

Covariance Prediction Using Kernel Regression: Supplementary Material

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Abstract

We provide supplementary material for the article “Covariance Prediction Using Kernel Regression”. We compare the predictive performance of kernel predictors to the moving average predictors.

1 Evaluation of Covariance Predictors

Panel (a) shows time series $SSPE_t(\hat{f}) - SSPE_t(\hat{f}_{ewma})$ of differences of cumulative sums of squared prediction errors, where \hat{f}_{ewma} is the exponentially weighted moving average, and \hat{f} is the kernel predictor (red), the kernel correlation predictor (orange), and the exponentially weighted moving average correlation predictor (blue). Cross-validation is used to choose the smoothing parameters of both predictors.

Panel (b) shows time series $SSPE_t(\hat{f})/SSPE_t(\hat{f}_{ewma})$ of ratios of cumulative sums of squared prediction errors.

Panel (c) shows the time series of the smoothing parameters chosen by the cross-validation for the kernel predictor (red) and the kernel correlation predictor (orange).

Panel (d) shows the time series of the smoothing parameters chosen by the cross-validation for the the exponentially weighted moving average (black) and for the the exponentially weighted moving average correlation predictor (blue).

1.1 Pairs from 1-2 to 1-30

Figure 1

Figure 2

Figure 3

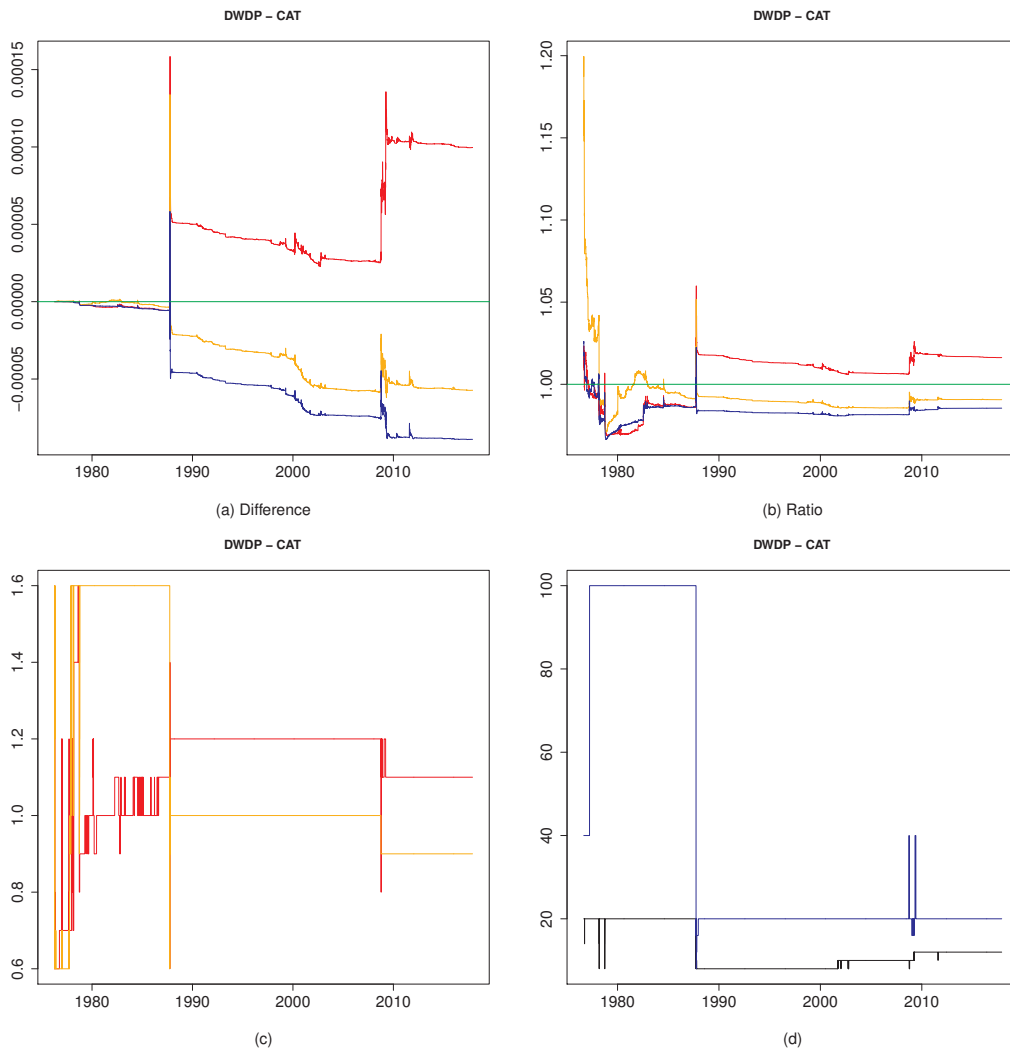


Figure 1: 01-02

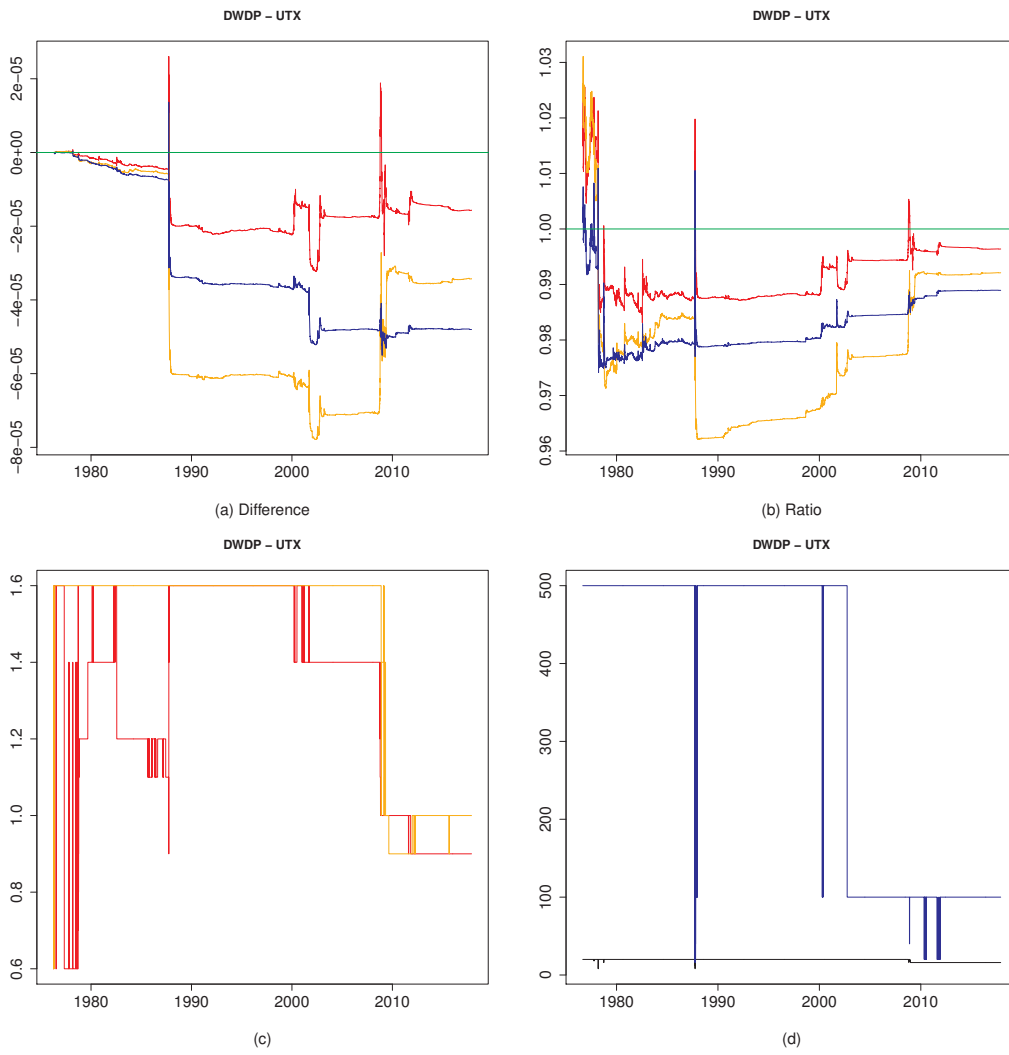


Figure 2: 01-03

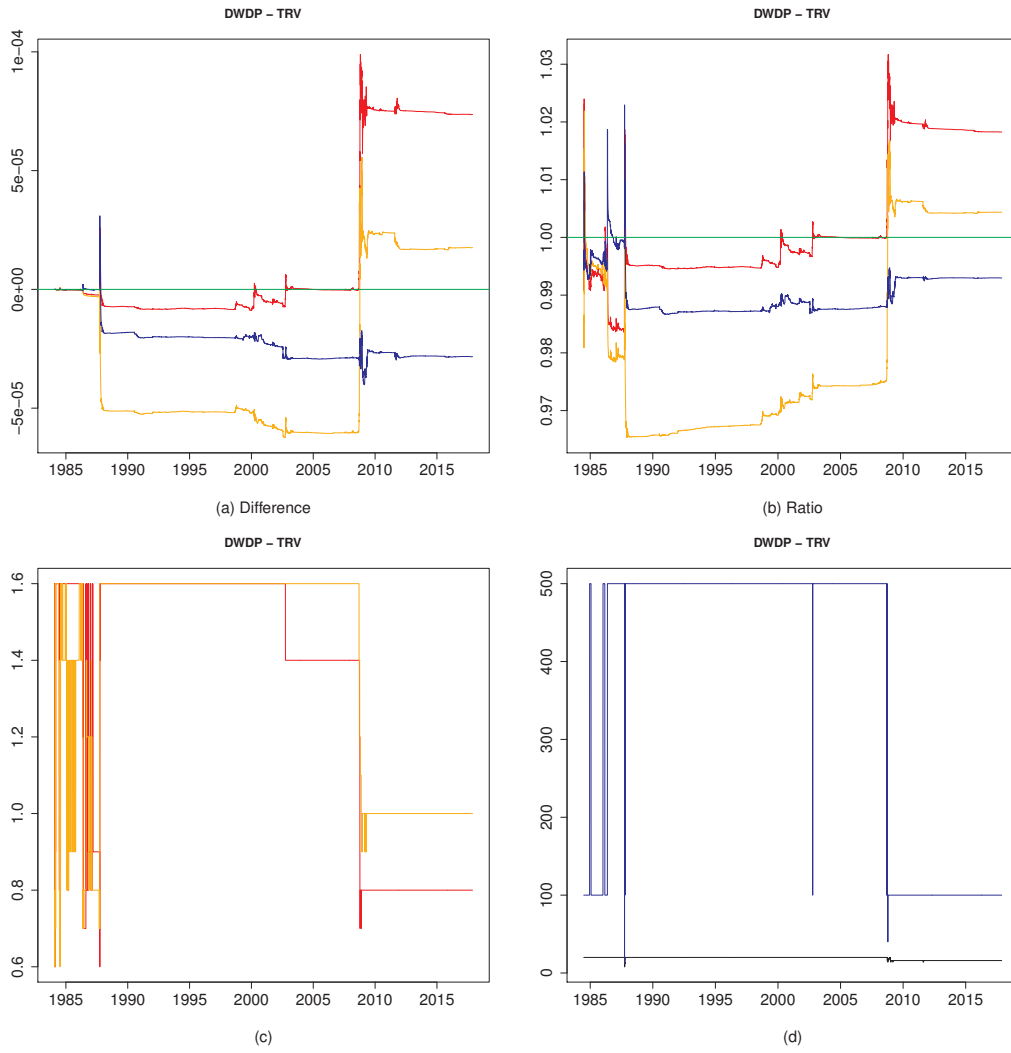


Figure 3: 01-04

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1.2 Pairs from 2-3 to 2-30

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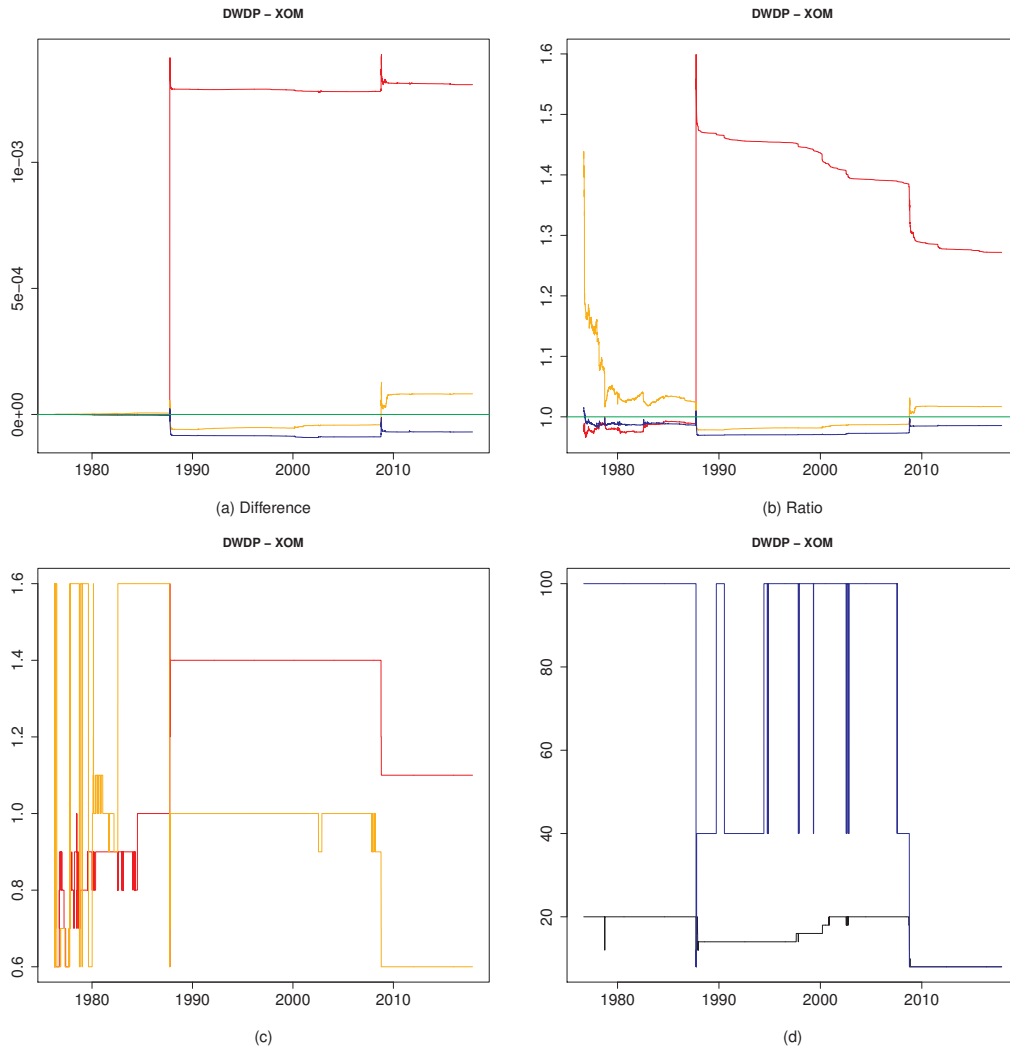


