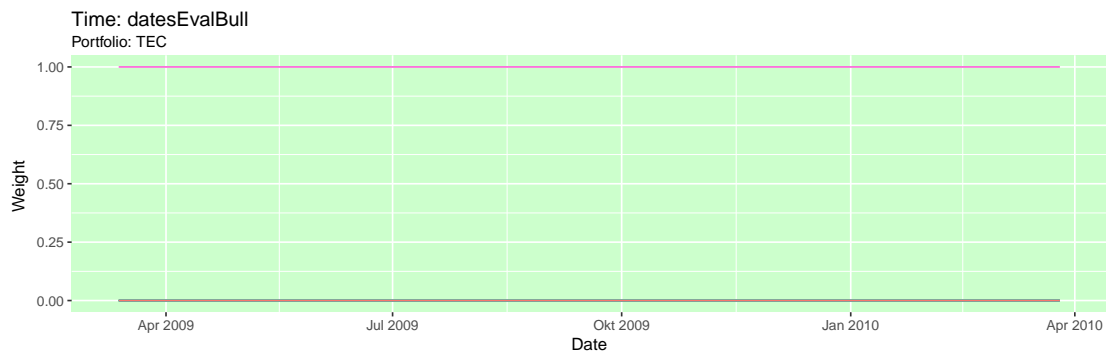
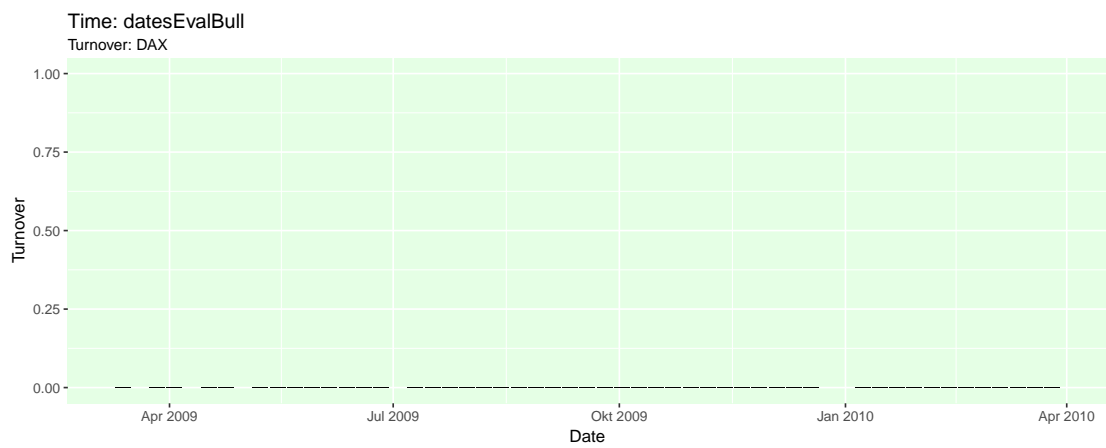
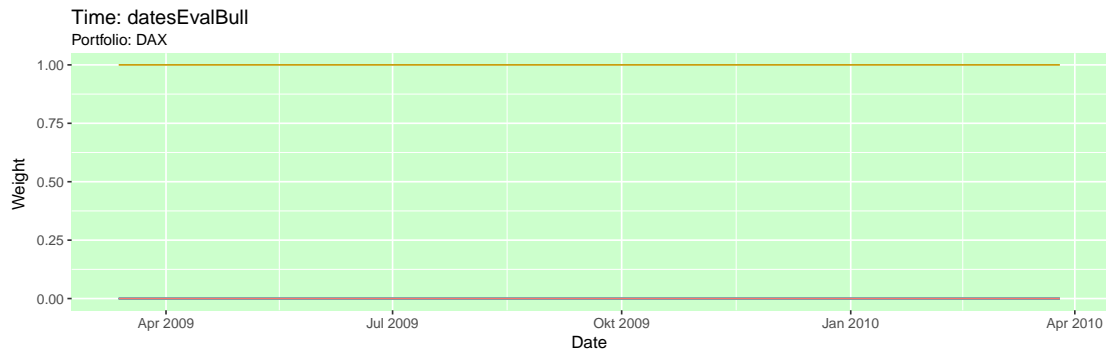
4.4 Weights



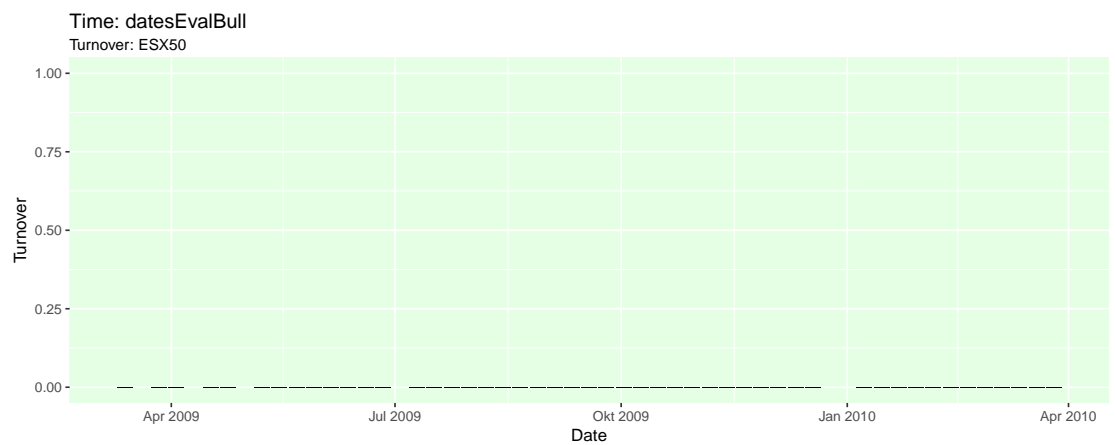
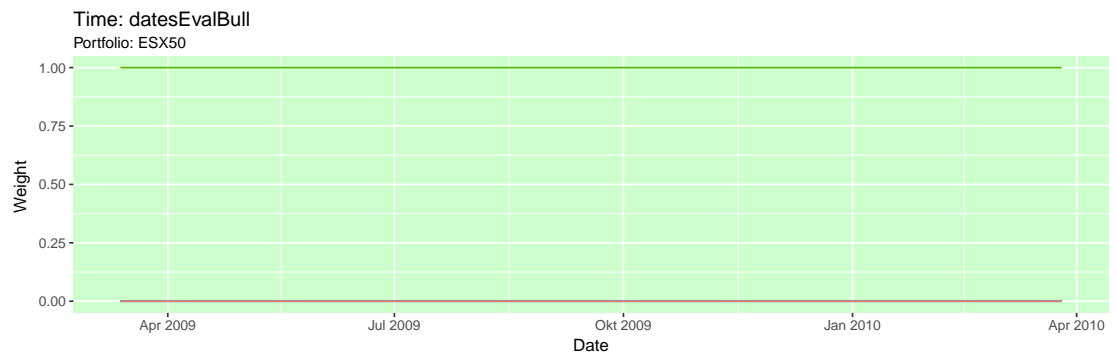
4 Results



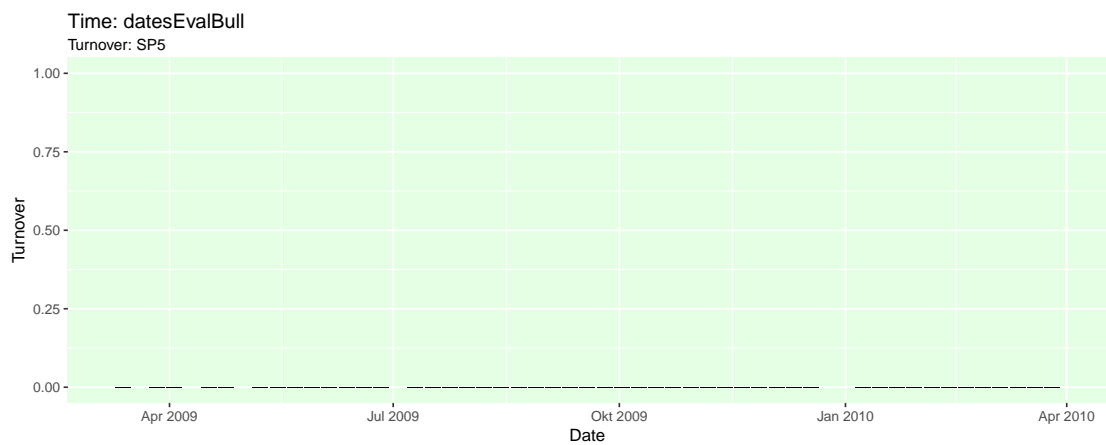
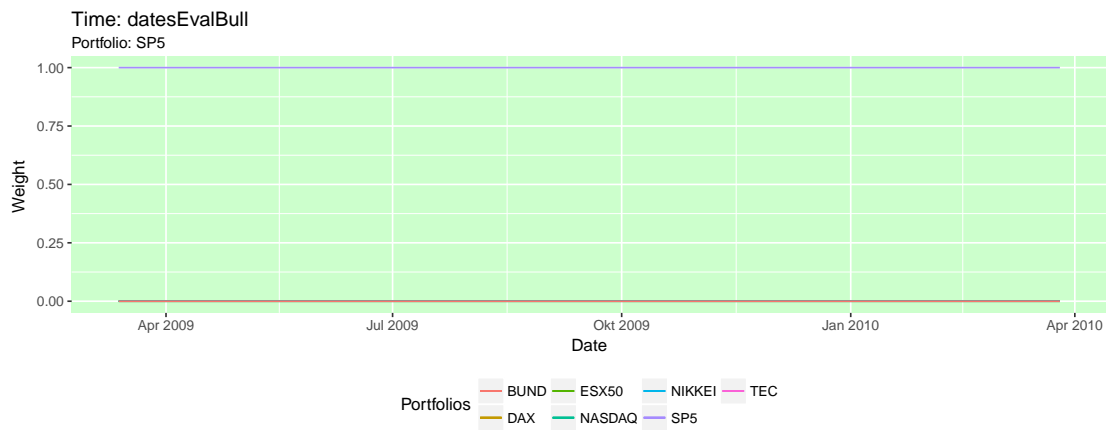
Weights-Indices - datesEvalBull



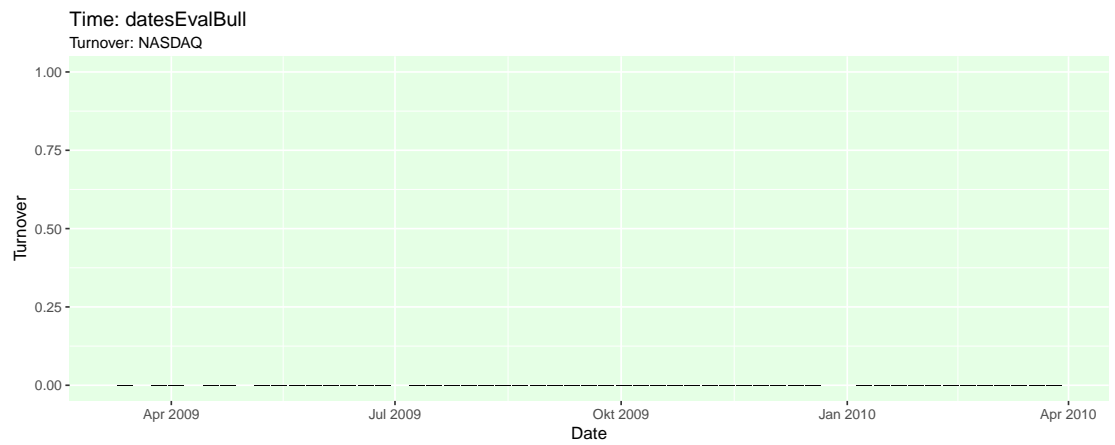
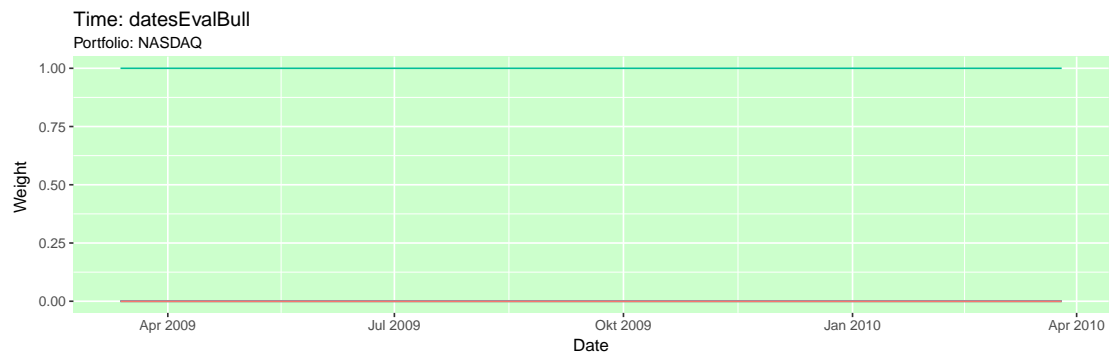
4 Results



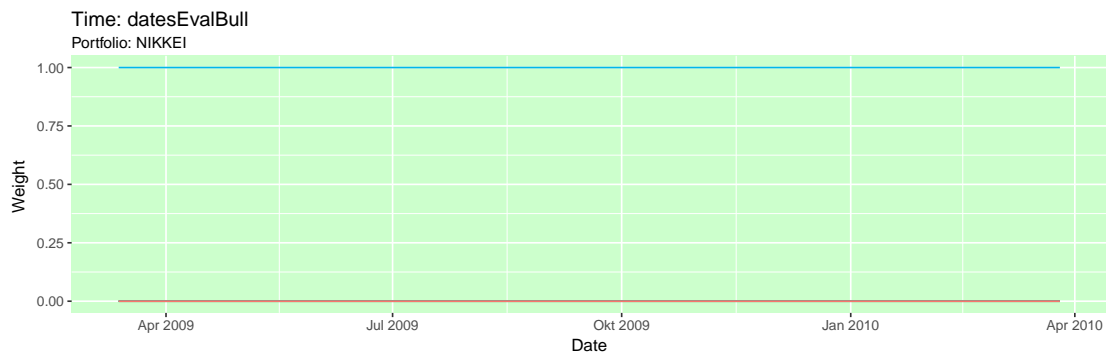
4.4 Weights



4 Results

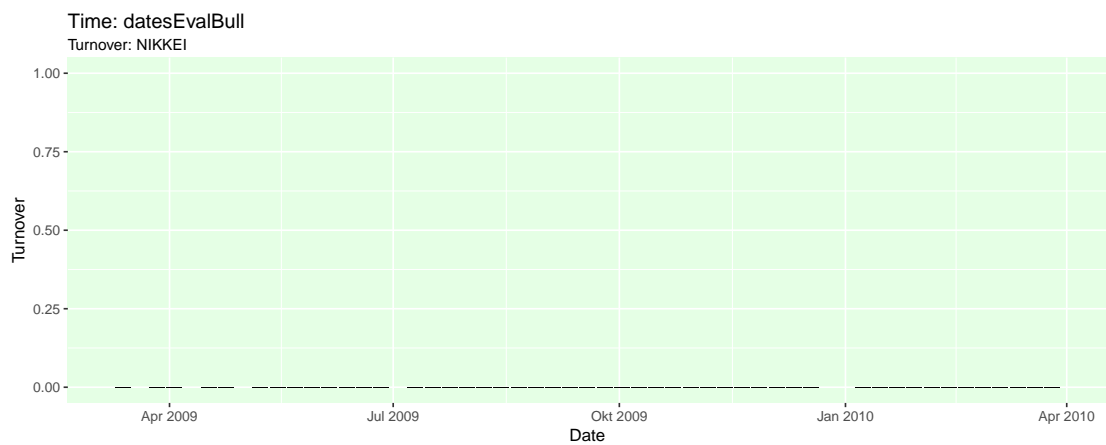


4.4 Weights

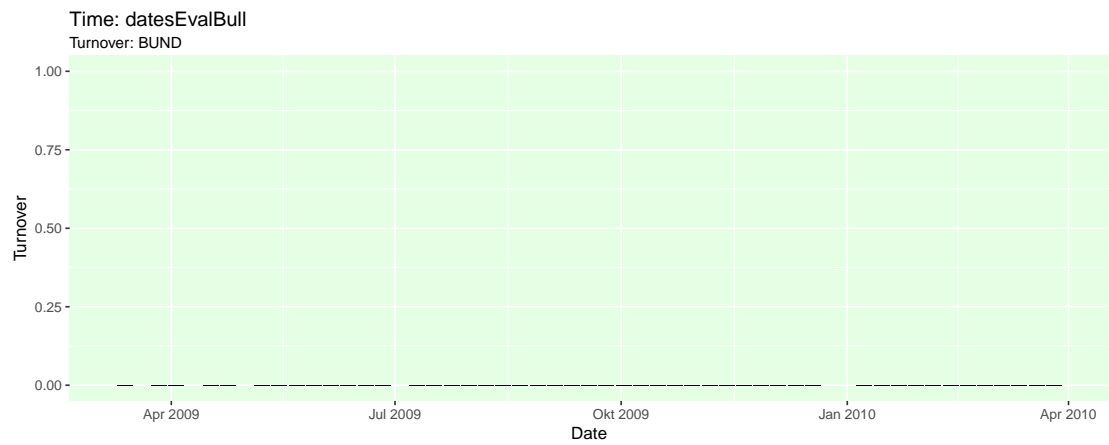
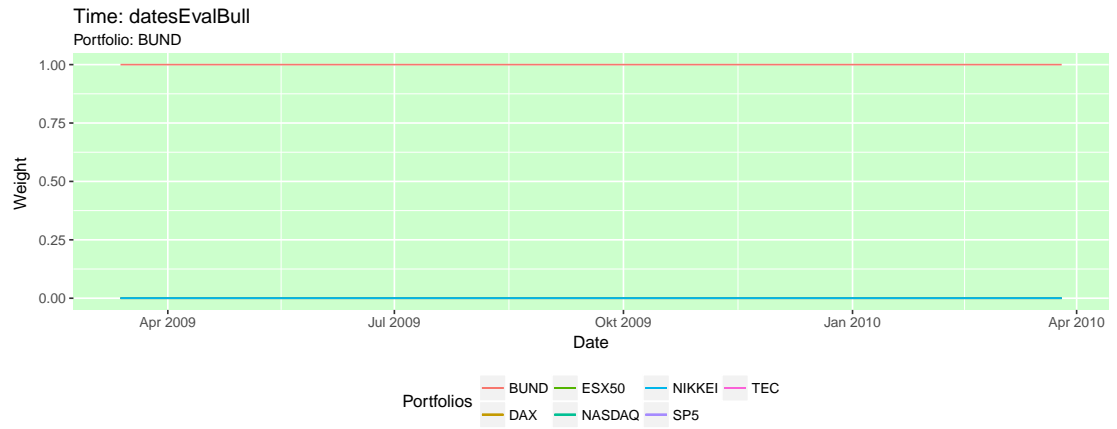


Portfolios

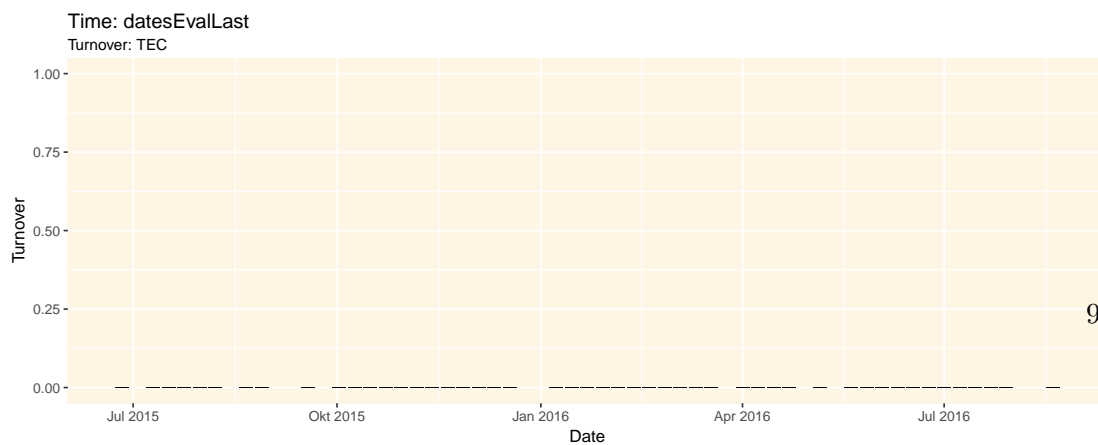
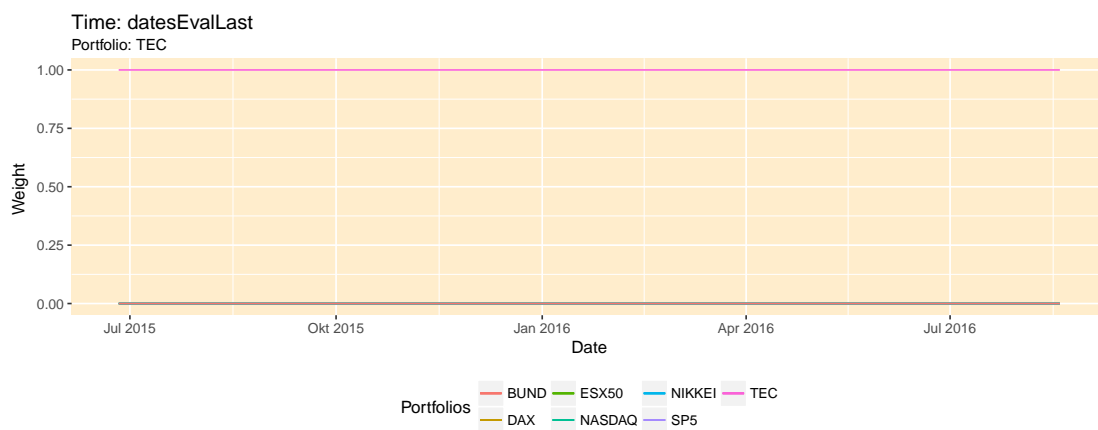
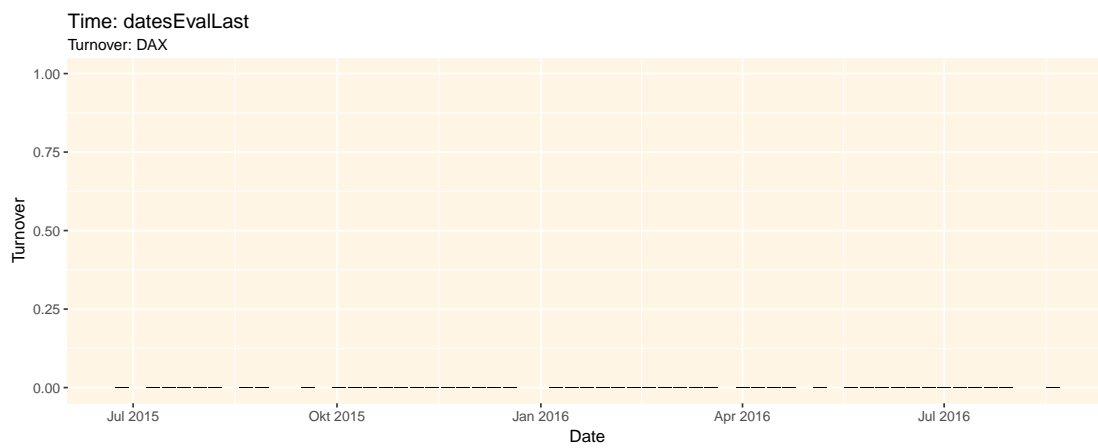
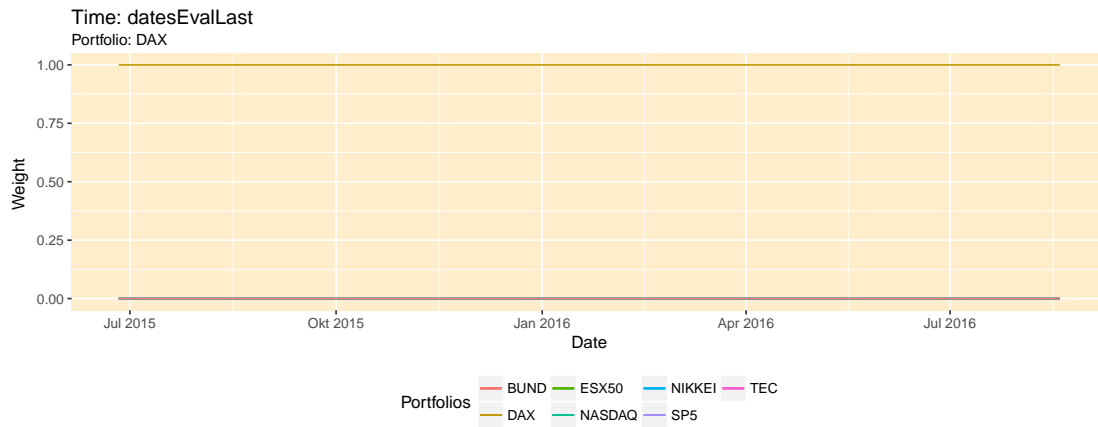
| | | | |
|------|--------|--------|-----|
| BUND | ESX50 | NIKKEI | TEC |
| DAX | NASDAQ | SP5 | |



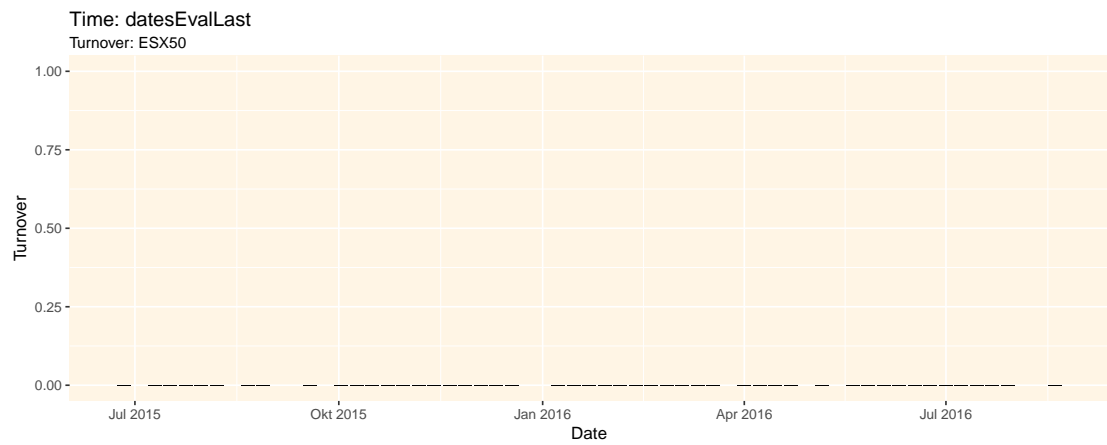
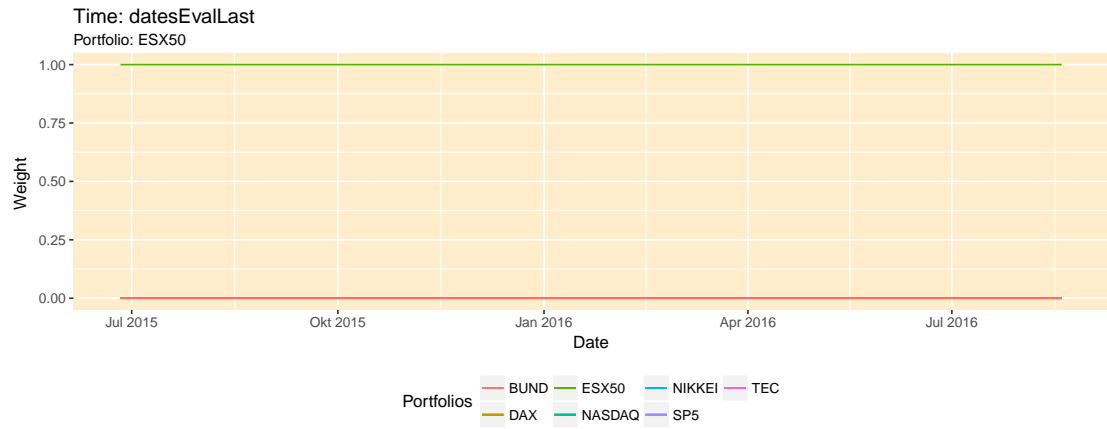
4 Results



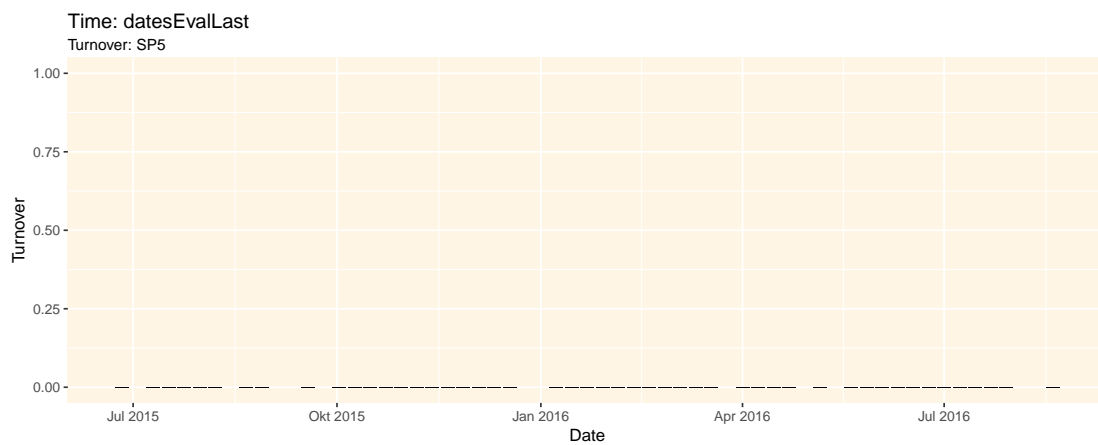
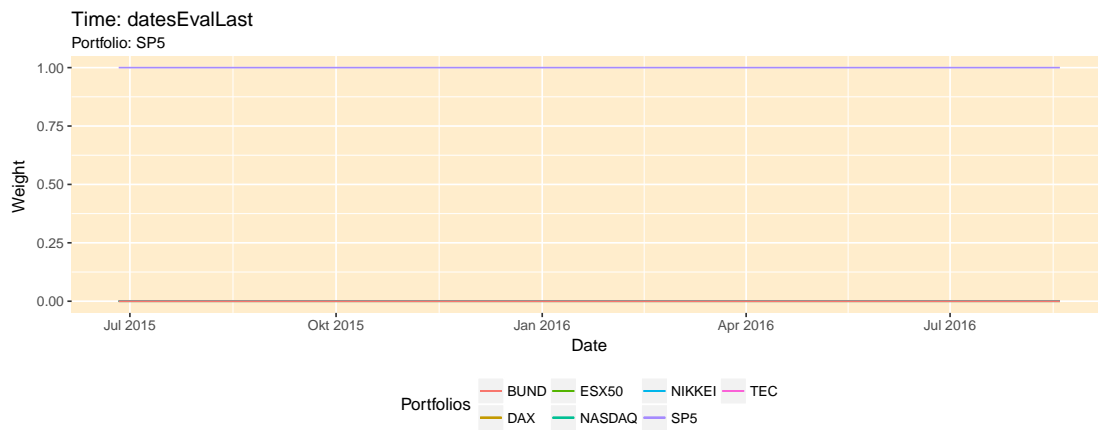
Weights-Indices - datesEvalLast



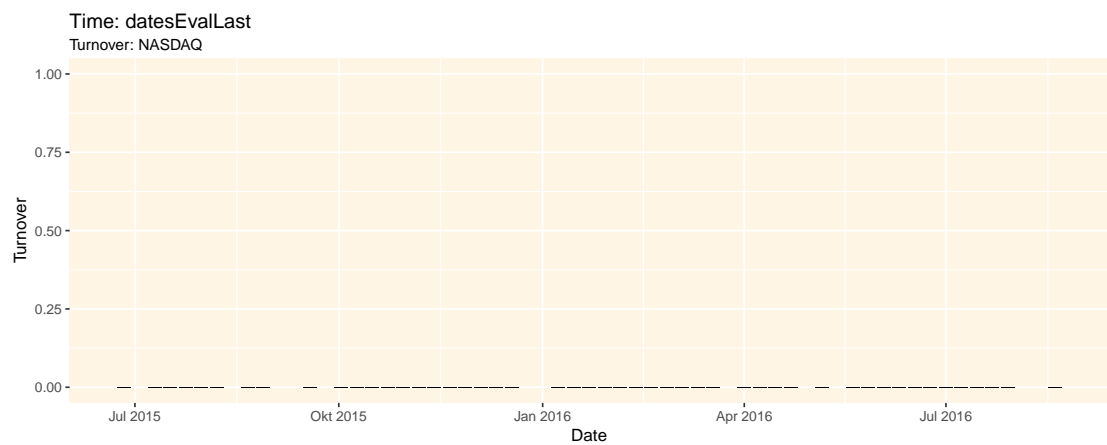
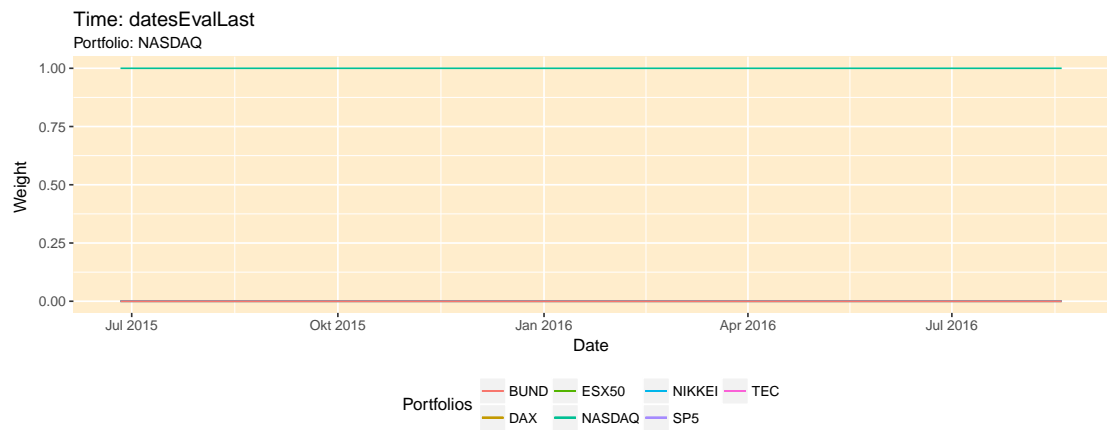
4 Results



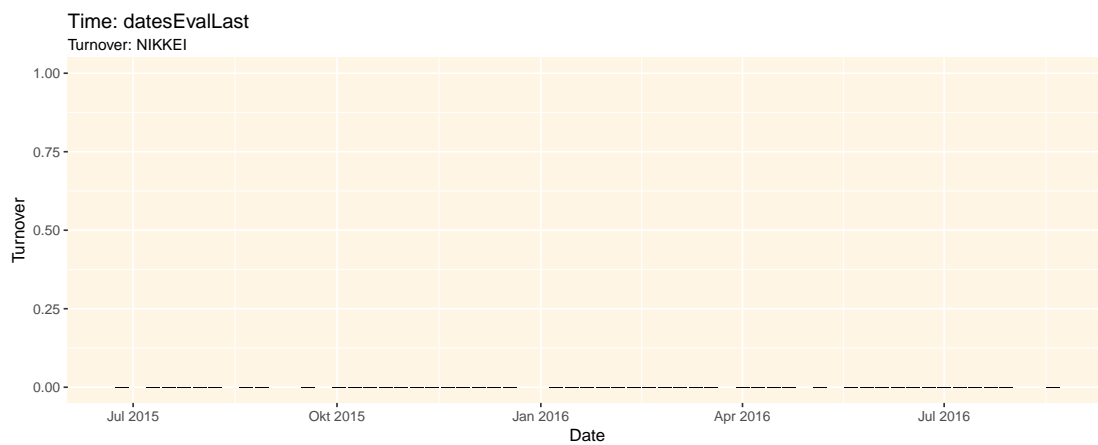
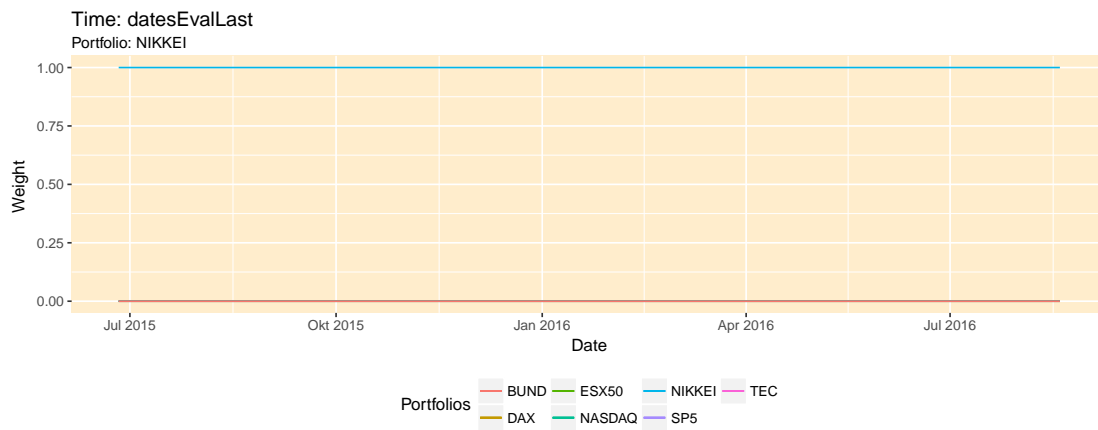
4.4 Weights



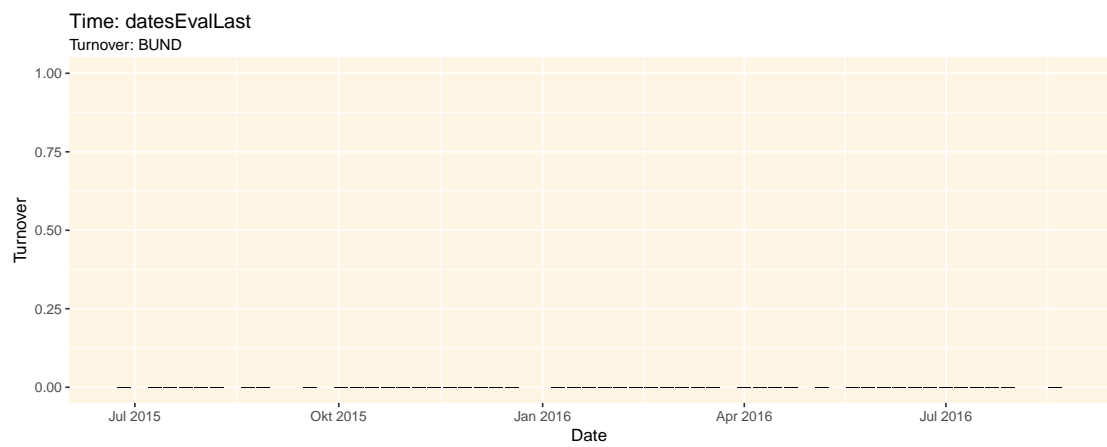
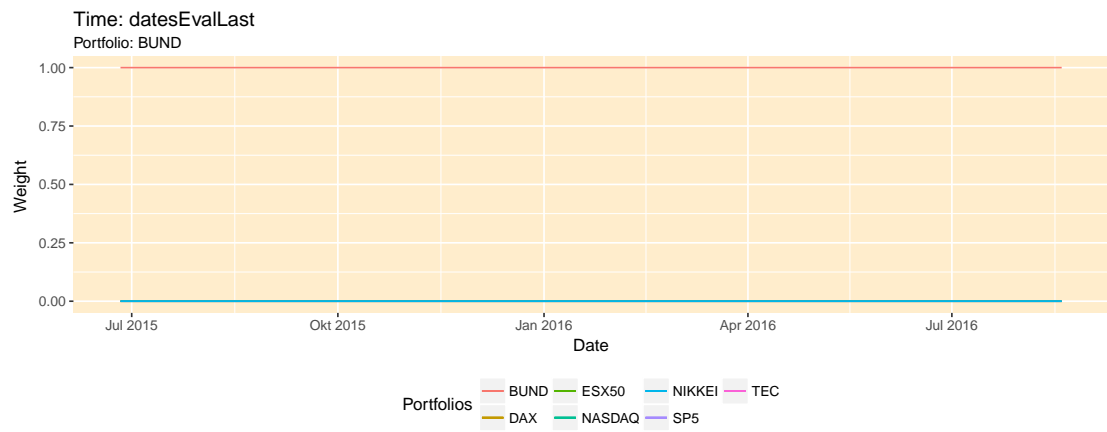
4 Results



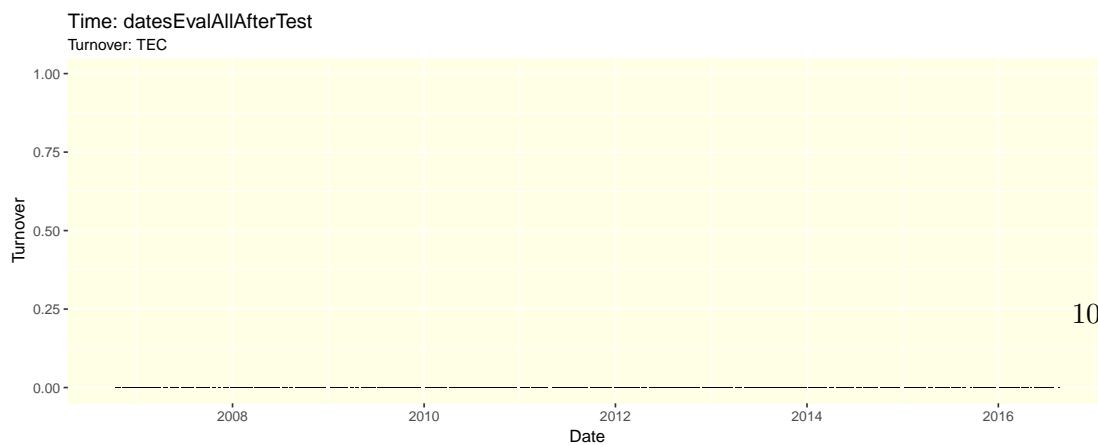
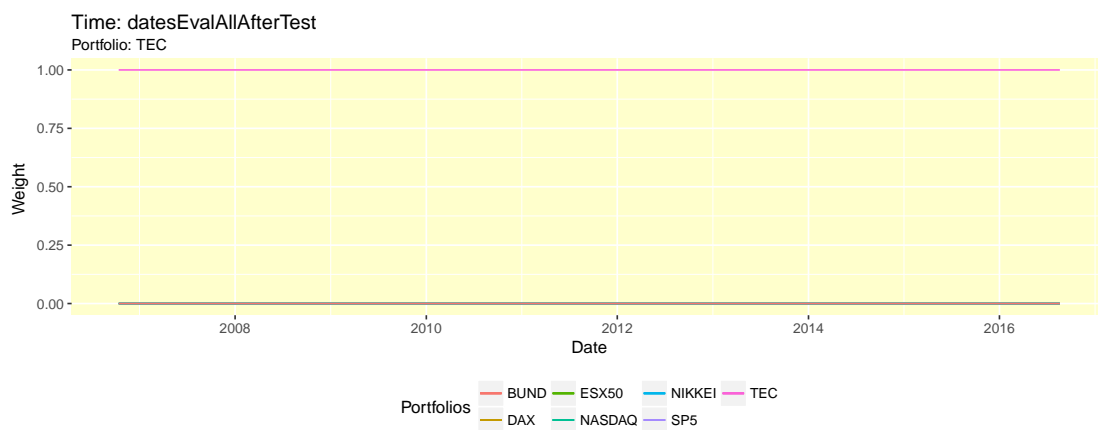
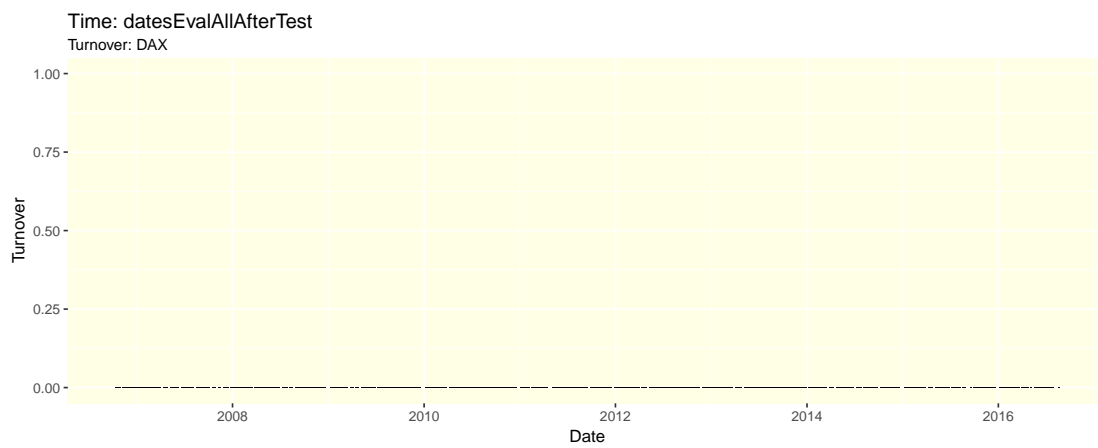
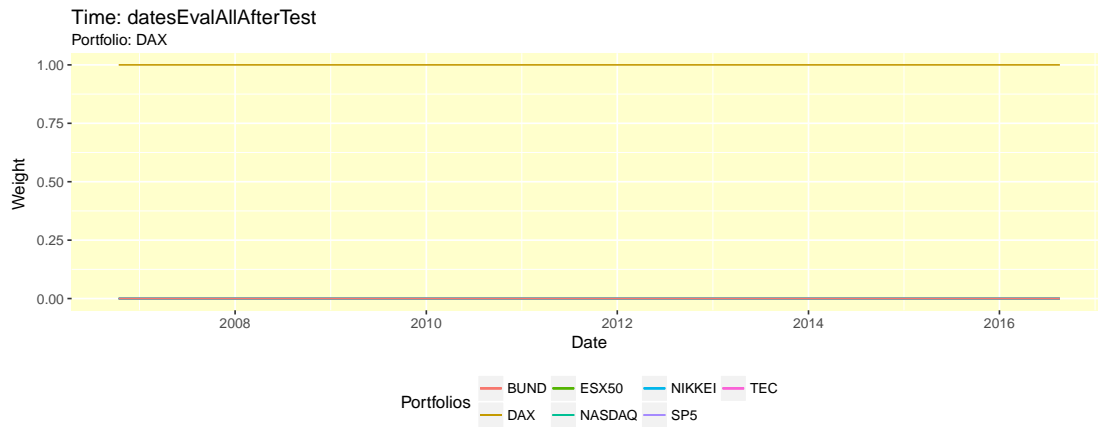
4.4 Weights



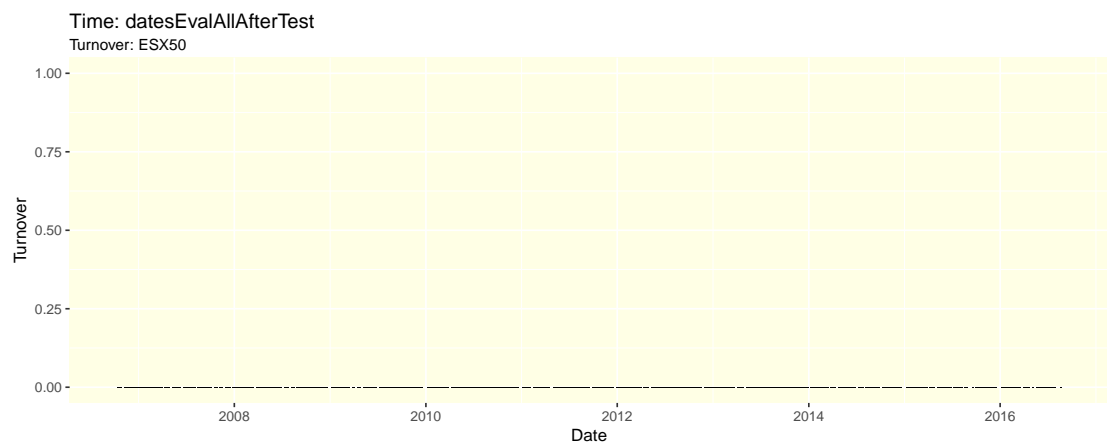
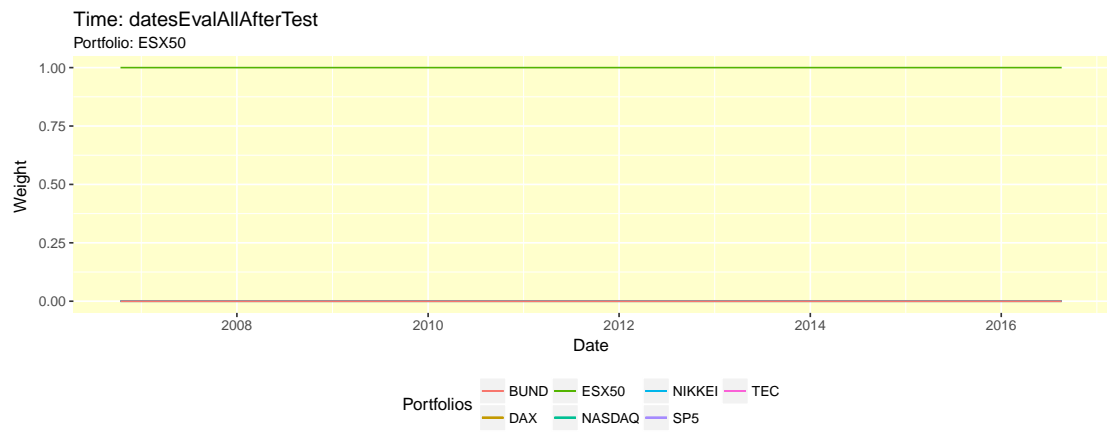
4 Results



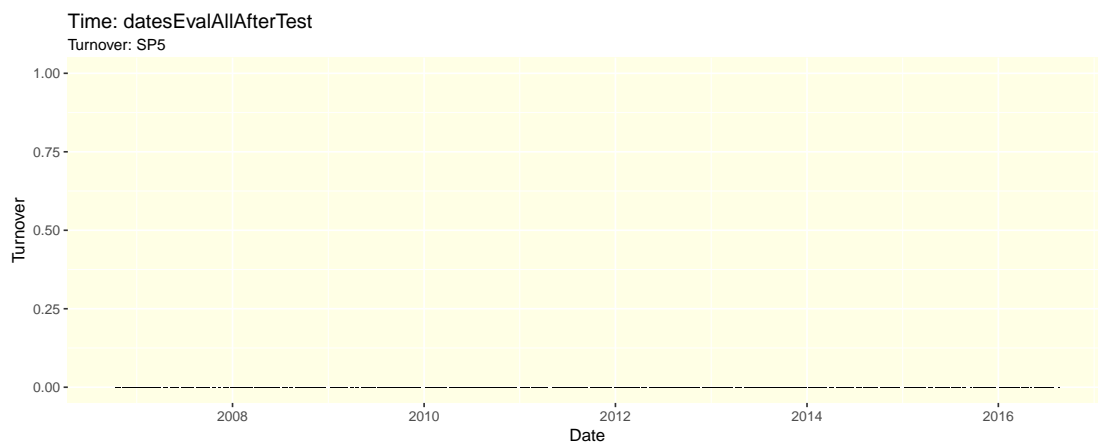
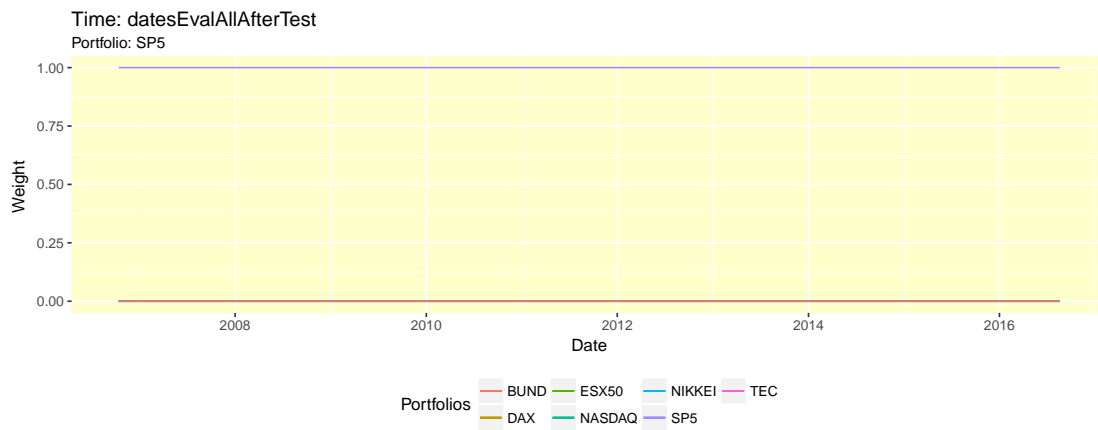
Weights-Indices - datesEvalAllAfterTest



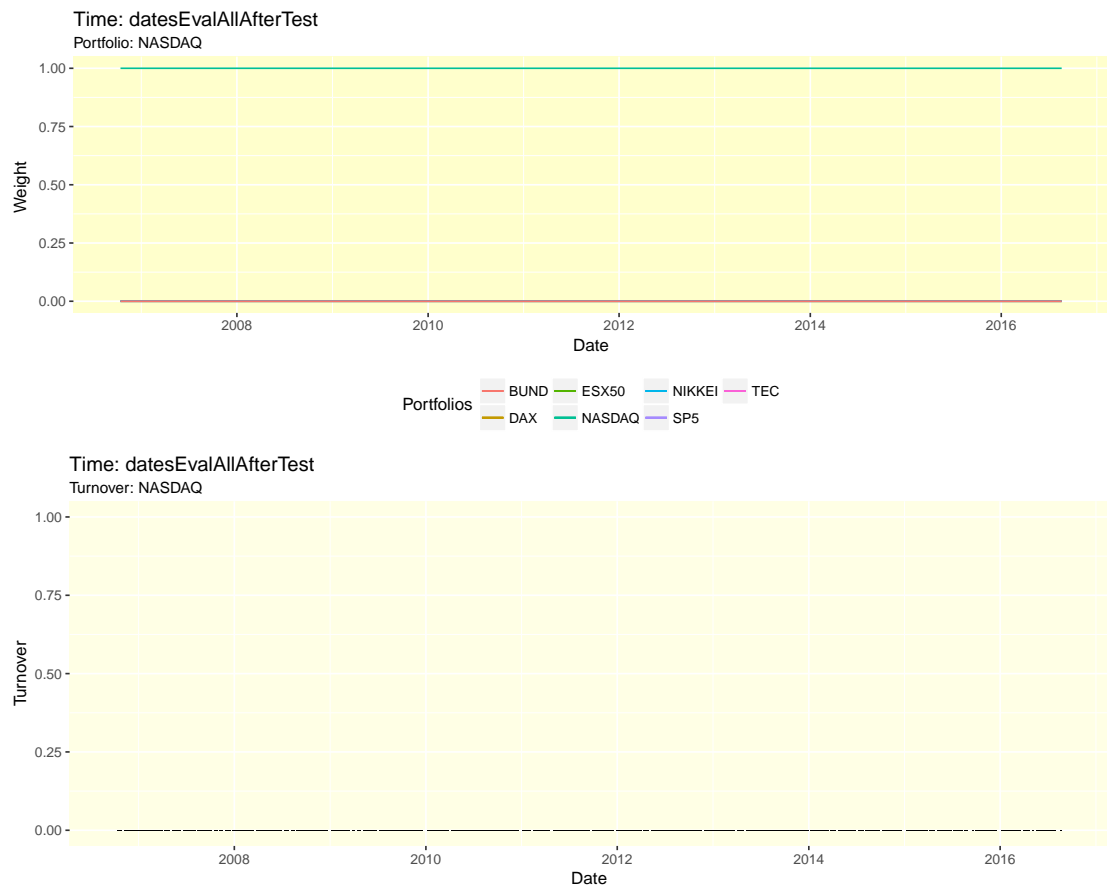
4 Results



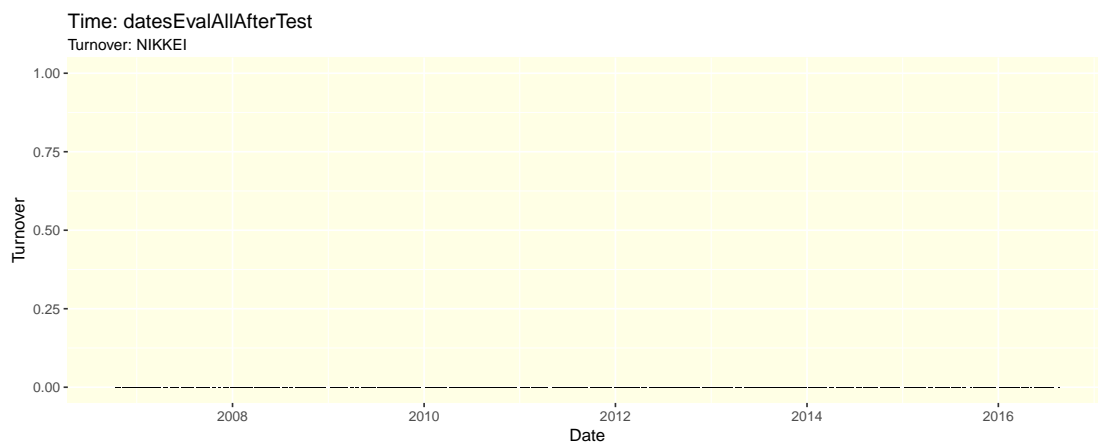
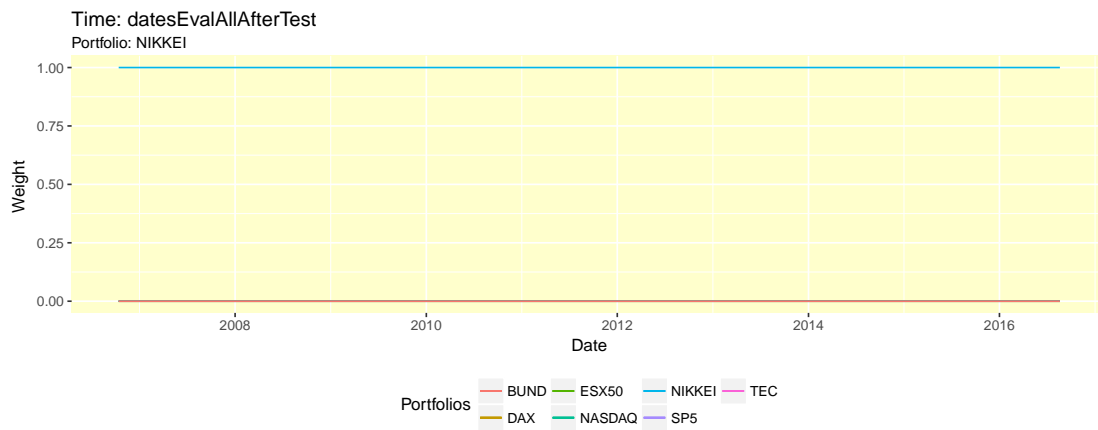
4.4 Weights



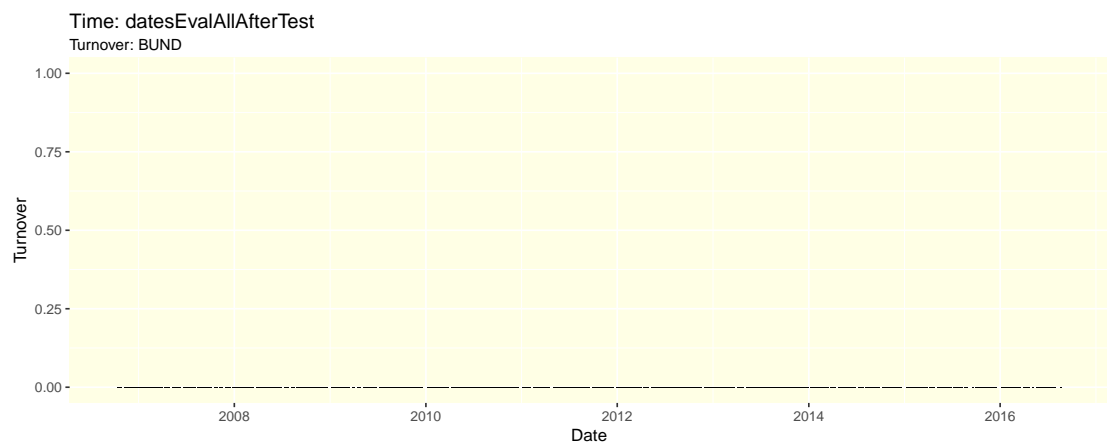
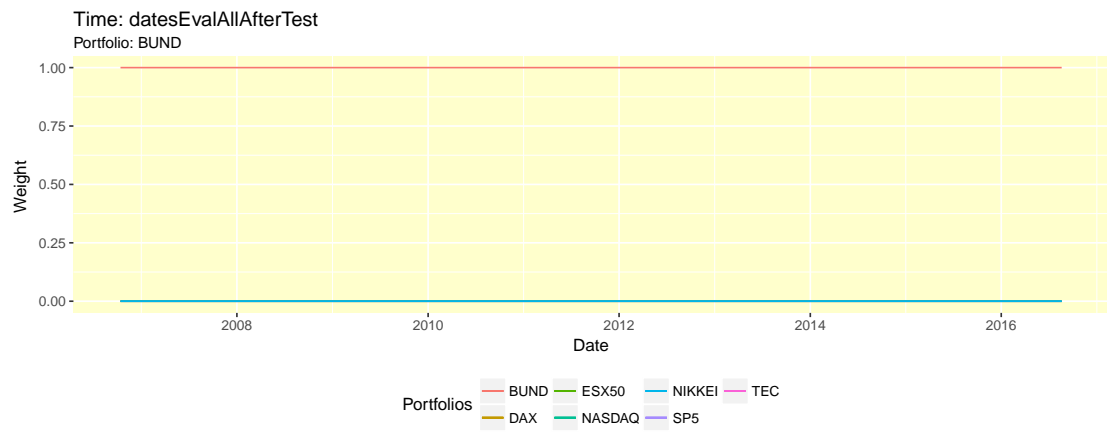
4 Results



4.4 Weights

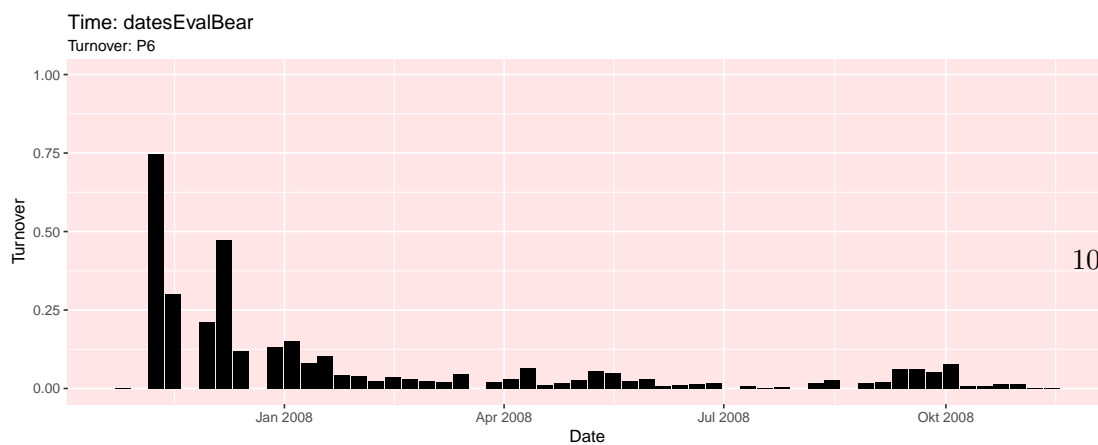
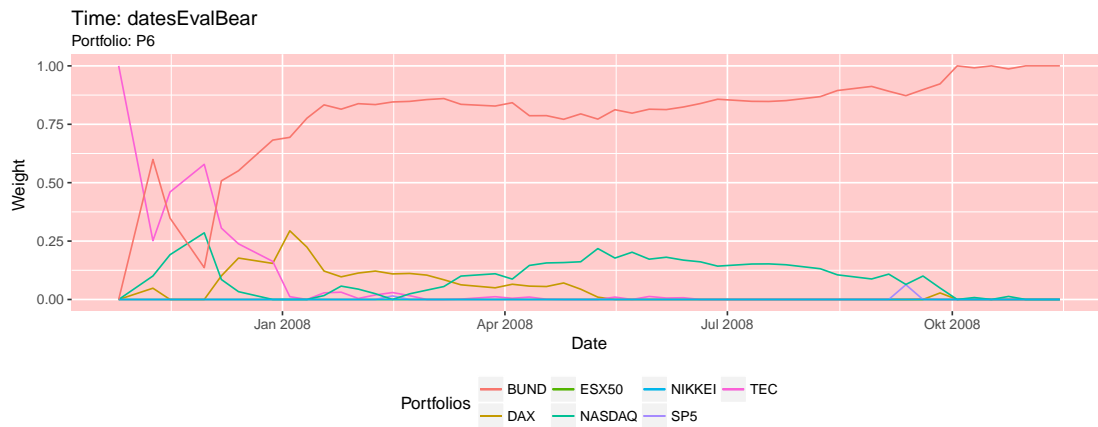
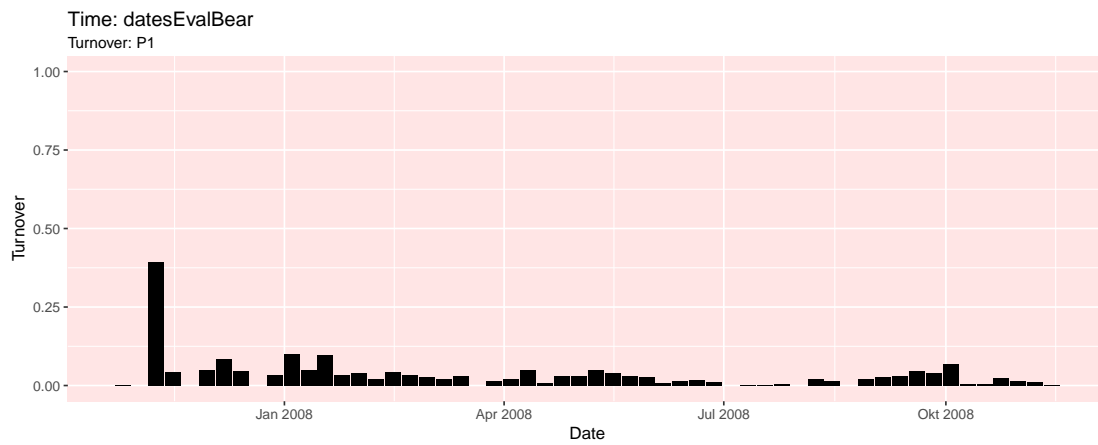
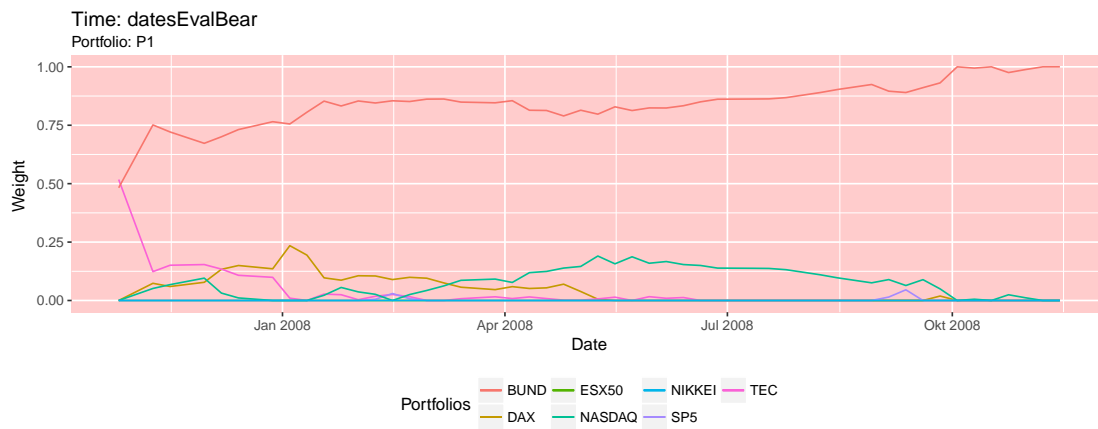


4 Results

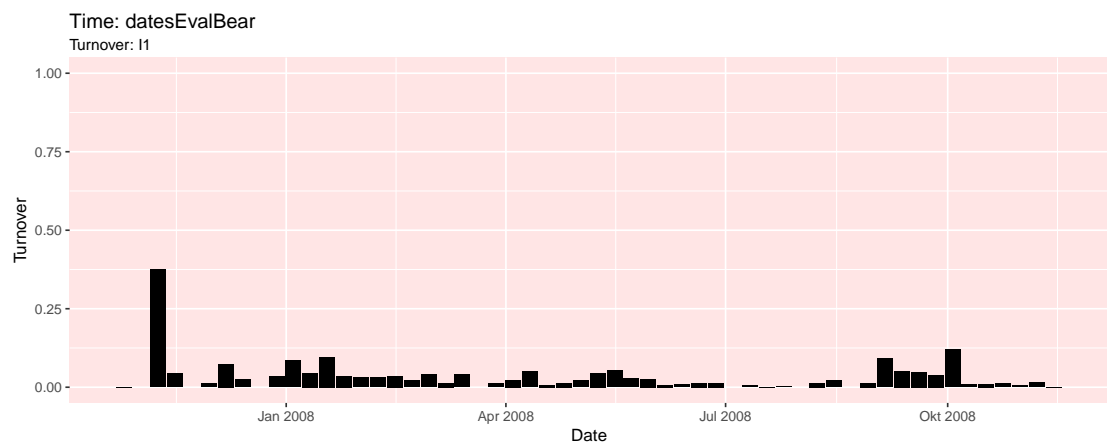
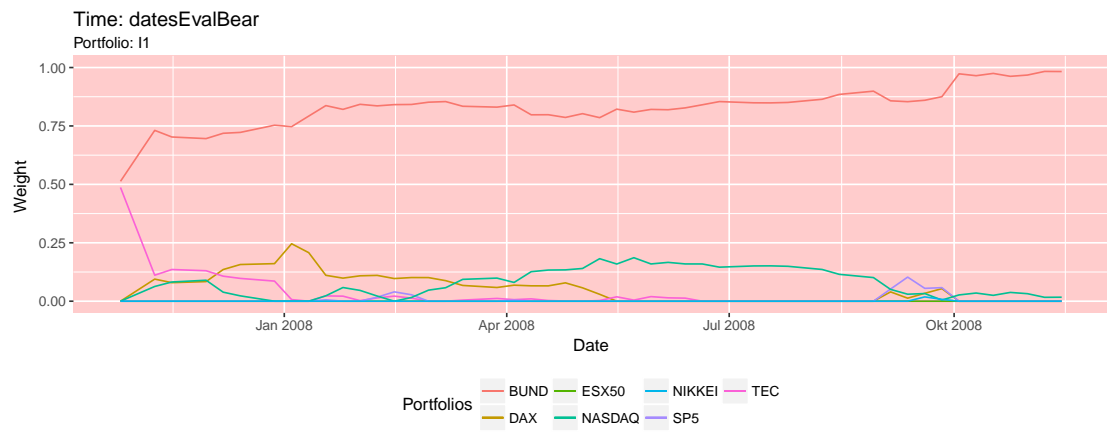


4.4.2 Weights-Sentix-Dispersion

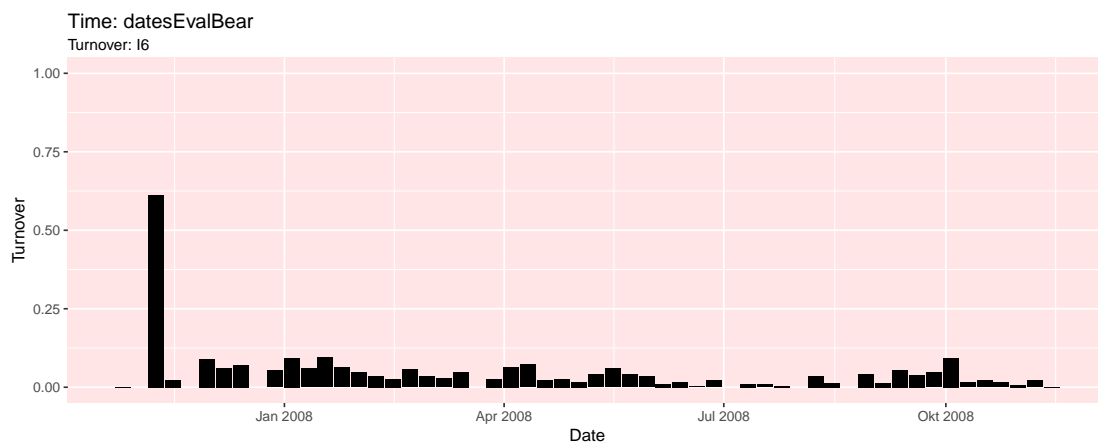
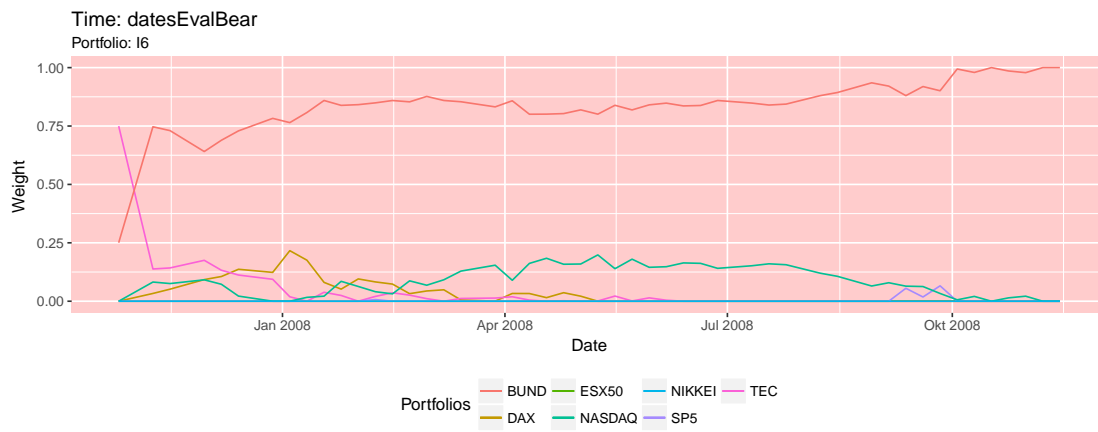
Weights-Sentix-Dispersion - datesEvalBear



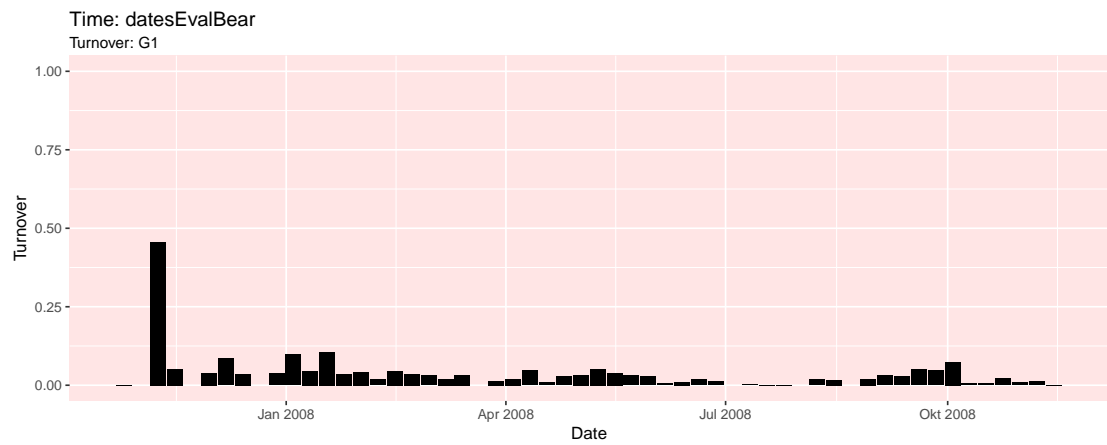
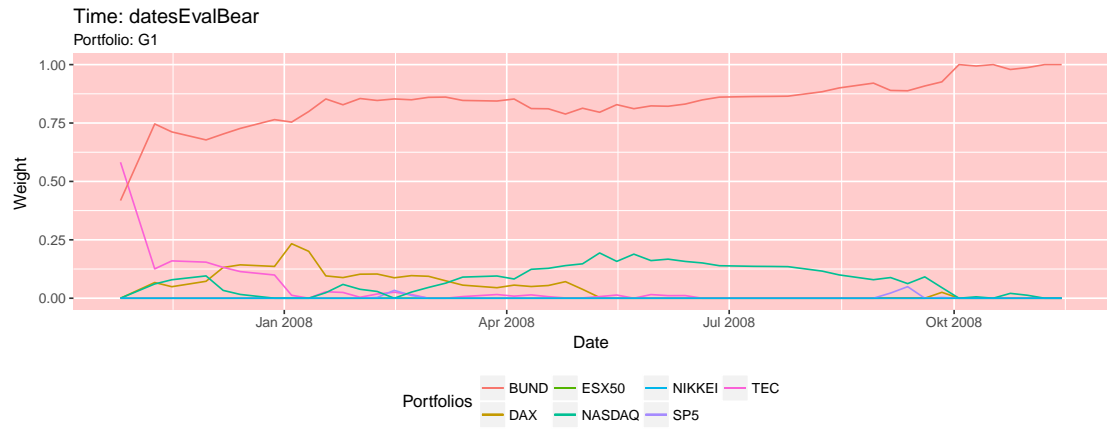
4 Results