Figure 4: 01-05

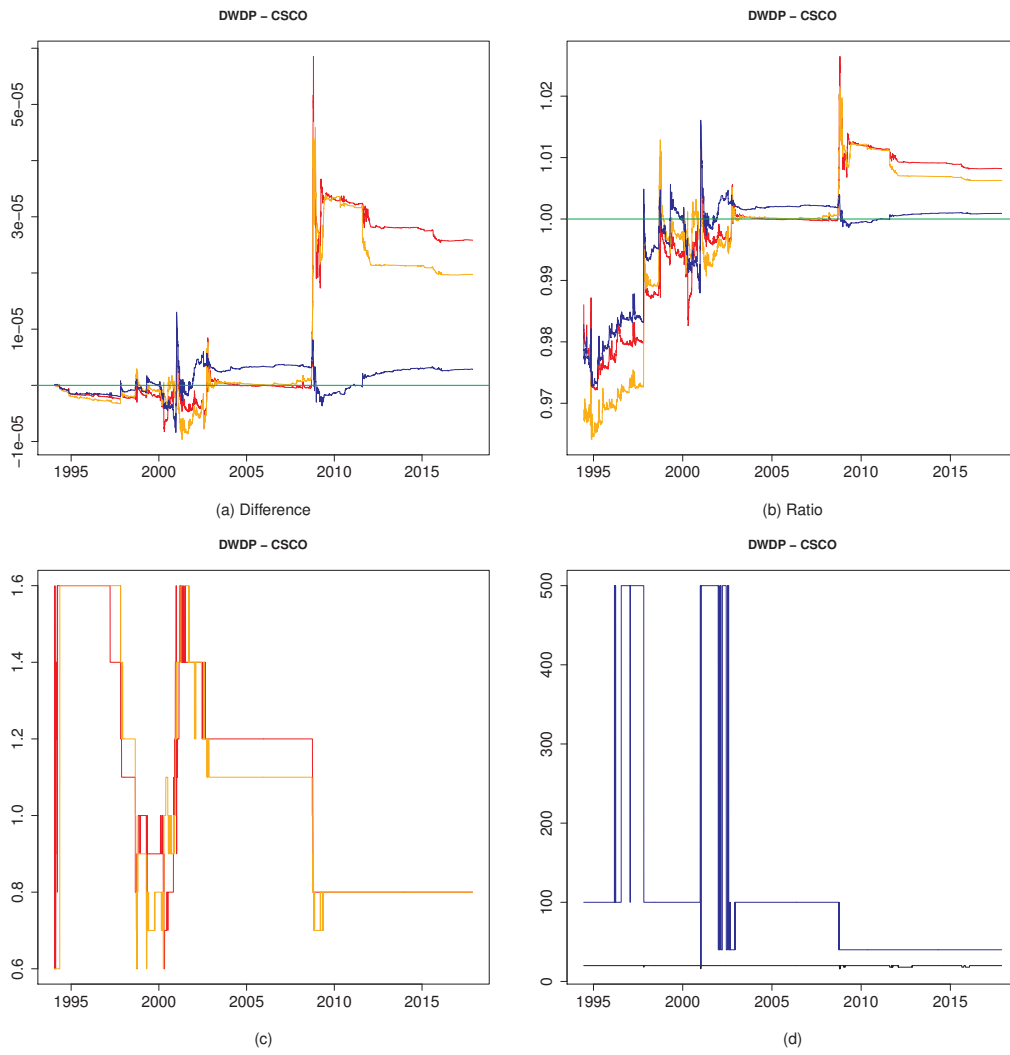


Figure 5: 01-06

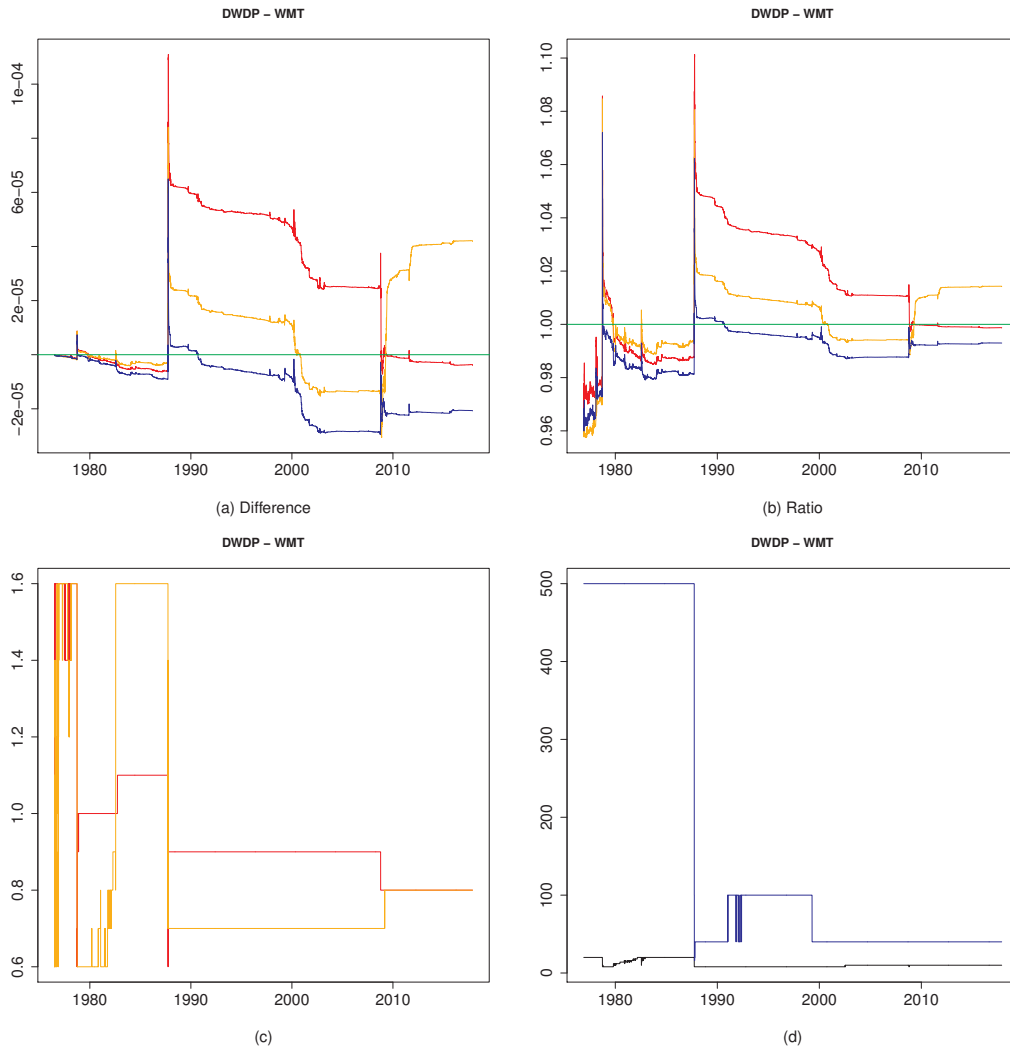


Figure 6: 01-07

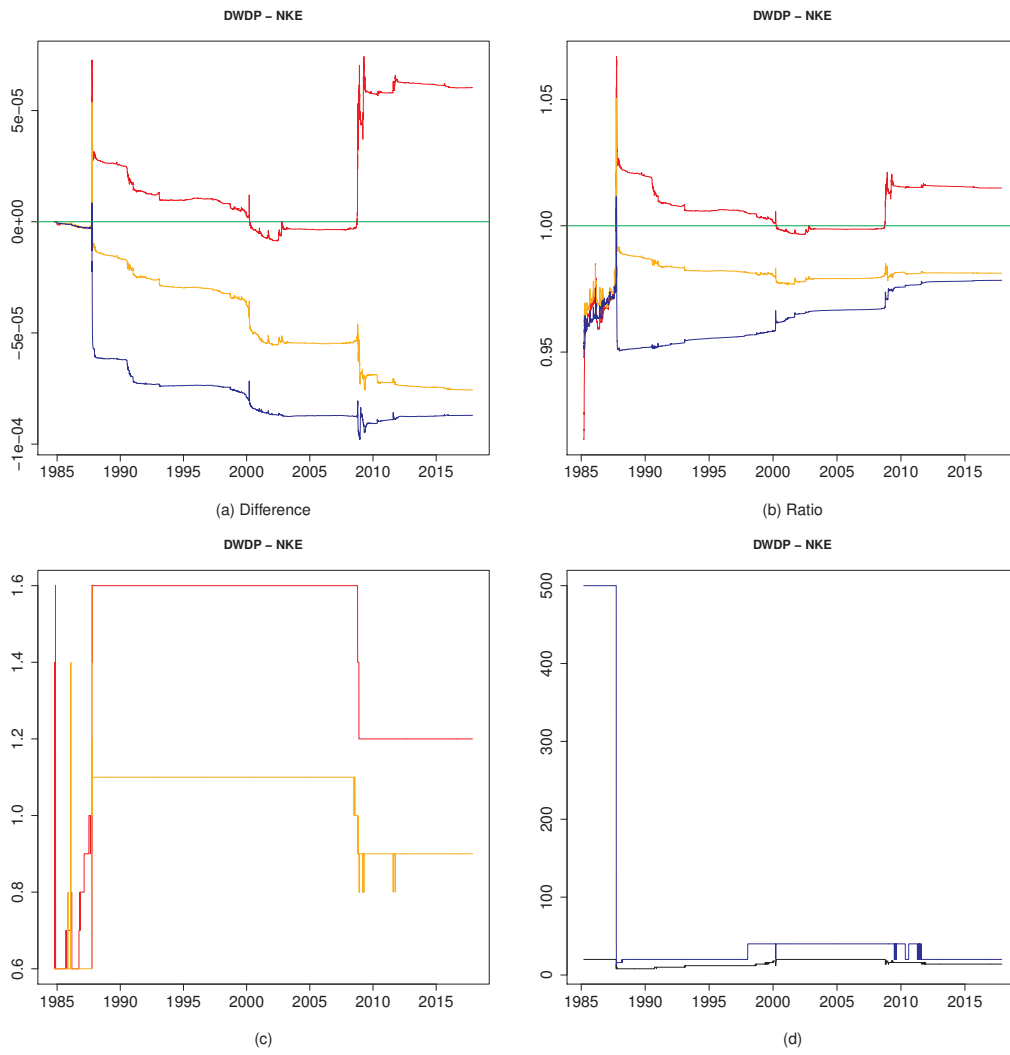


Figure 7: 01-08

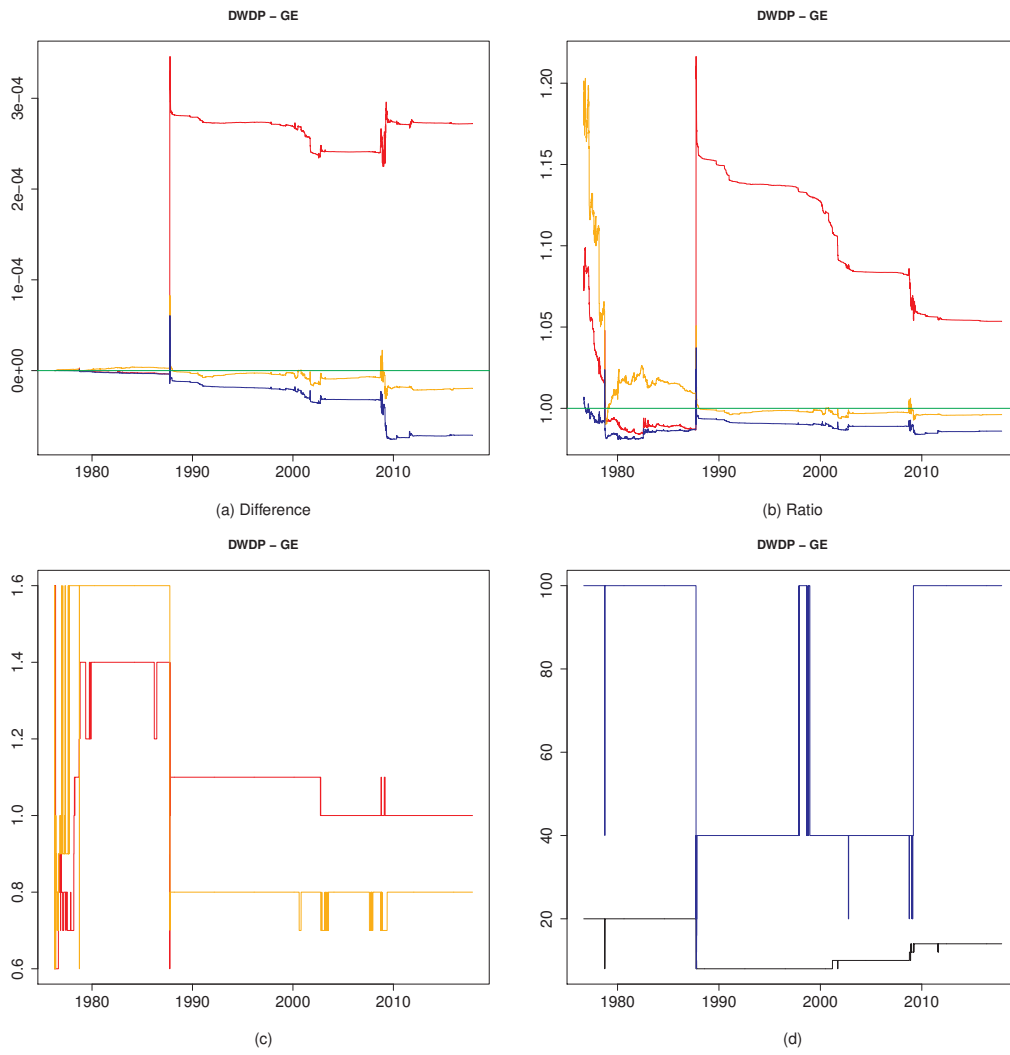


Figure 8: 01-09

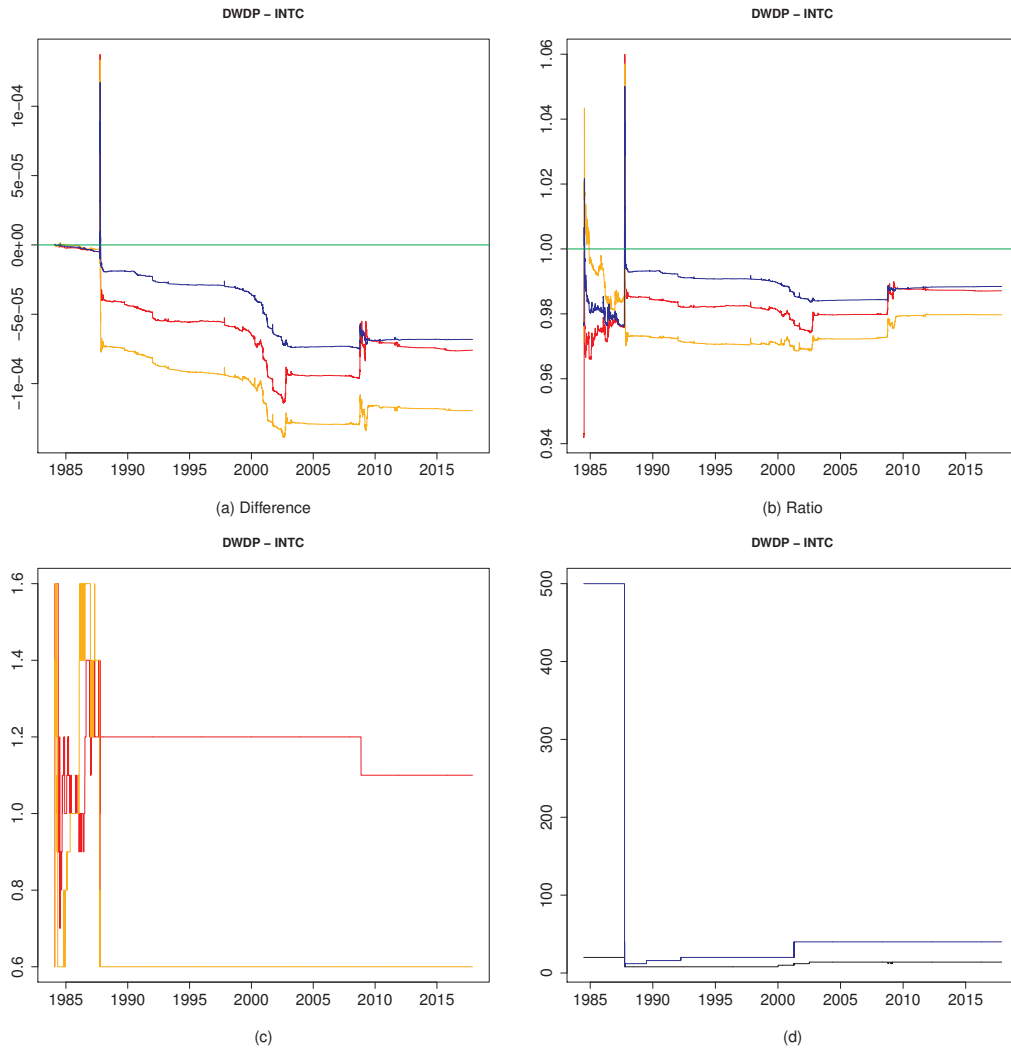


Figure 9: 01-10

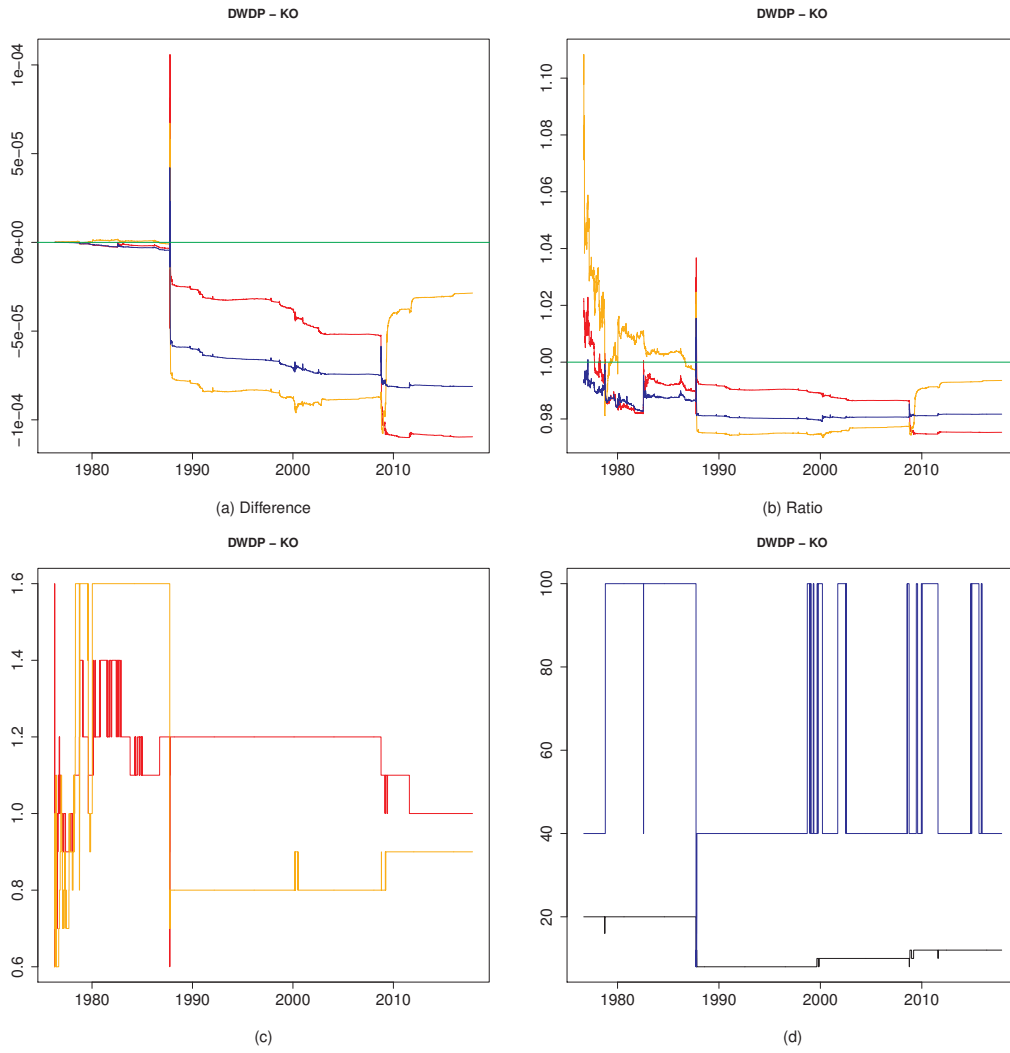


Figure 10: 01-11

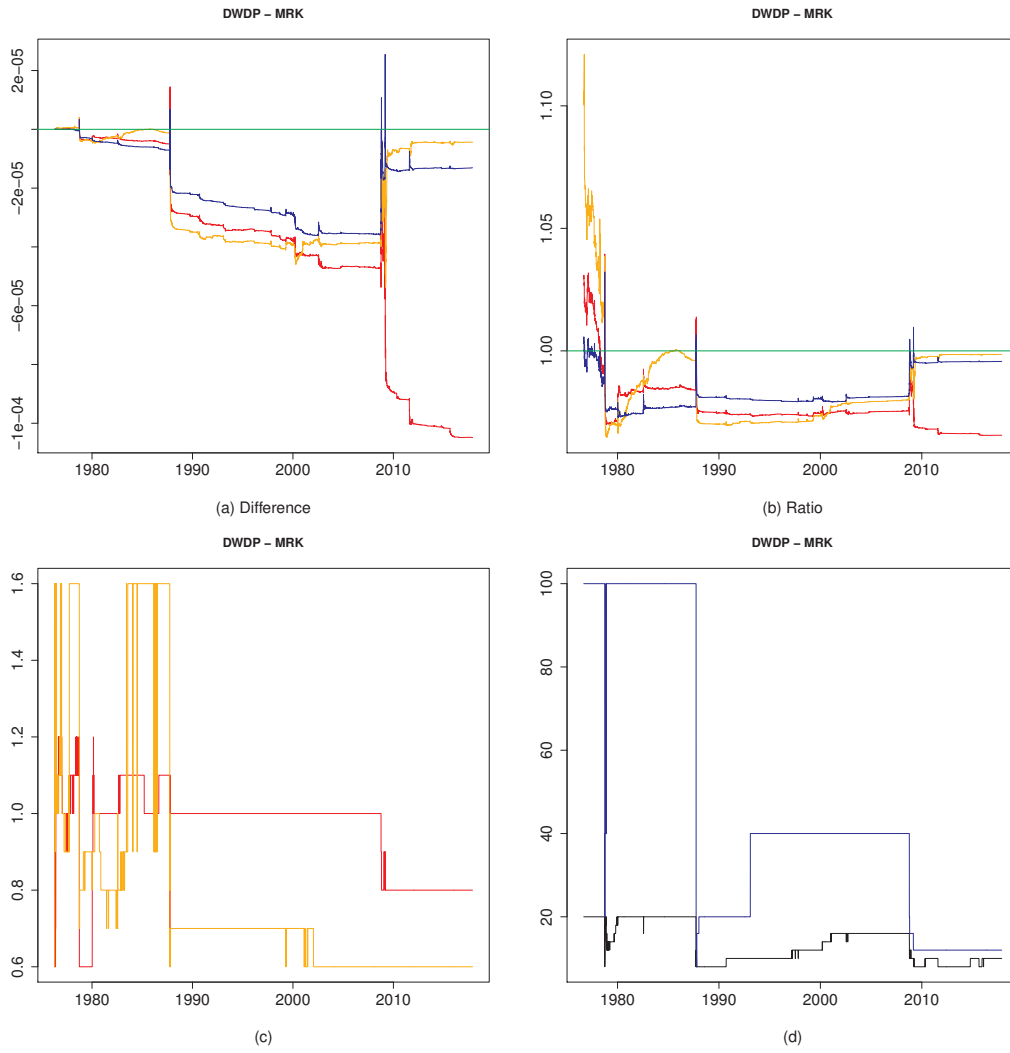


Figure 11: 01-12

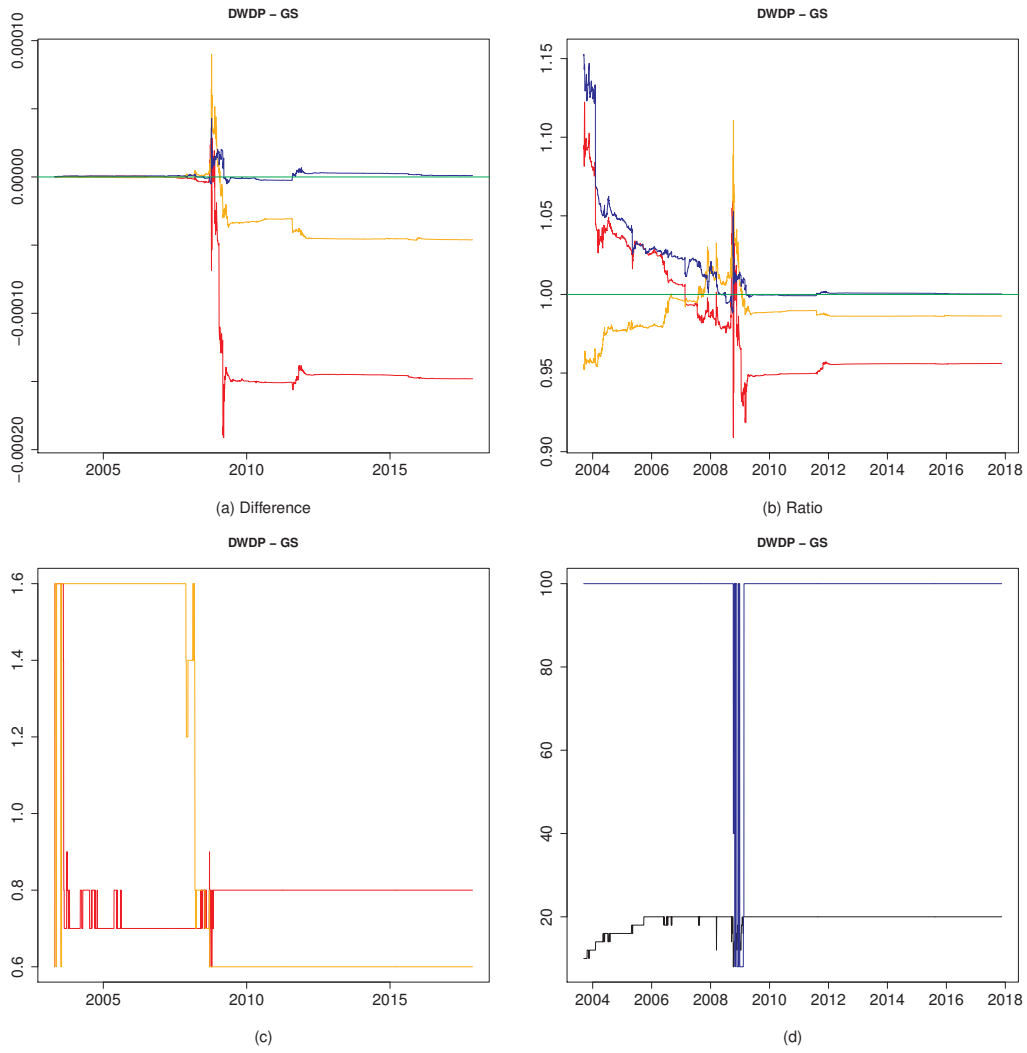


Figure 12: 01-13

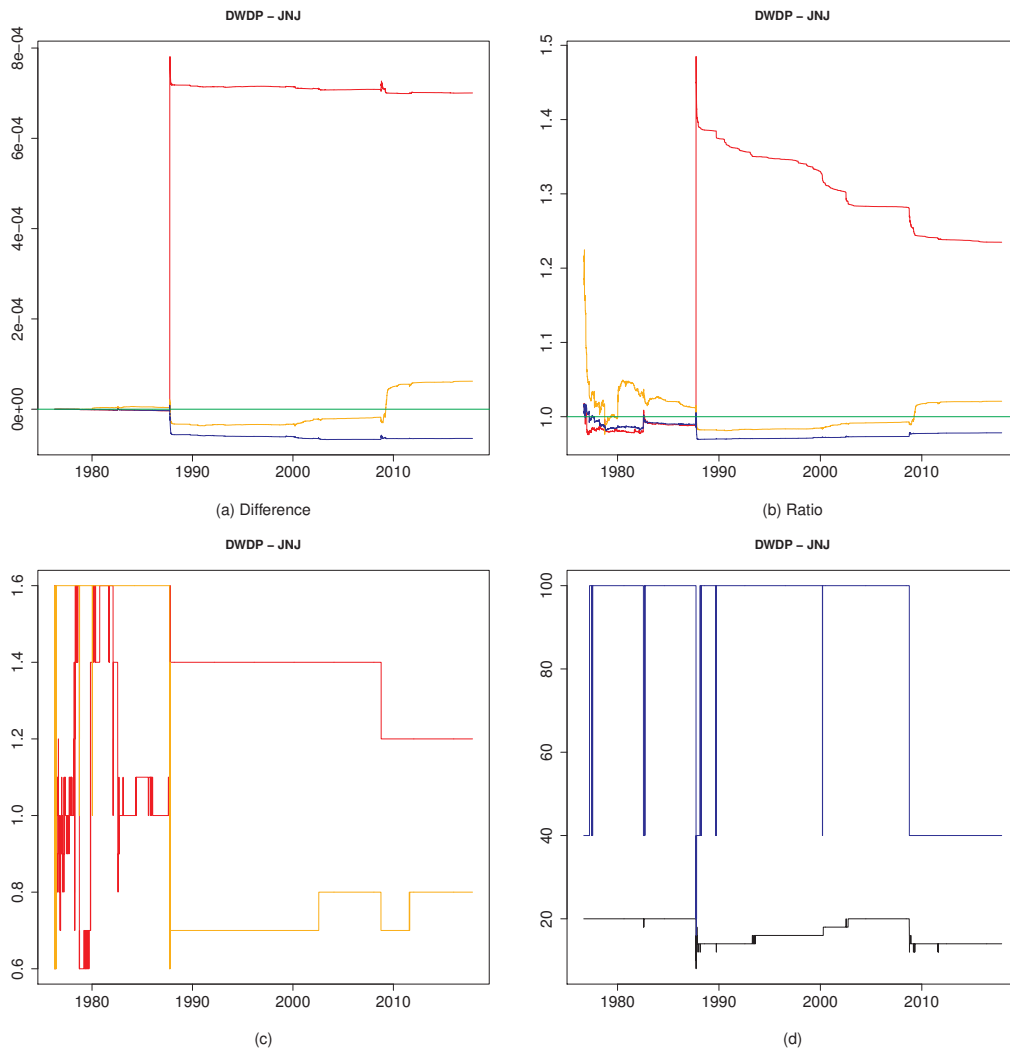


Figure 13: 01-14

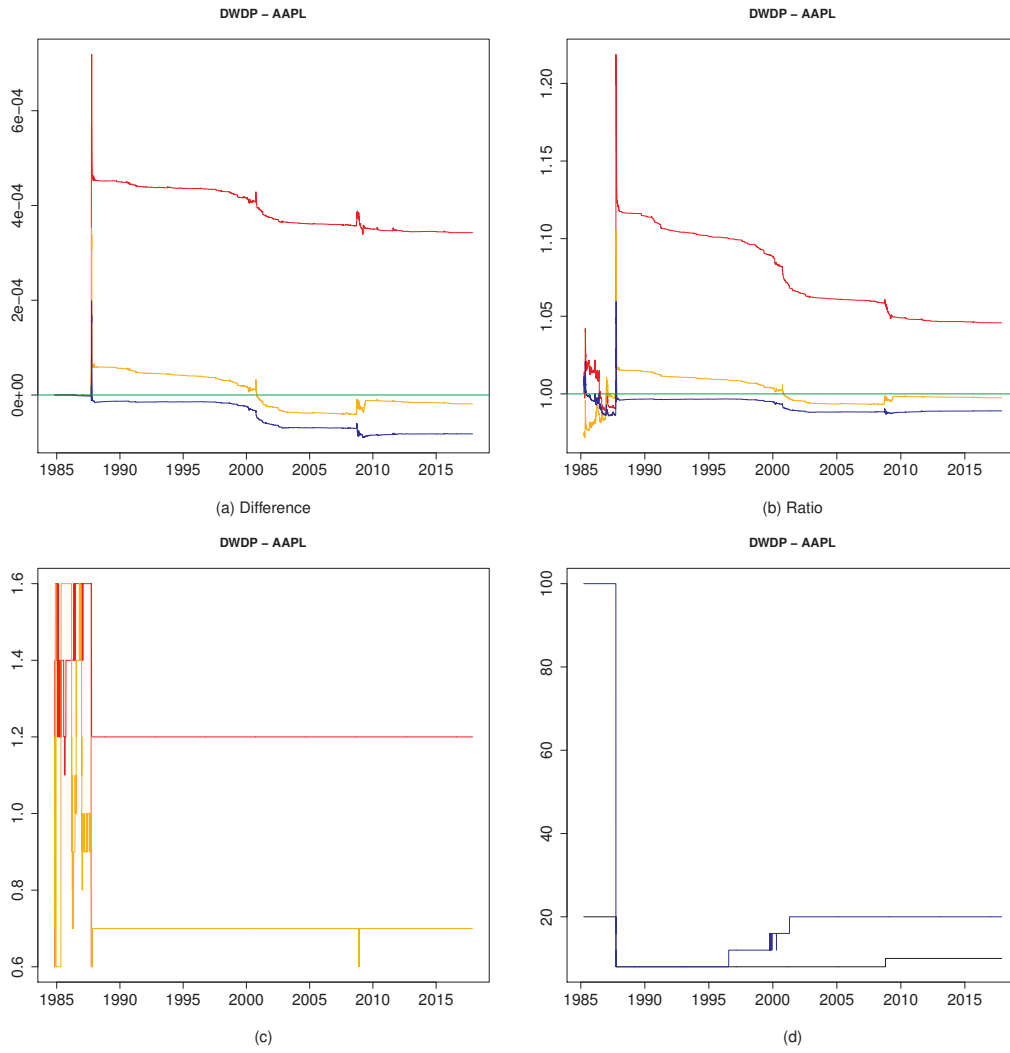


Figure 14: 01-15

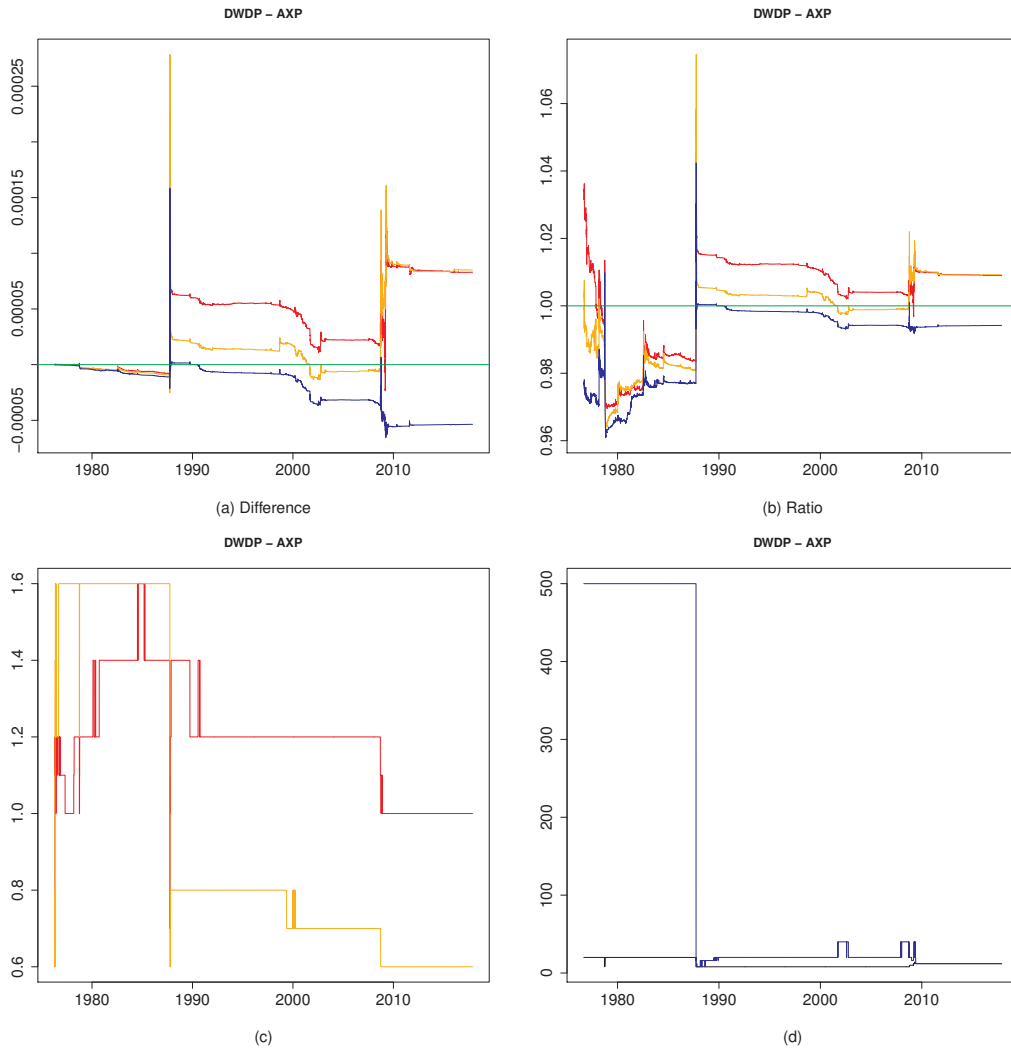


Figure 15: 01-16

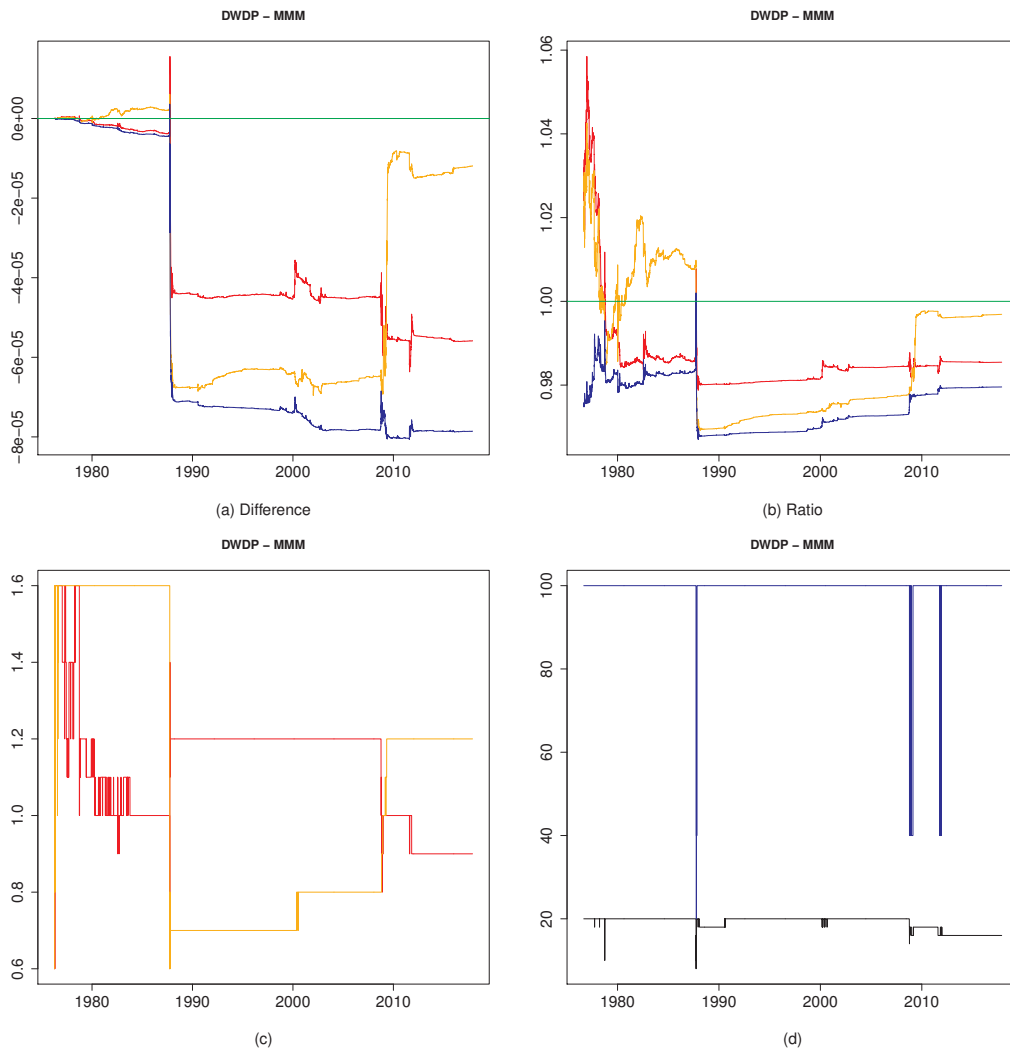


Figure 16: 01-17

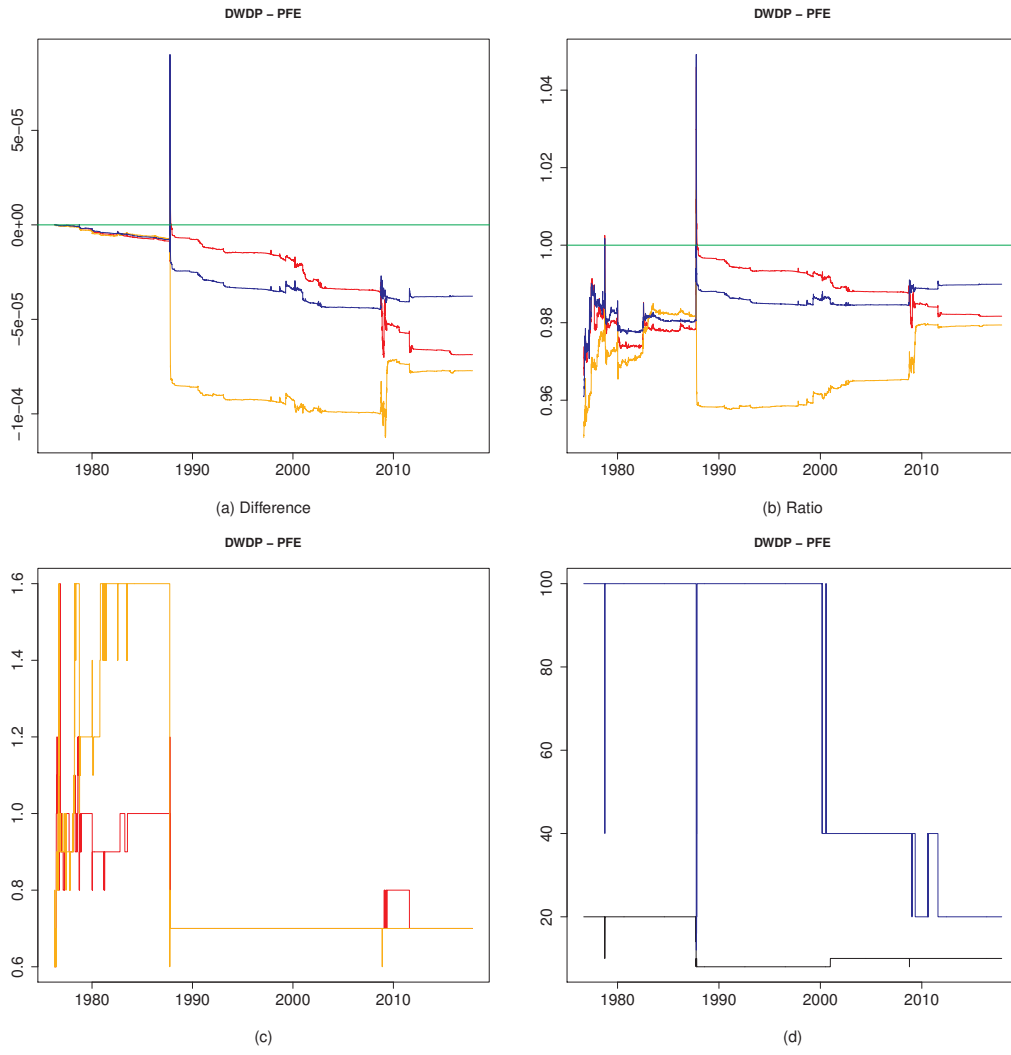


Figure 17: 01-18

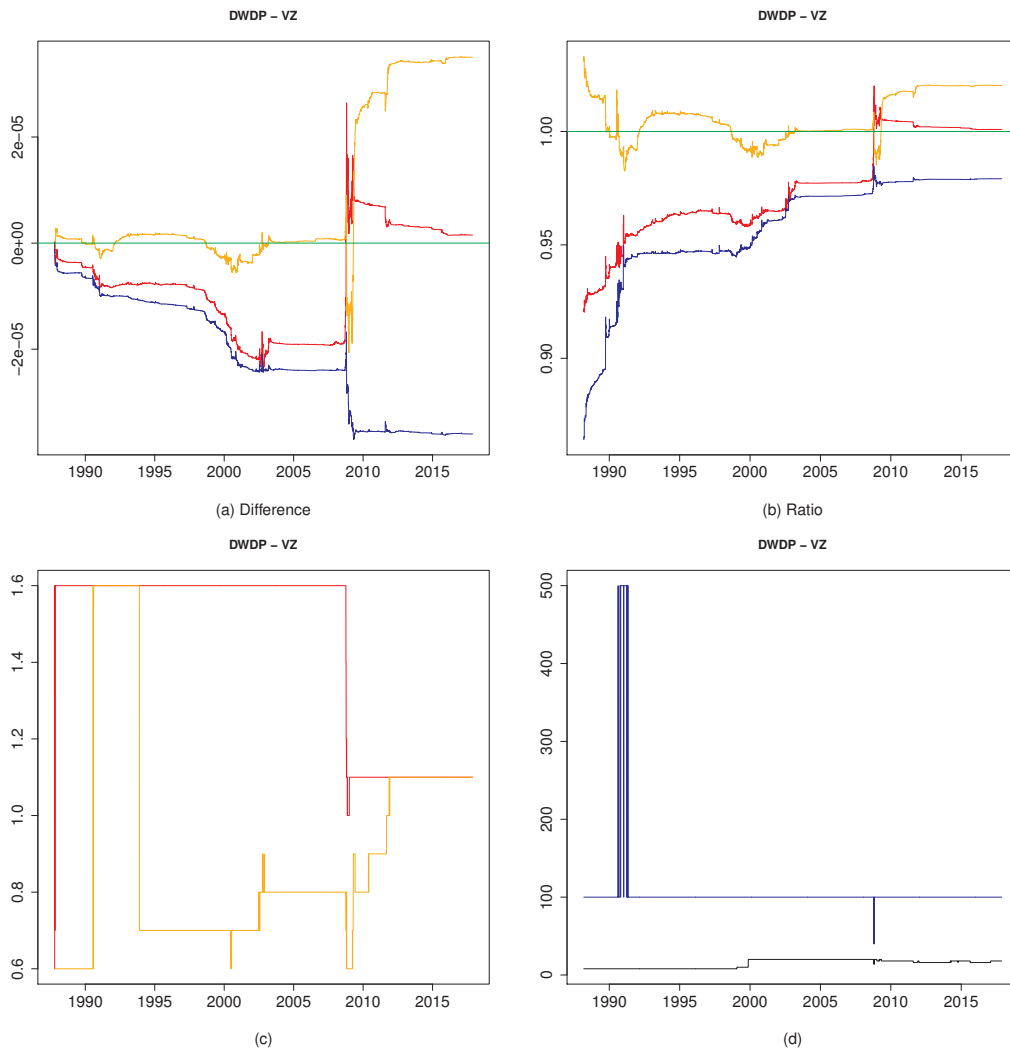


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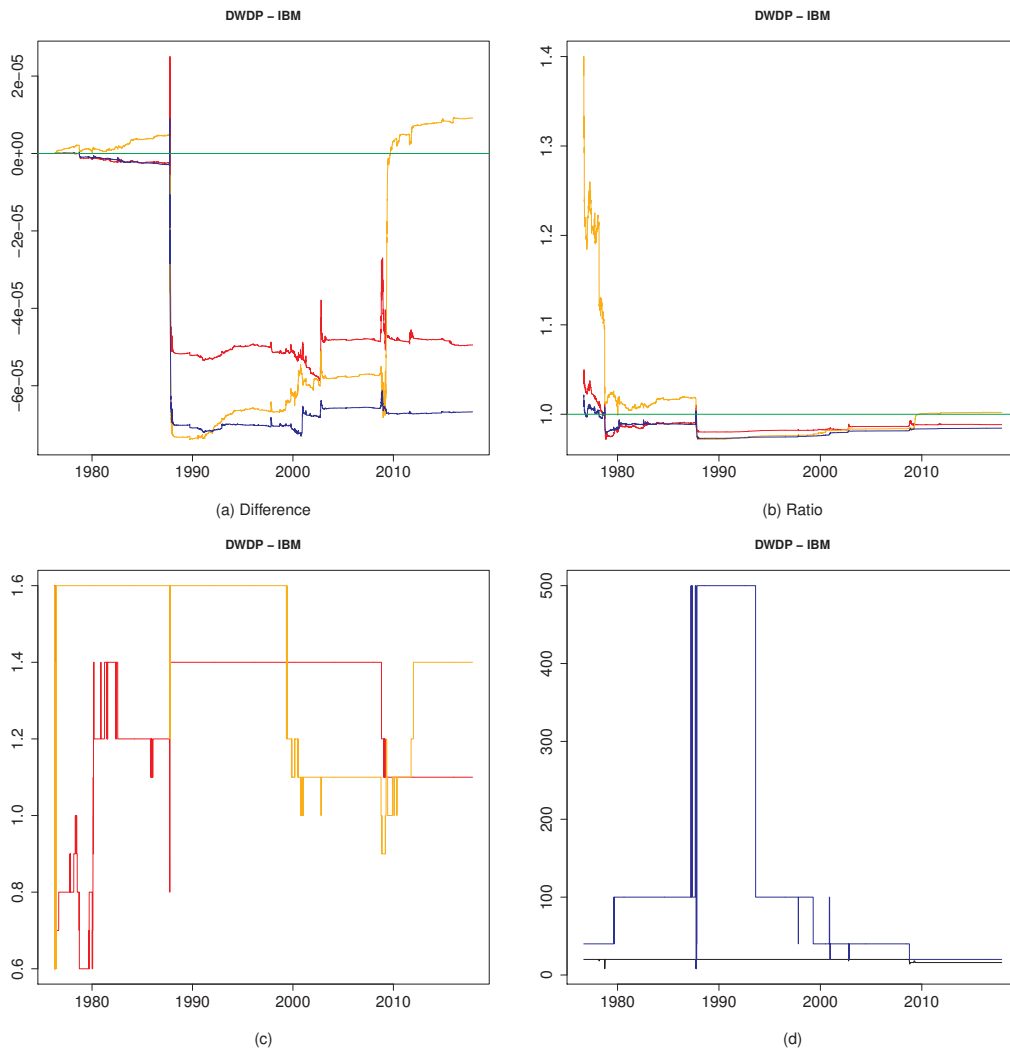


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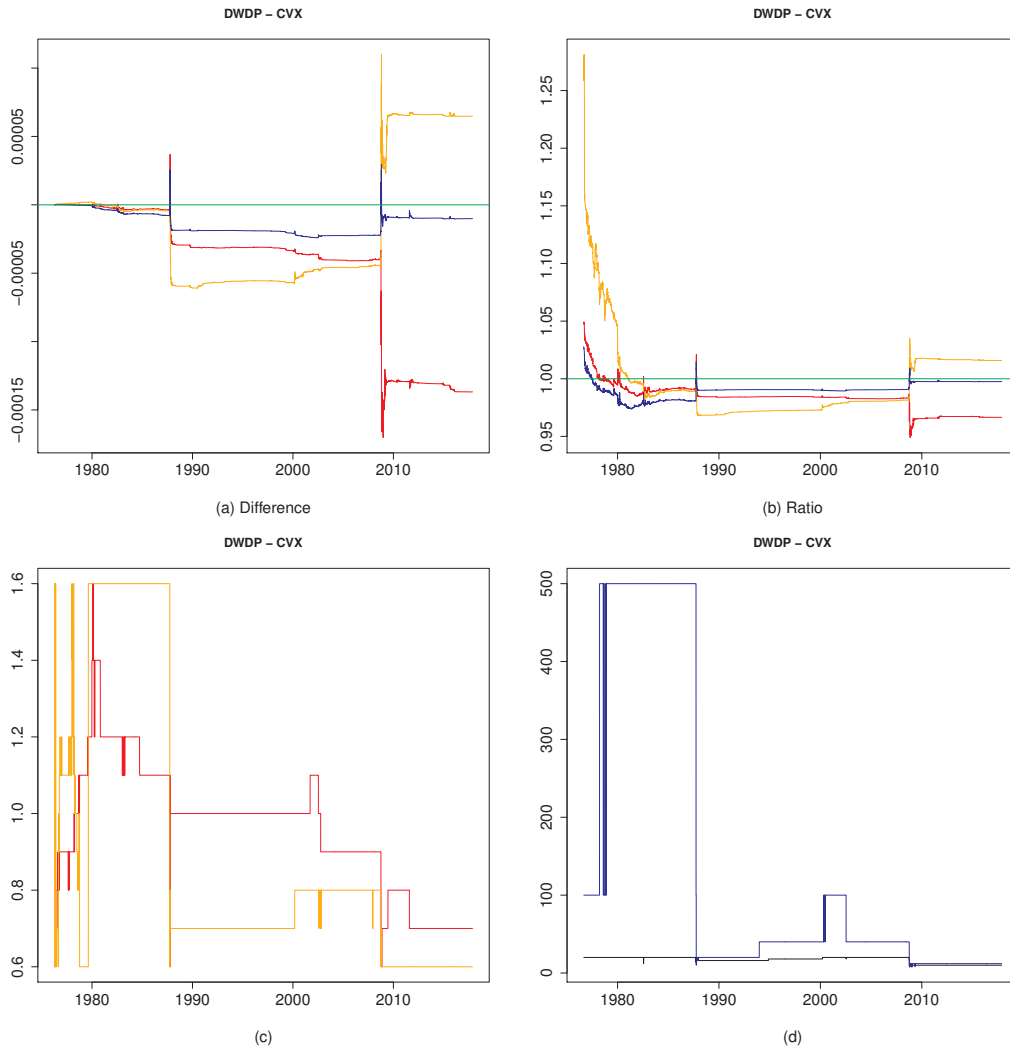


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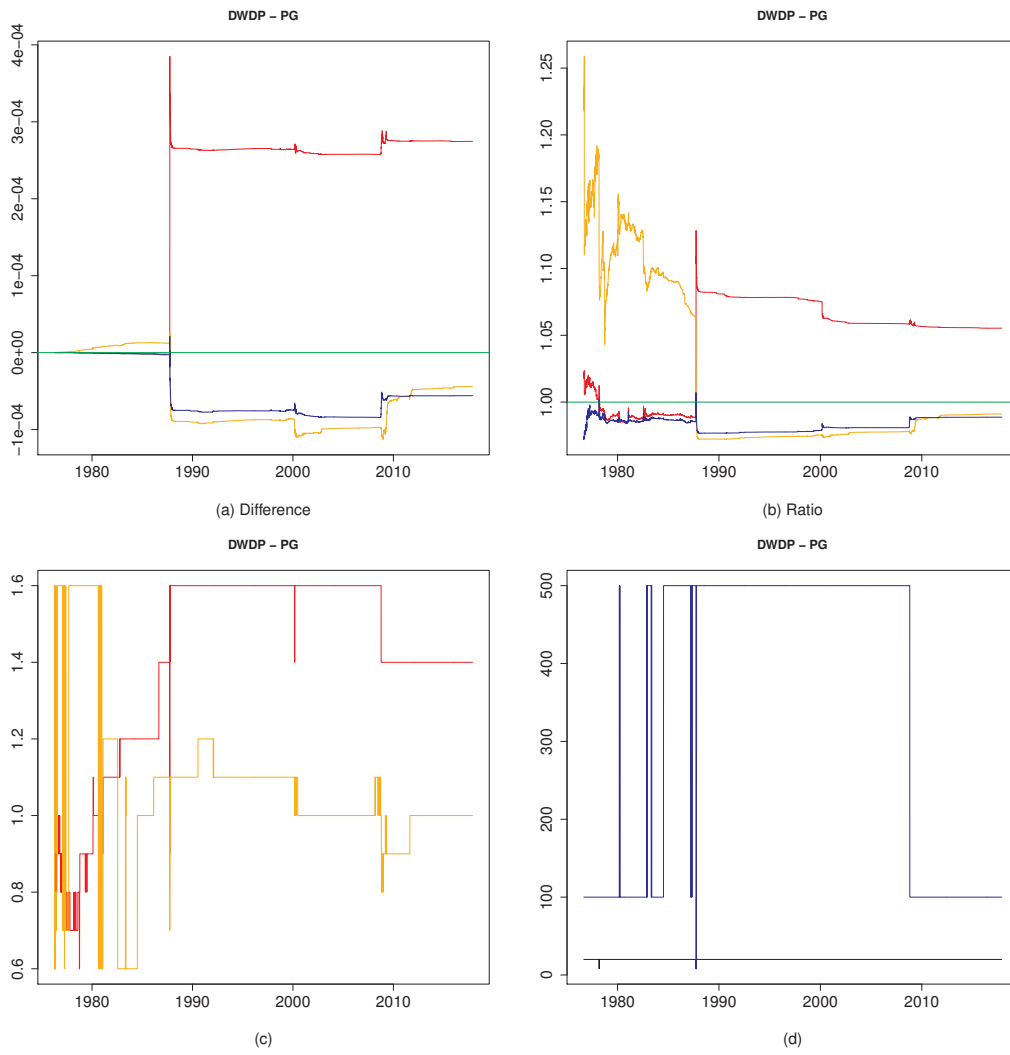


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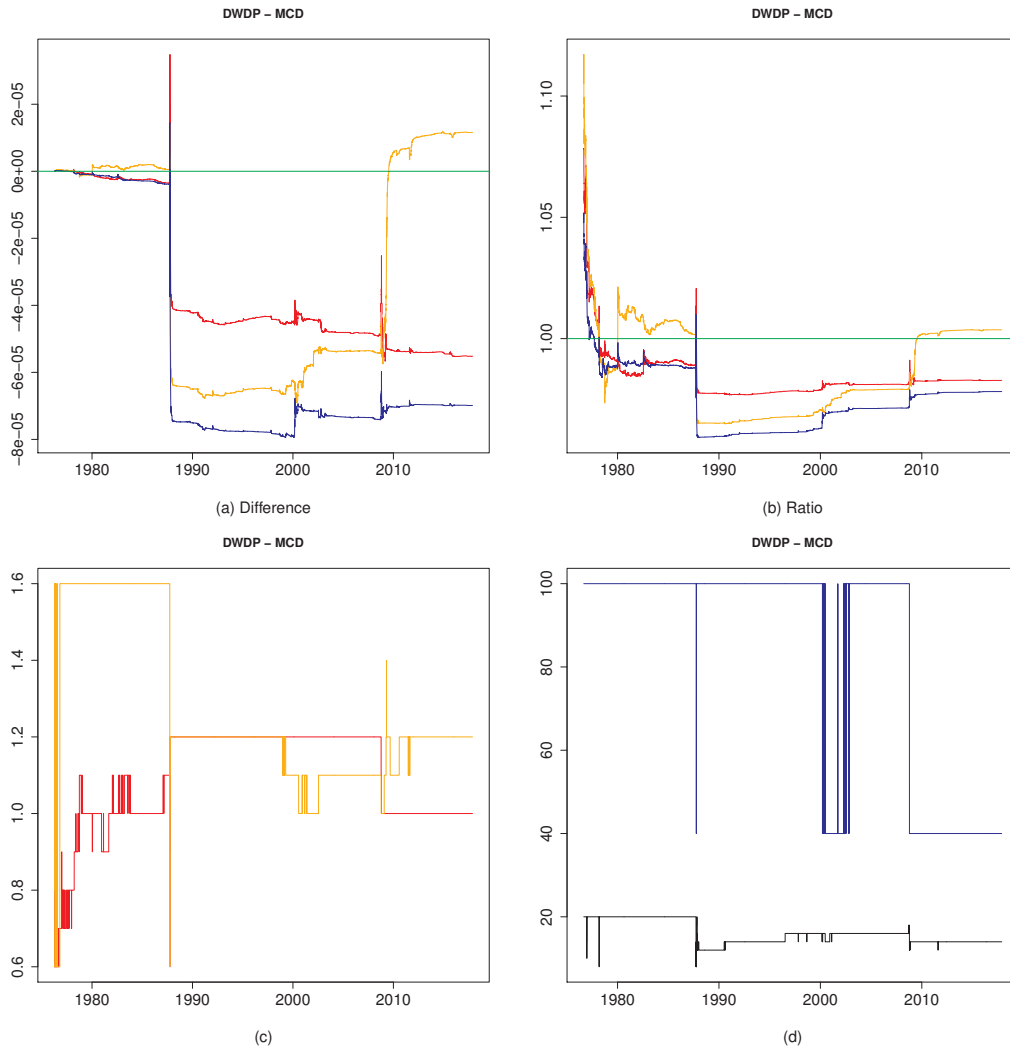


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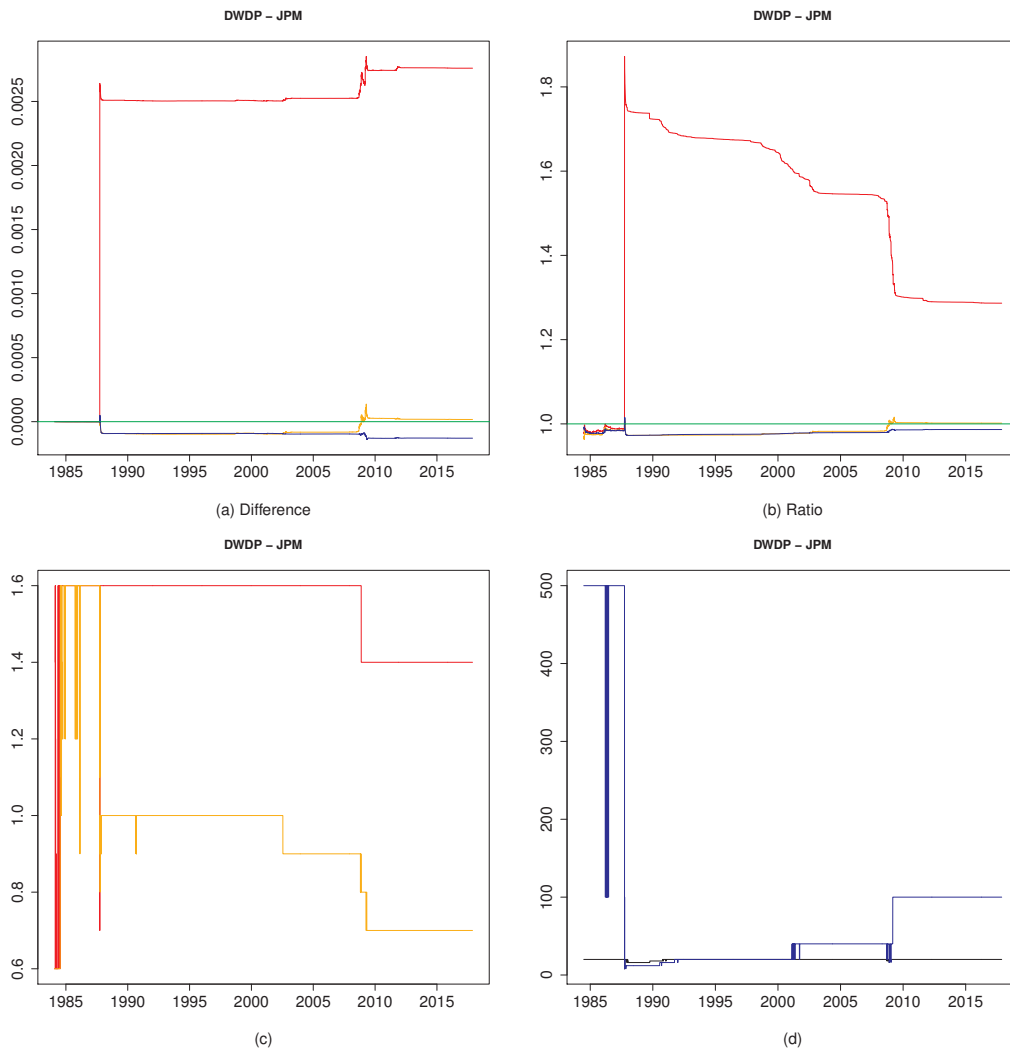


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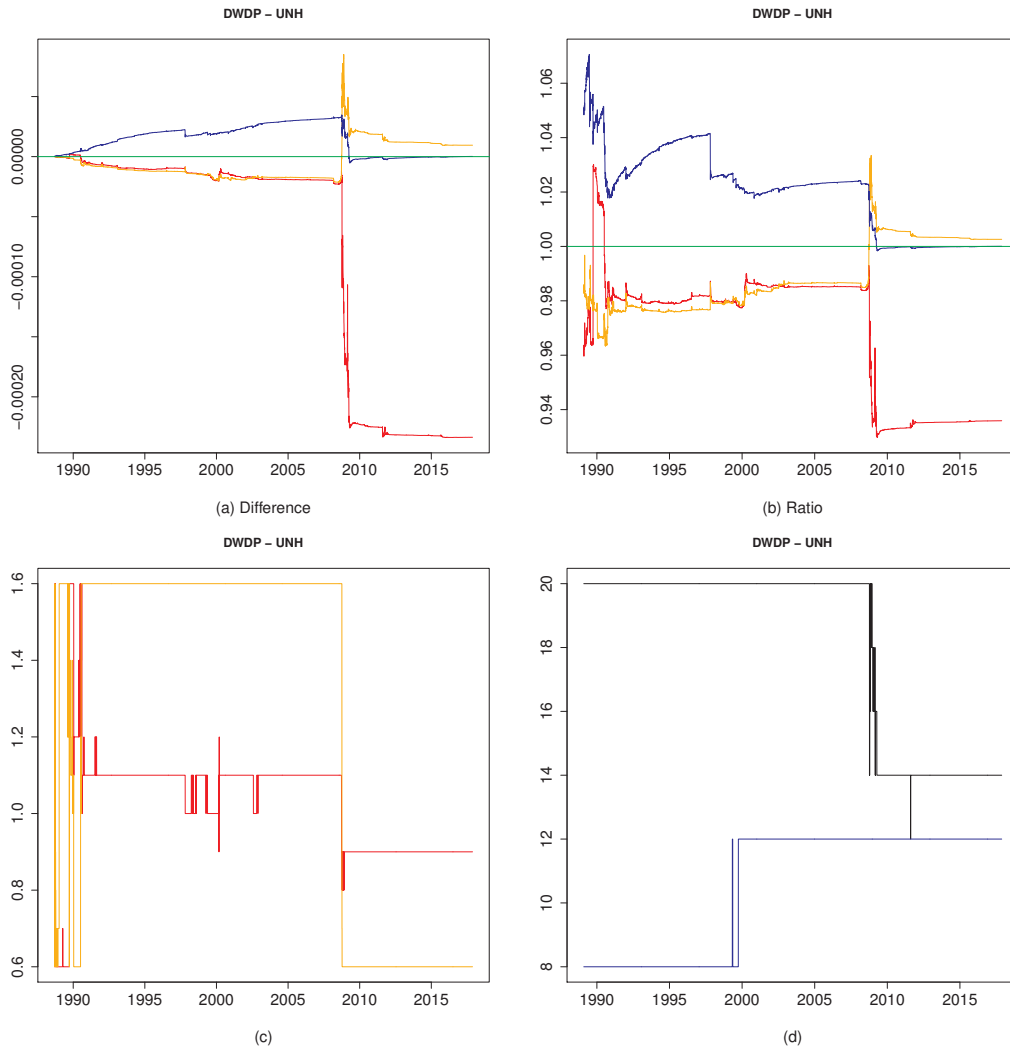


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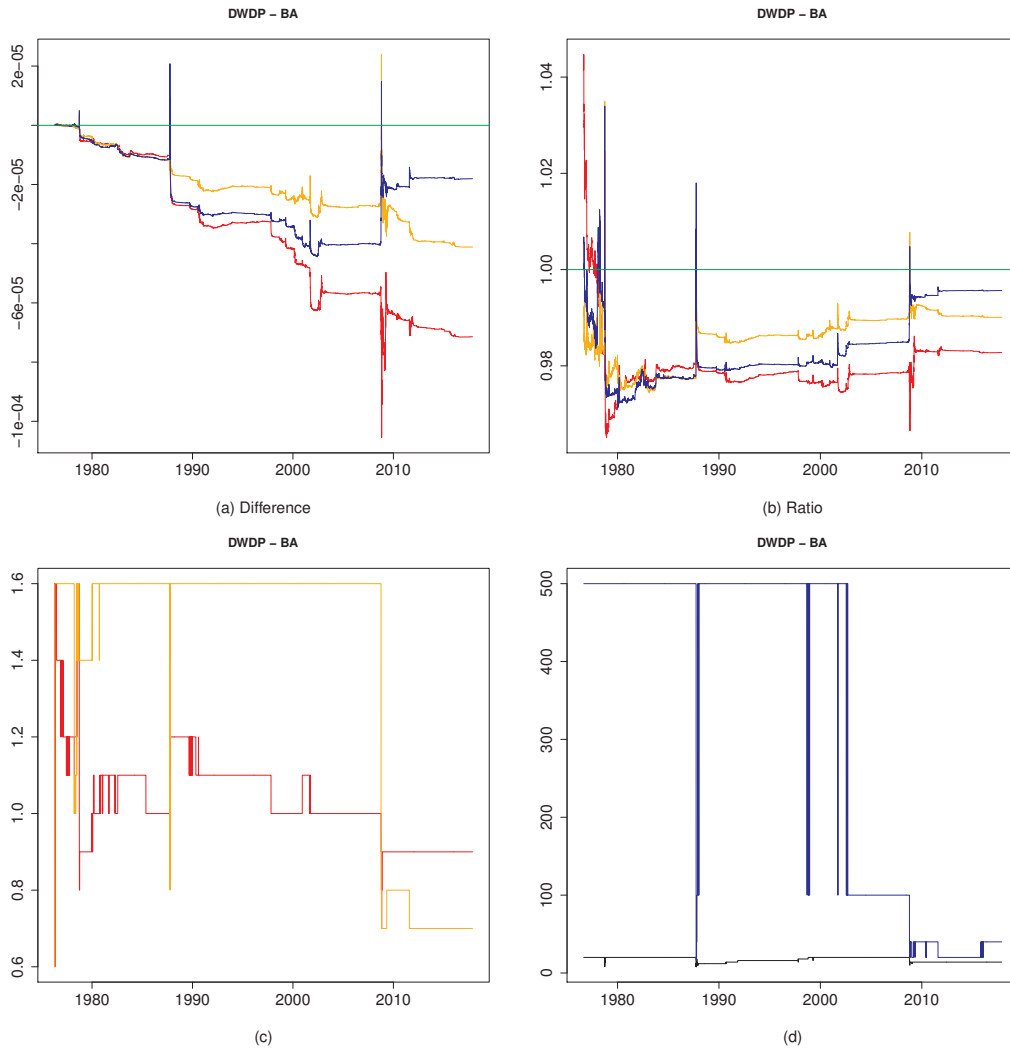


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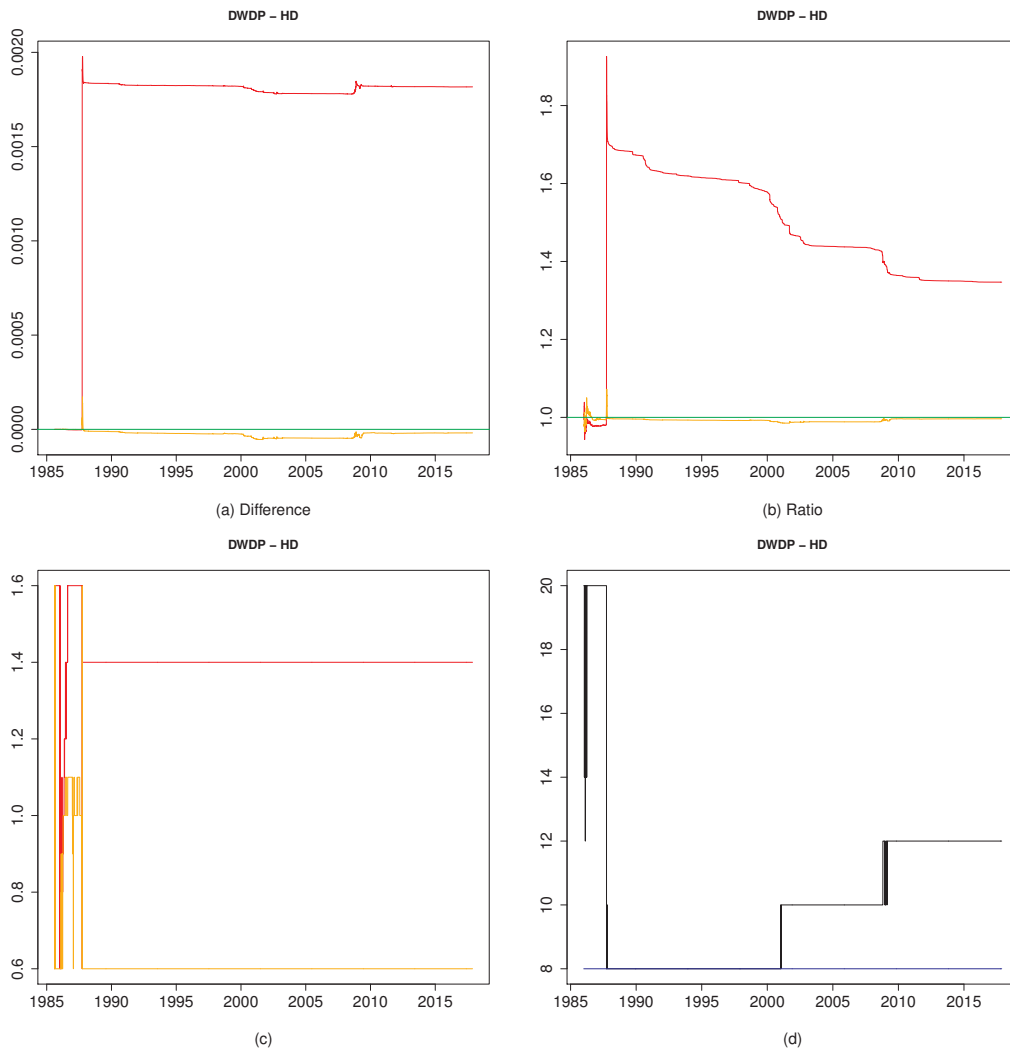


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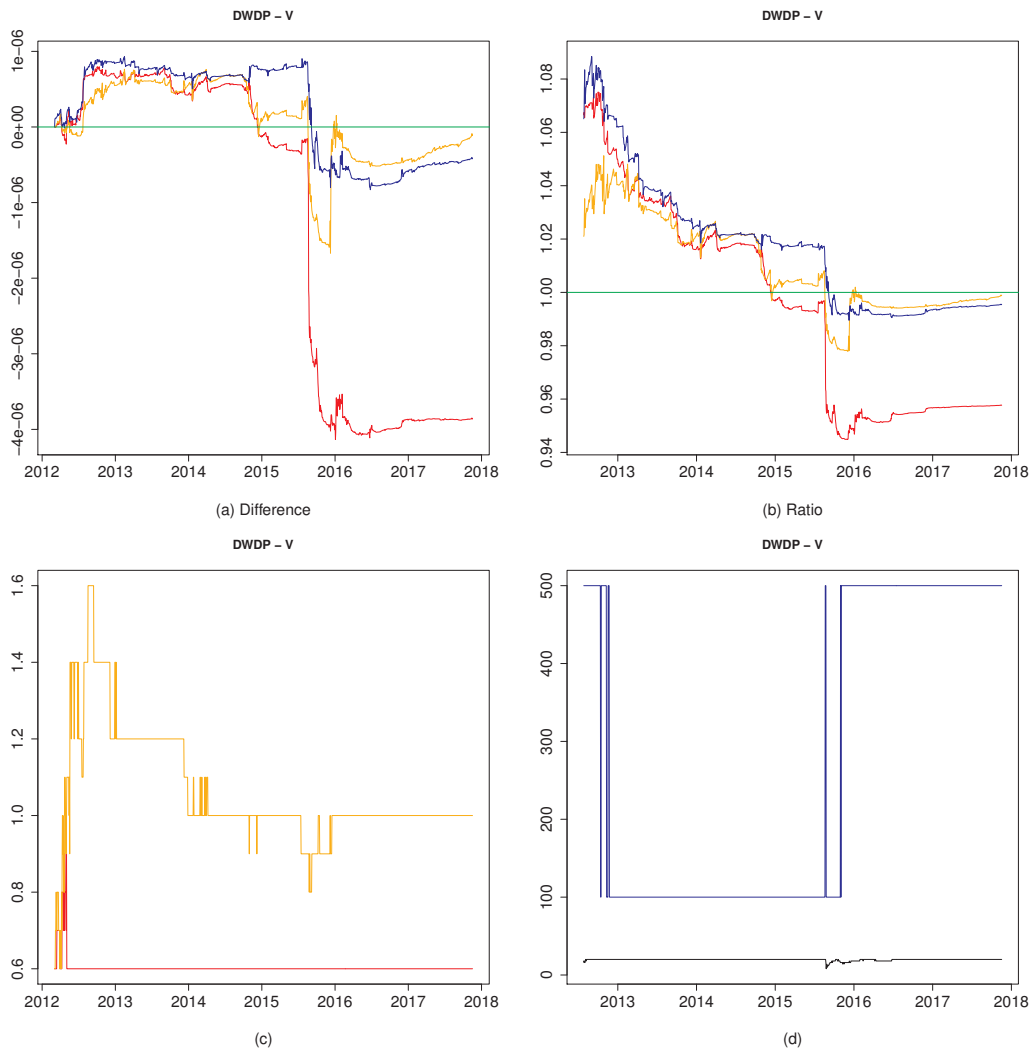


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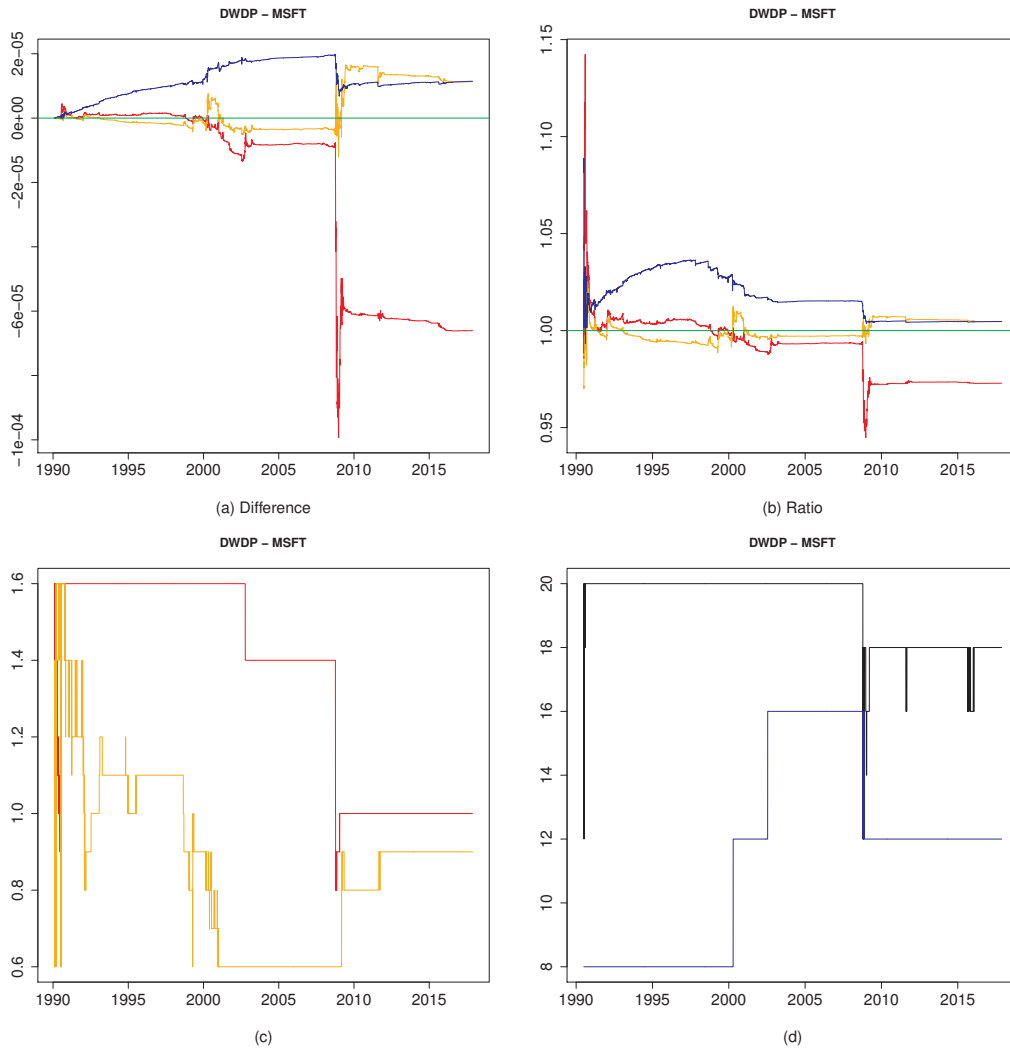