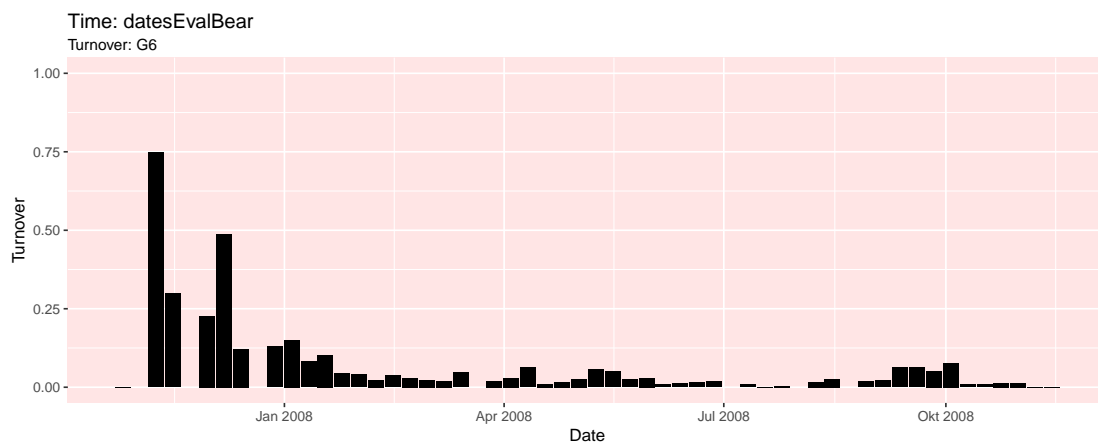
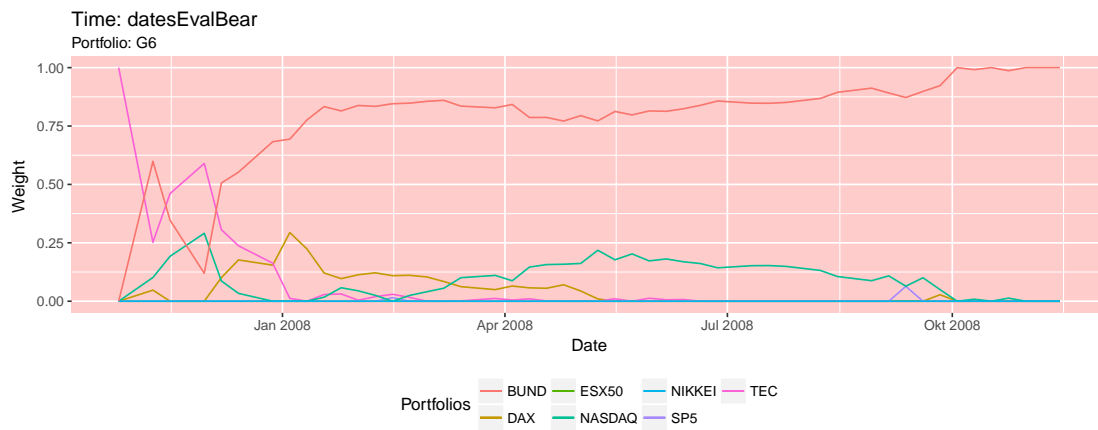
4.4 Weights



4 Results

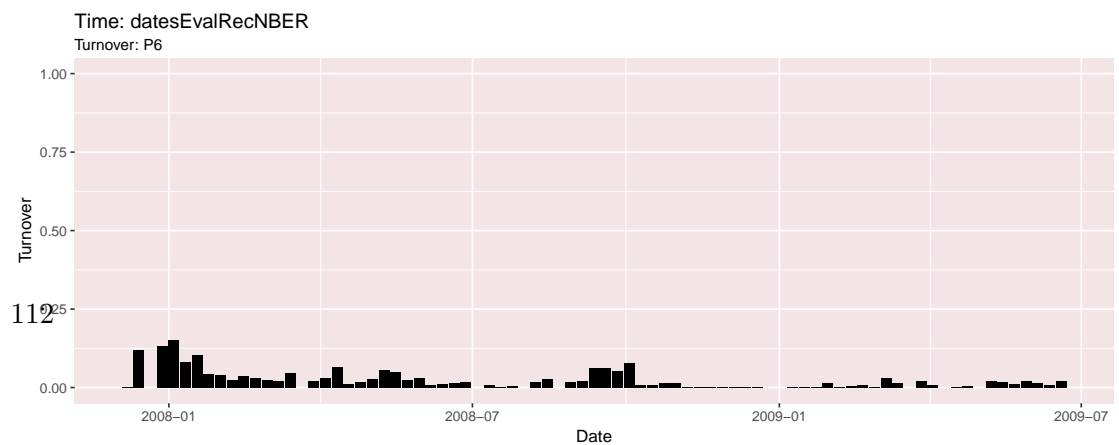
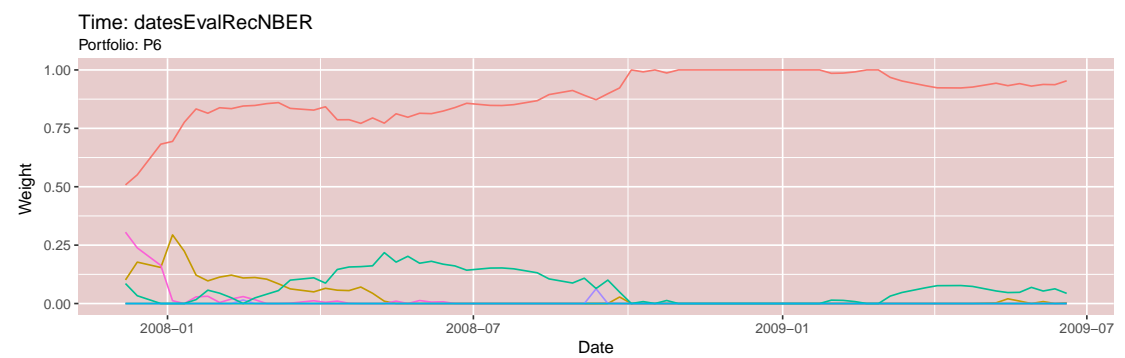
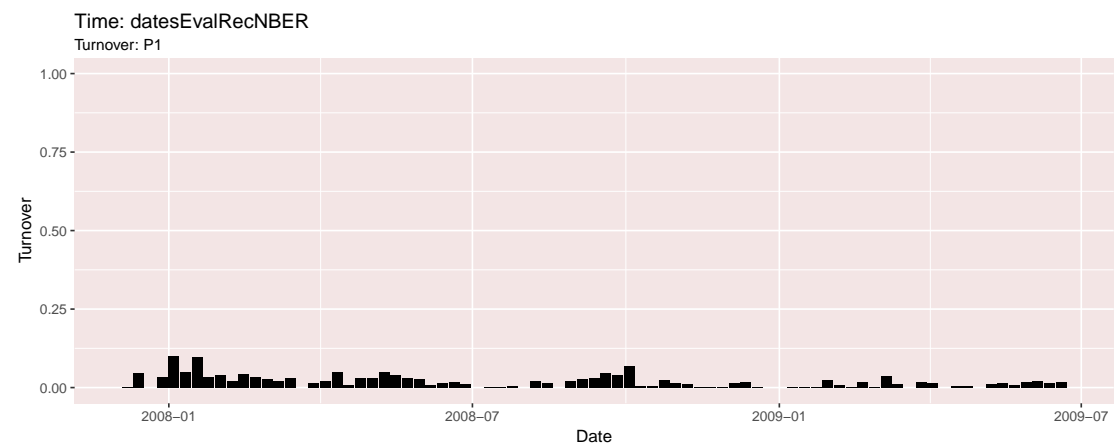
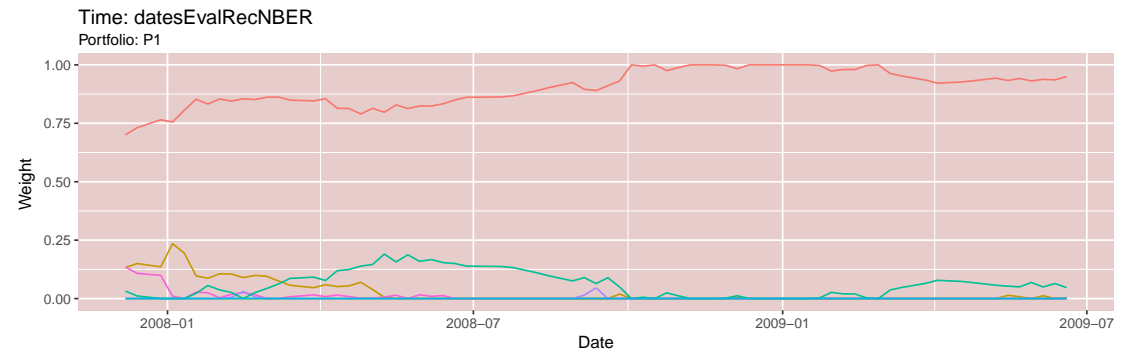


4.4 Weights

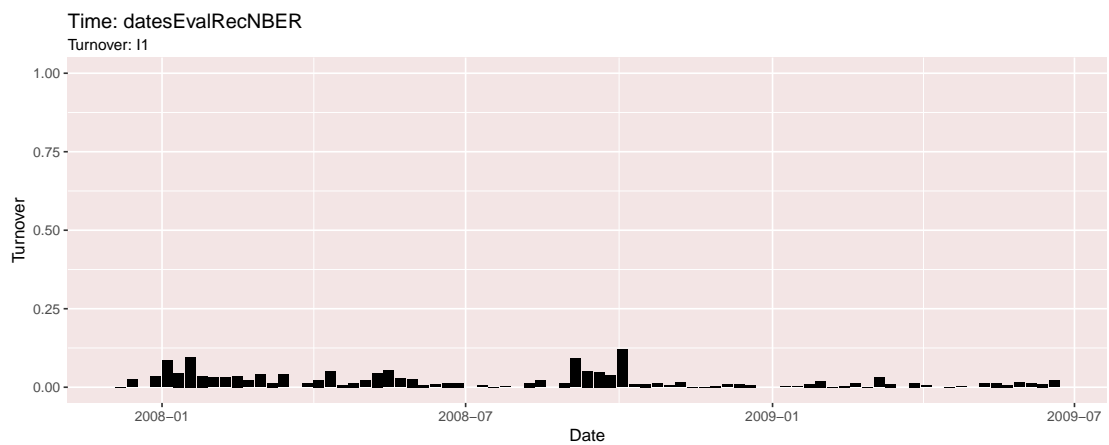
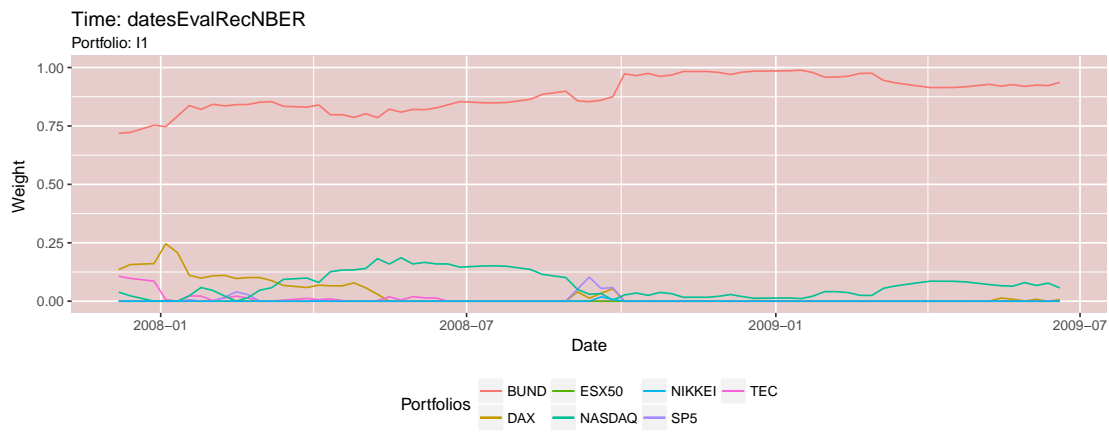


4 Results

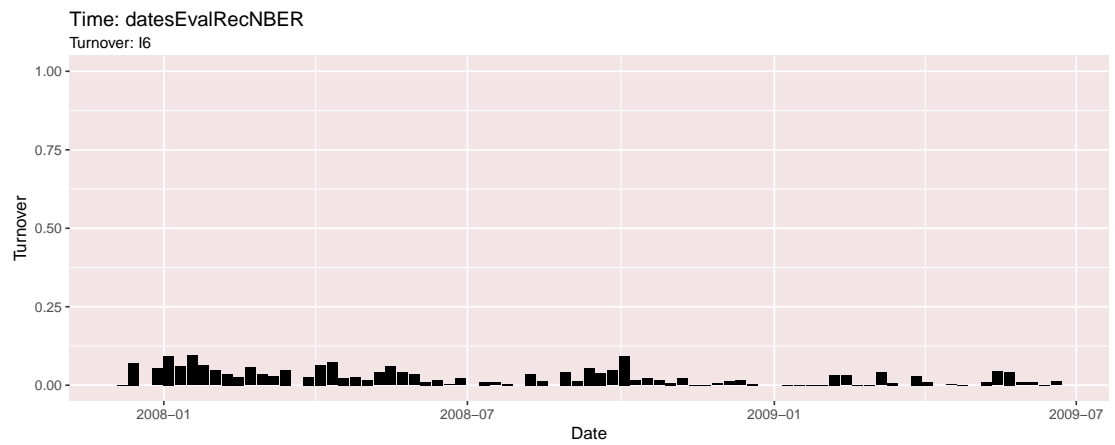
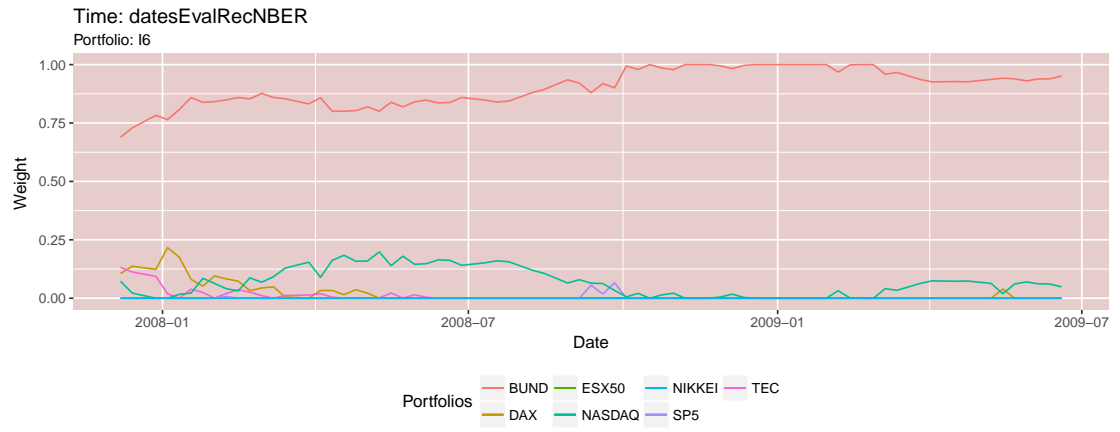
Weights-Sentix-Dispersion - datesEvalRecNBER



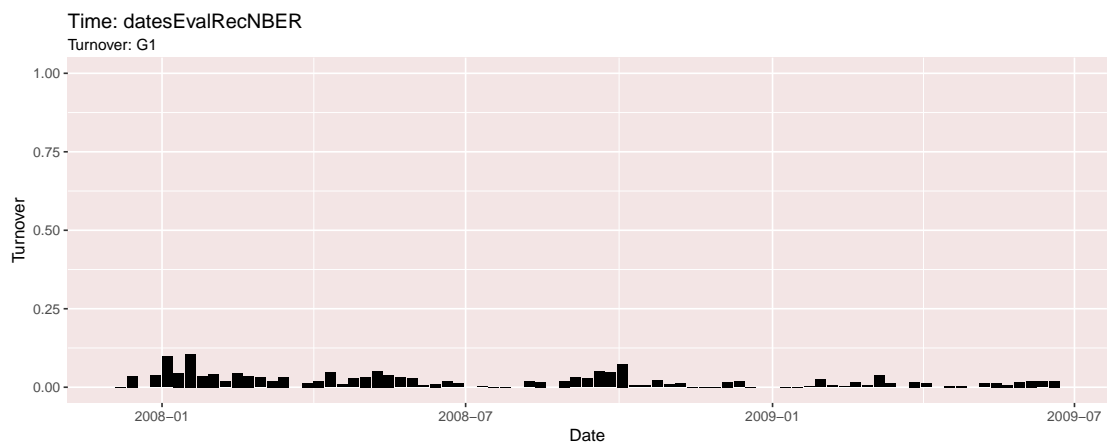
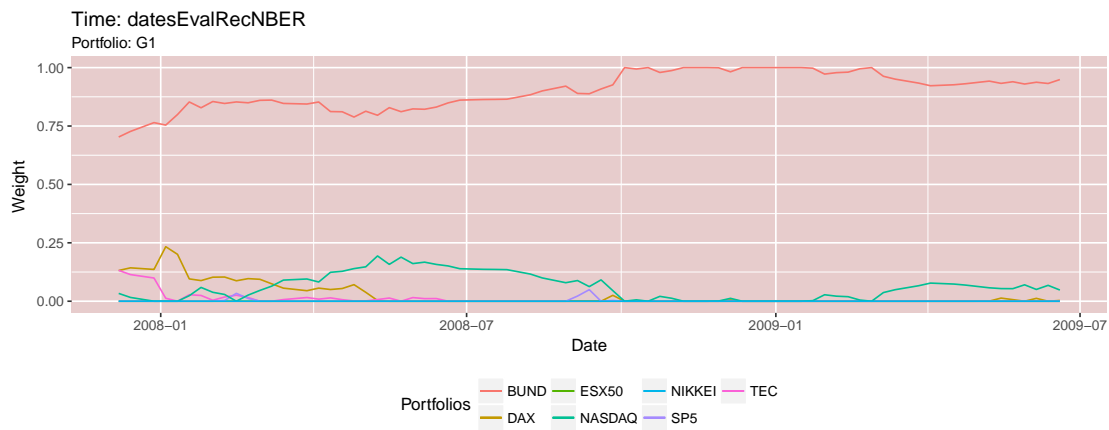
4.4 Weights



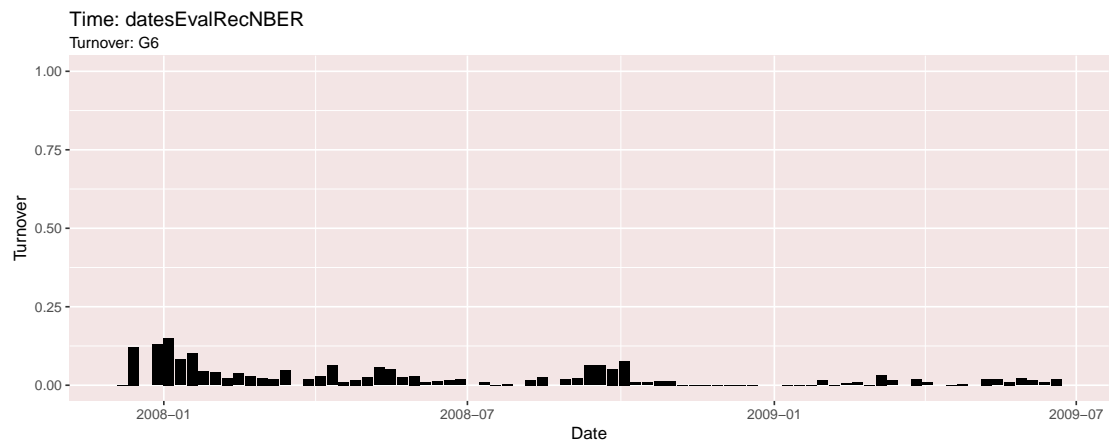
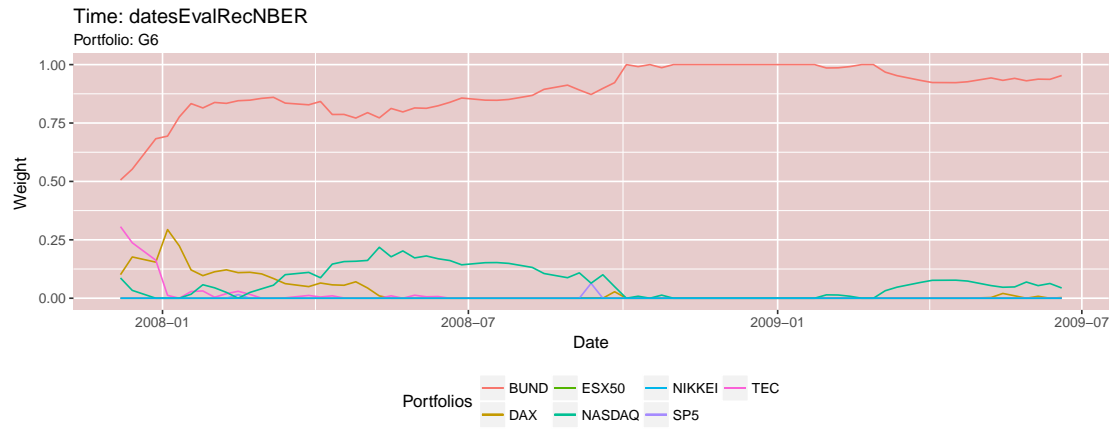
4 Results



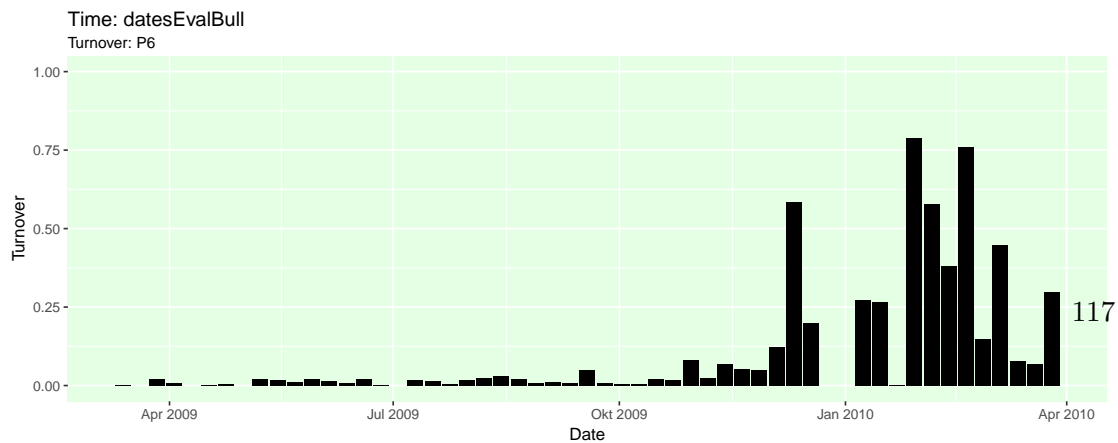
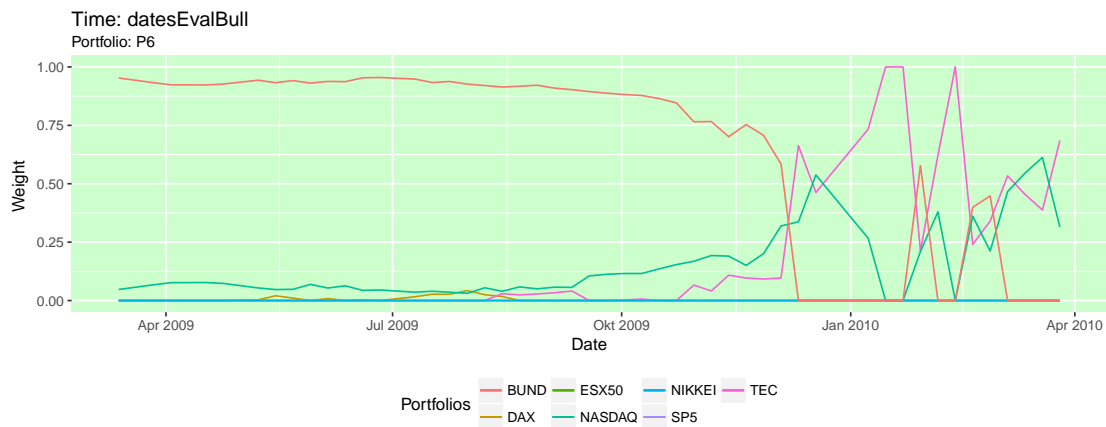
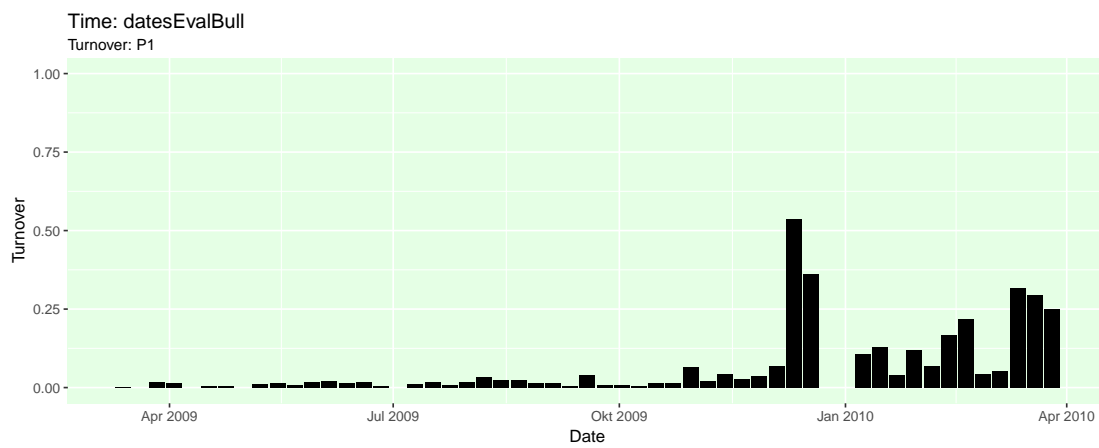
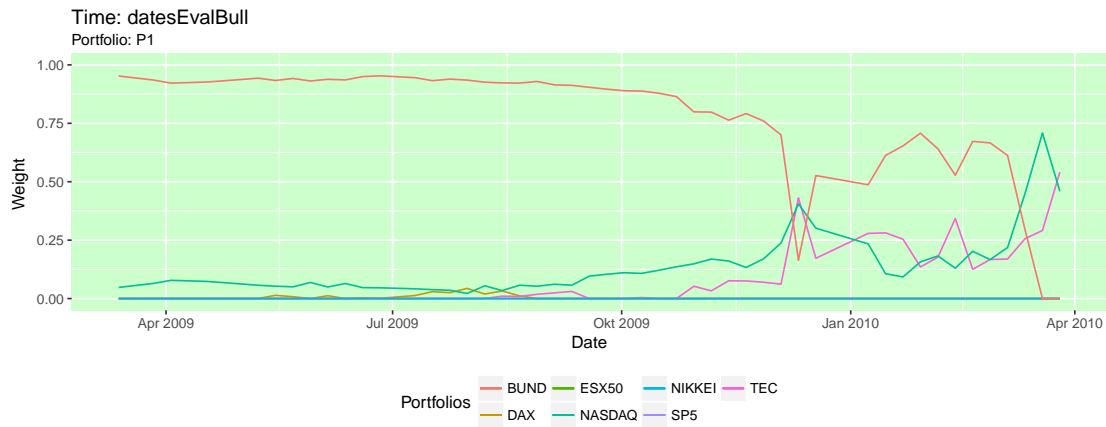
4.4 Weights



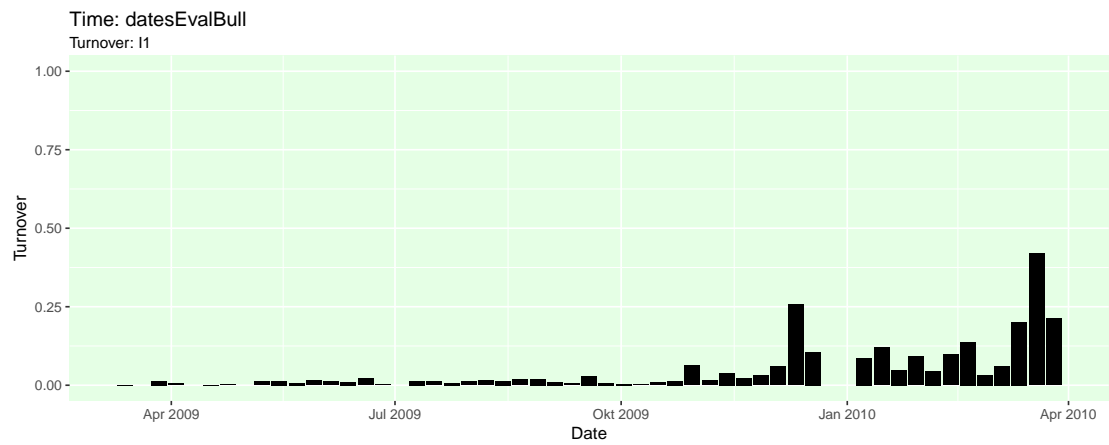
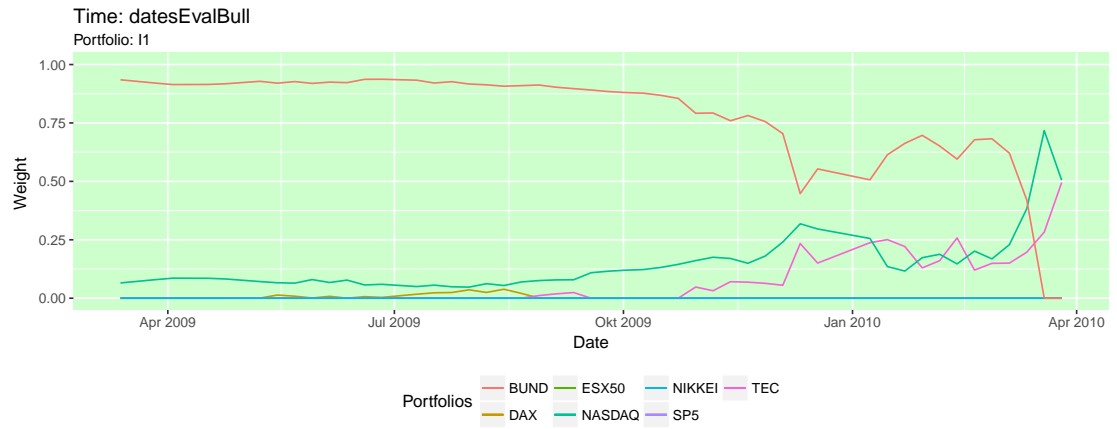
4 Results



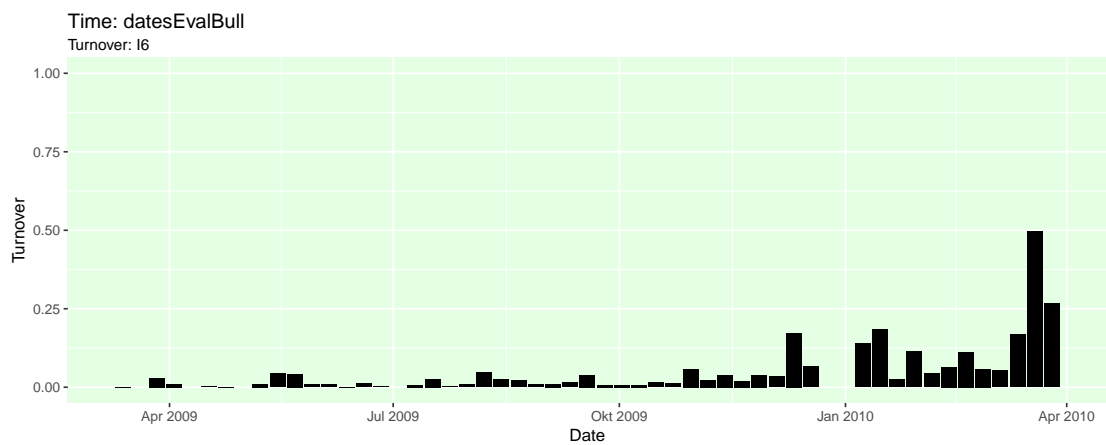
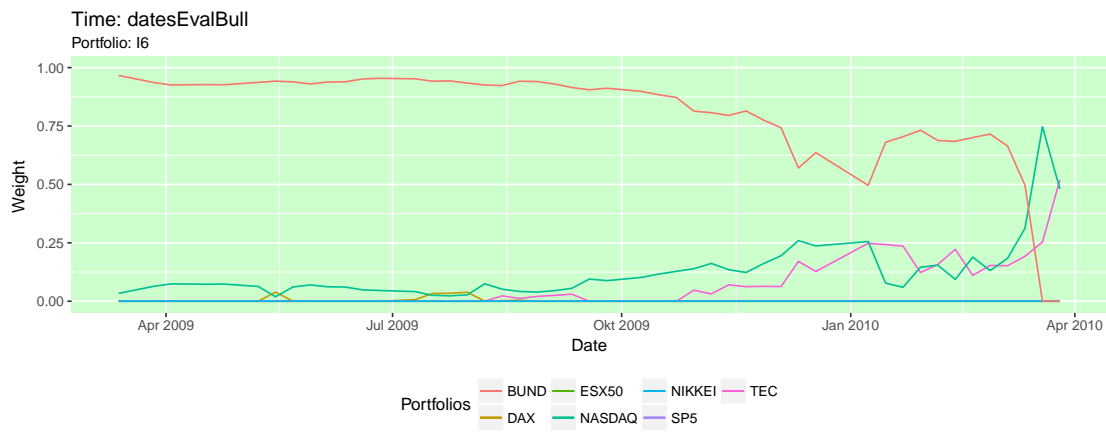
Weights-Sentix-Dispersion - datesEvalBull



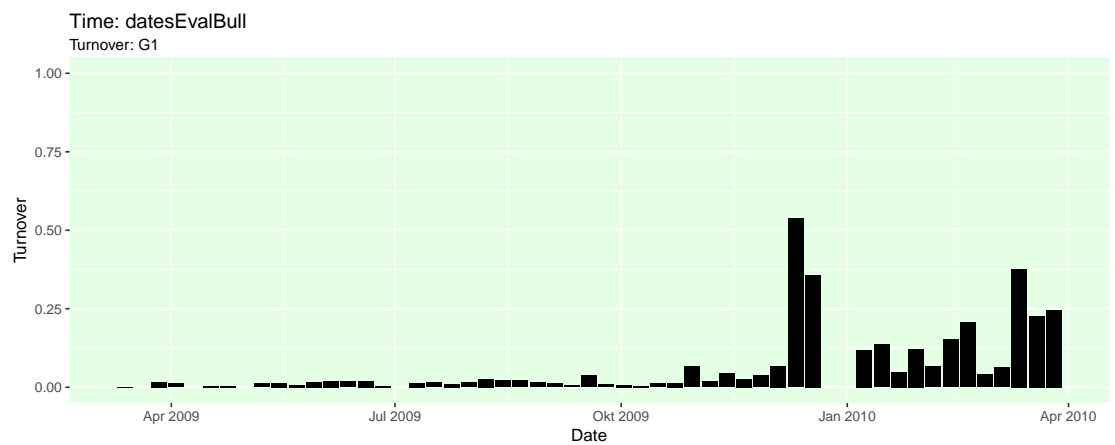
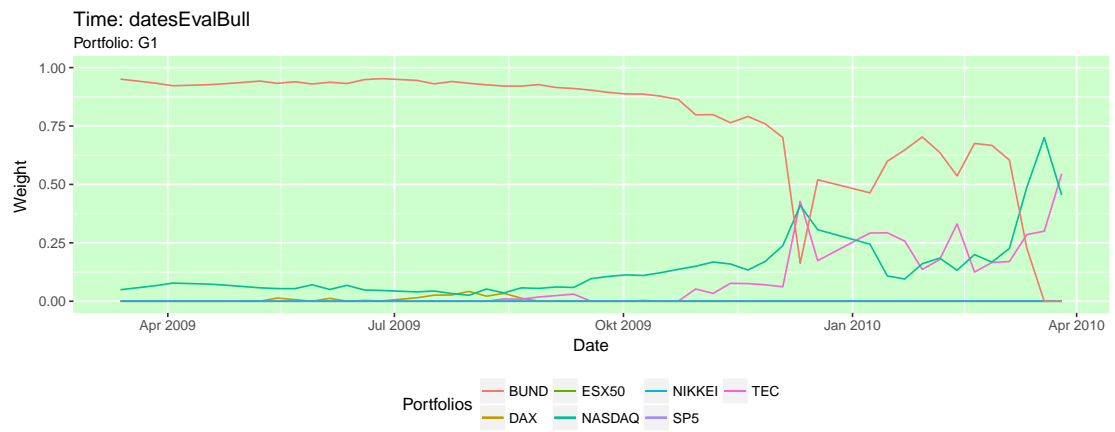
4 Results



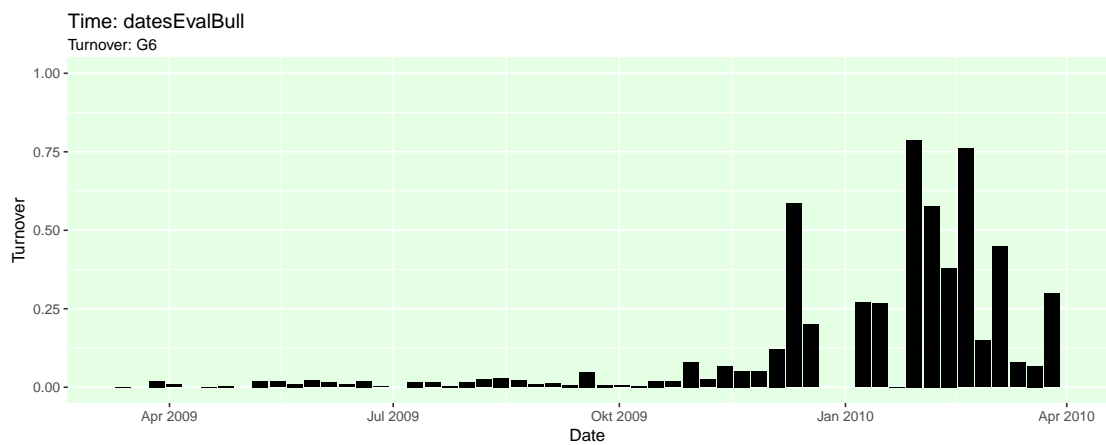
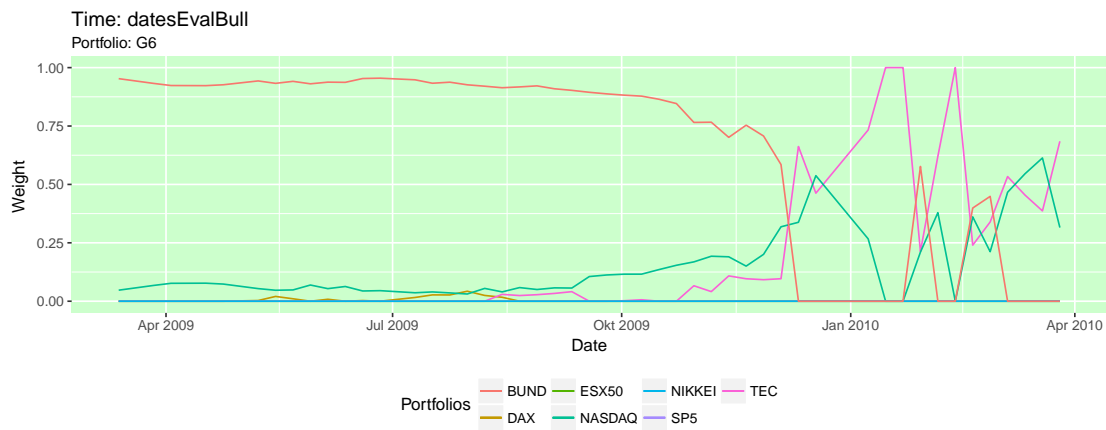
4.4 Weights



4 Results

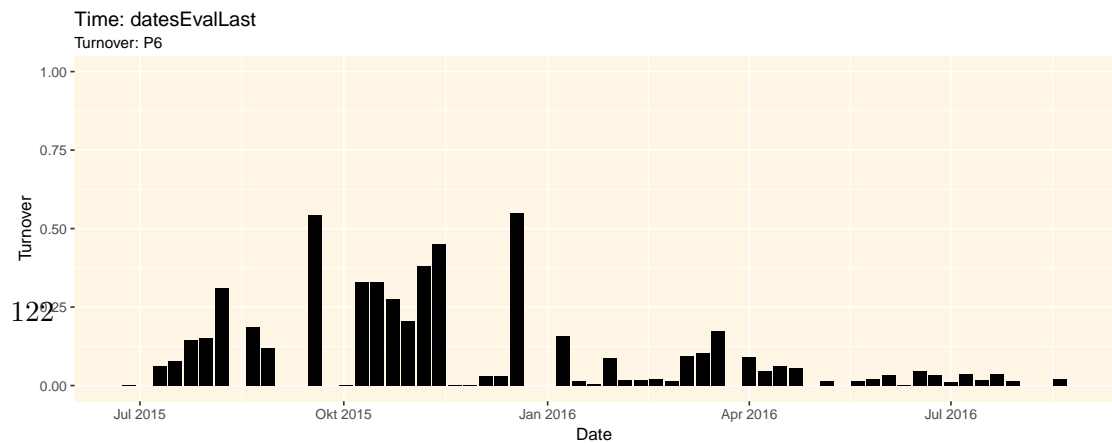
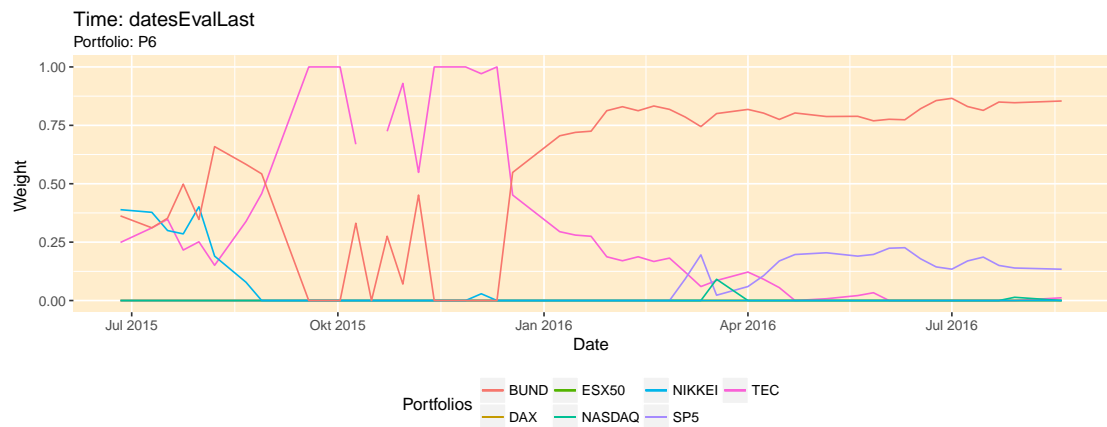
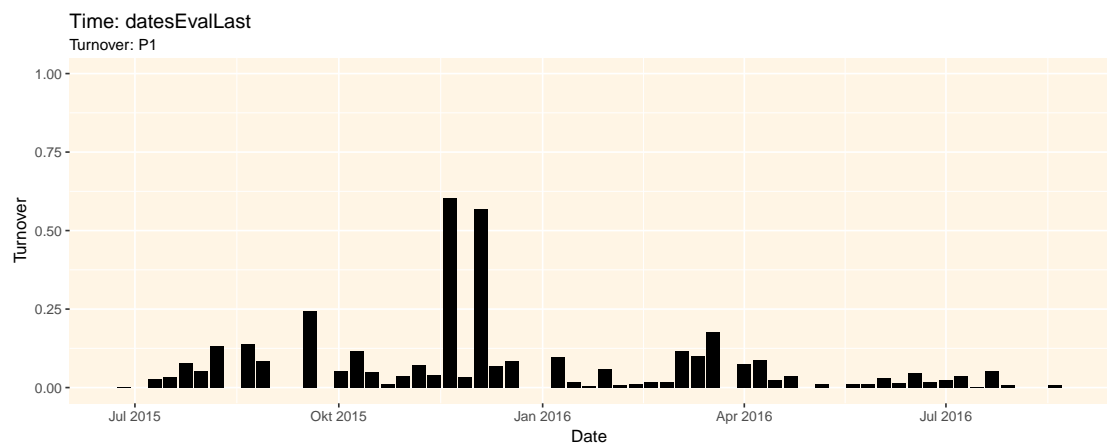
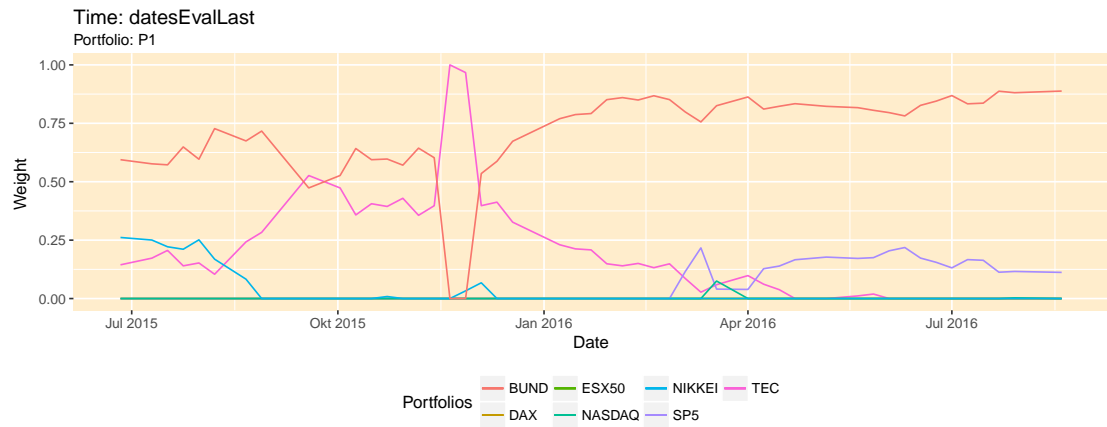


4.4 Weights

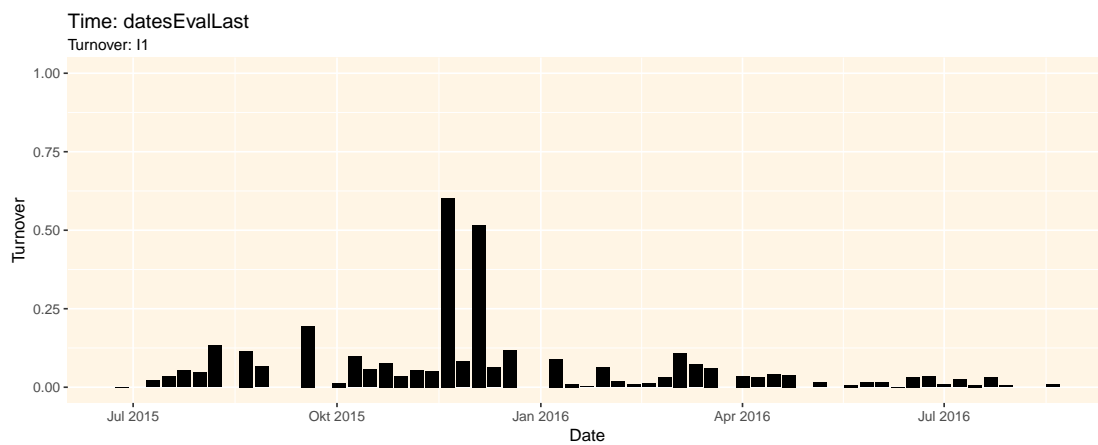
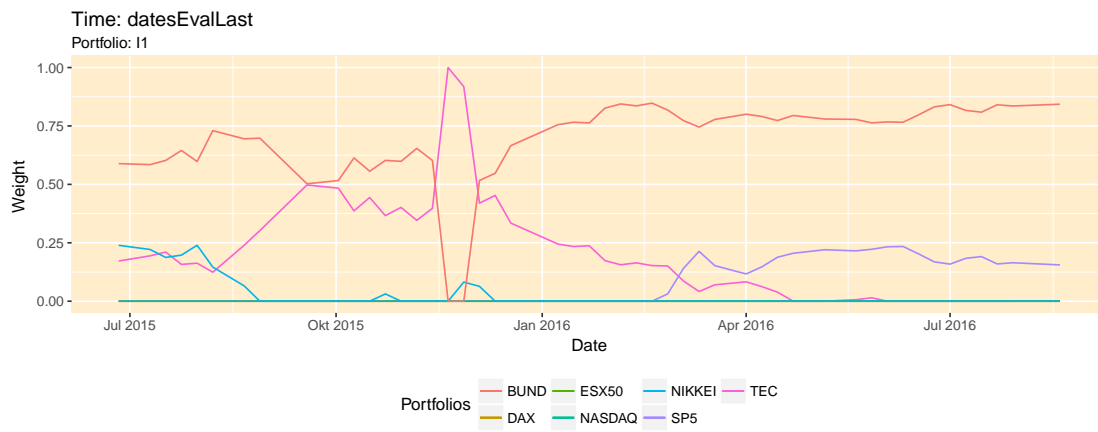


4 Results

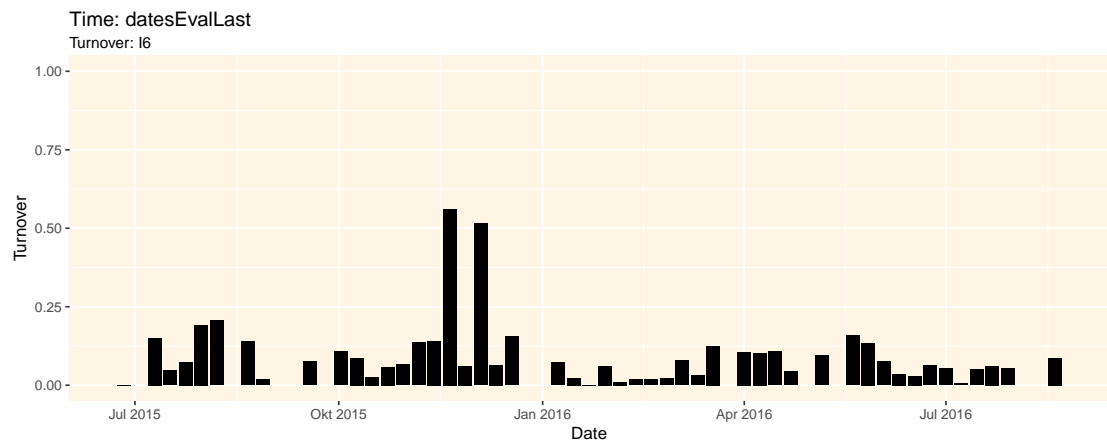
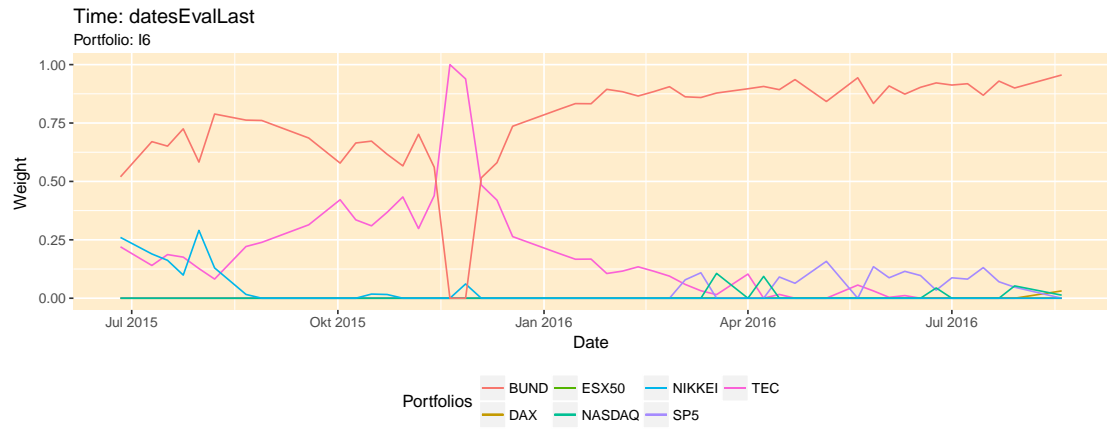
Weights-Sentix-Dispersion - datesEvalLast



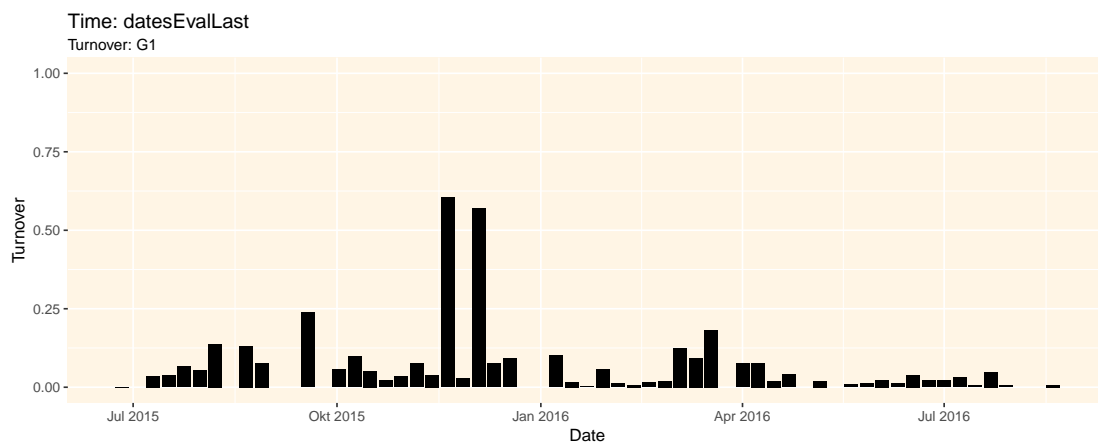
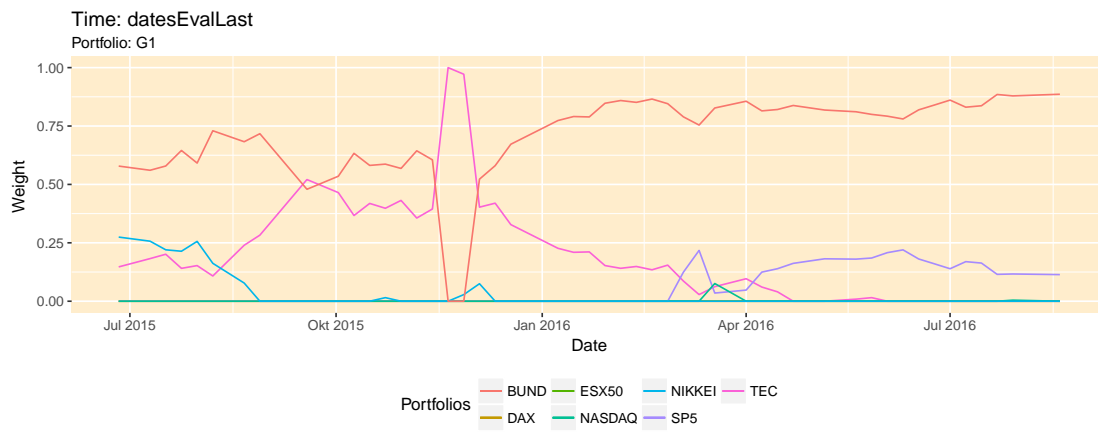
4.4 Weights



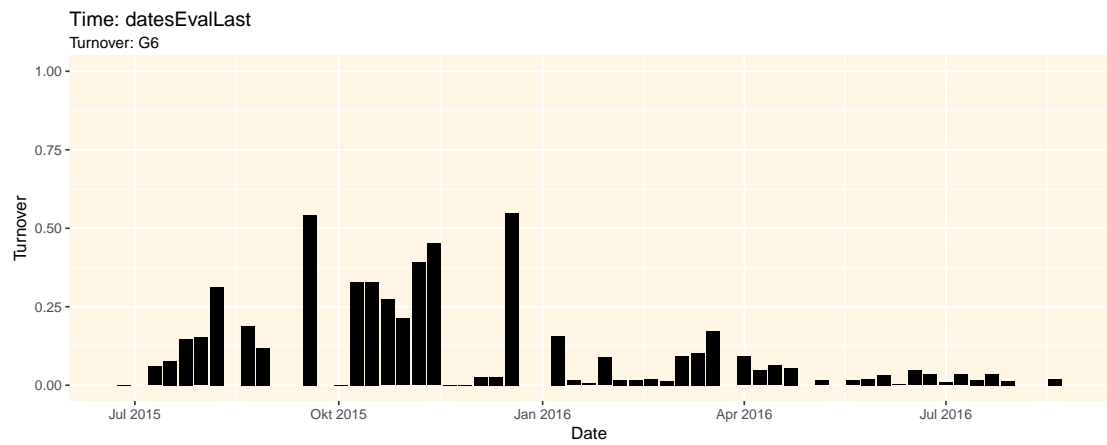
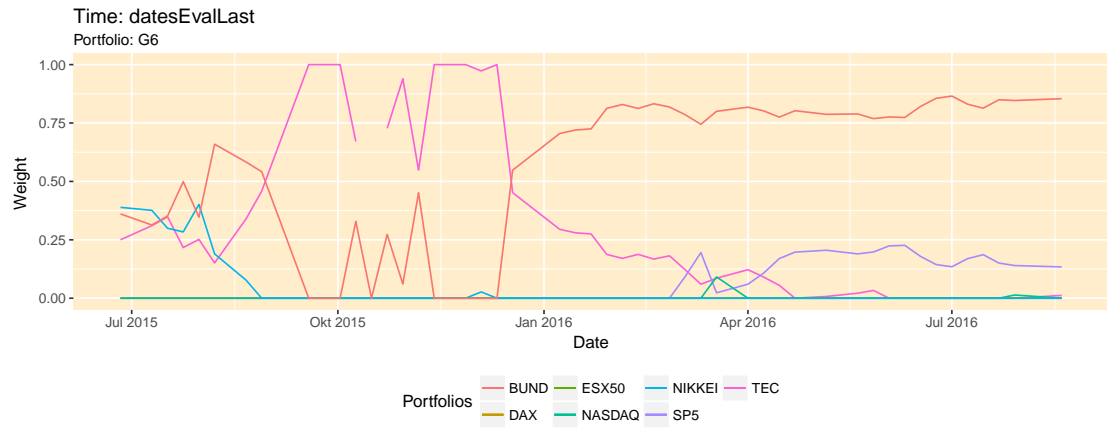
4 Results



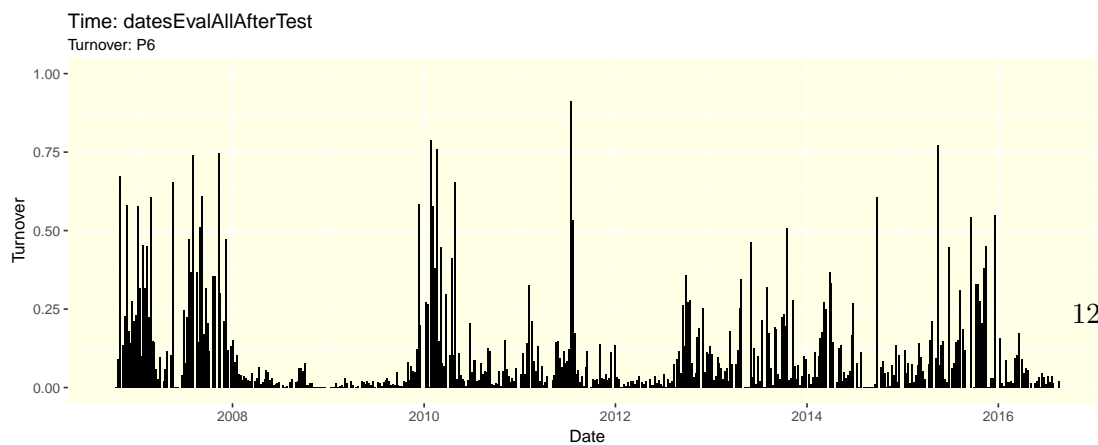
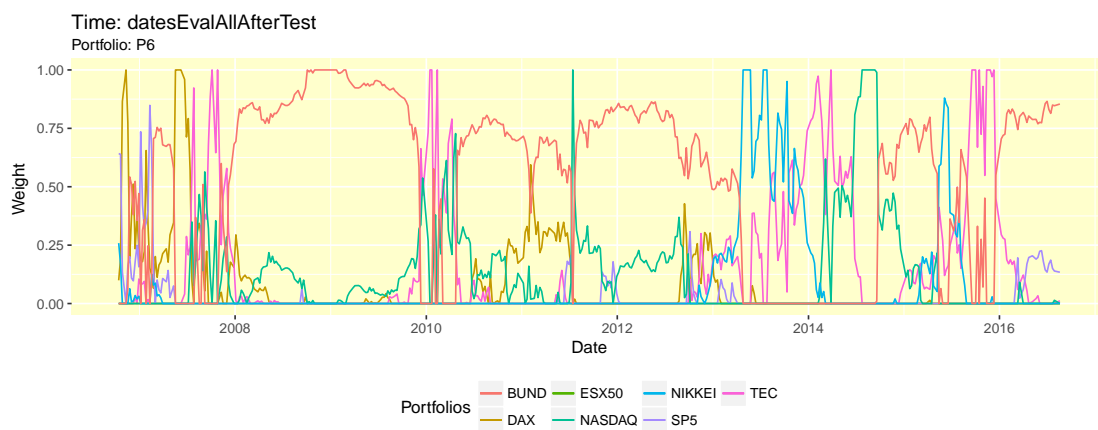
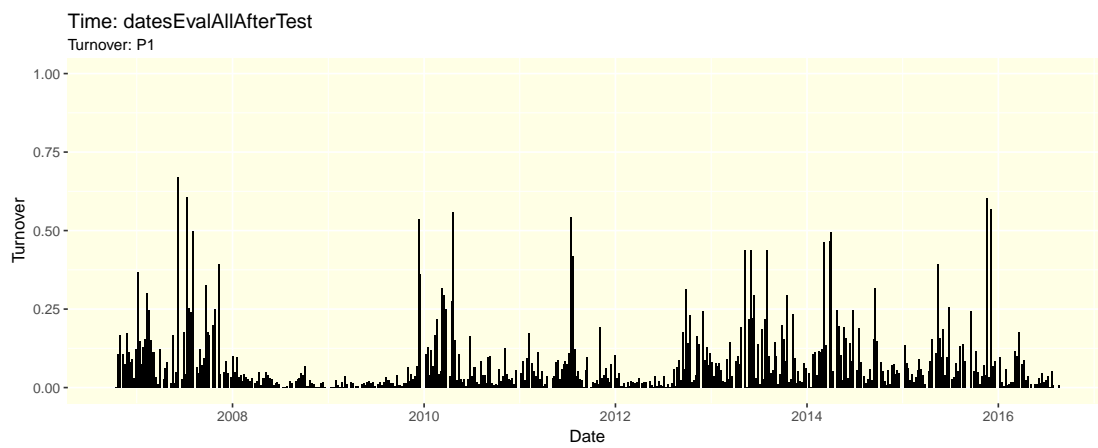
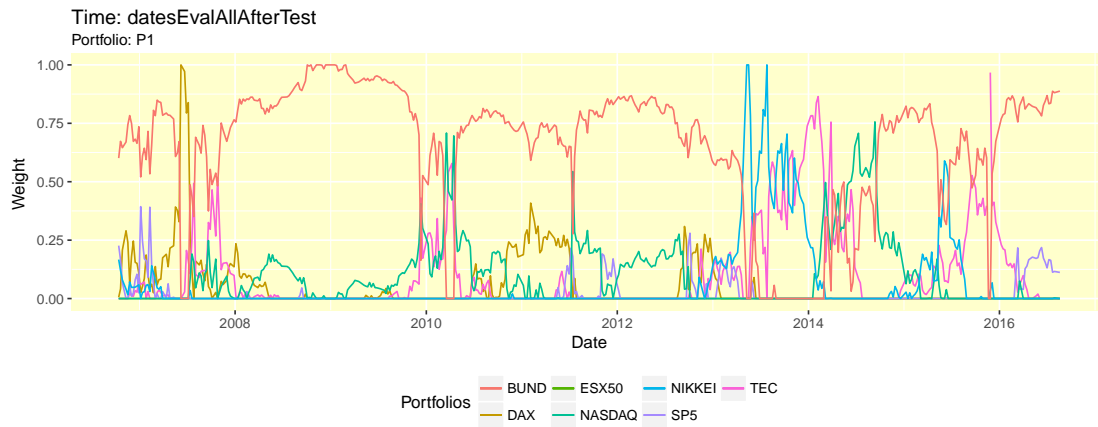
4.4 Weights



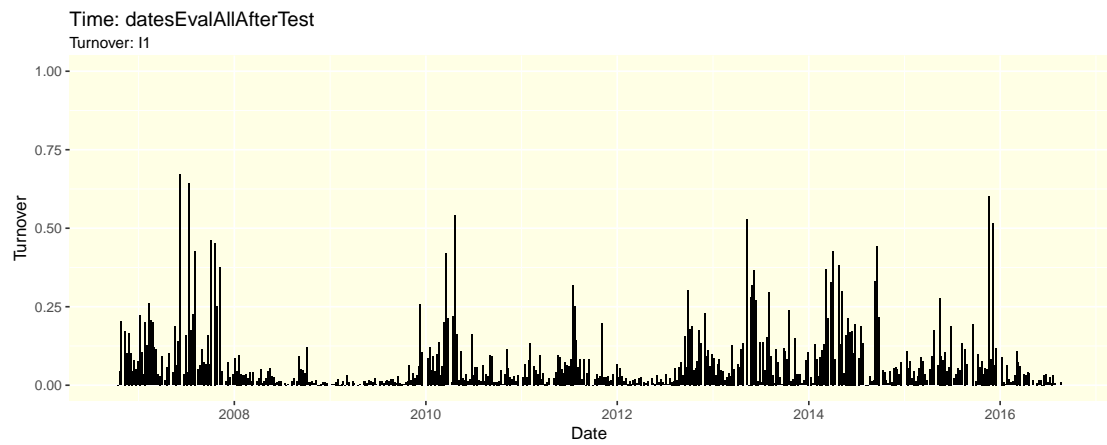
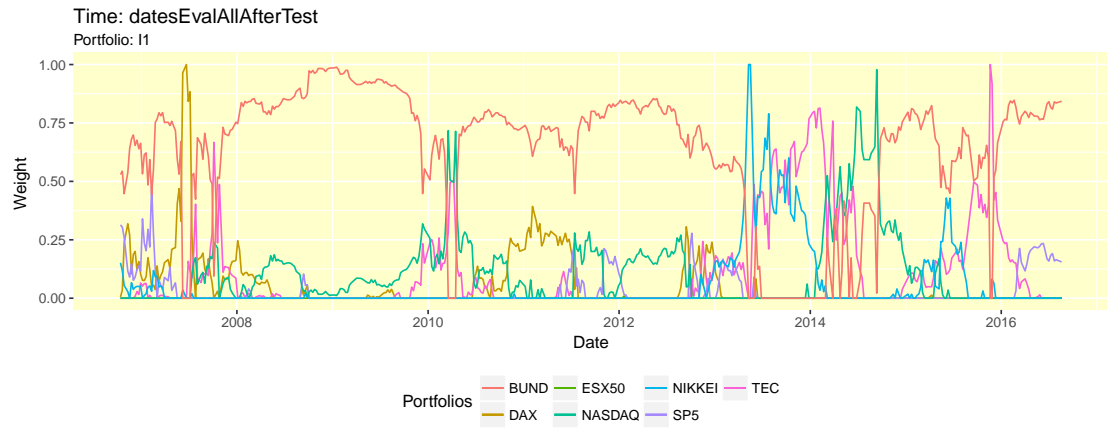
4 Results



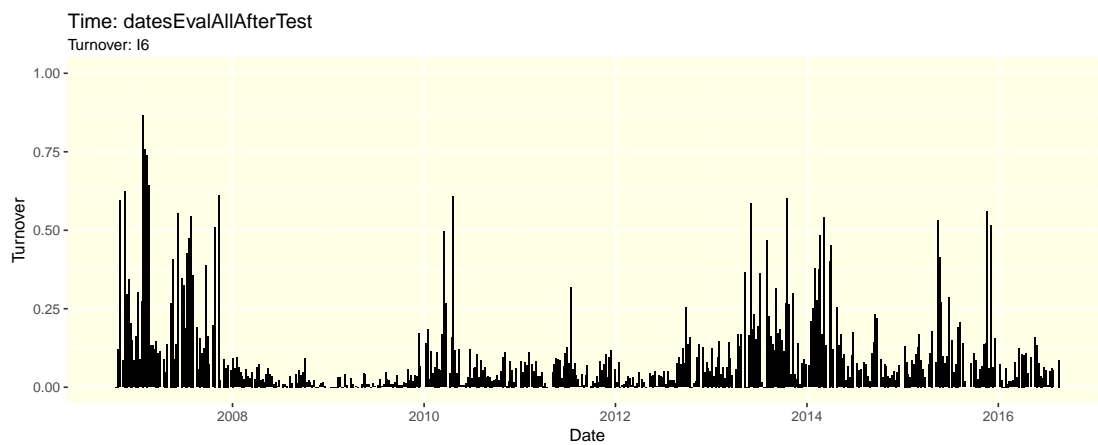
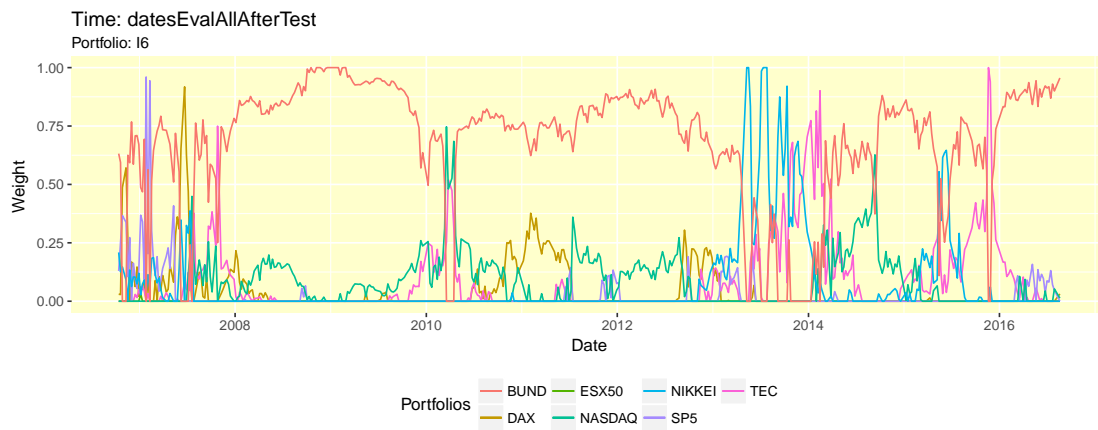
Weights-Sentix-Dispersion - datesEvalAllAfterTest



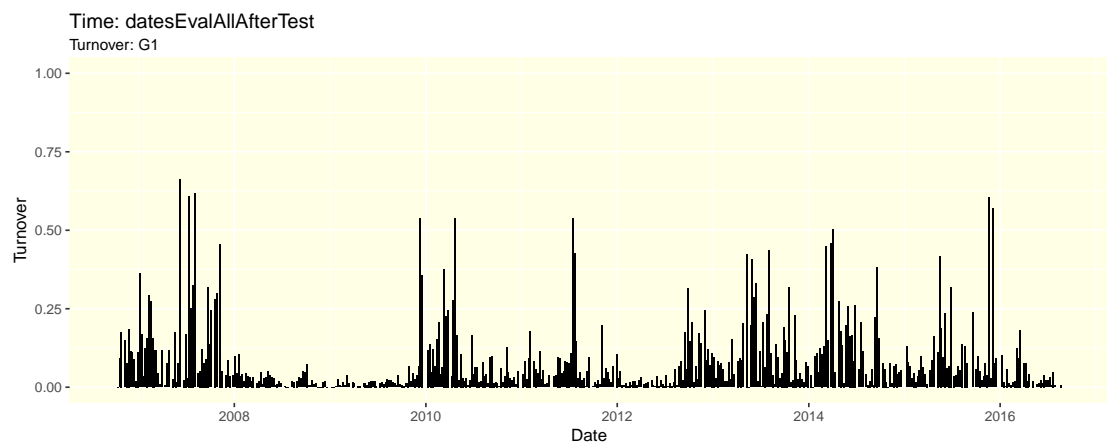
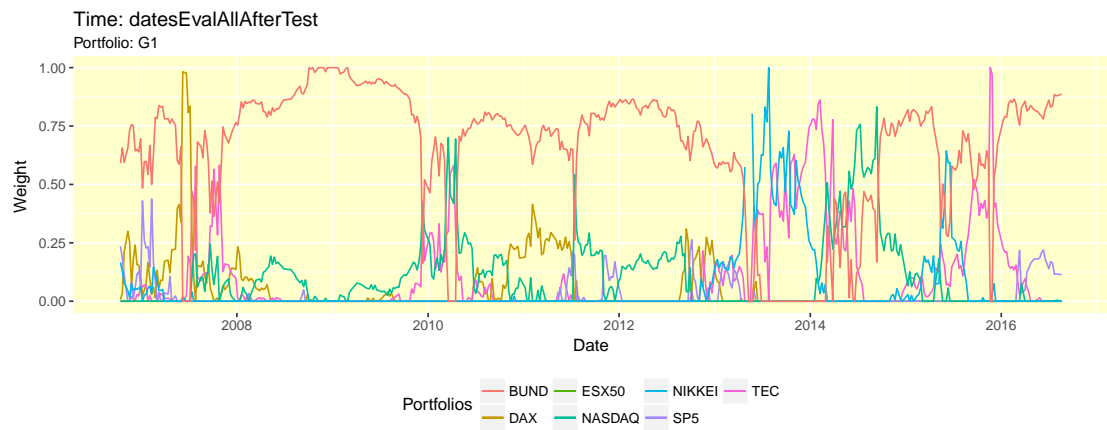
4 Results



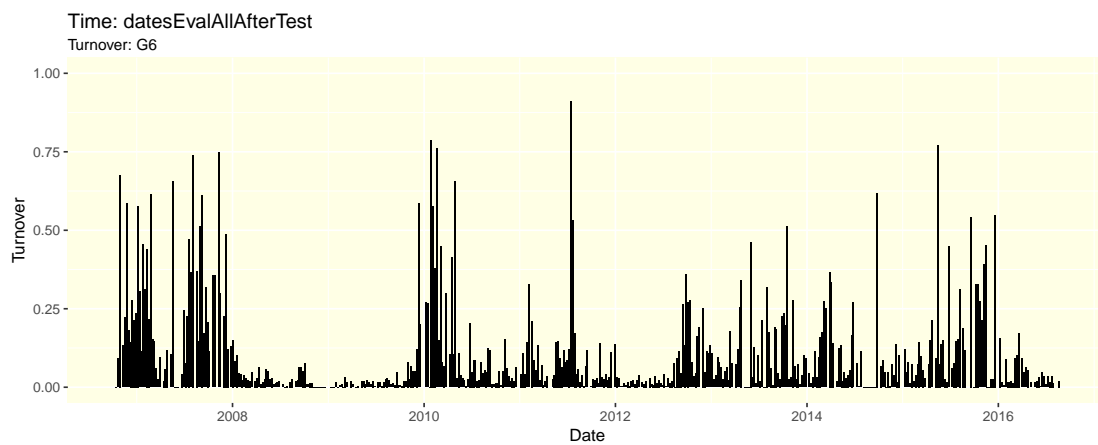
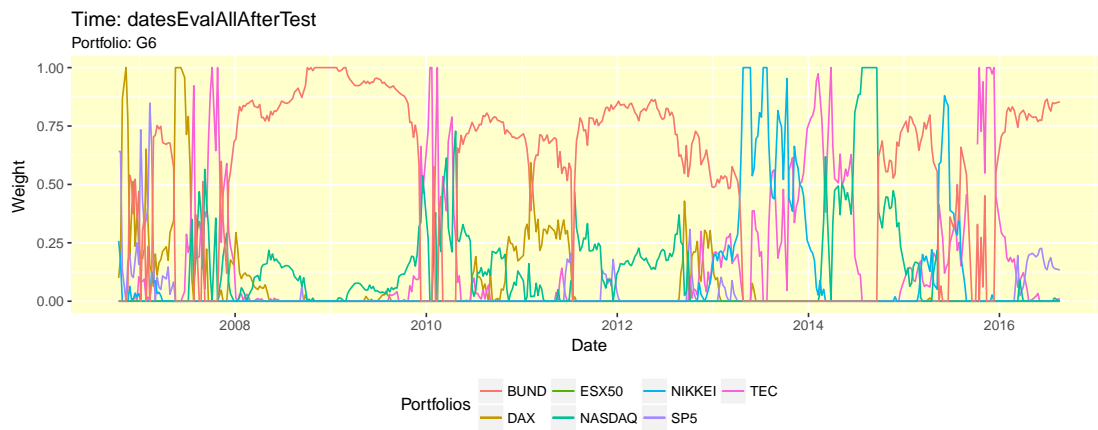
4.4 Weights