Figure 28: 01-29

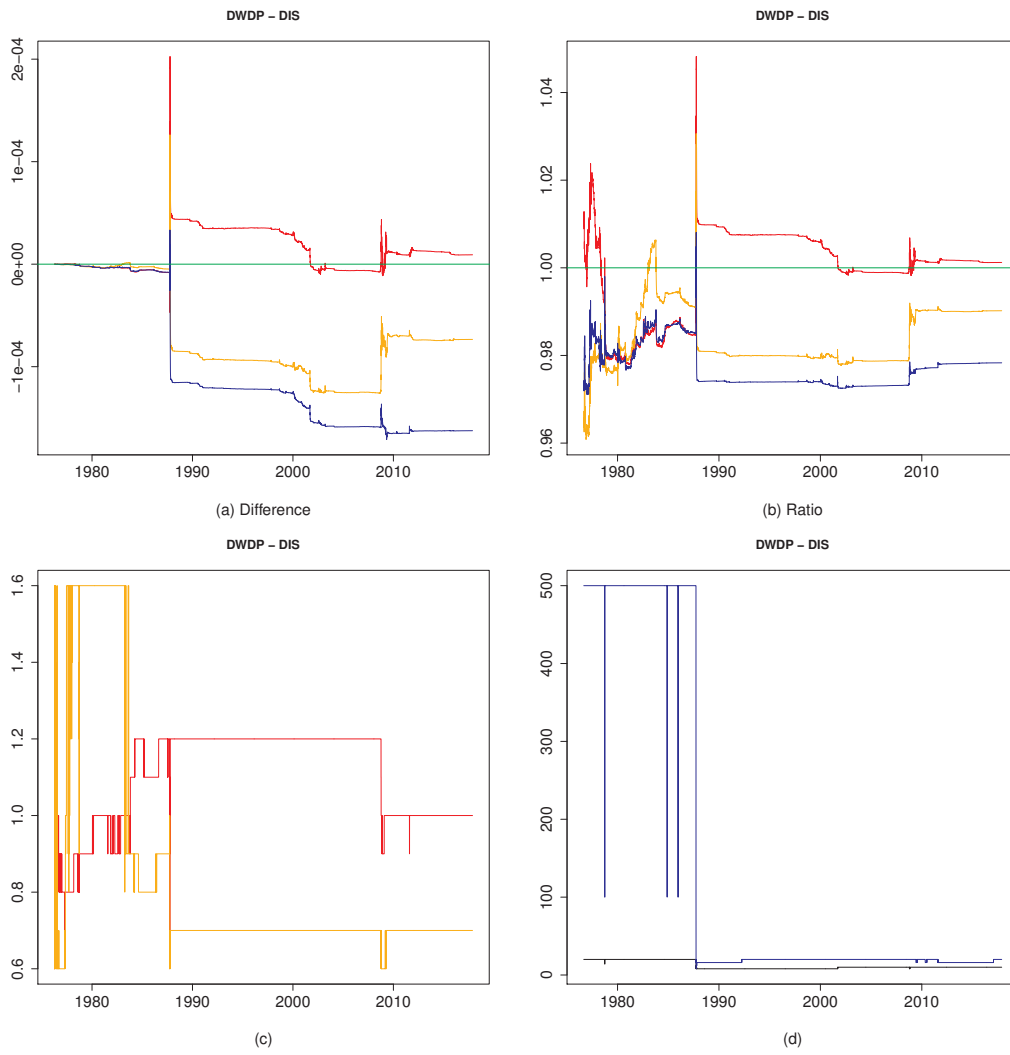


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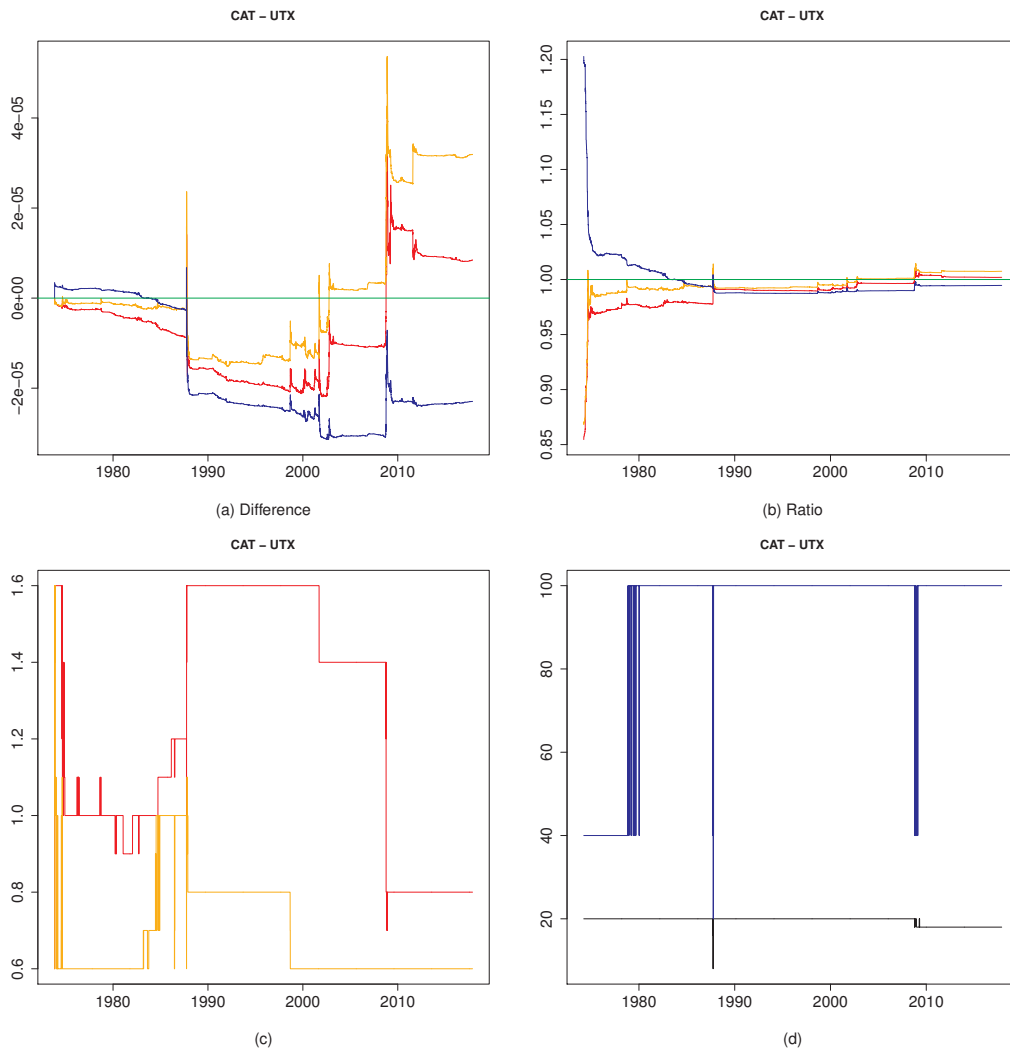


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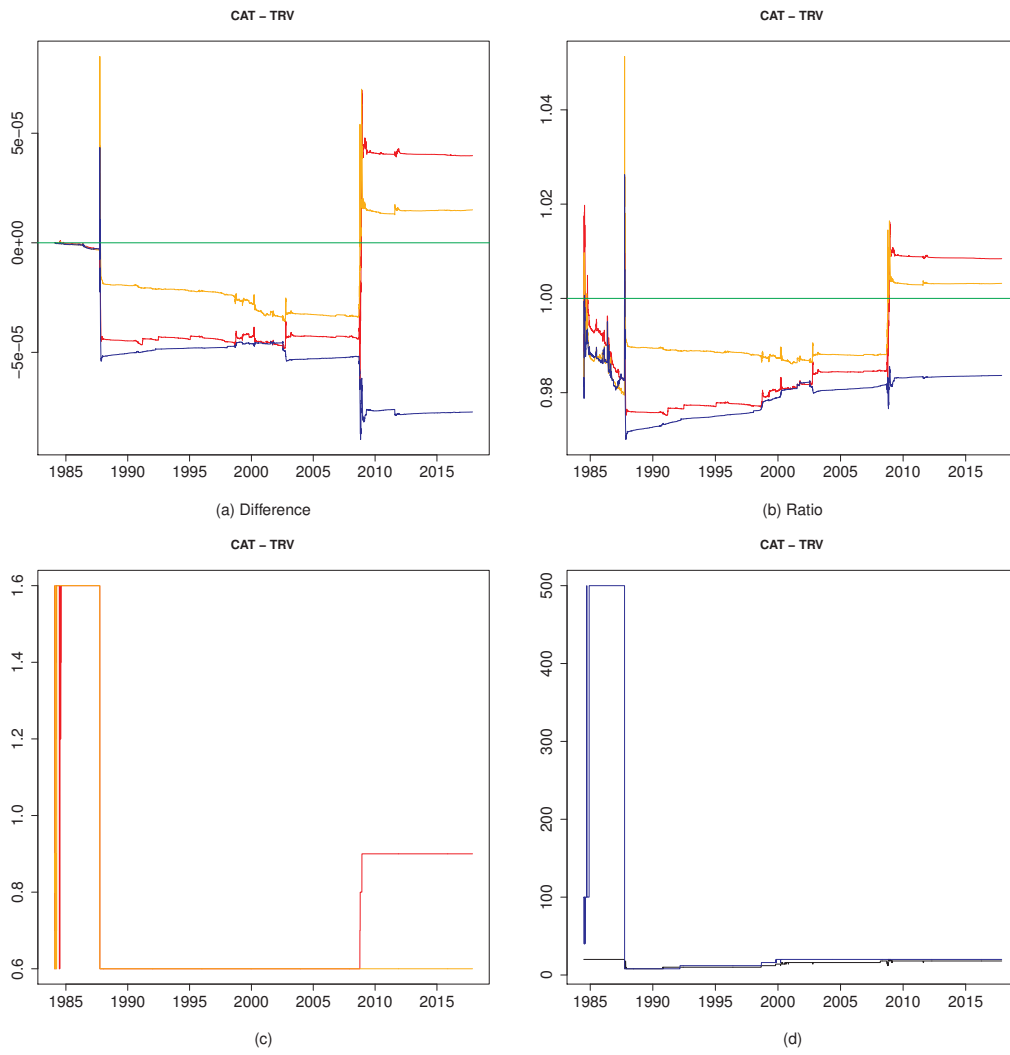


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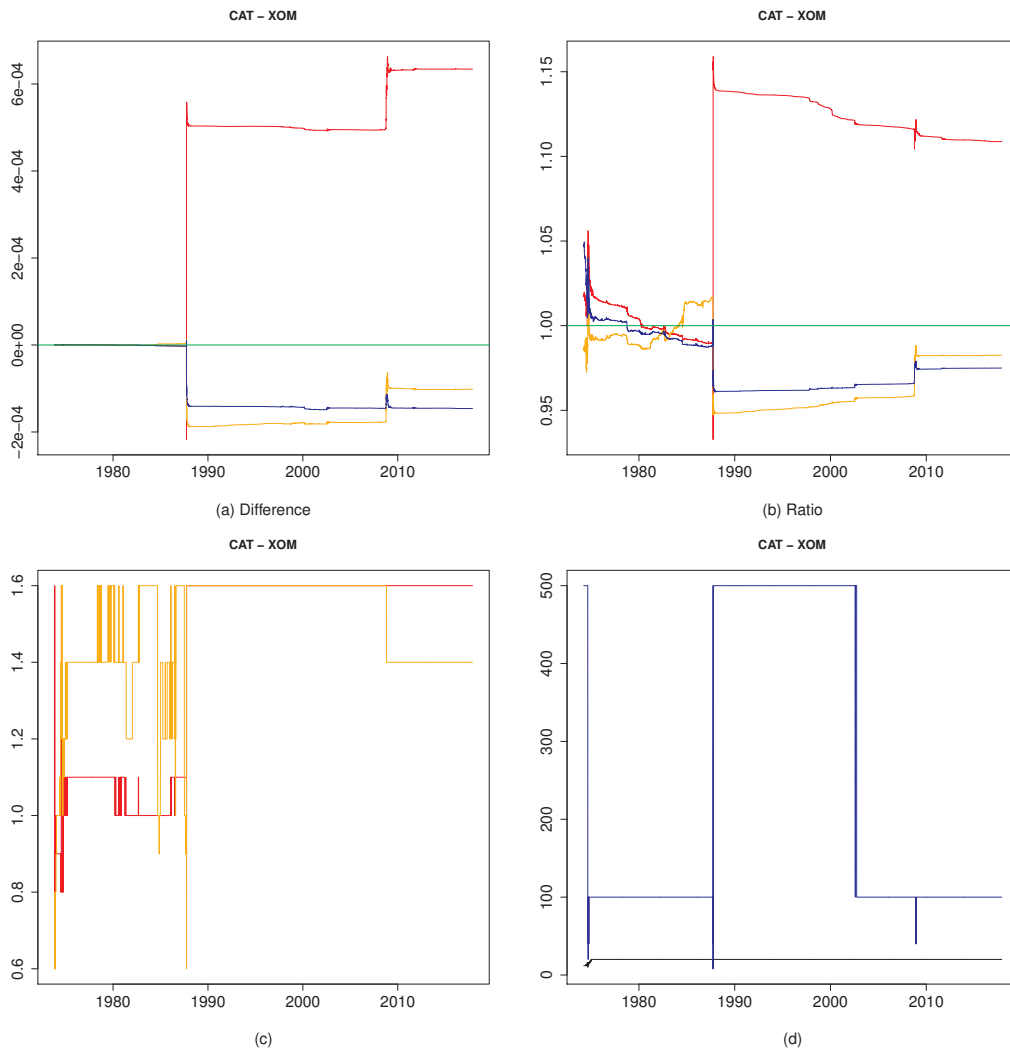


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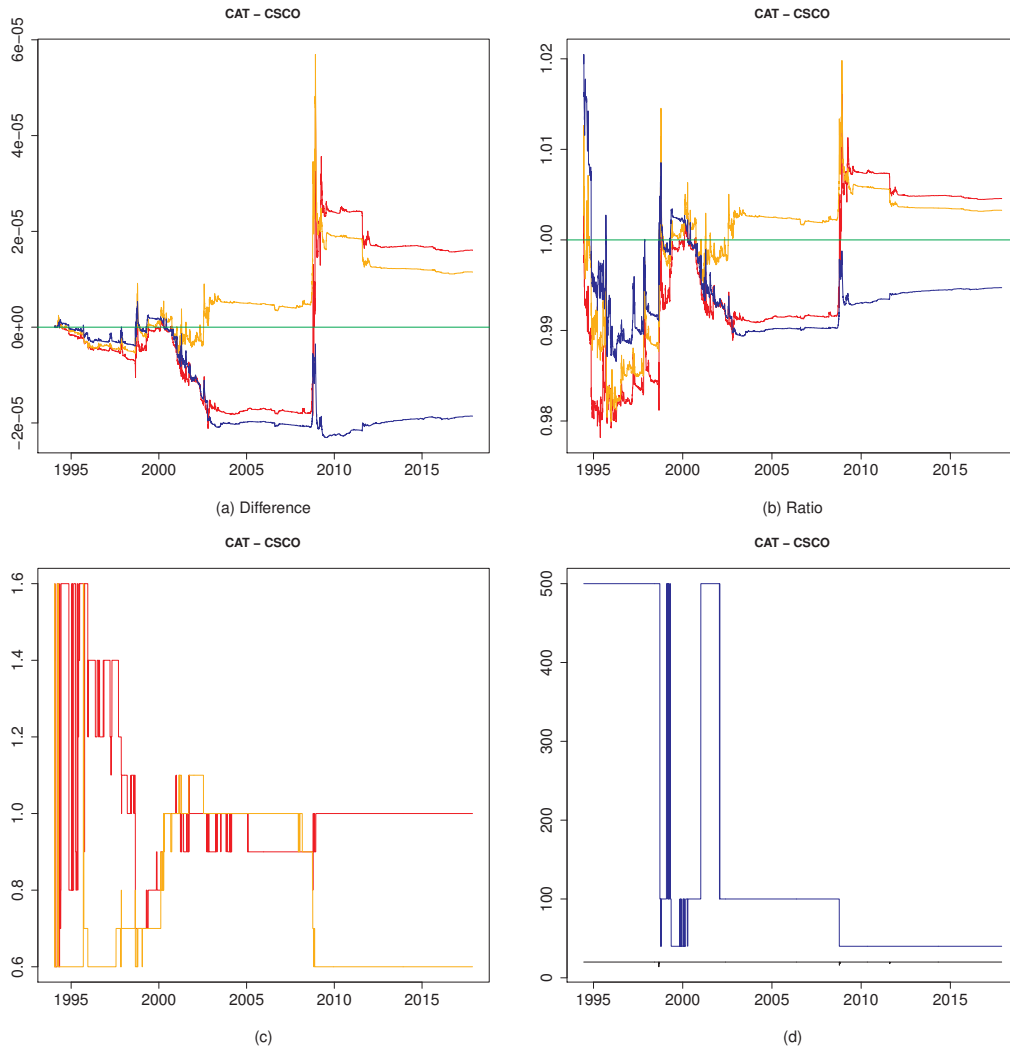


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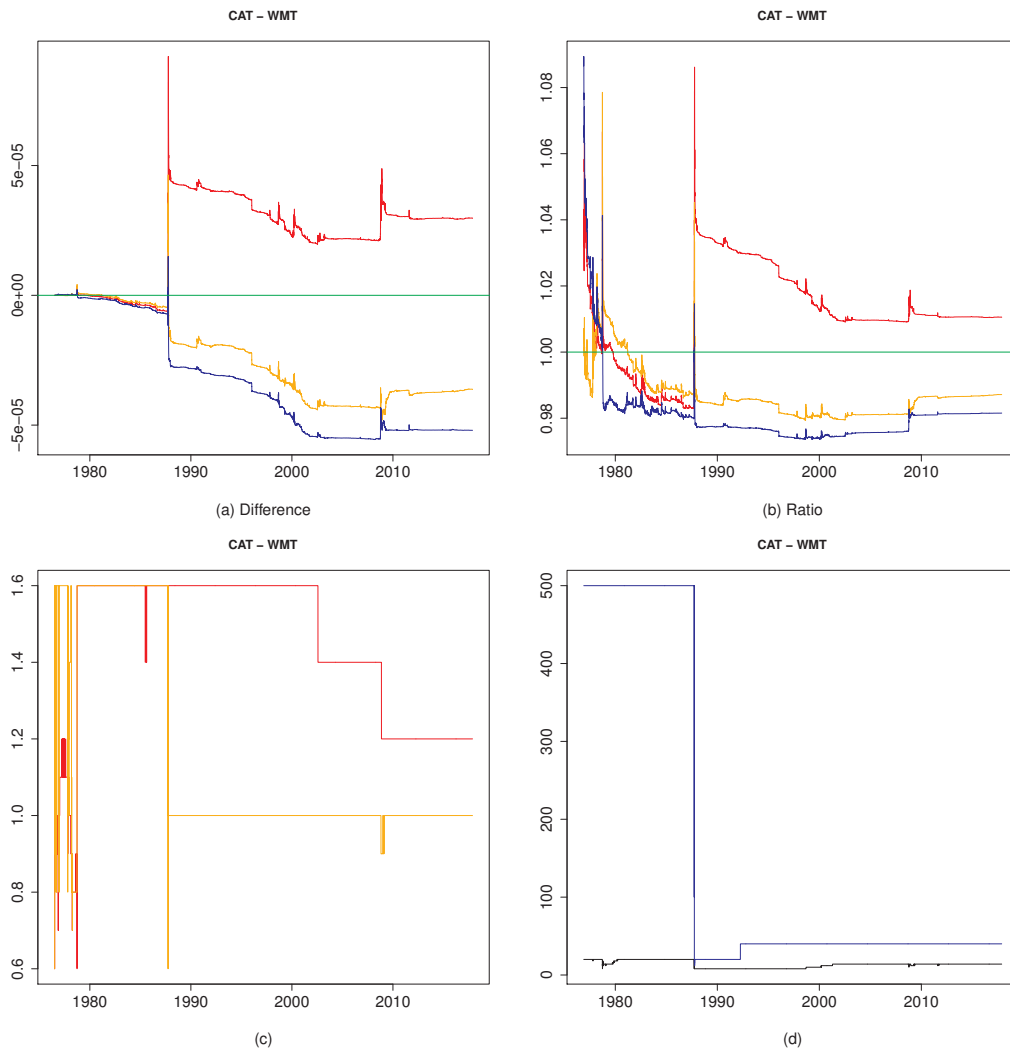


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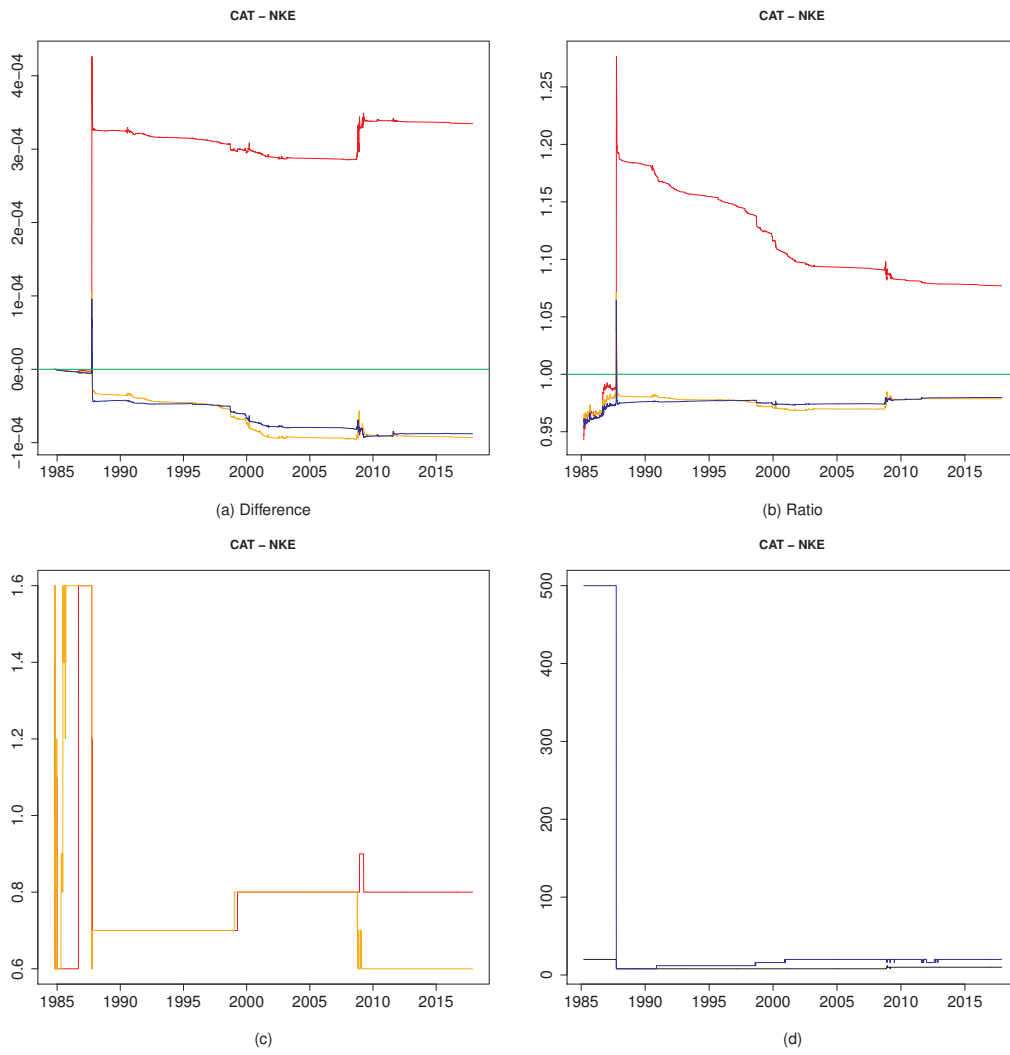


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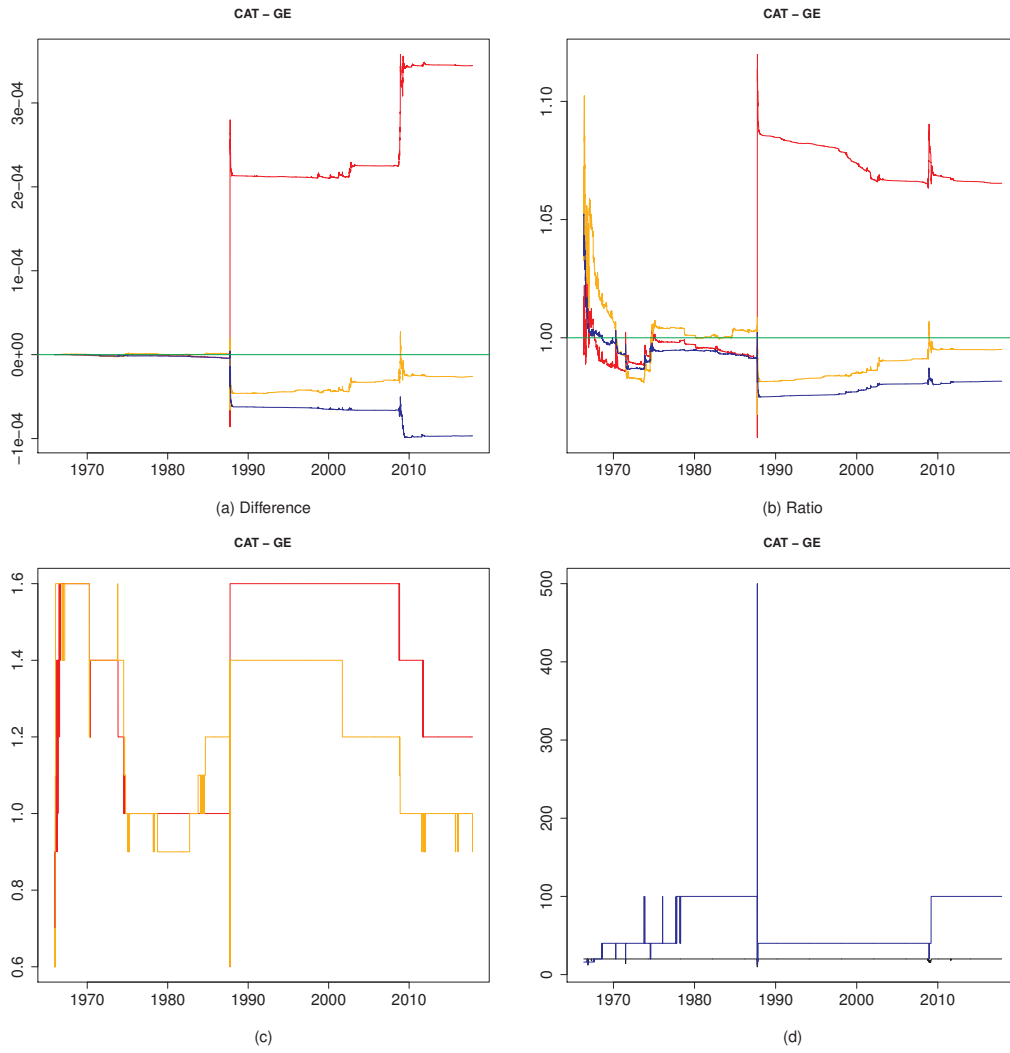


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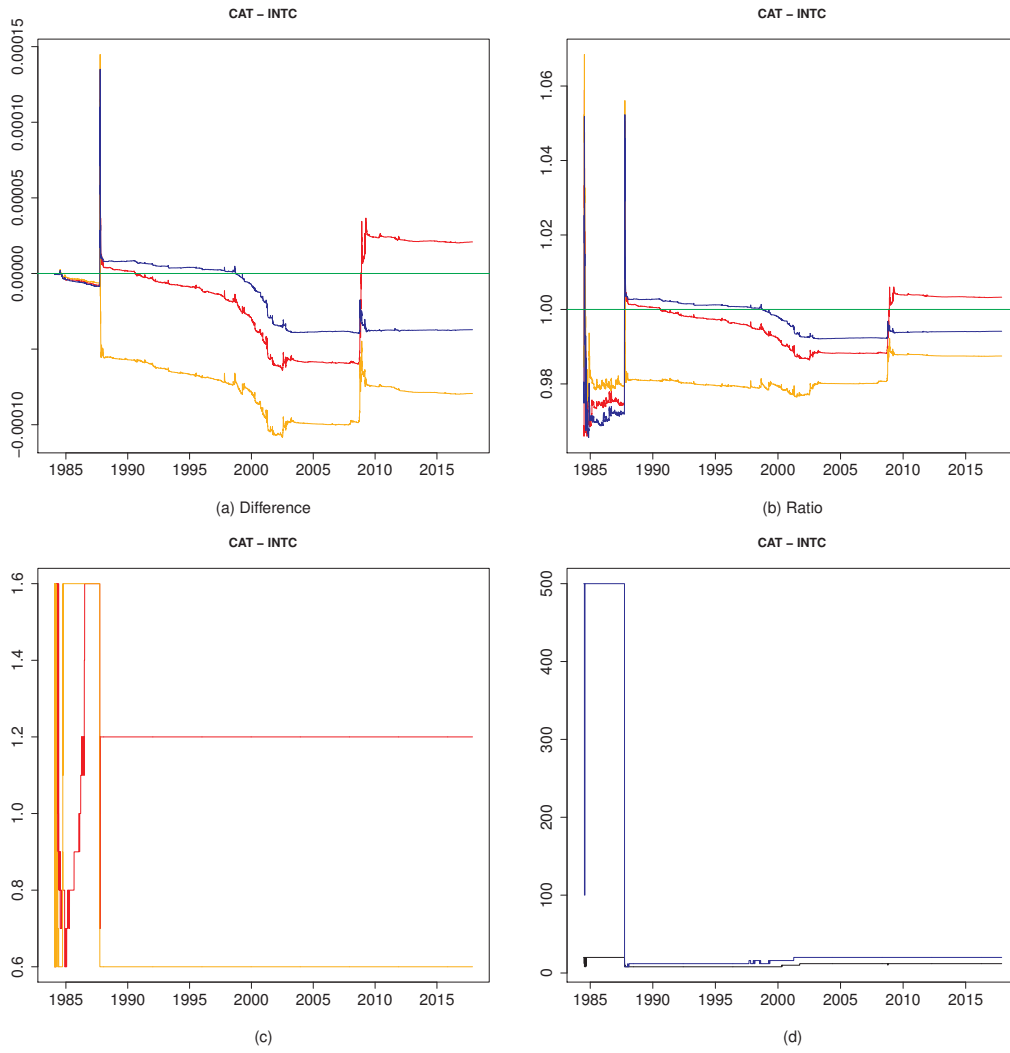


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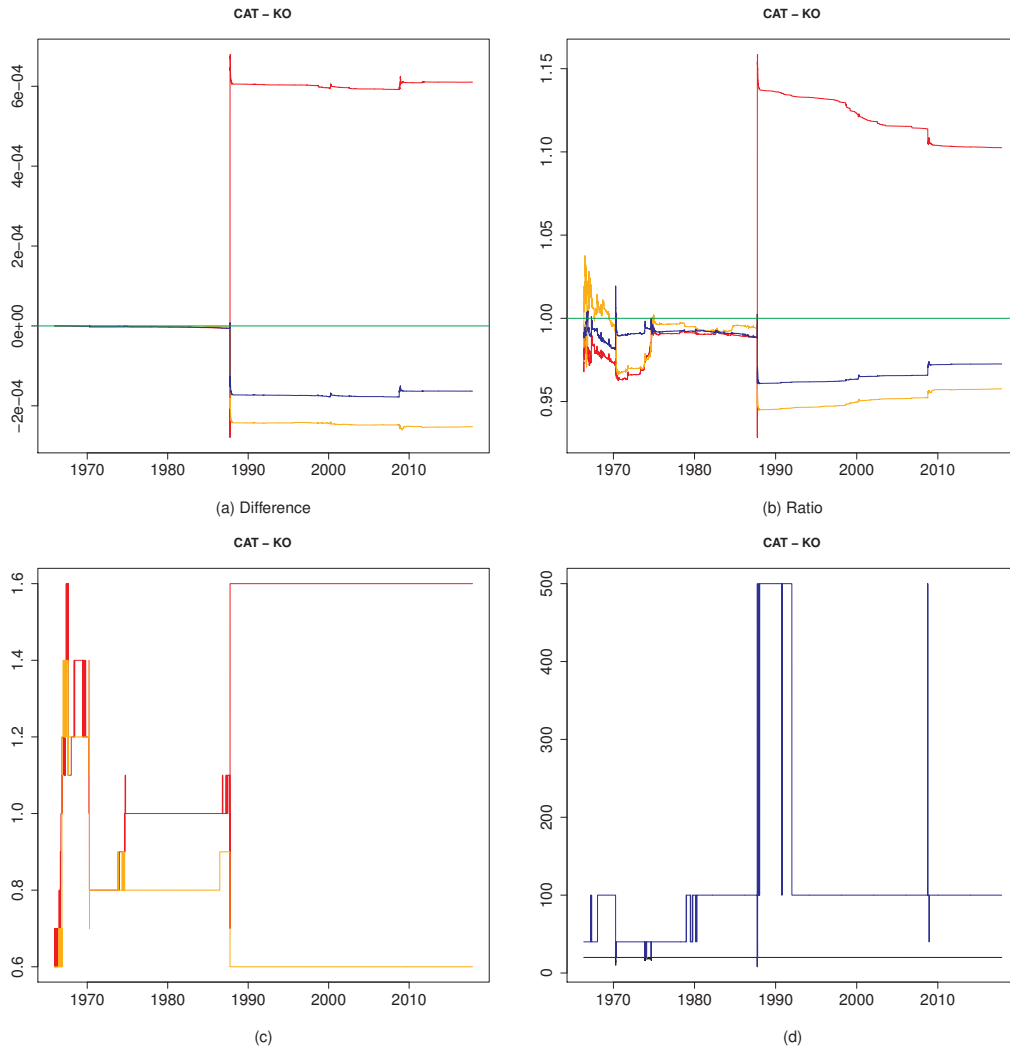


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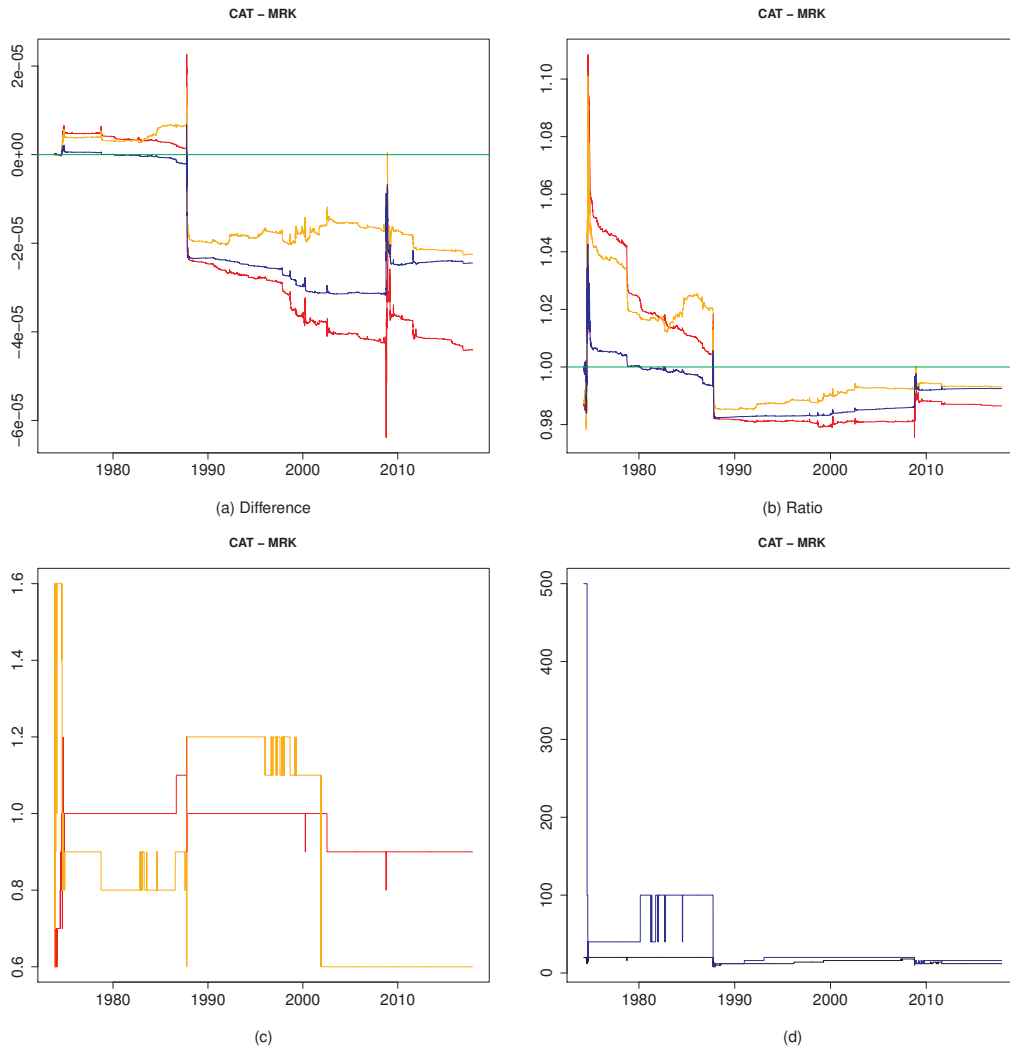