4 Results



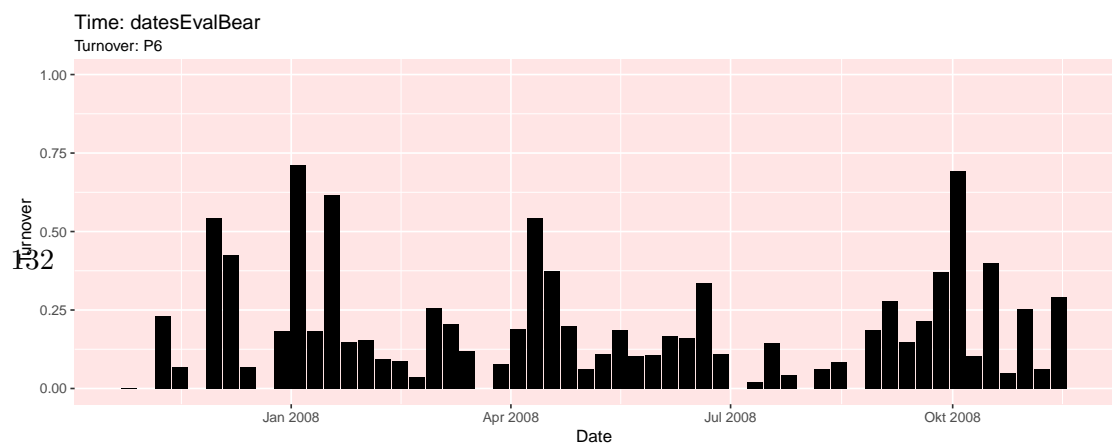
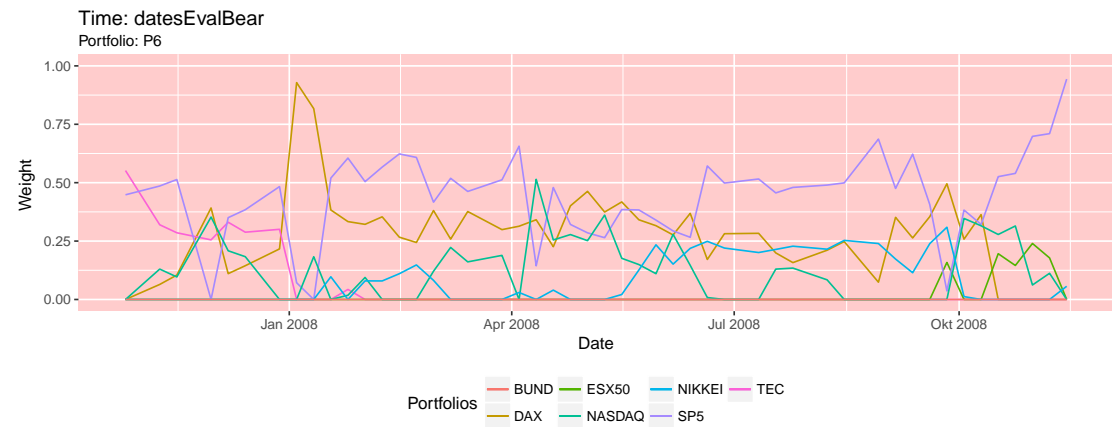
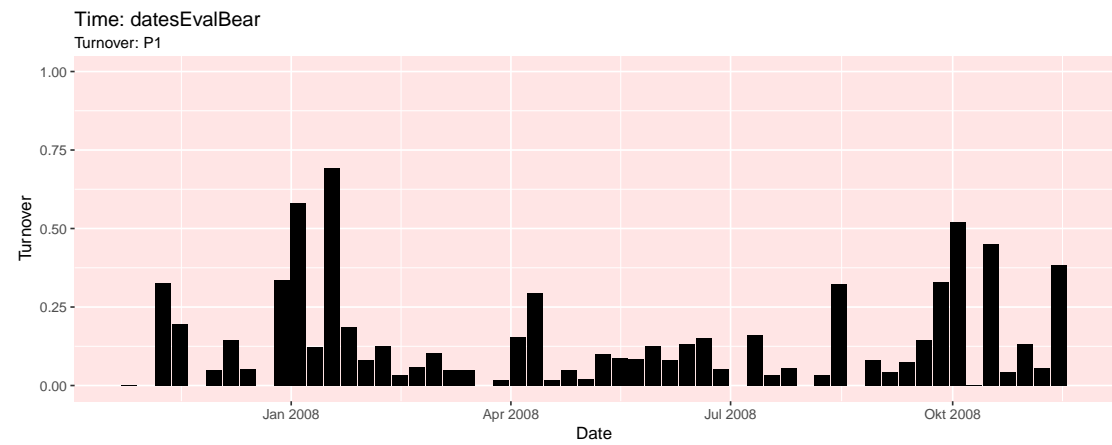
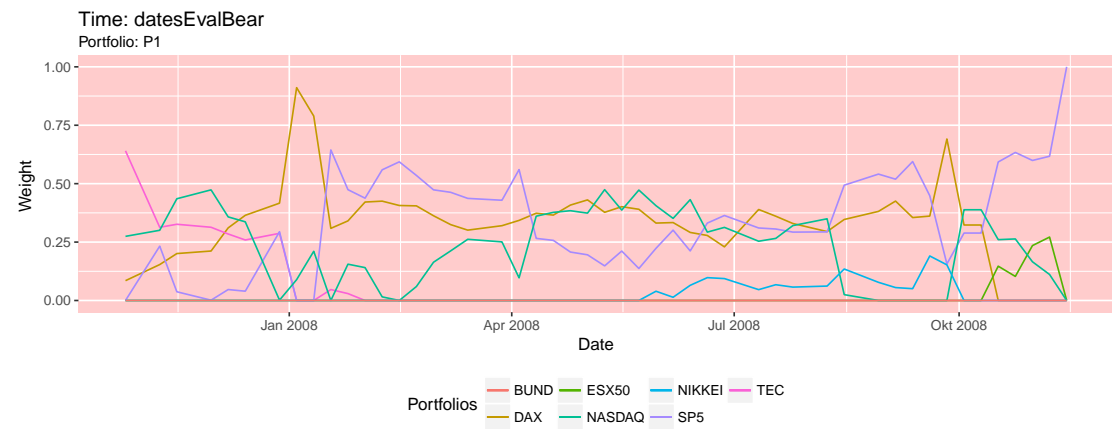
4.4 Weights



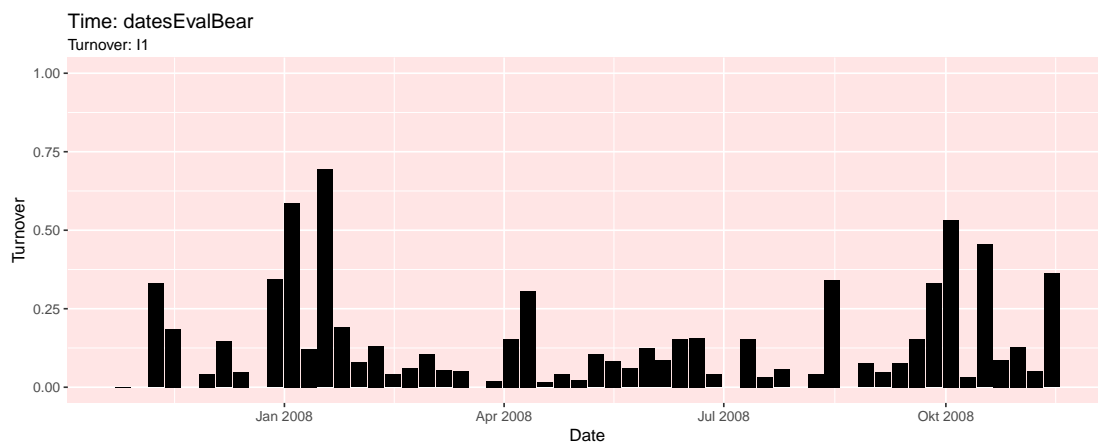
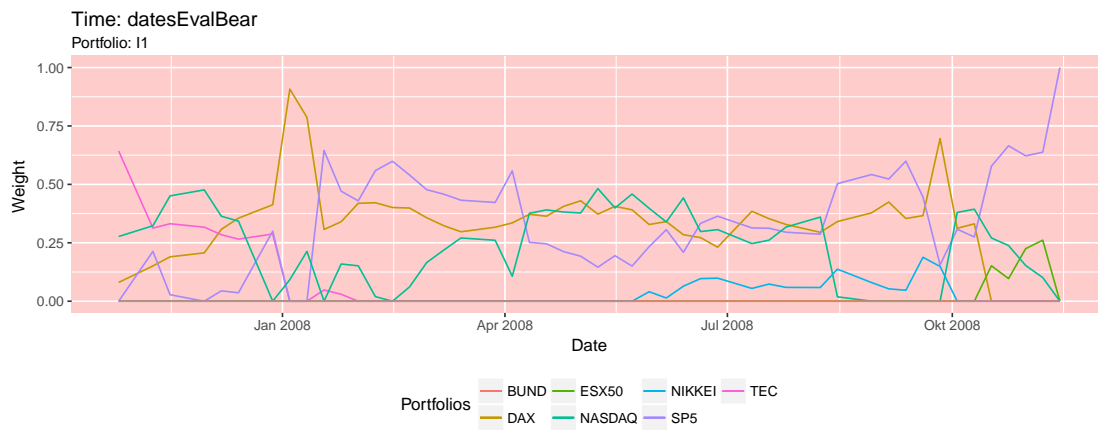
4 Results

4.4.3 Weights-Sentix-Disperion-No-Risk-Free

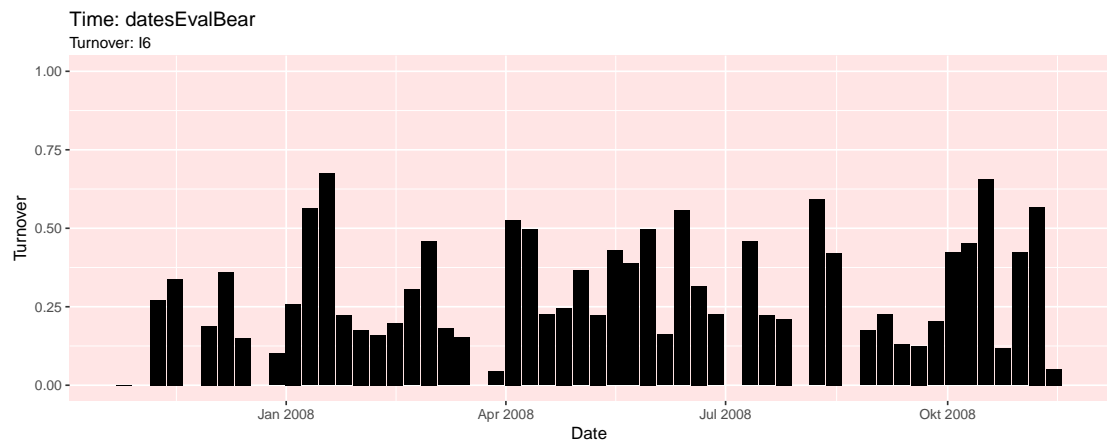
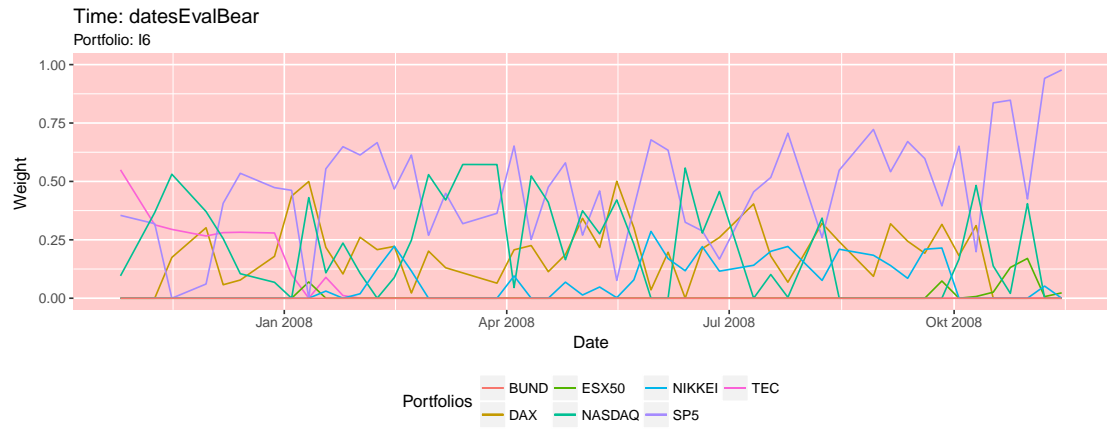
Weights-Sentix-Disperion-No-Risk-Free - datesEvalBear



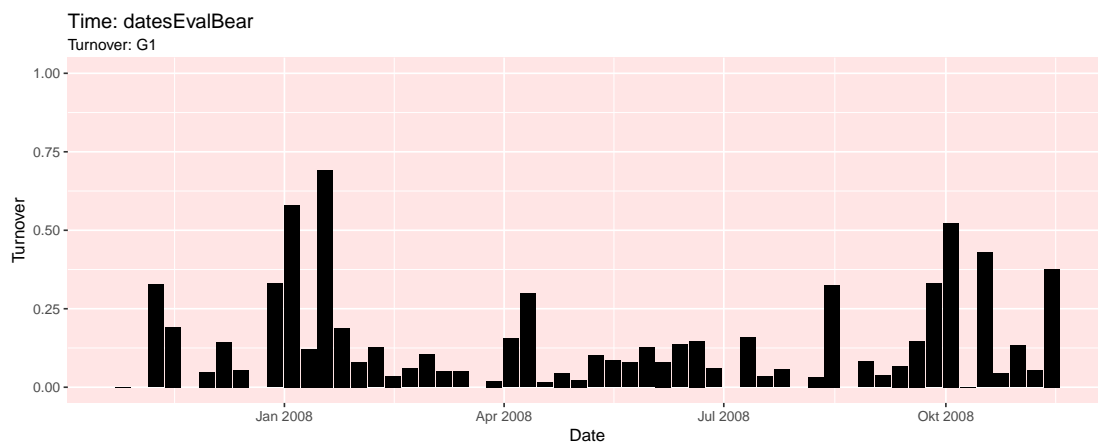
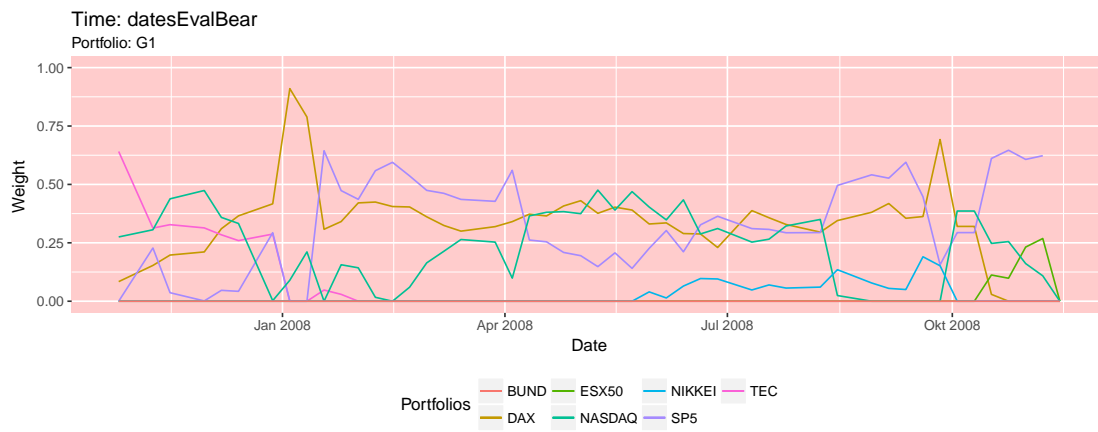
4.4 Weights



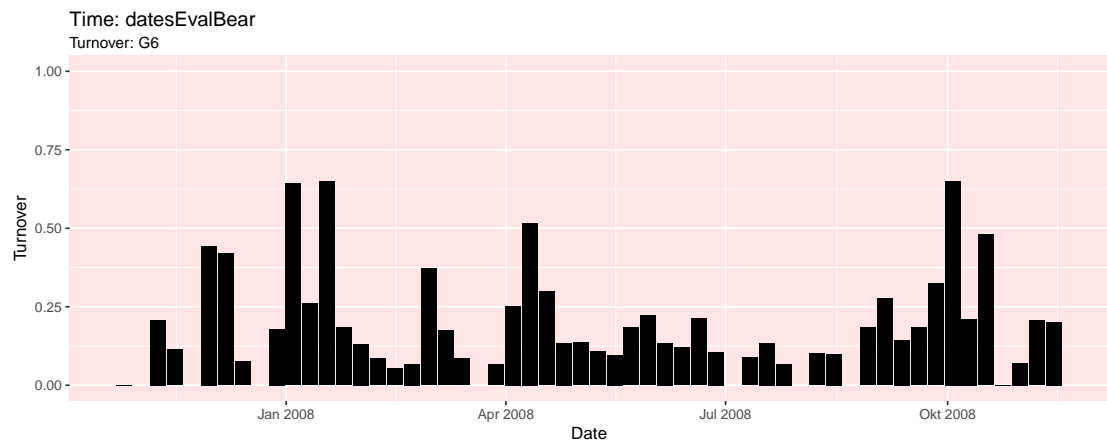
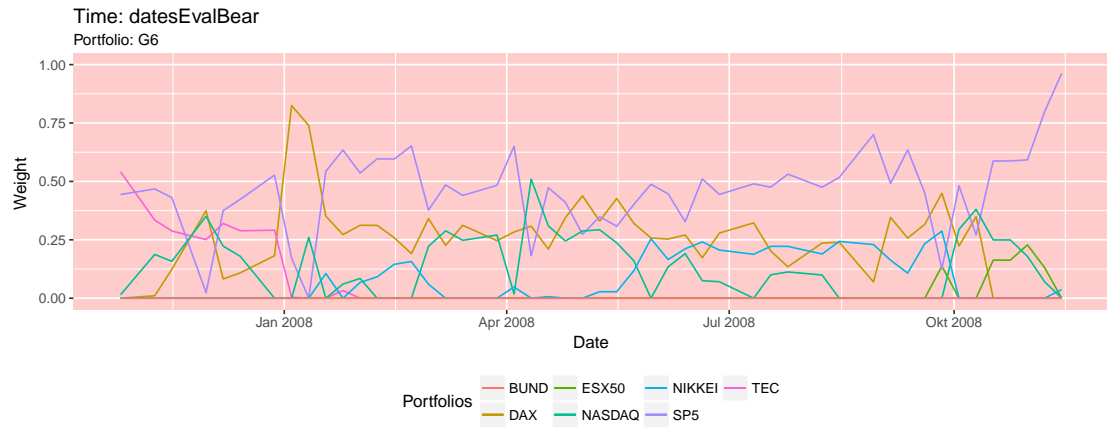
4 Results



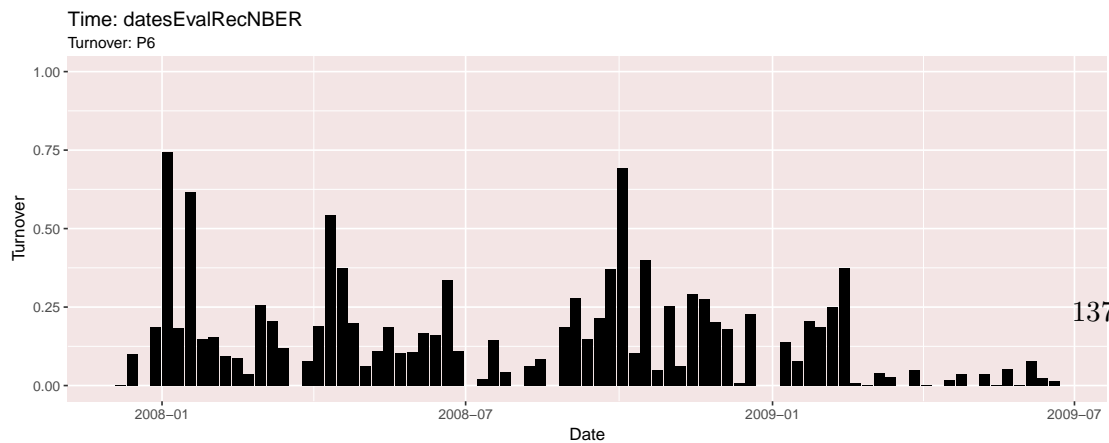
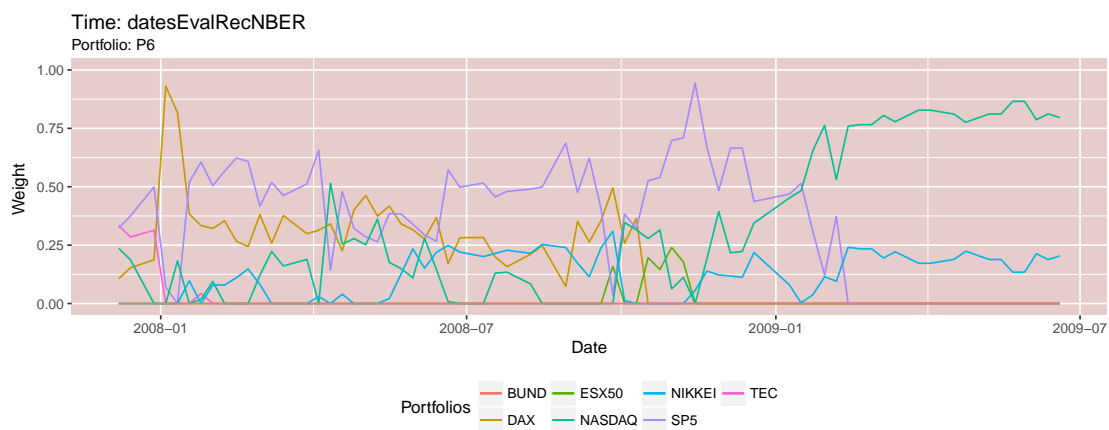
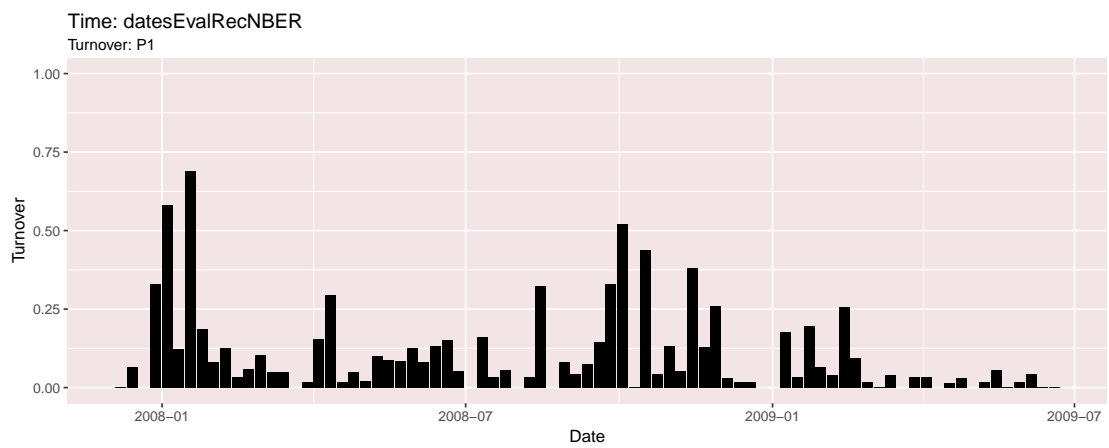
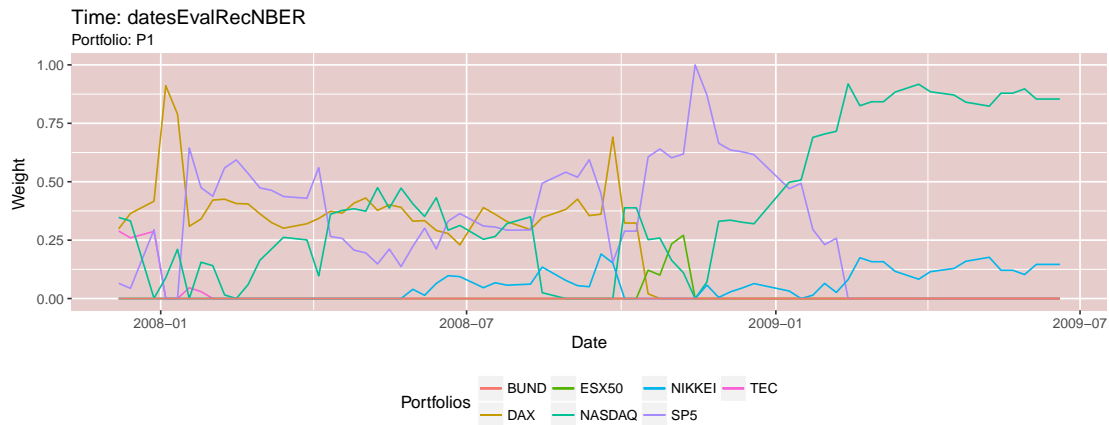
4.4 Weights



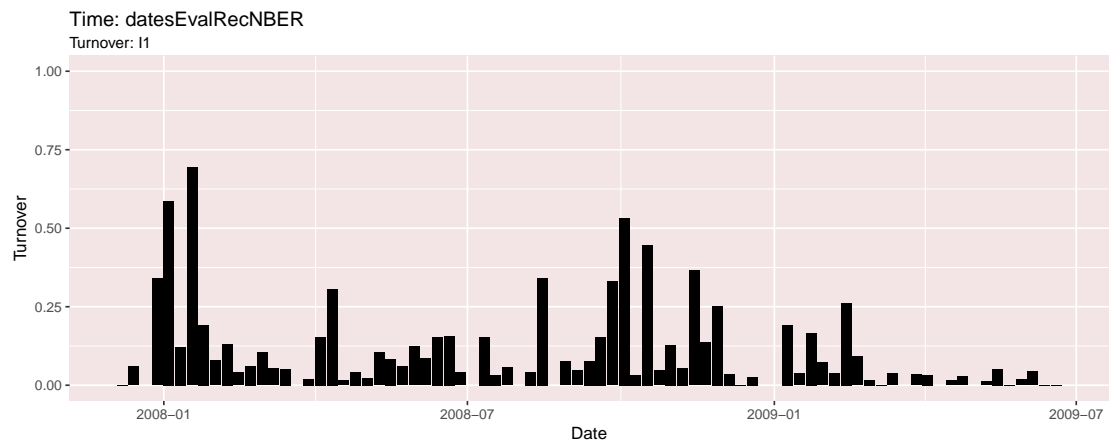
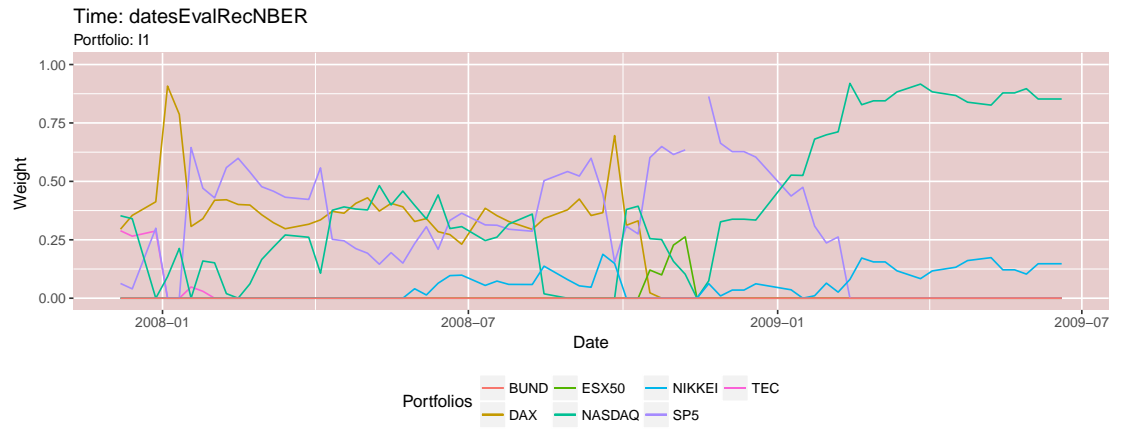
4 Results



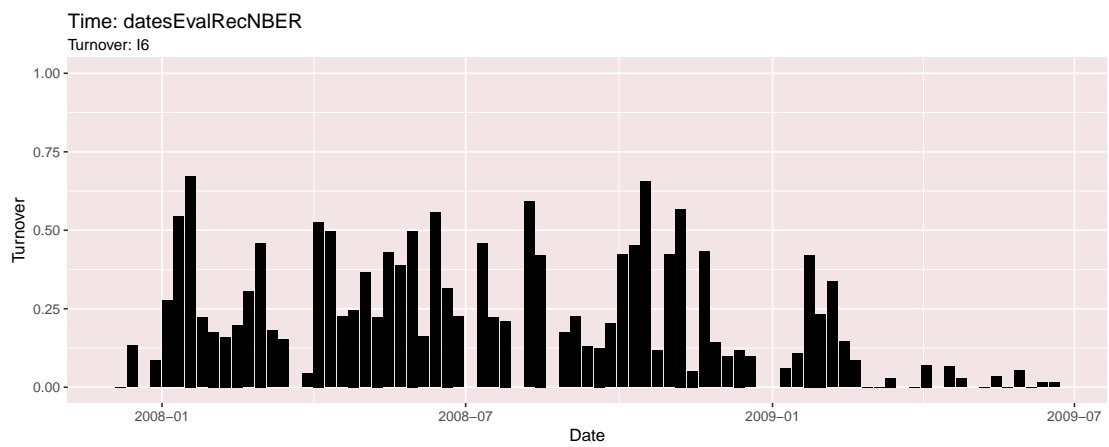
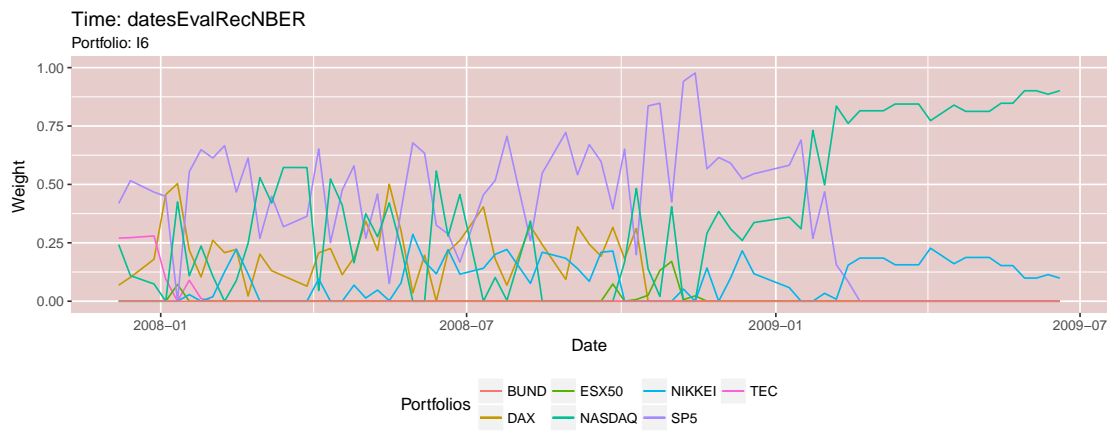
Weights-Sentix-Disperion-No-Risk-Free - datesEvalRecNBER



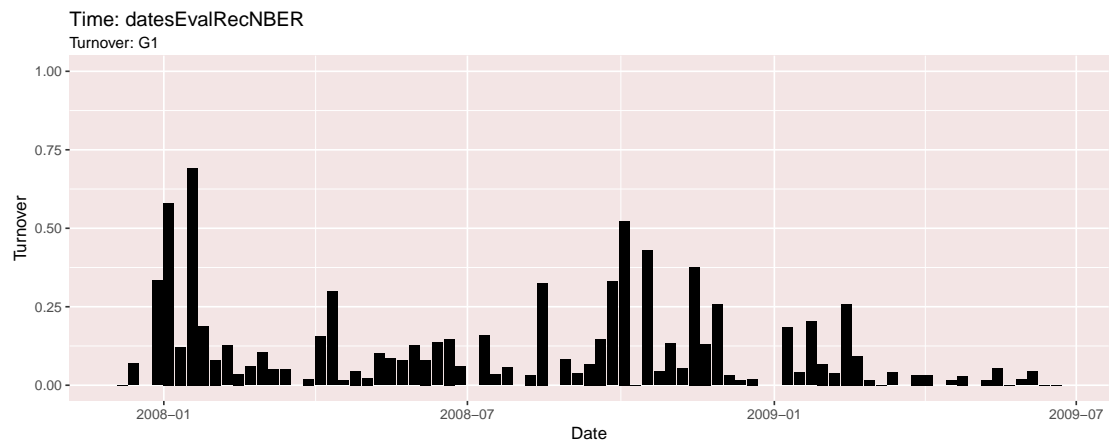
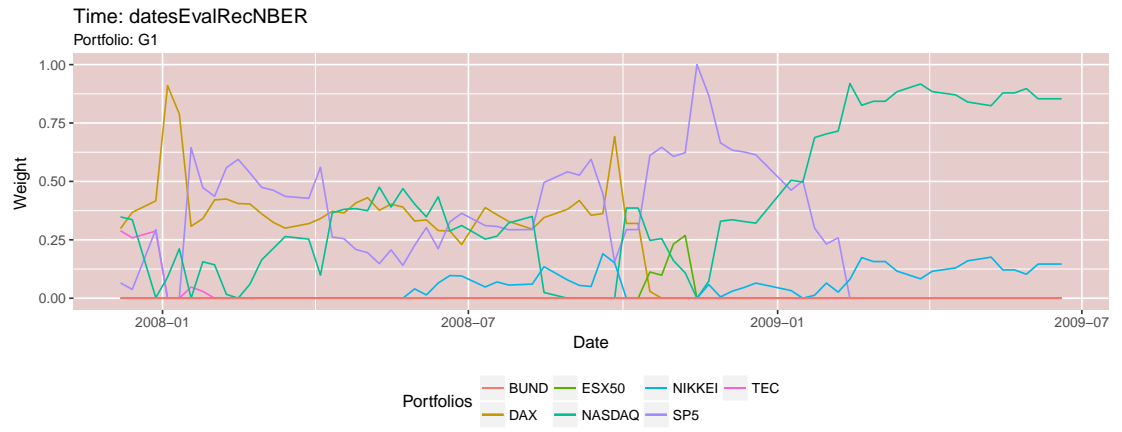
4 Results



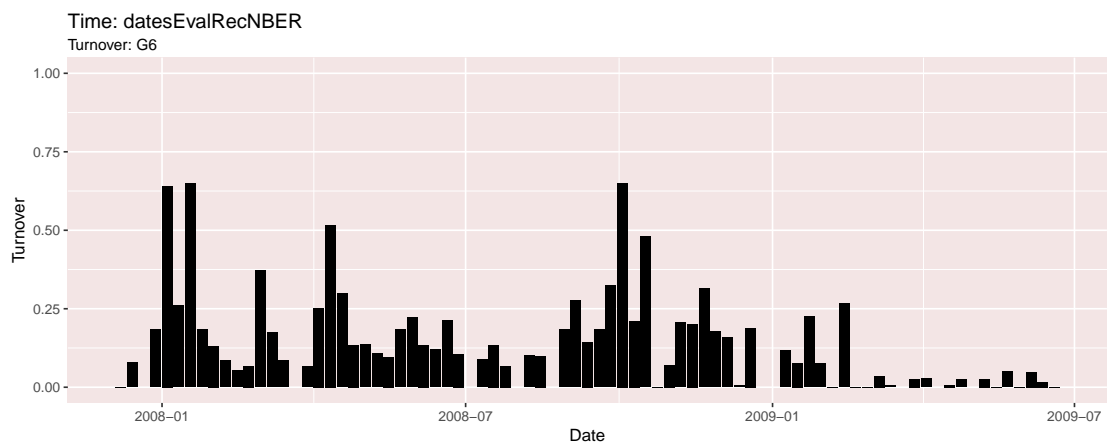
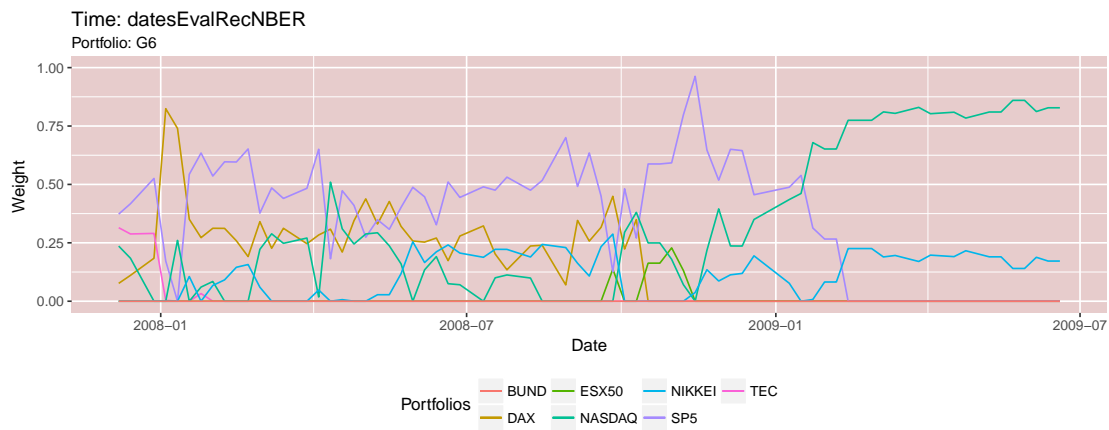
4.4 Weights



4 Results

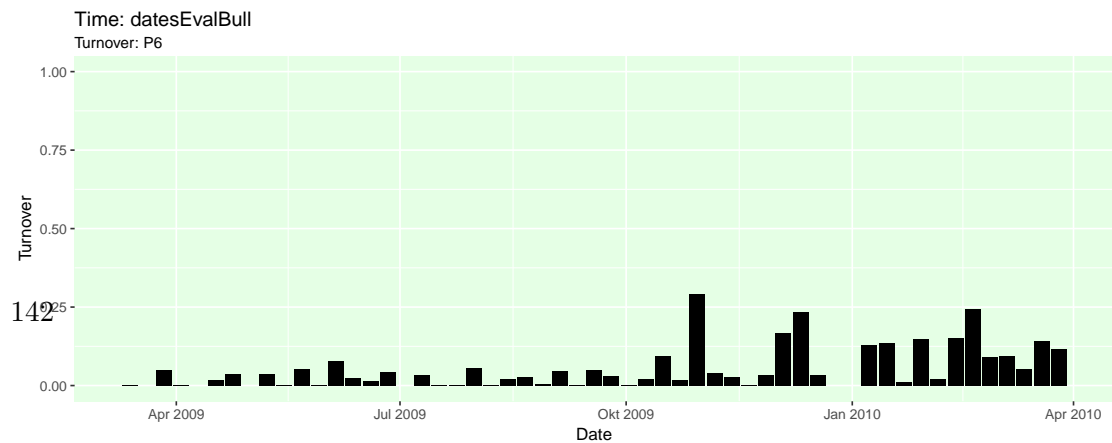
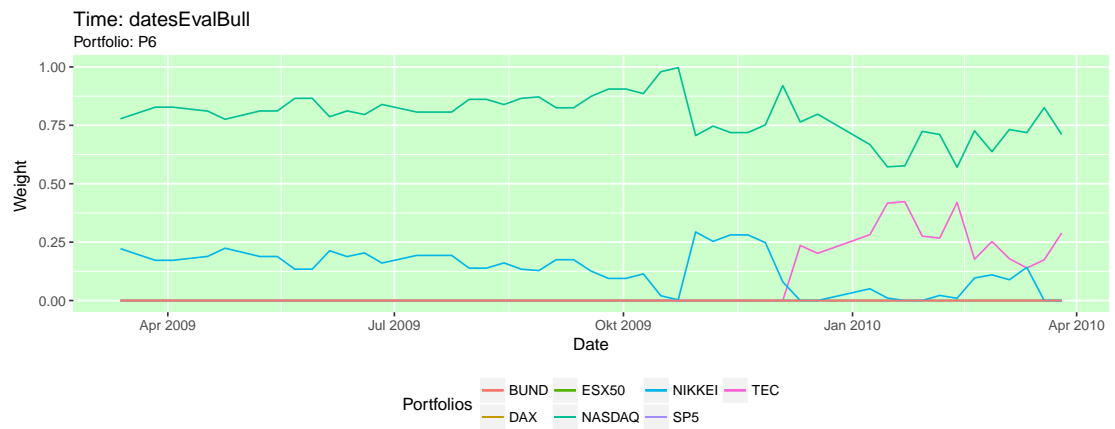
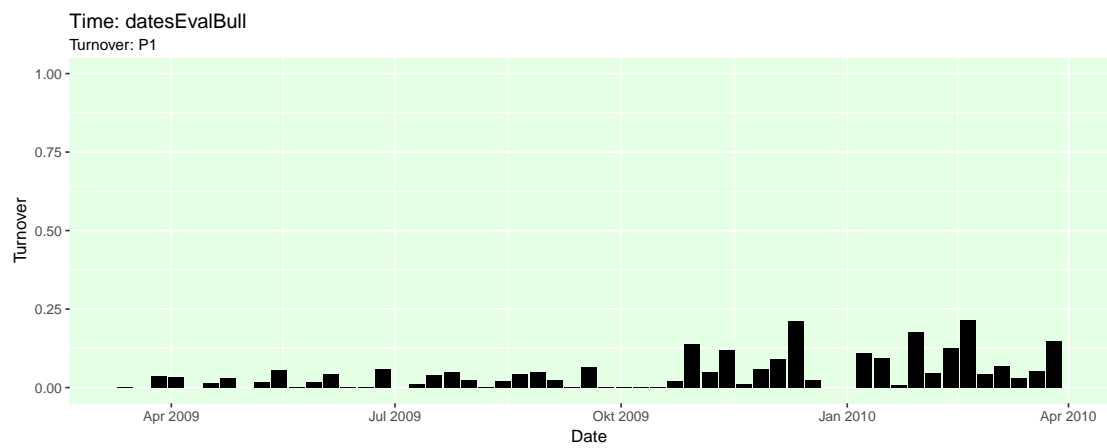
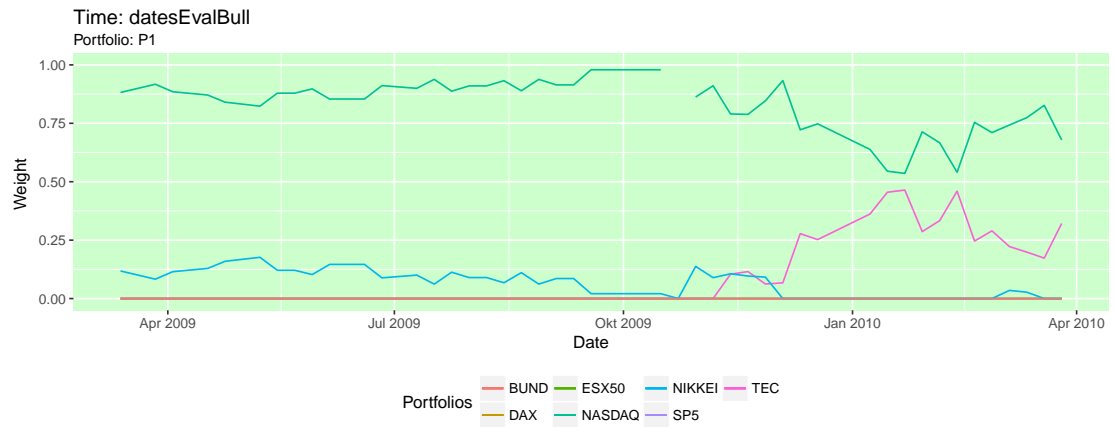


4.4 Weights

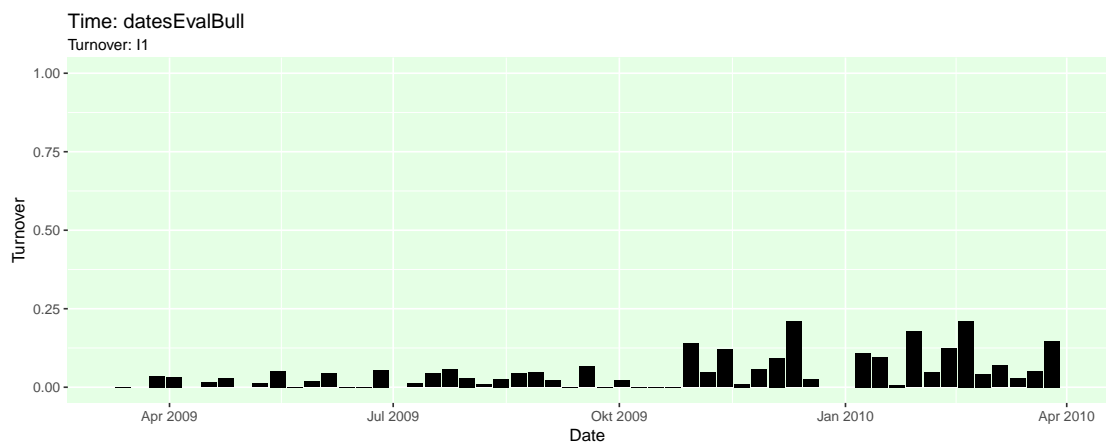
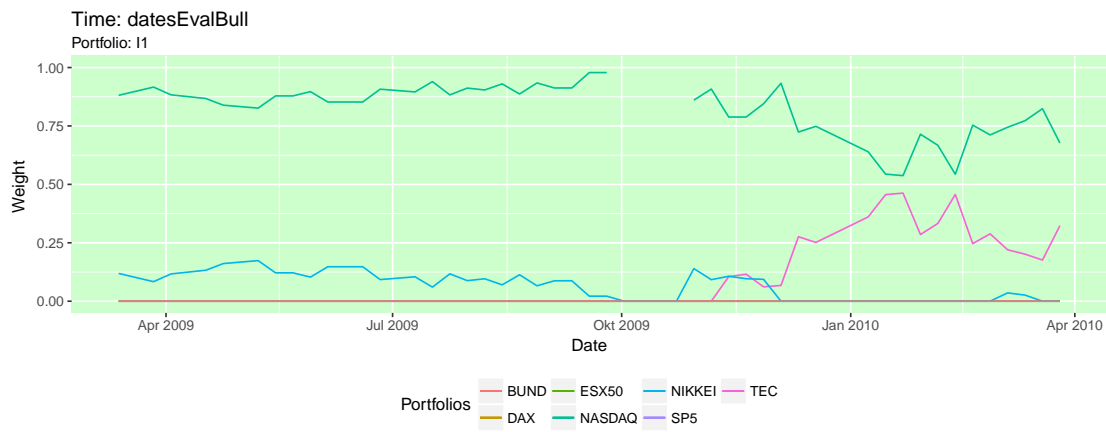


4 Results

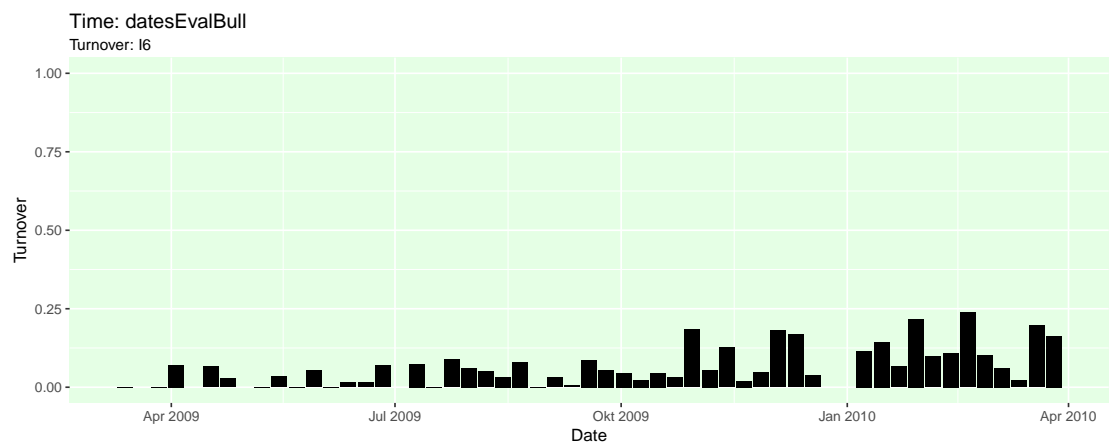
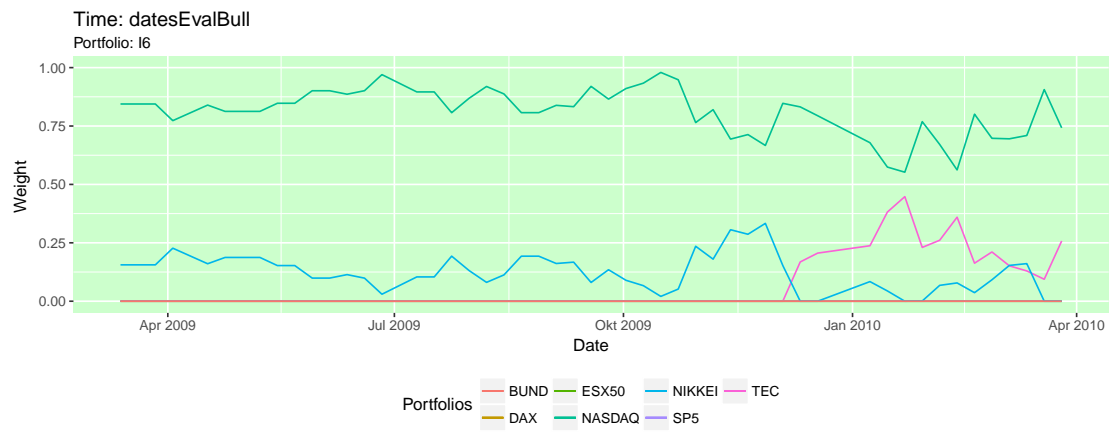
Weights-Sentix-Disperion-No-Risk-Free - datesEvalBull



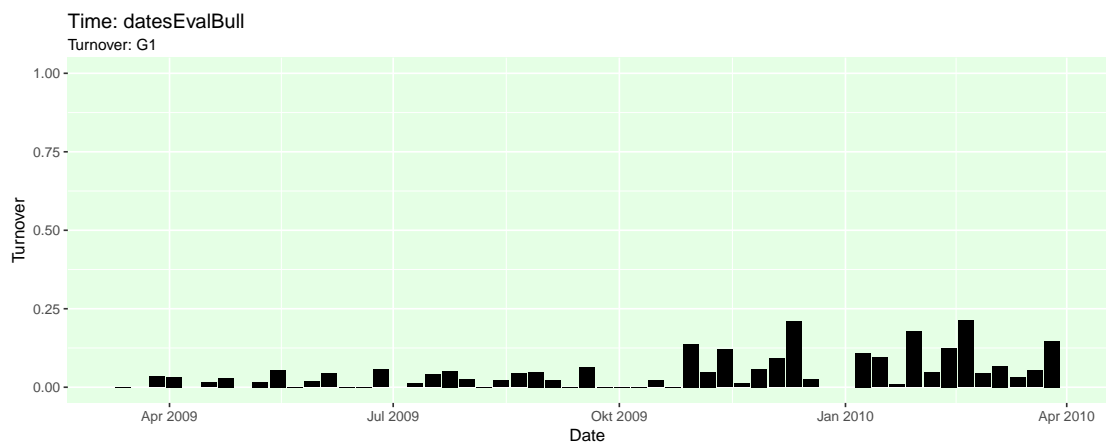
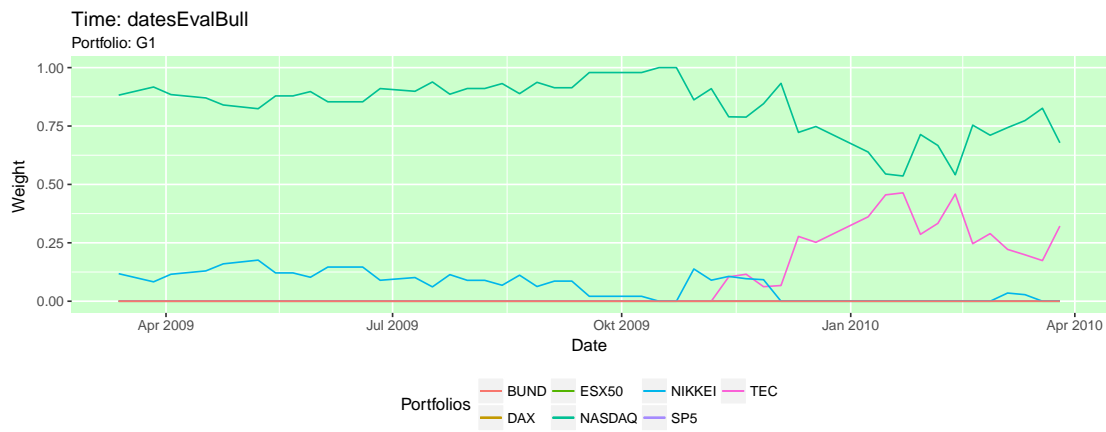
4.4 Weights



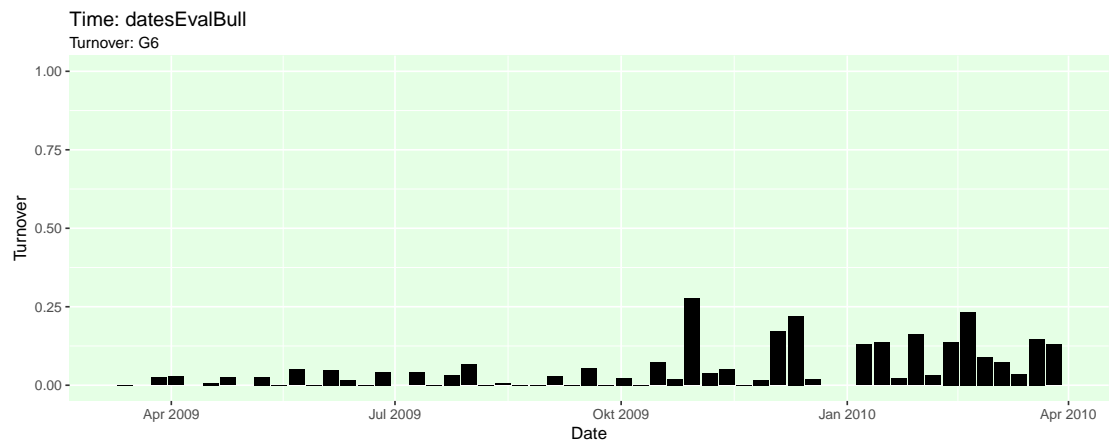
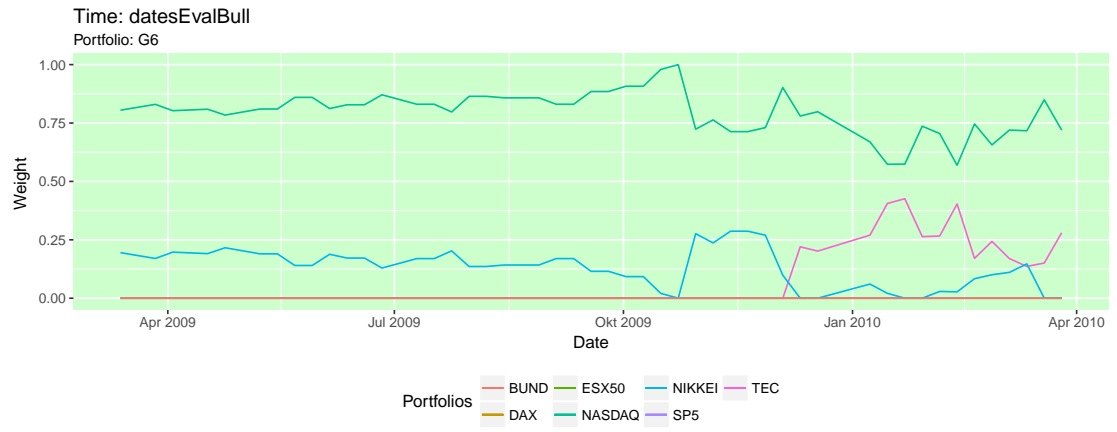
4 Results



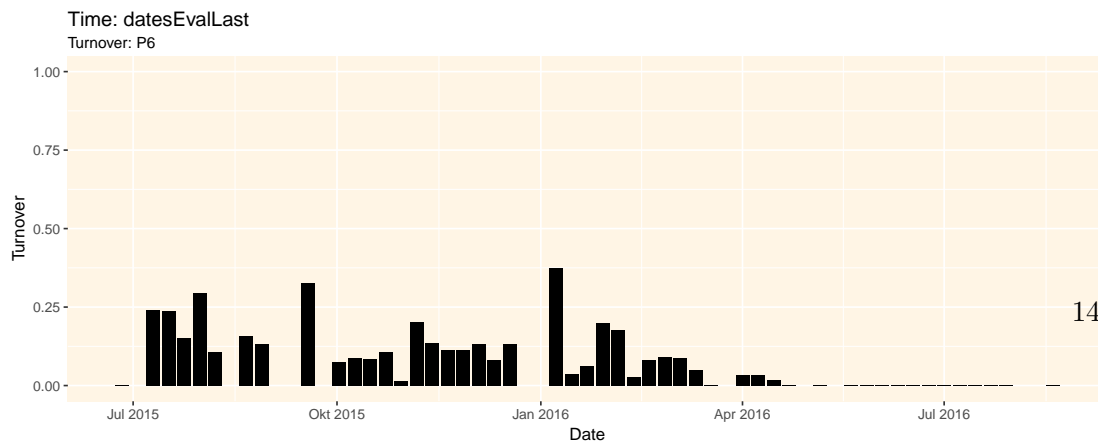
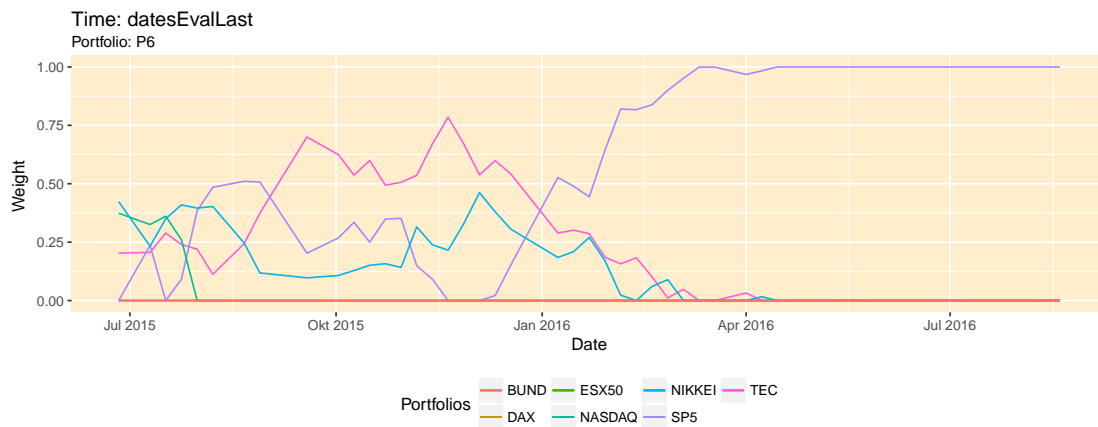
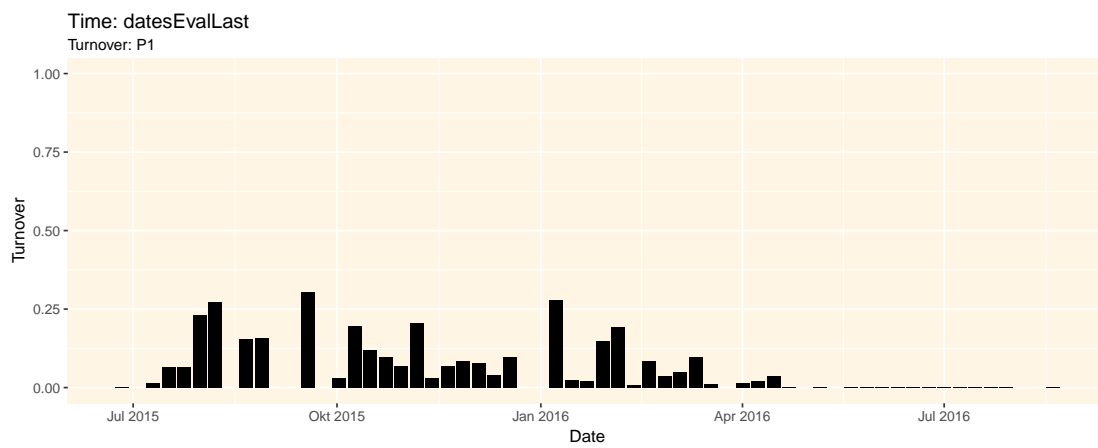
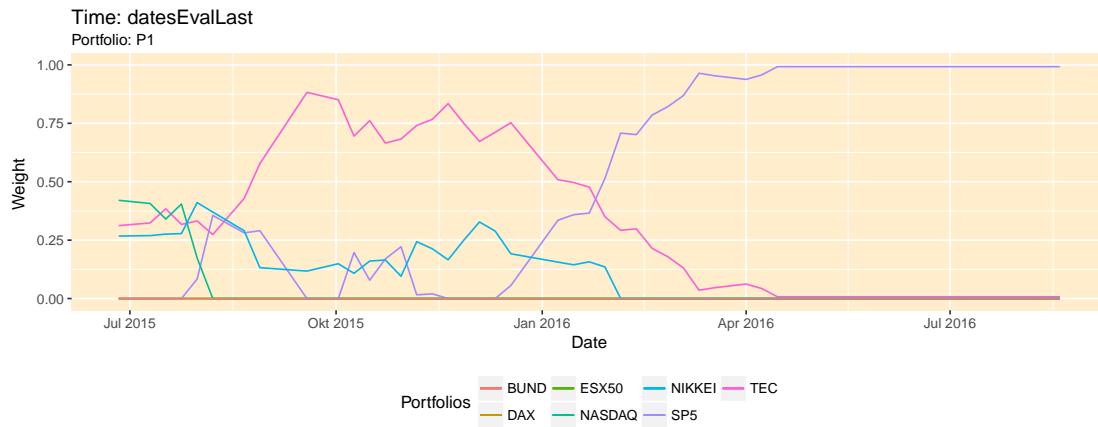
4.4 Weights



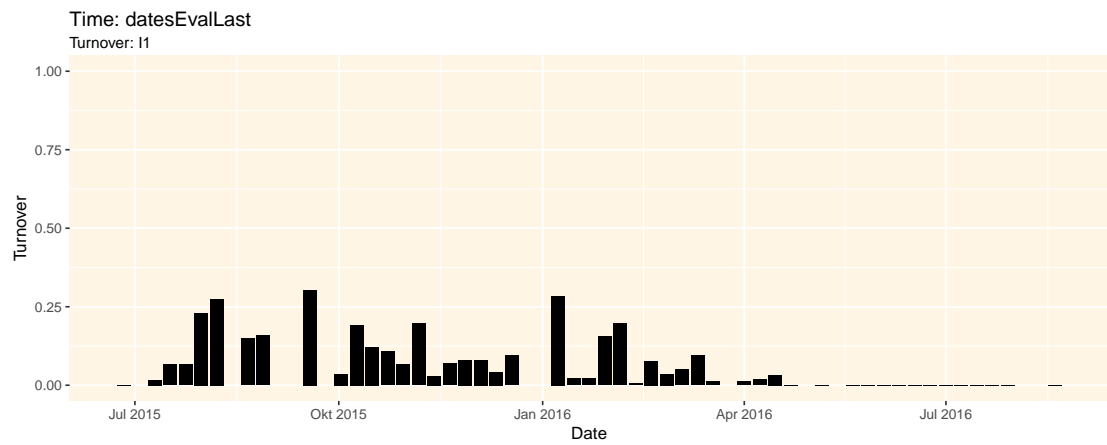
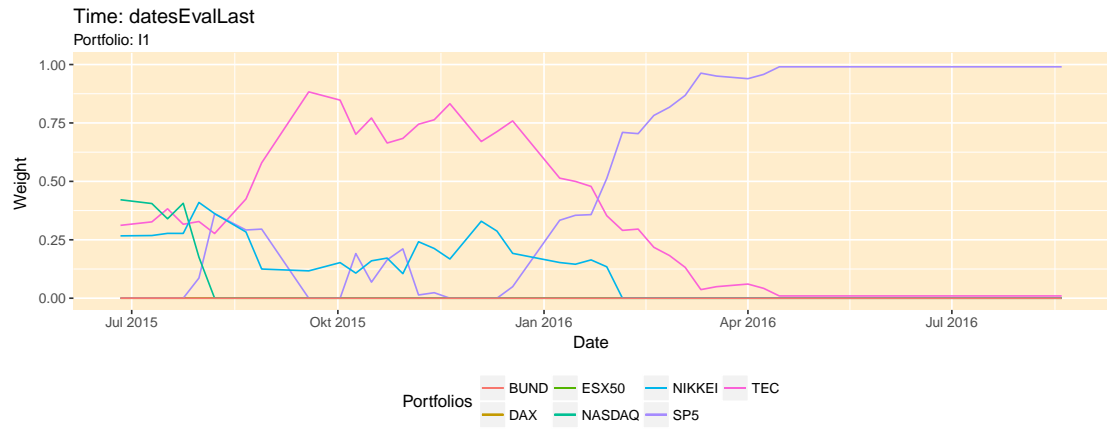
4 Results



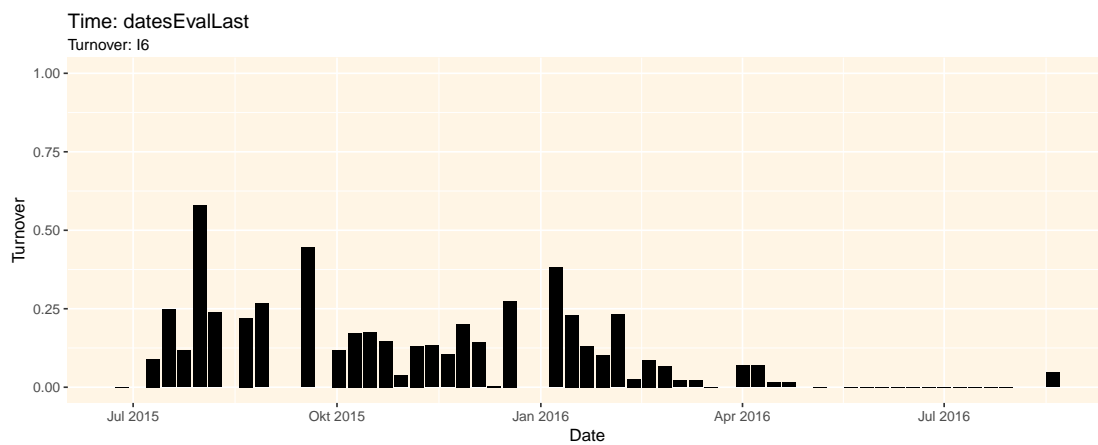
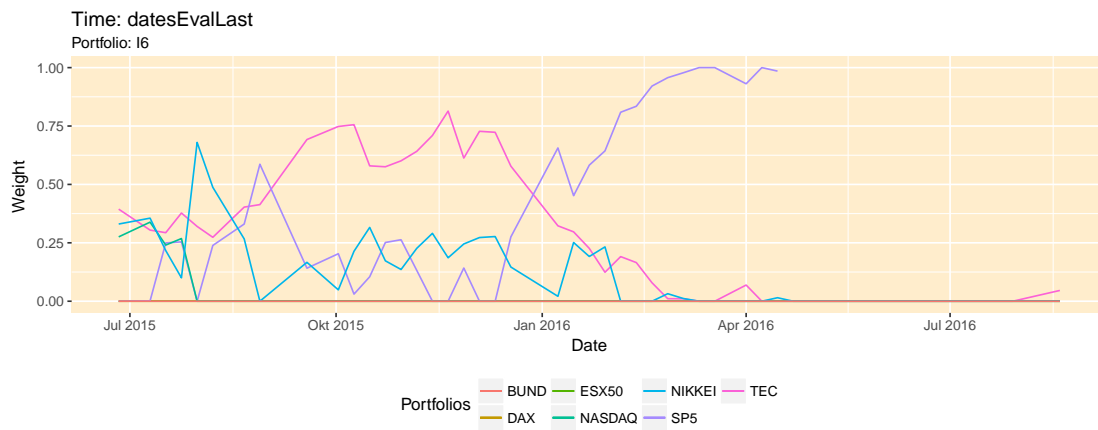
Weights-Sentix-Disperion-No-Risk-Free - datesEvalLast



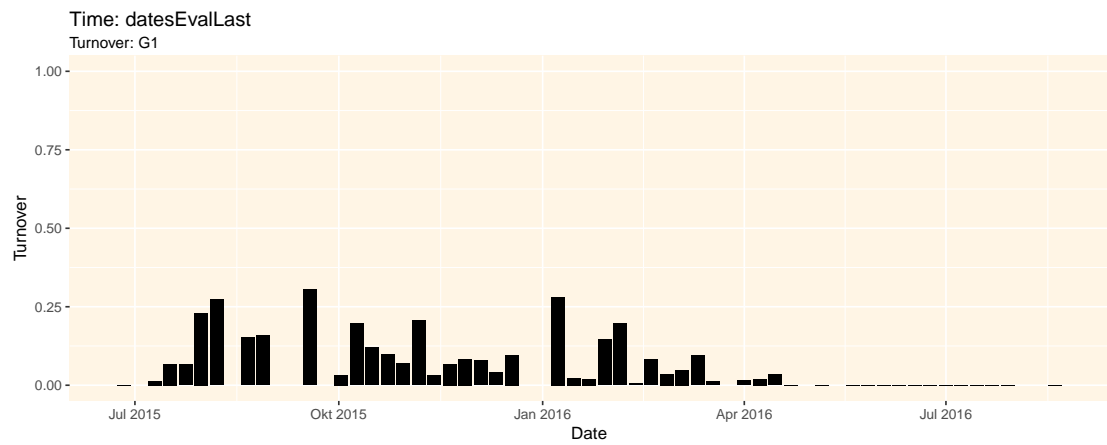
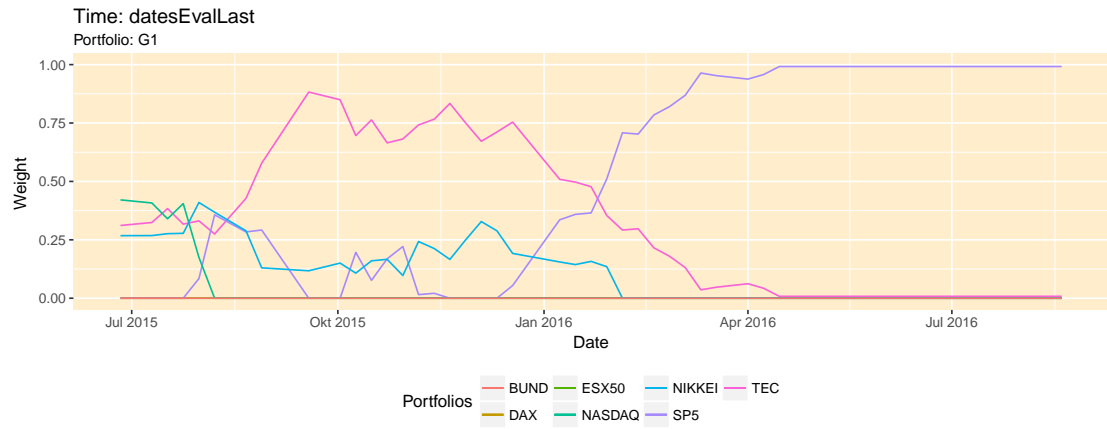
4 Results



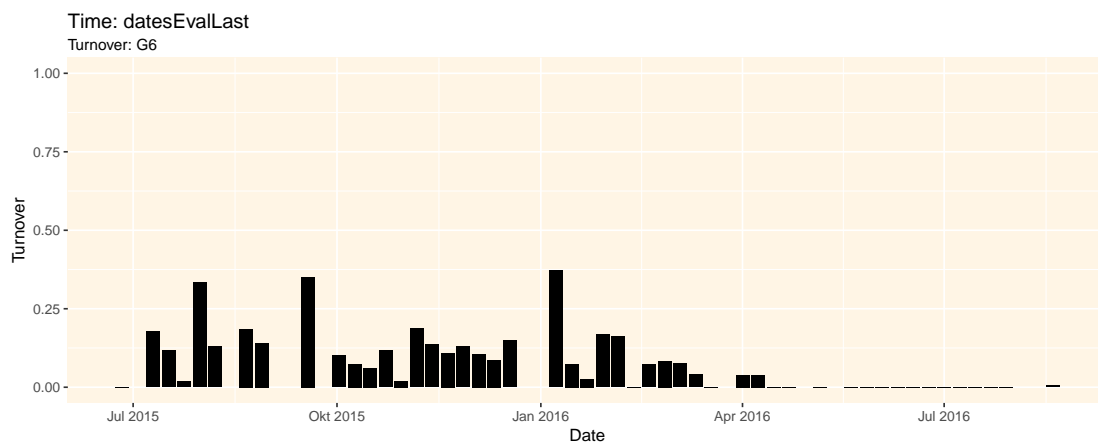
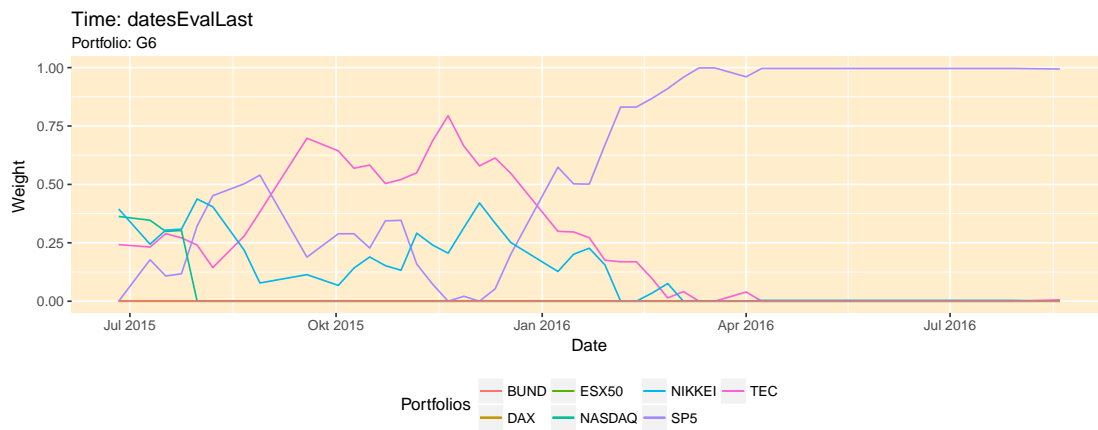
4.4 Weights



4 Results

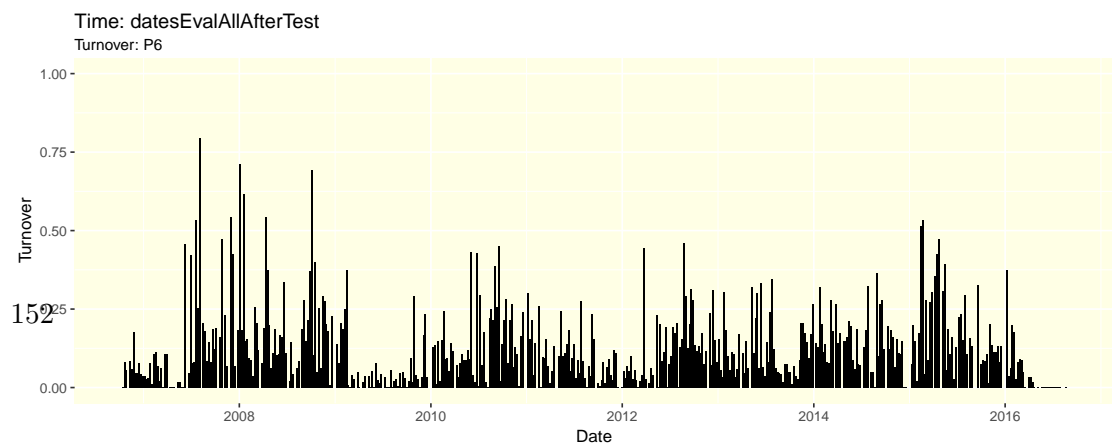
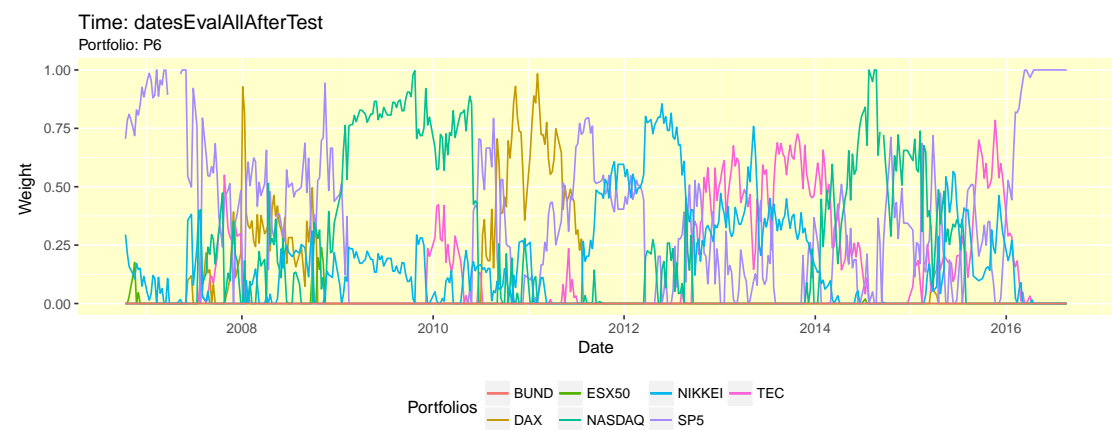
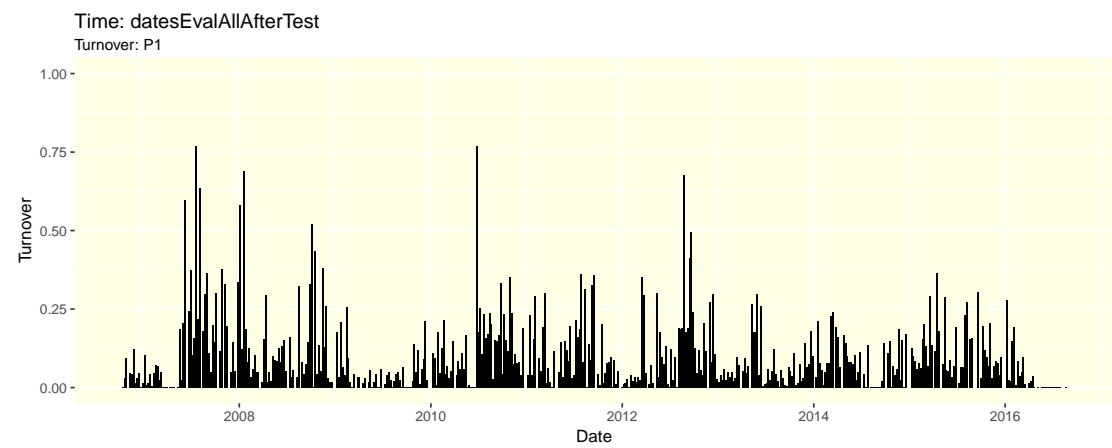
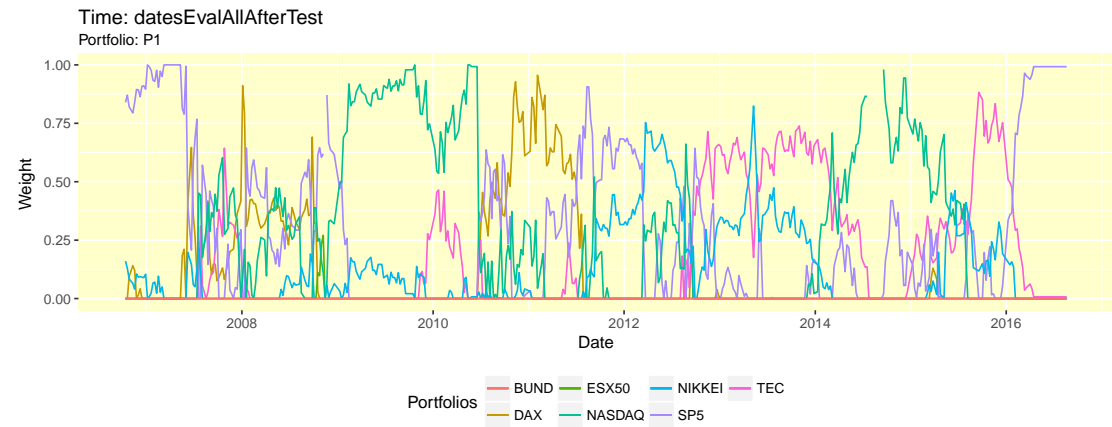


4.4 Weights

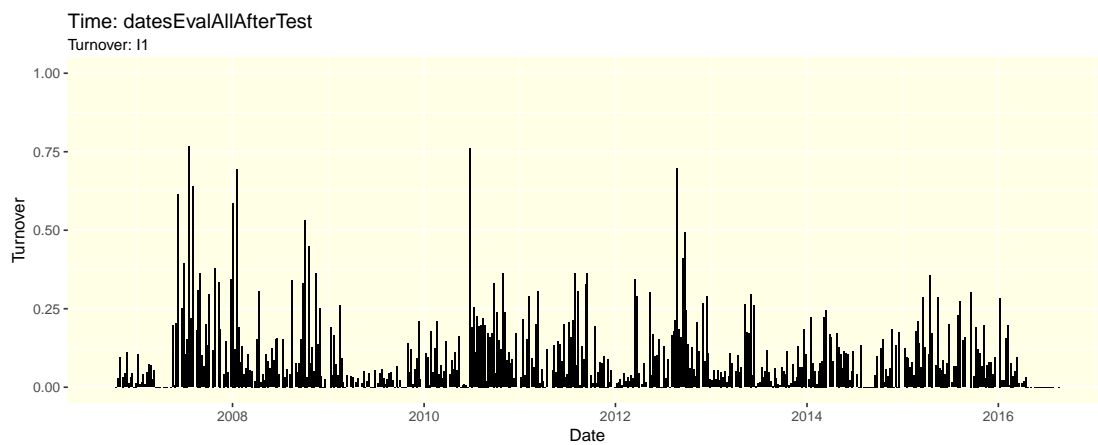
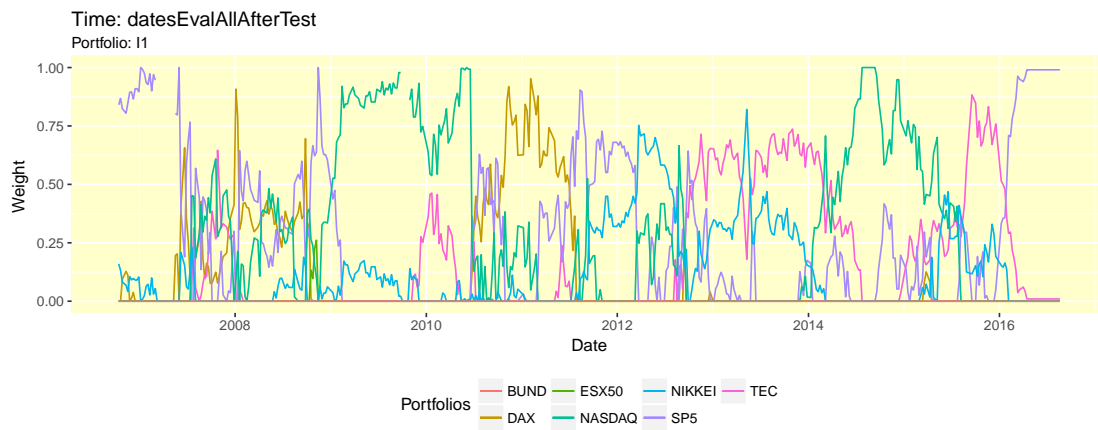


4 Results

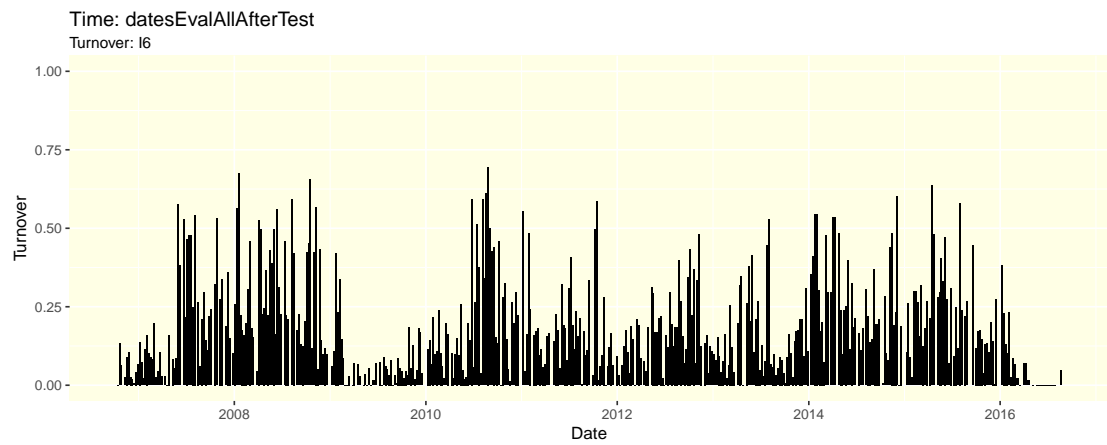
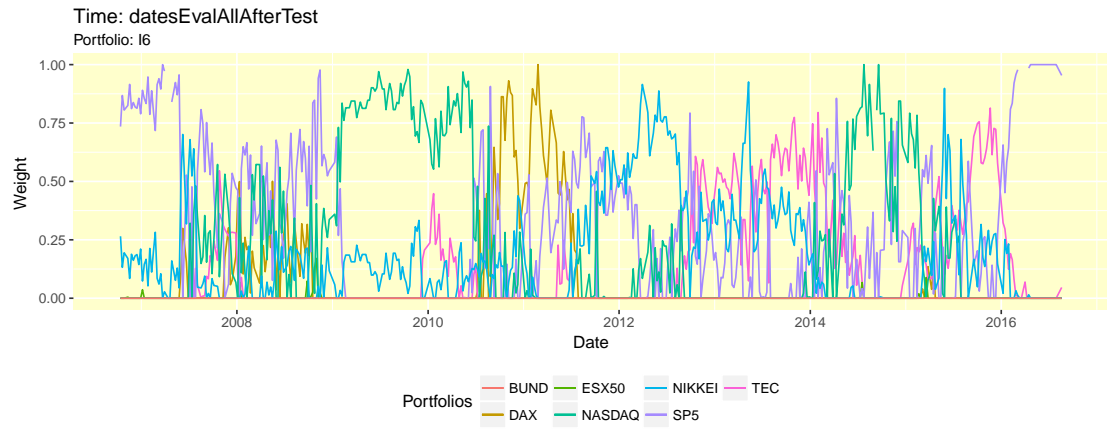
Weights-Sentix-Disperion-No-Risk-Free - datesEvalAllAfterTest



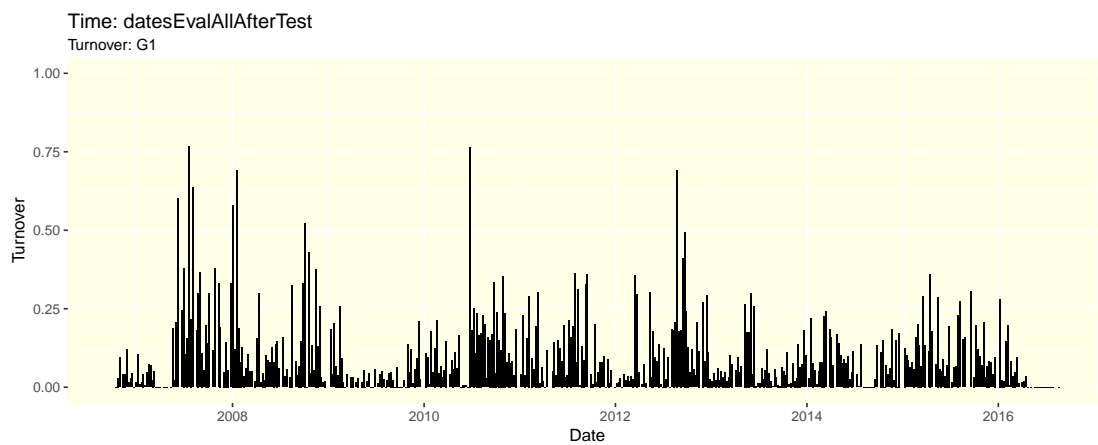
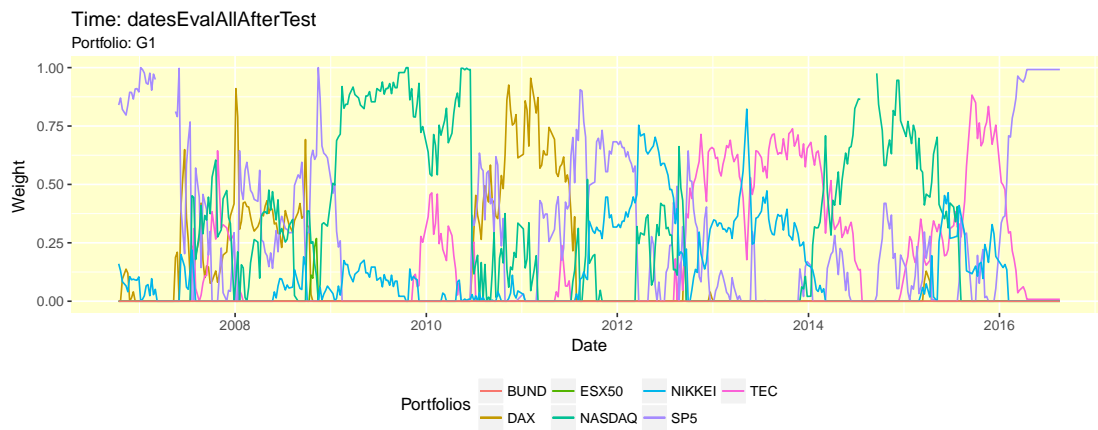
4.4 Weights



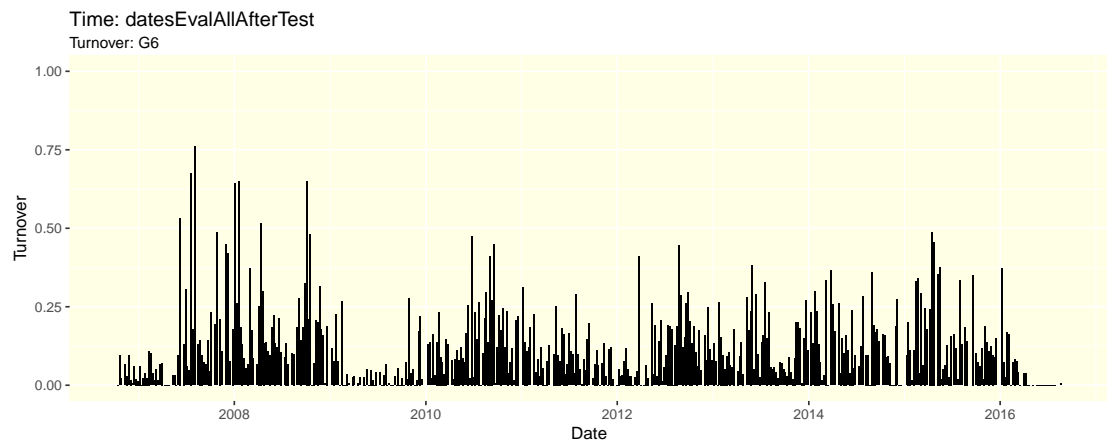
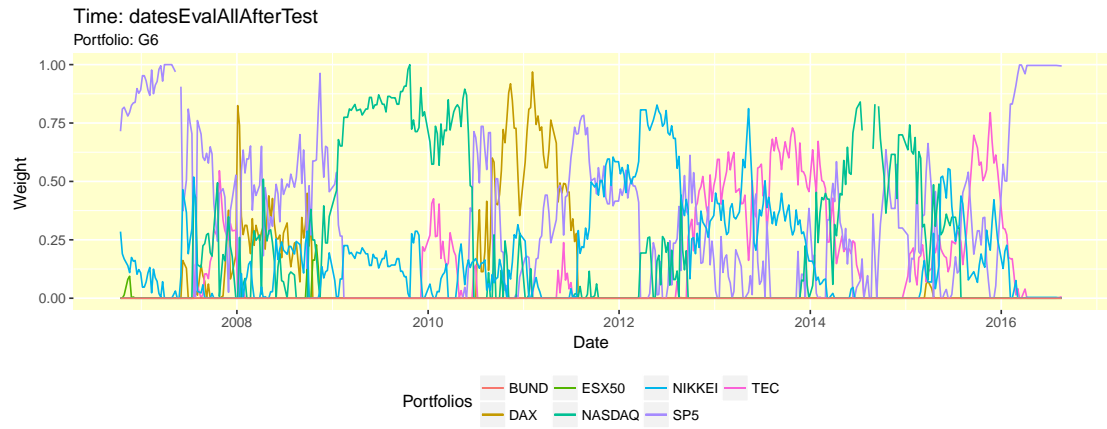
4 Results



4.4 Weights

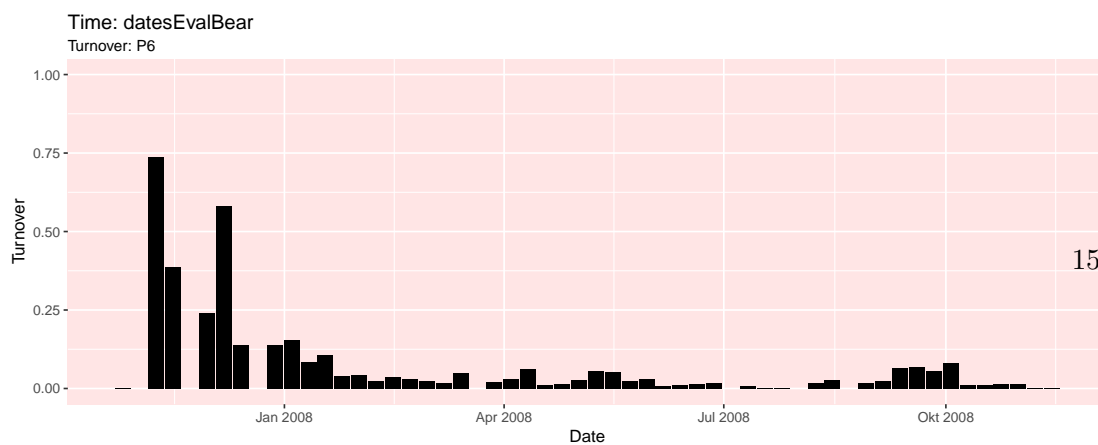
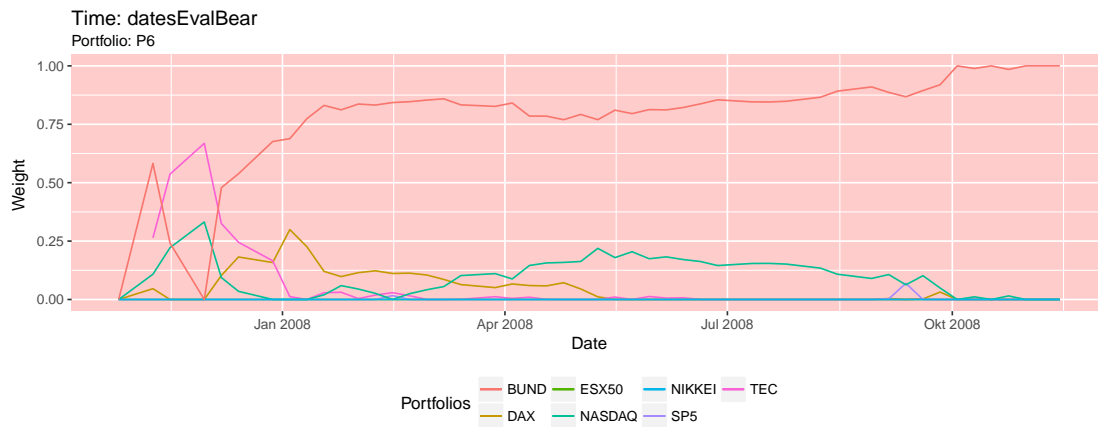
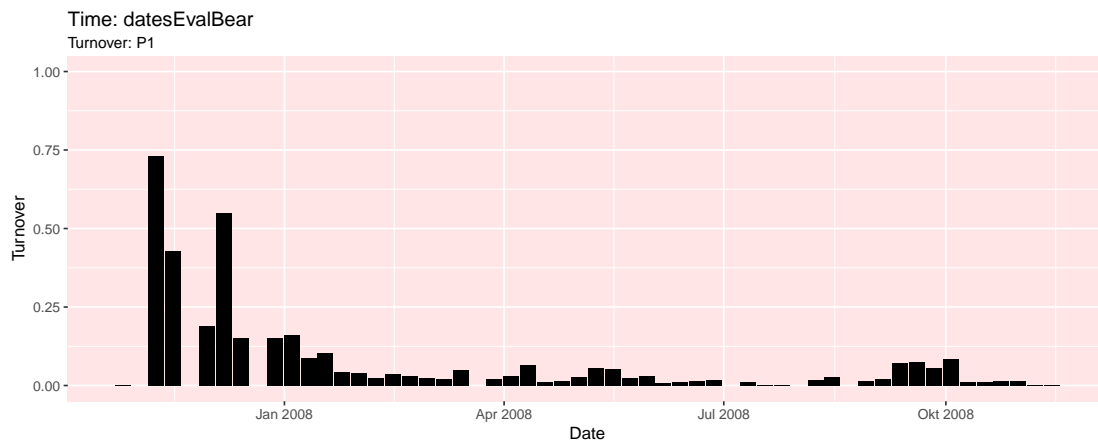
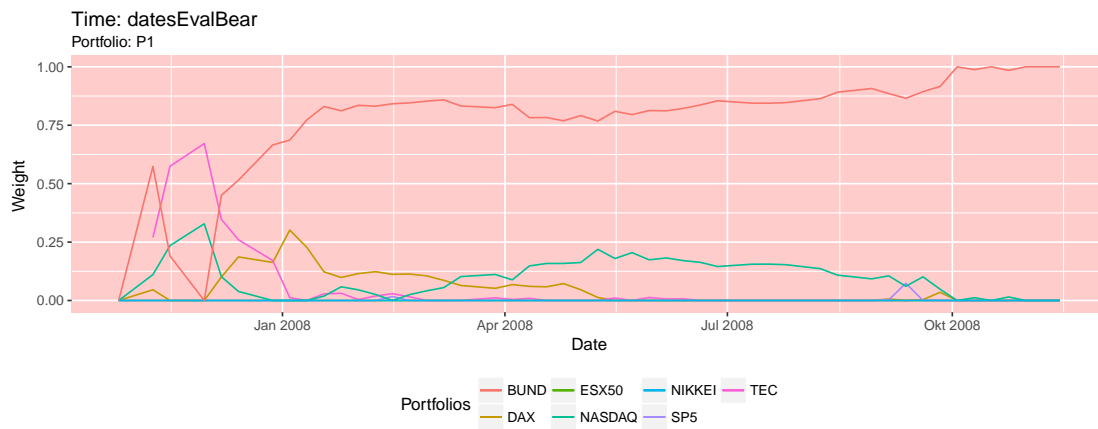


4 Results

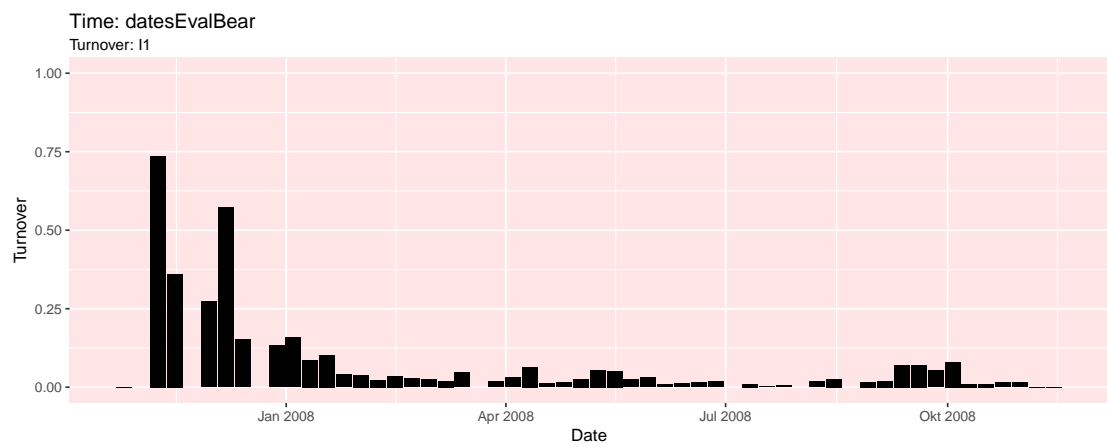
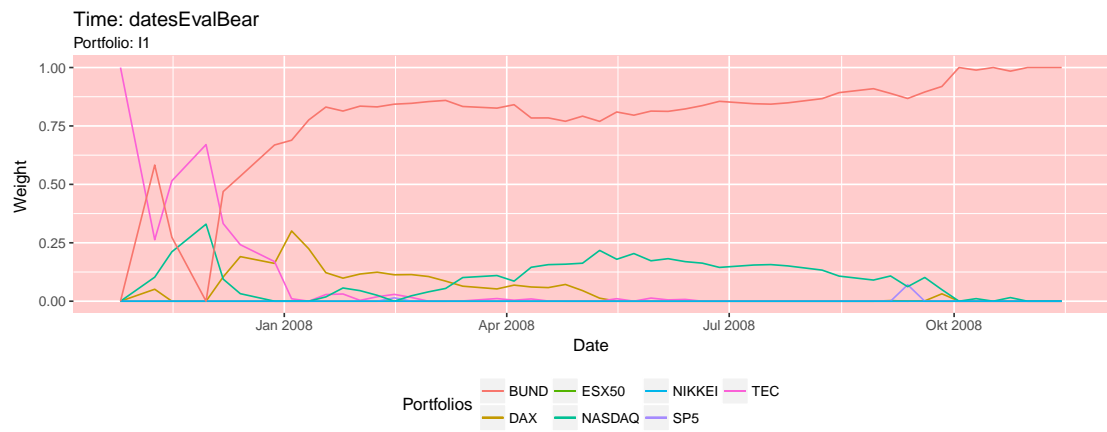


4.4.4 Weights-Sentix-Herfindahl

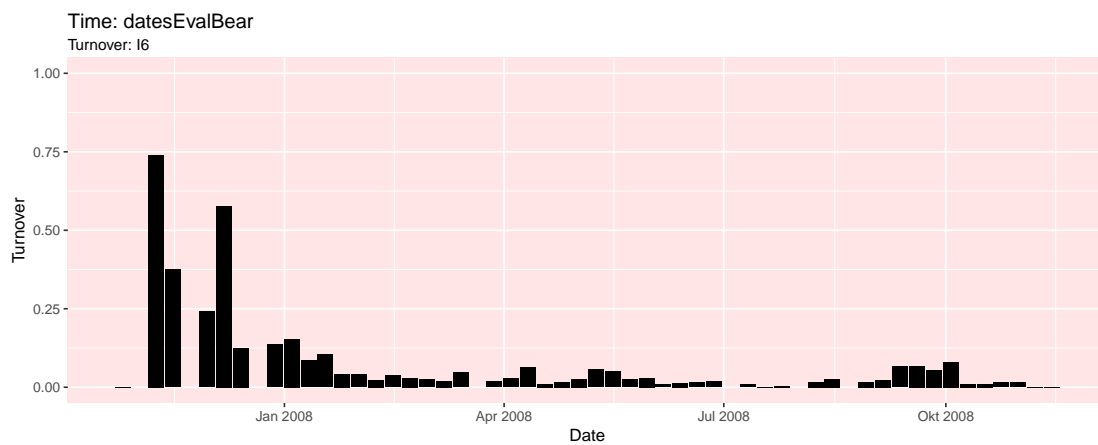
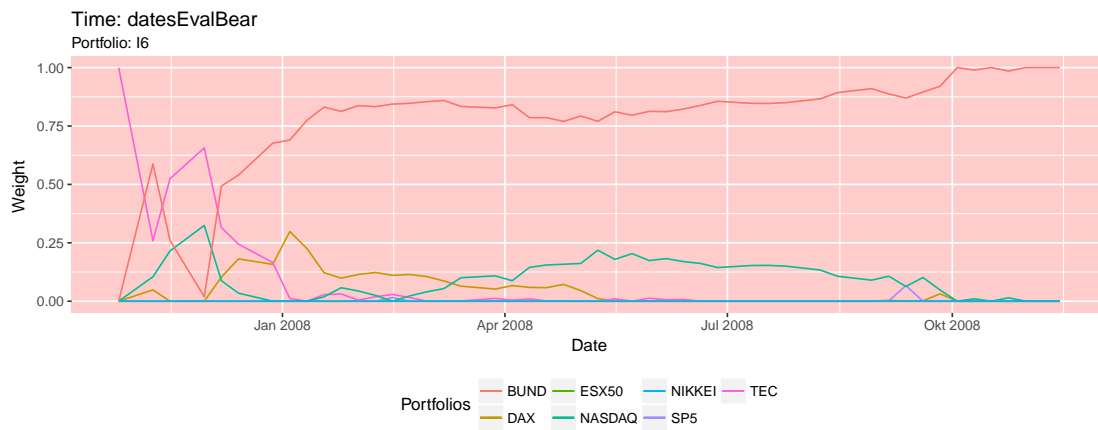
Weights-Sentix-Herfindahl - datesEvalBear



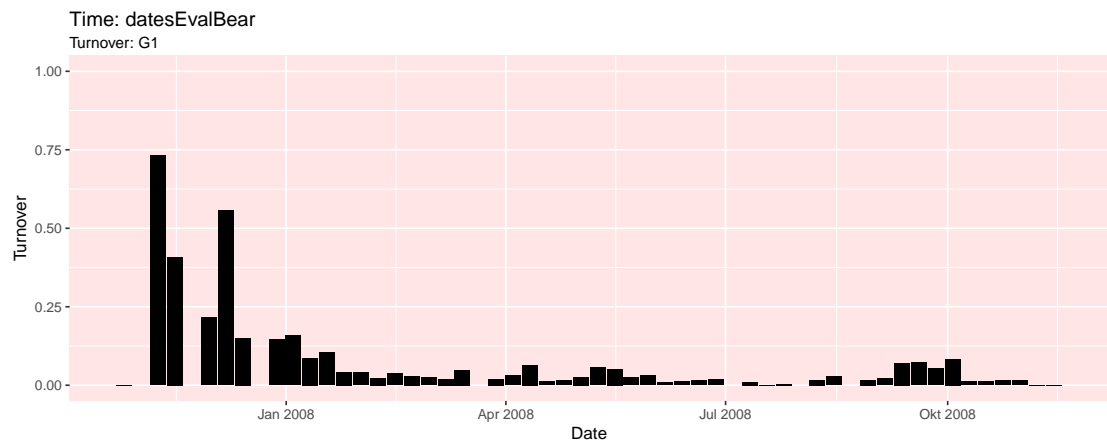
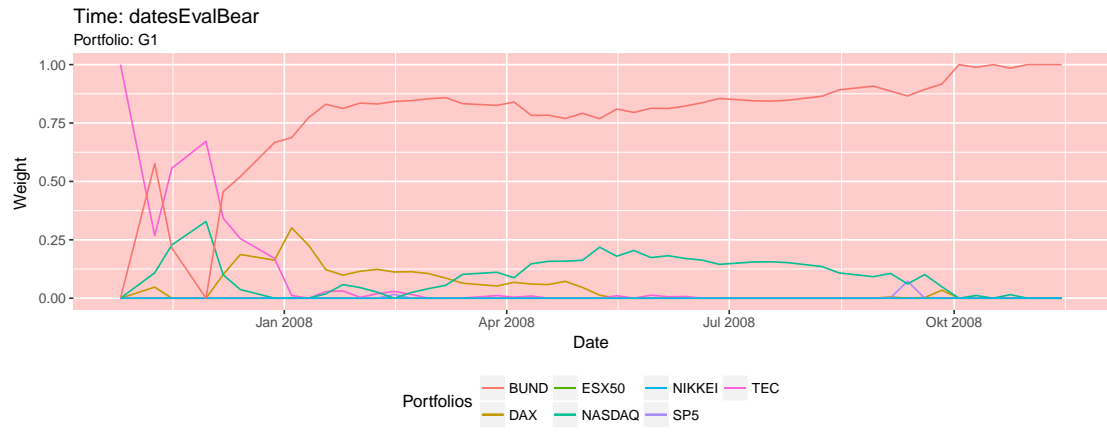
4 Results



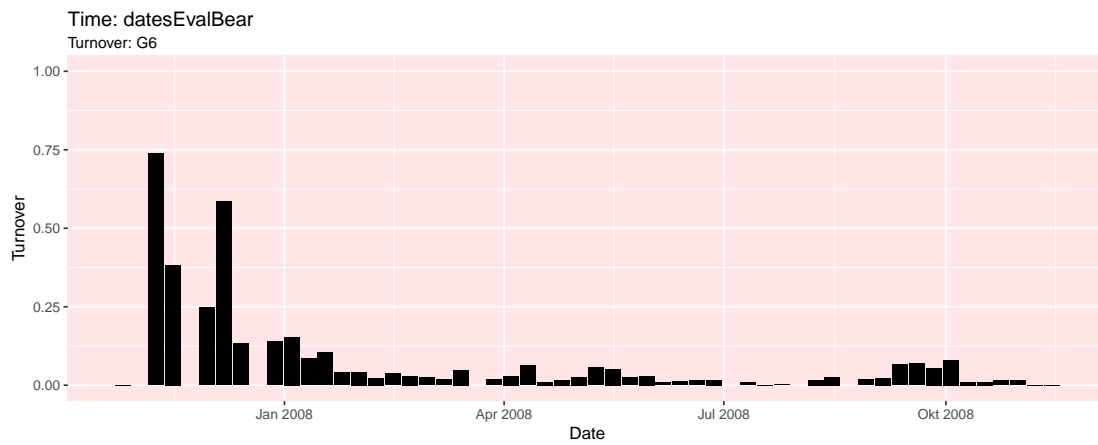
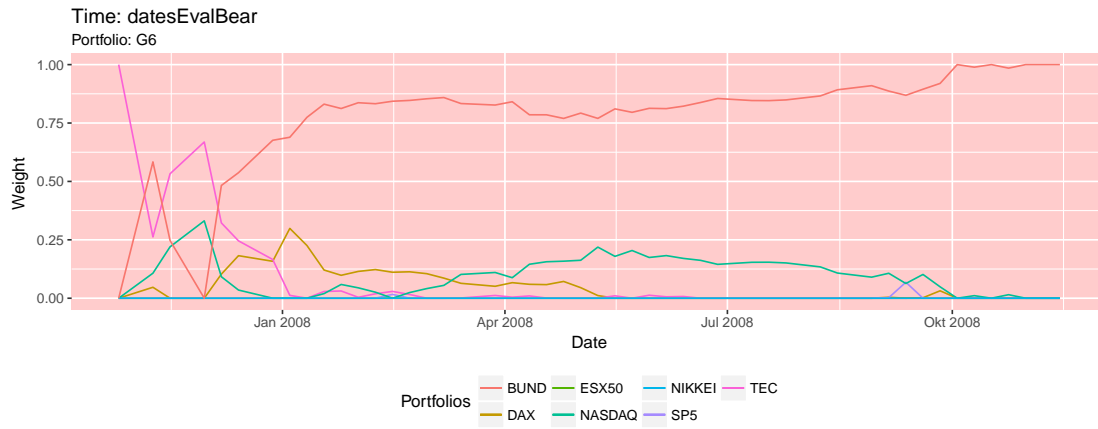
4.4 Weights



4 Results

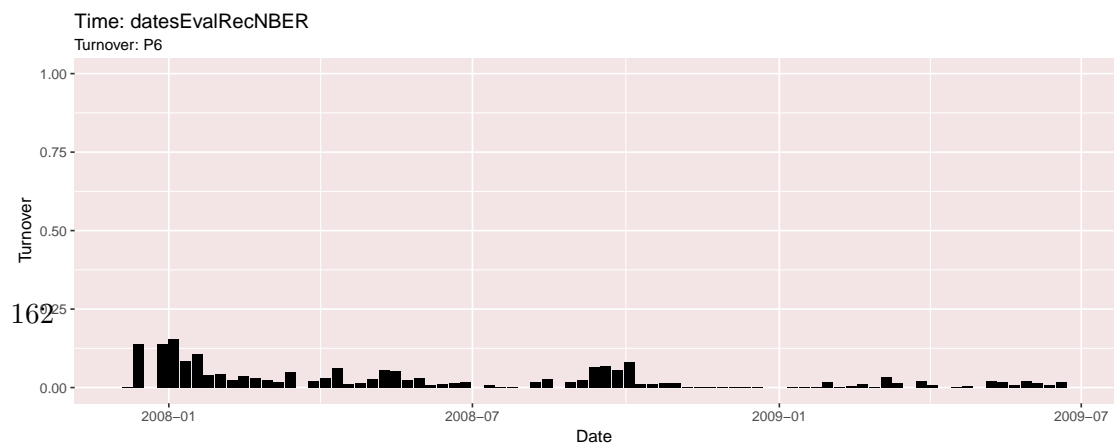
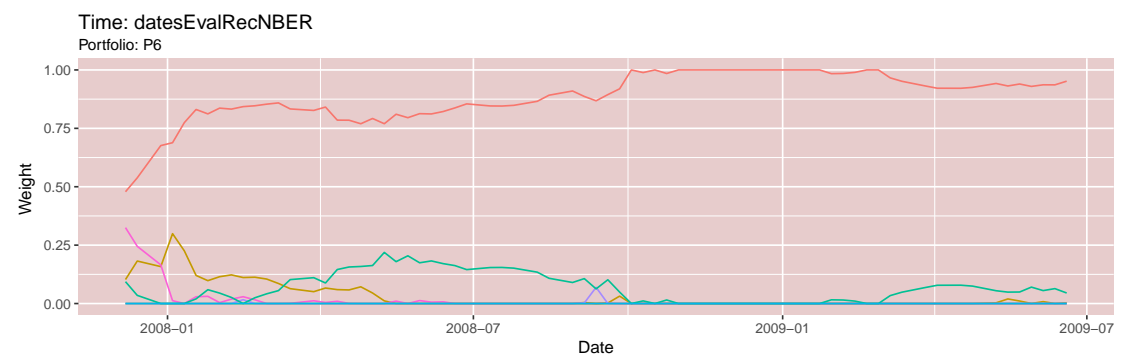
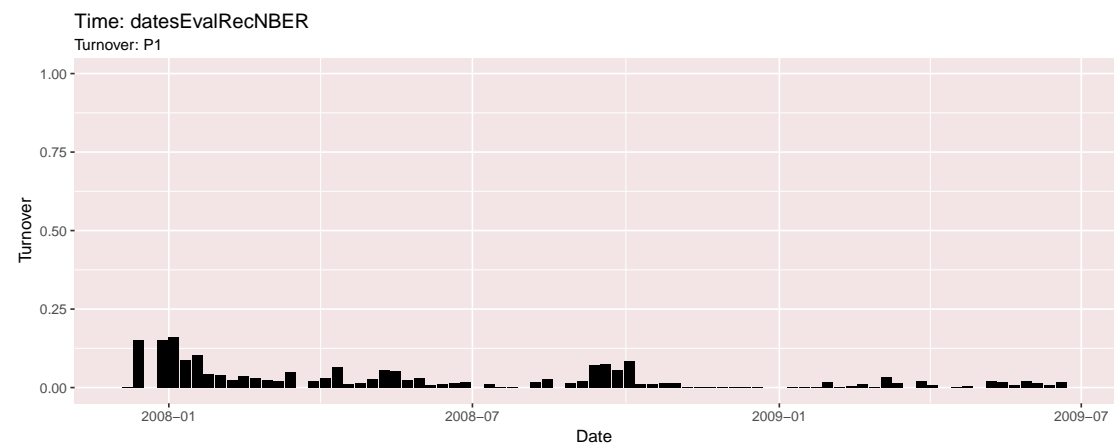
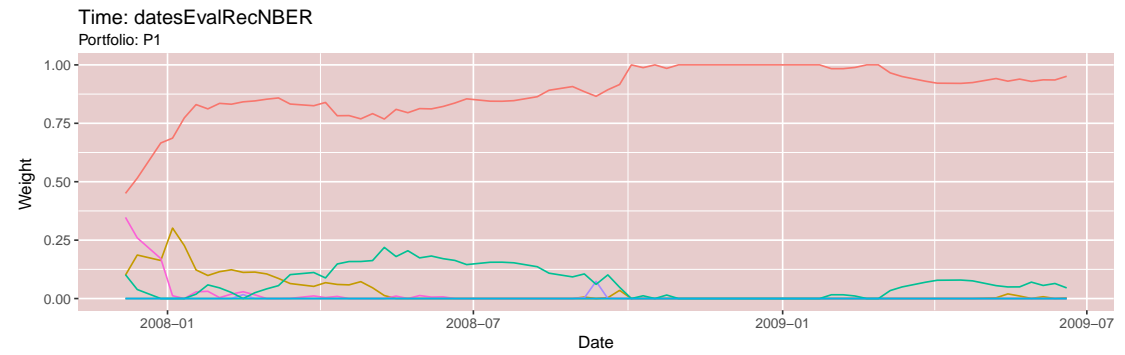


4.4 Weights

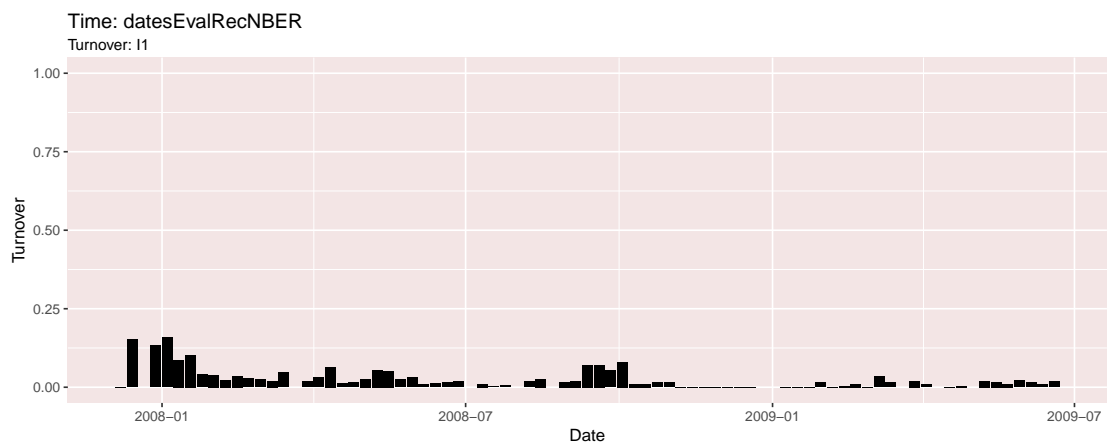
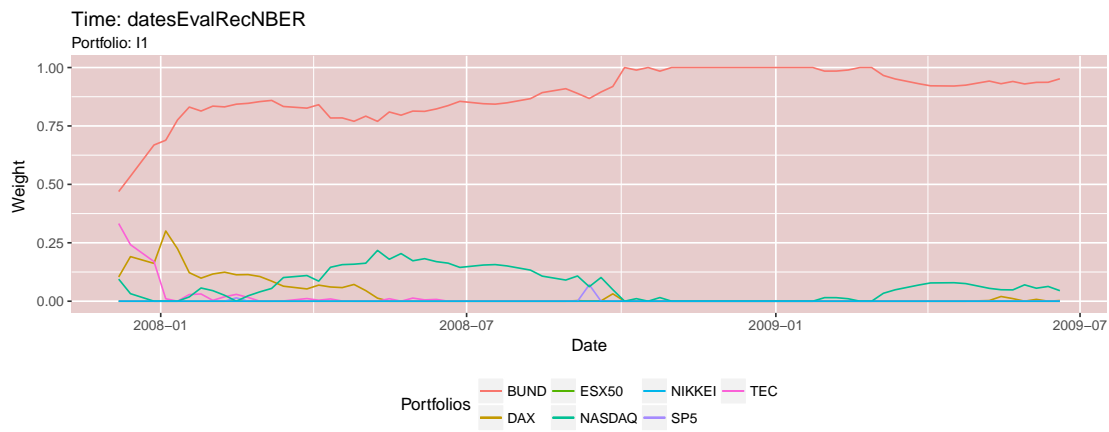


4 Results

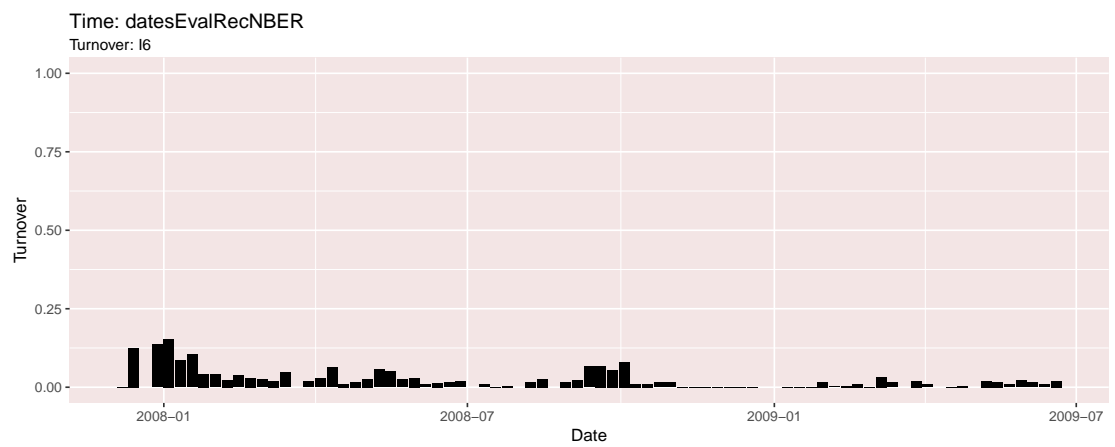
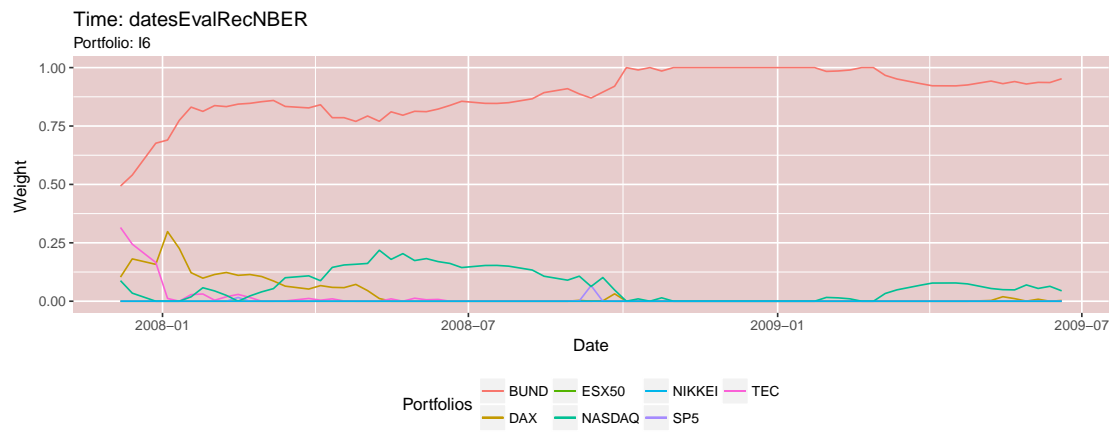
Weights-Sentix-Herfindahl - datesEvalRecNBER



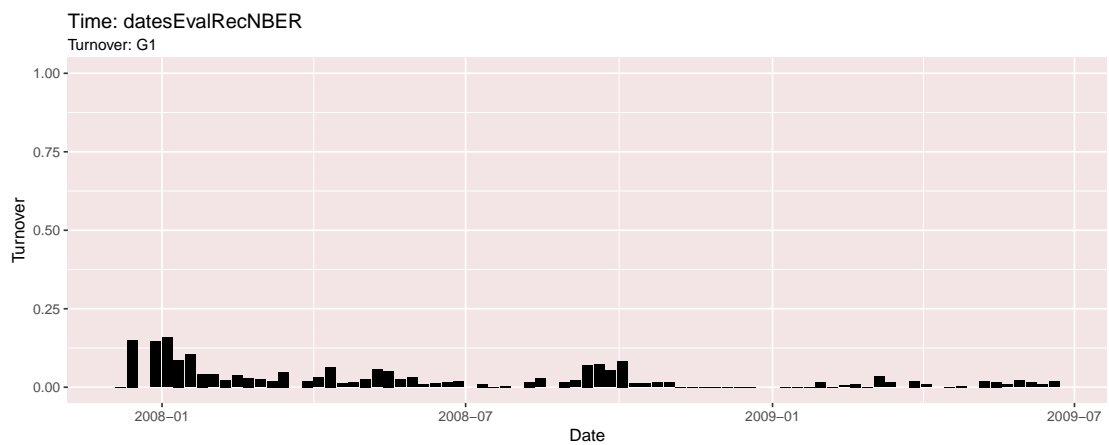
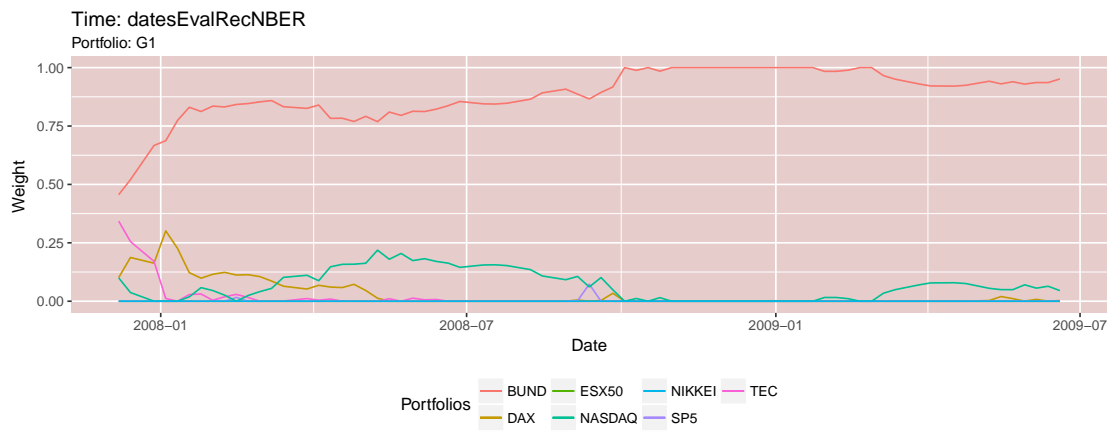
4.4 Weights



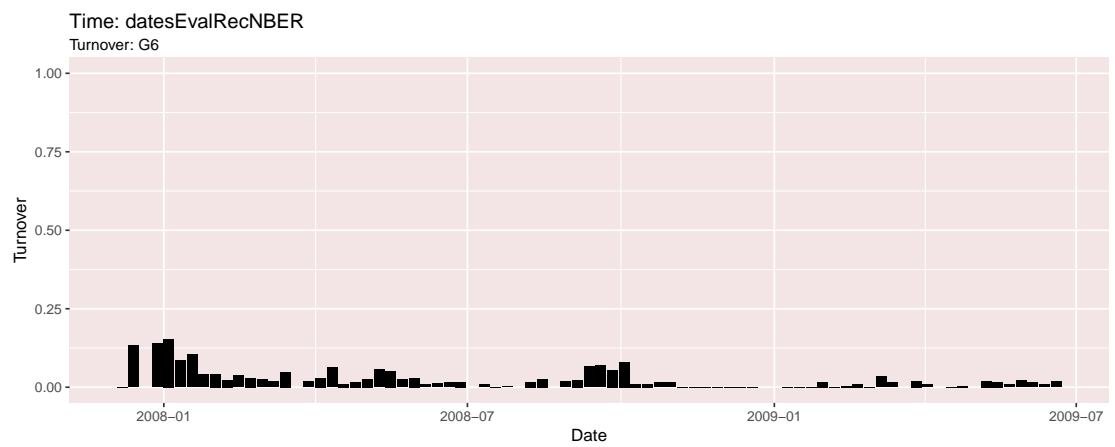
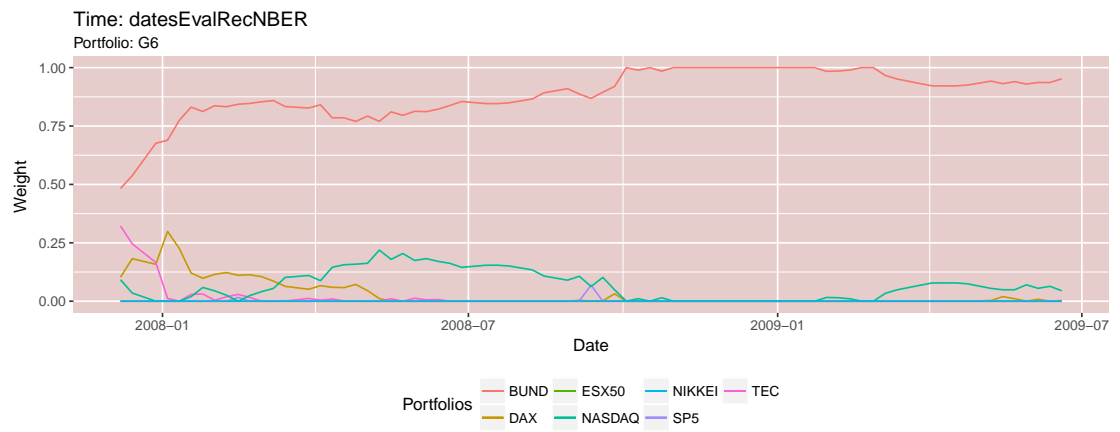
4 Results



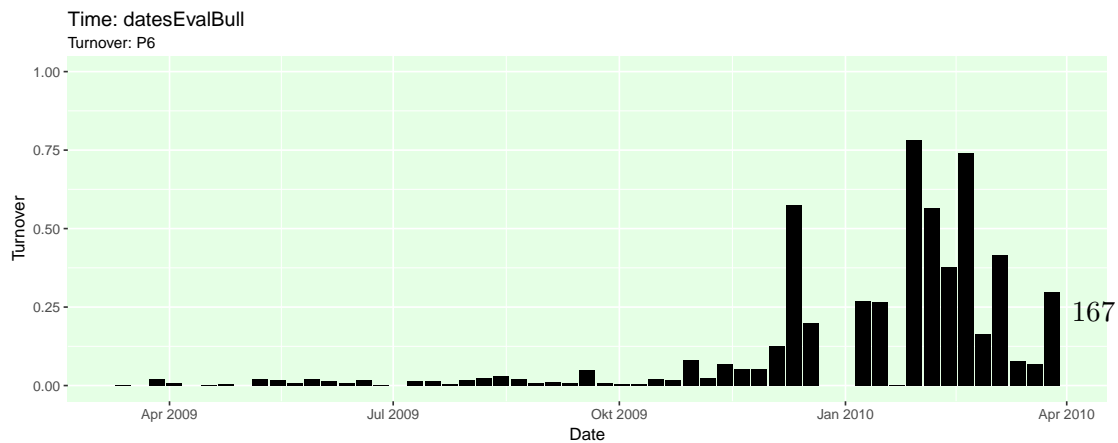
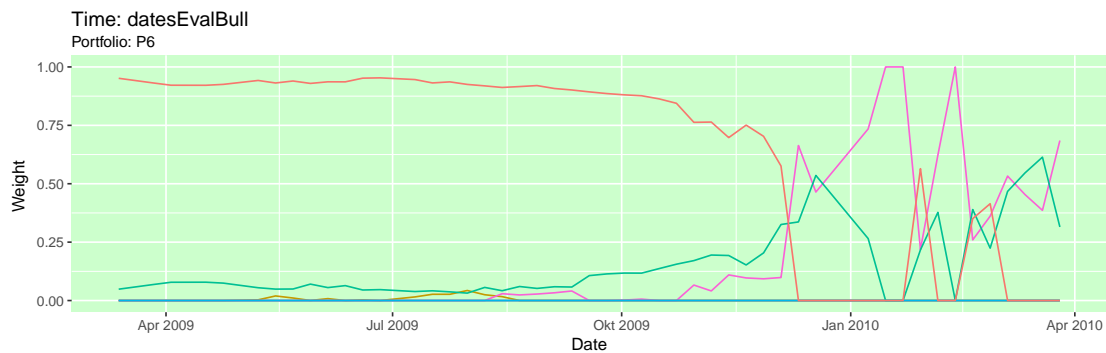
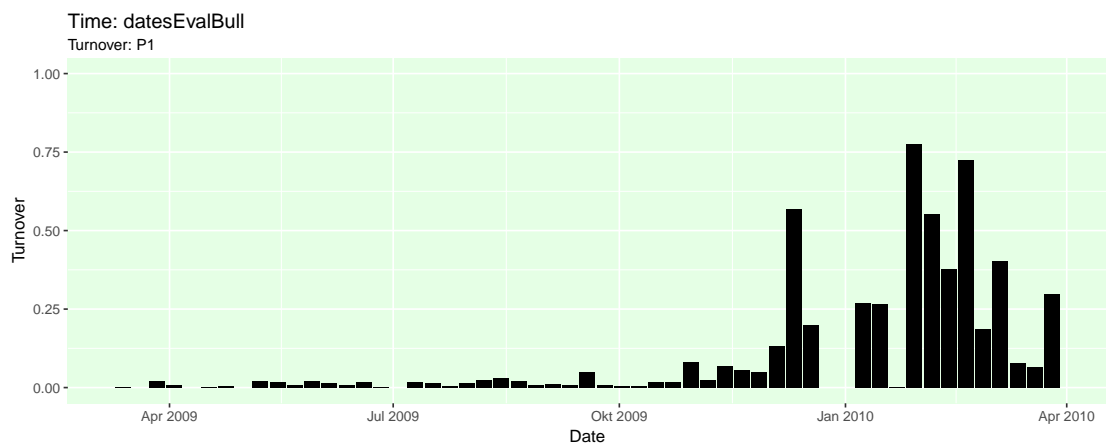
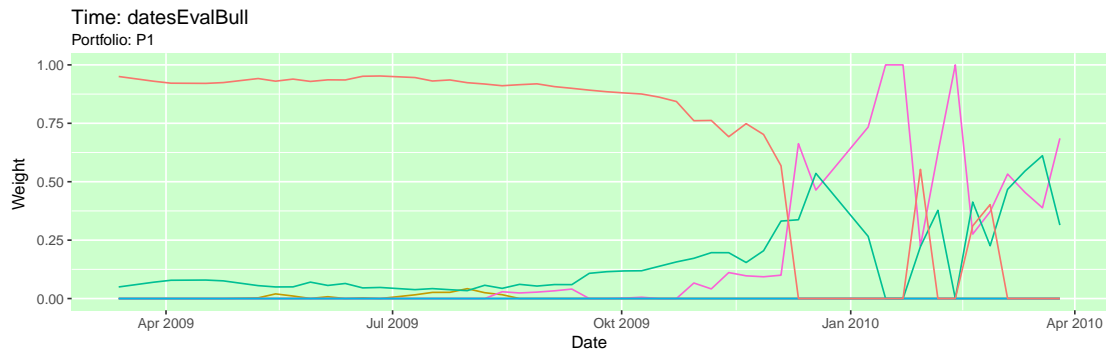
4.4 Weights



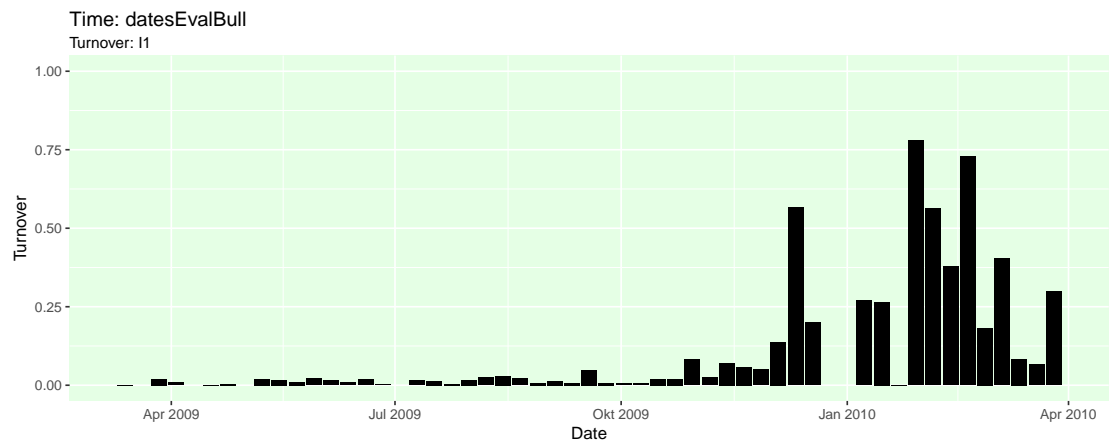
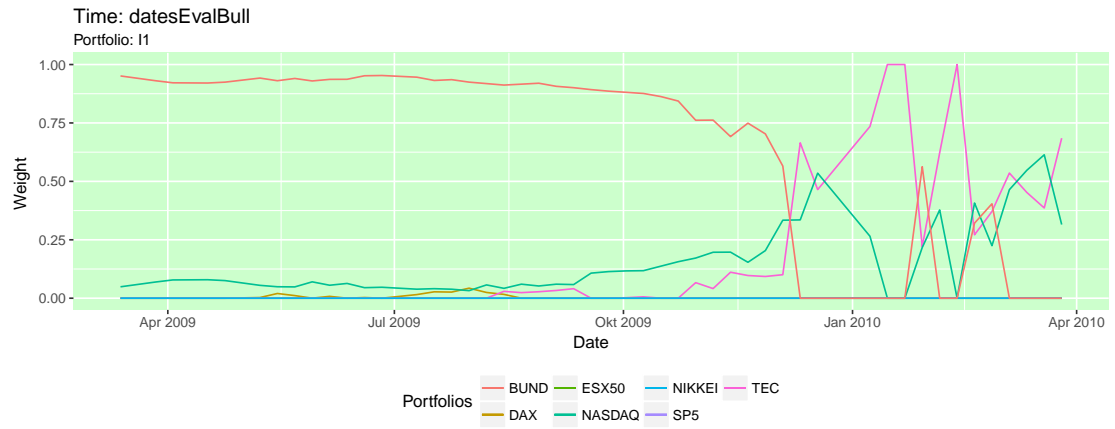
4 Results



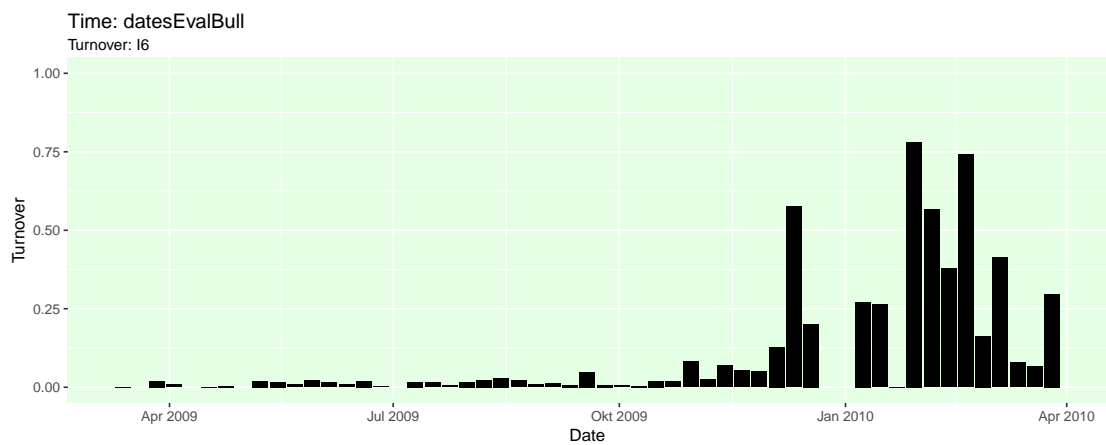
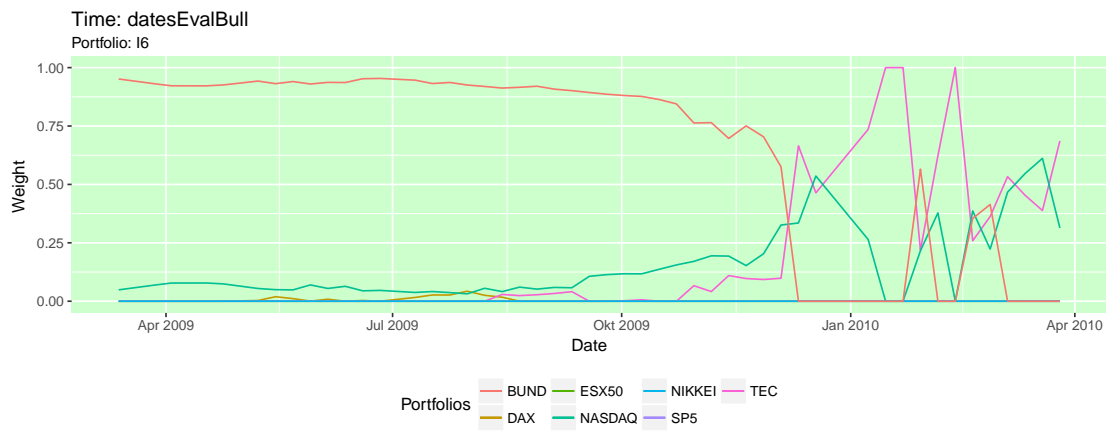
Weights-Sentix-Herfindahl - datesEvalBull



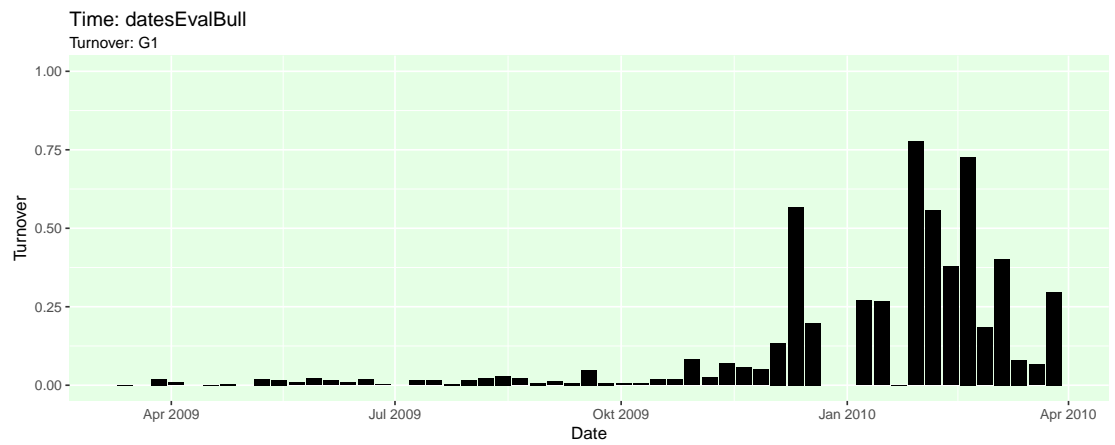
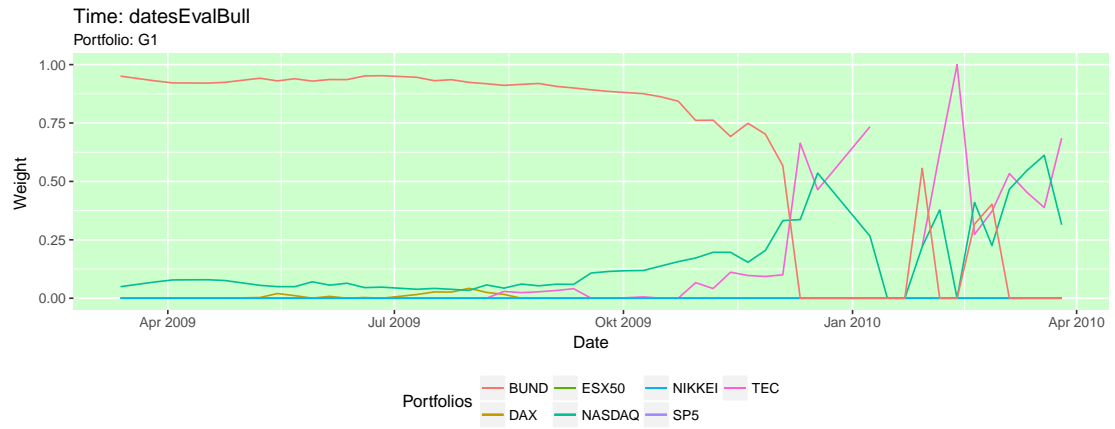
4 Results



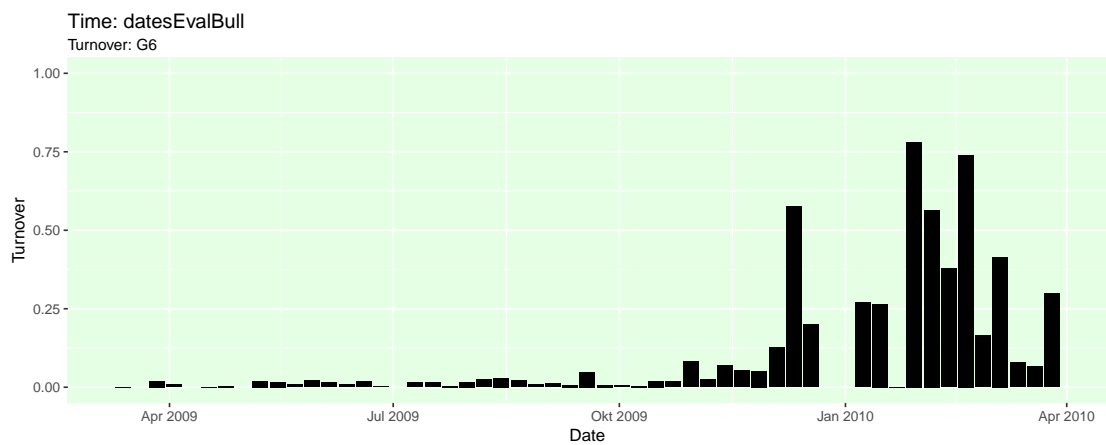
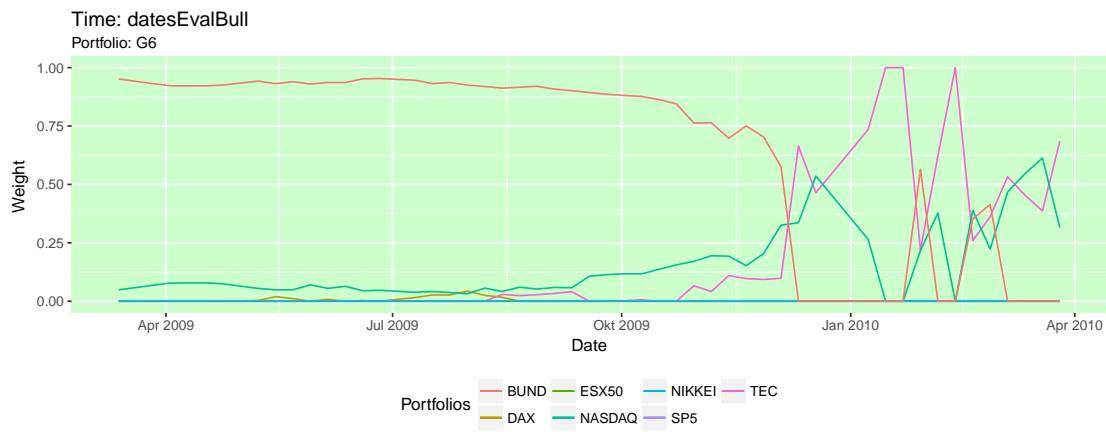
4.4 Weights



4 Results

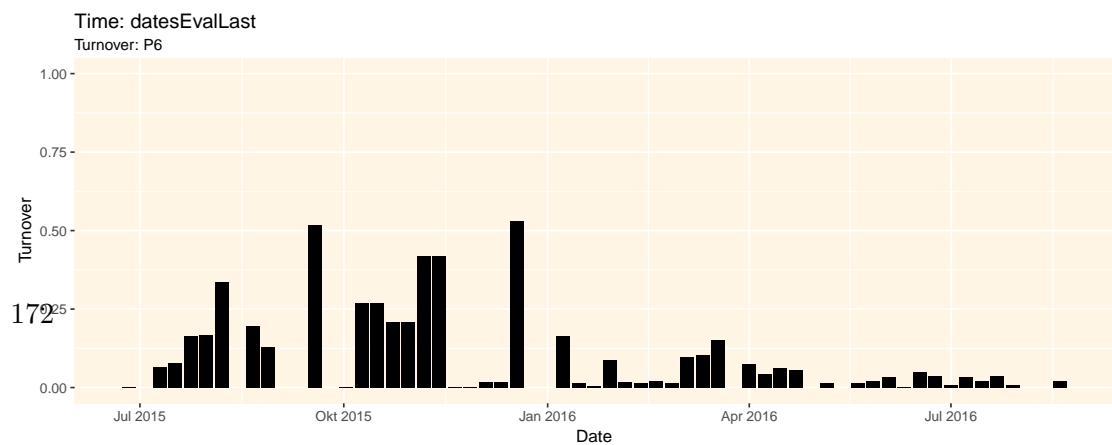
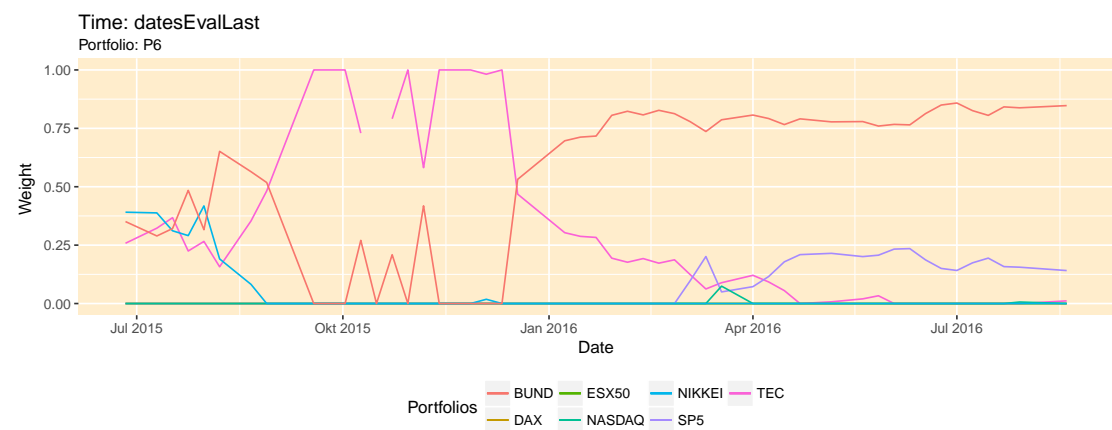
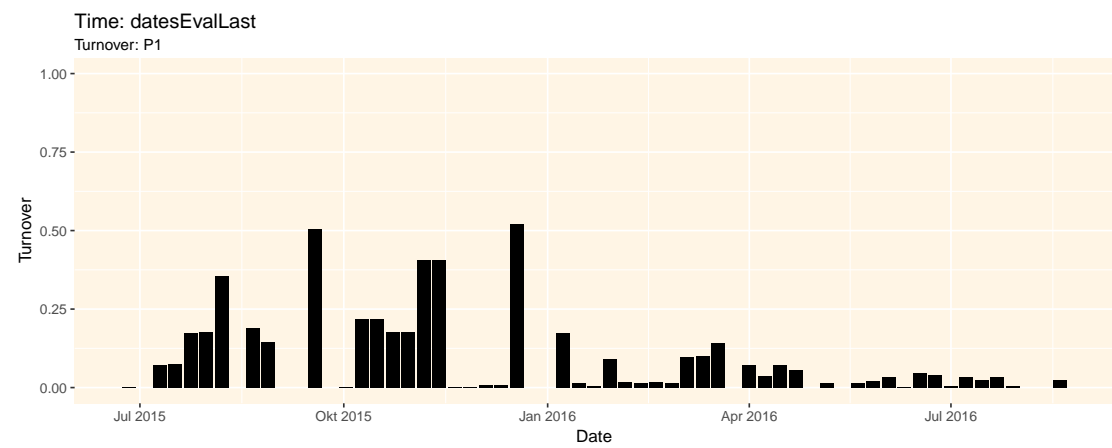
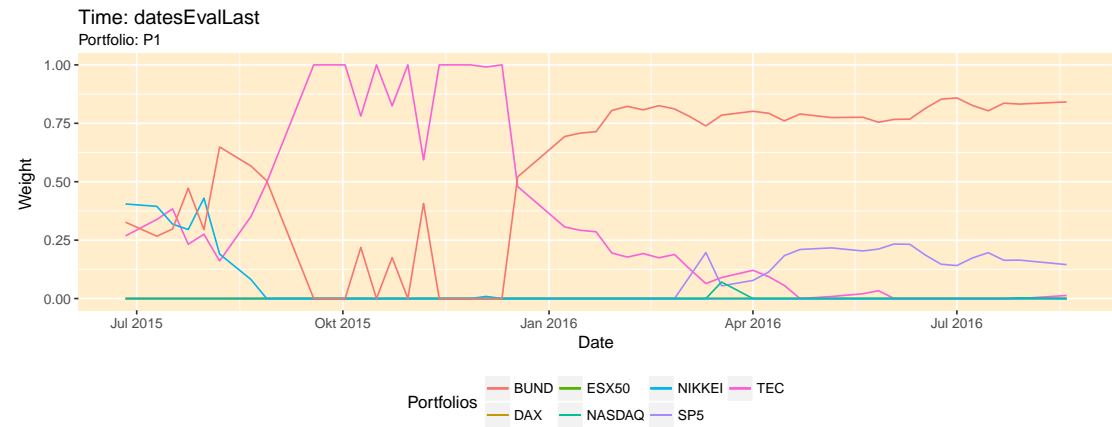