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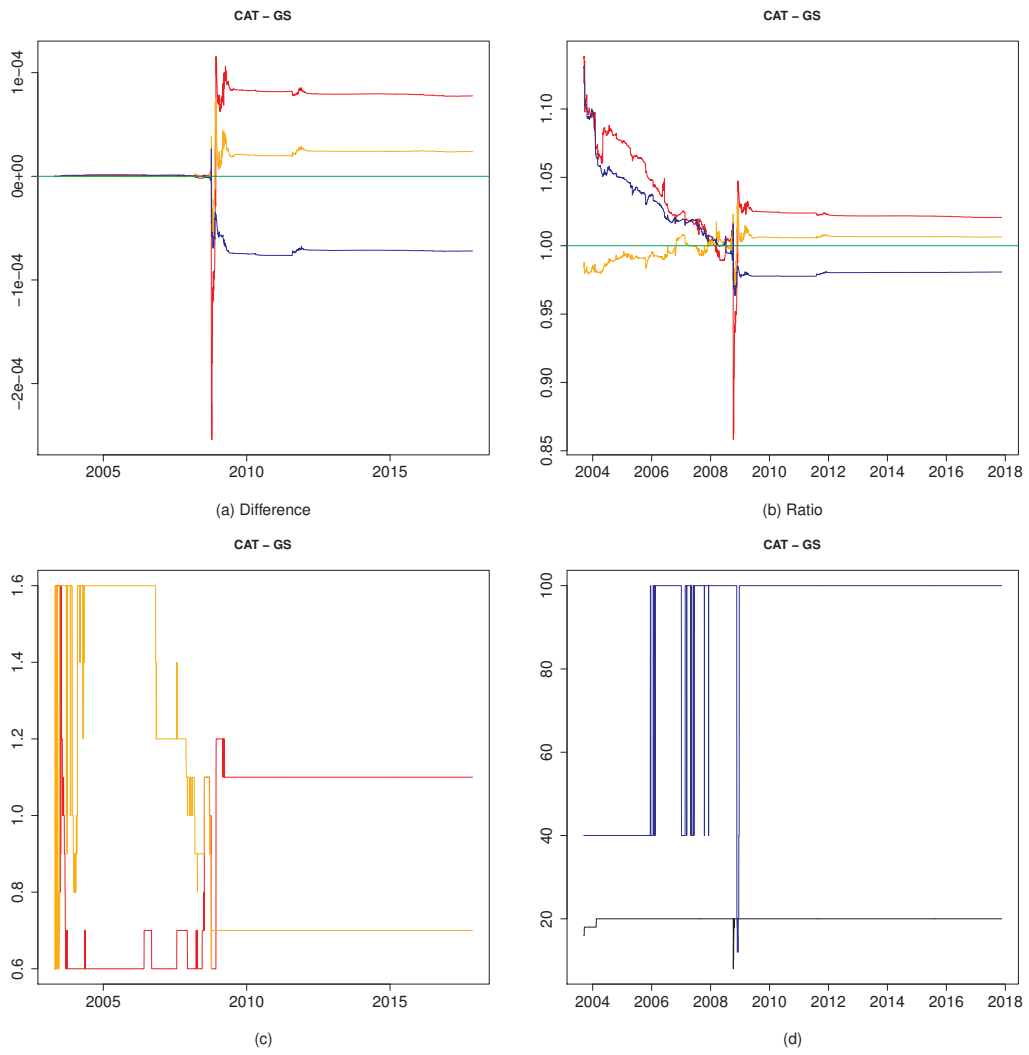


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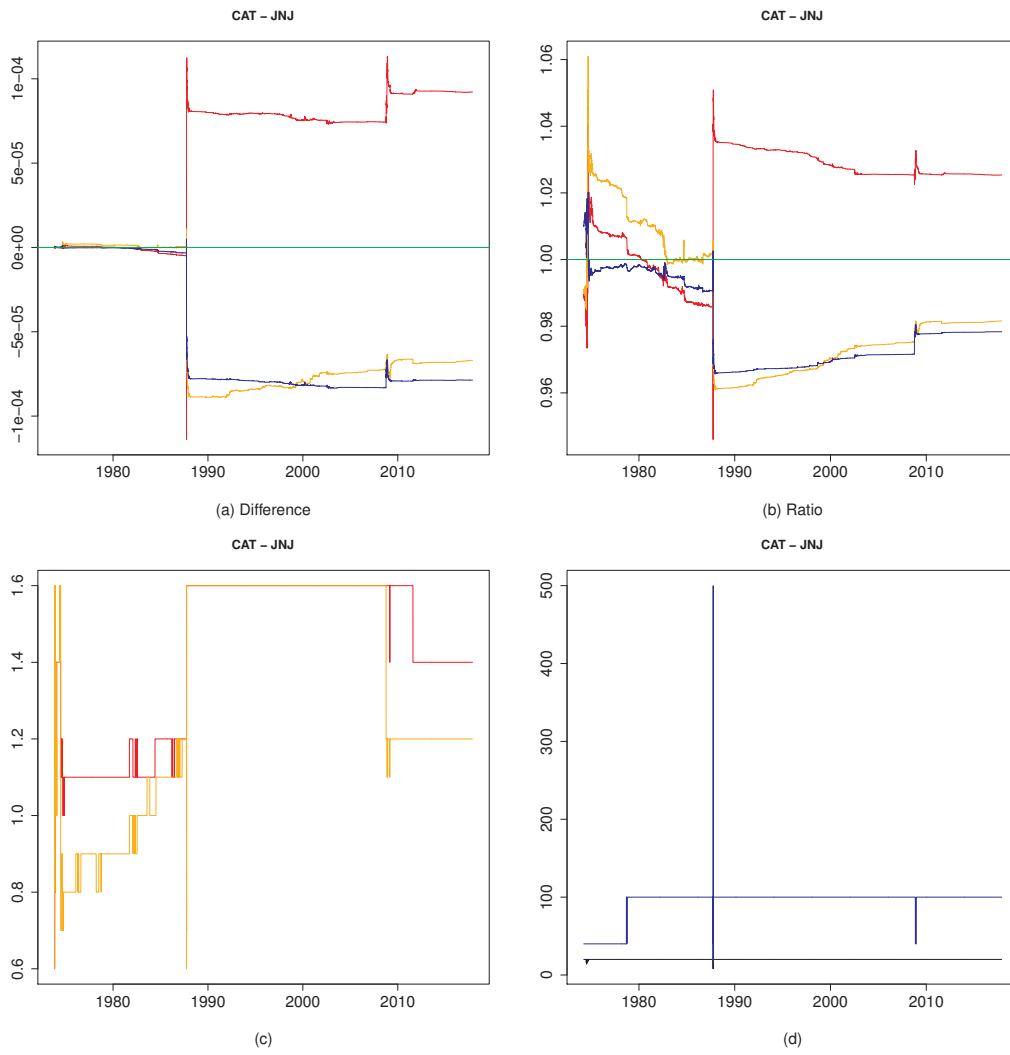


Figure 41: 02-14

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1.3 Pairs from 3-4 to 3-30

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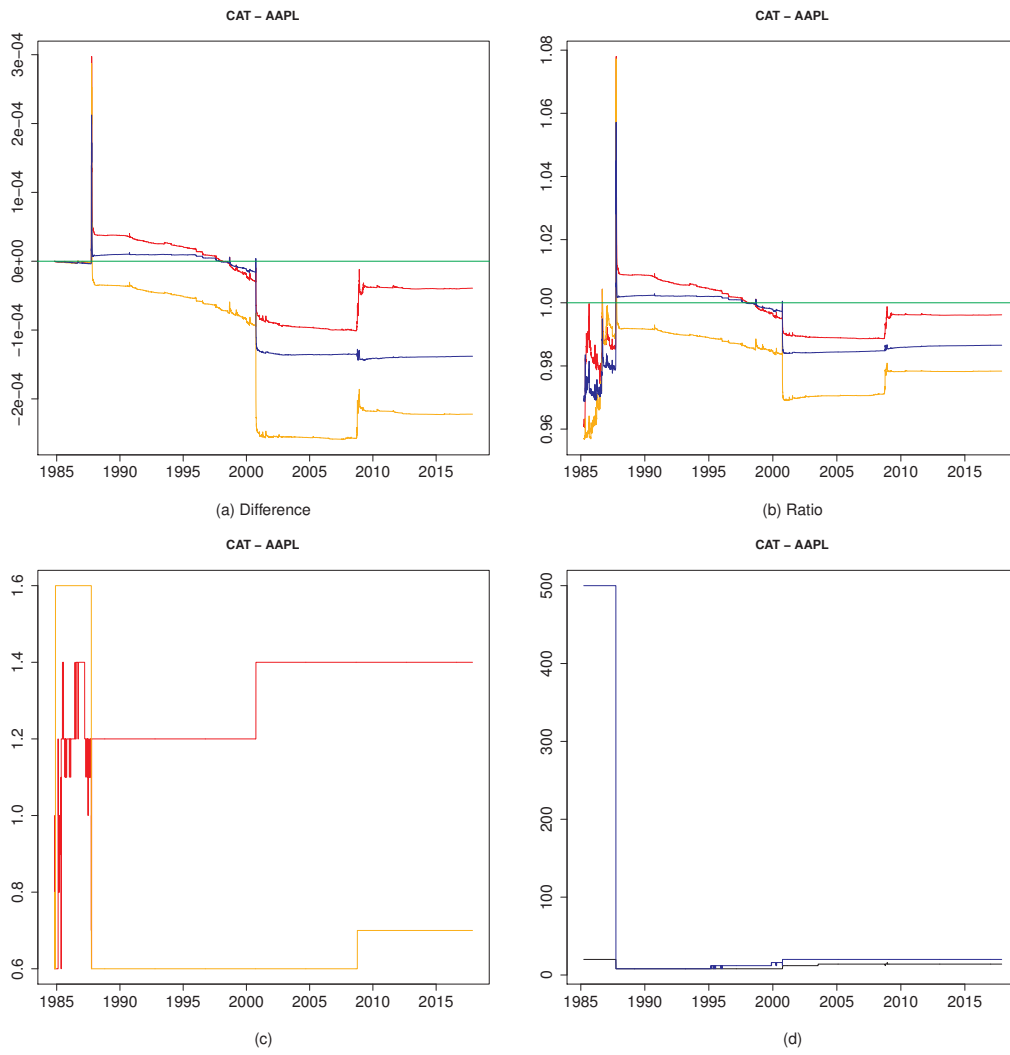


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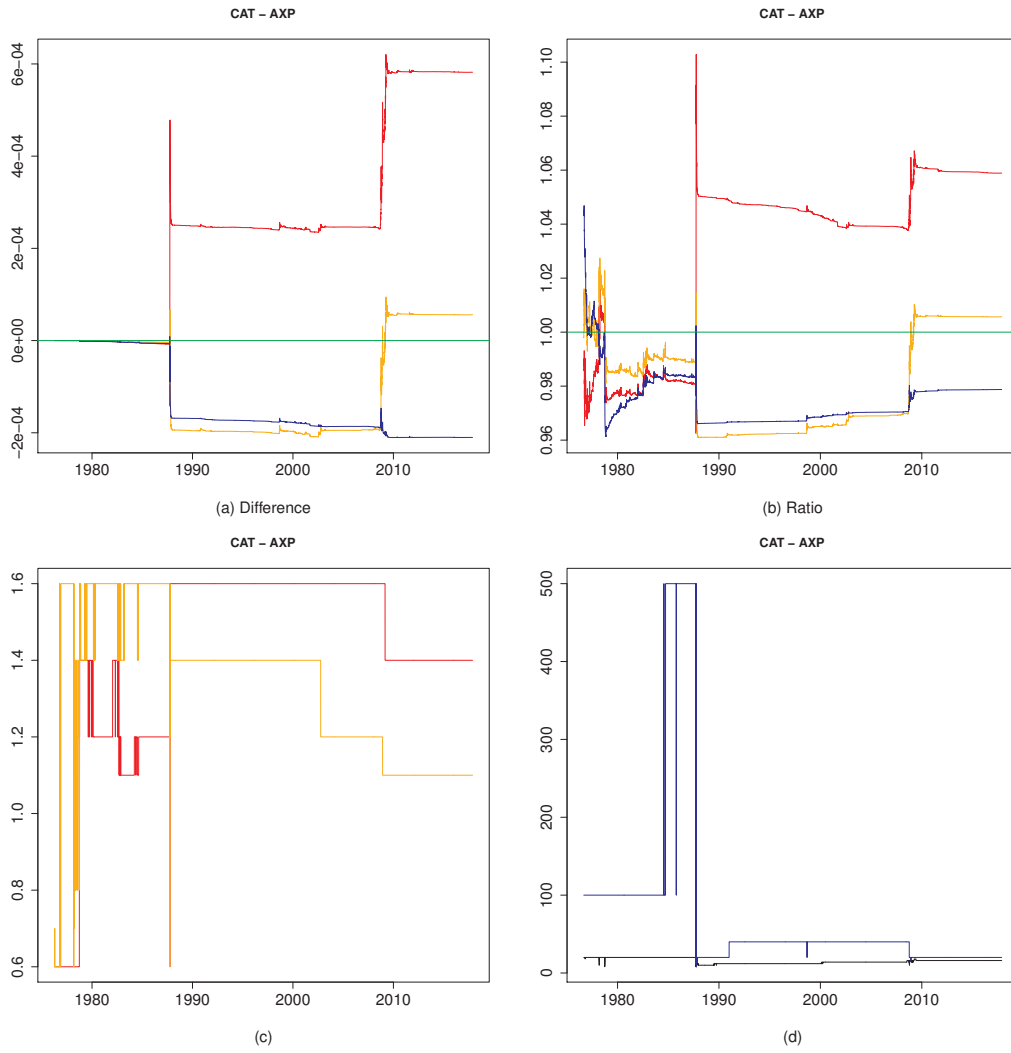


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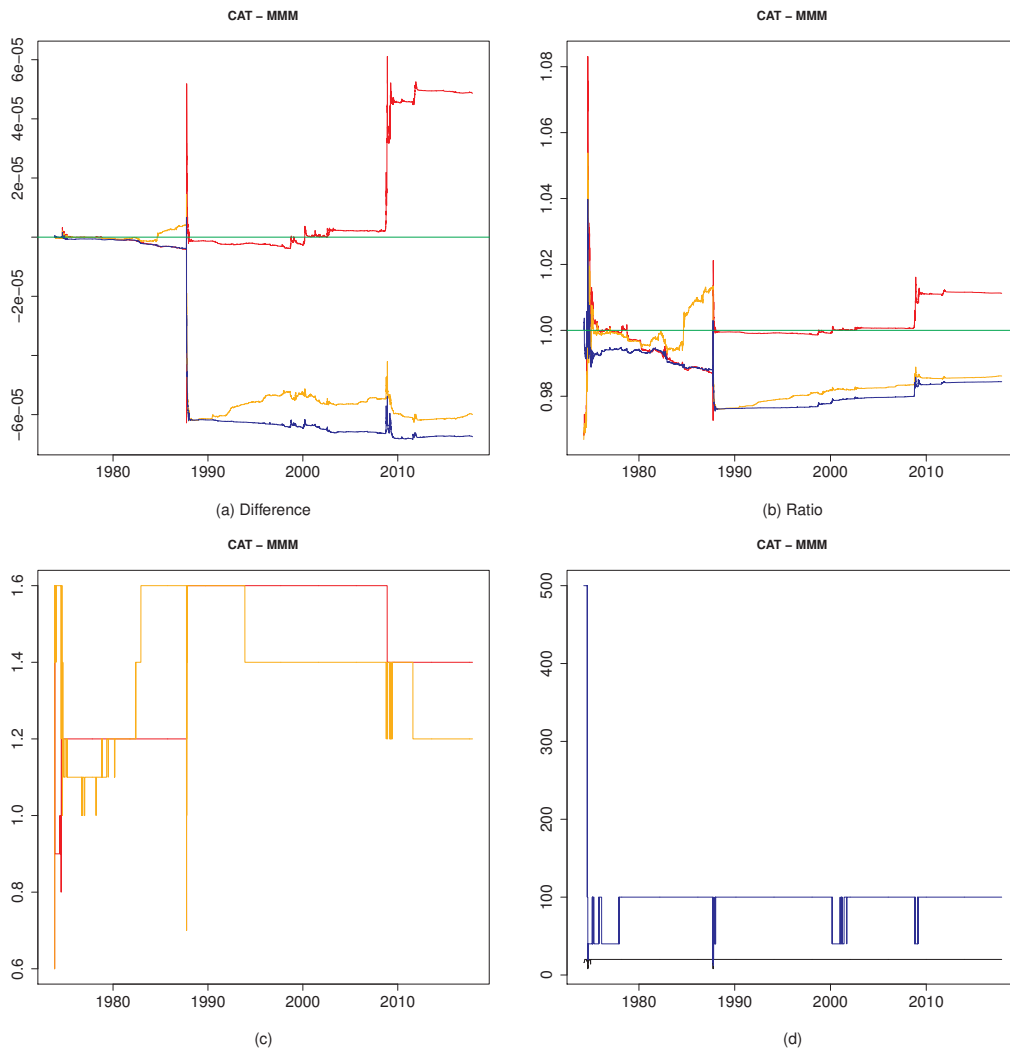


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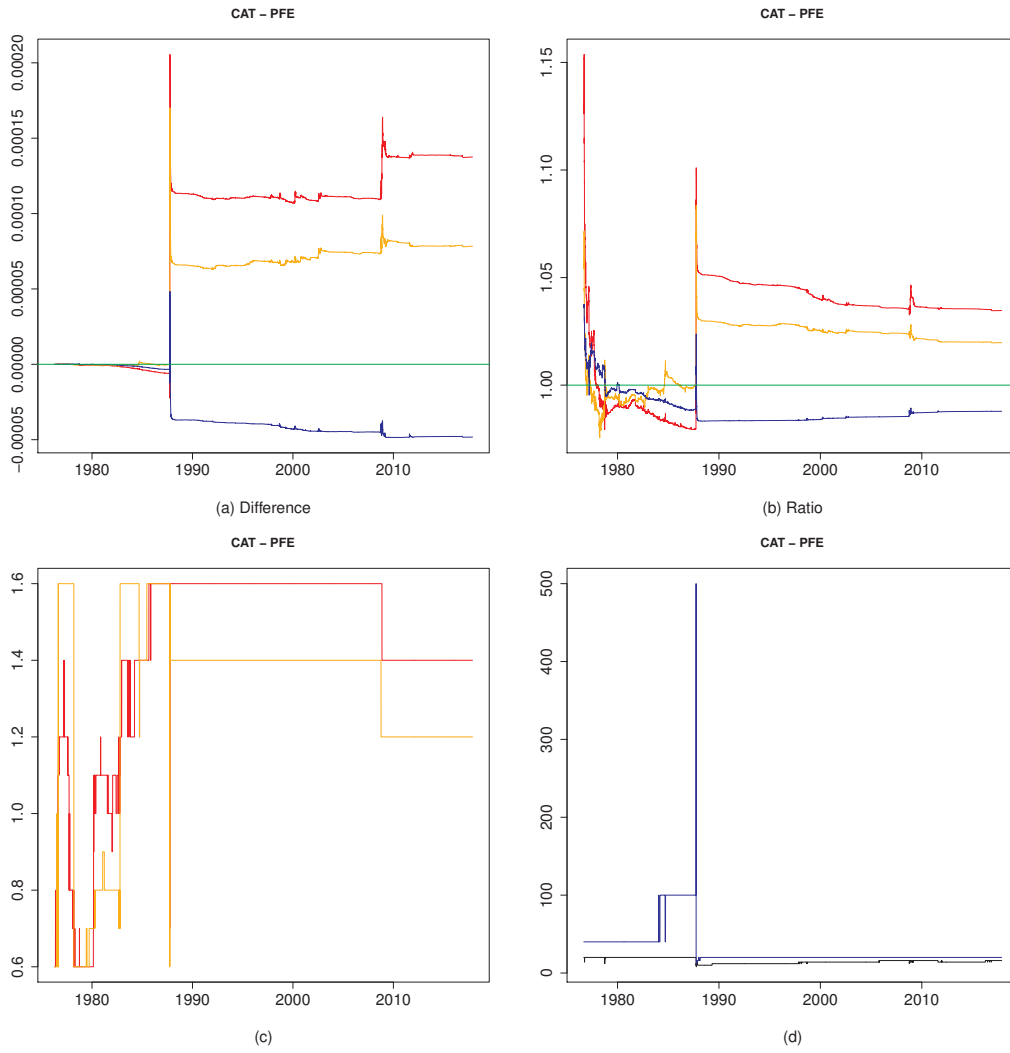


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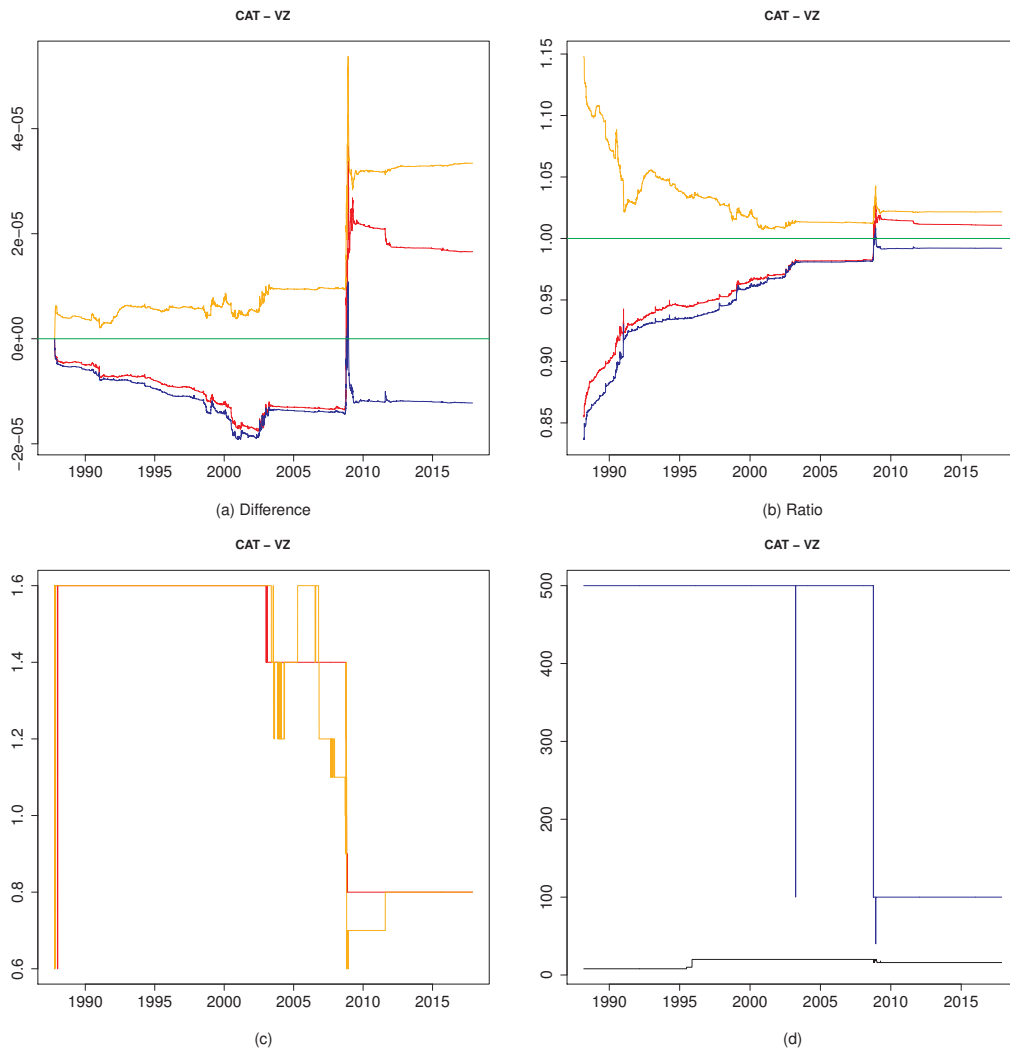


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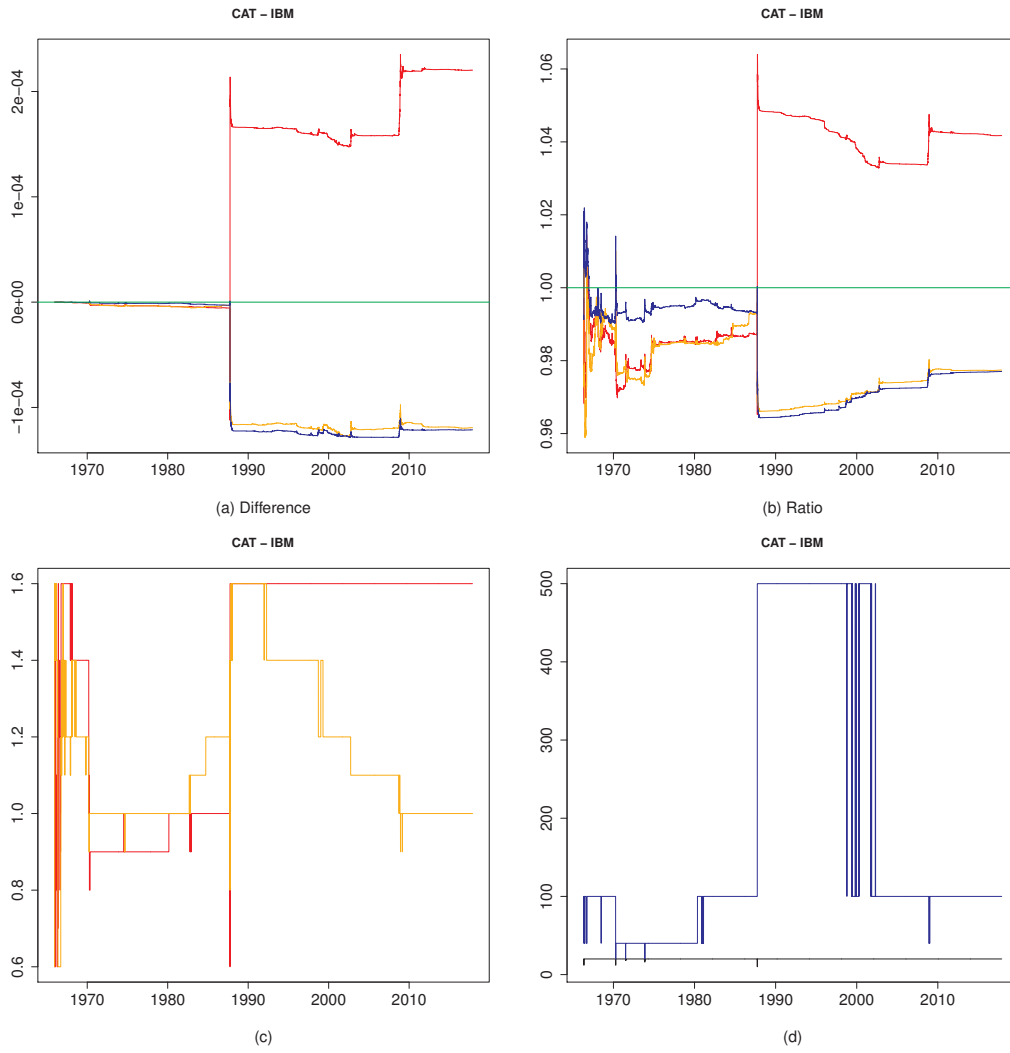


Figure 47: 02-20

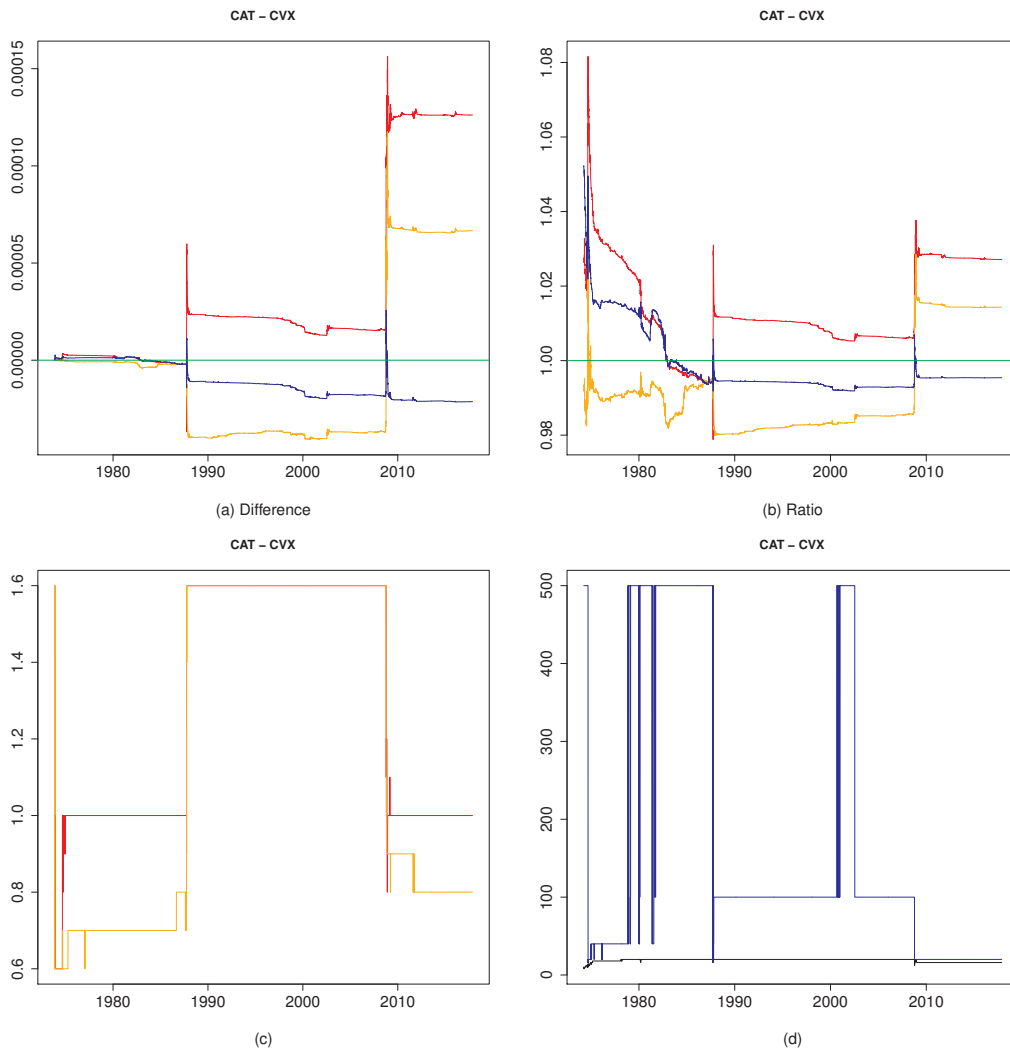


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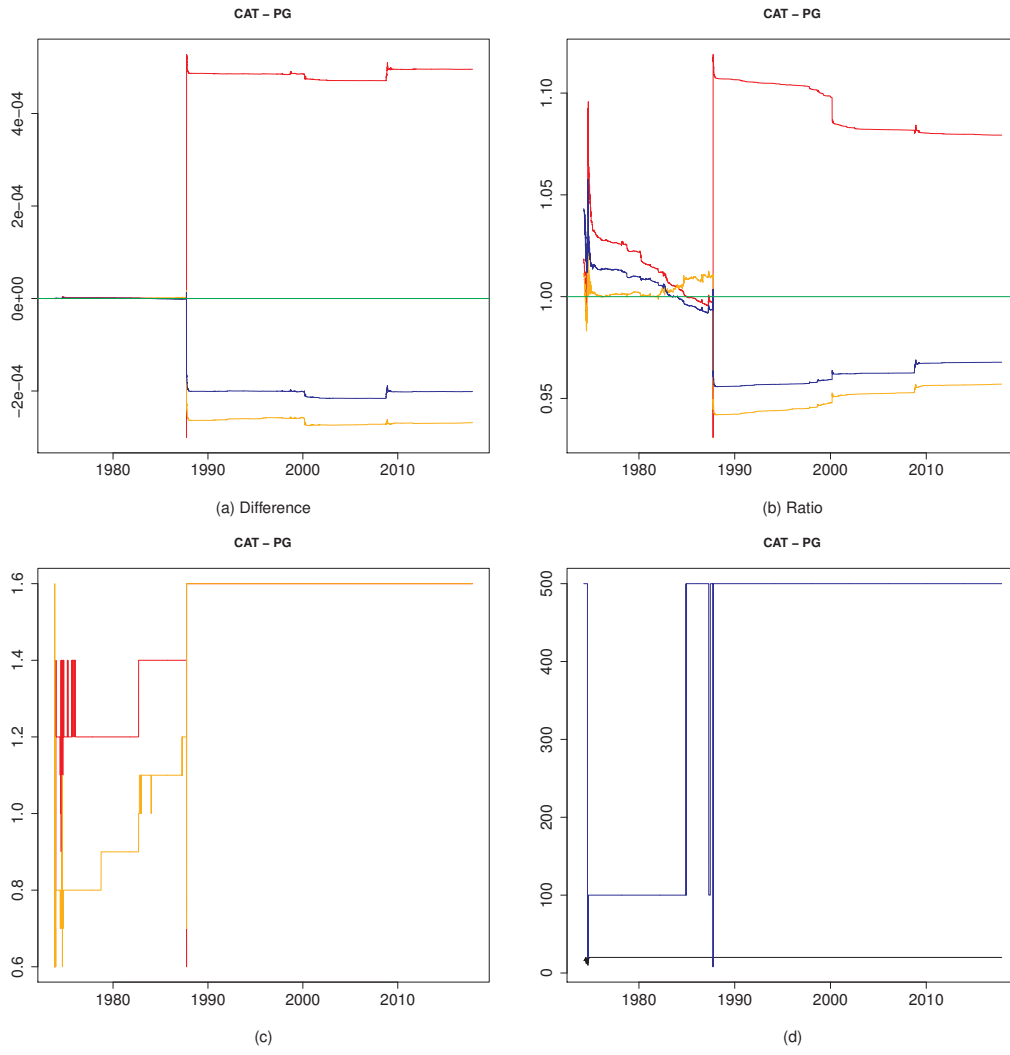