4.4 Weights

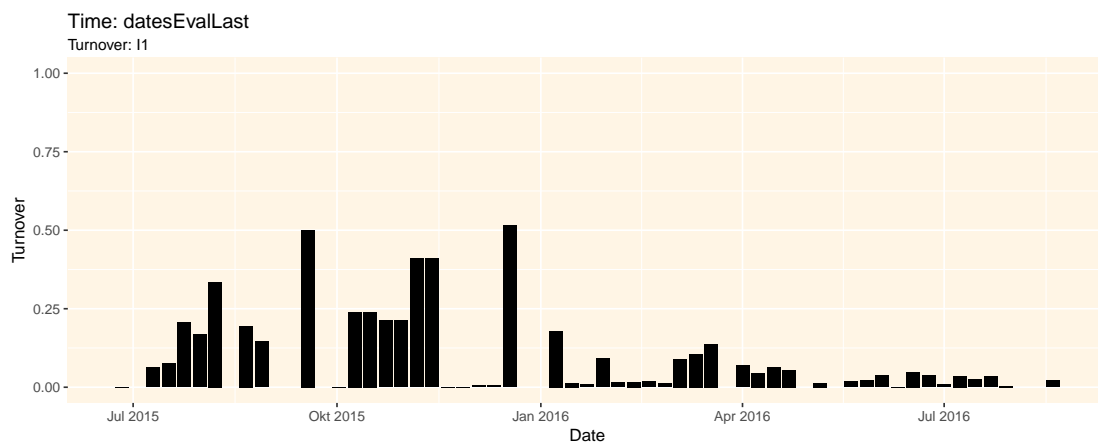
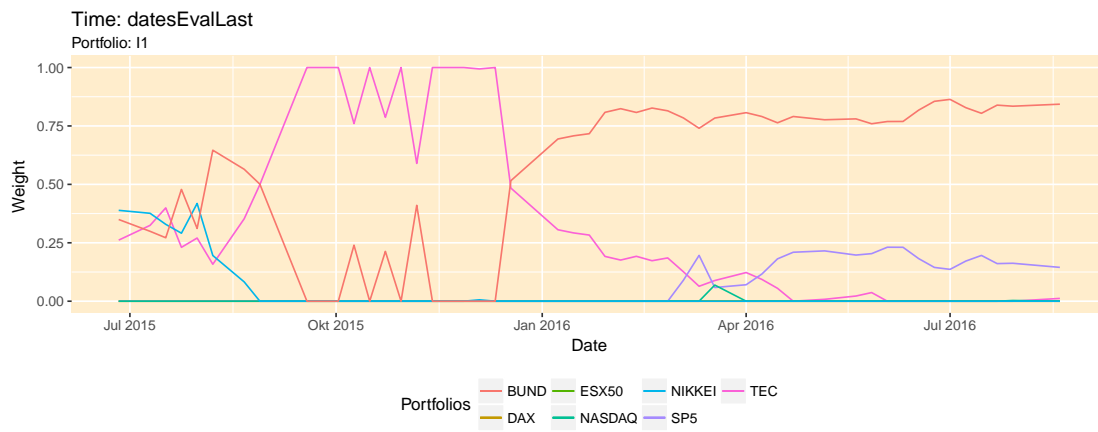


4 Results

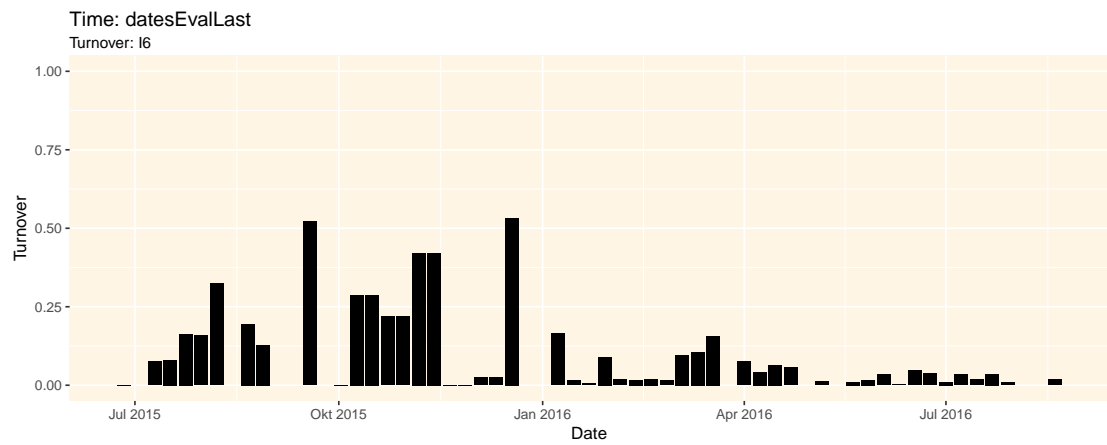
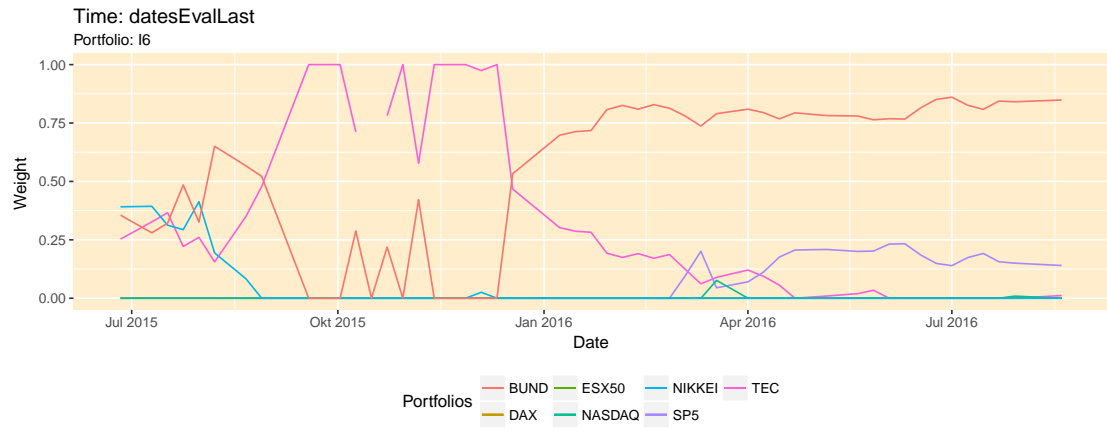
Weights-Sentix-Herfindahl - datesEvalLast



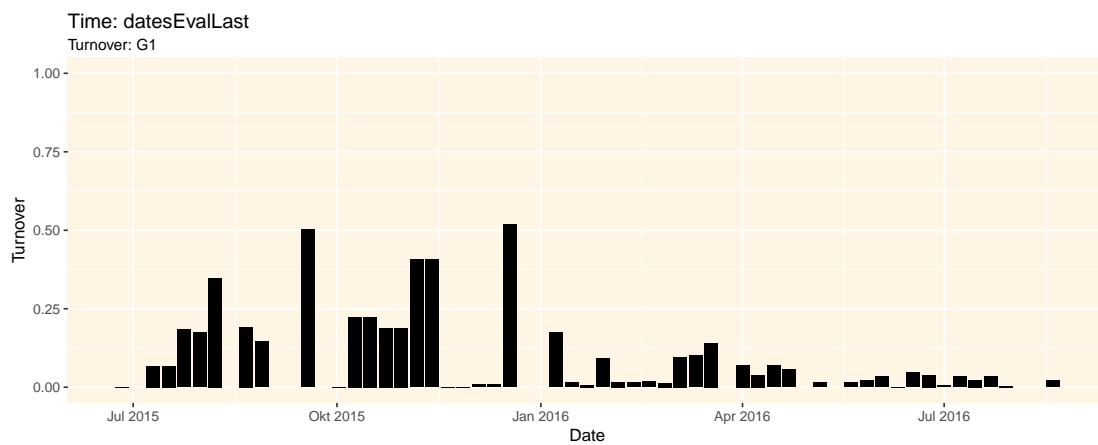
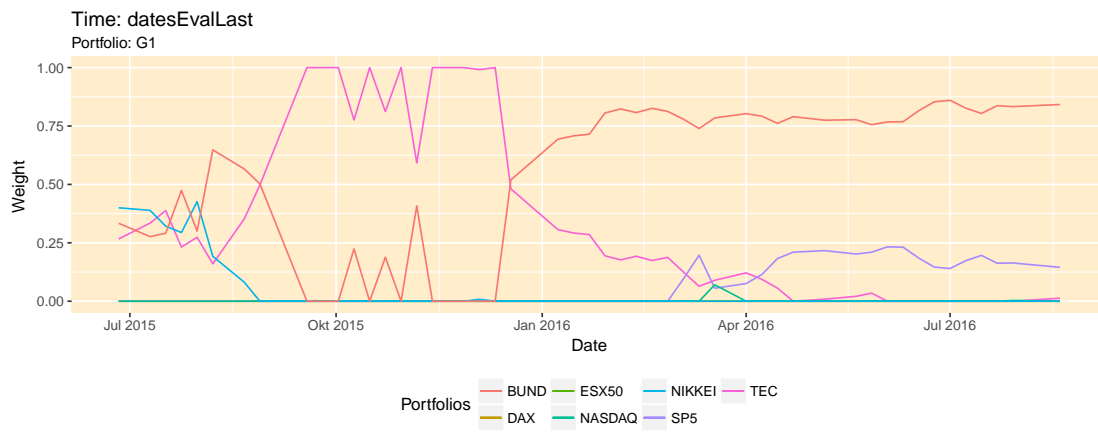
4.4 Weights



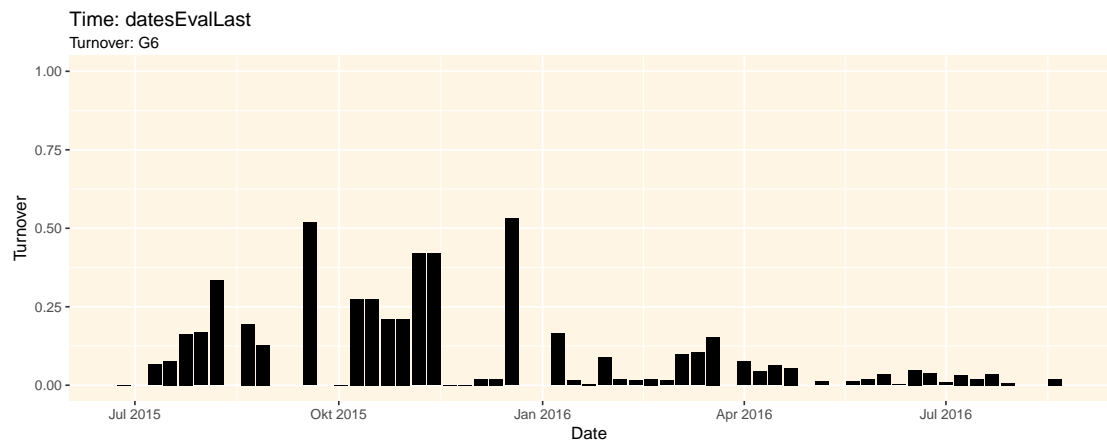
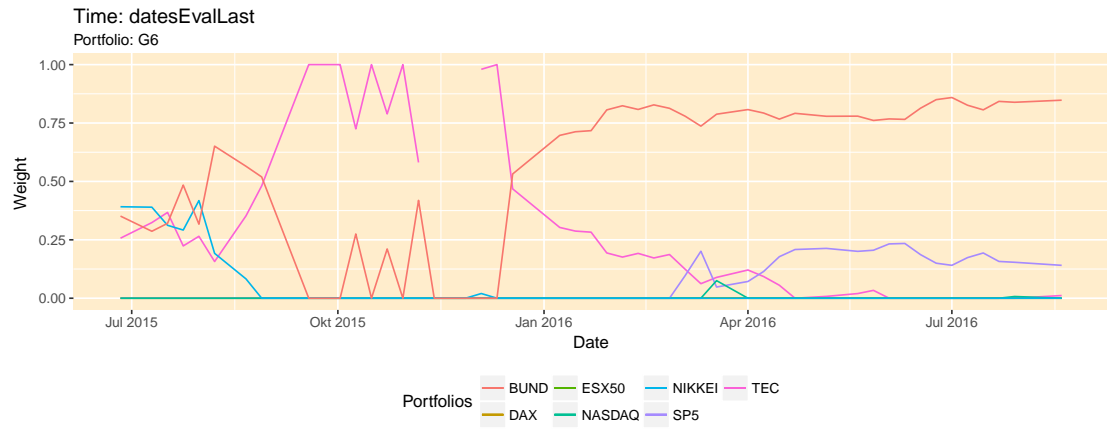
4 Results



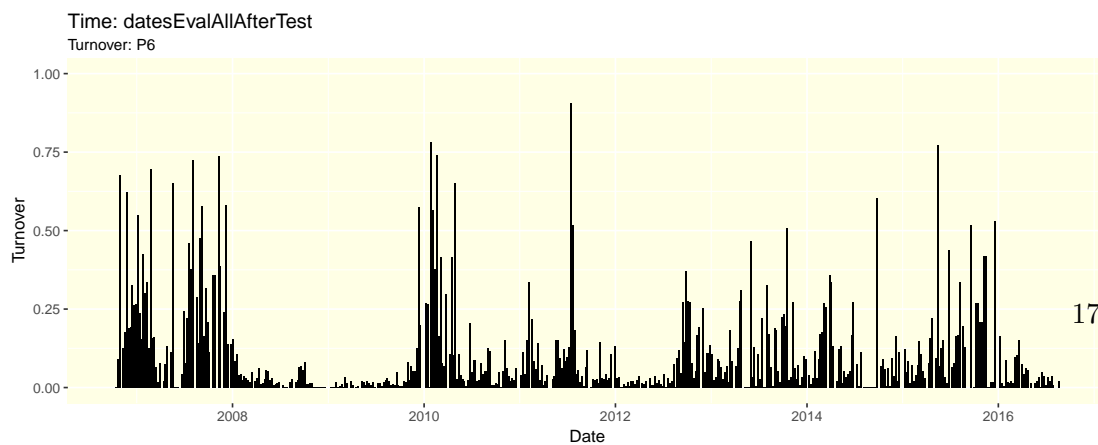
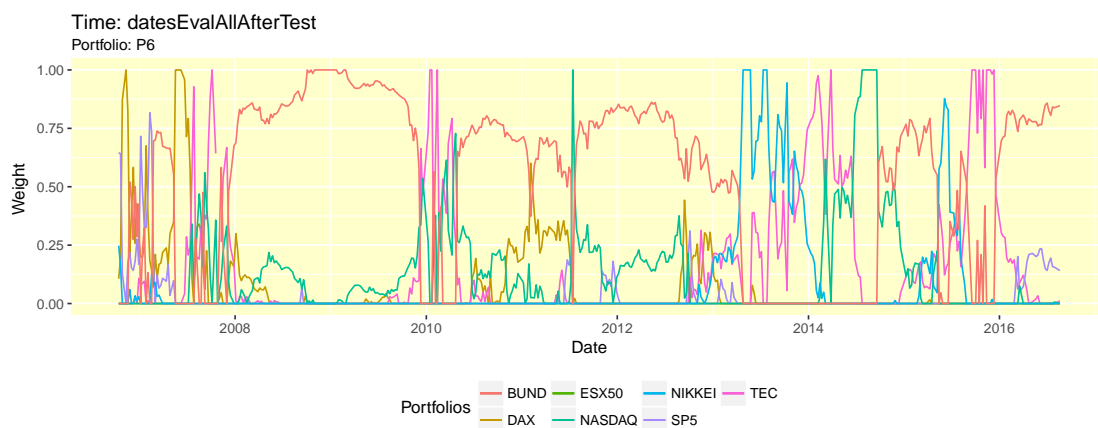
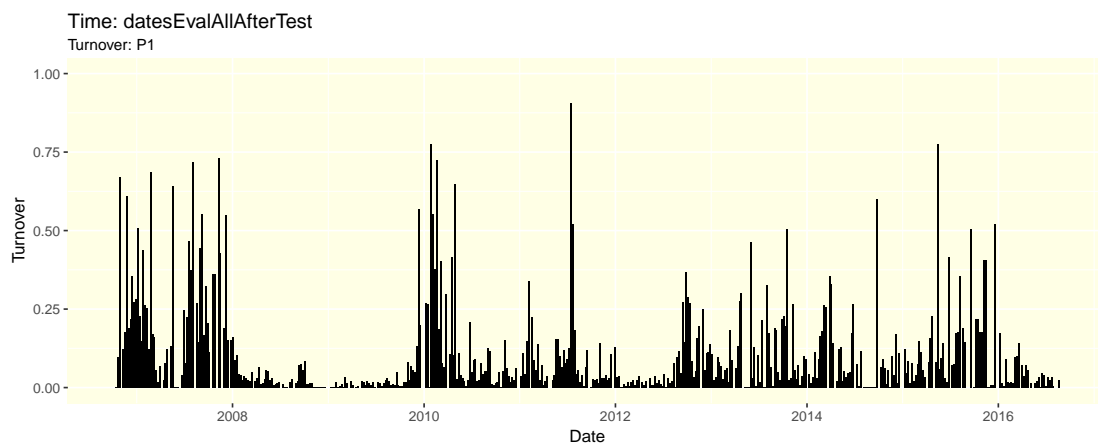
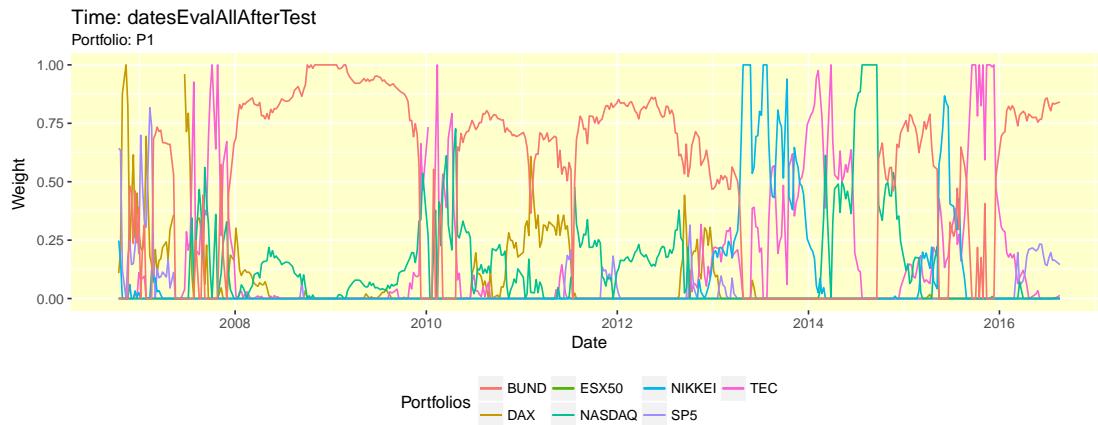
4.4 Weights



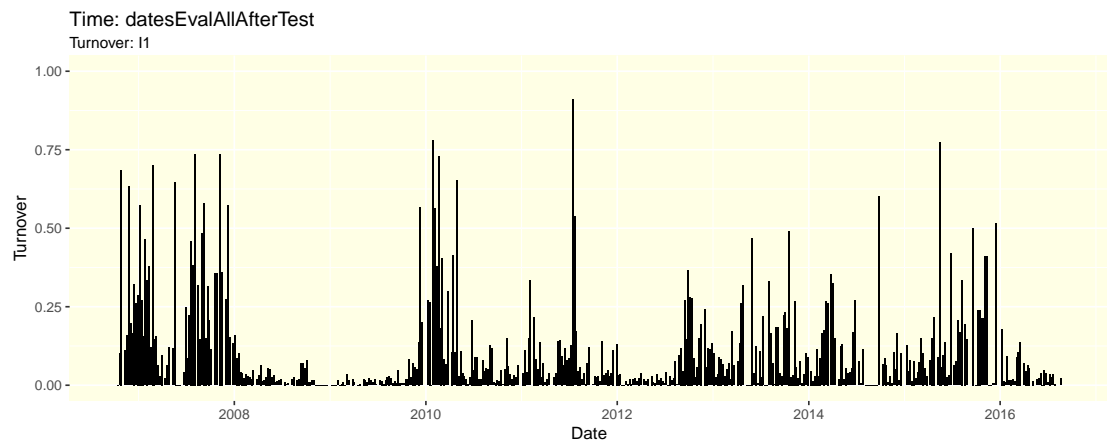
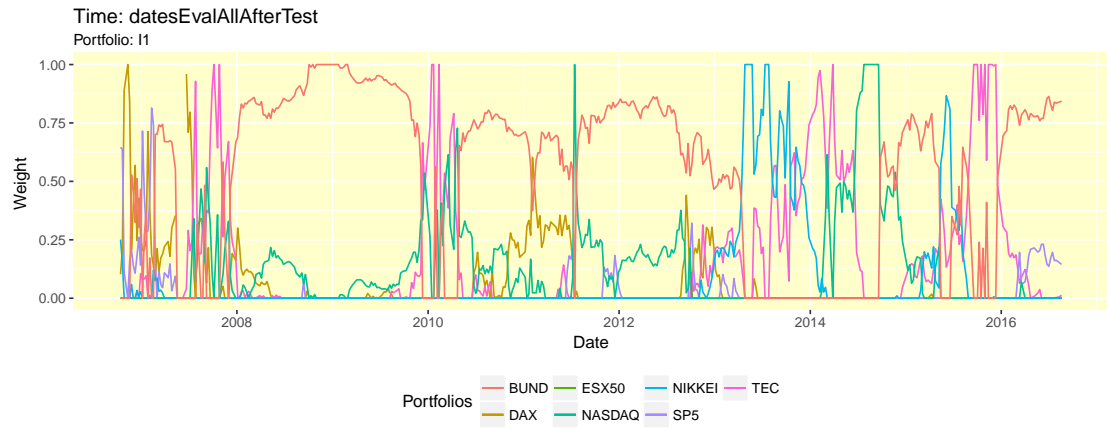
4 Results



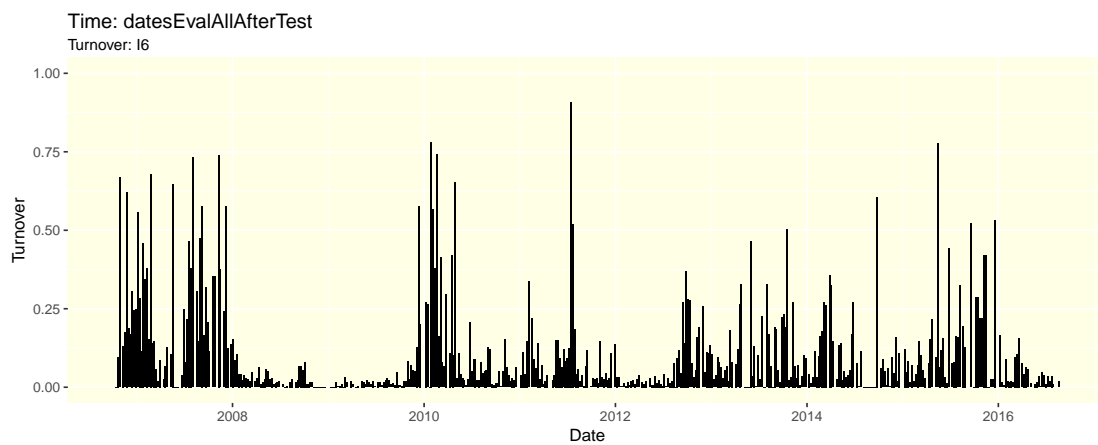
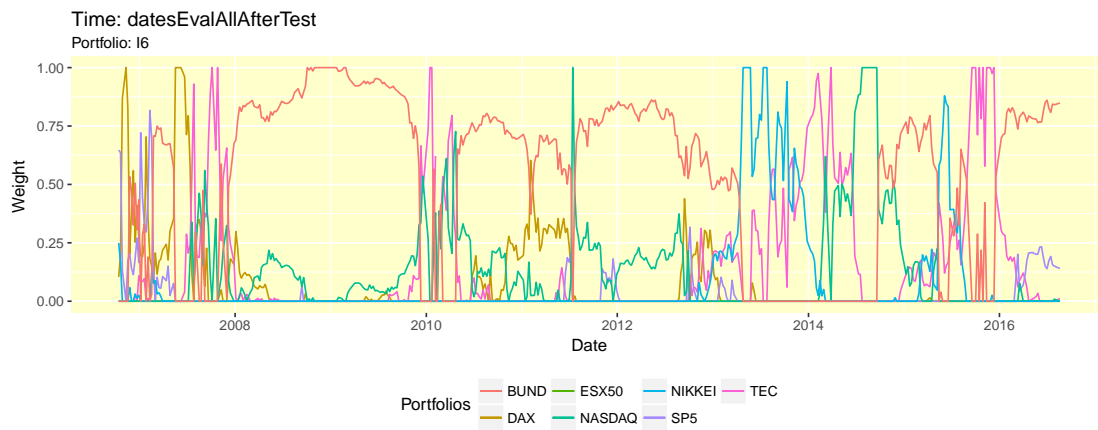
Weights-Sentix-Herfindahl - datesEvalAllAfterTest



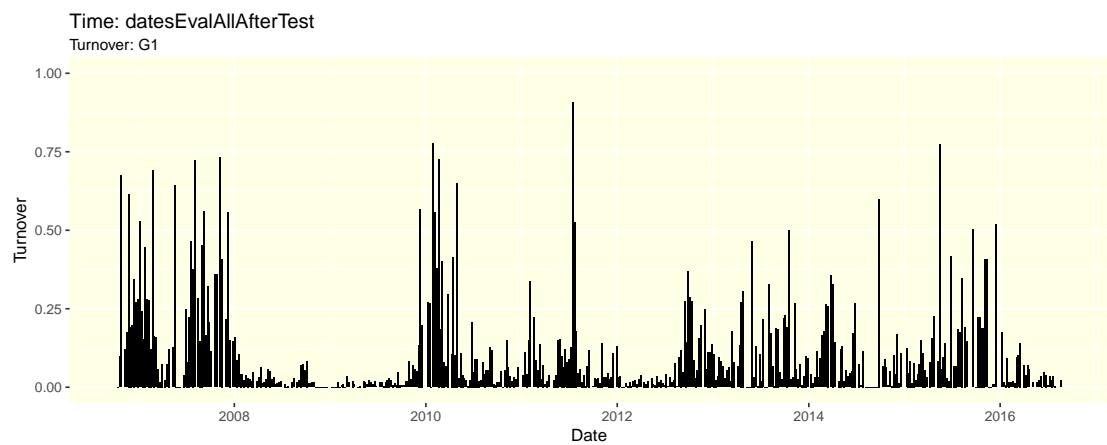
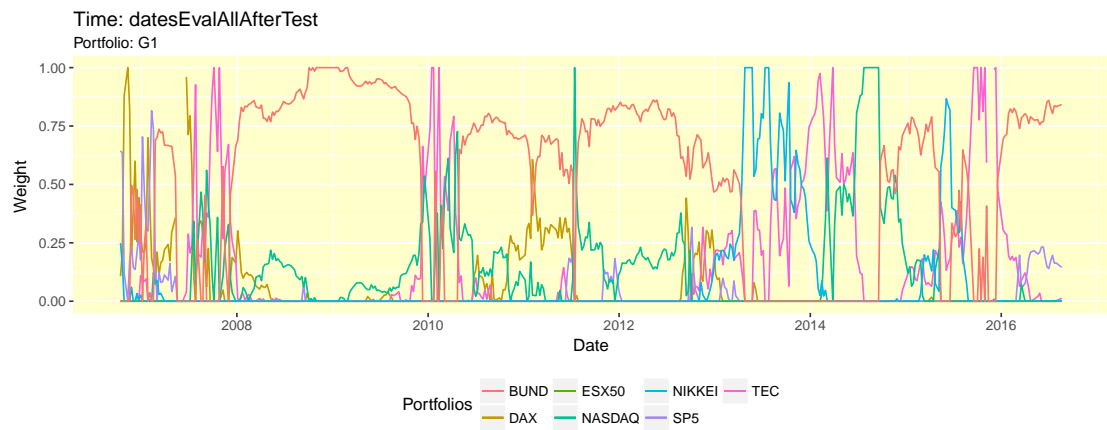
4 Results



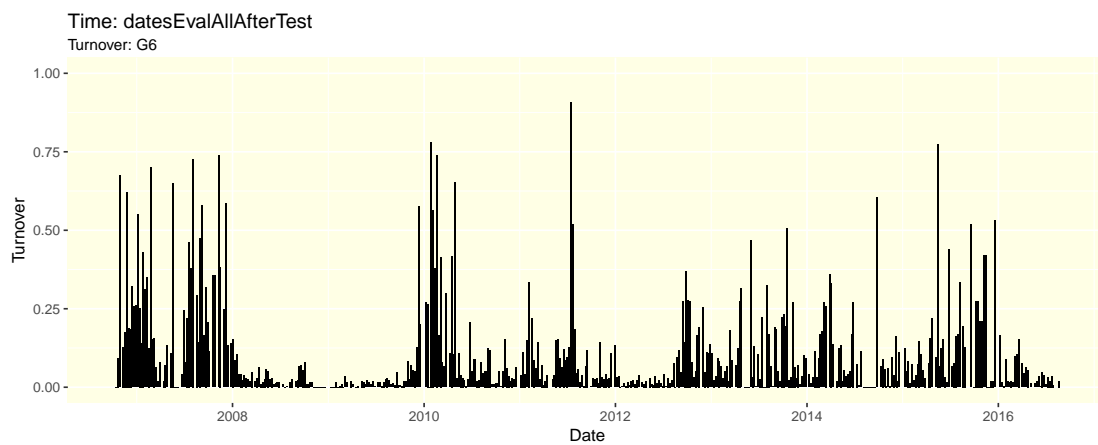
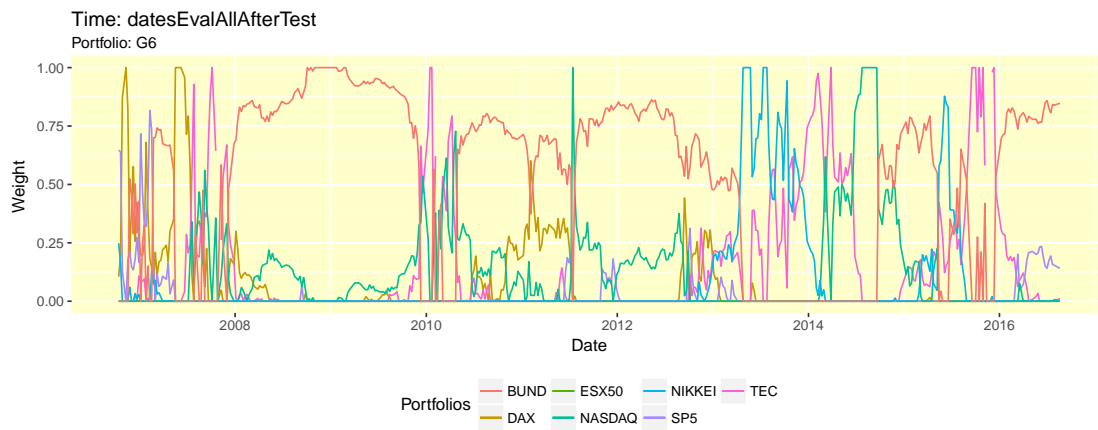
4.4 Weights



4 Results



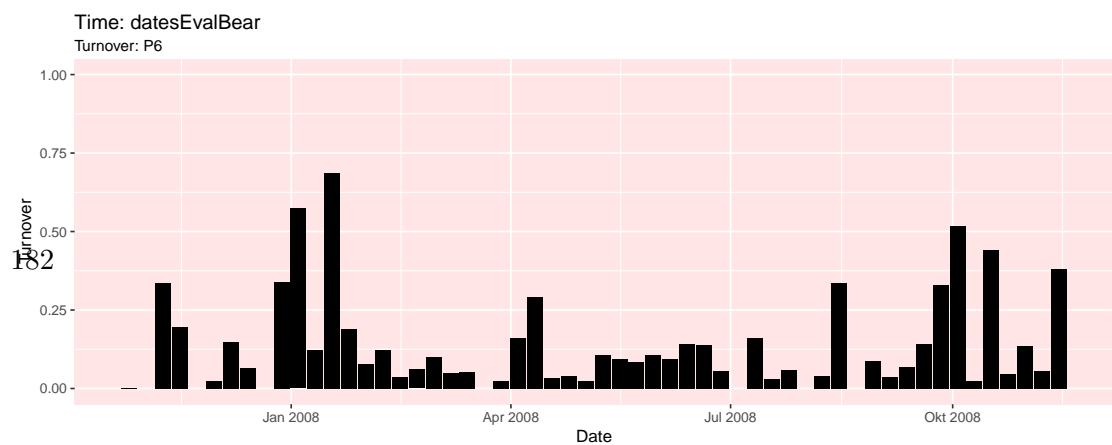
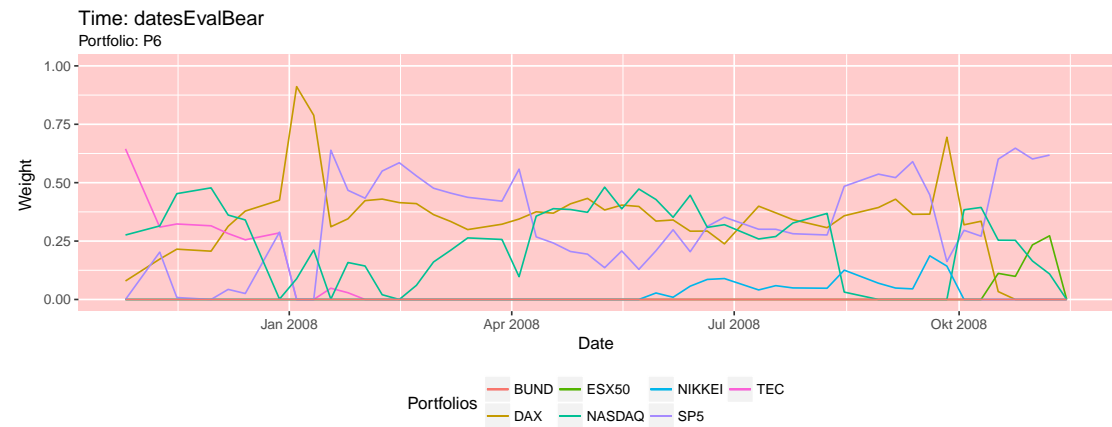
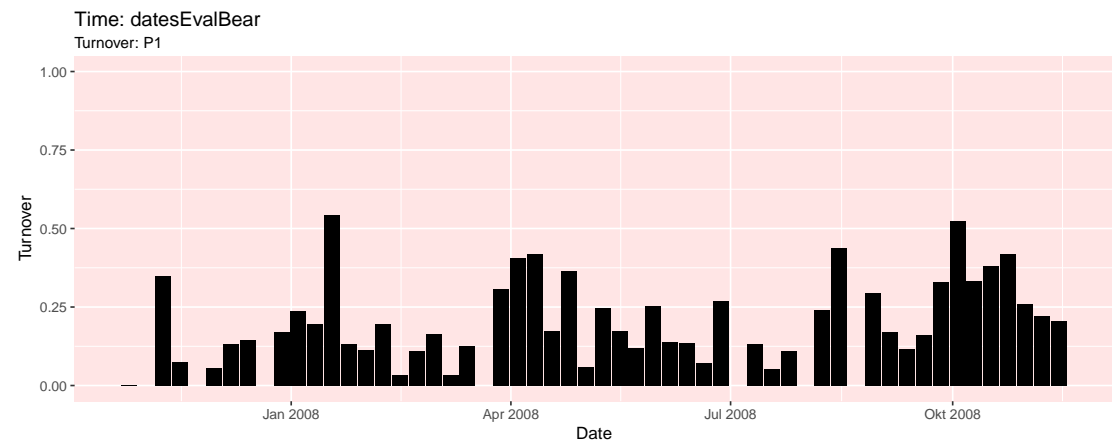
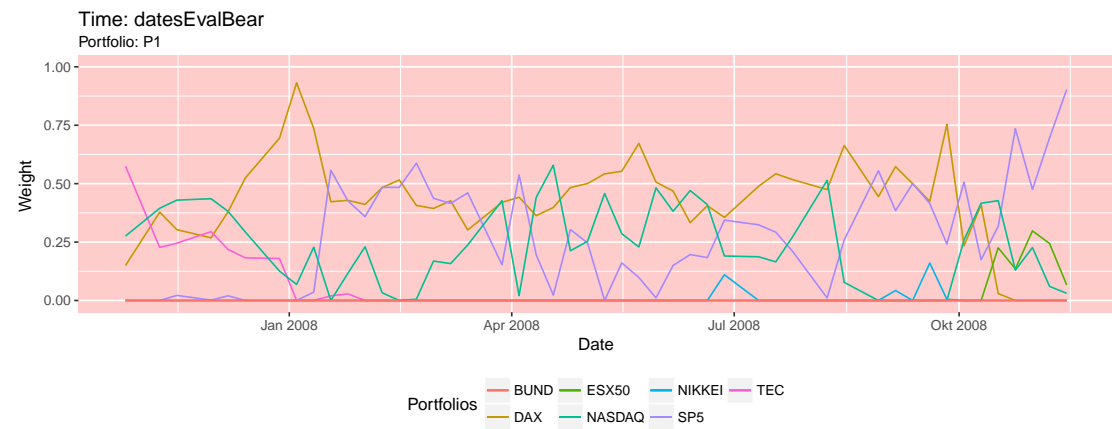
4.4 Weights



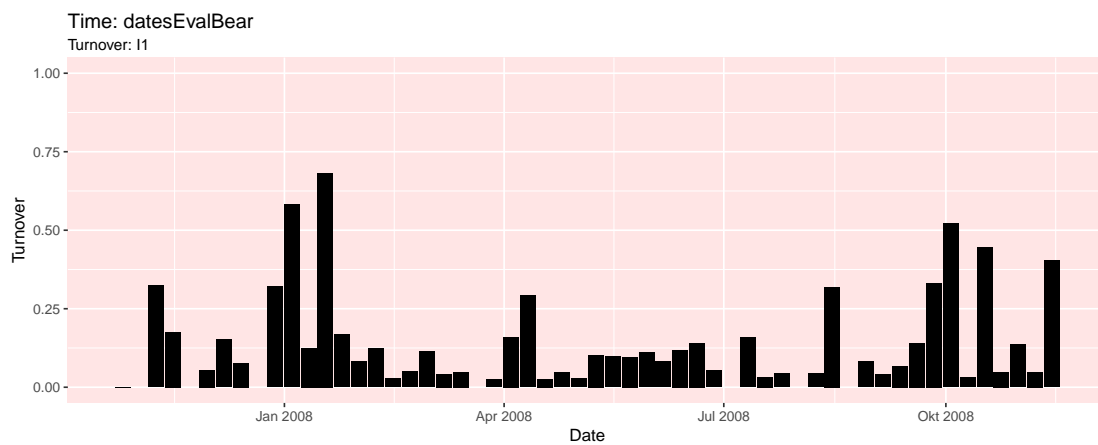
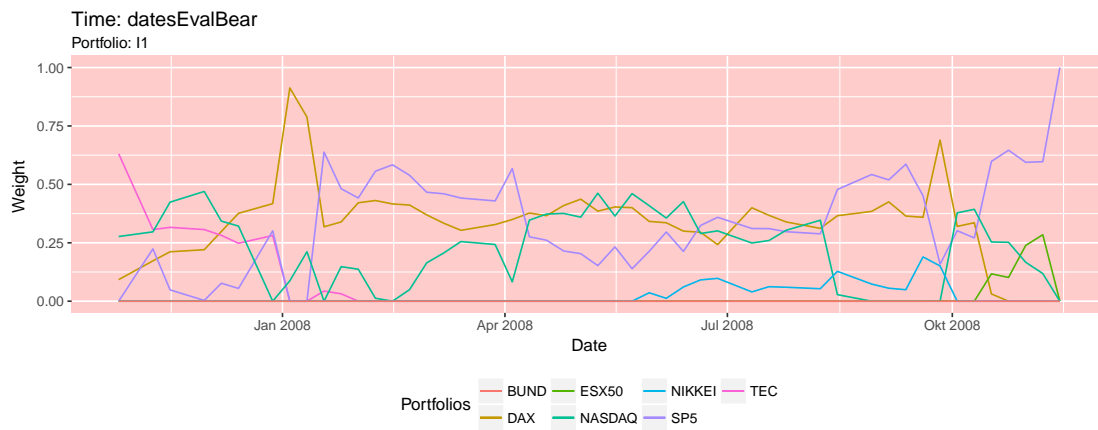
4 Results

4.4.5 Weights-Sentix-Herfindahl-No-Risk-Free

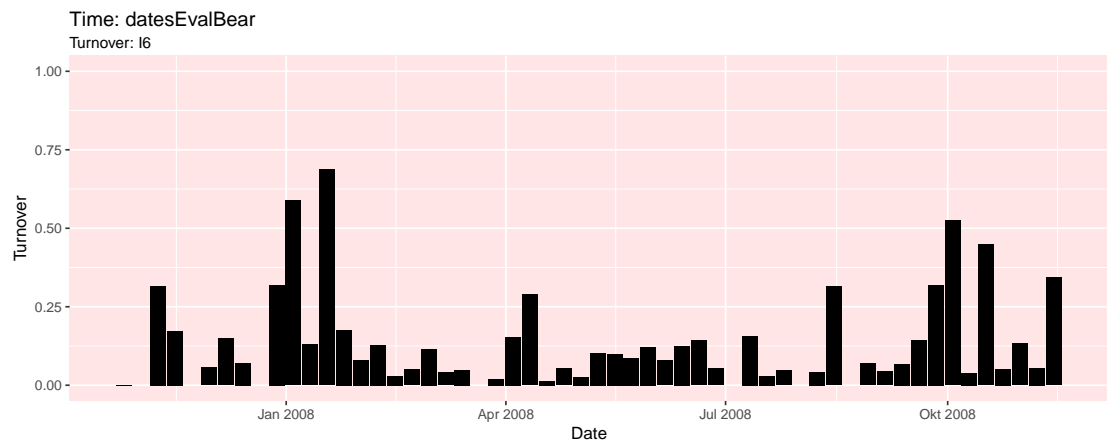
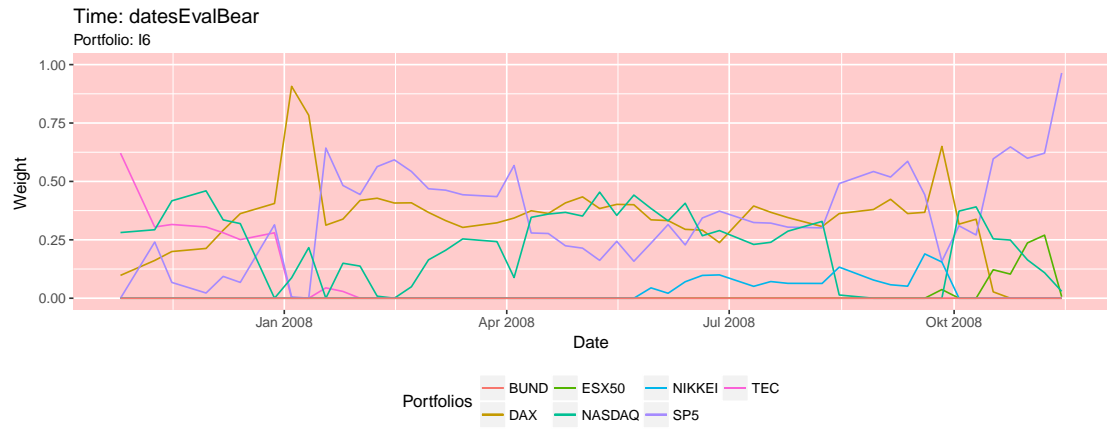
Weights-Sentix-Herfindahl-No-Risk-Free - datesEvalBear



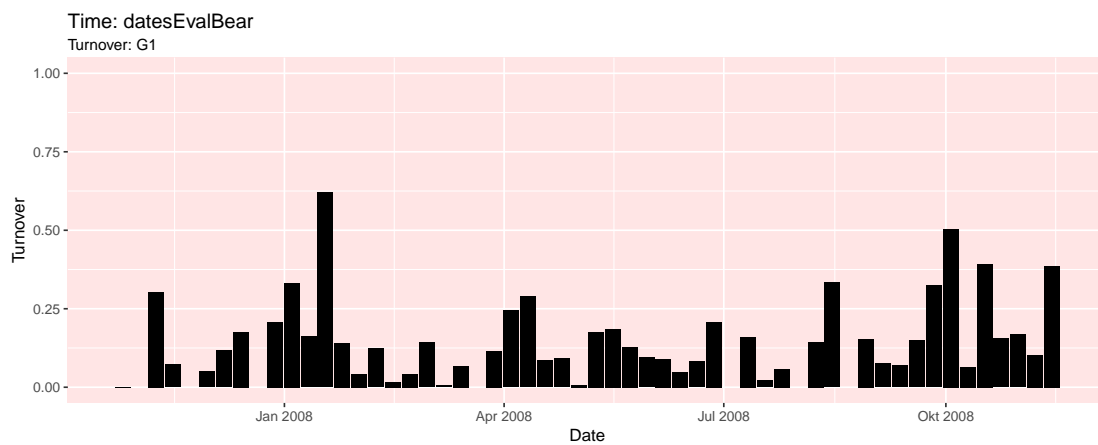
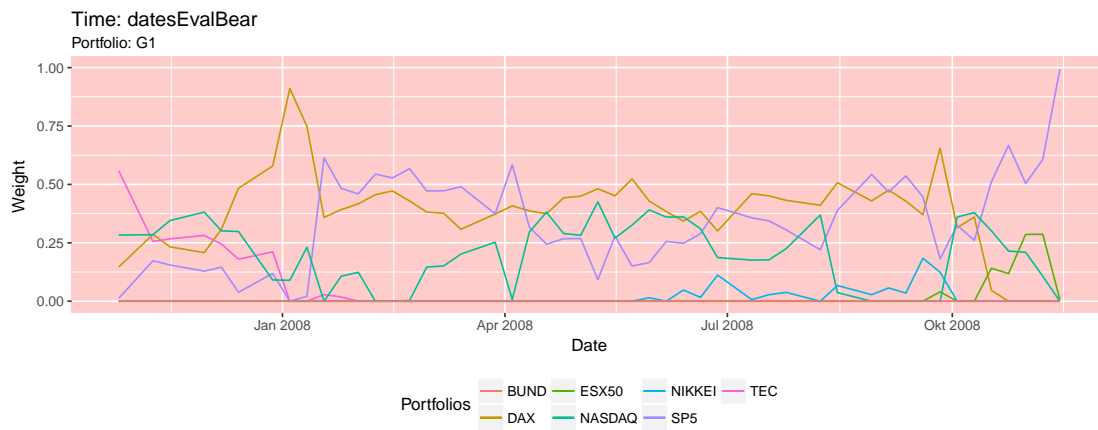
4.4 Weights



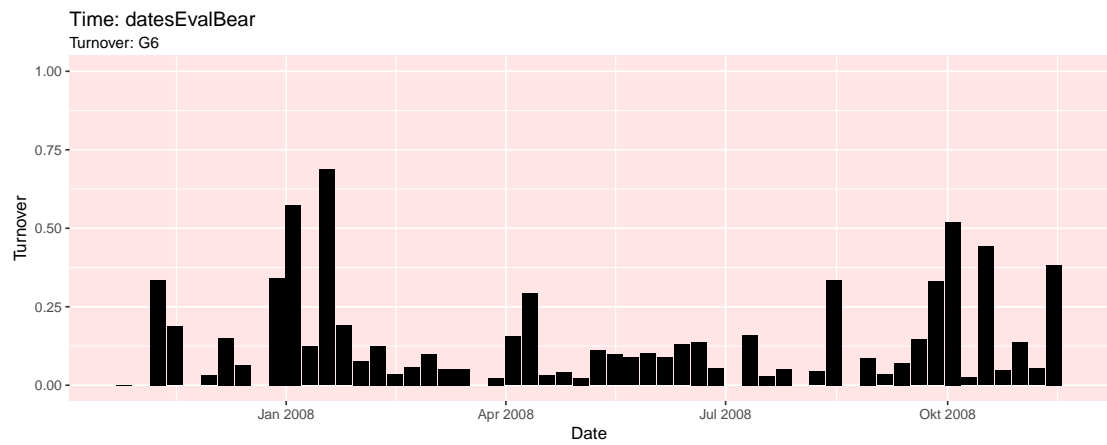
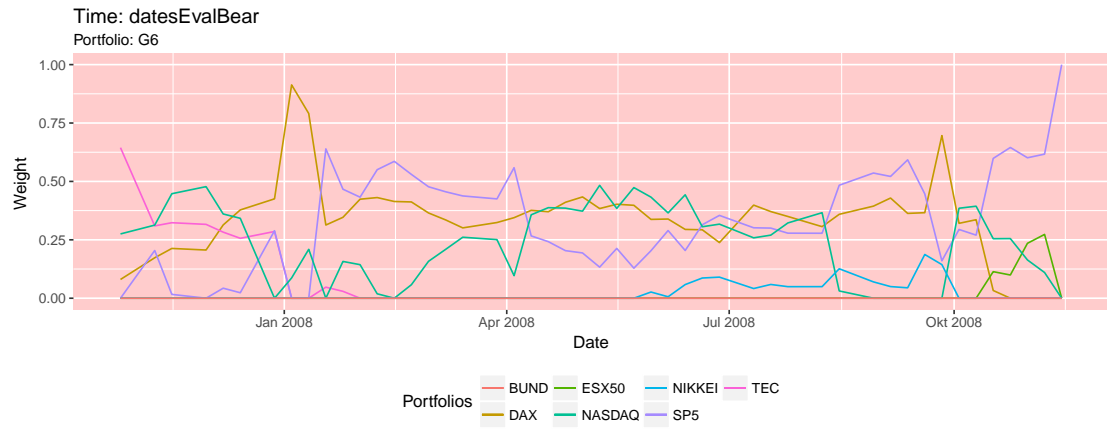
4 Results



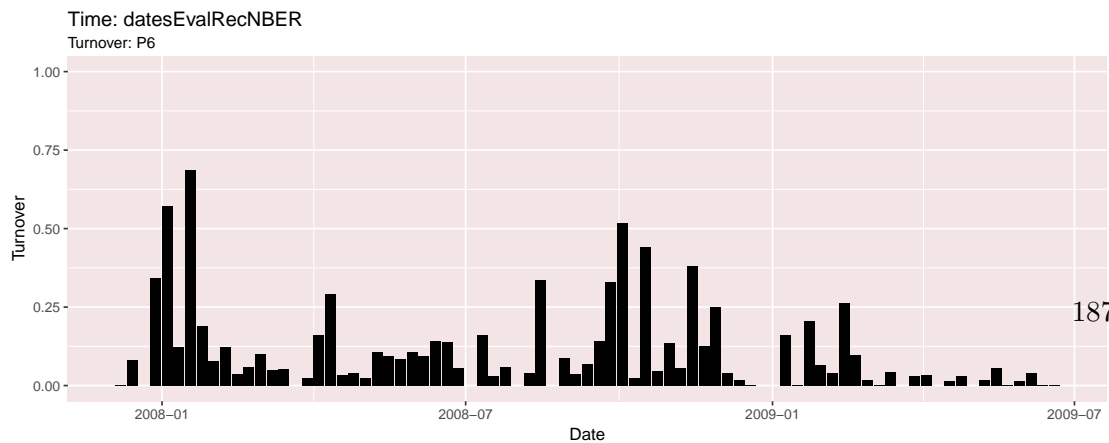
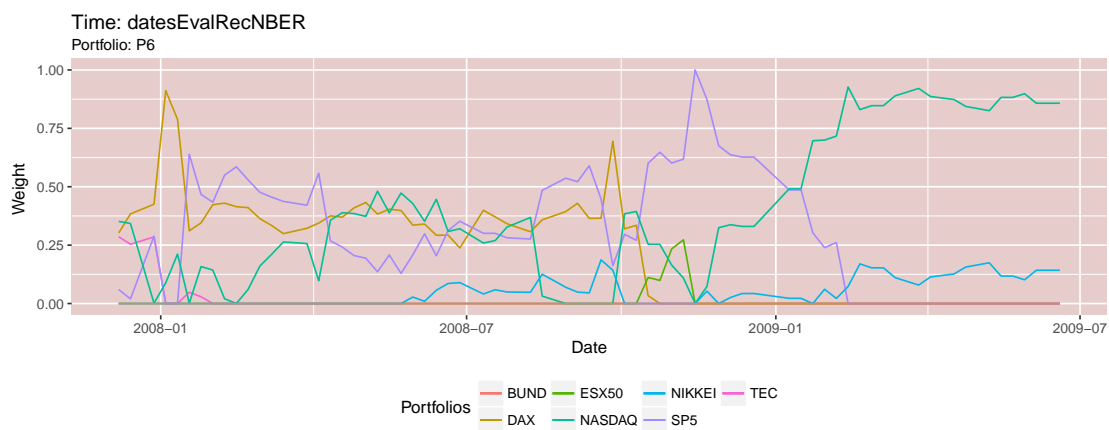
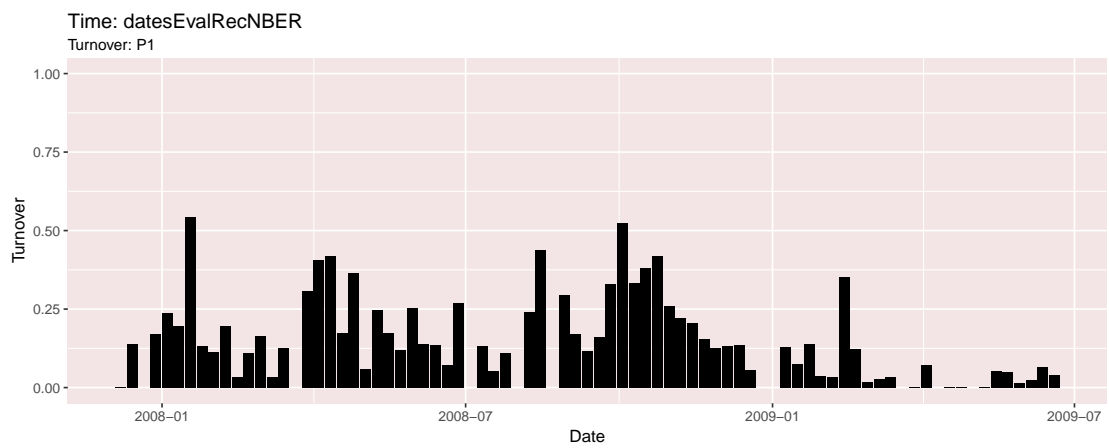
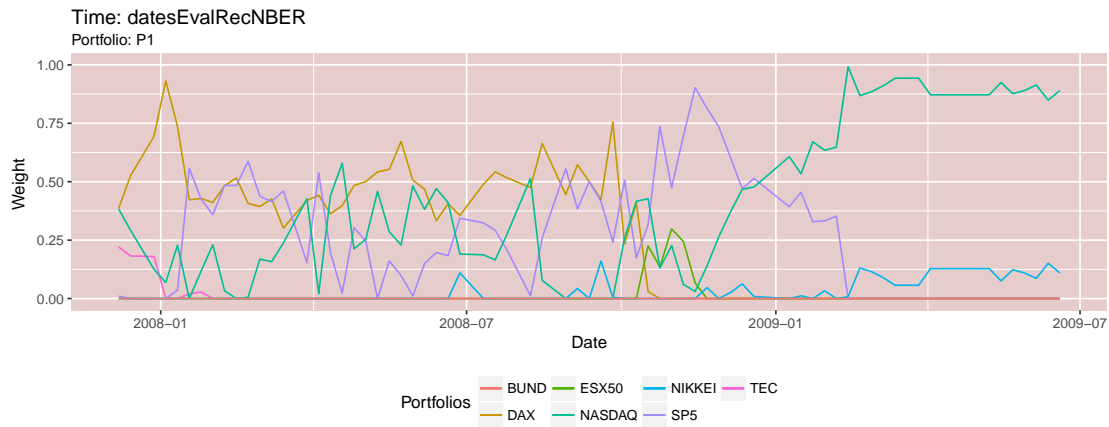
4.4 Weights



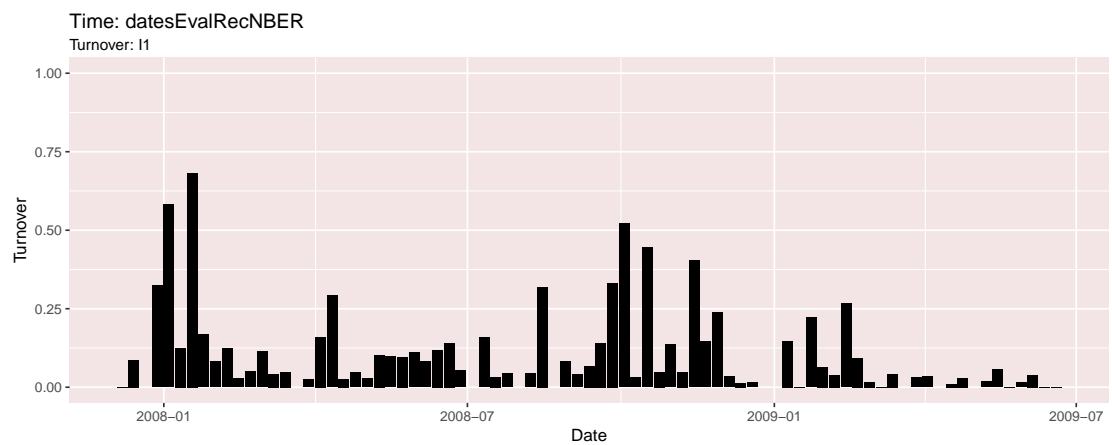
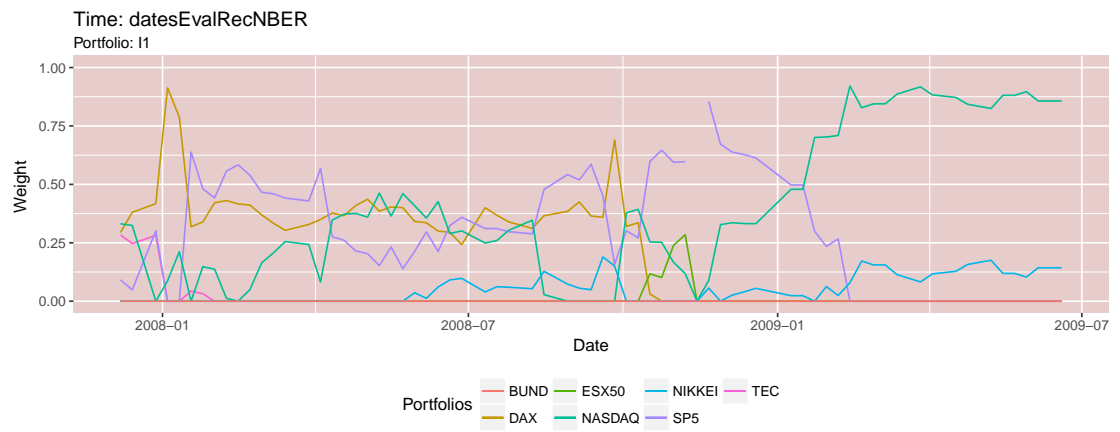
4 Results



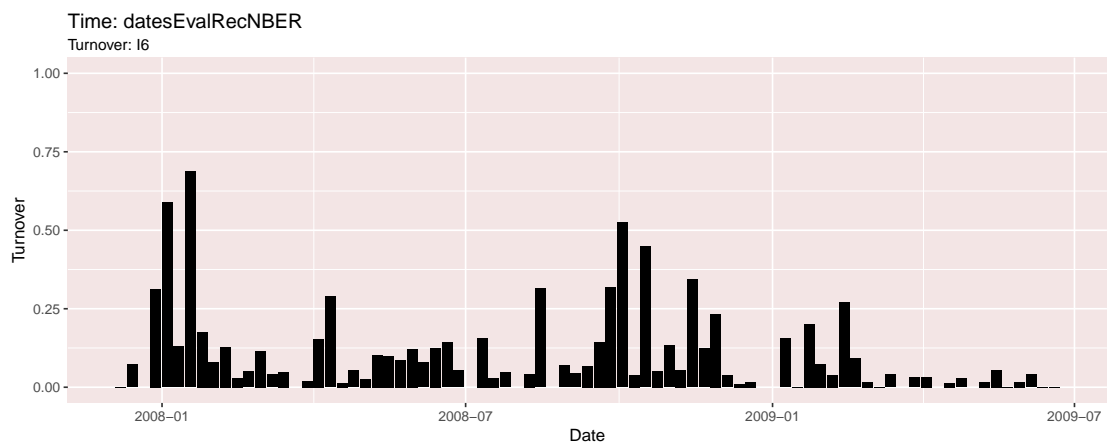
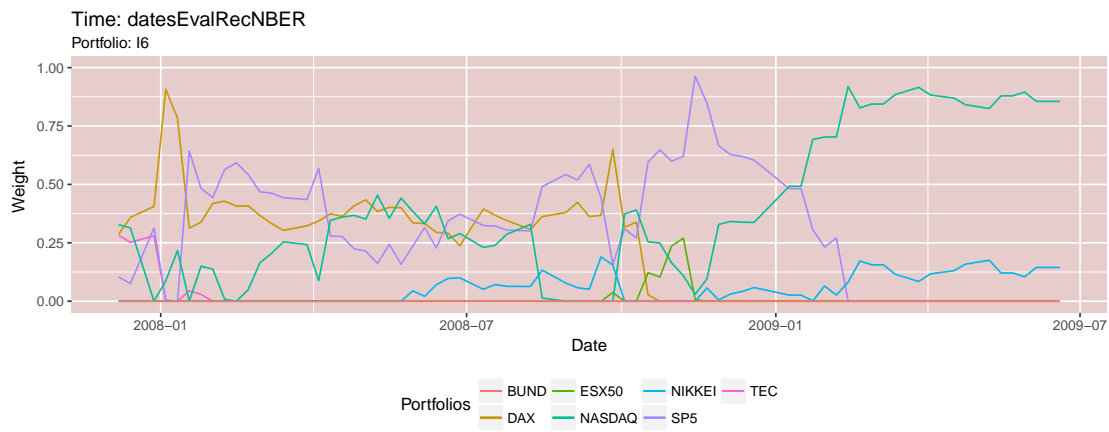
Weights-Sentix-Herfindahl-No-Risk-Free - datesEvalRecNBER



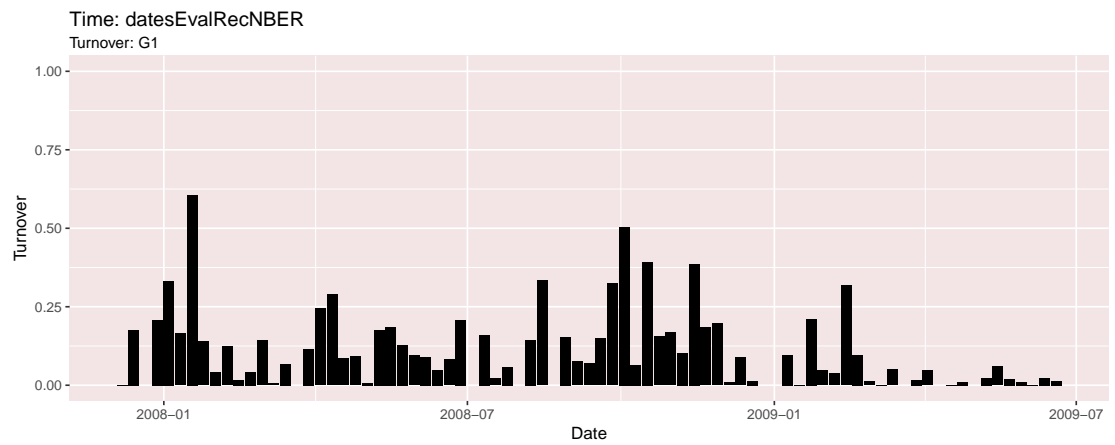
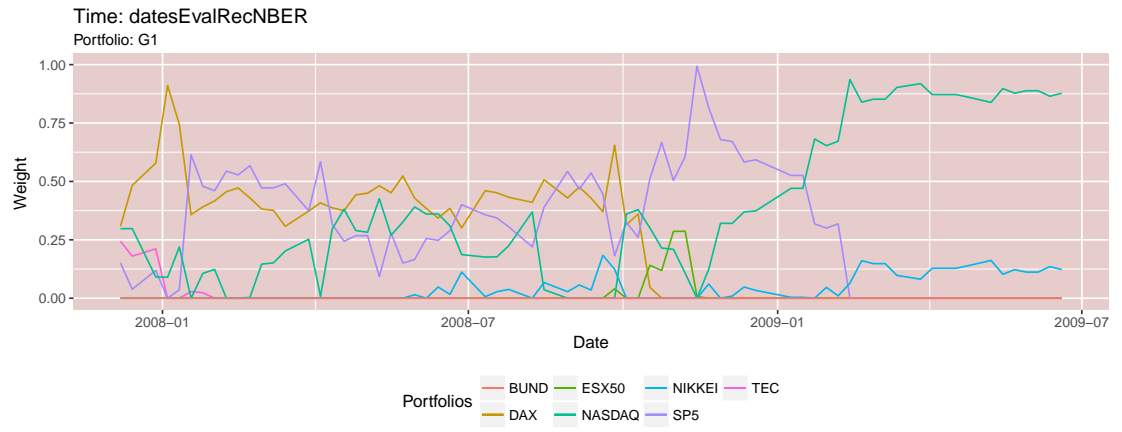
4 Results



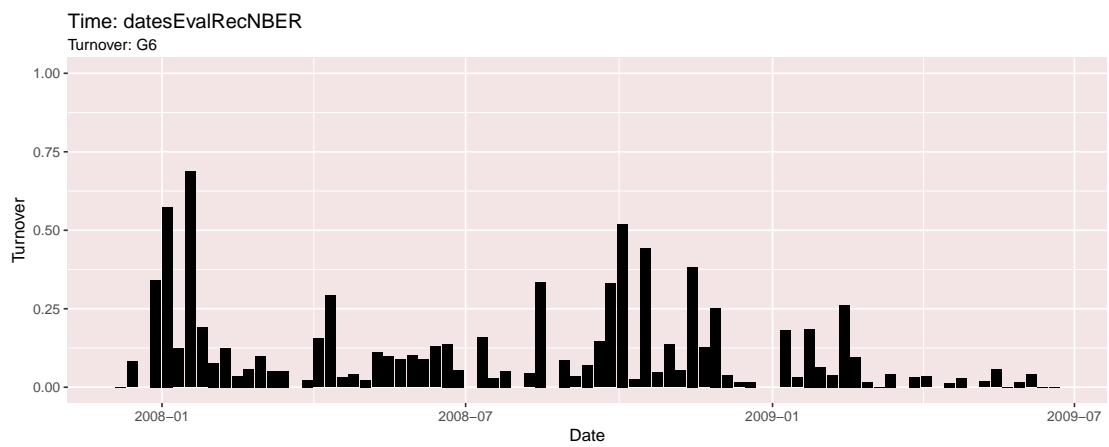
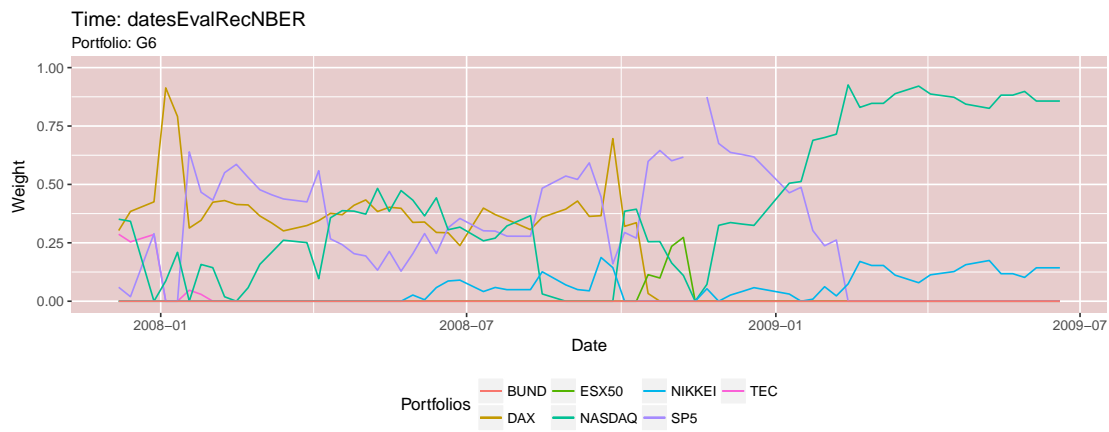
4.4 Weights



4 Results

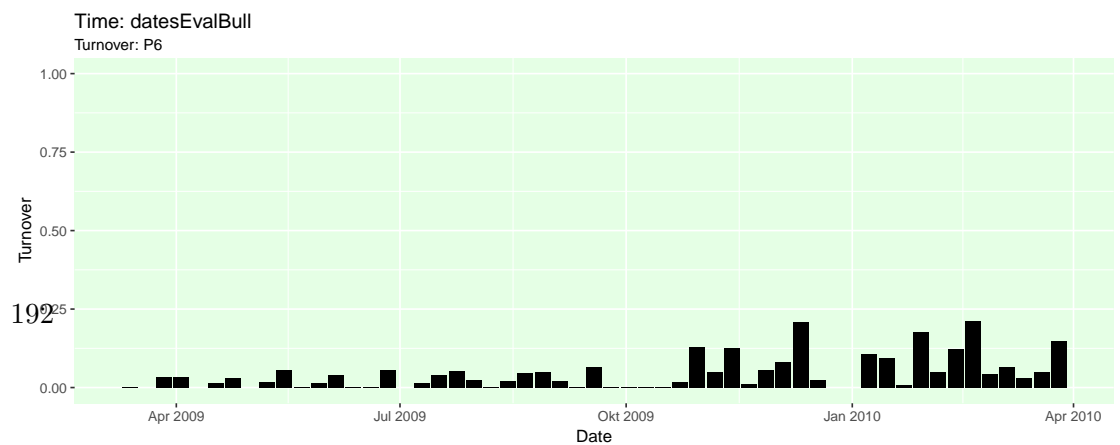
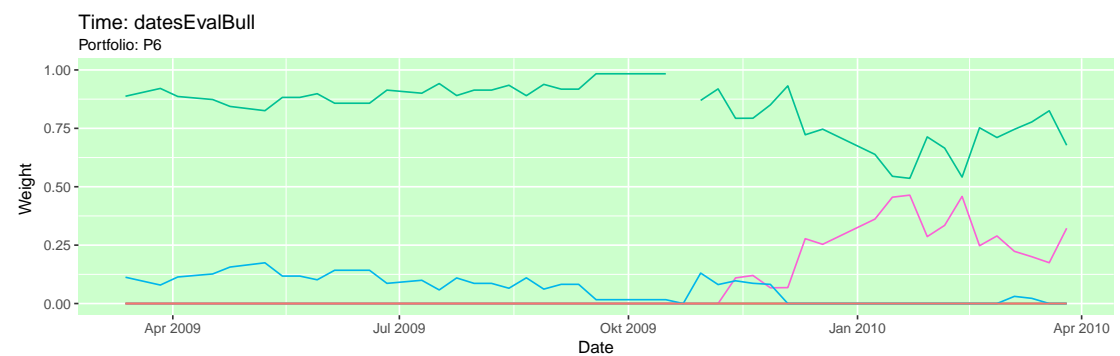
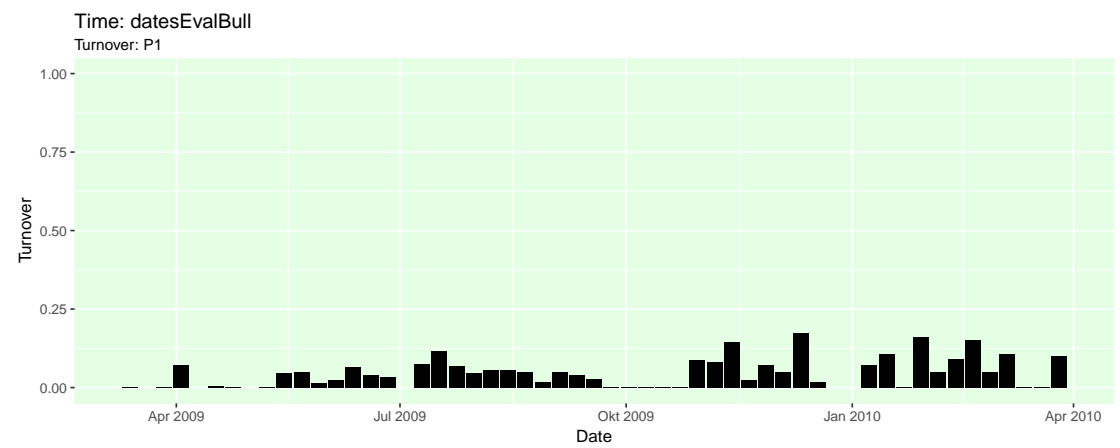
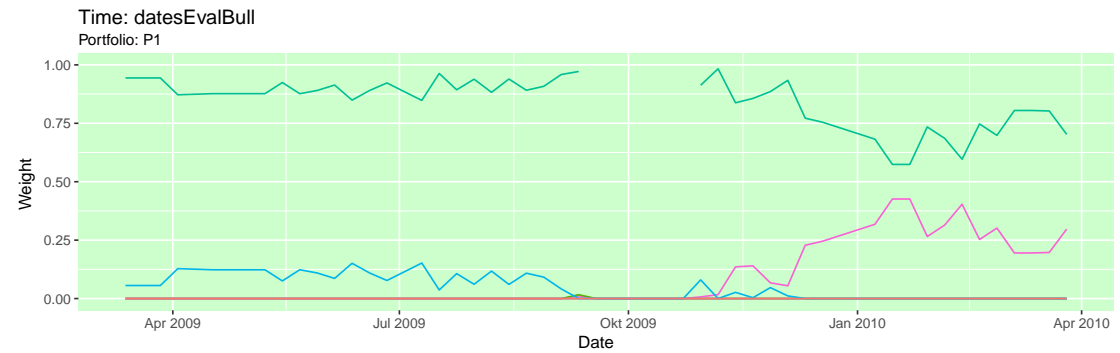