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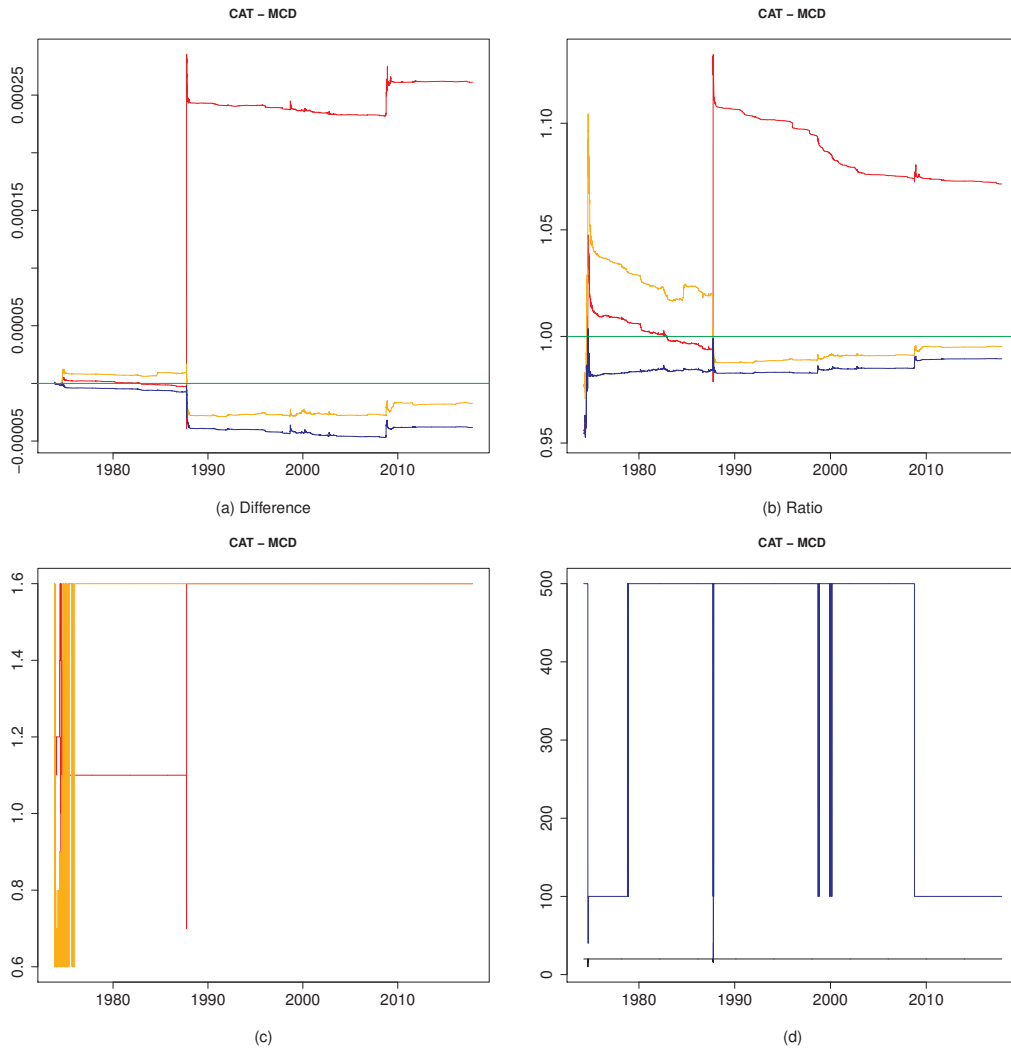


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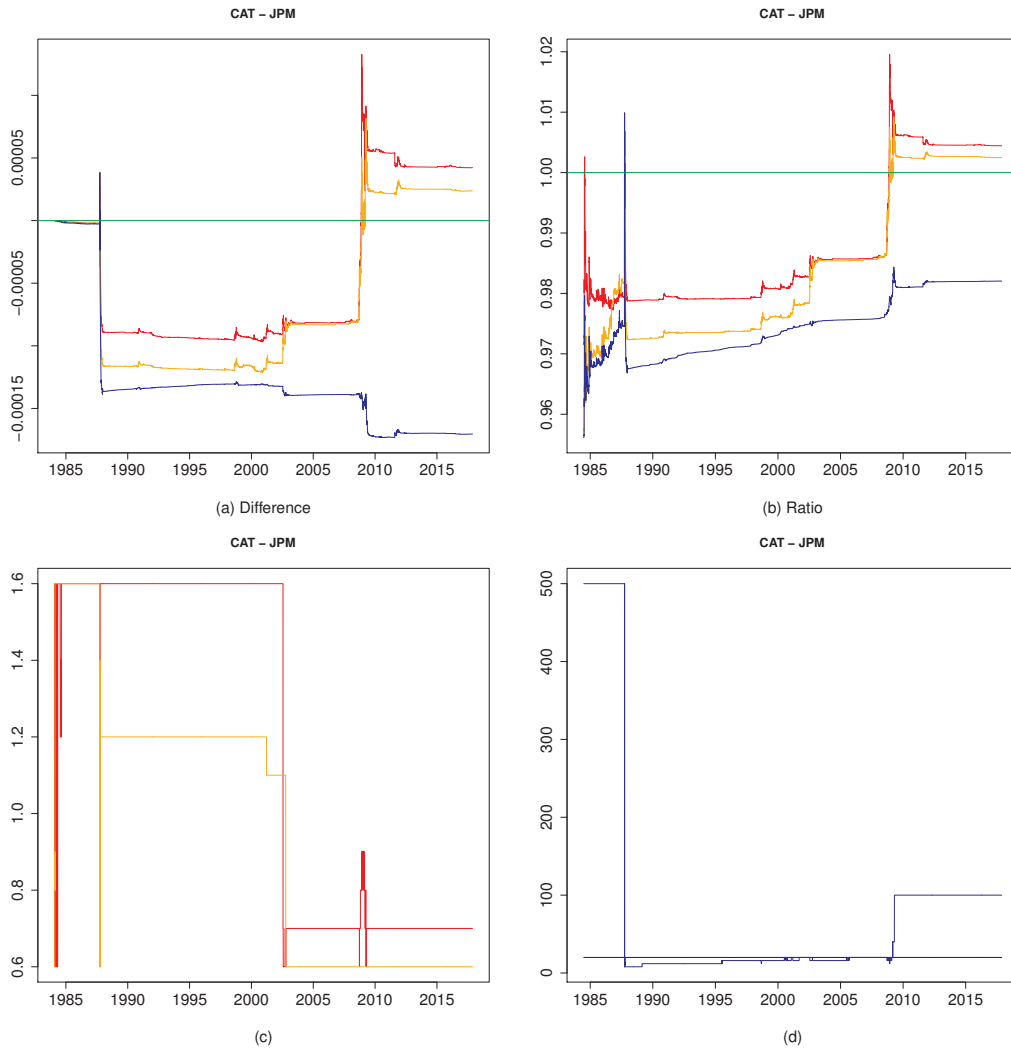


Figure 51: 02-24

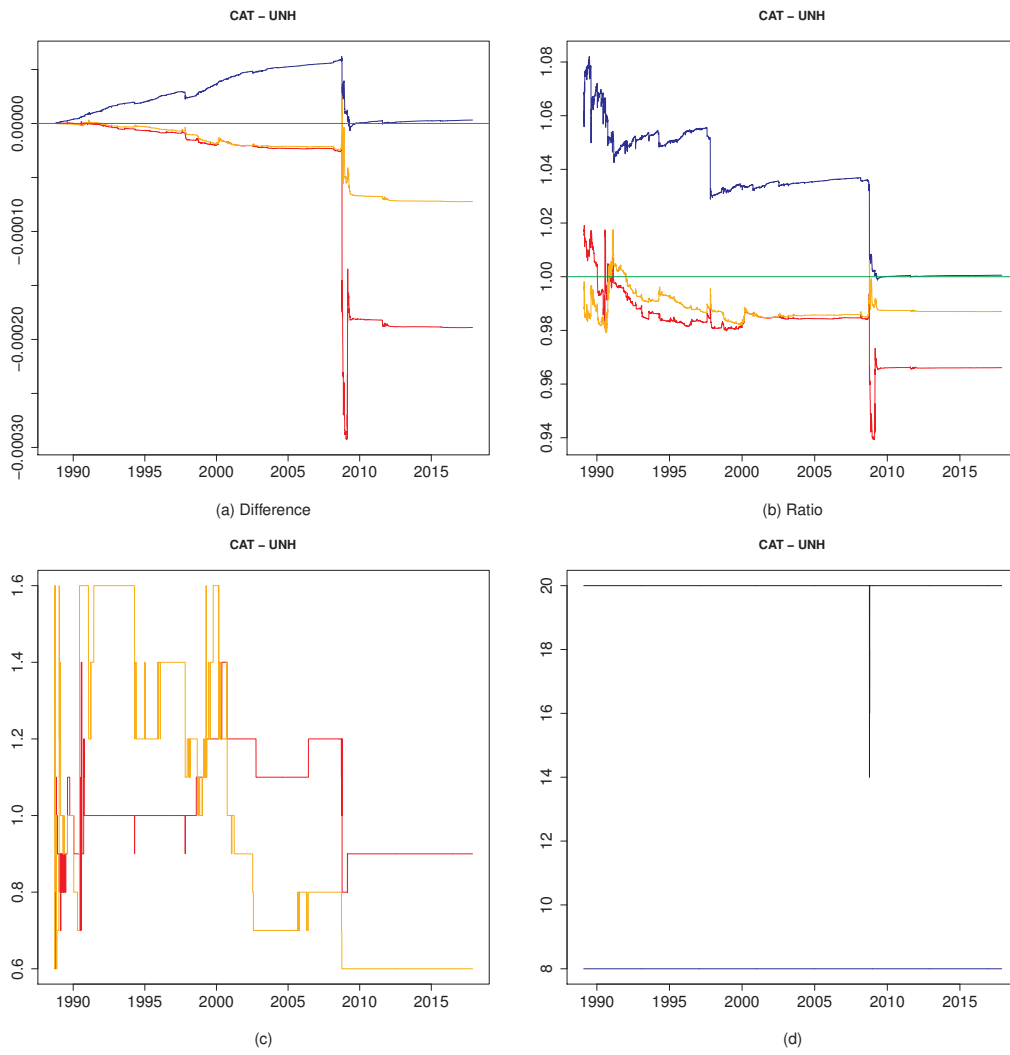


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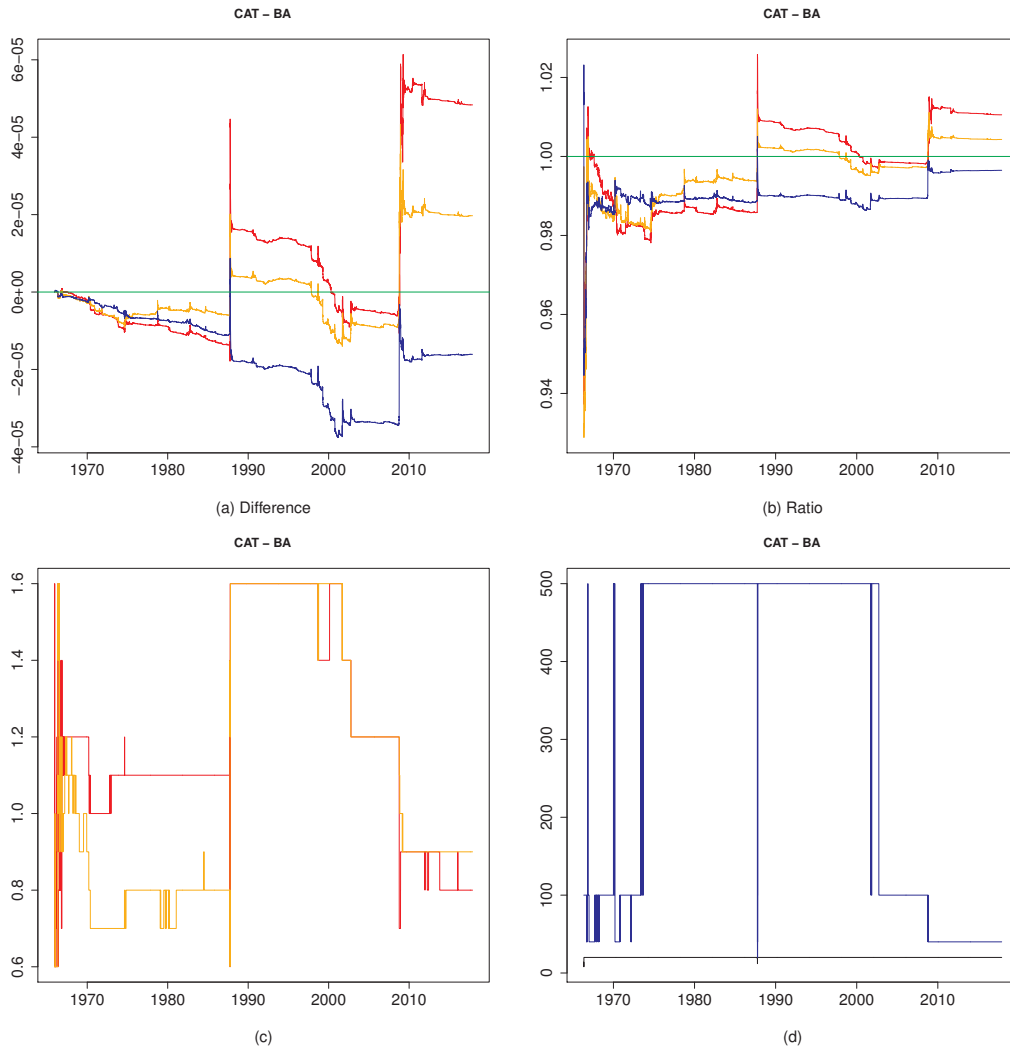


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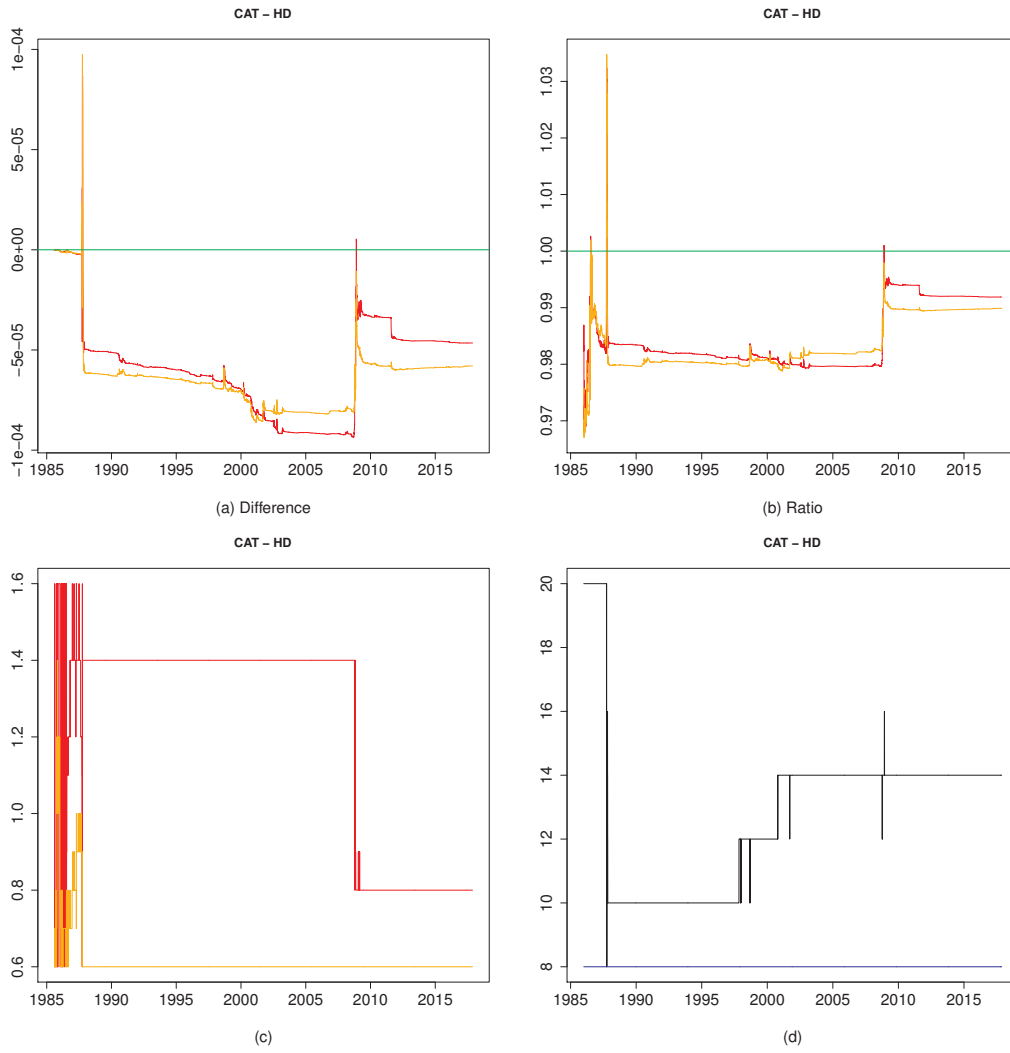


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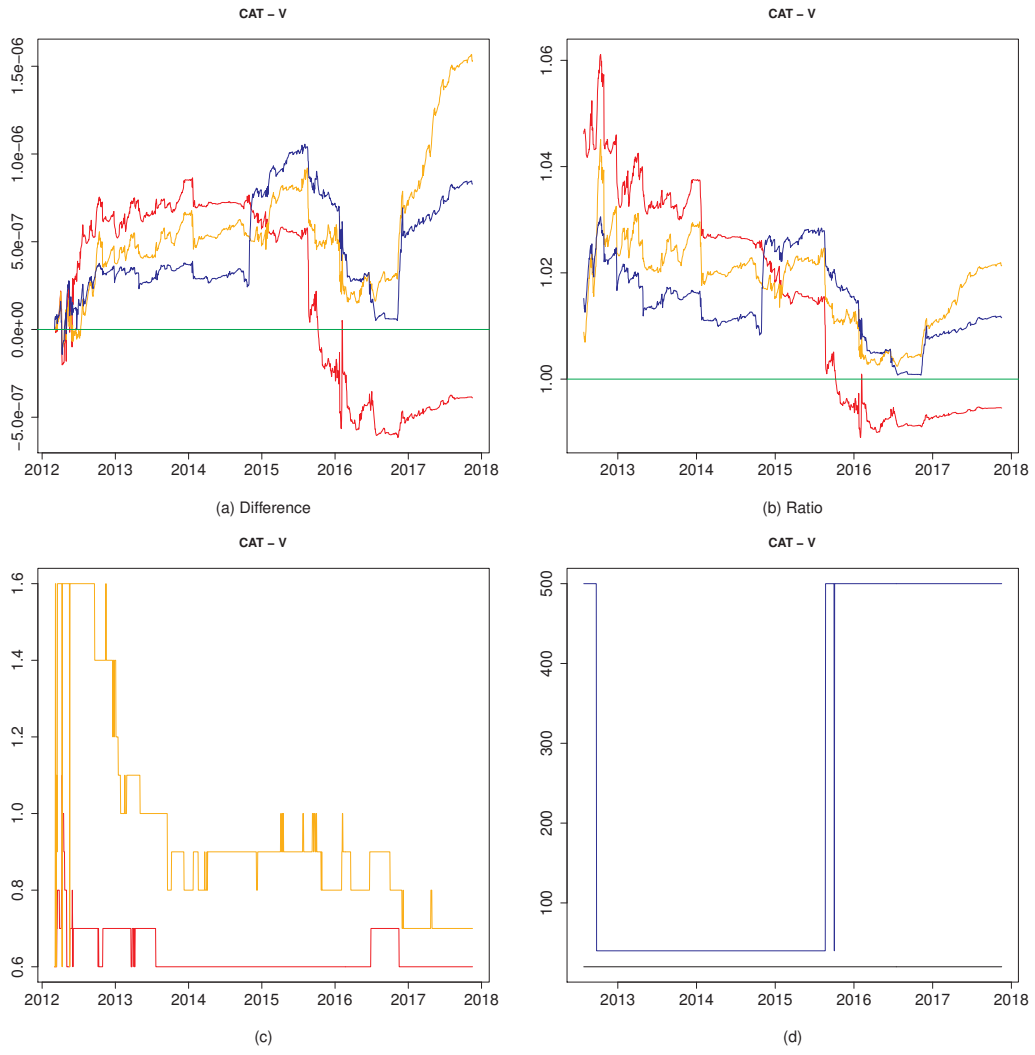


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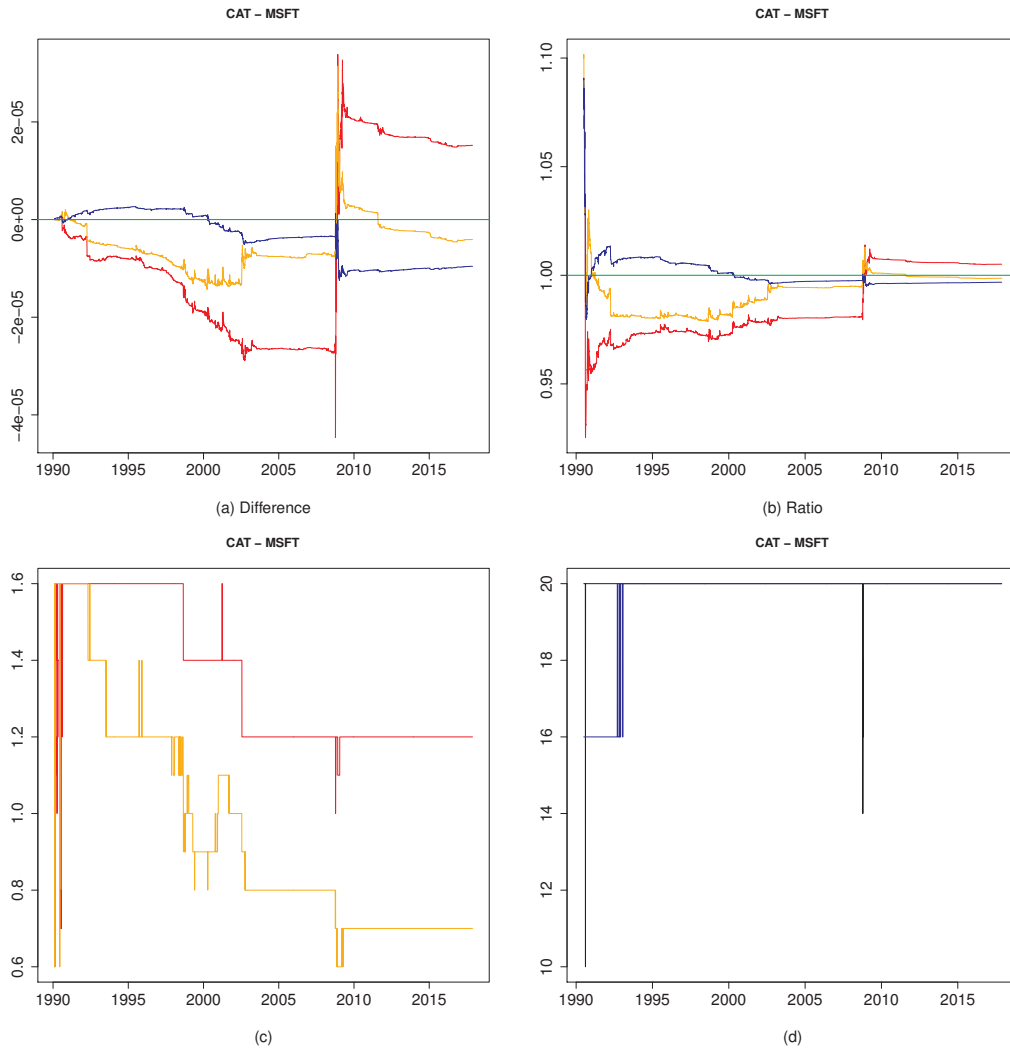


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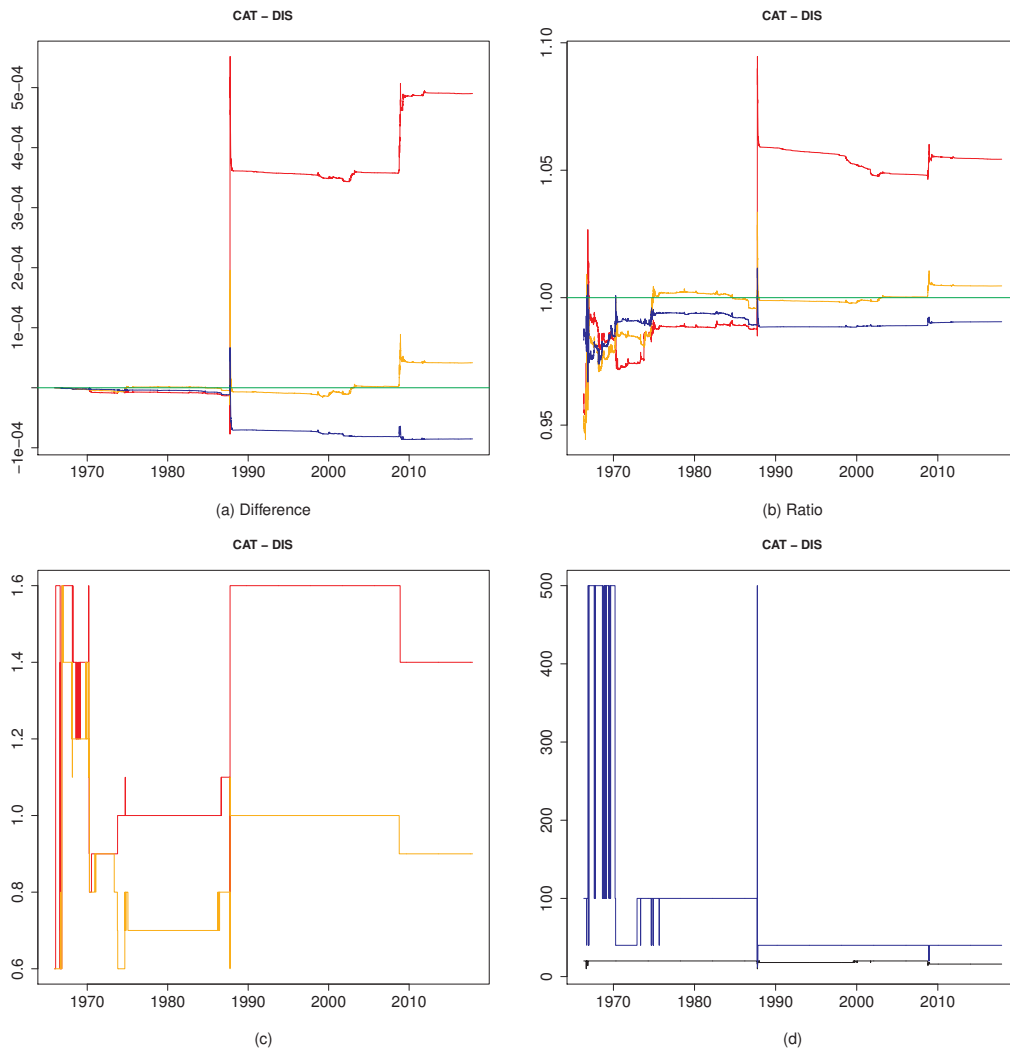


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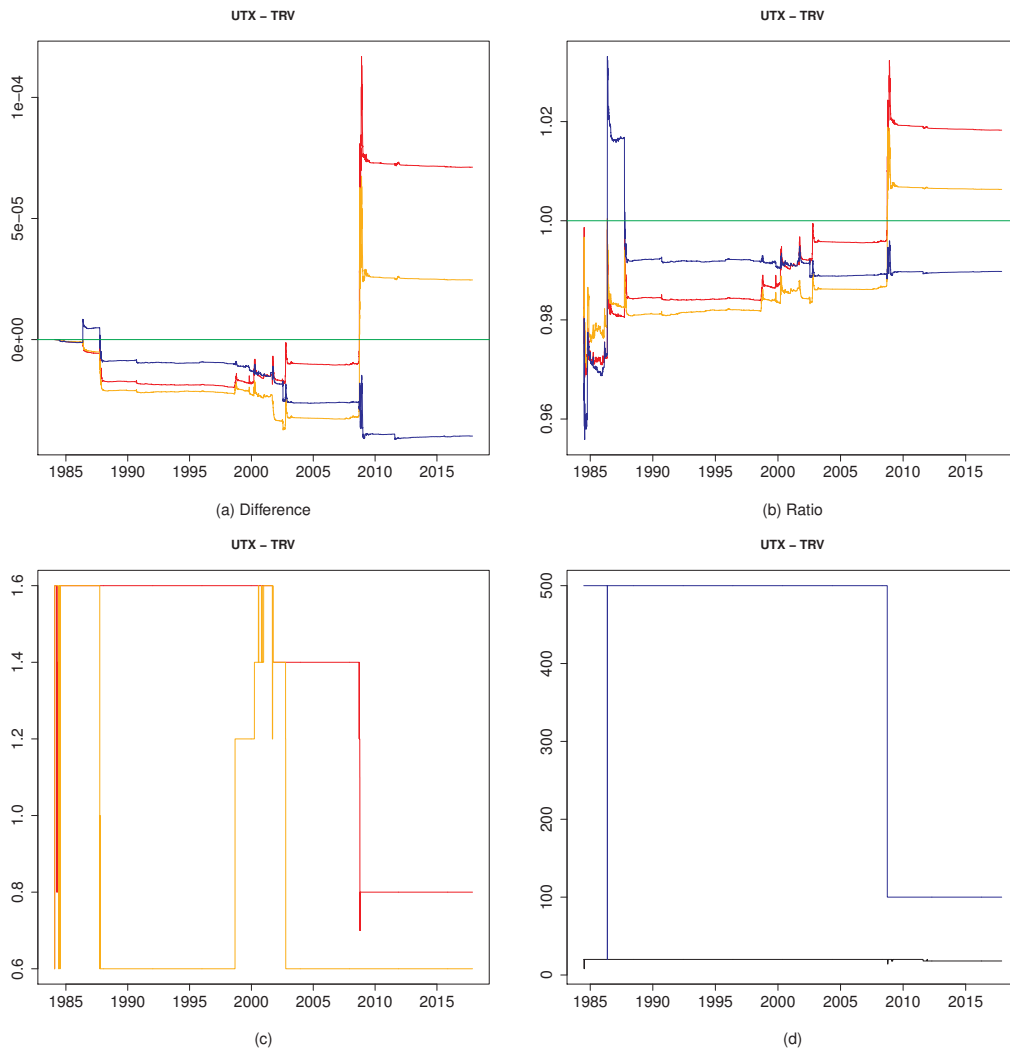