4.4 Weights

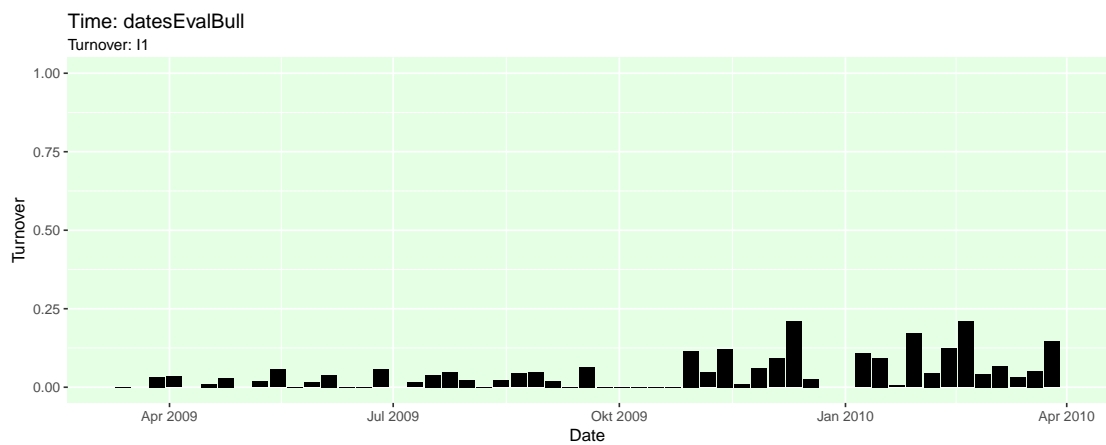
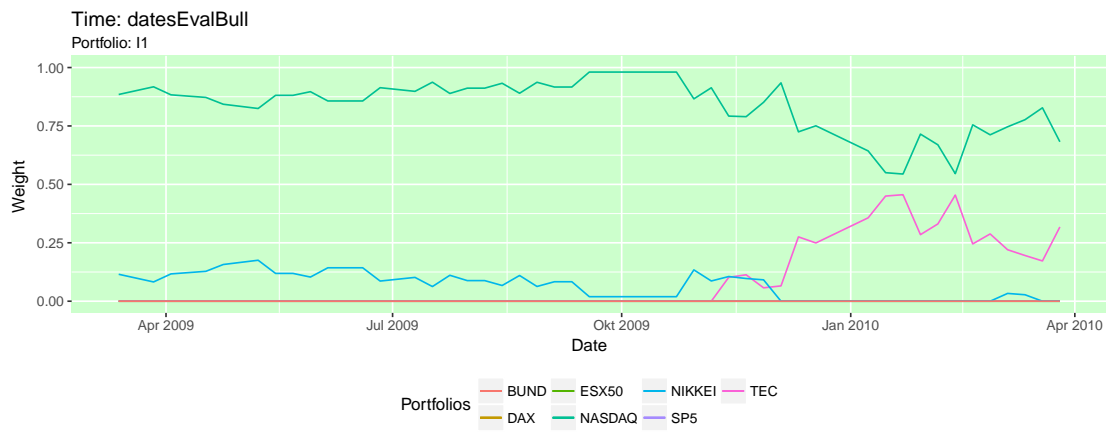


4 Results

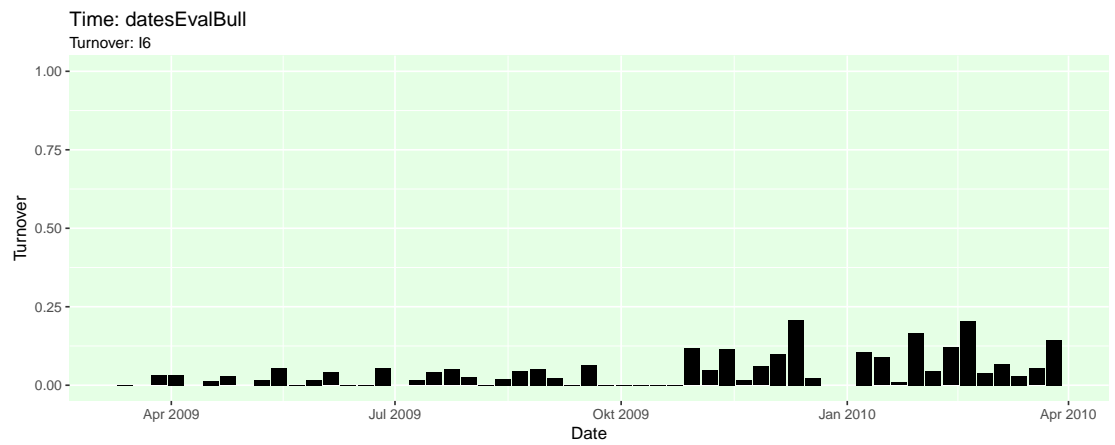
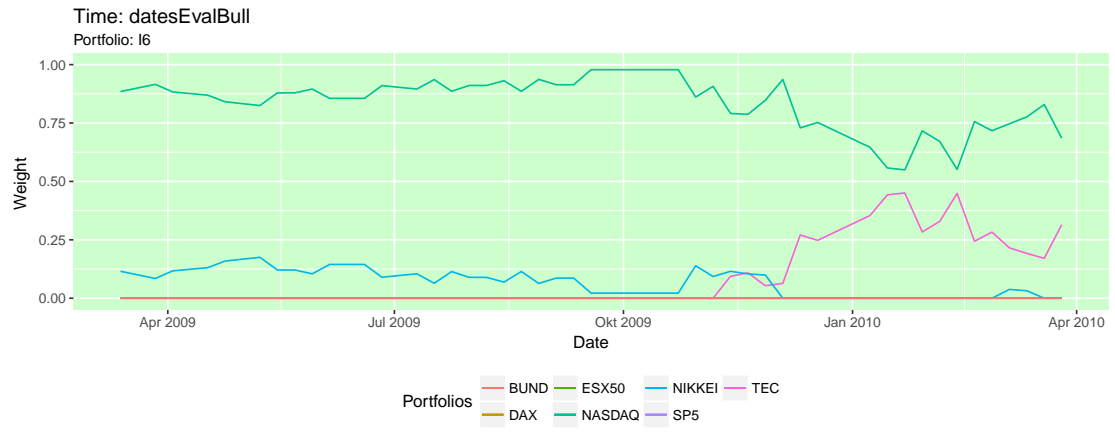
Weights-Sentix-Herfindahl-No-Risk-Free - datesEvalBull



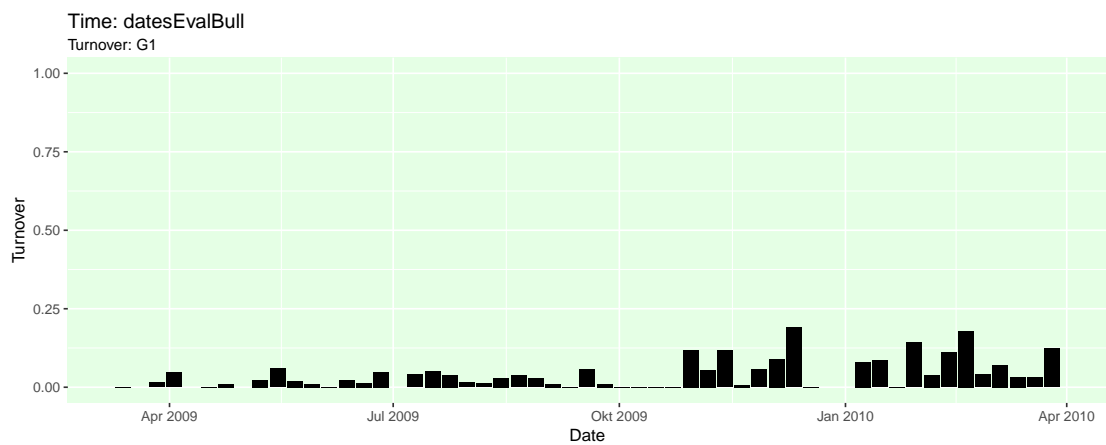
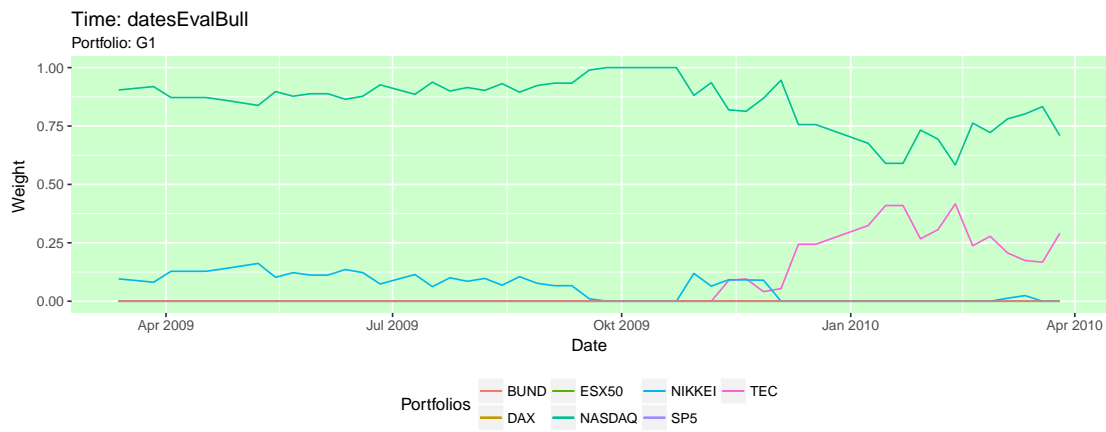
4.4 Weights



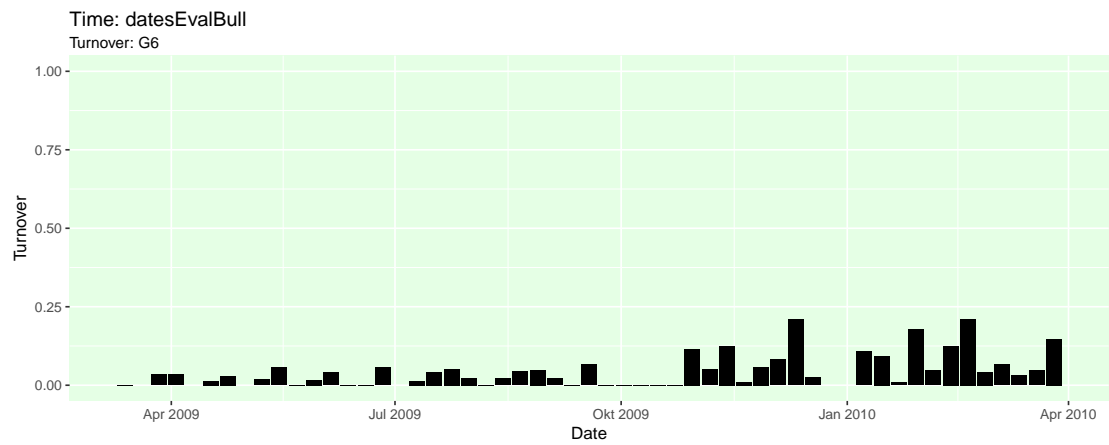
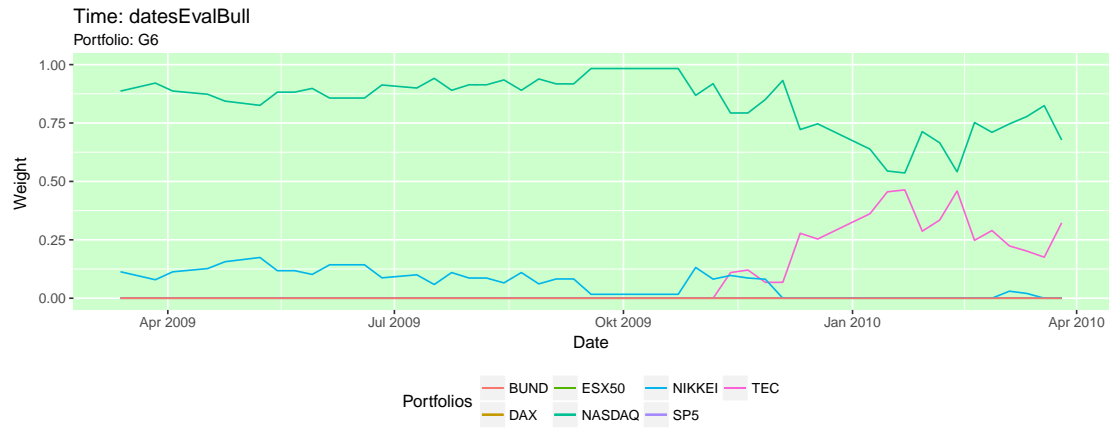
4 Results



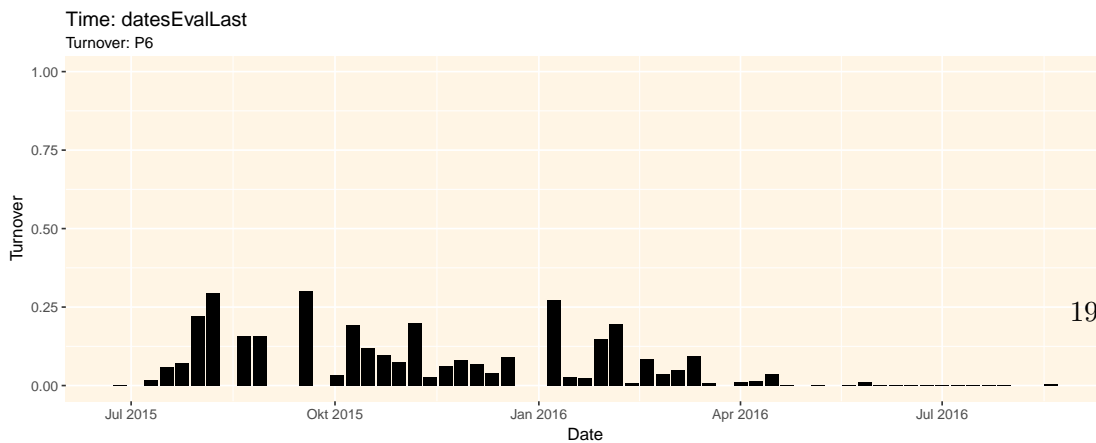
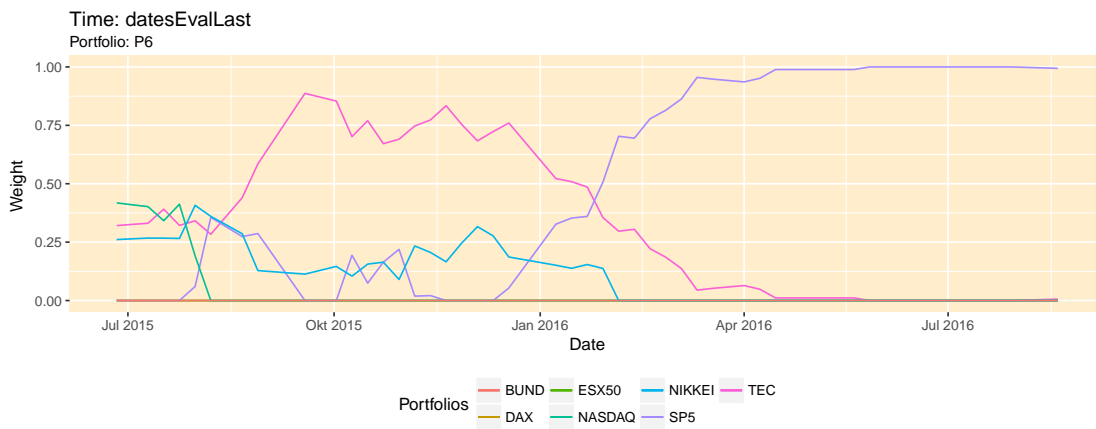
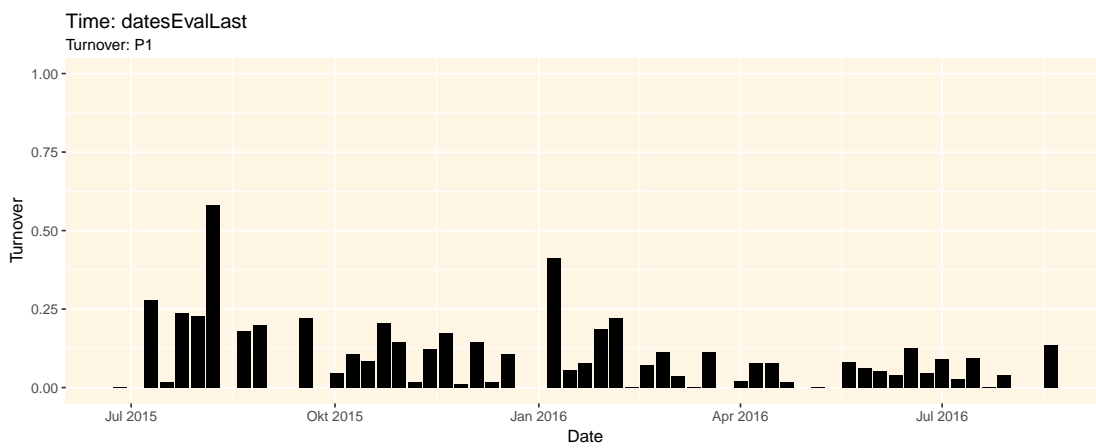
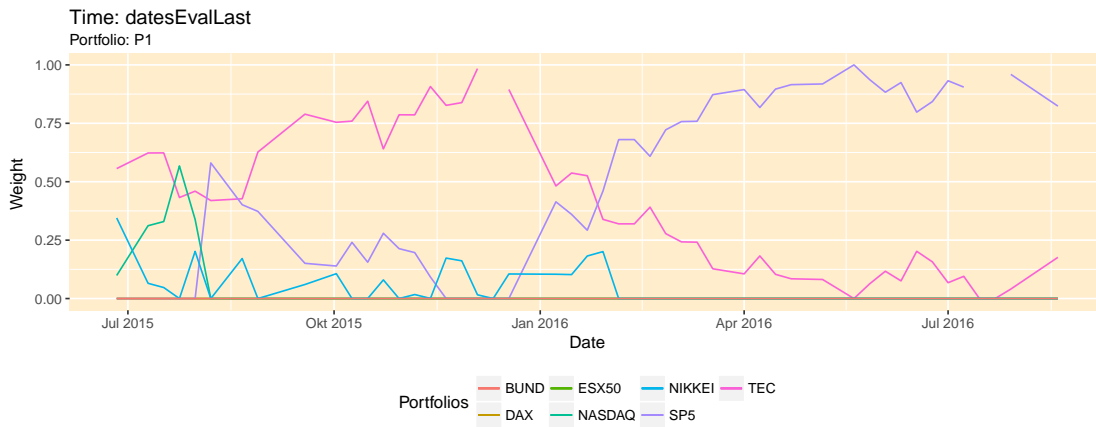
4.4 Weights



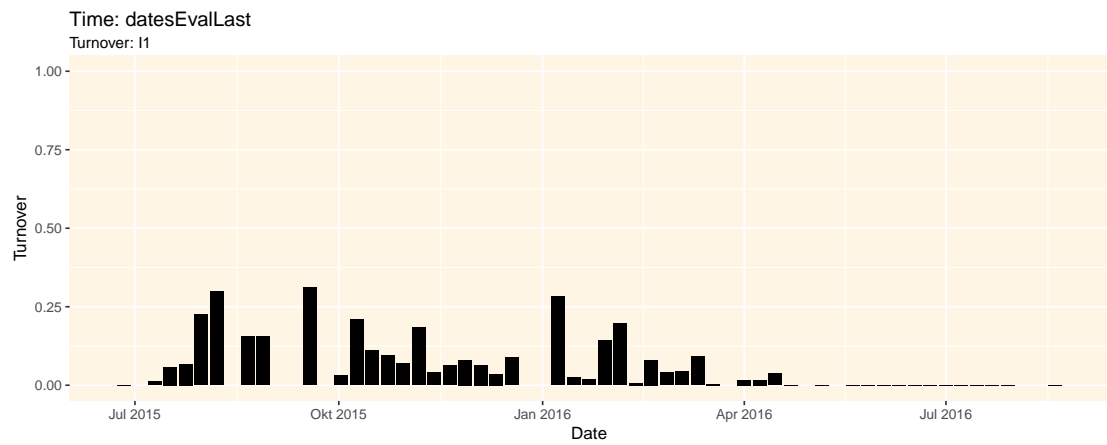
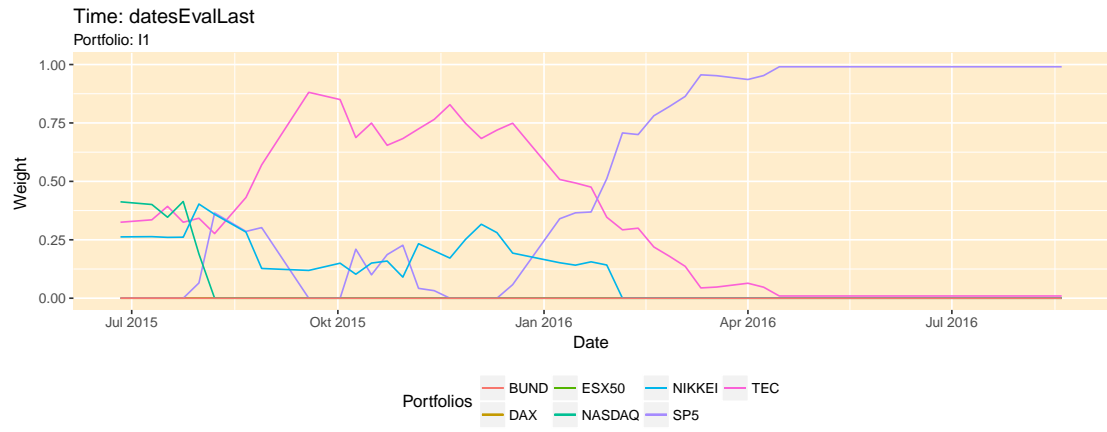
4 Results



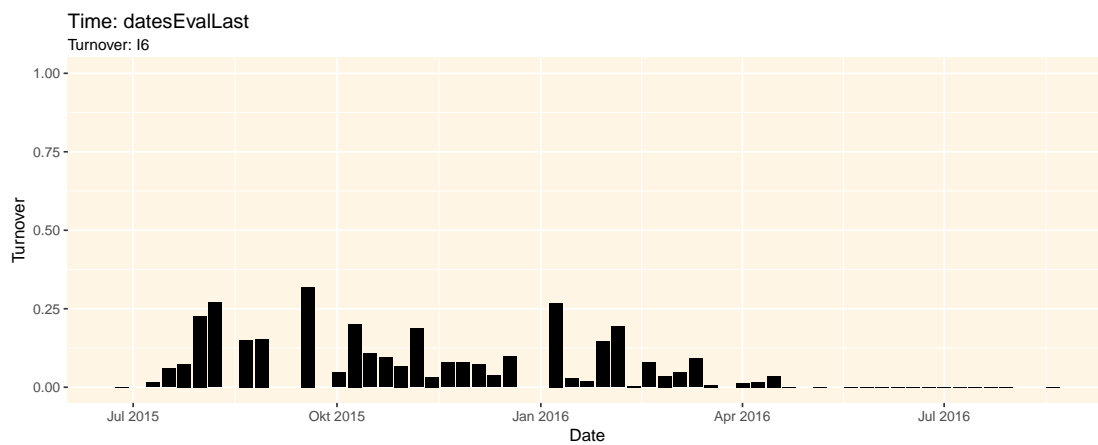
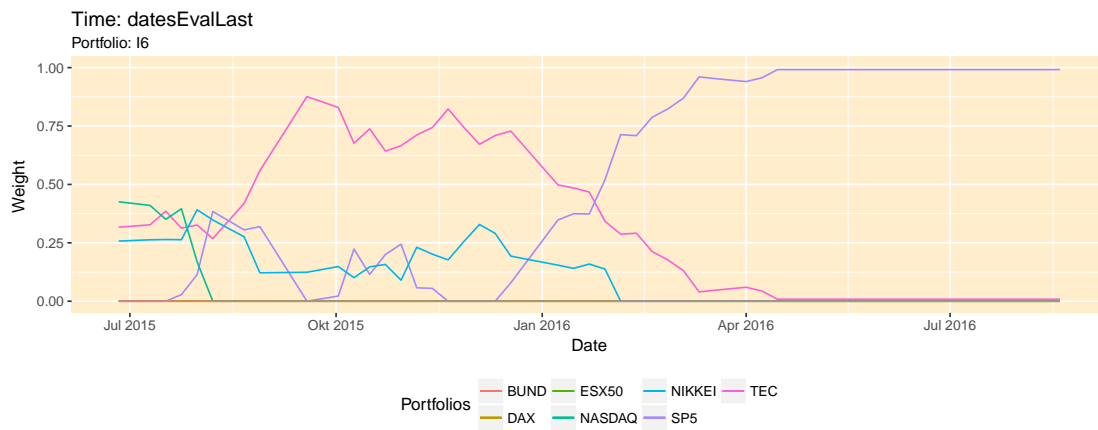
Weights-Sentix-Herfindahl-No-Risk-Free - datesEvalLast



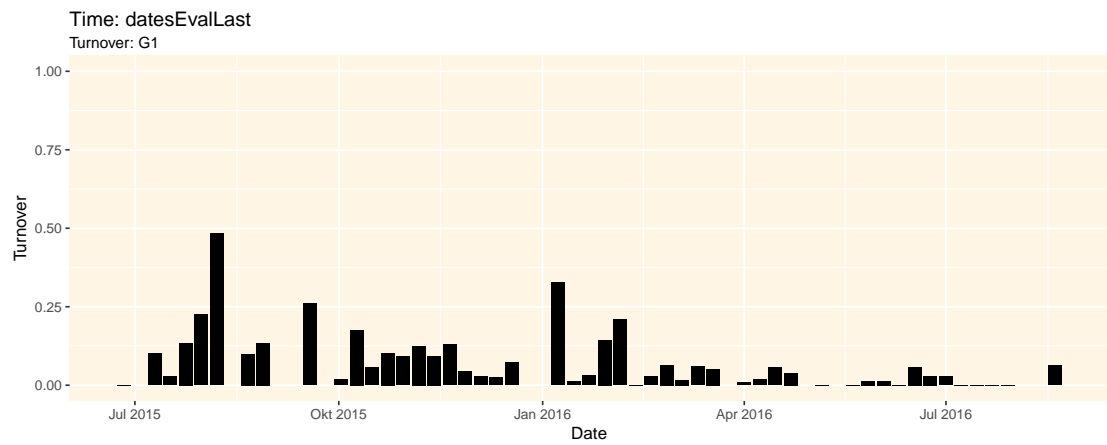
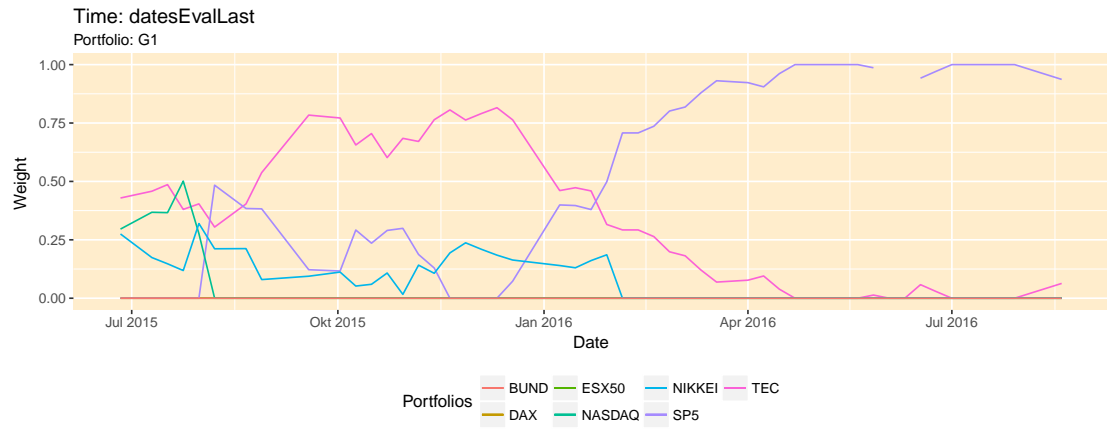
4 Results



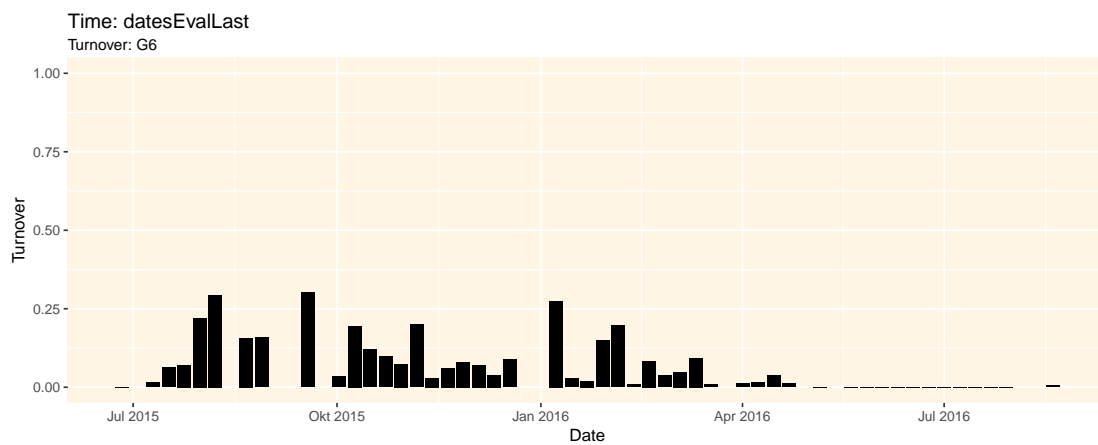
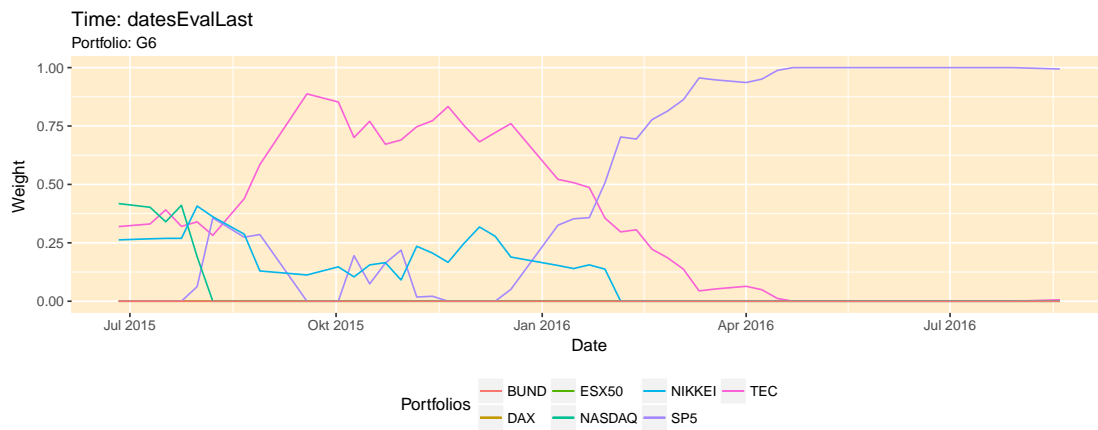
4.4 Weights



4 Results

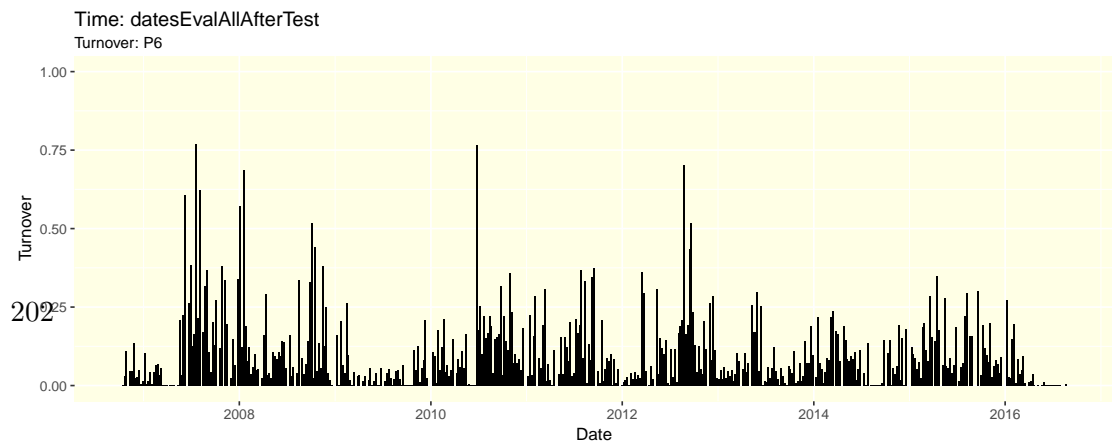
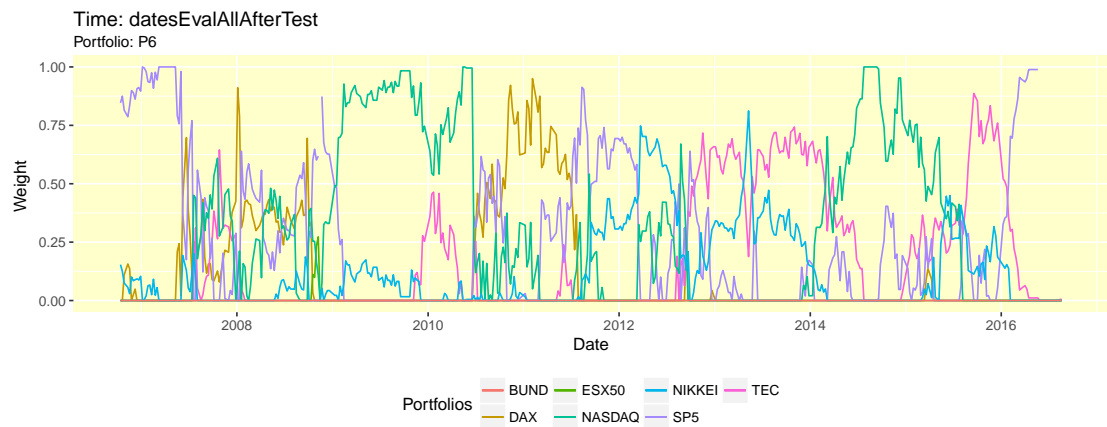
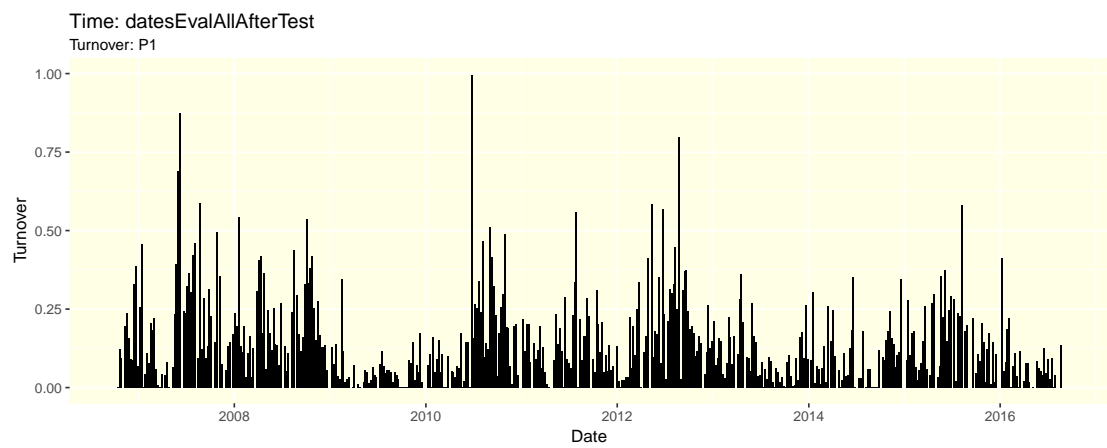
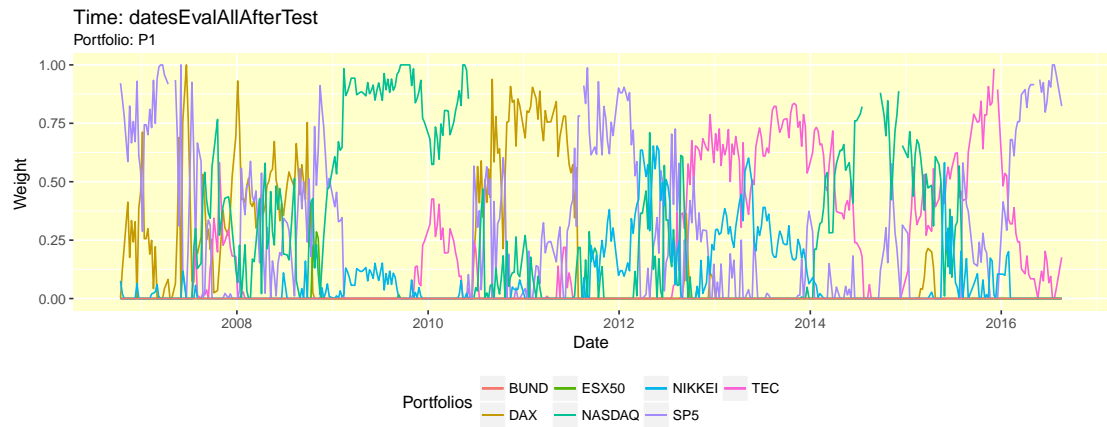


4.4 Weights

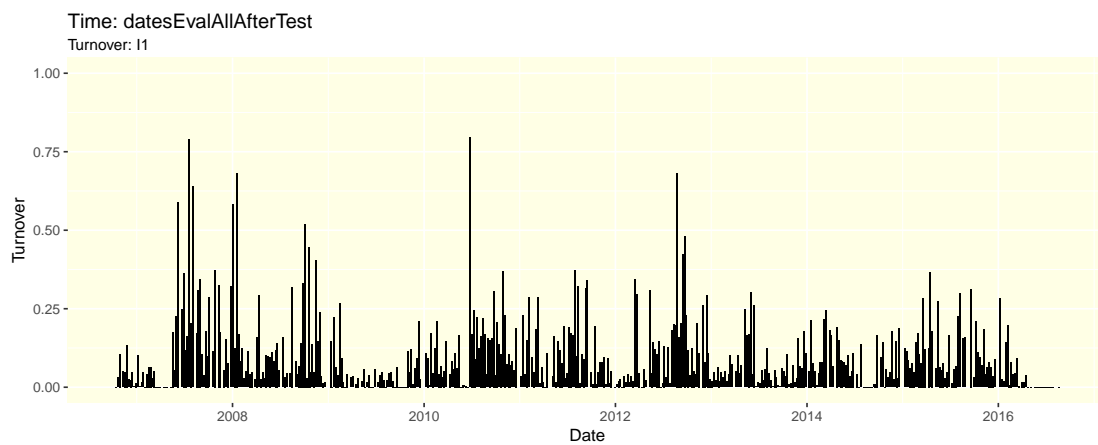
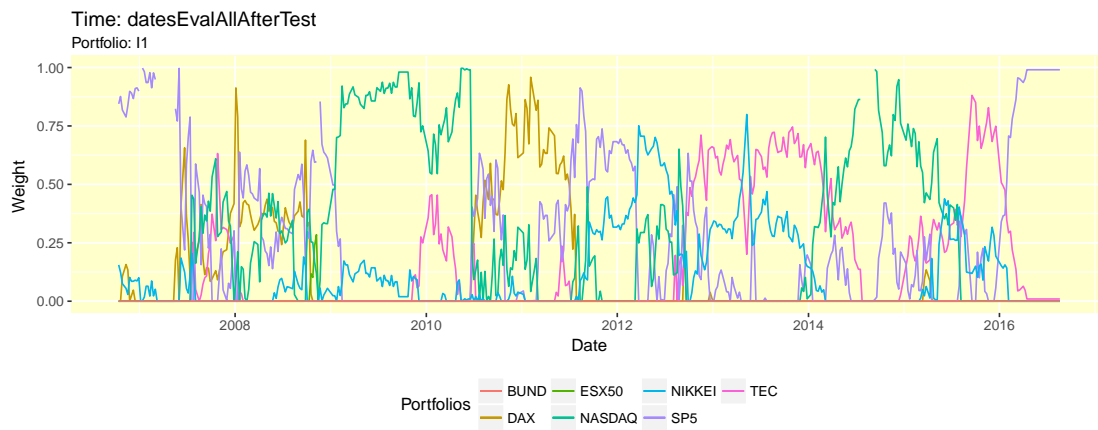


4 Results

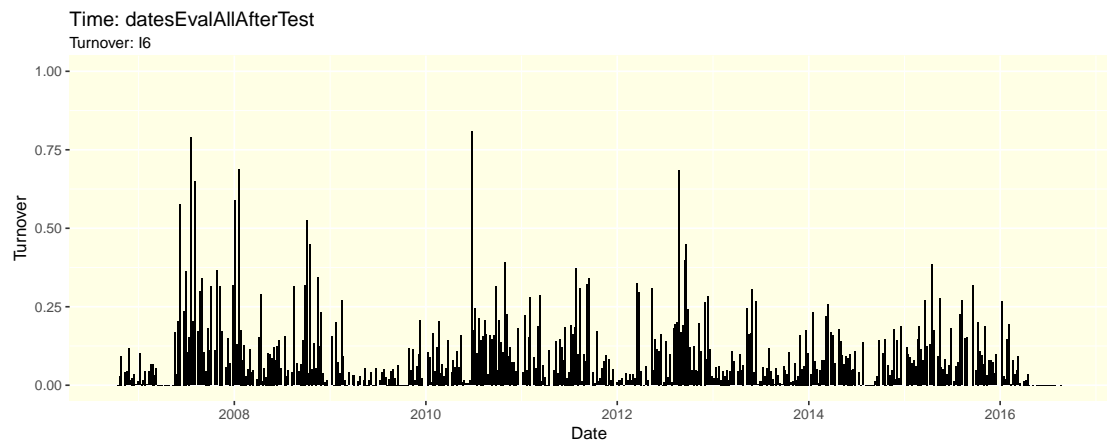
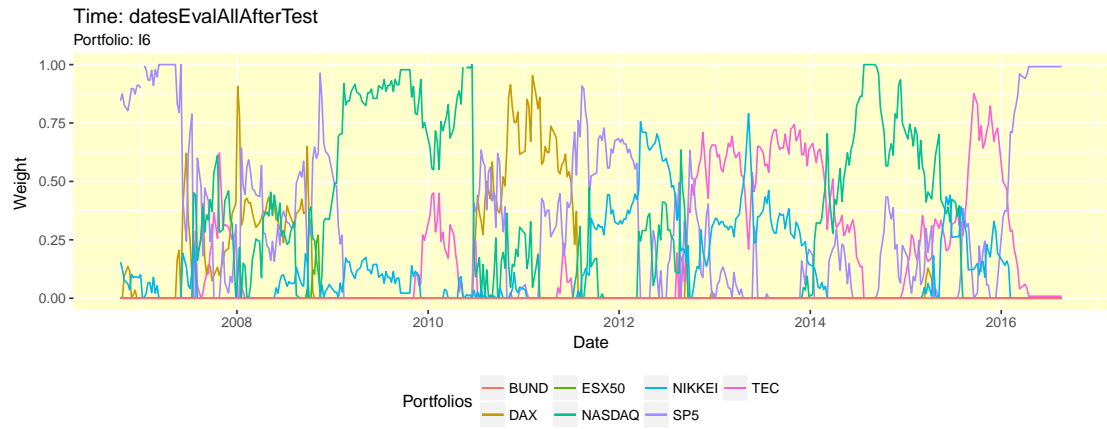
Weights-Sentix-Herfindahl-No-Risk-Free - datesEvalAllAfterTest



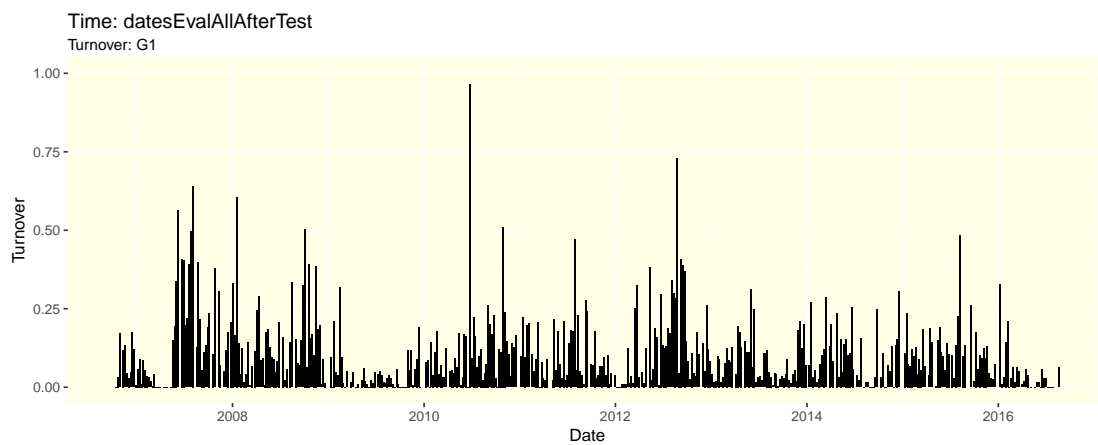
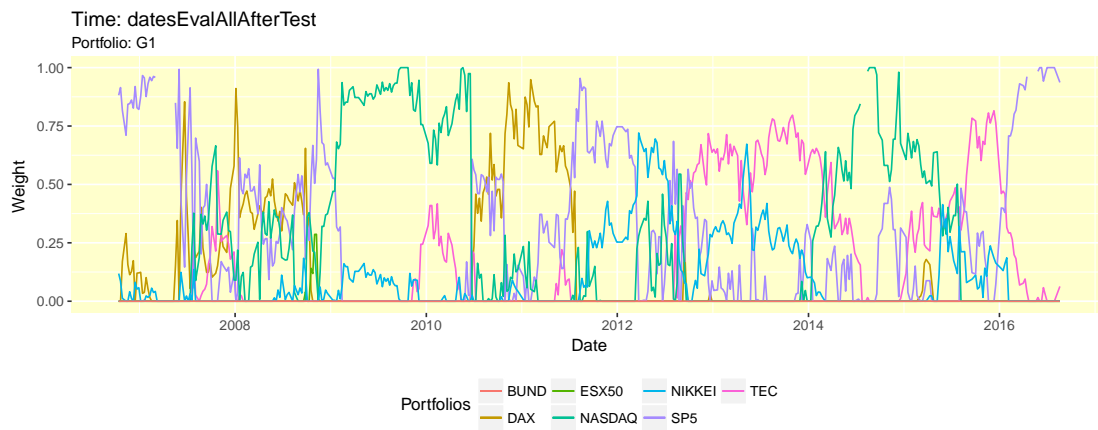
4.4 Weights



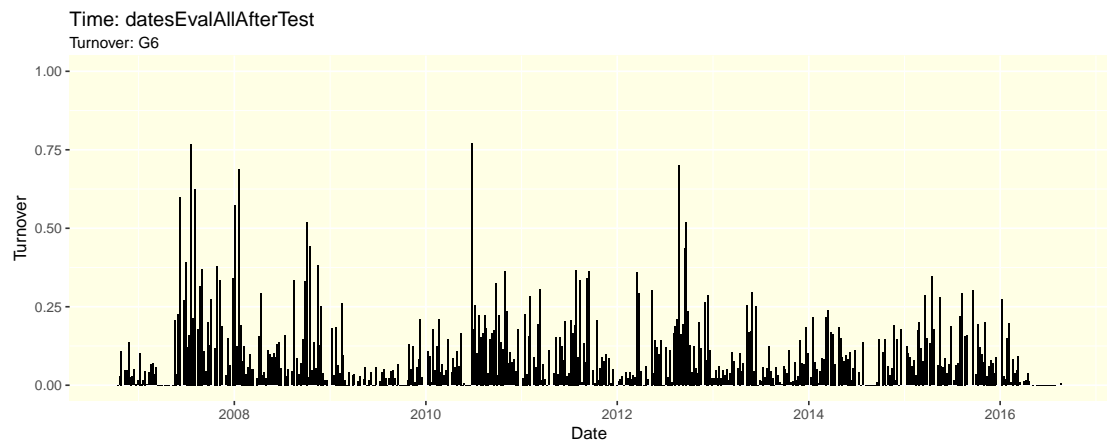
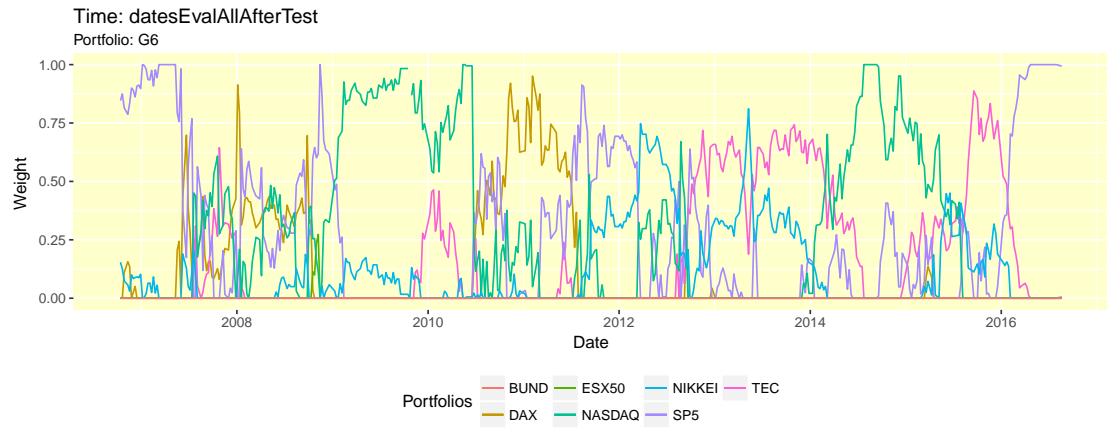
4 Results



4.4 Weights

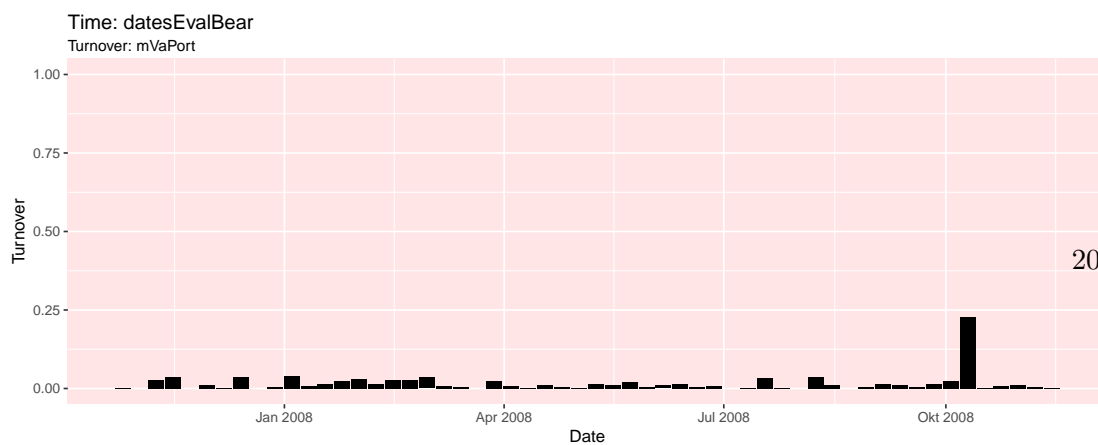
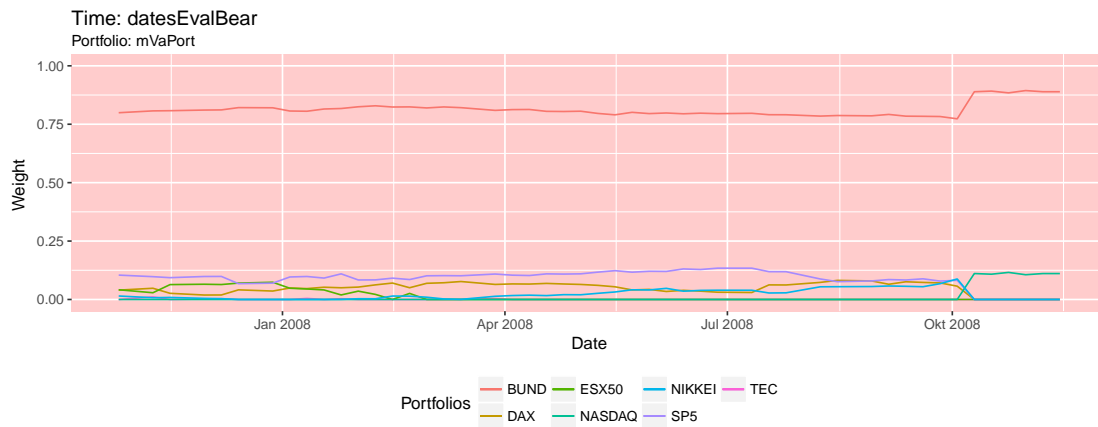
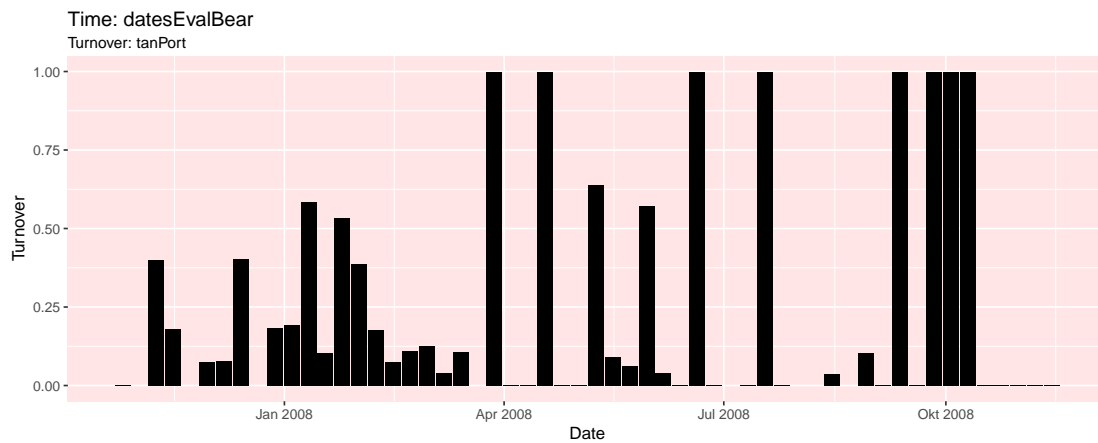
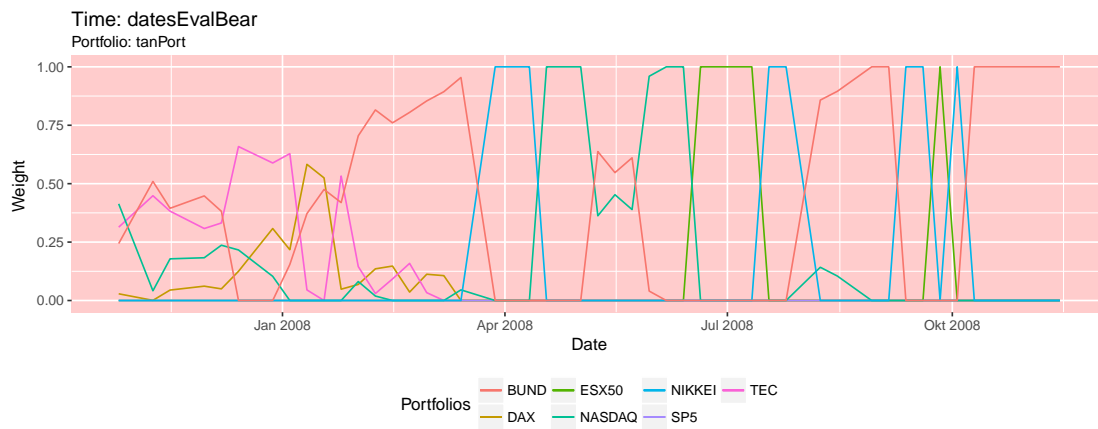


4 Results

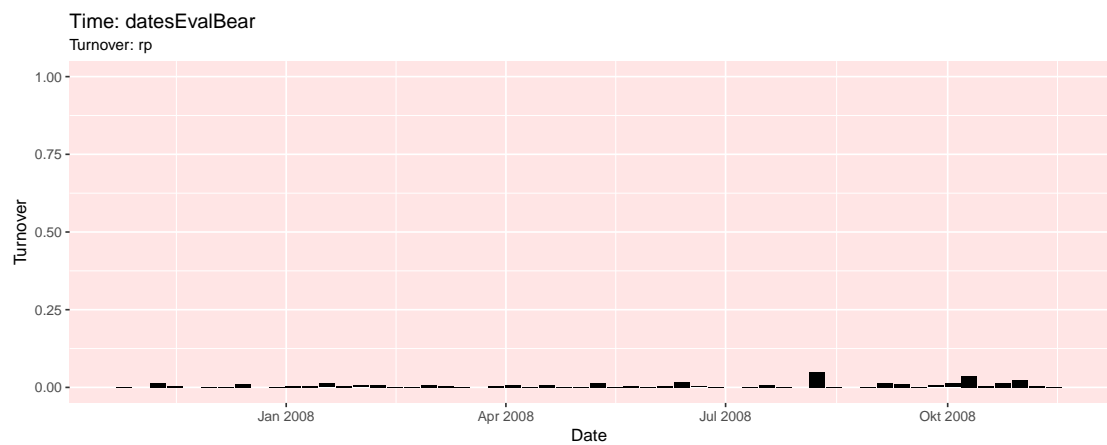
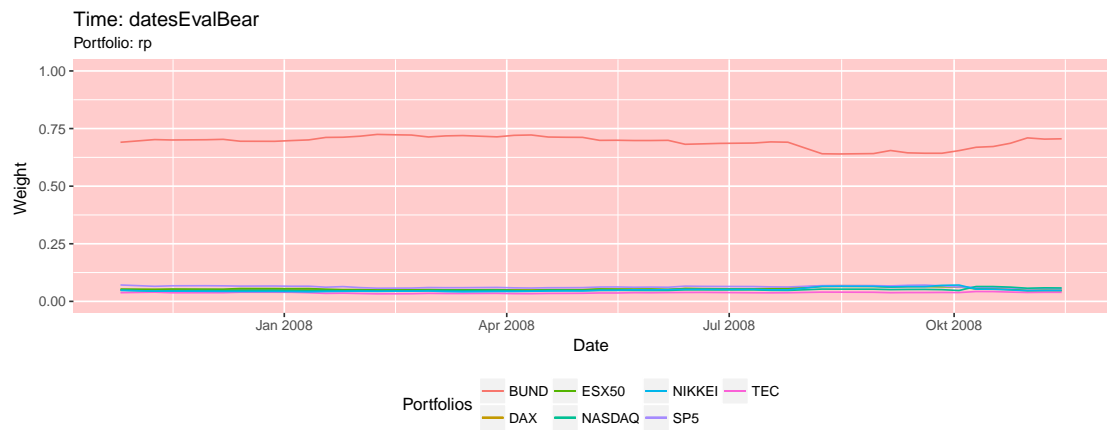


4.4.6 Weights-Classic

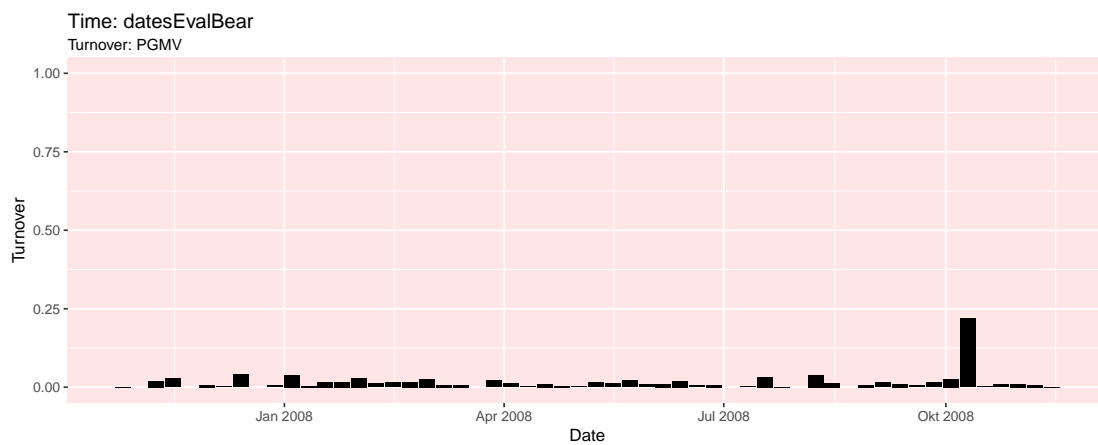
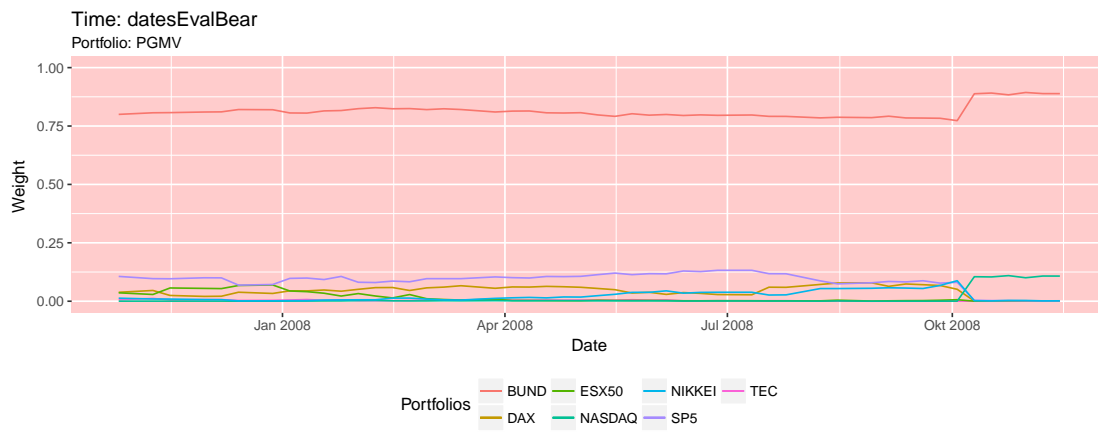
Weights-Classic - datesEvalBear



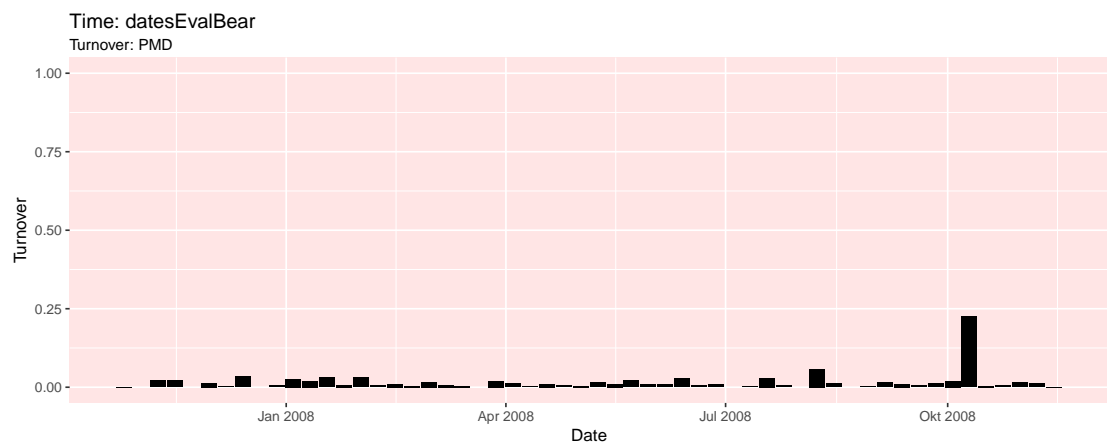
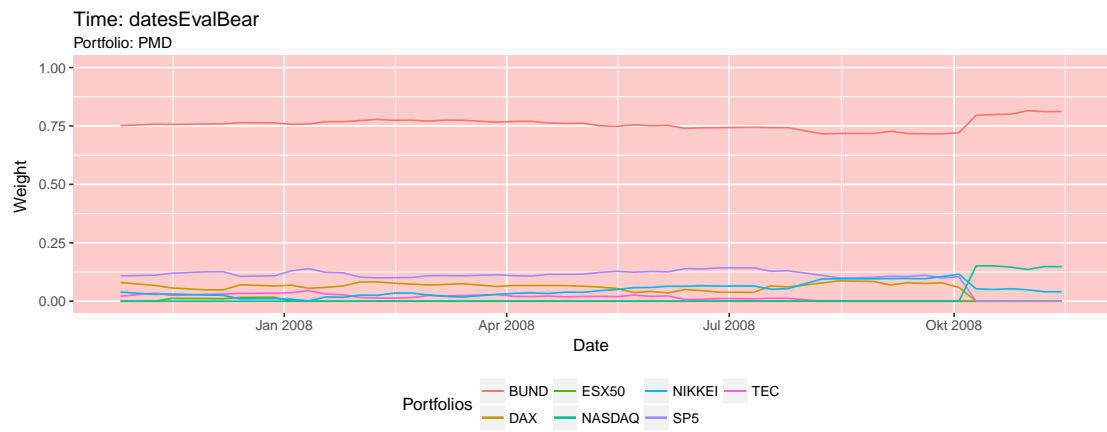
4 Results



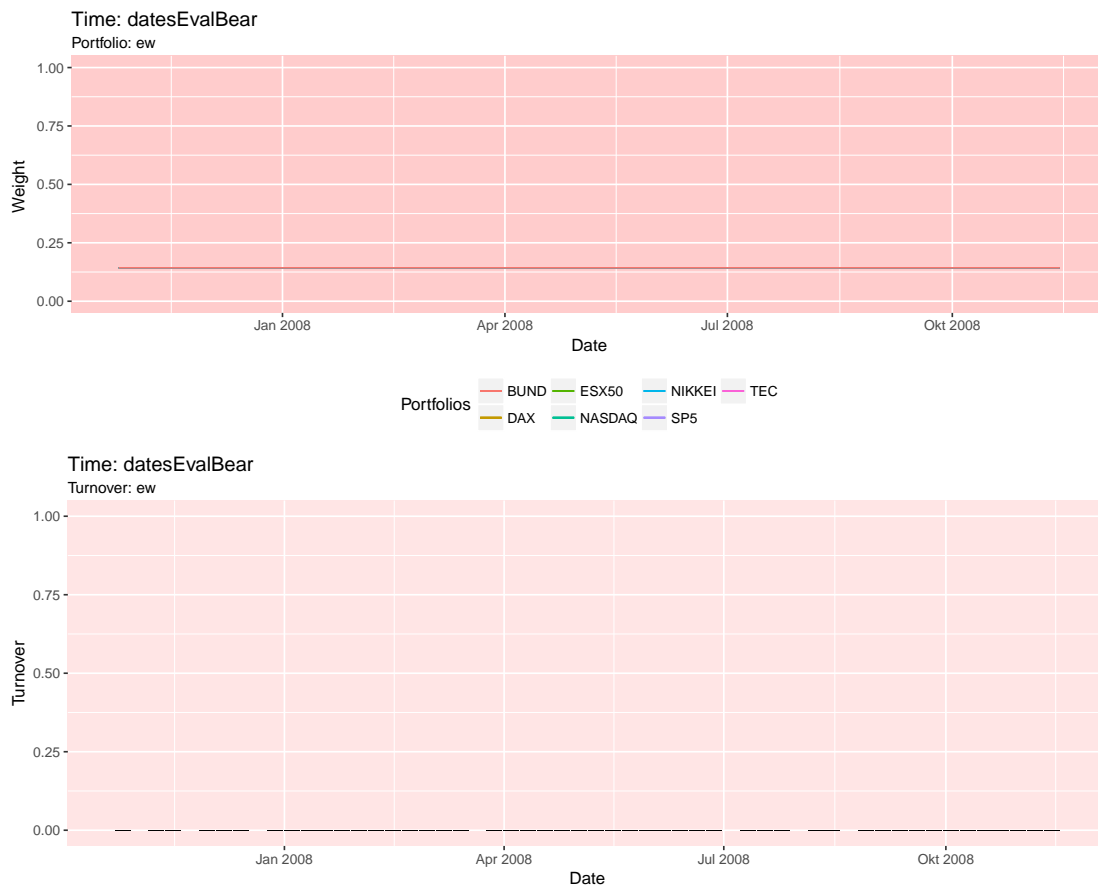
4.4 Weights



4 Results

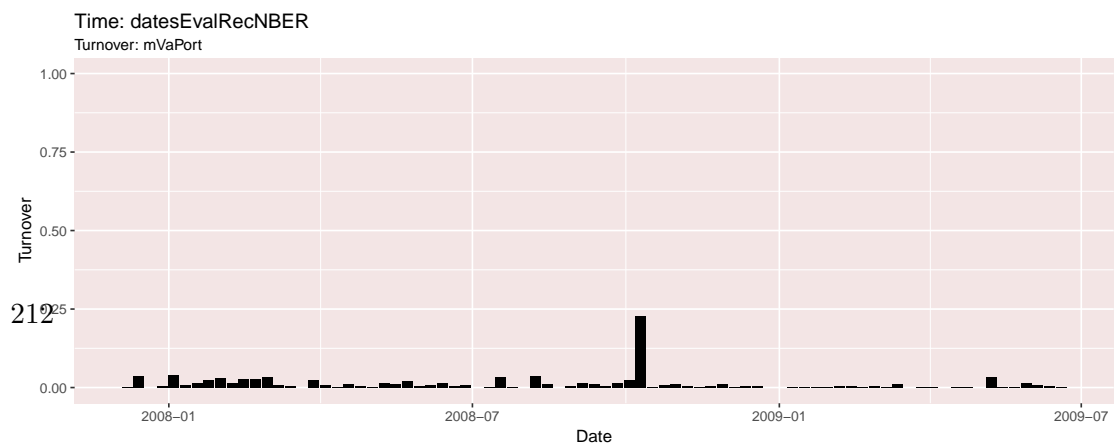
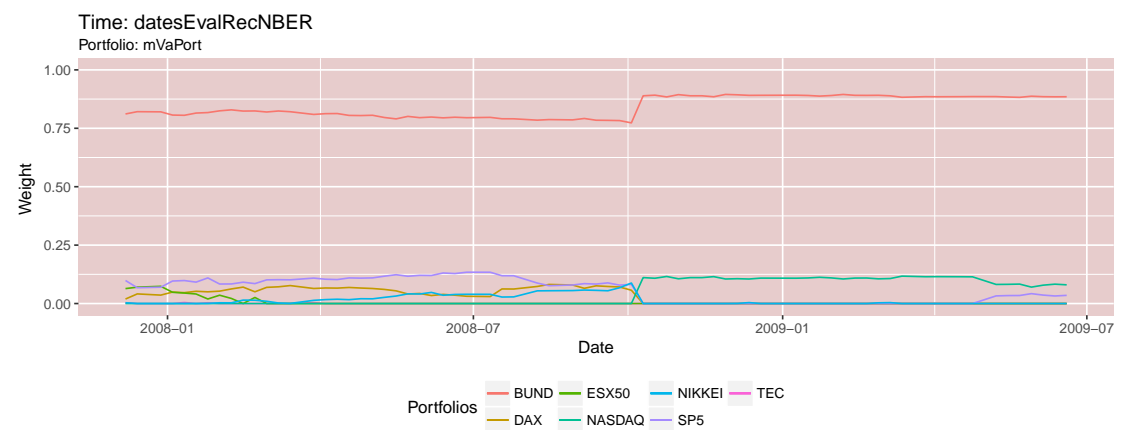
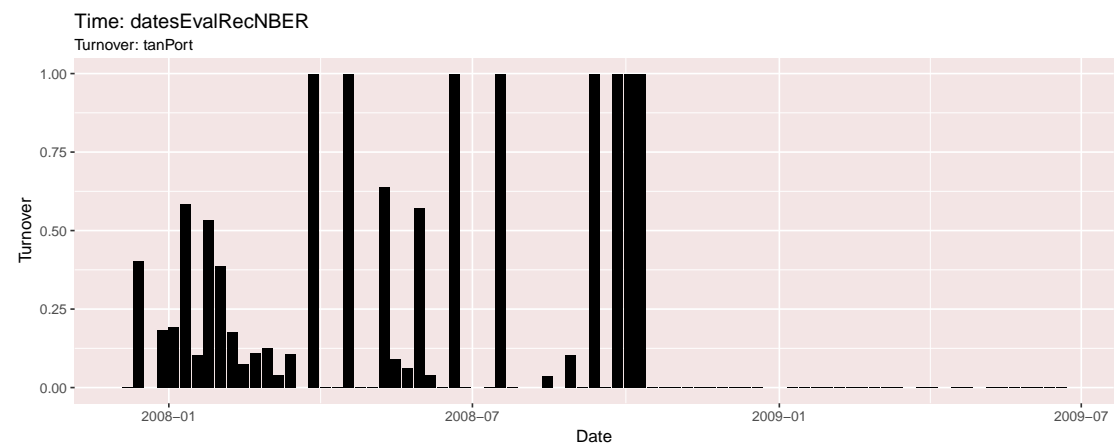
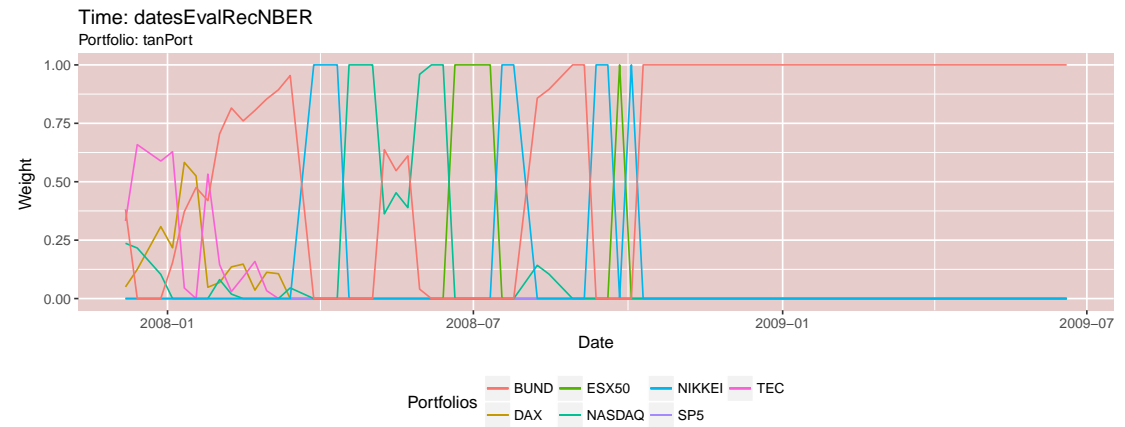


4.4 Weights

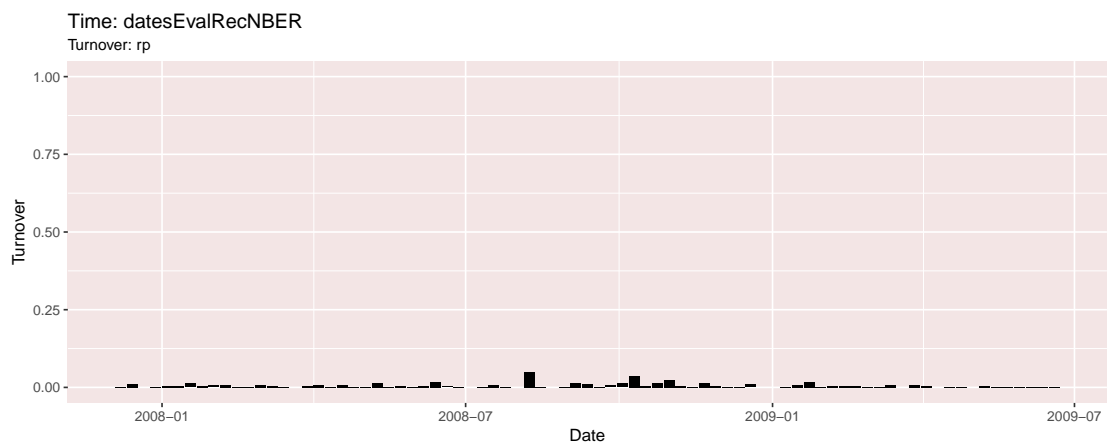
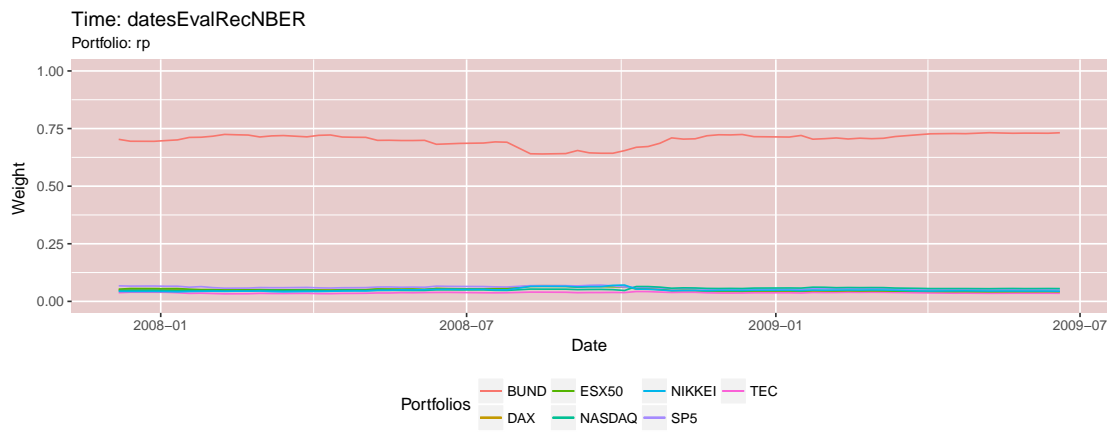