Figure 58: 03-04

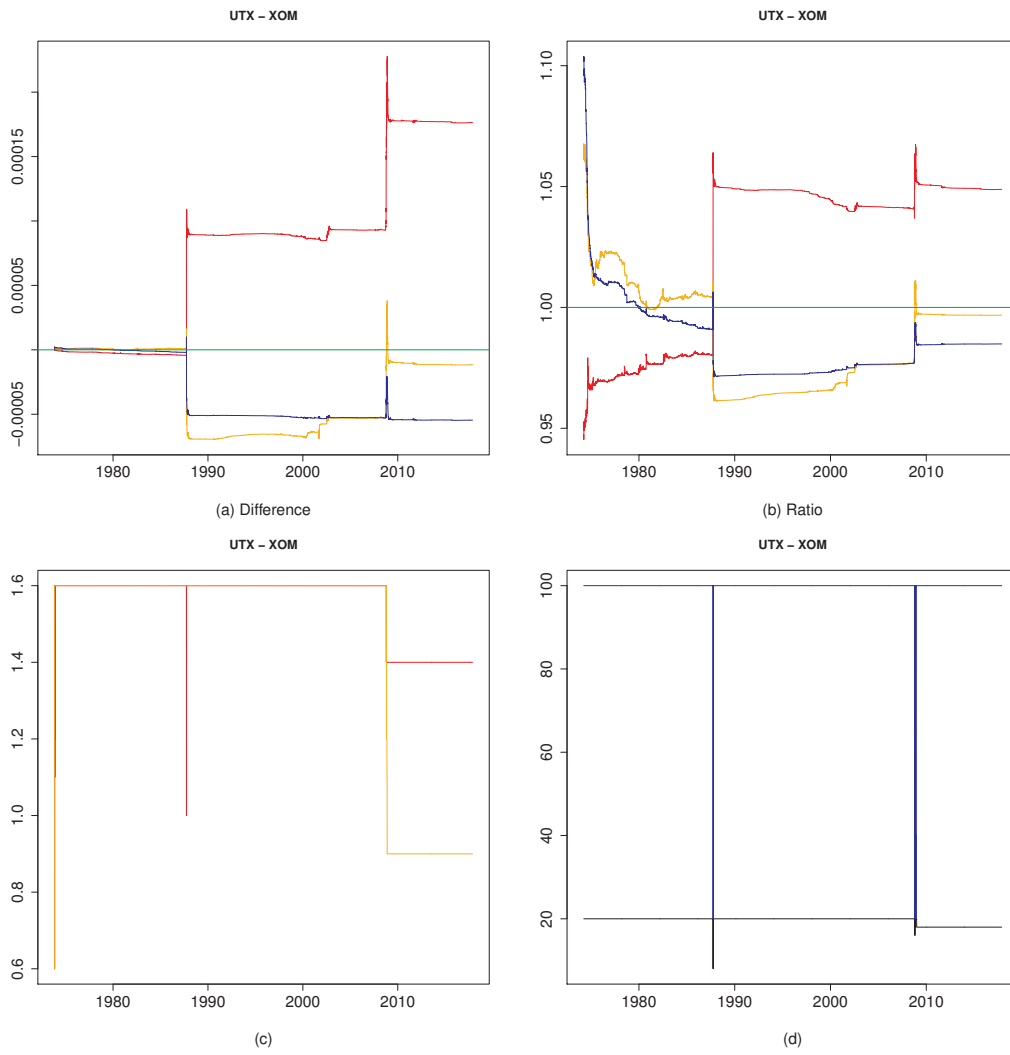


Figure 59: 03-05

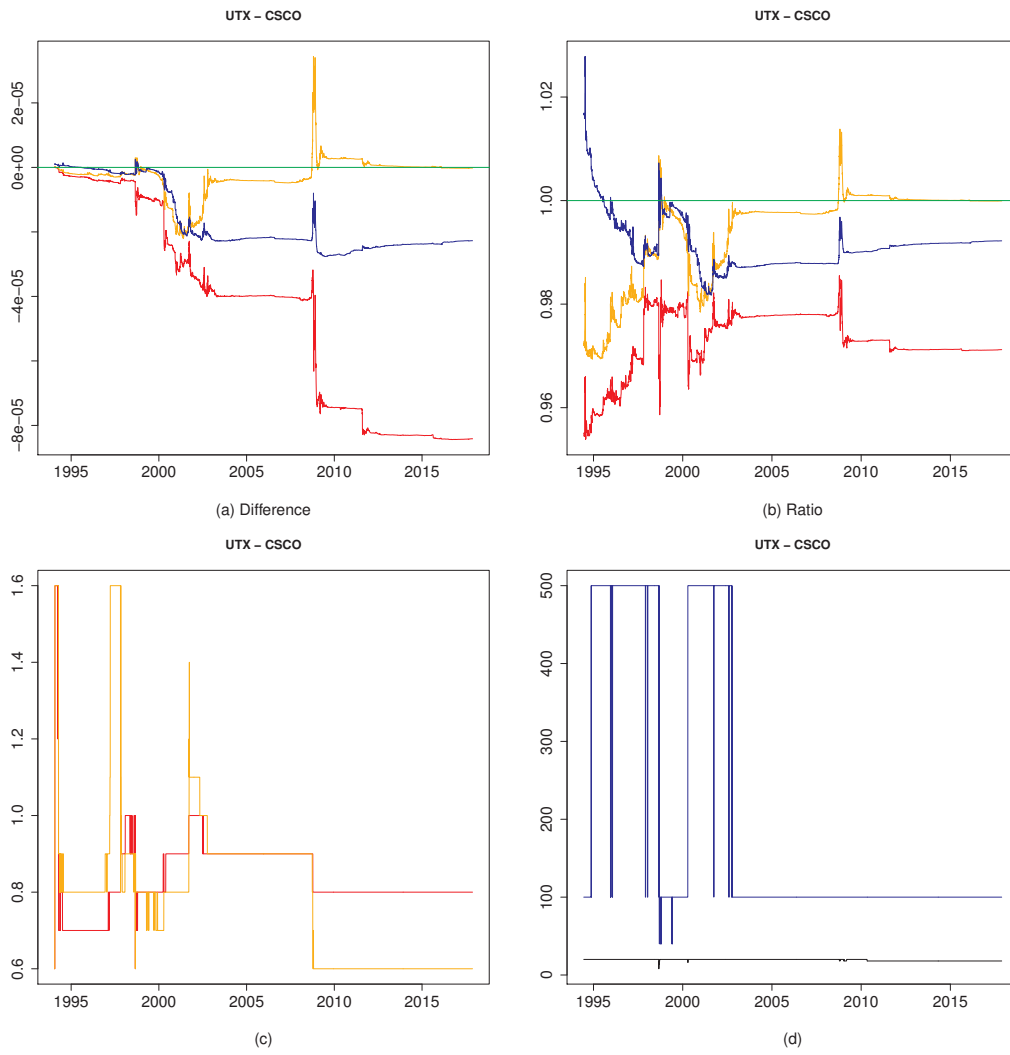


Figure 60: 03-06

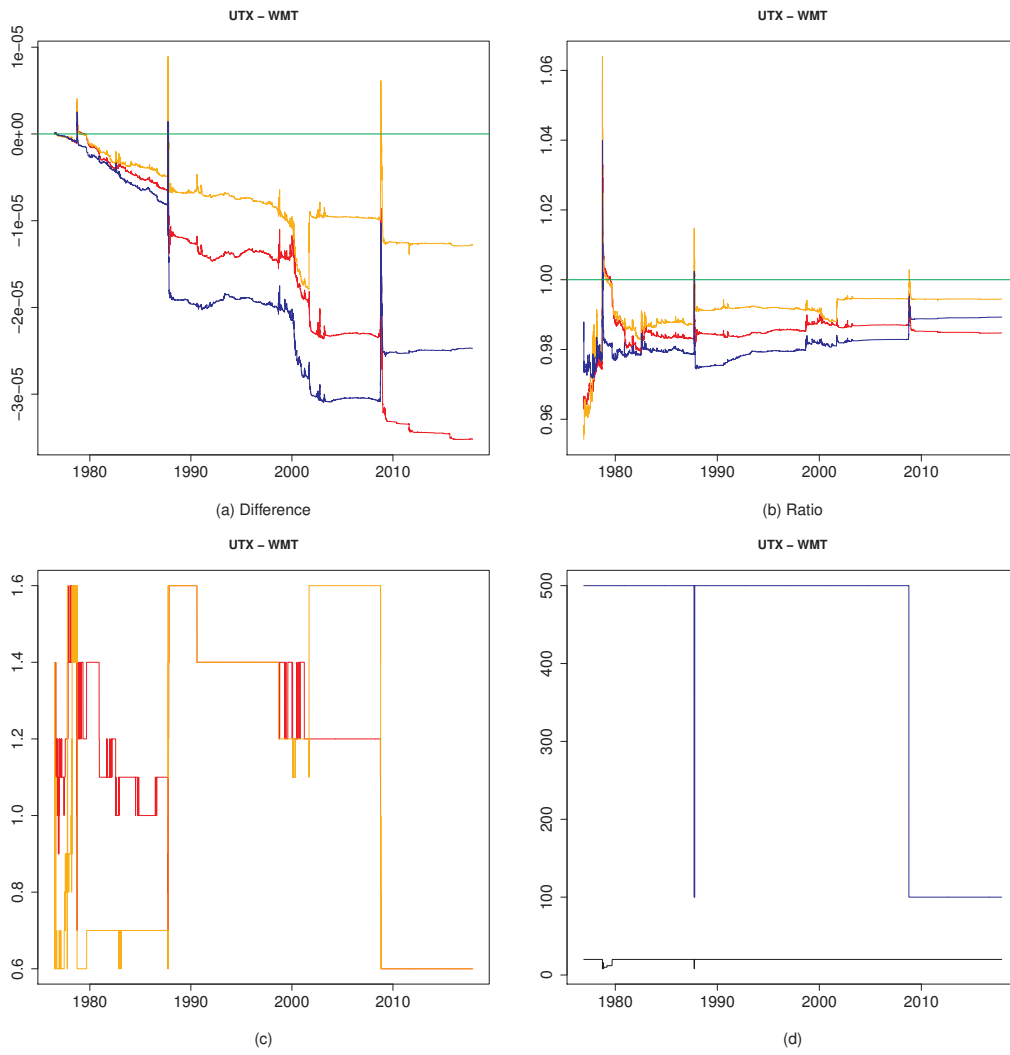


Figure 61: 03-07

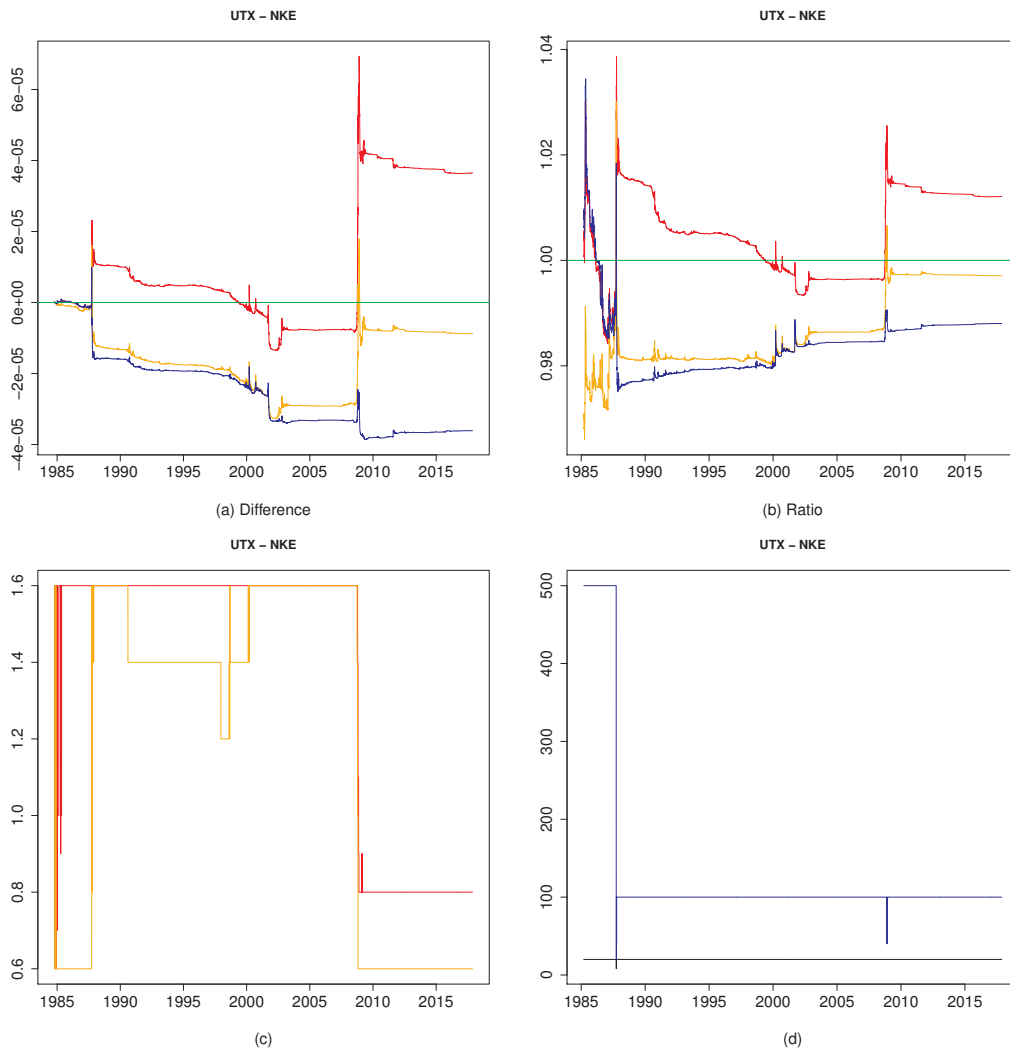


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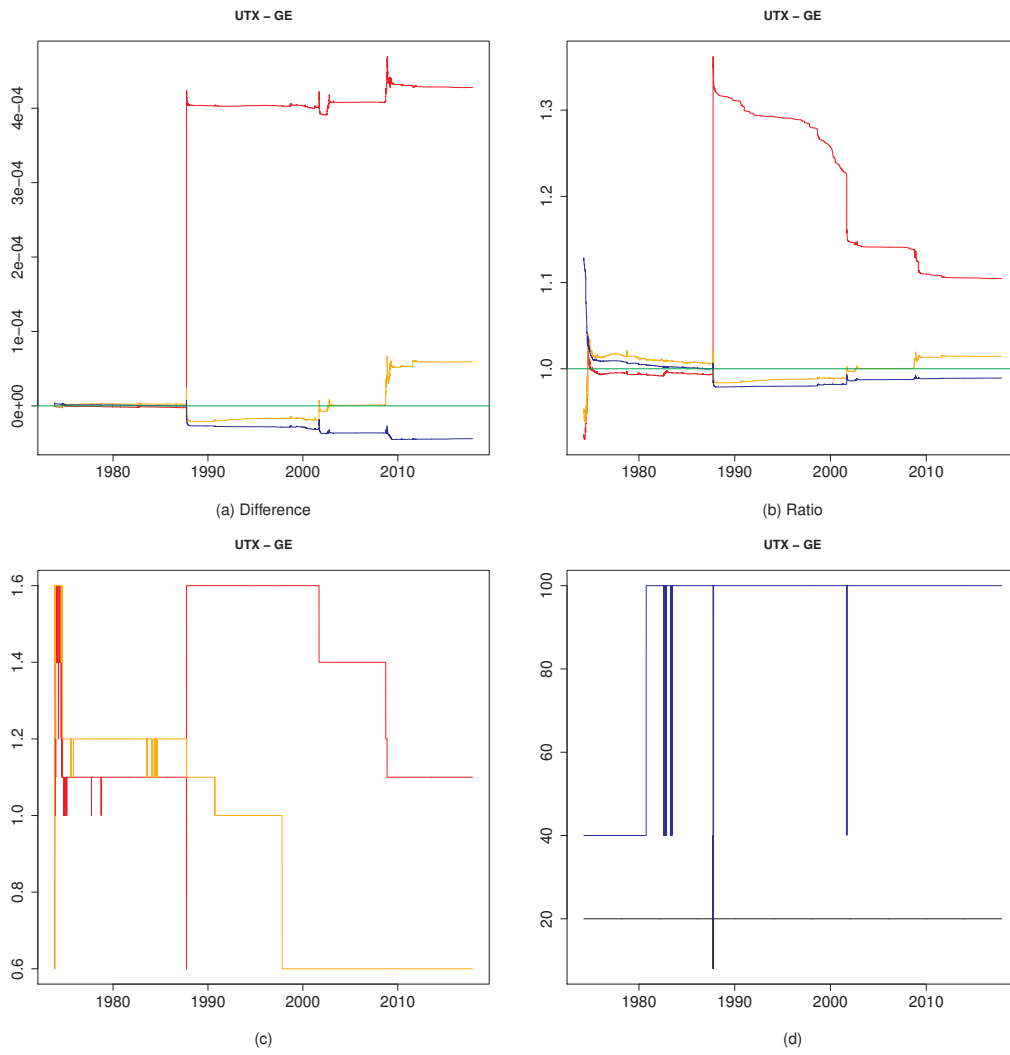


Figure 63: 03-09

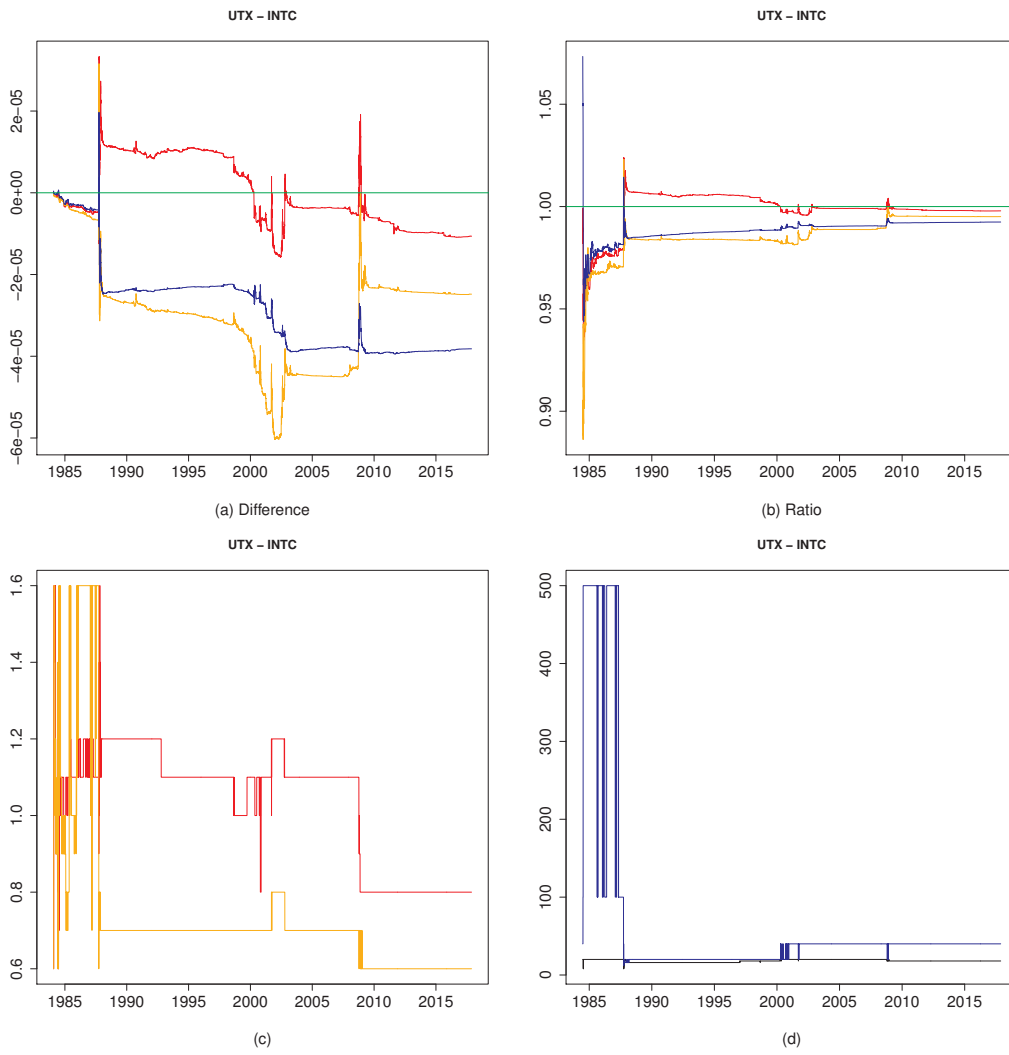


Figure 64: 03-10

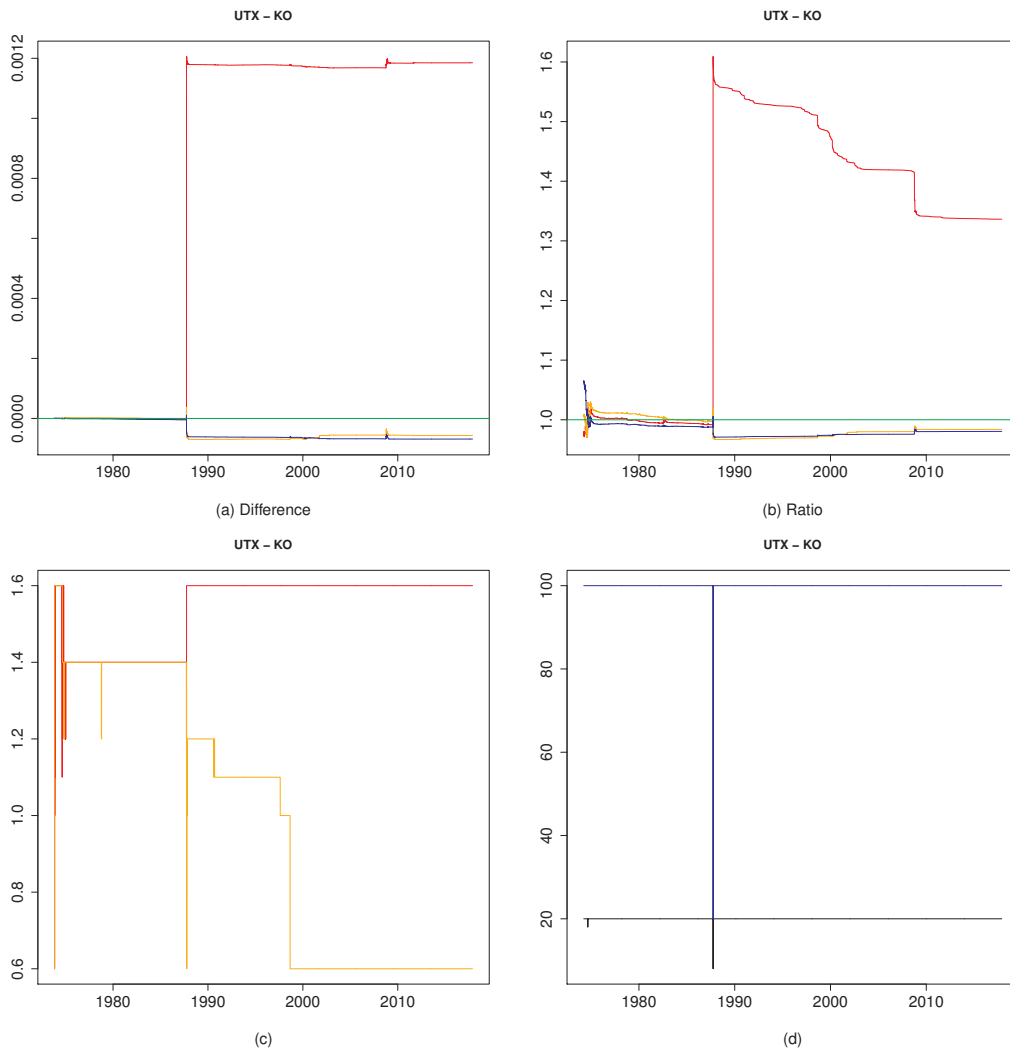


Figure 65: 03-11

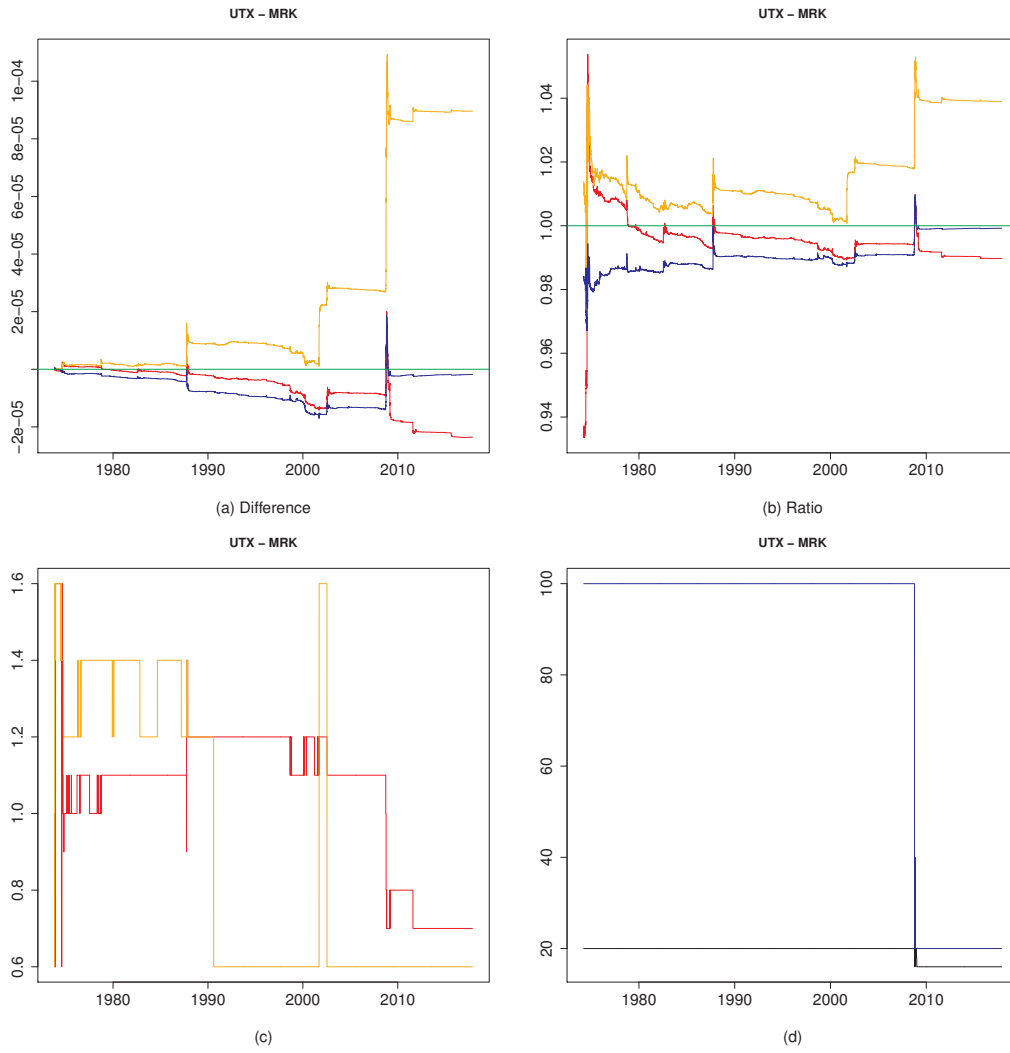


Figure 66: 03-12

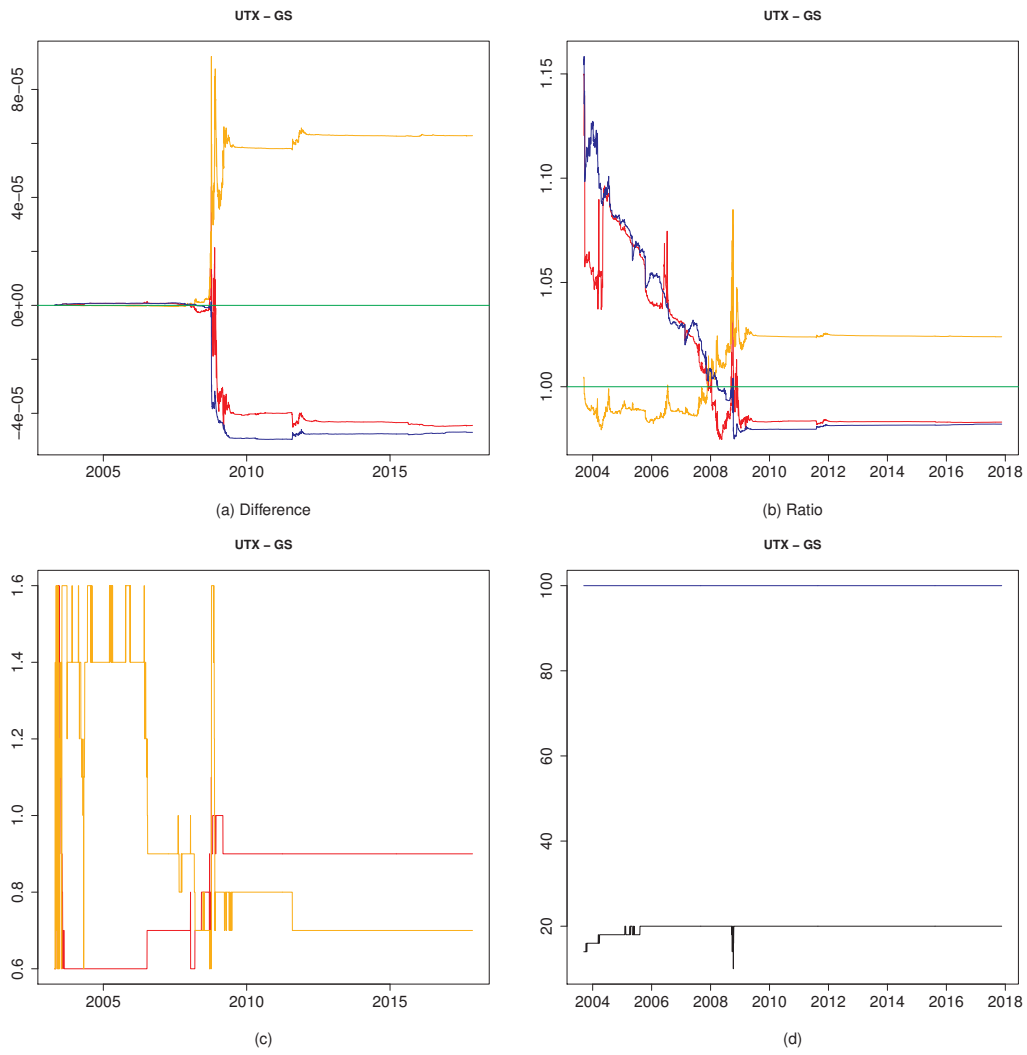


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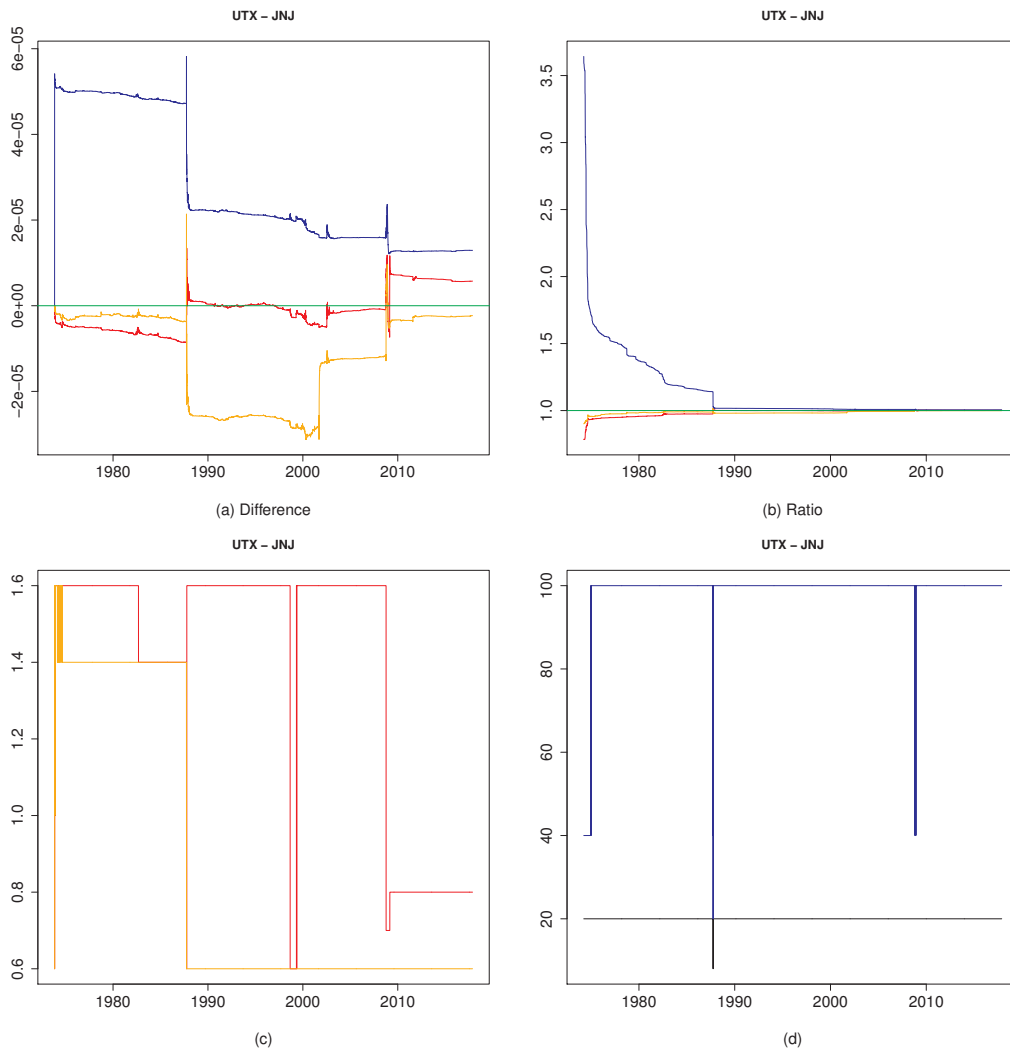