4 Results

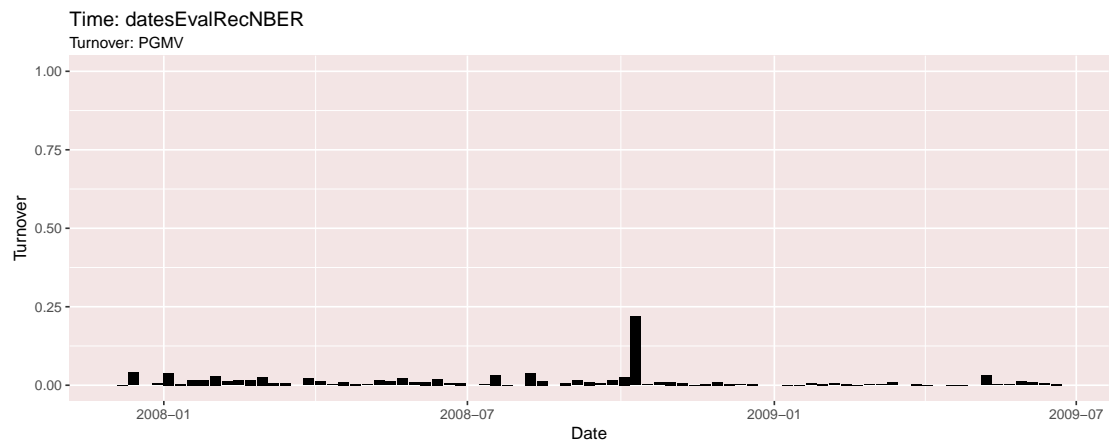
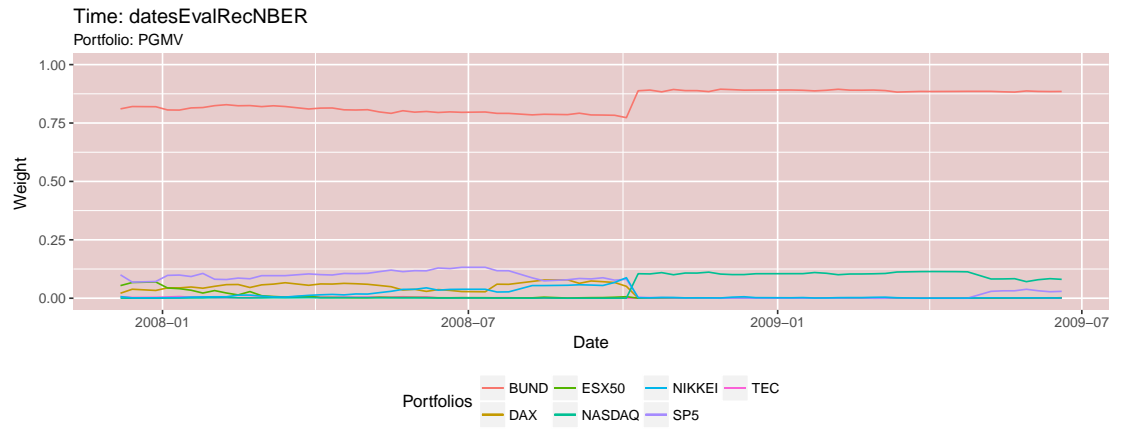
Weights-Classic - datesEvalRecNBER



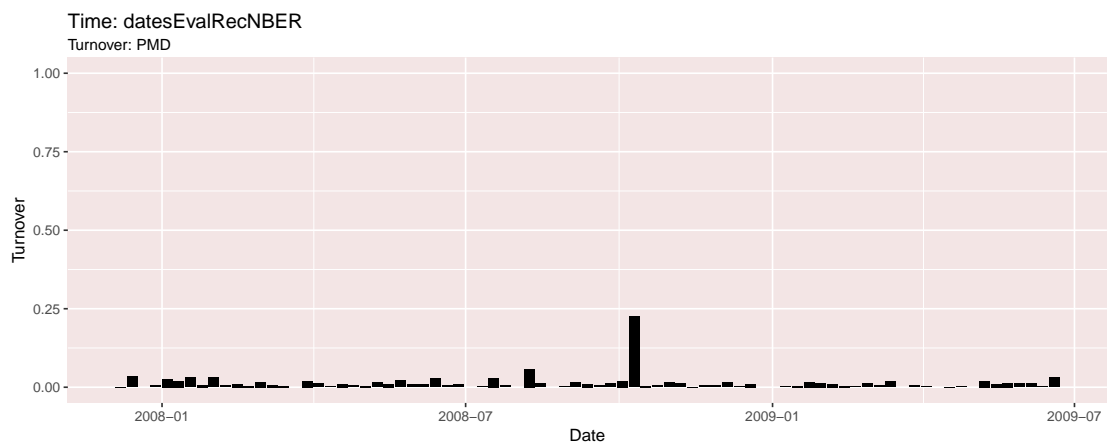
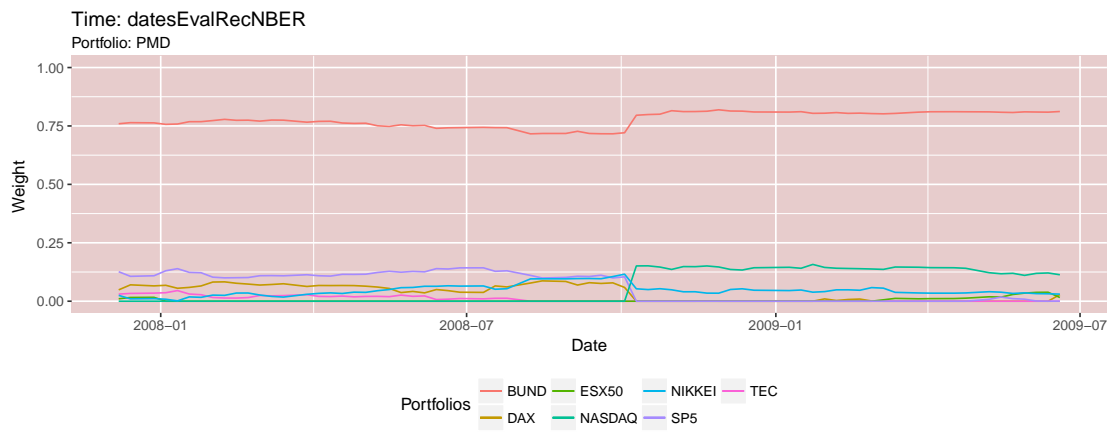
4.4 Weights



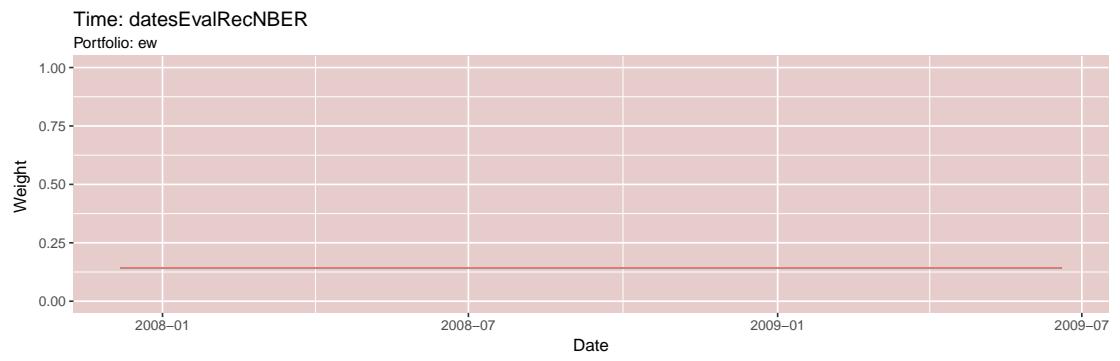
4 Results



4.4 Weights

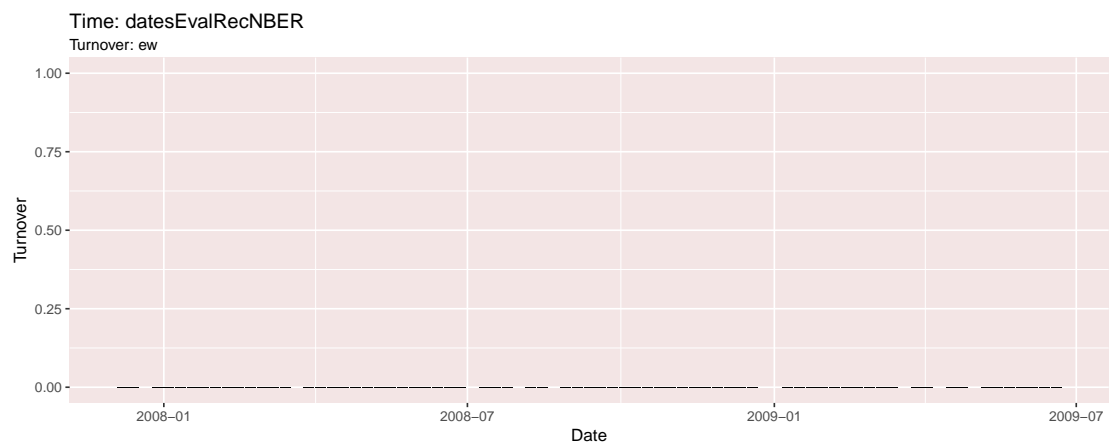


4 Results

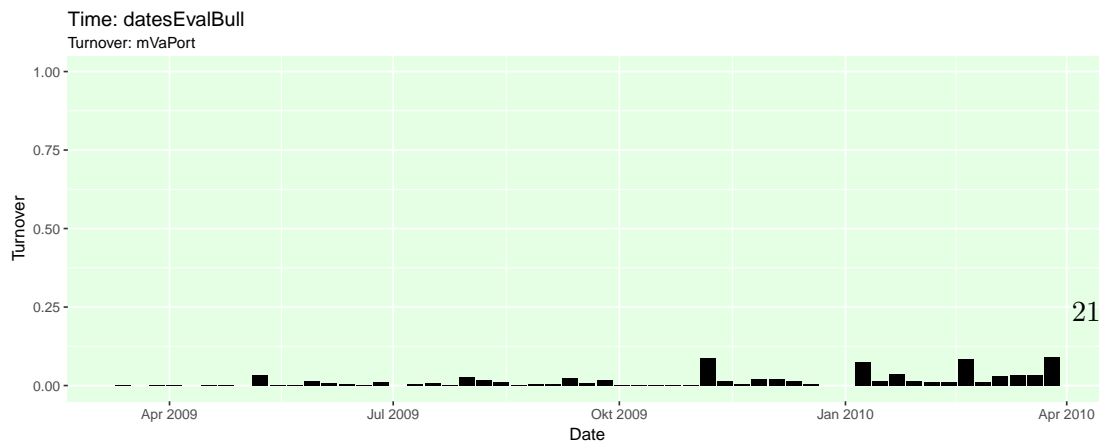
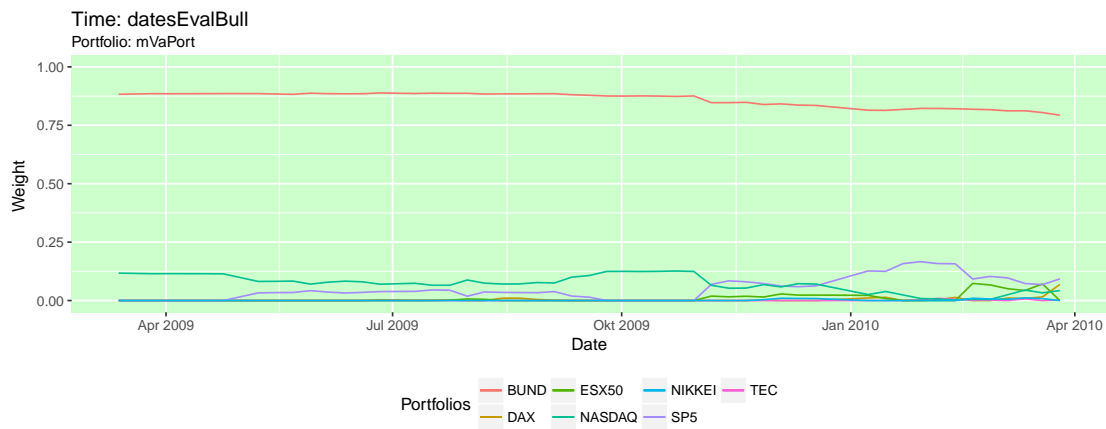
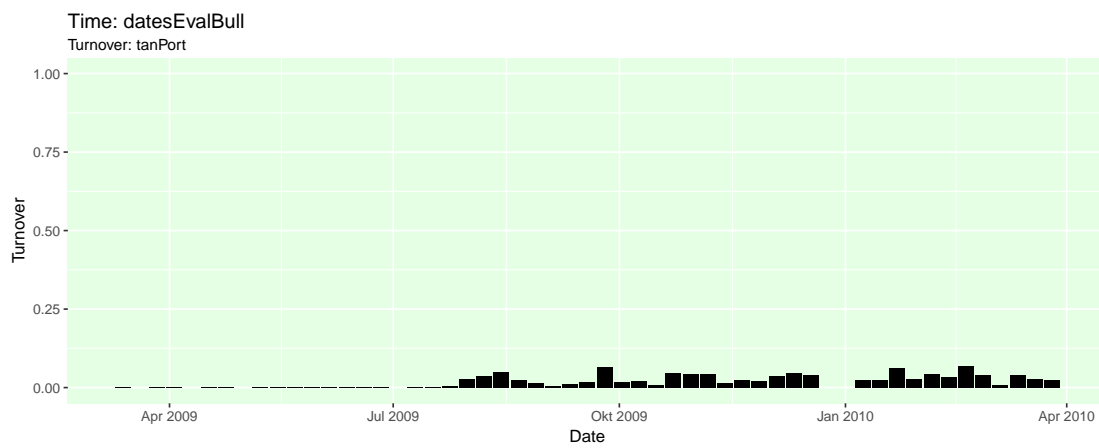
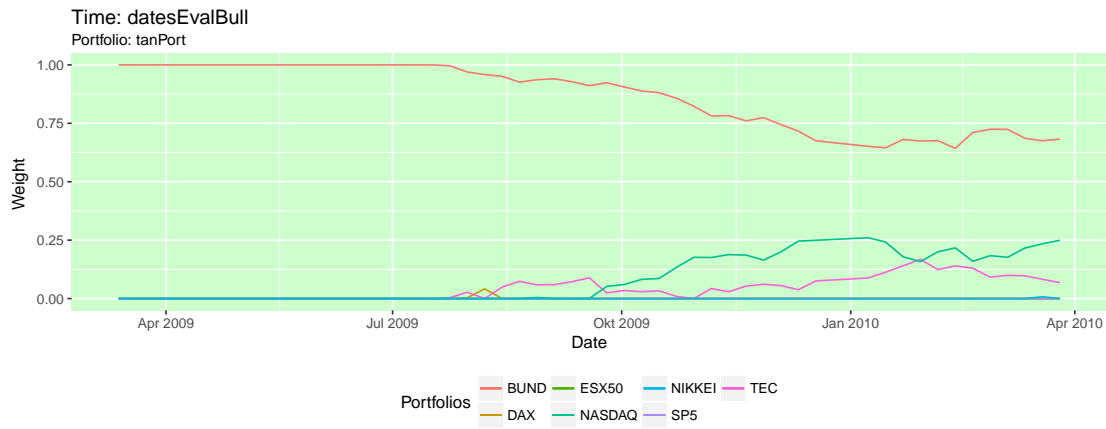


Portfolios

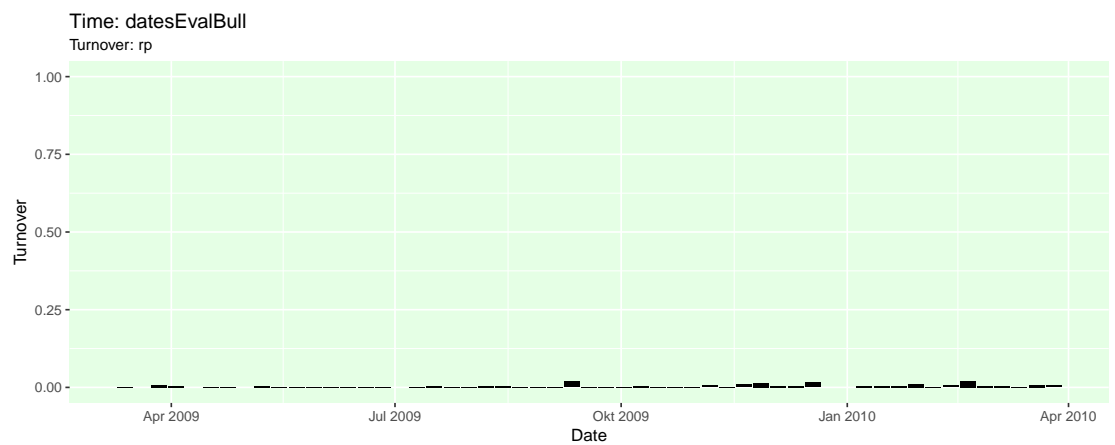
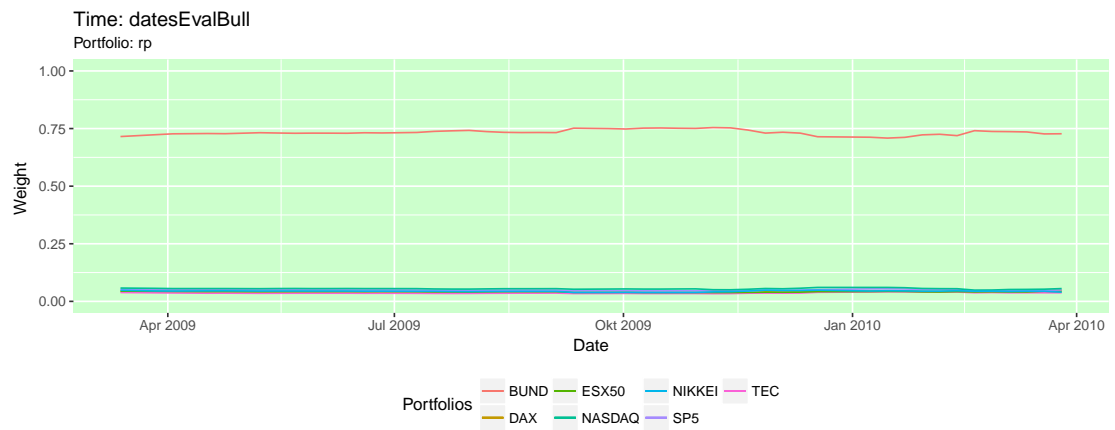
| | | | |
|------|--------|--------|-----|
| BUND | ESX50 | NIKKEI | TEC |
| DAX | NASDAQ | SP5 | |



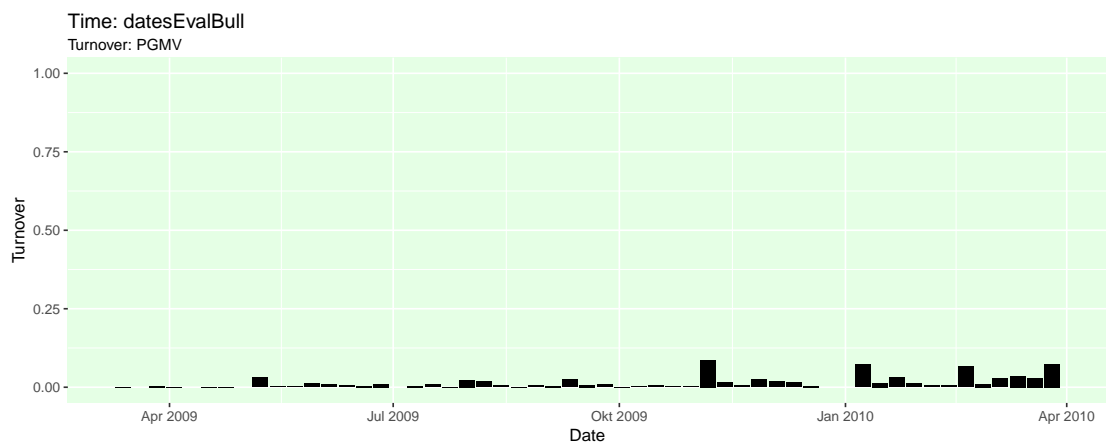
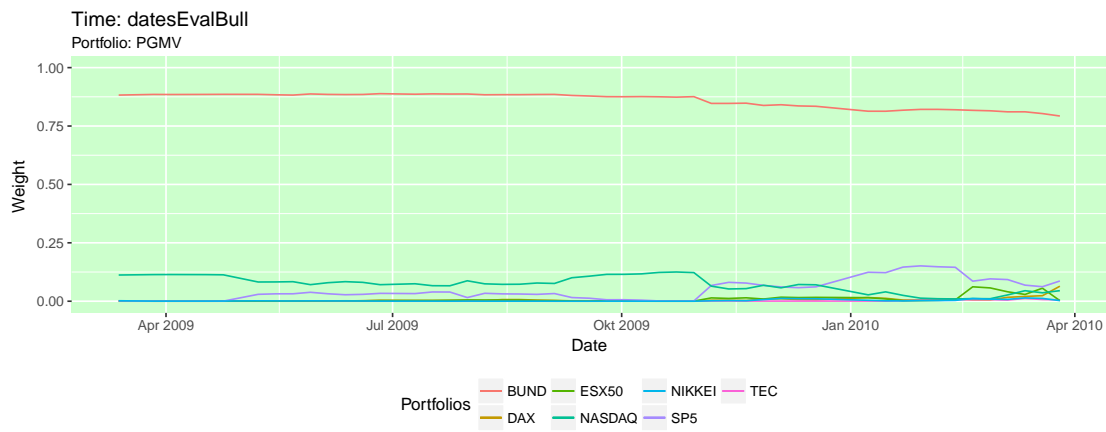
Weights-Classic - datesEvalBull



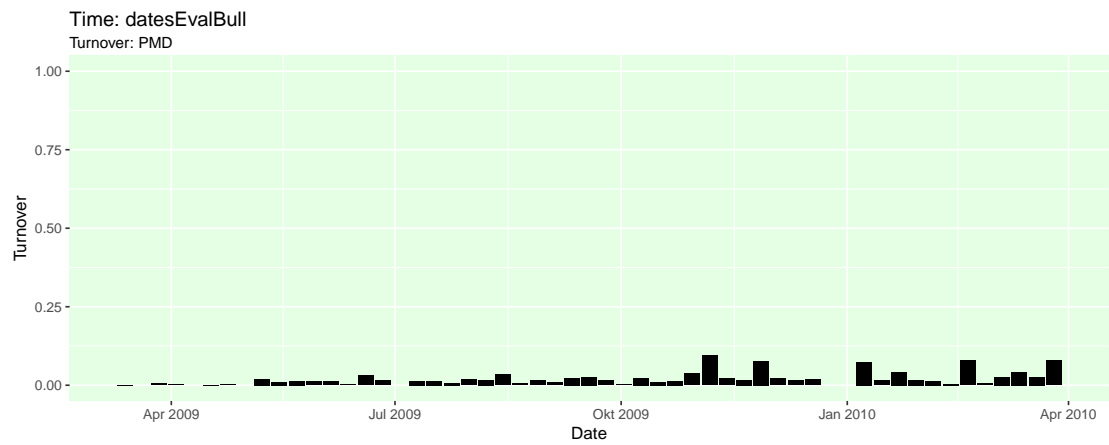
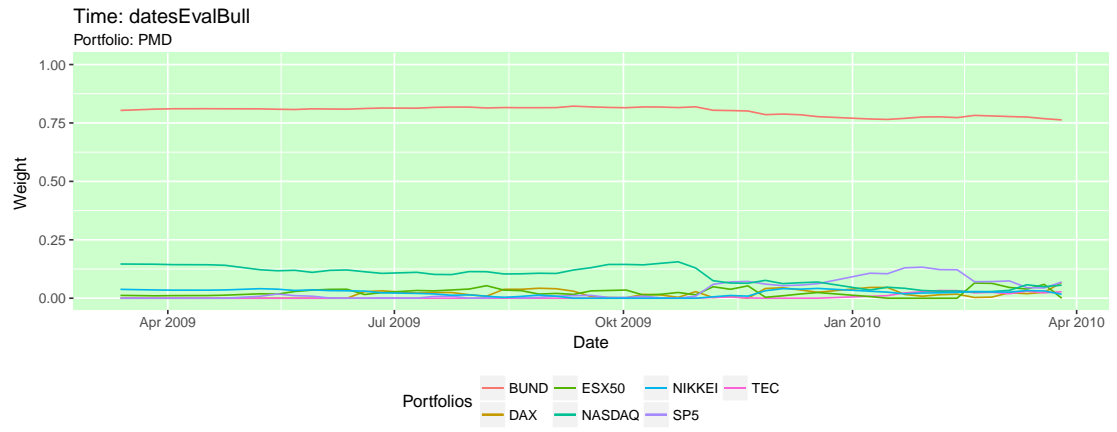
4 Results



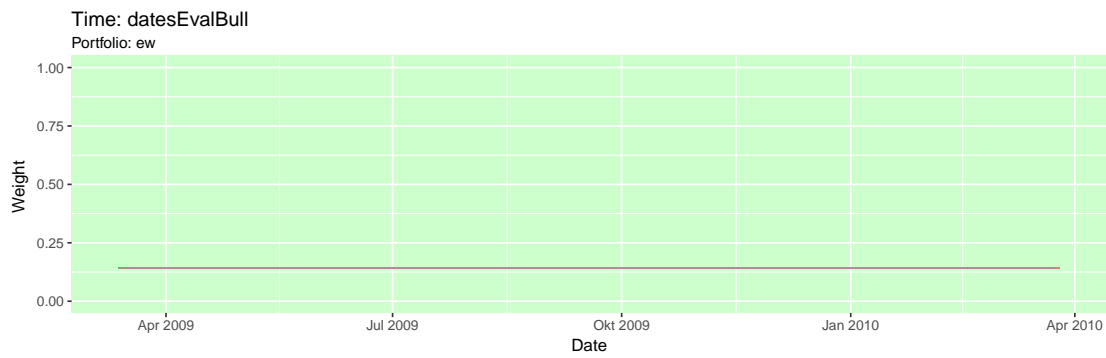
4.4 Weights



4 Results

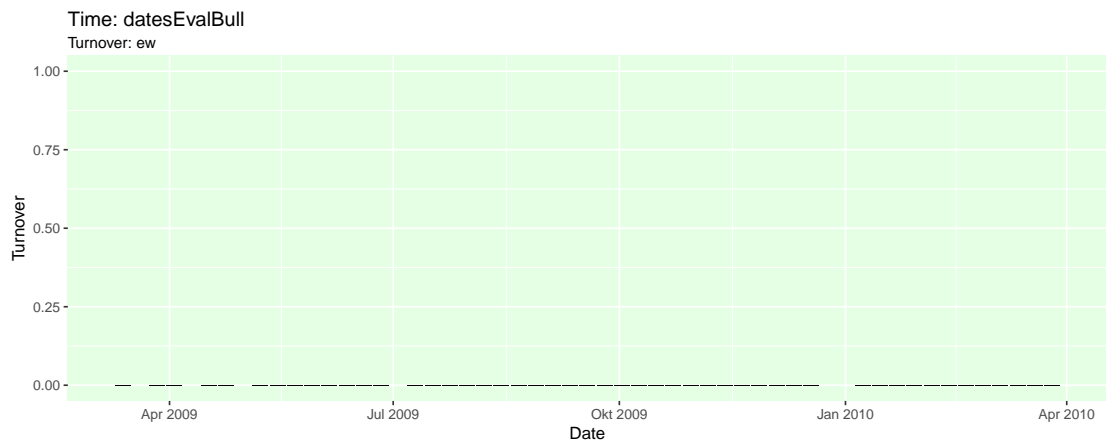


4.4 Weights



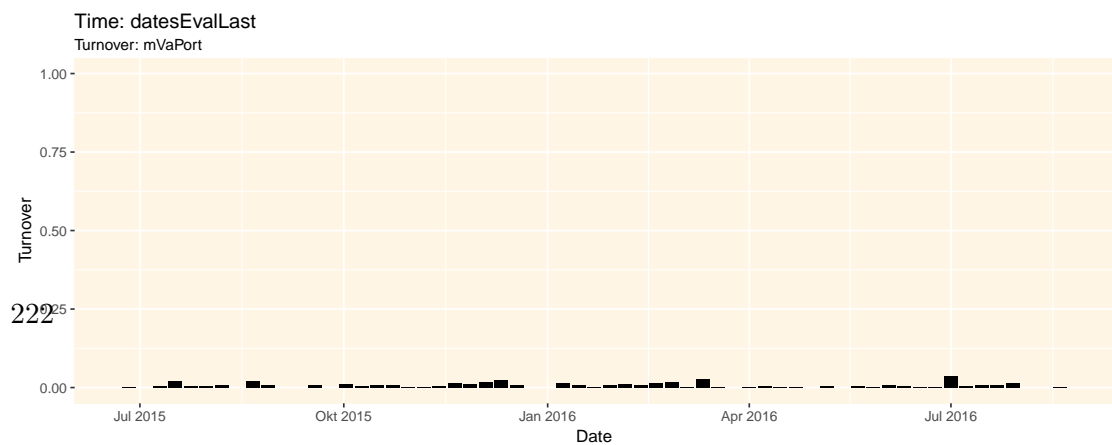
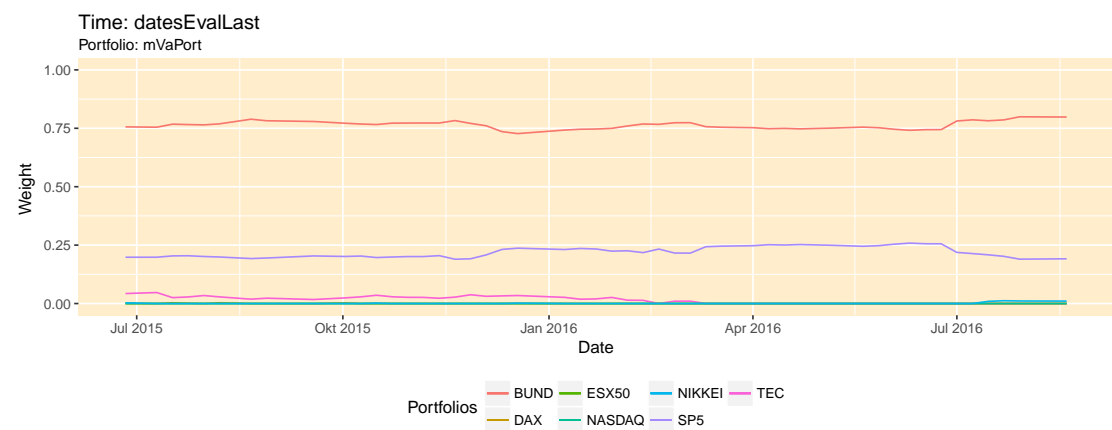
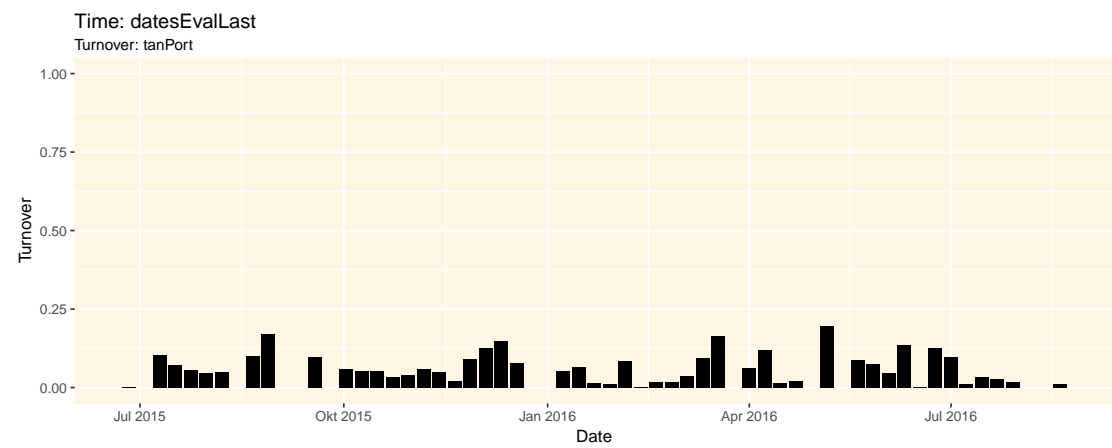
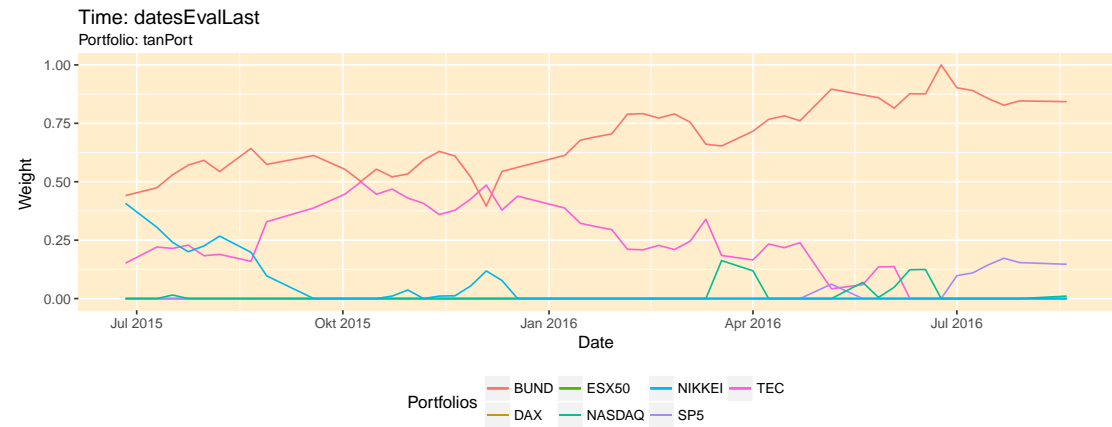
Portfolios

| | | | |
|------|--------|--------|-----|
| BUND | ESX50 | NIKKEI | TEC |
| DAX | NASDAQ | SP5 | |

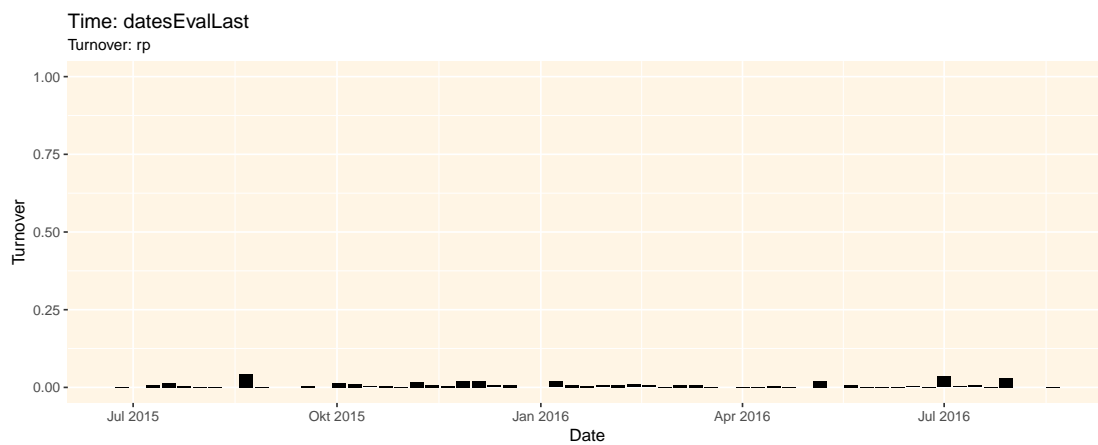
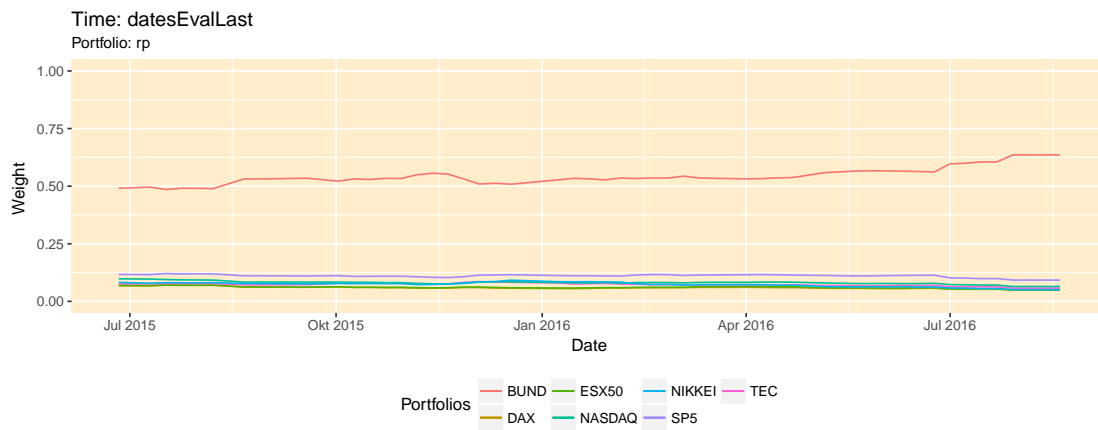


4 Results

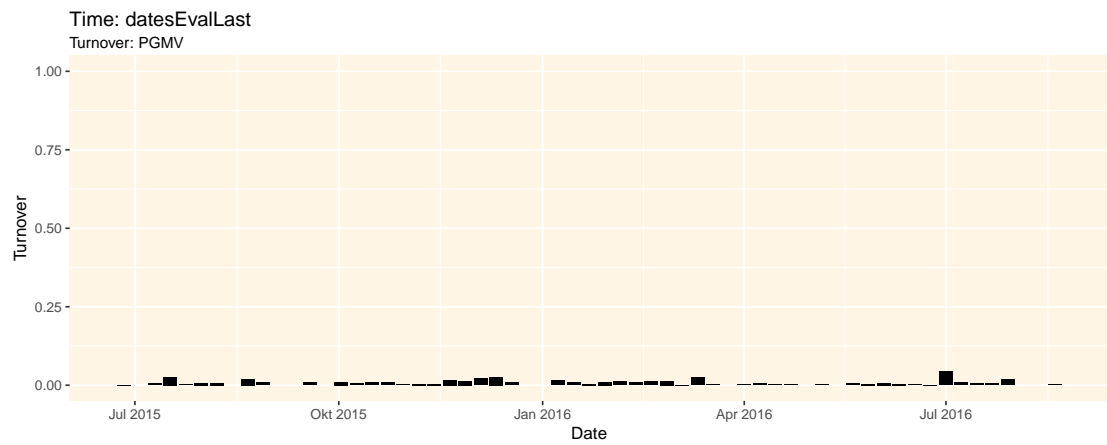
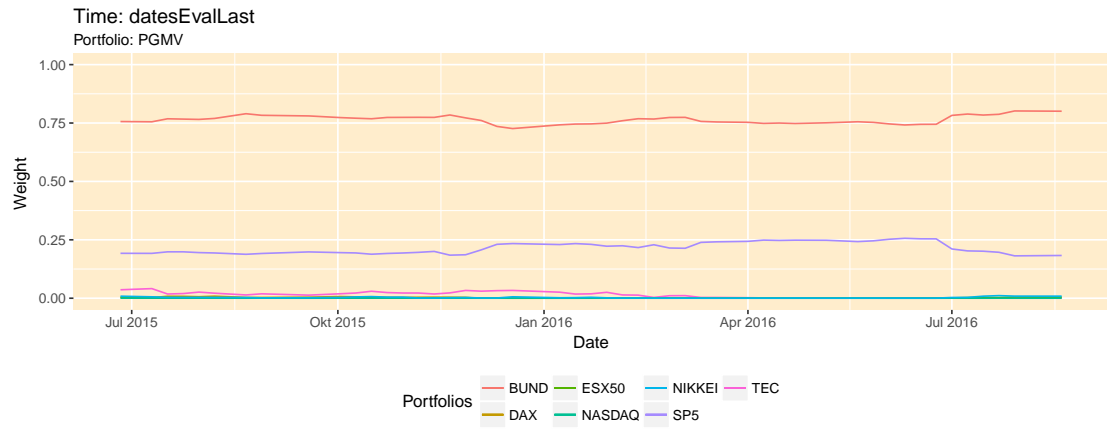
Weights-Classic - datesEvalLast



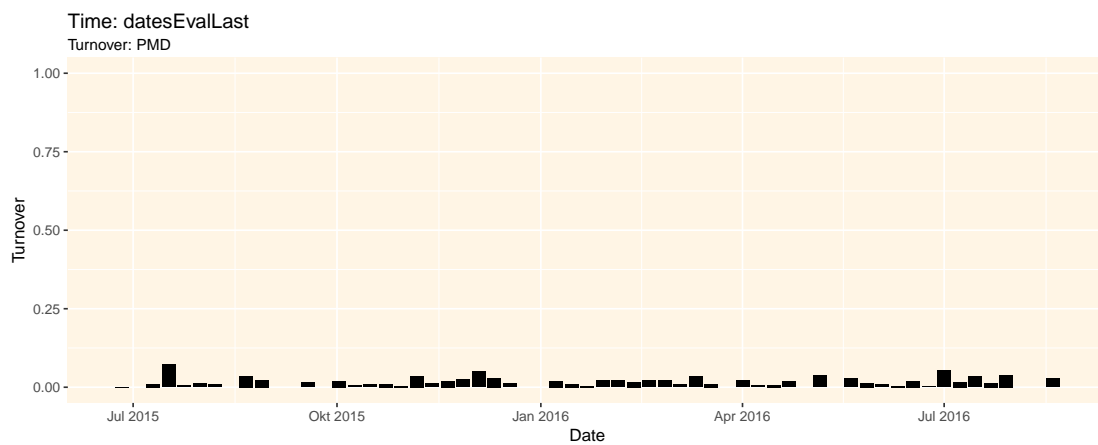
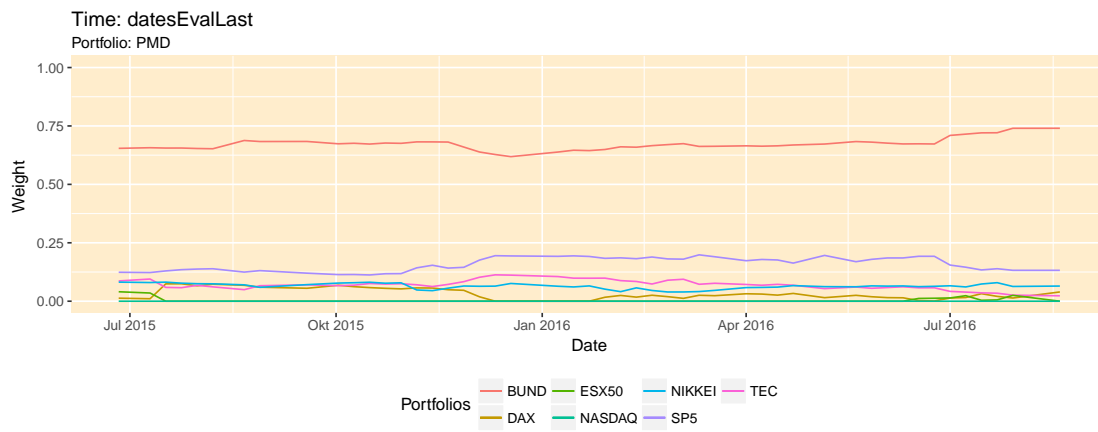
4.4 Weights



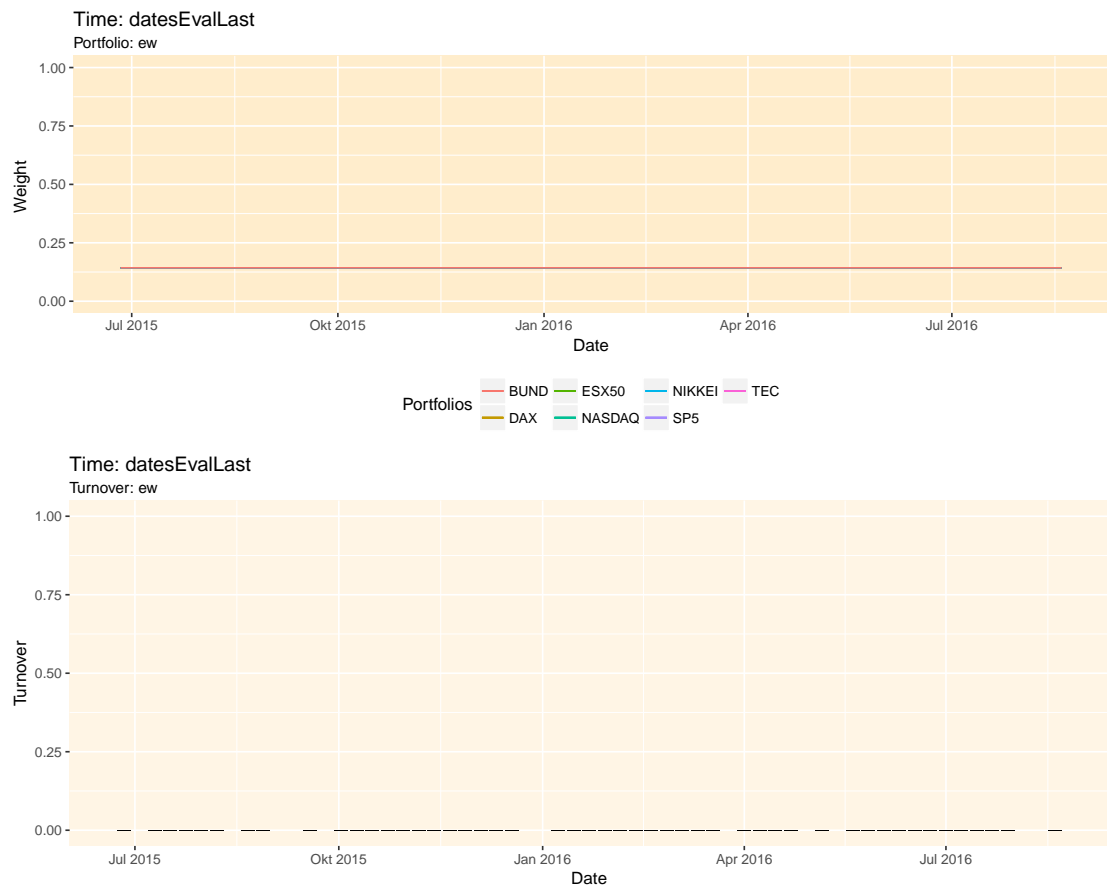
4 Results



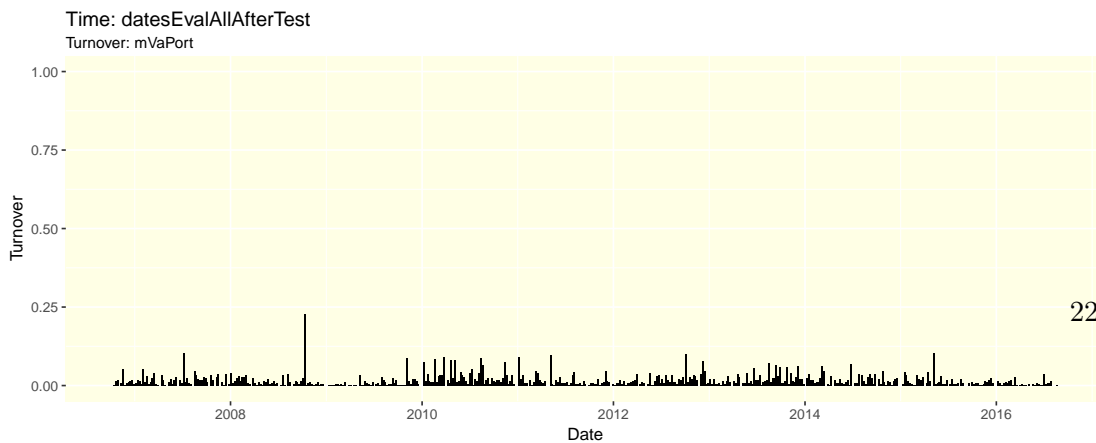
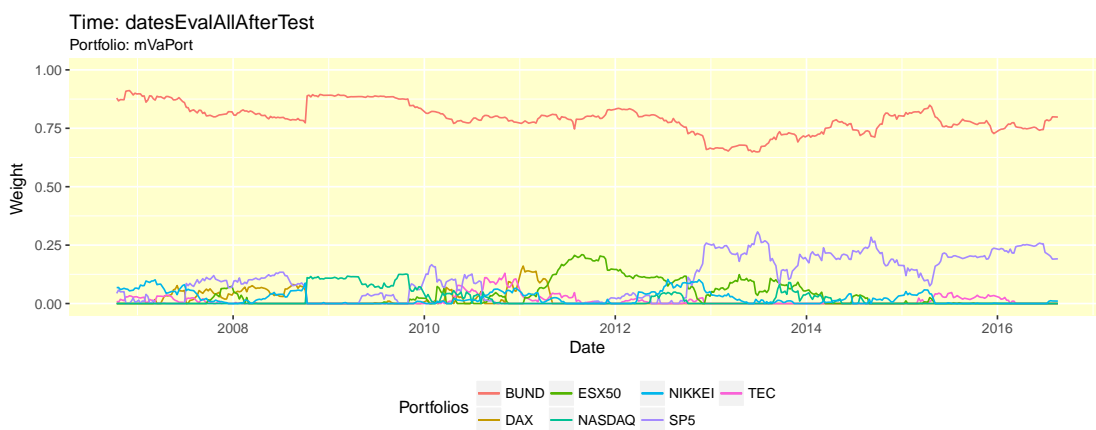
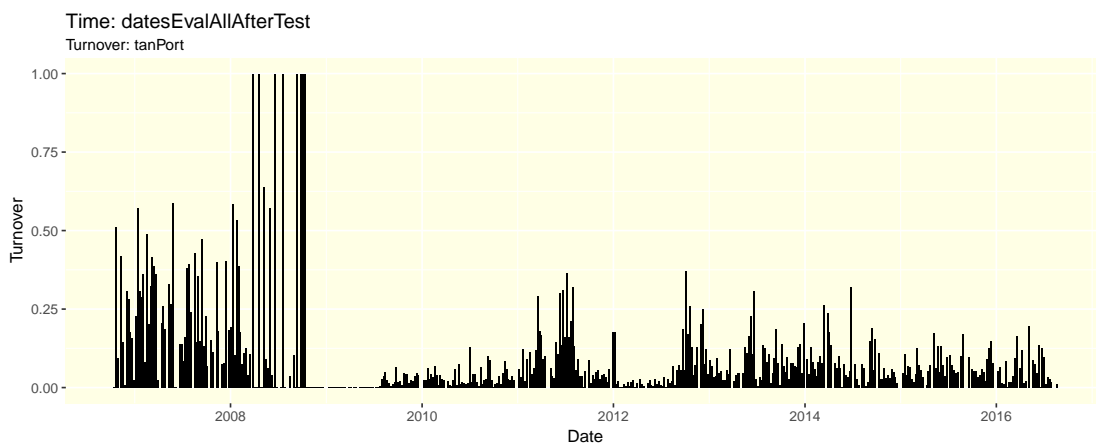
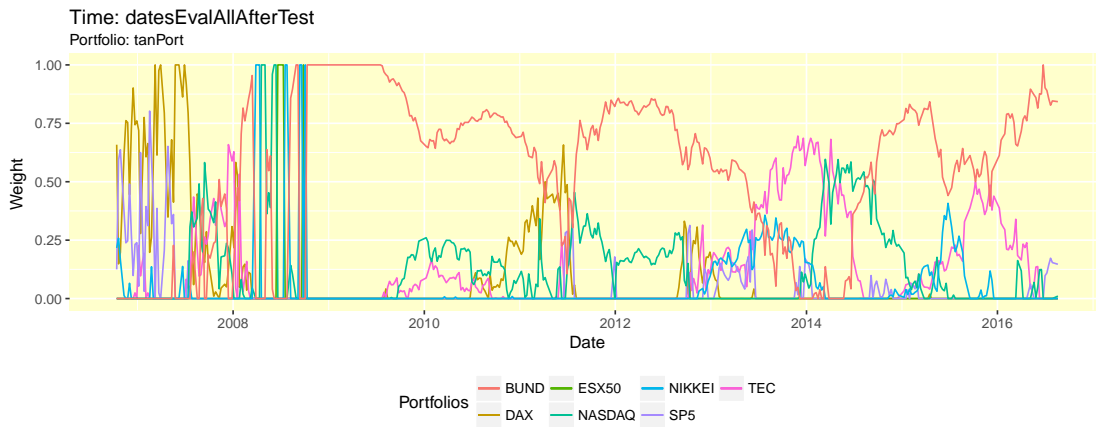
4.4 Weights



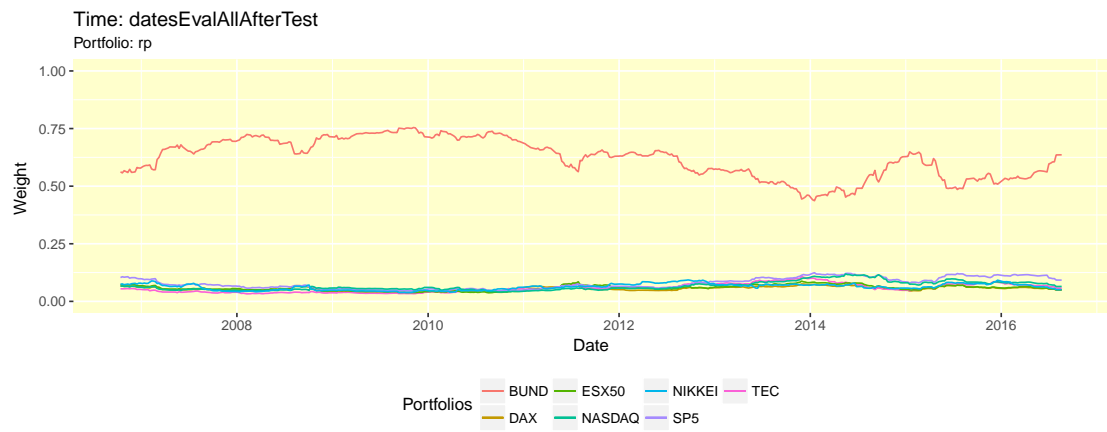
4 Results



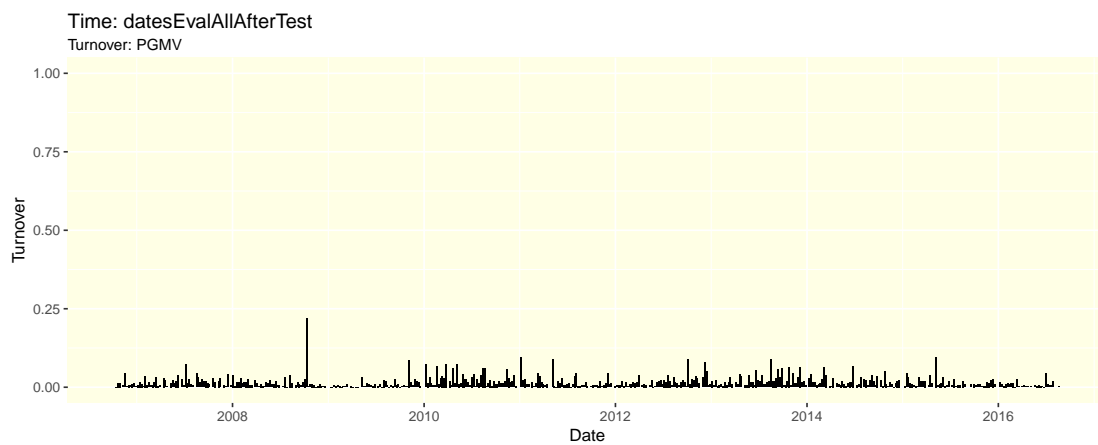
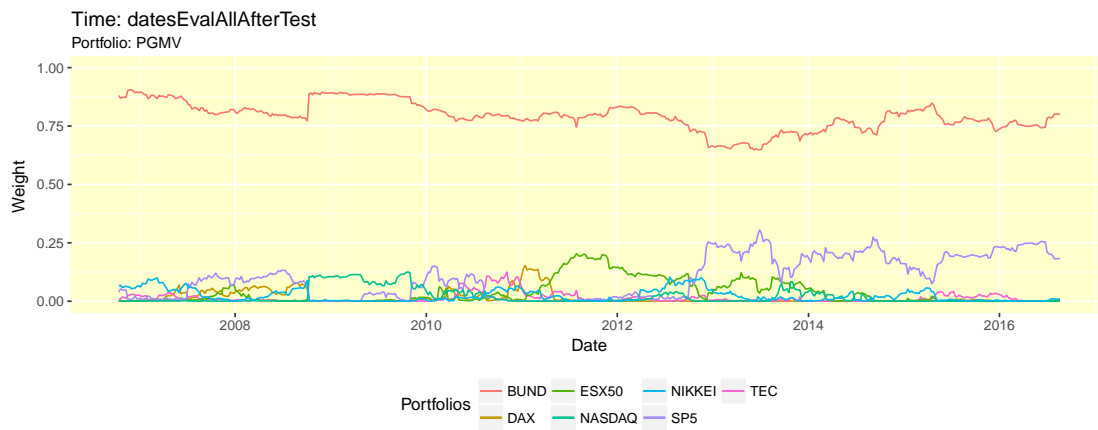
Weights-Classic - datesEvalAllAfterTest



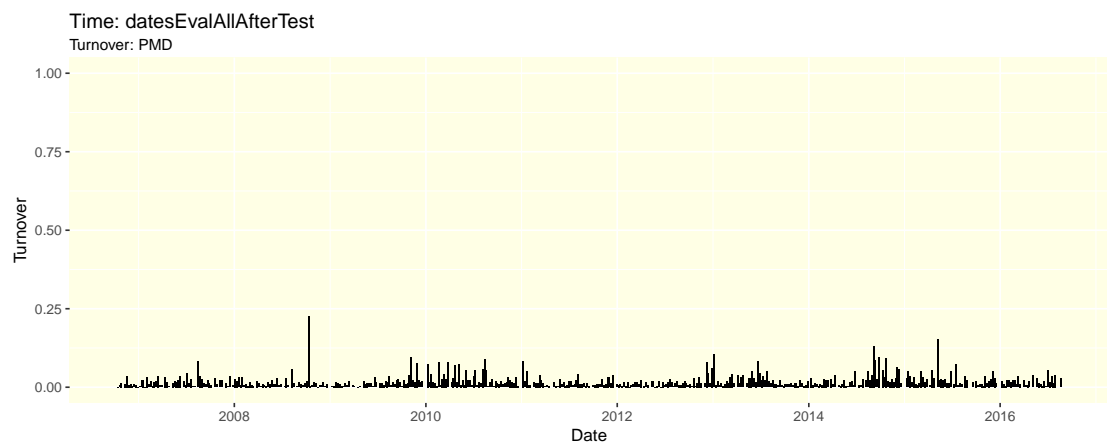
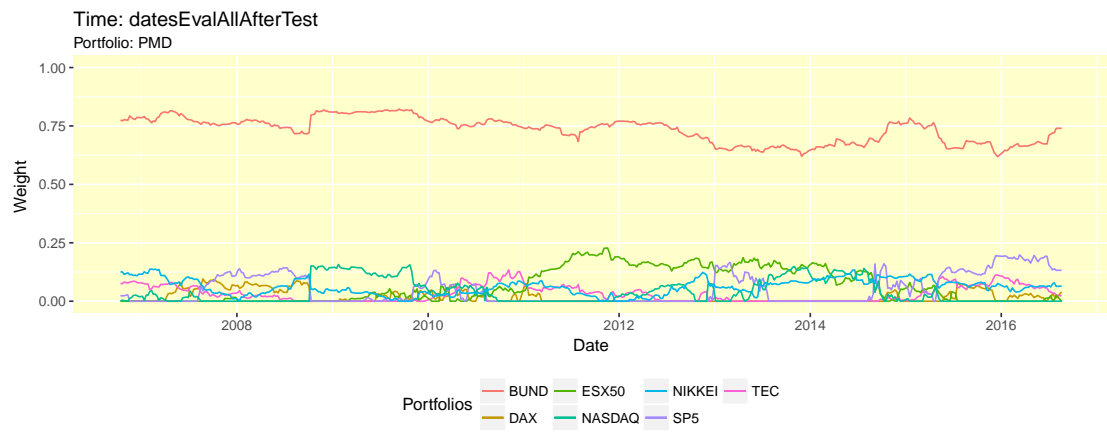
4 Results



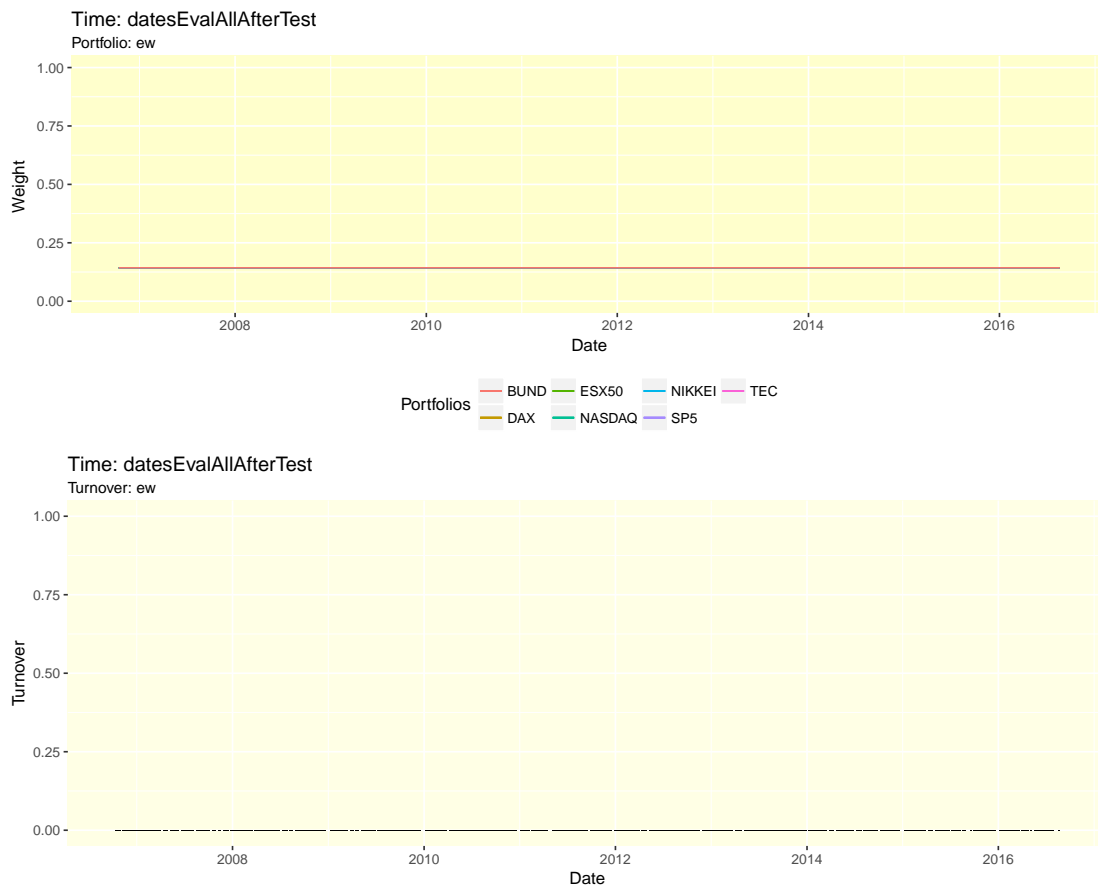
4.4 Weights



4 Results



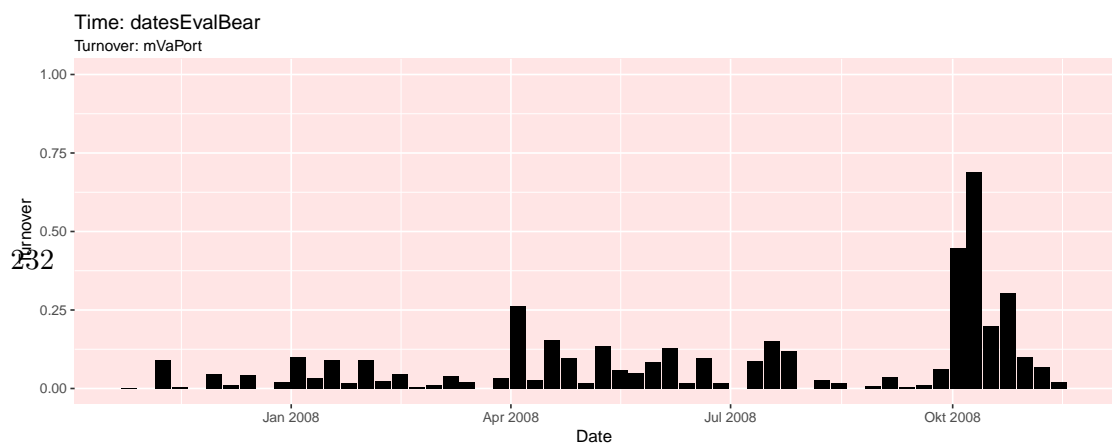
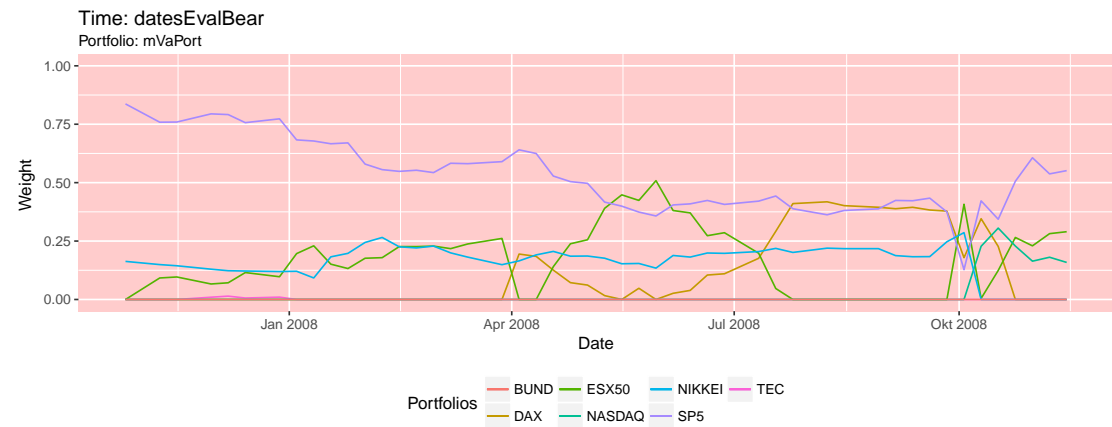
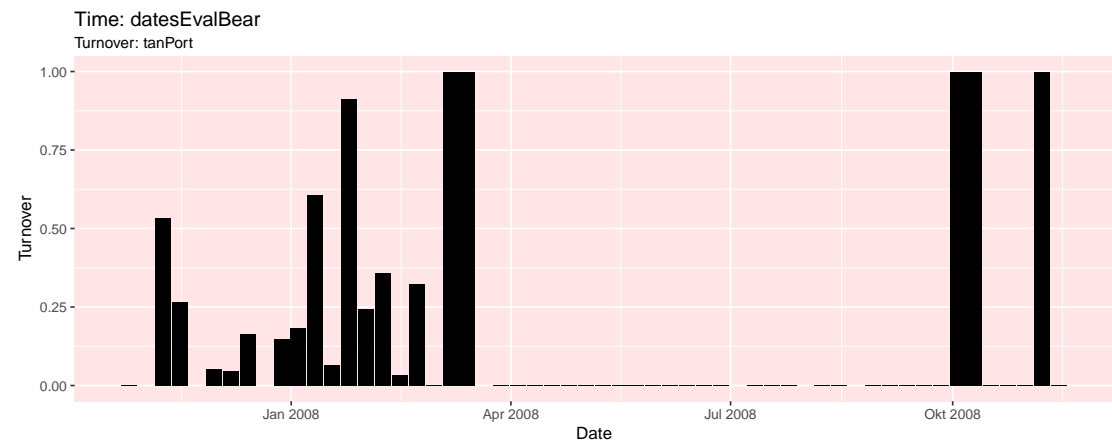
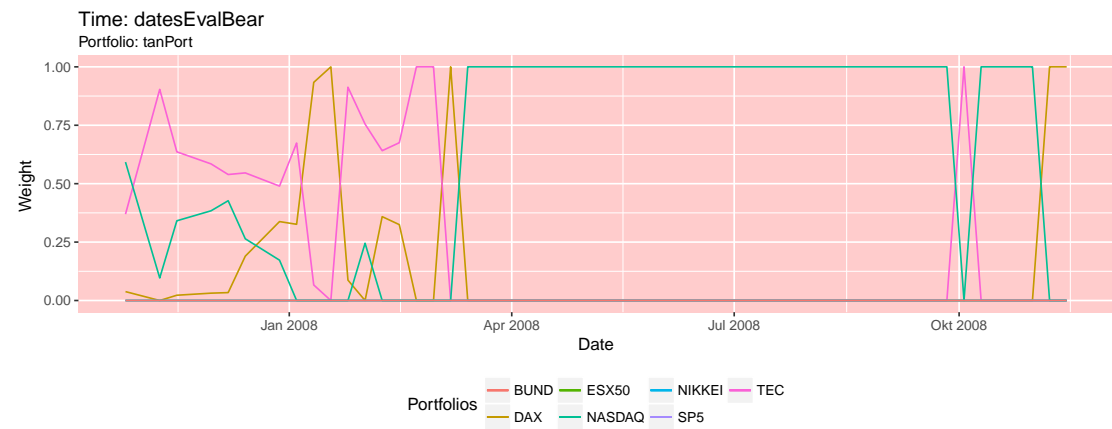
4.4 Weights



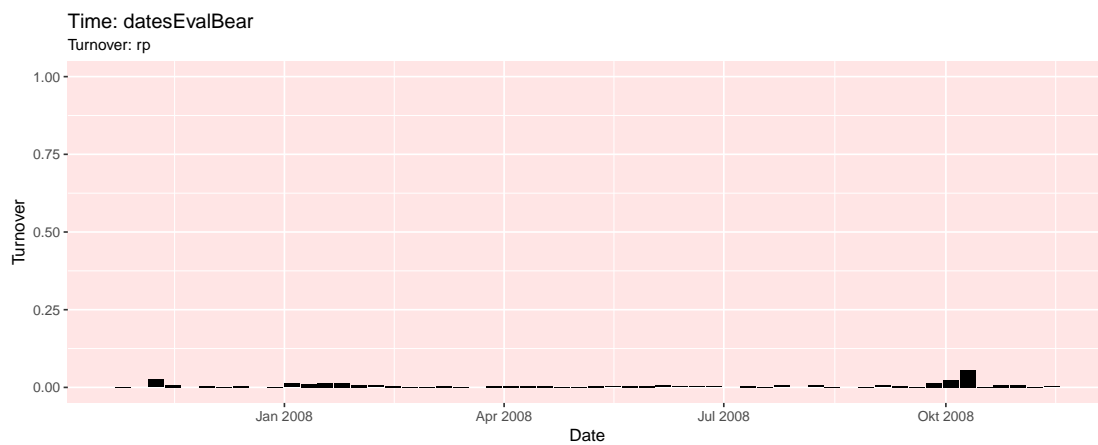
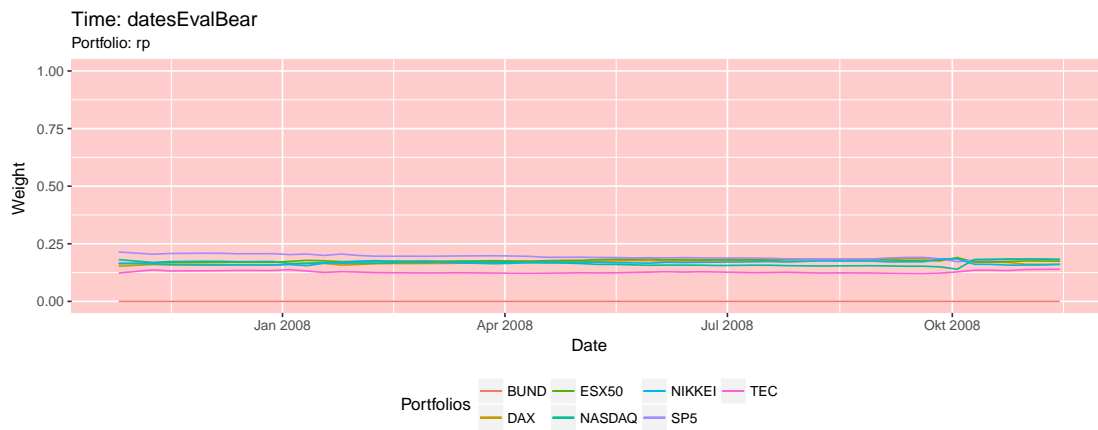
4 Results

4.4.7 Weights-Classic-No-Risk-Free

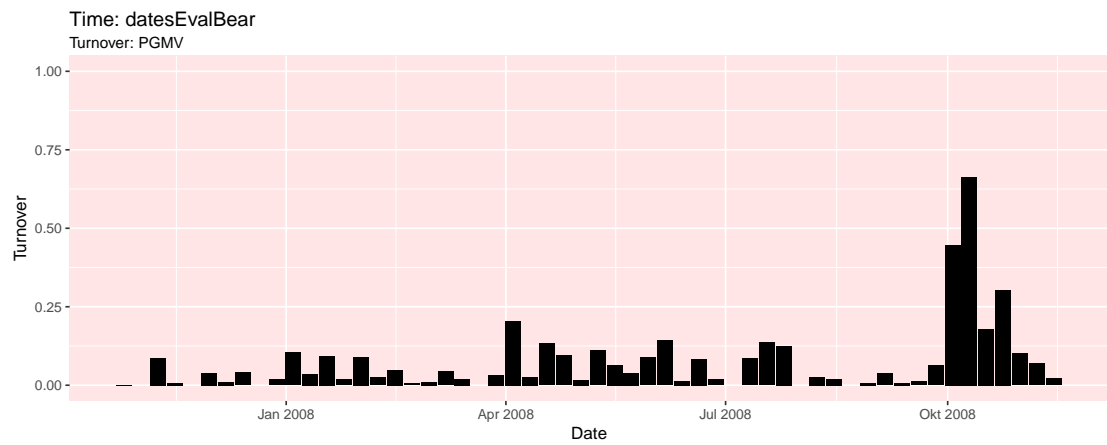
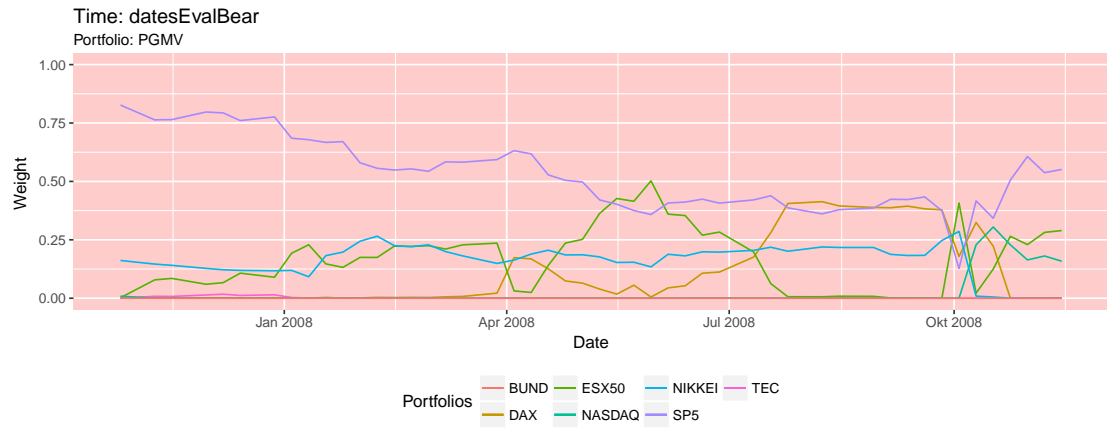
Weights-Classic-No-Risk-Free - datesEvalBear



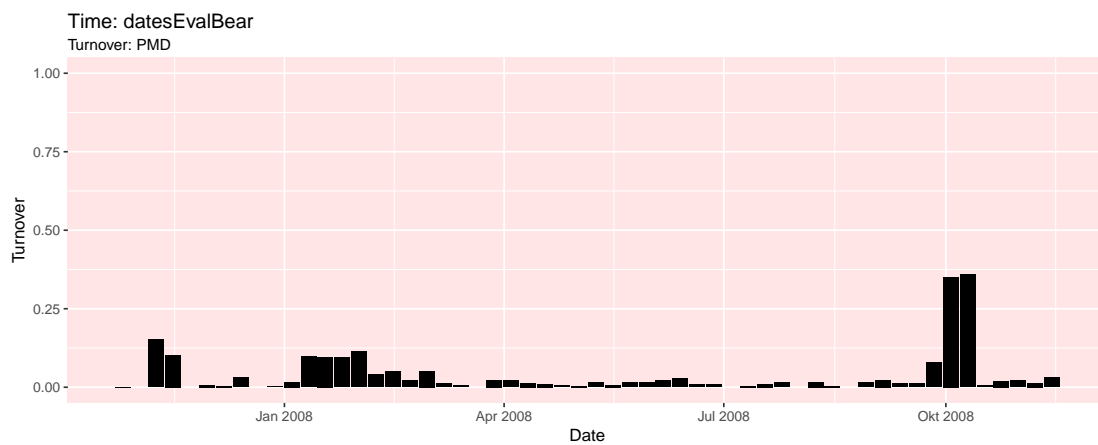
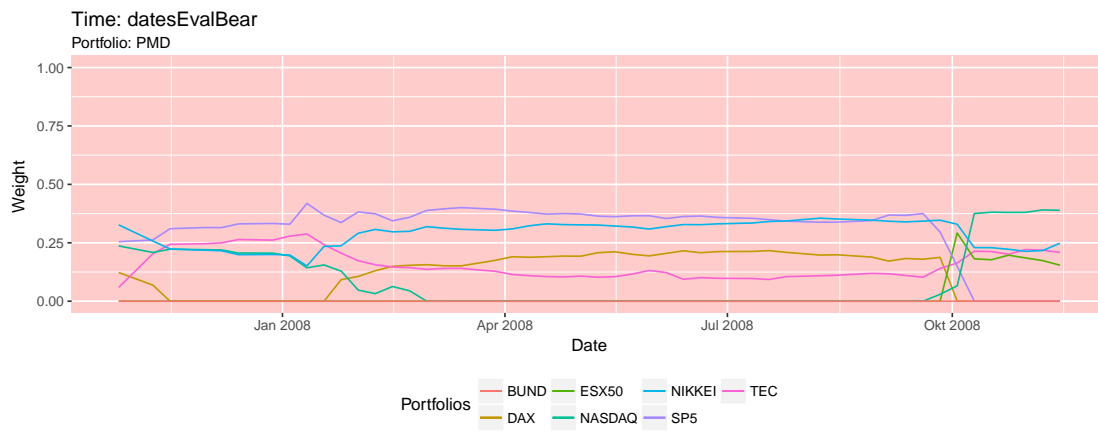
4.4 Weights



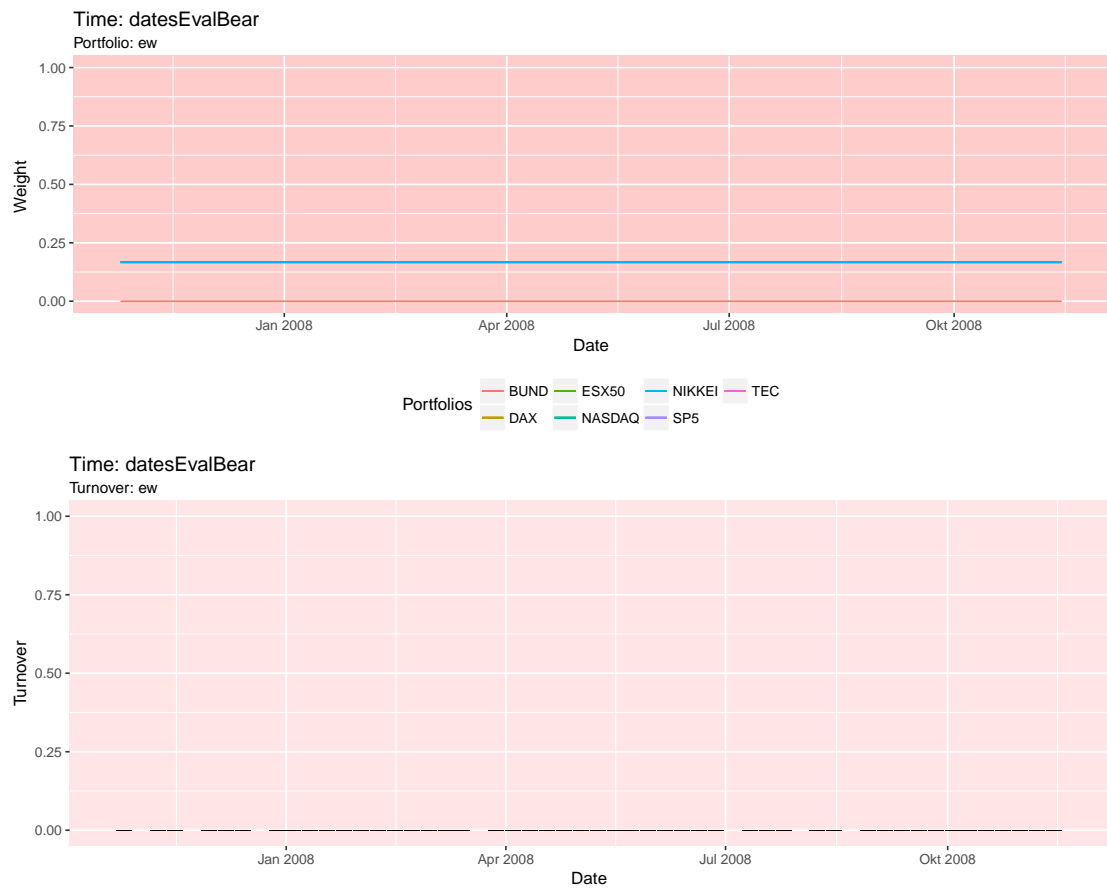
4 Results



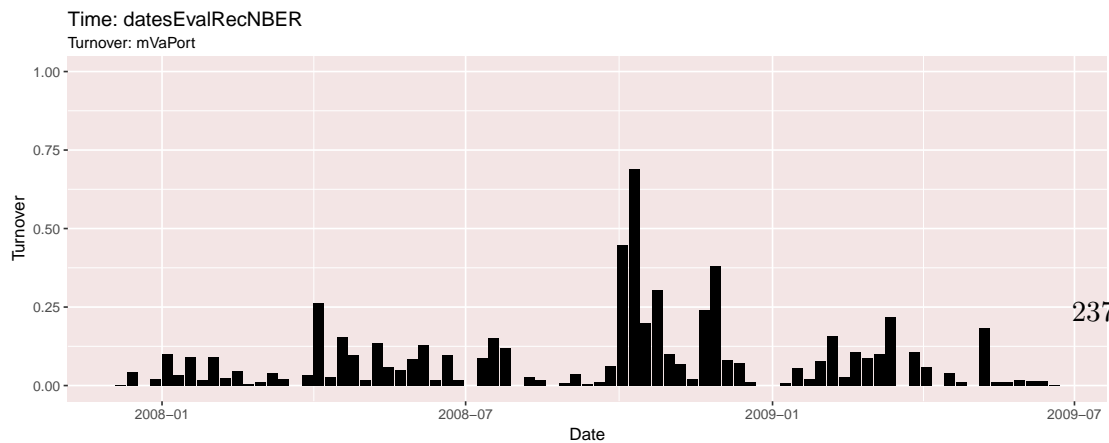
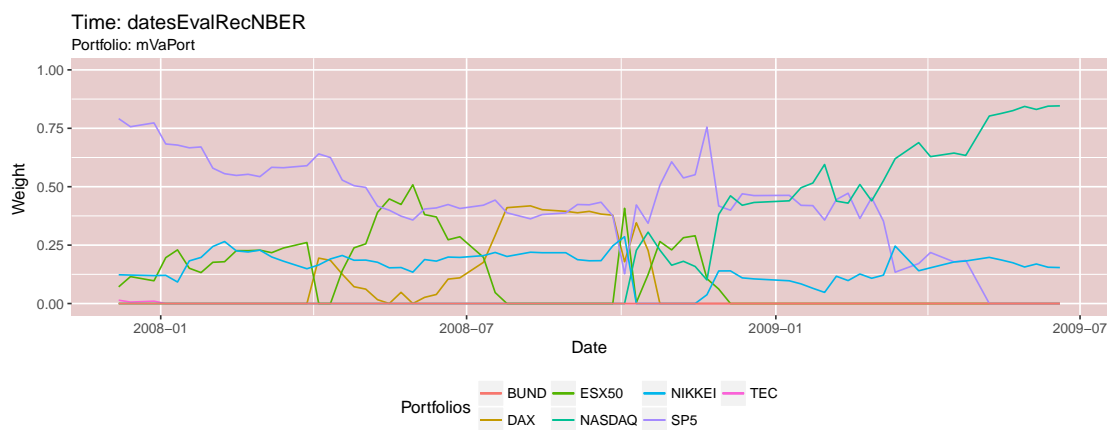
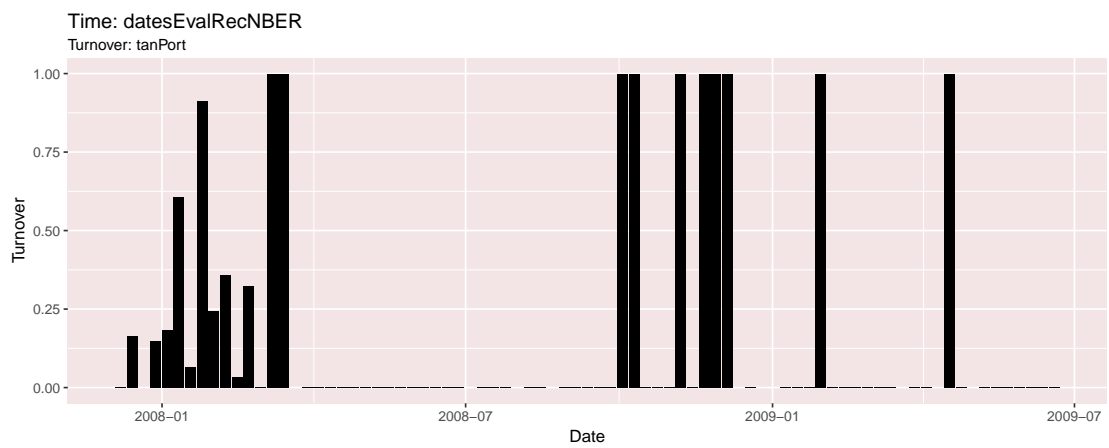
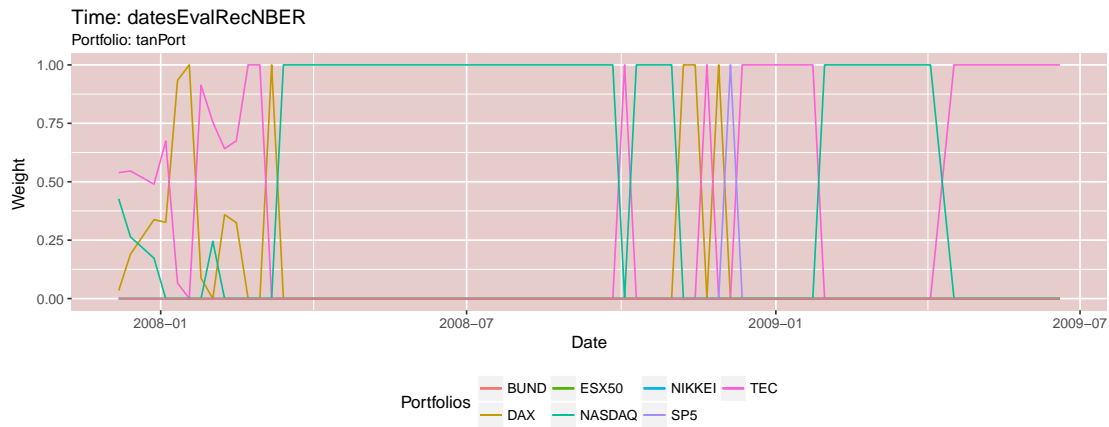
4.4 Weights



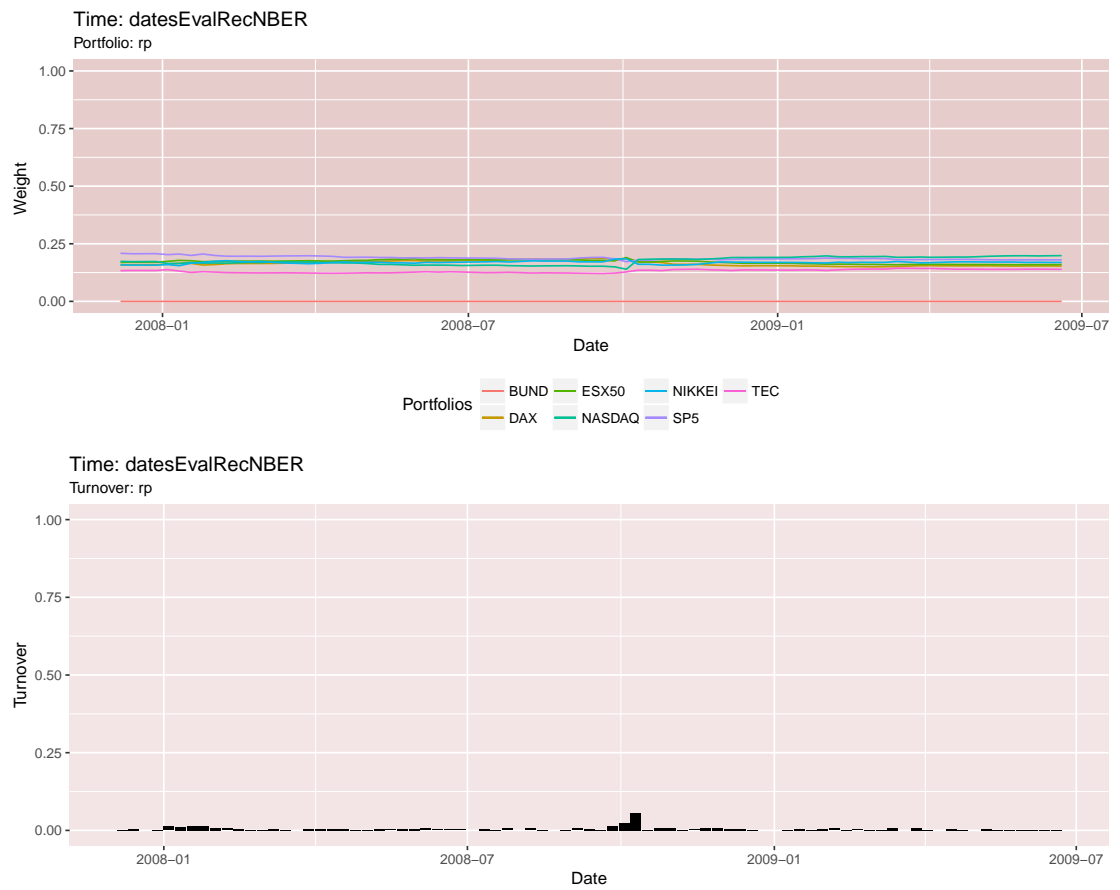
4 Results



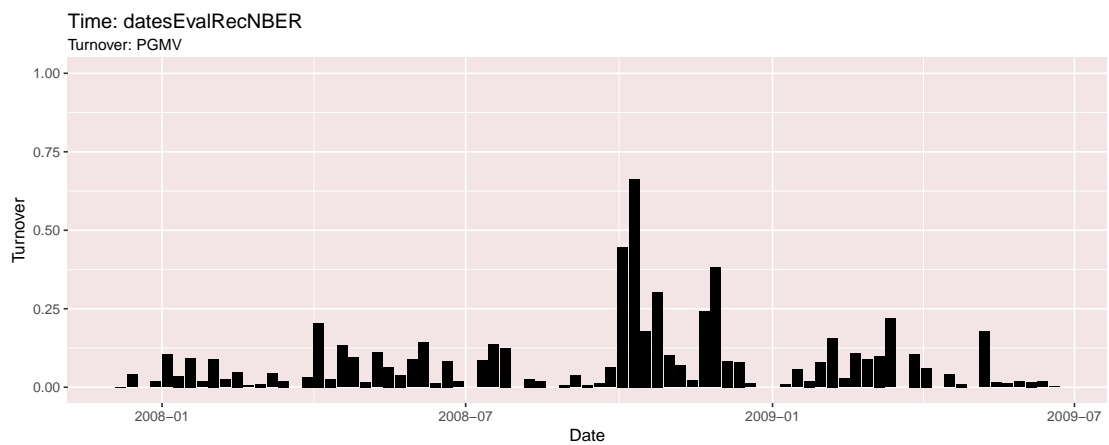
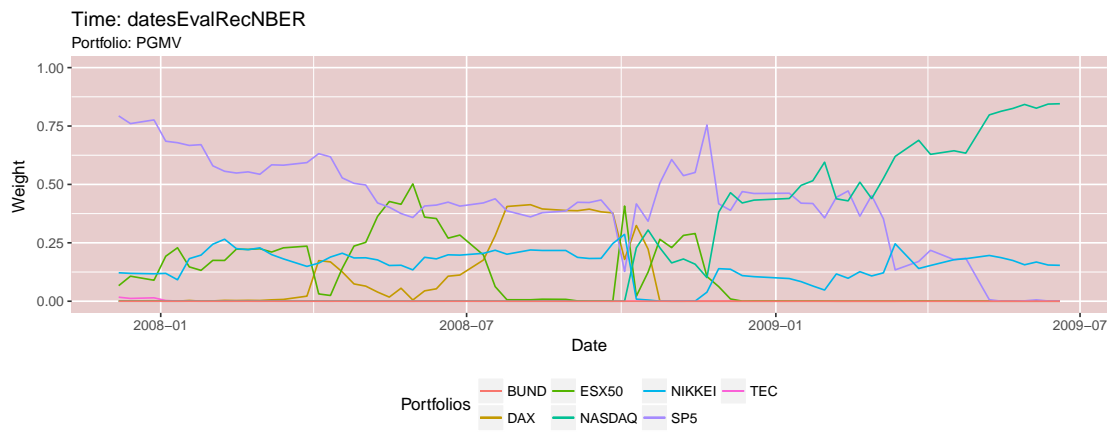
Weights-Classic-No-Risk-Free - datesEvalRecNBER



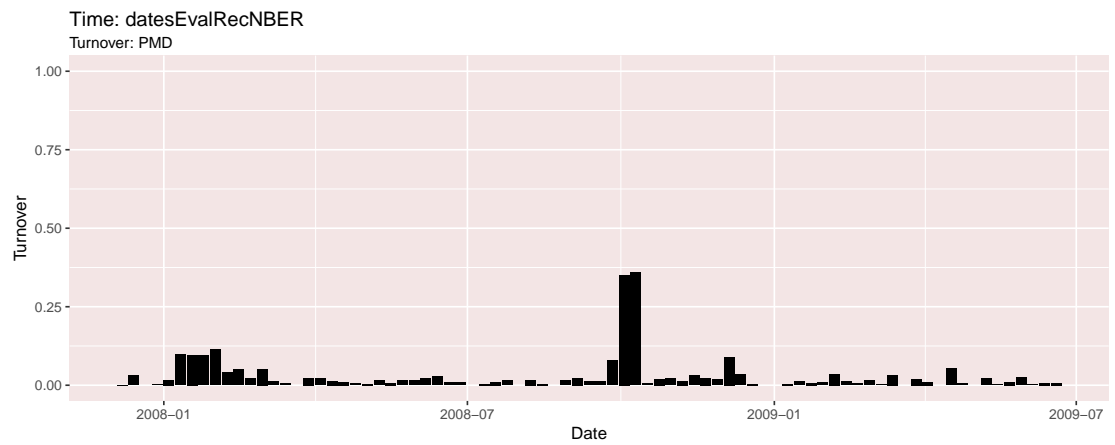
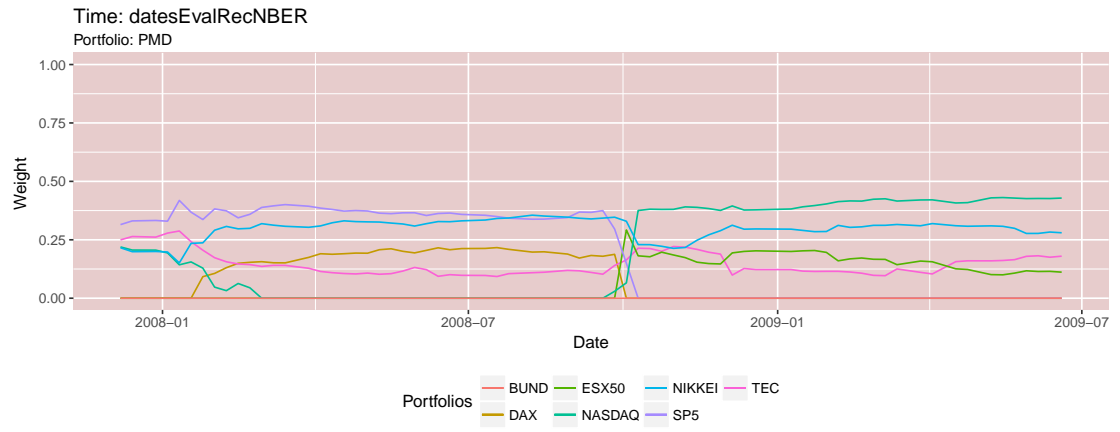
4 Results



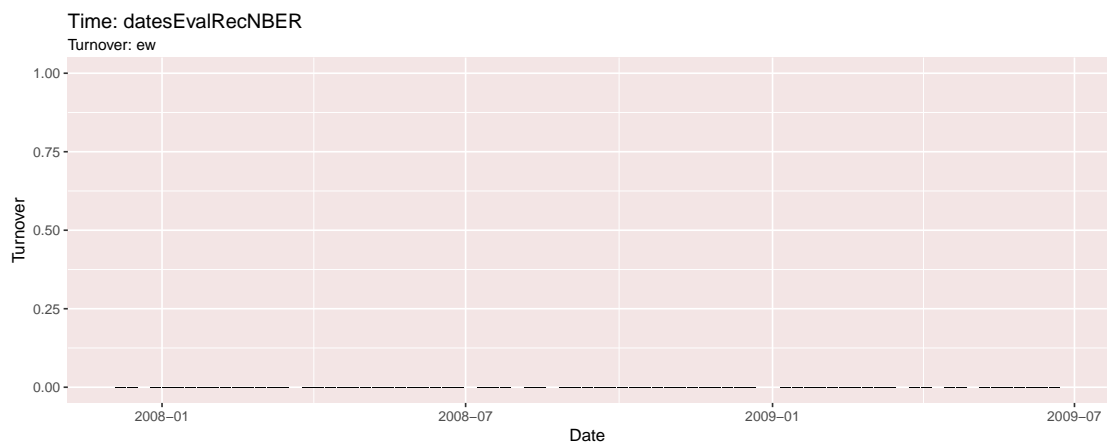
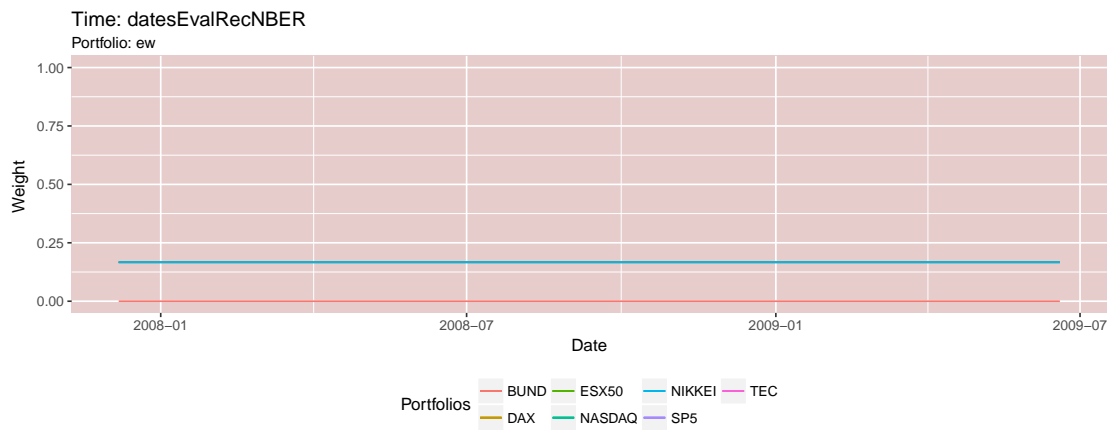
4.4 Weights



4 Results

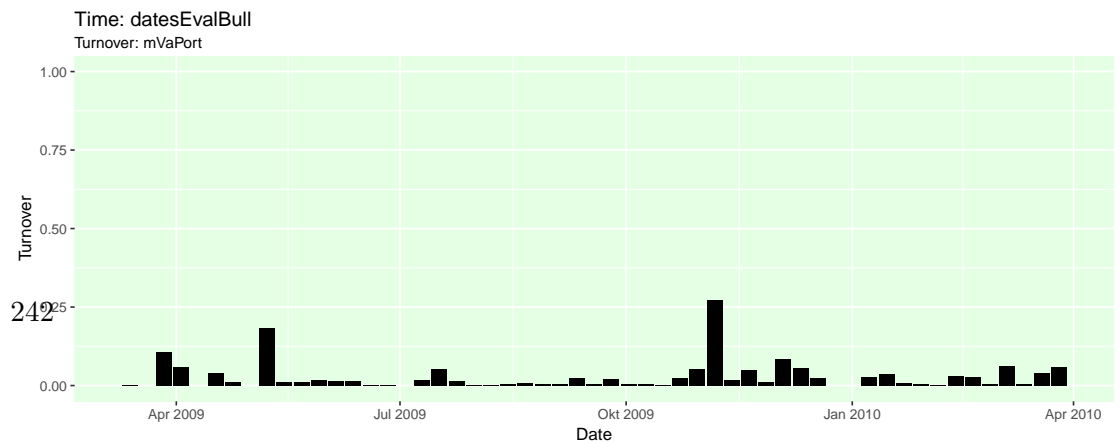
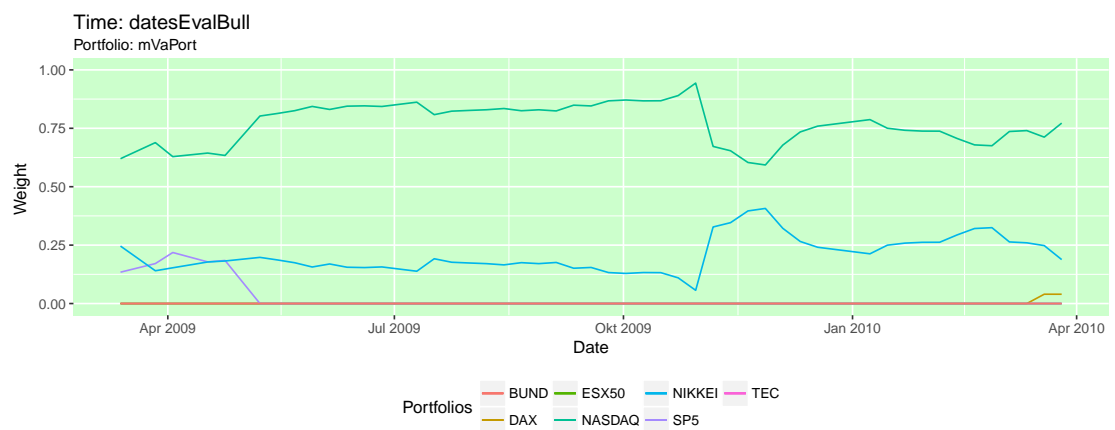
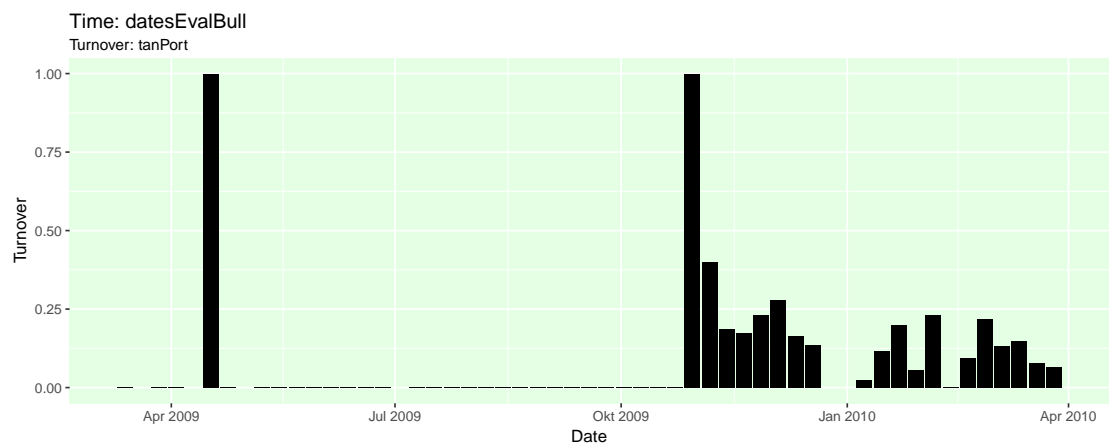
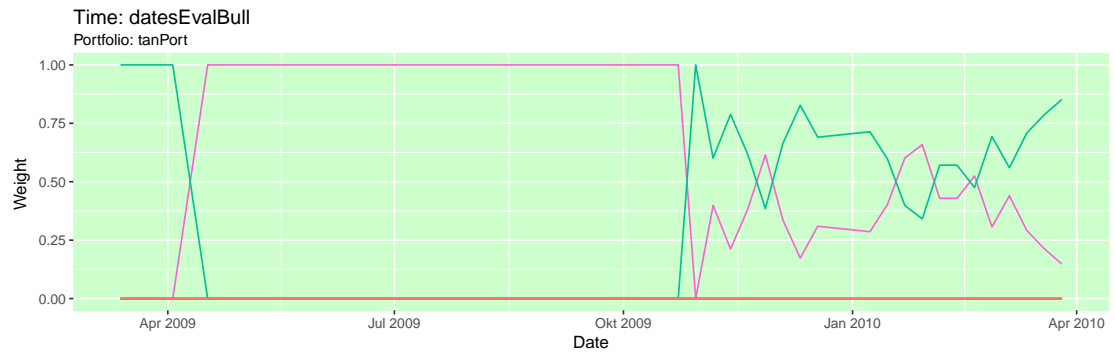


4.4 Weights

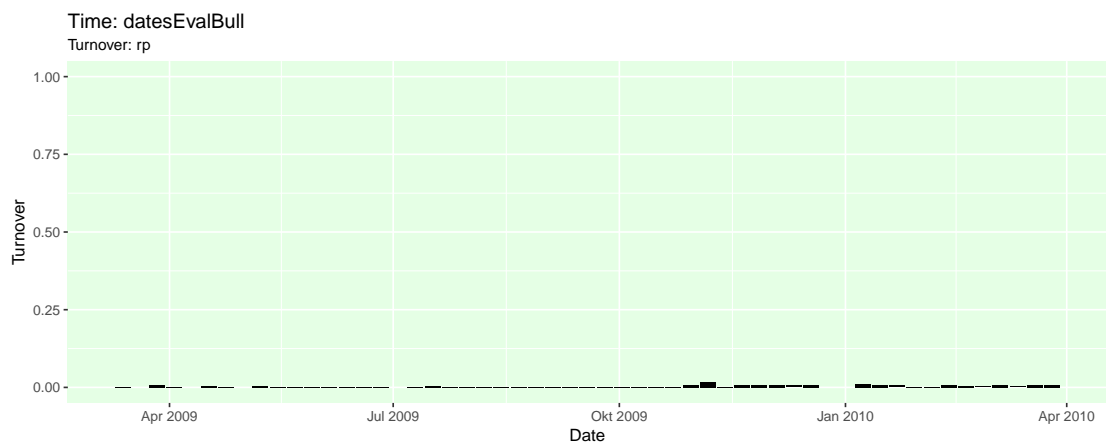
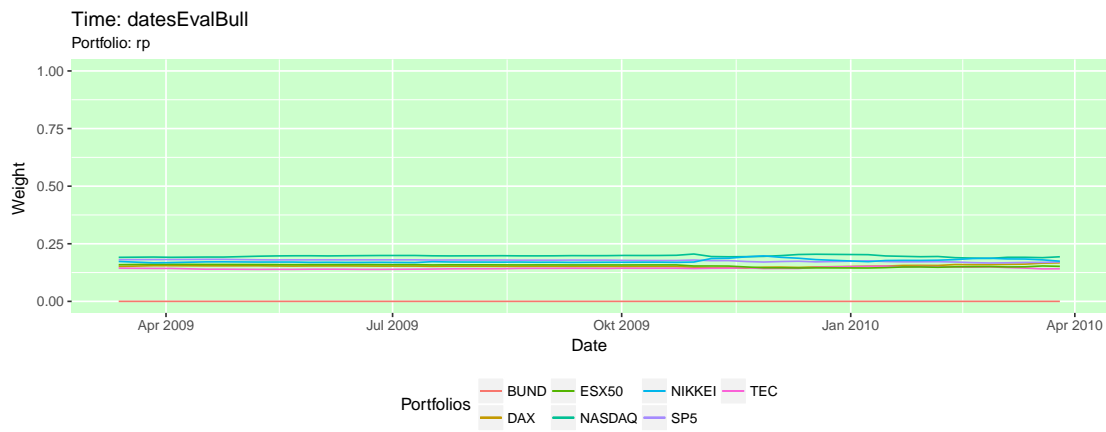


4 Results

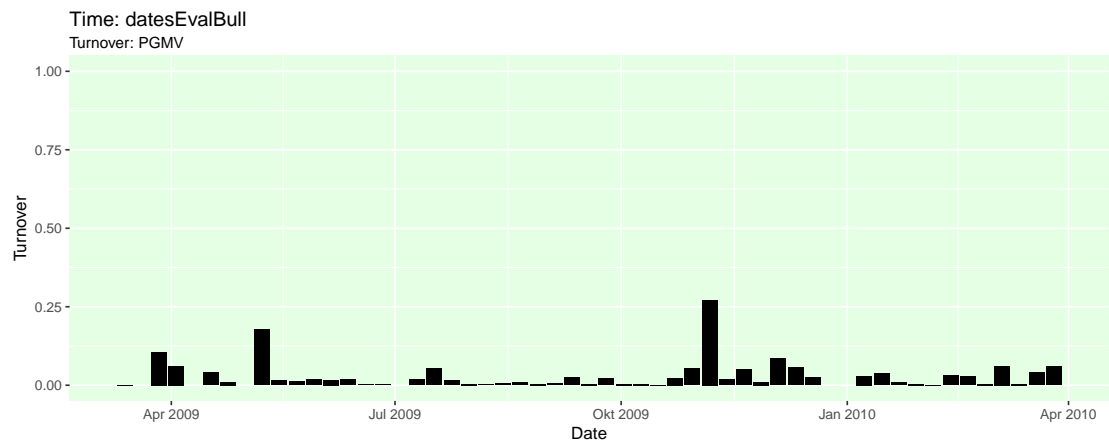
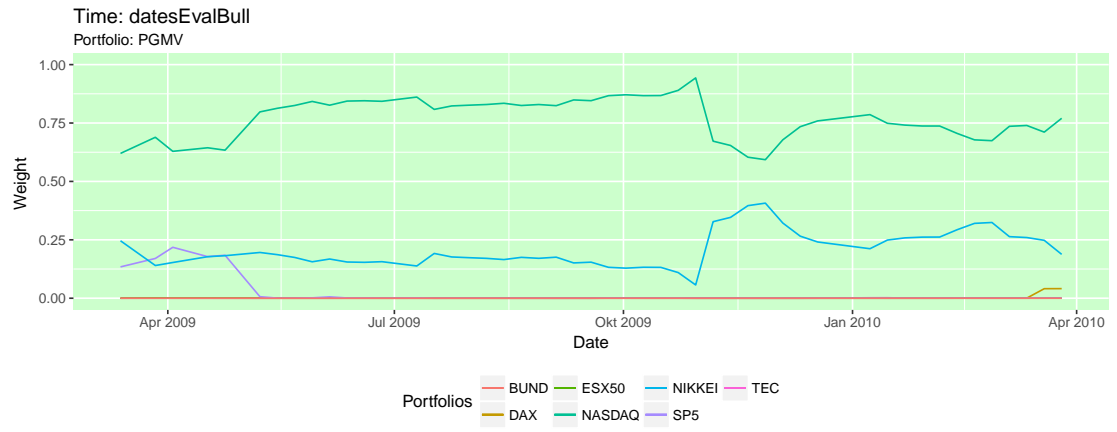
Weights-Classic-No-Risk-Free - datesEvalBull



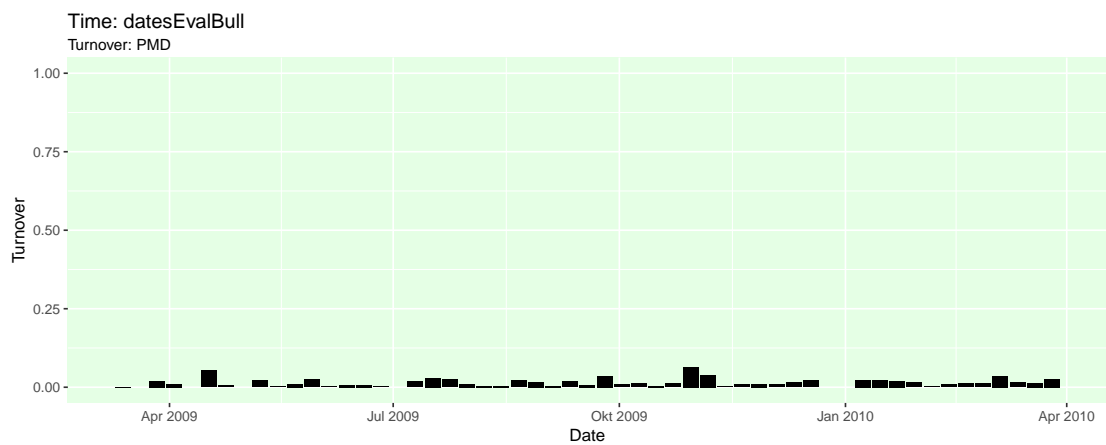
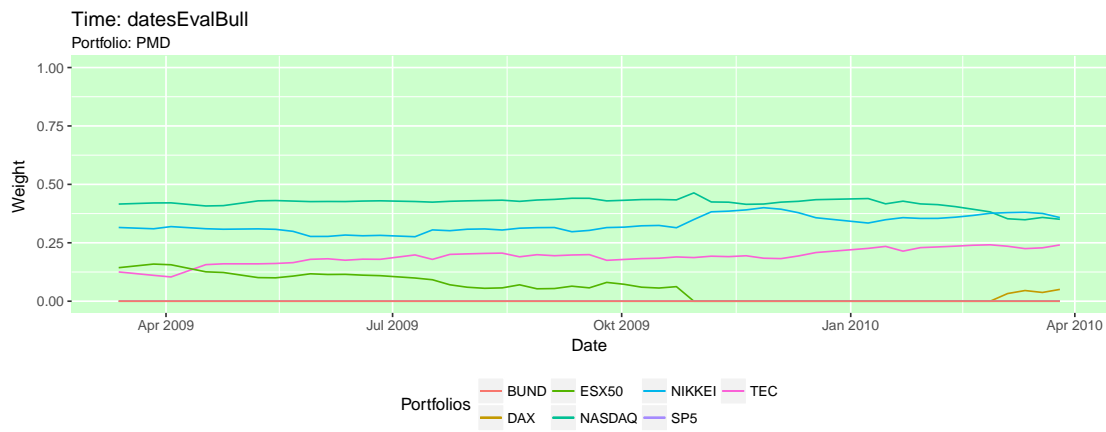
4.4 Weights



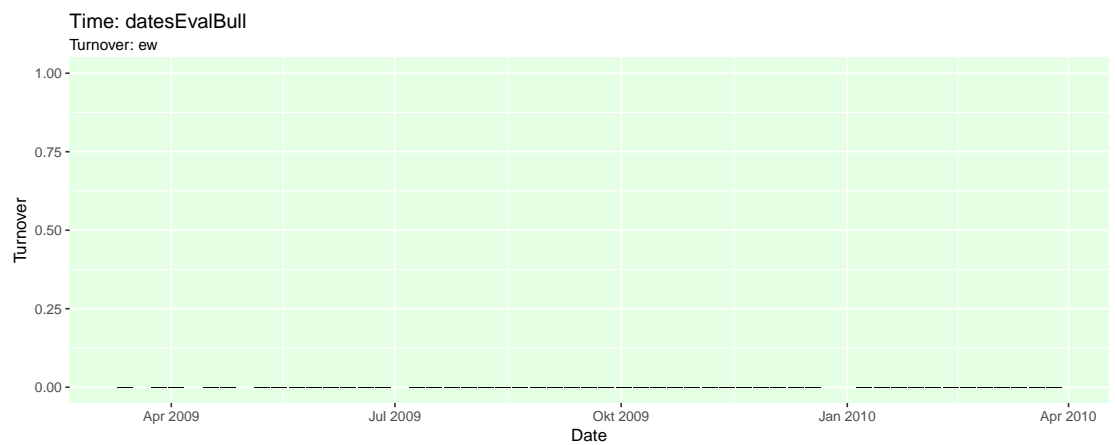
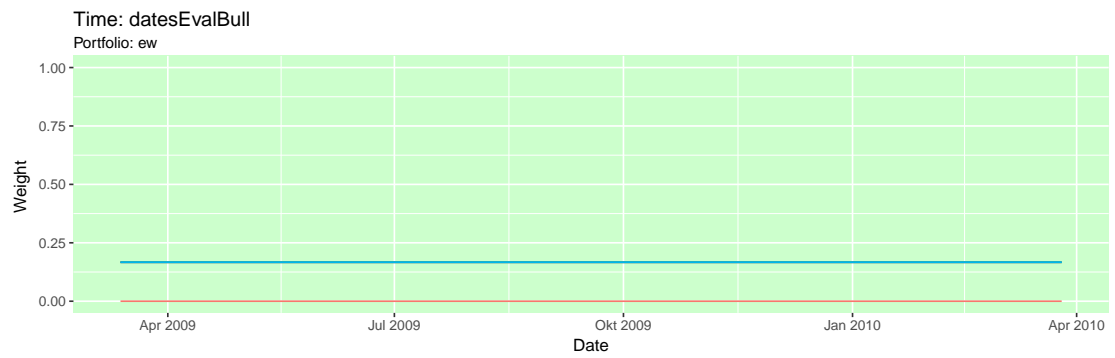
4 Results



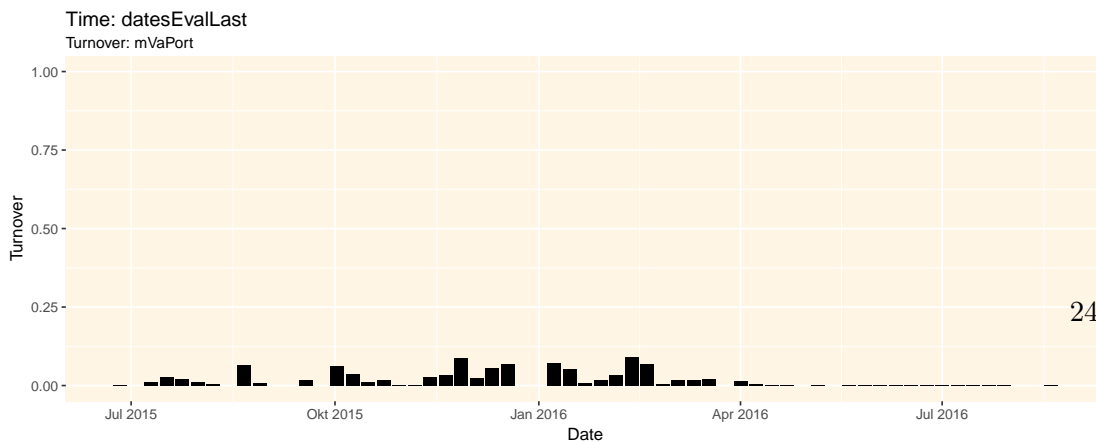
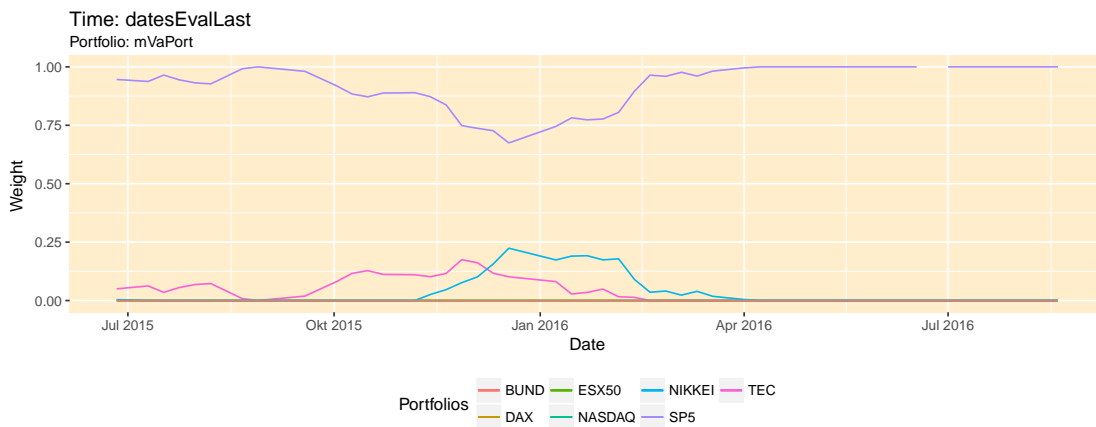
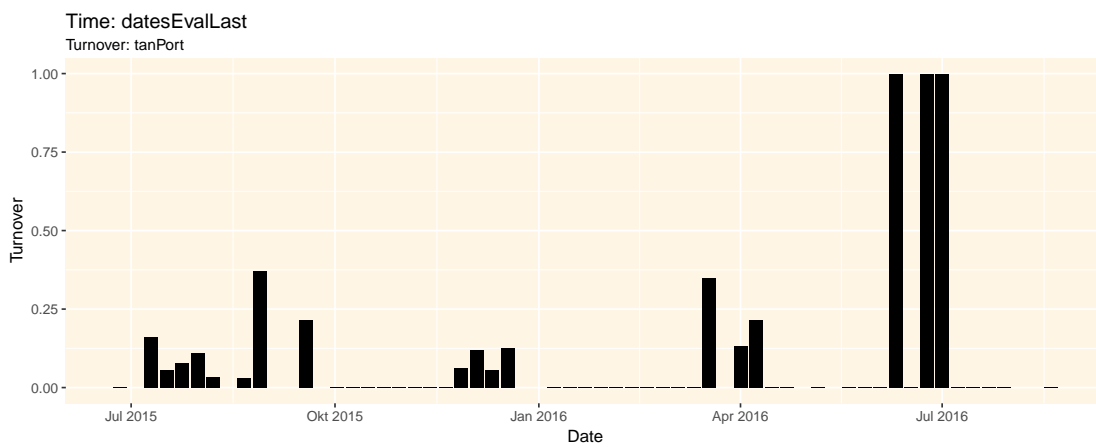
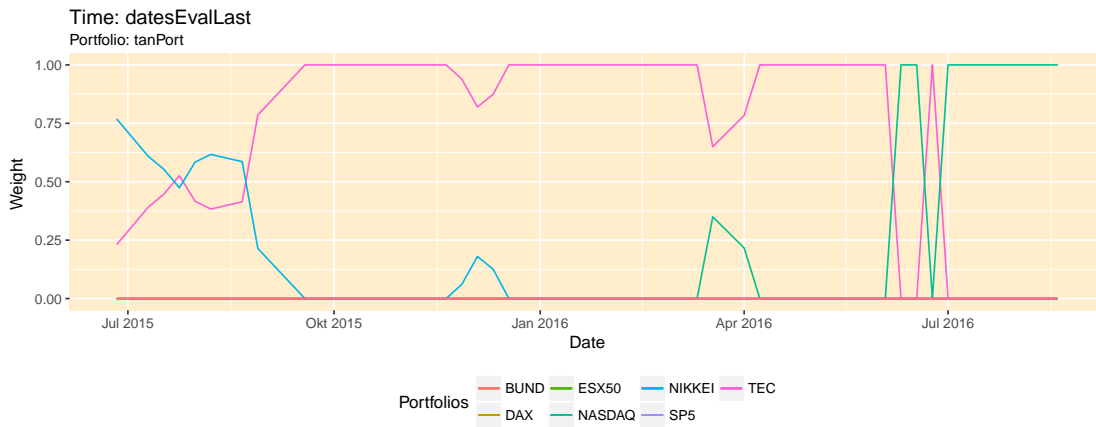
4.4 Weights



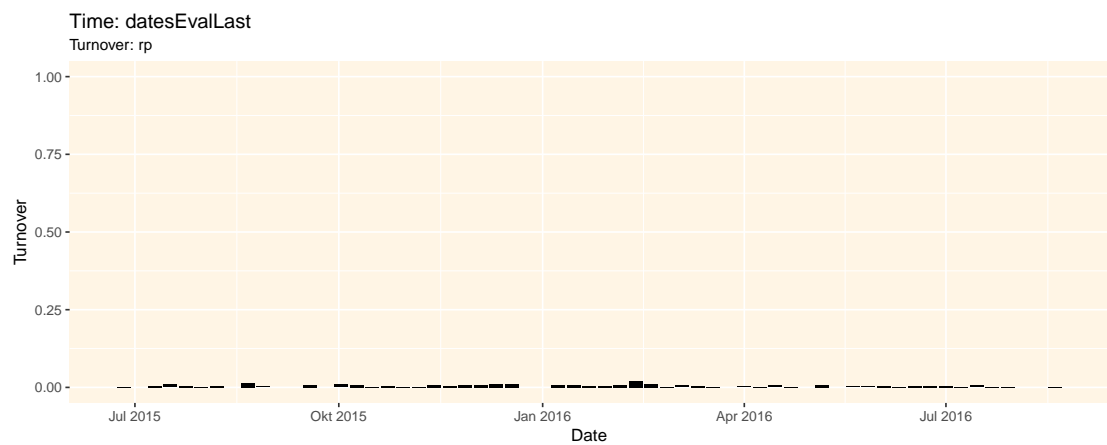
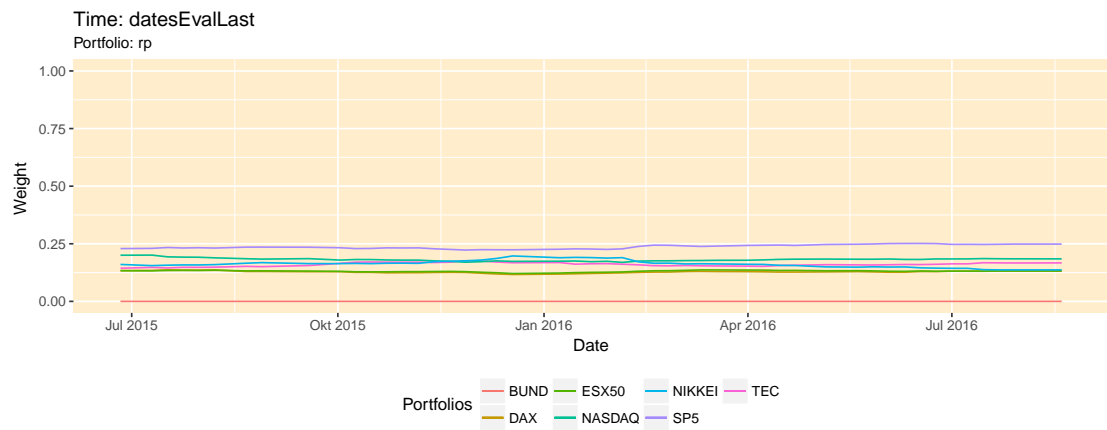
4 Results



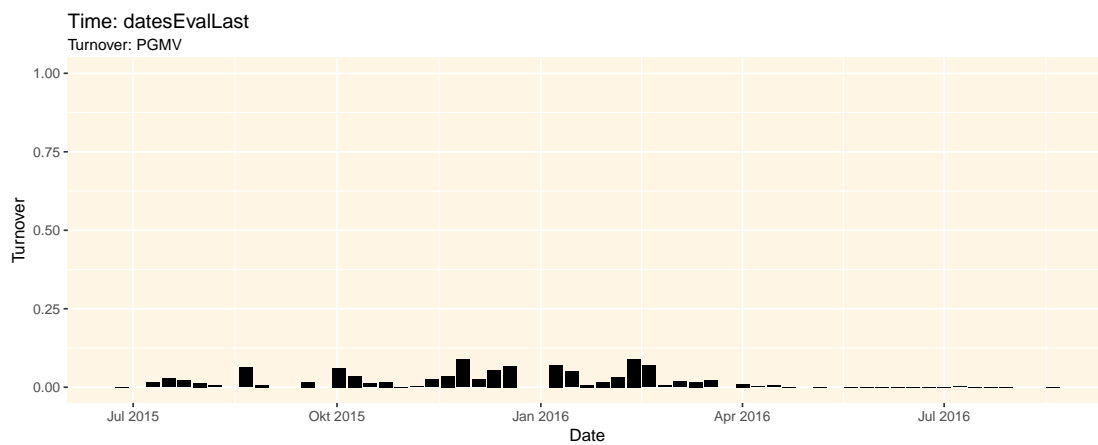
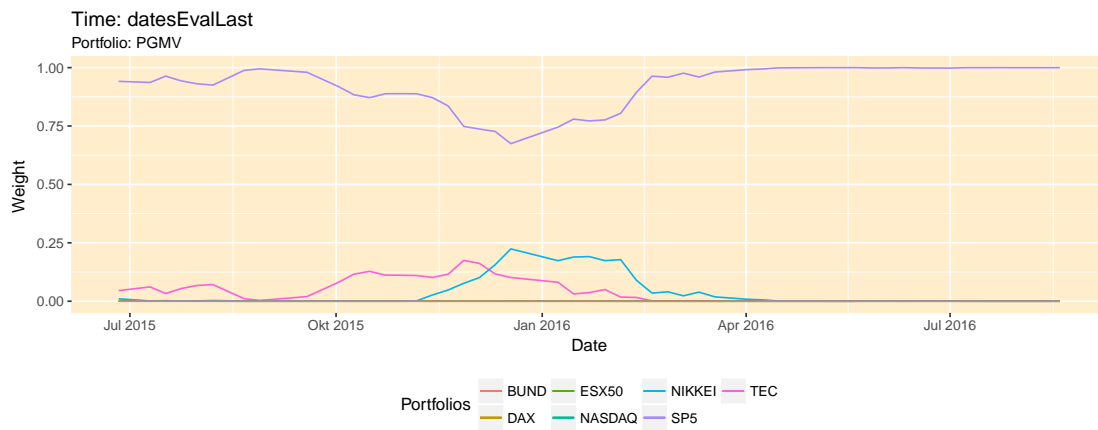
Weights-Classic-No-Risk-Free - datesEvalLast



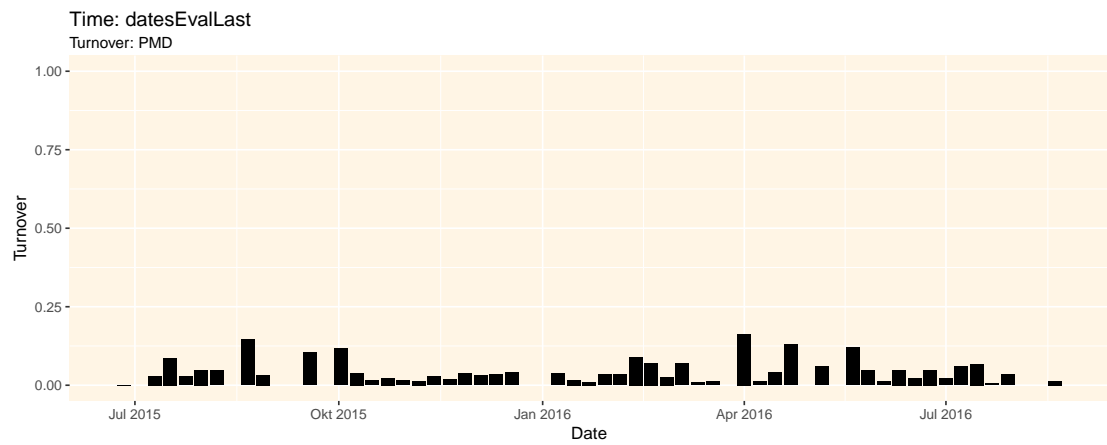
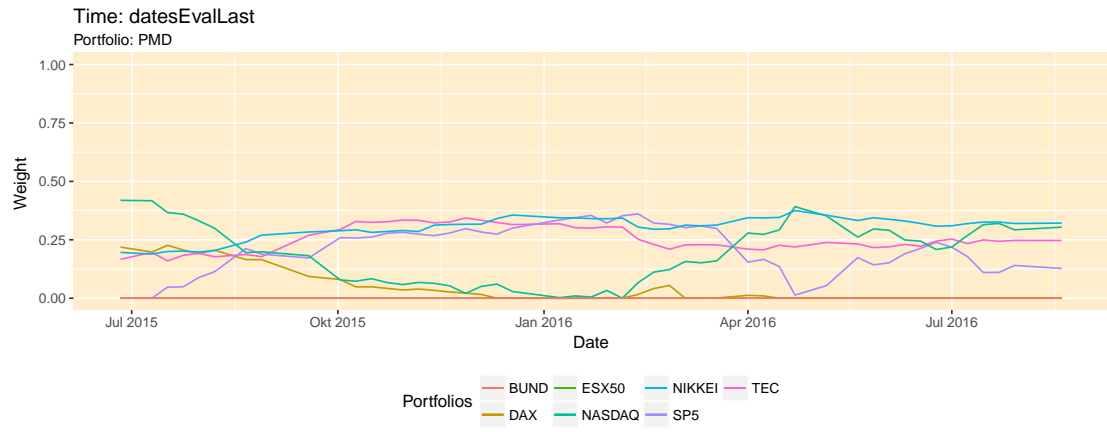
4 Results



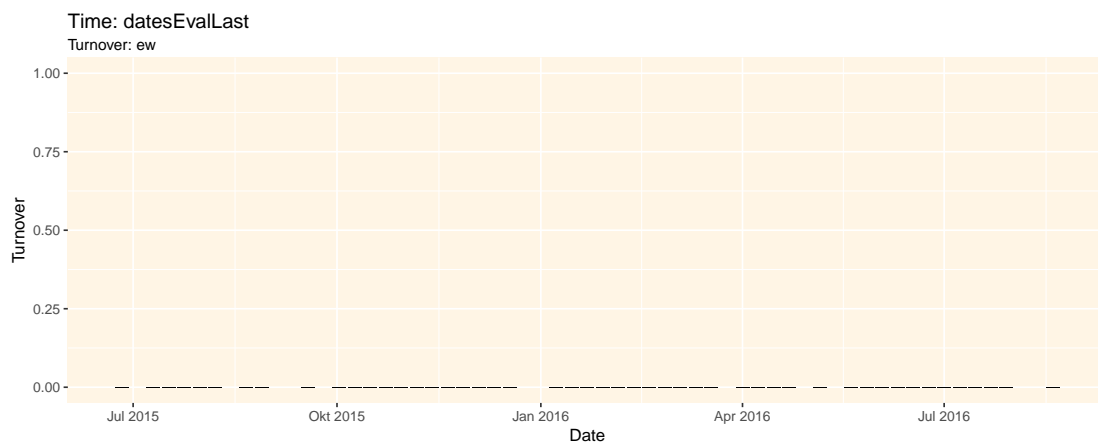
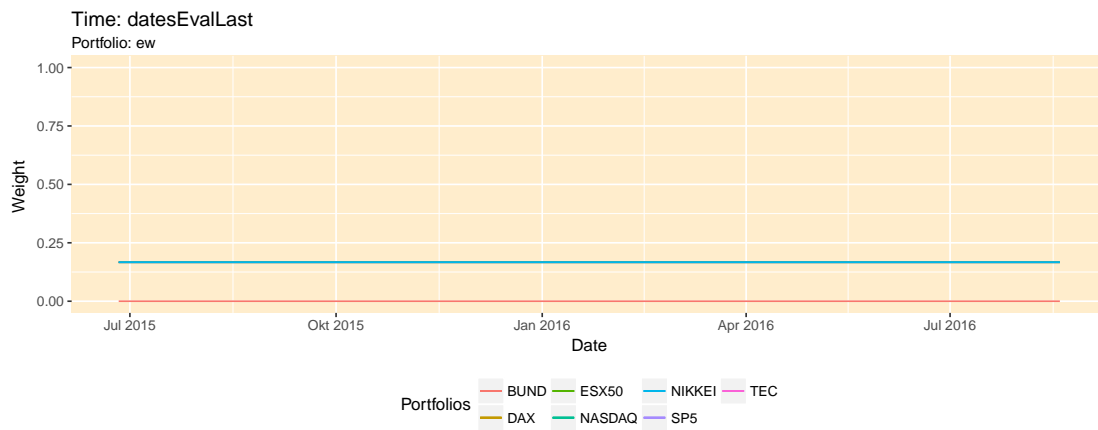
4.4 Weights



4 Results

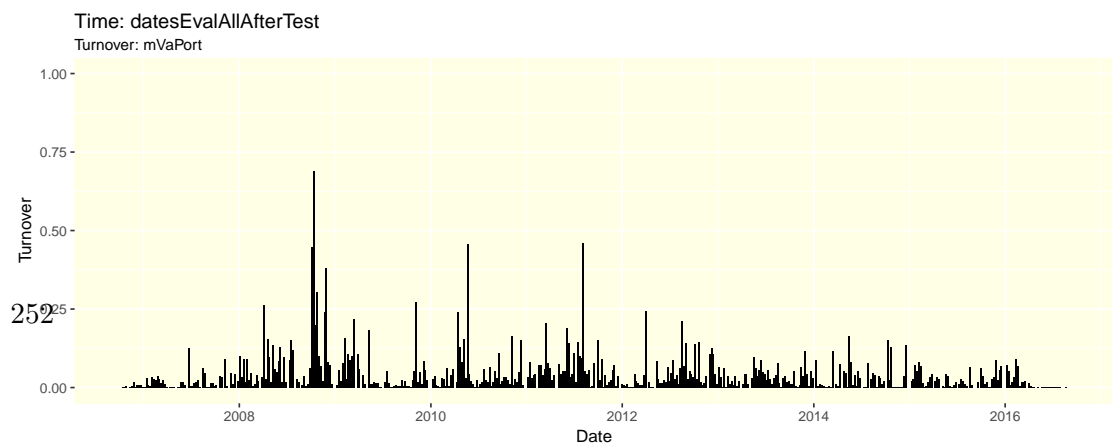
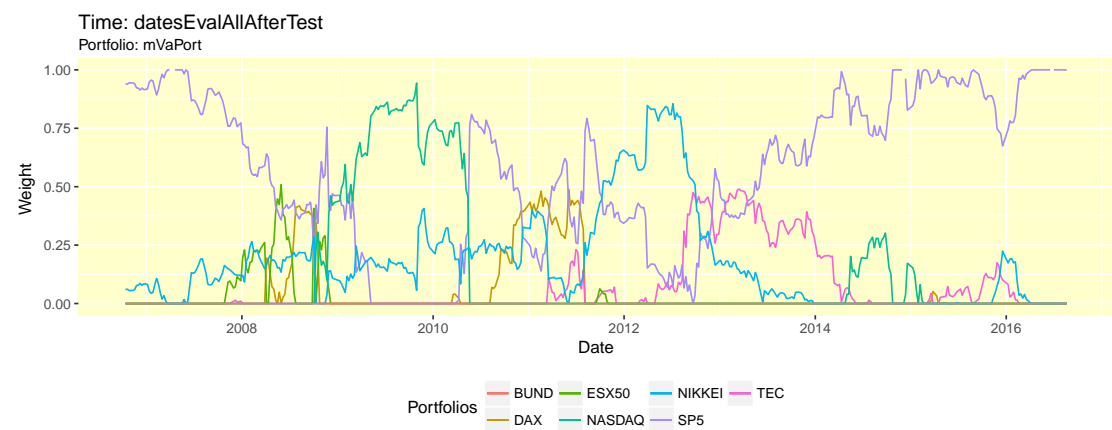
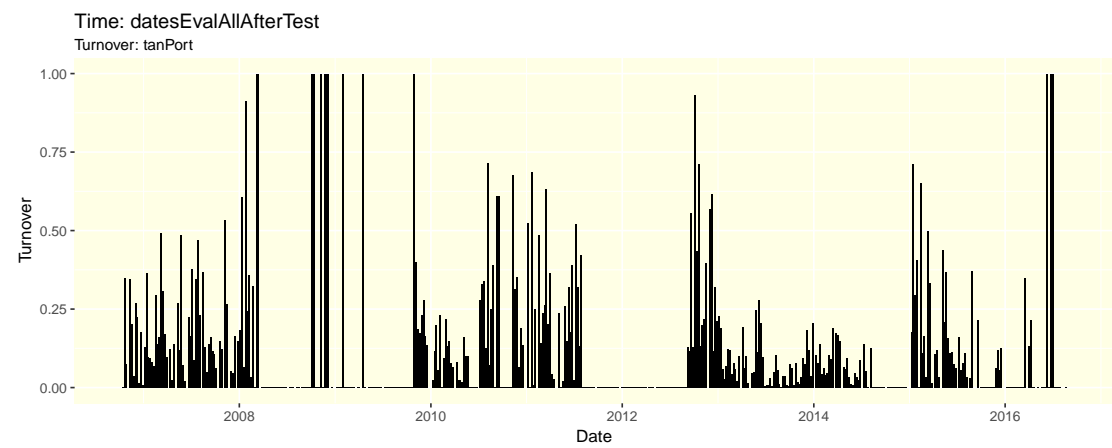
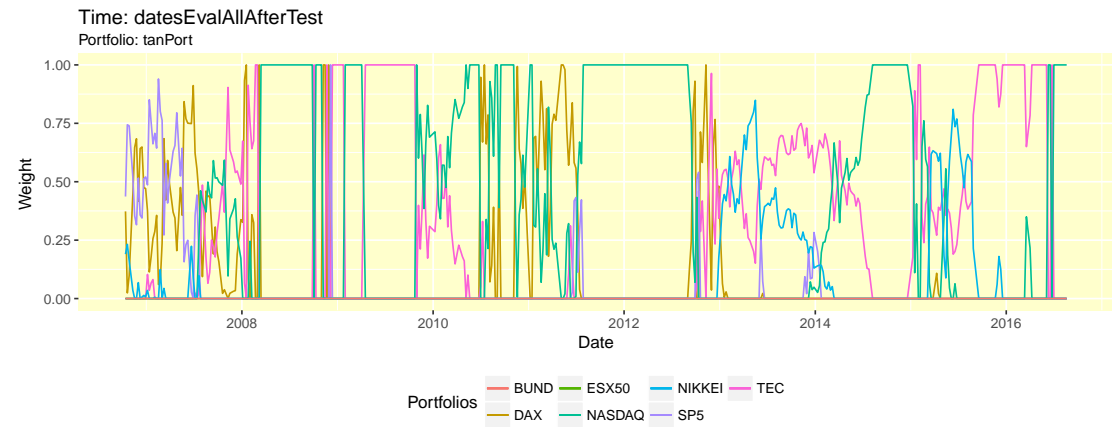


4.4 Weights

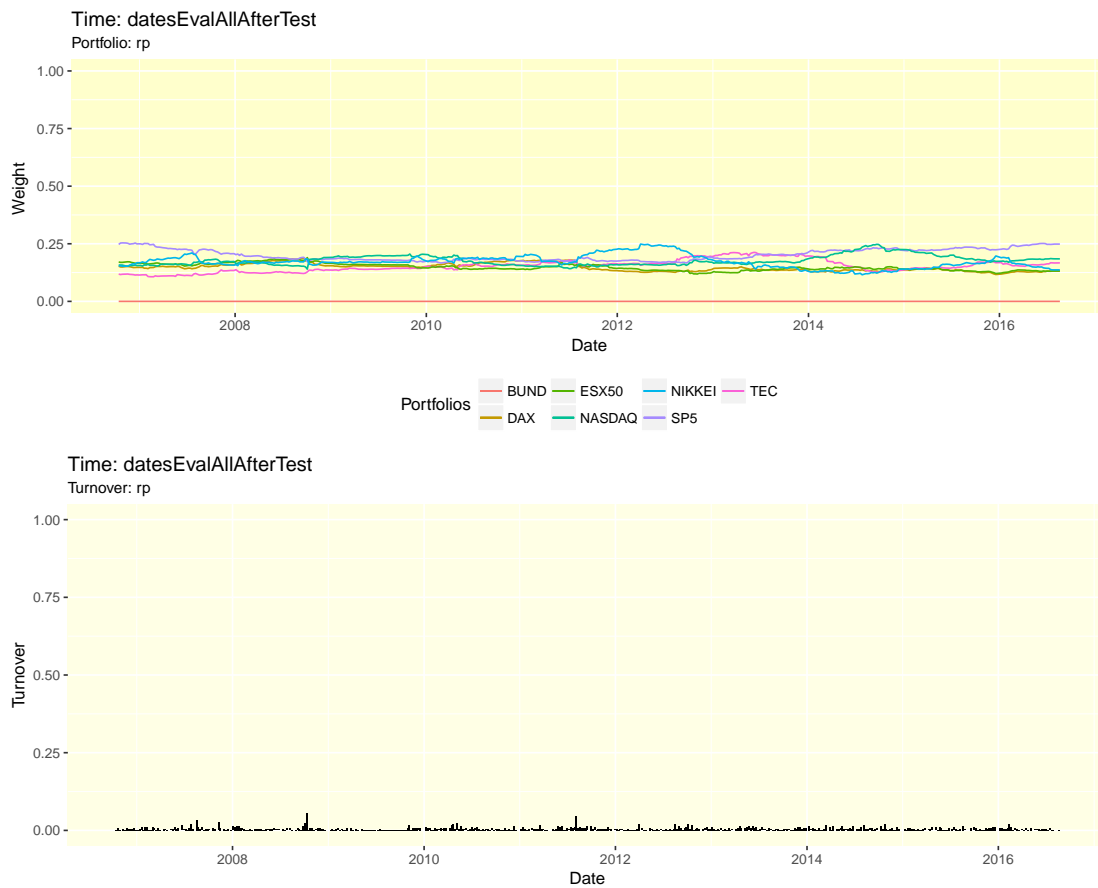


4 Results

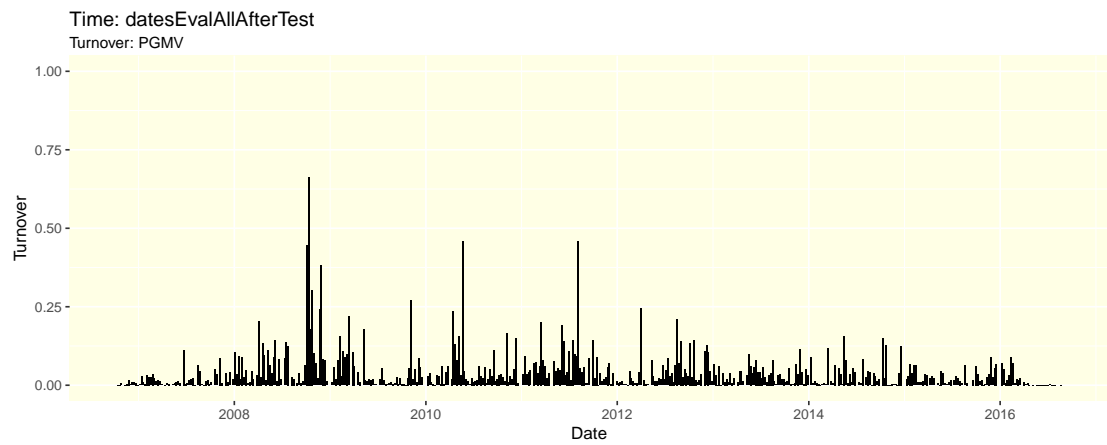
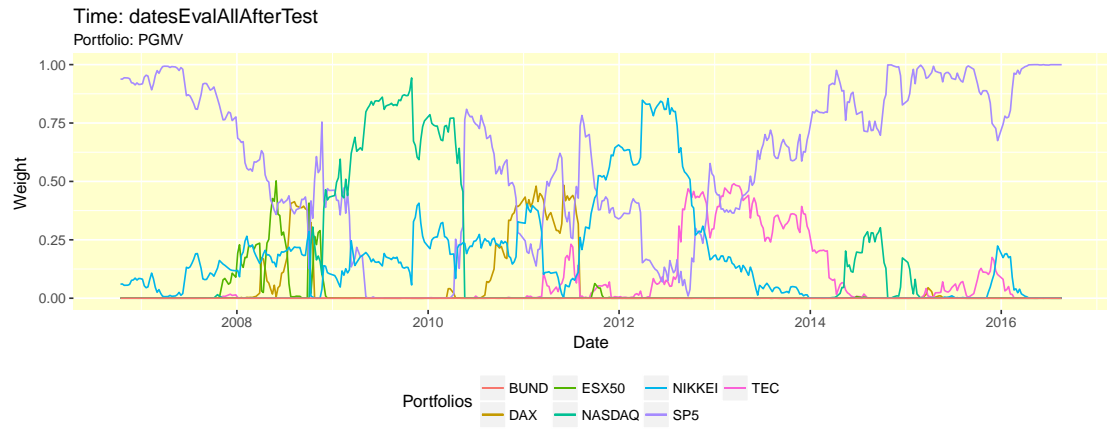
Weights-Classic-No-Risk-Free - datesEvalAllAfterTest



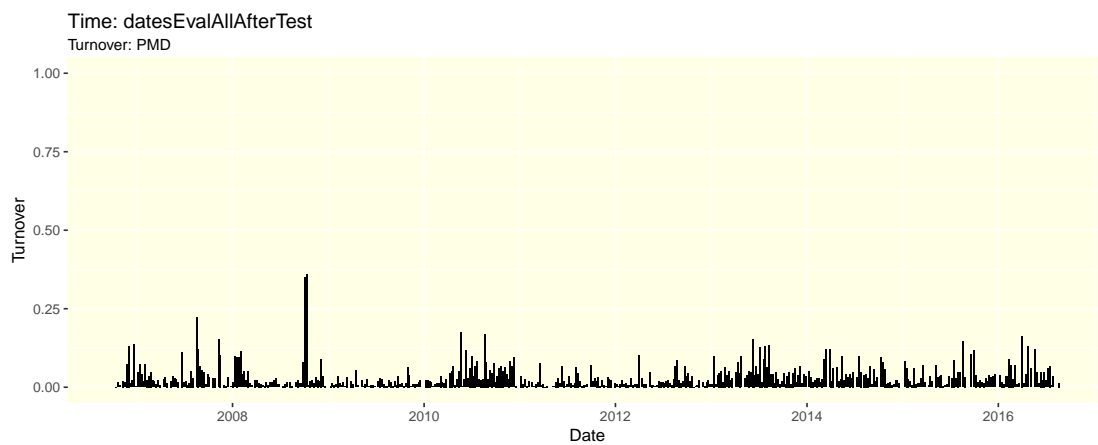
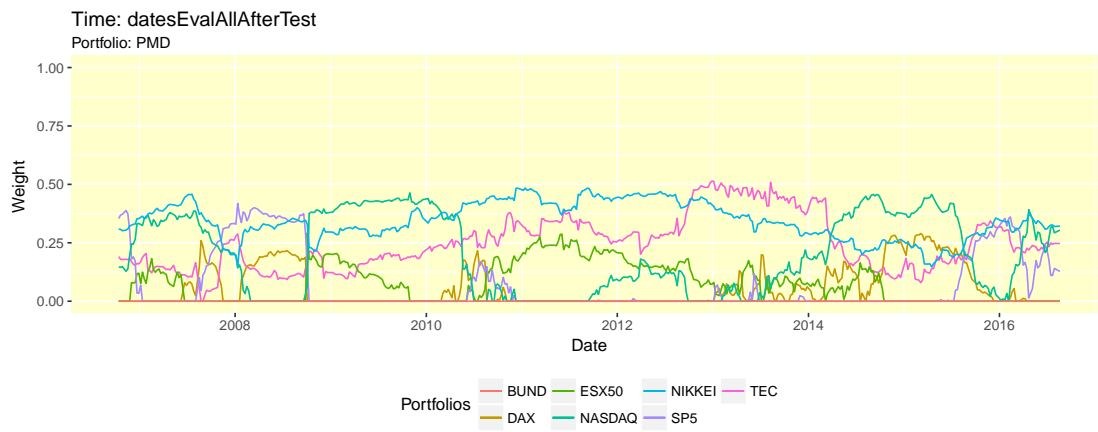
4.4 Weights



4 Results



4.4 Weights



4 Results