Figure 68: 03-14

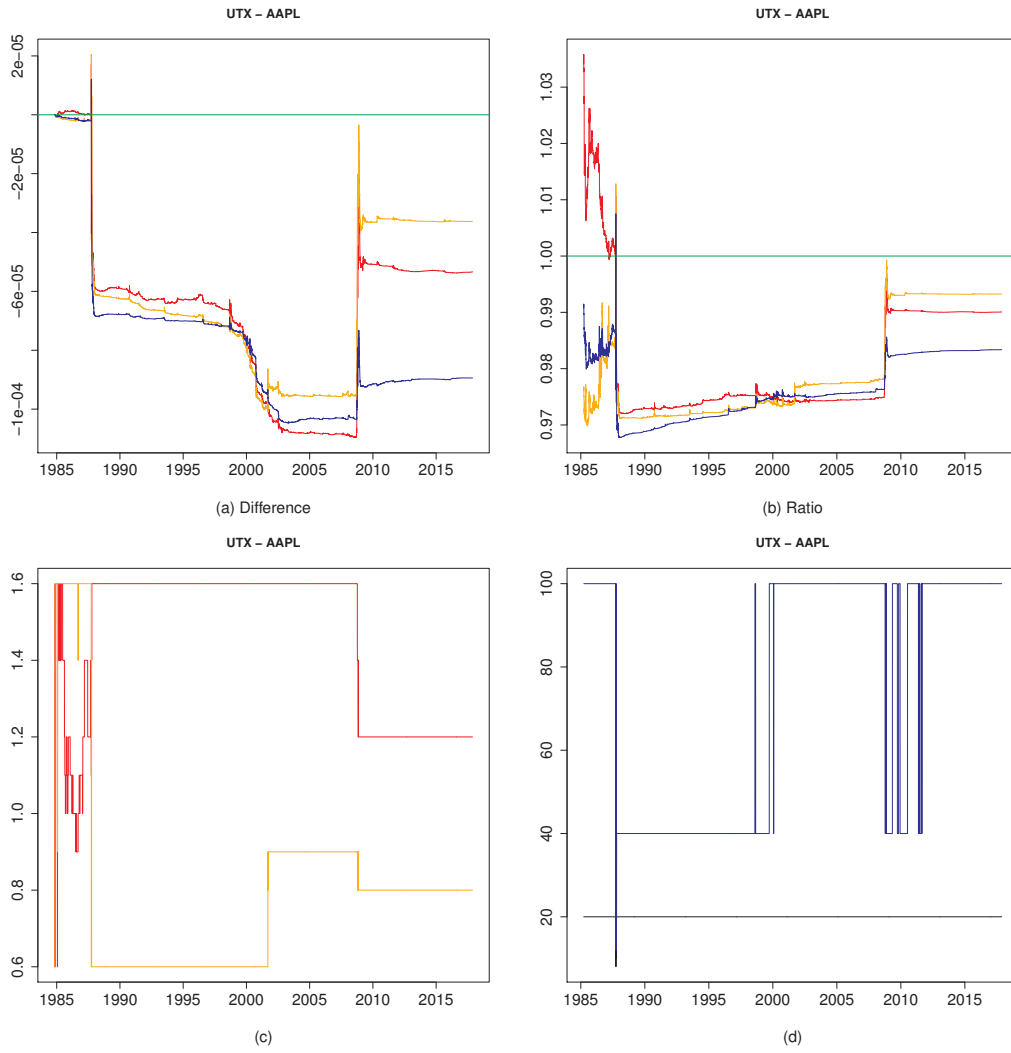


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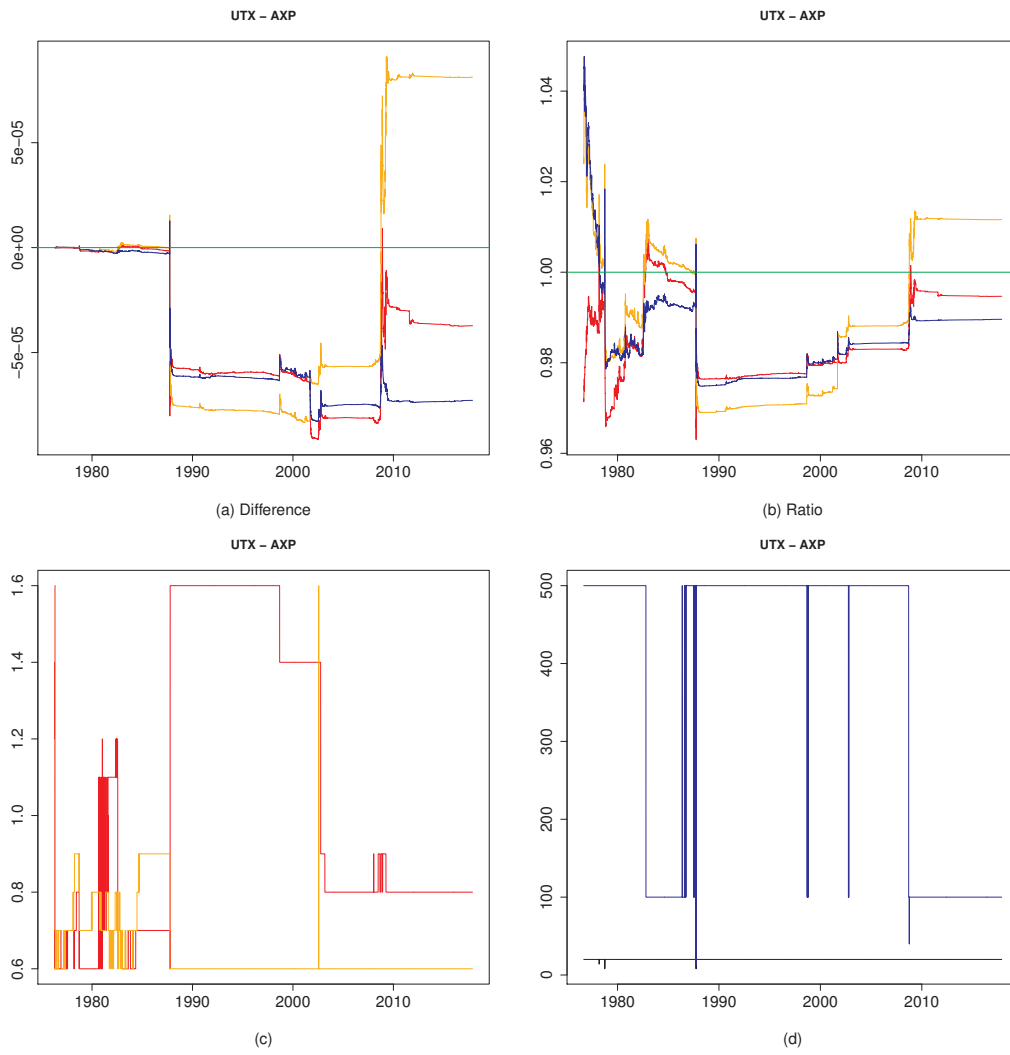


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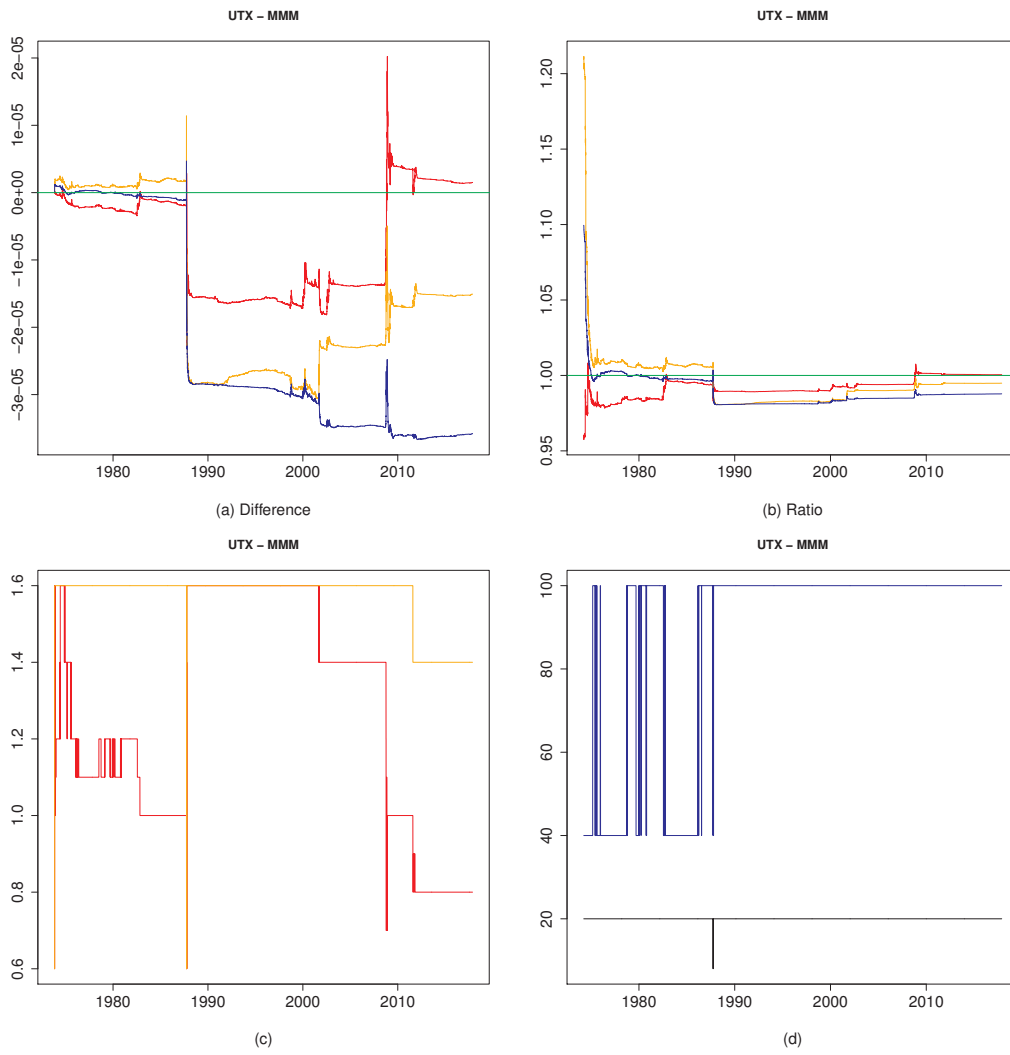


Figure 71: 03-17

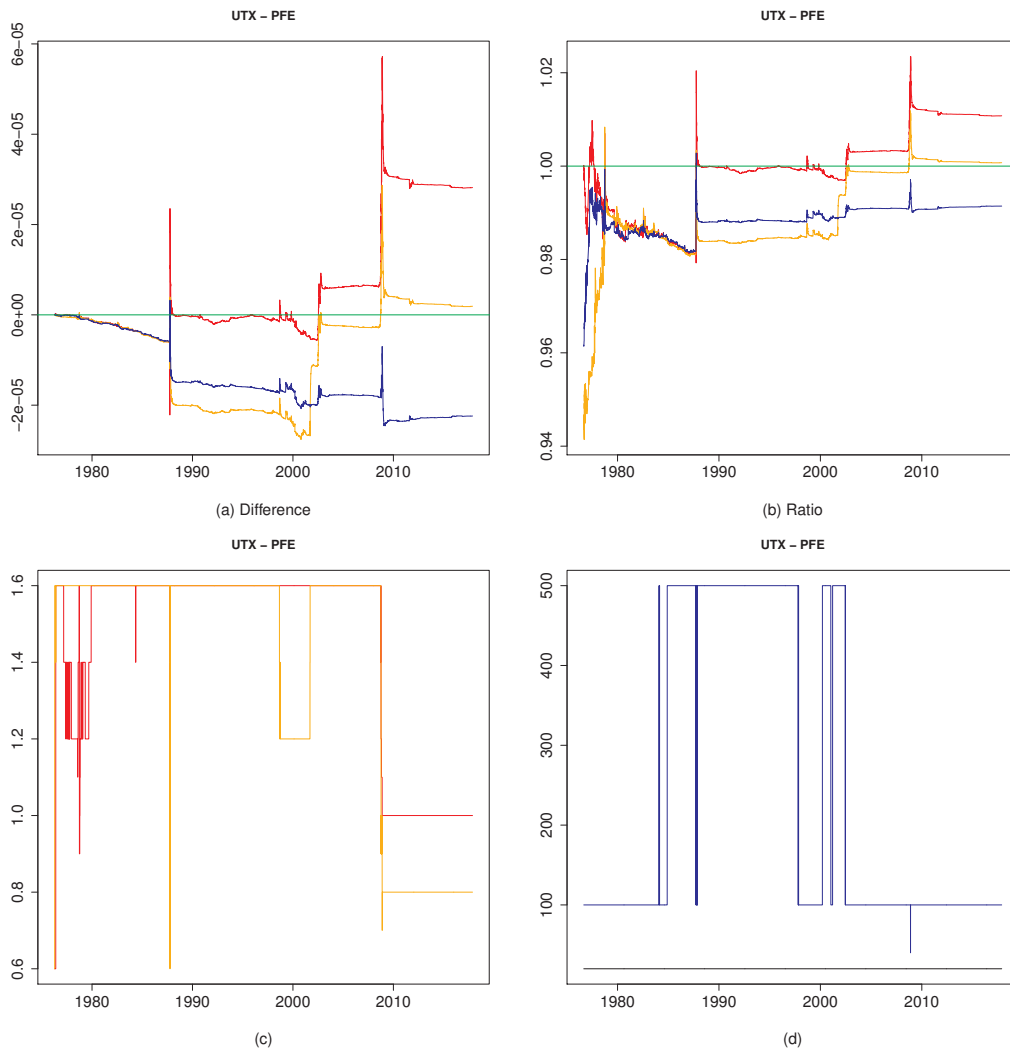


Figure 72: 03-18

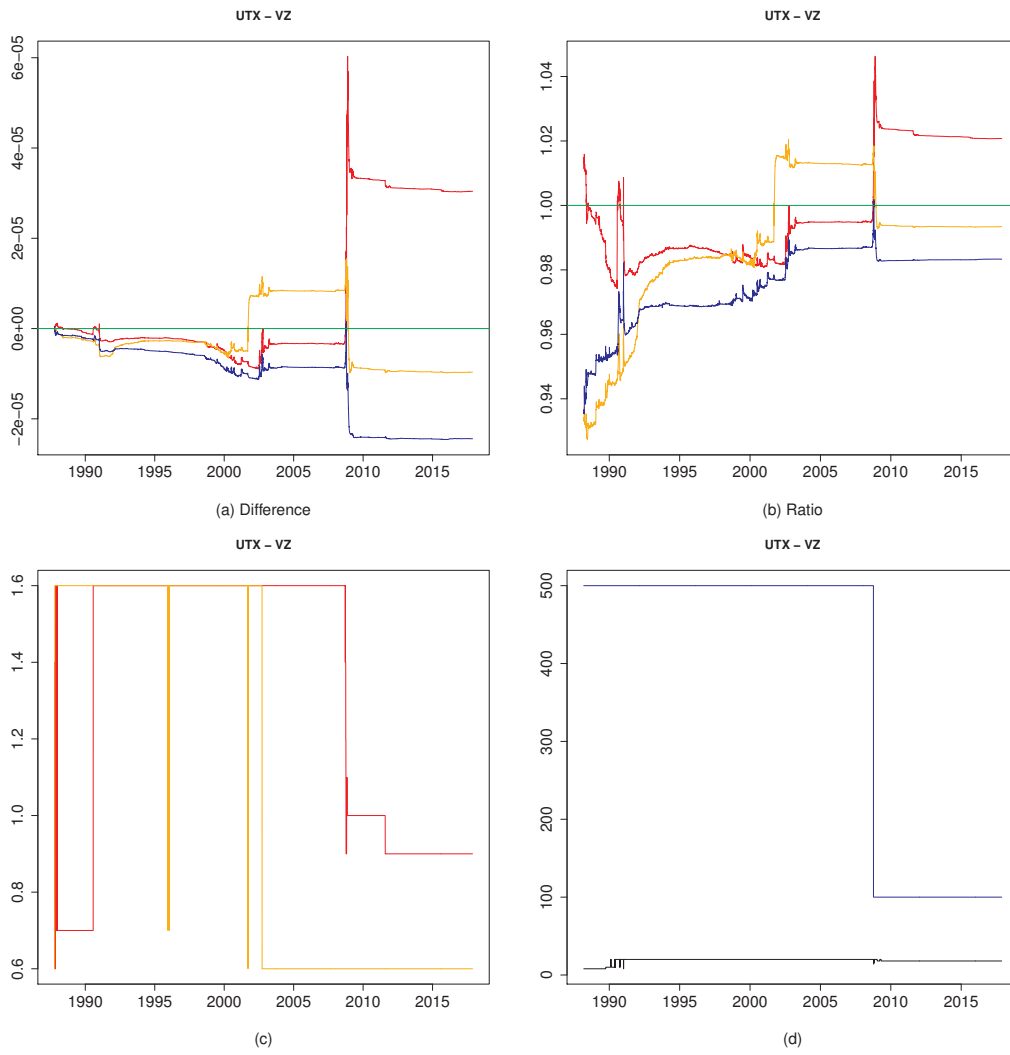


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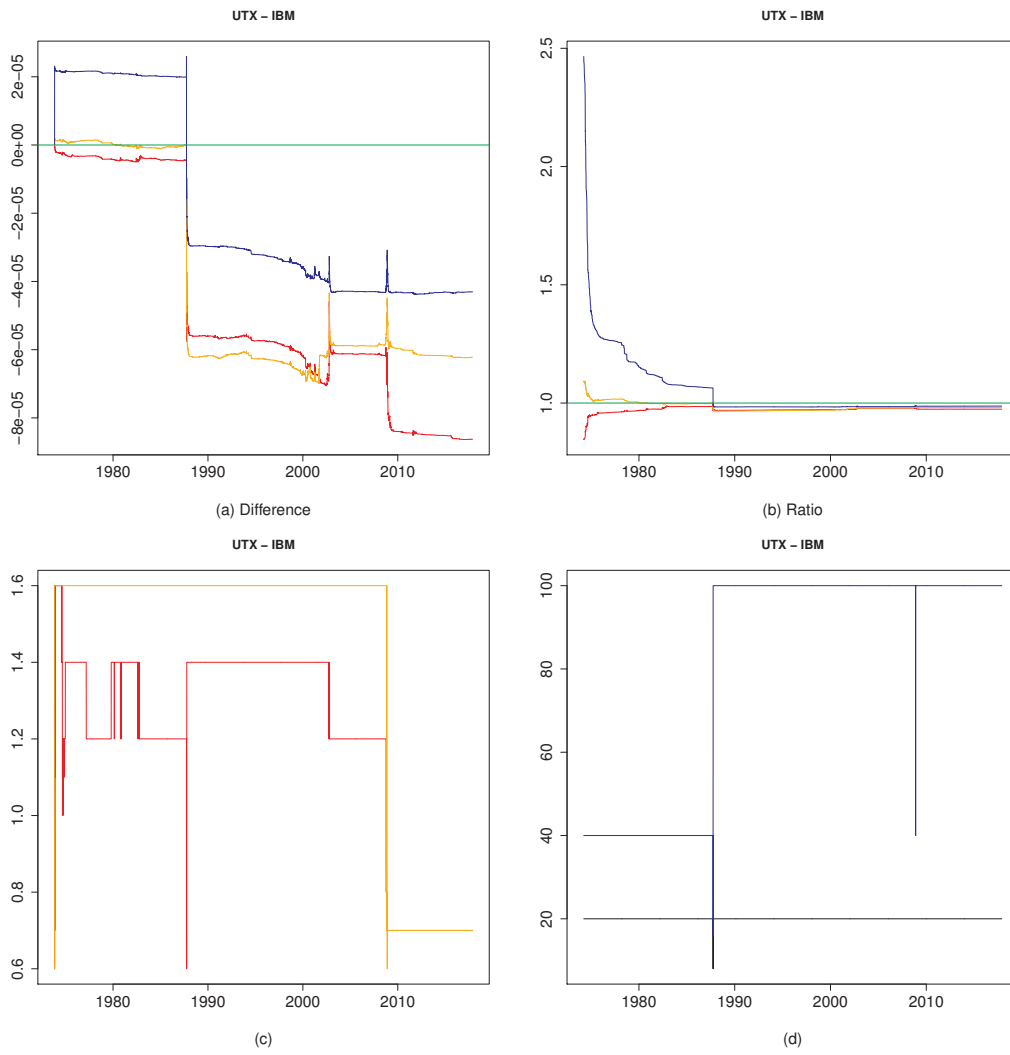


Figure 74: 03-20

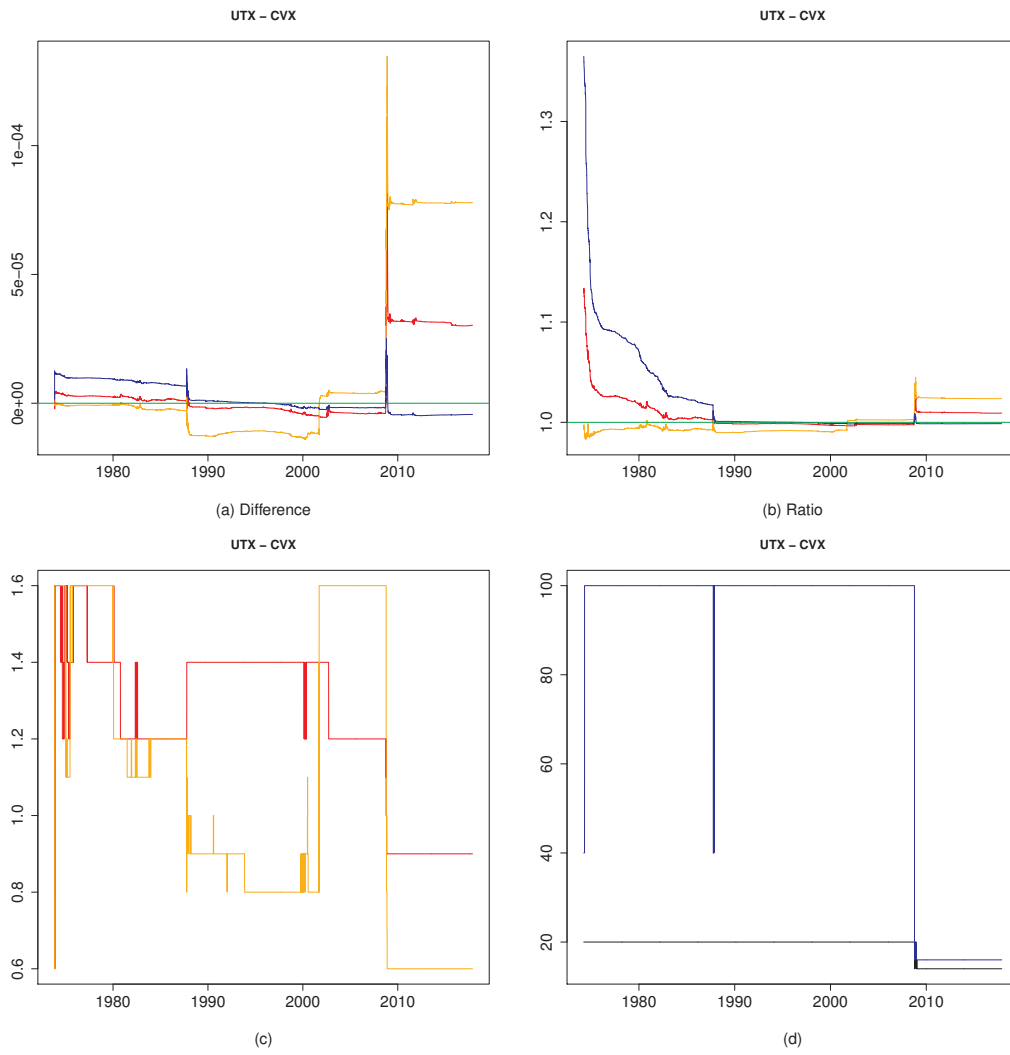


Figure 75: 03-21

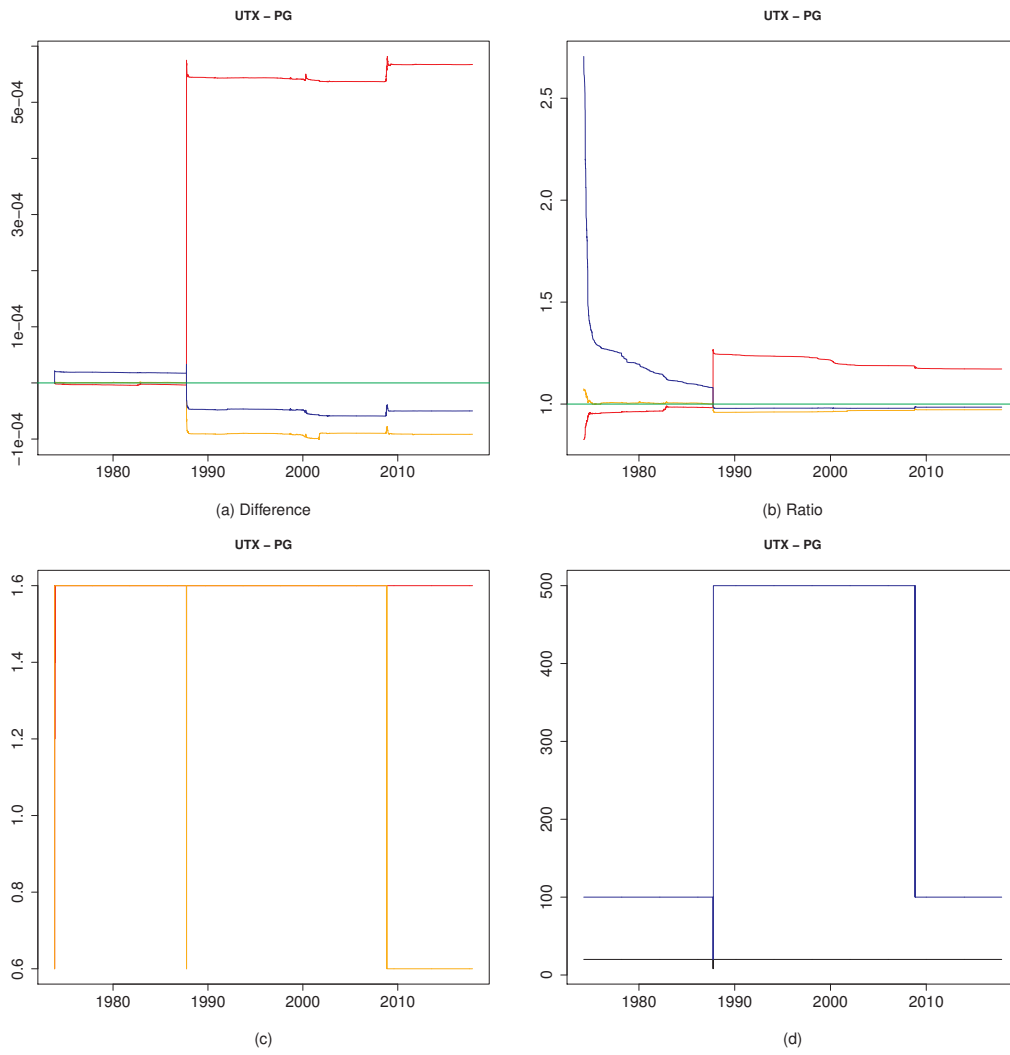


Figure 76: 03-22

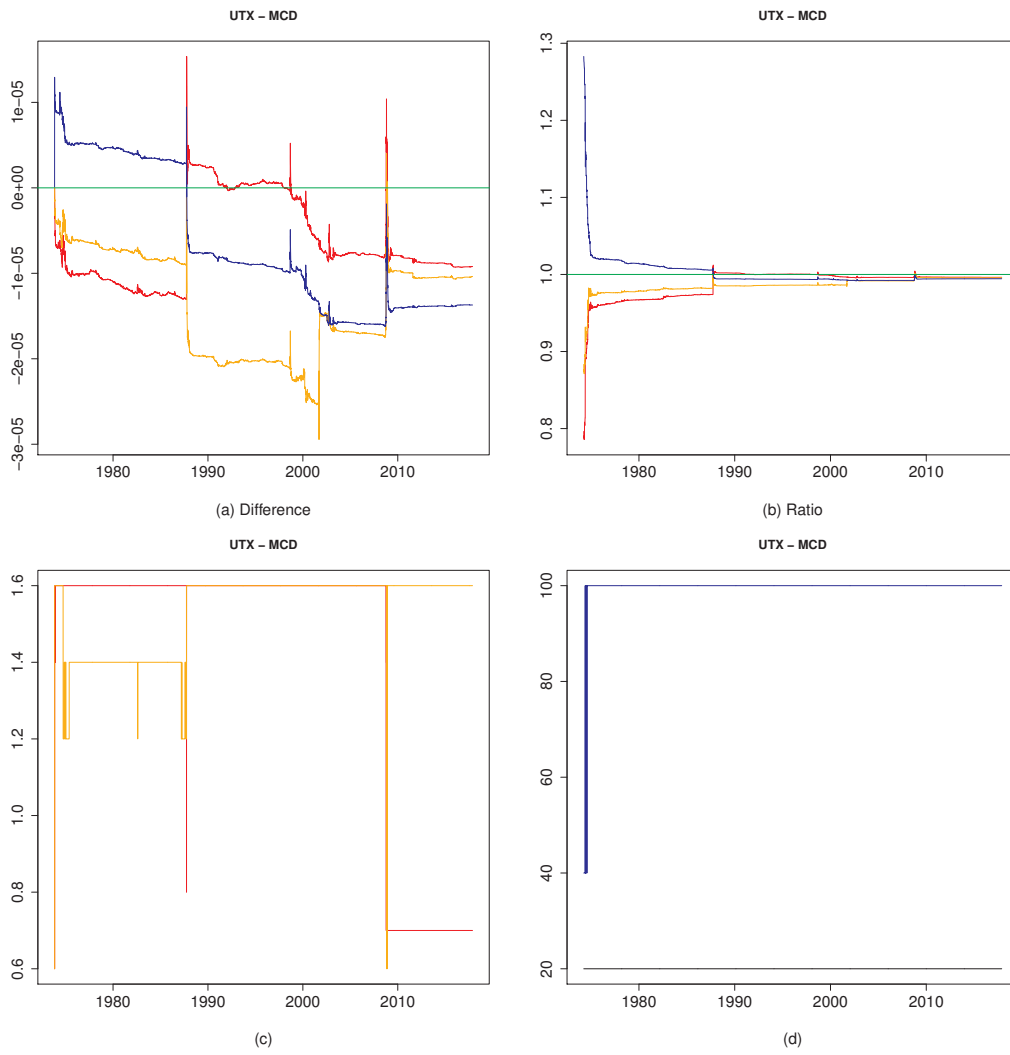


Figure 77: 03-23

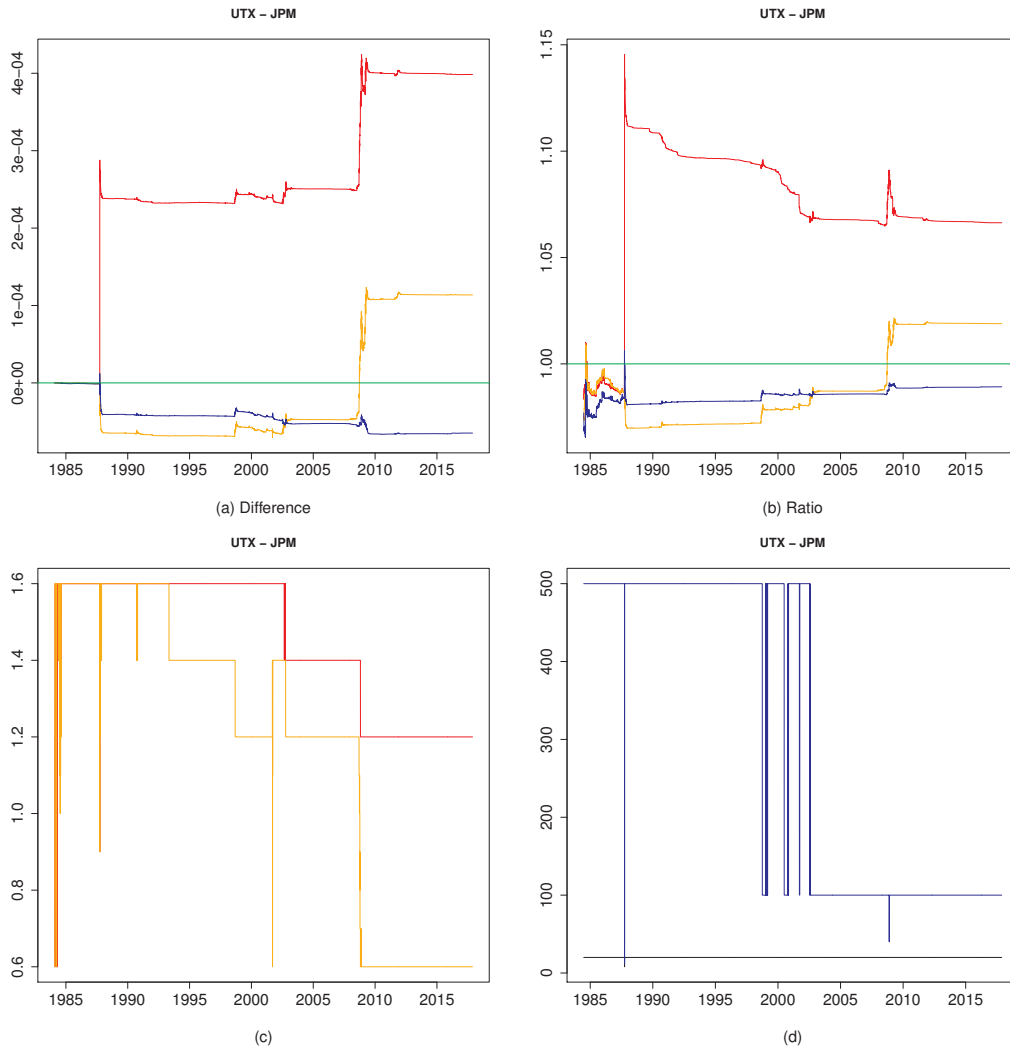


Figure 78: 03-24

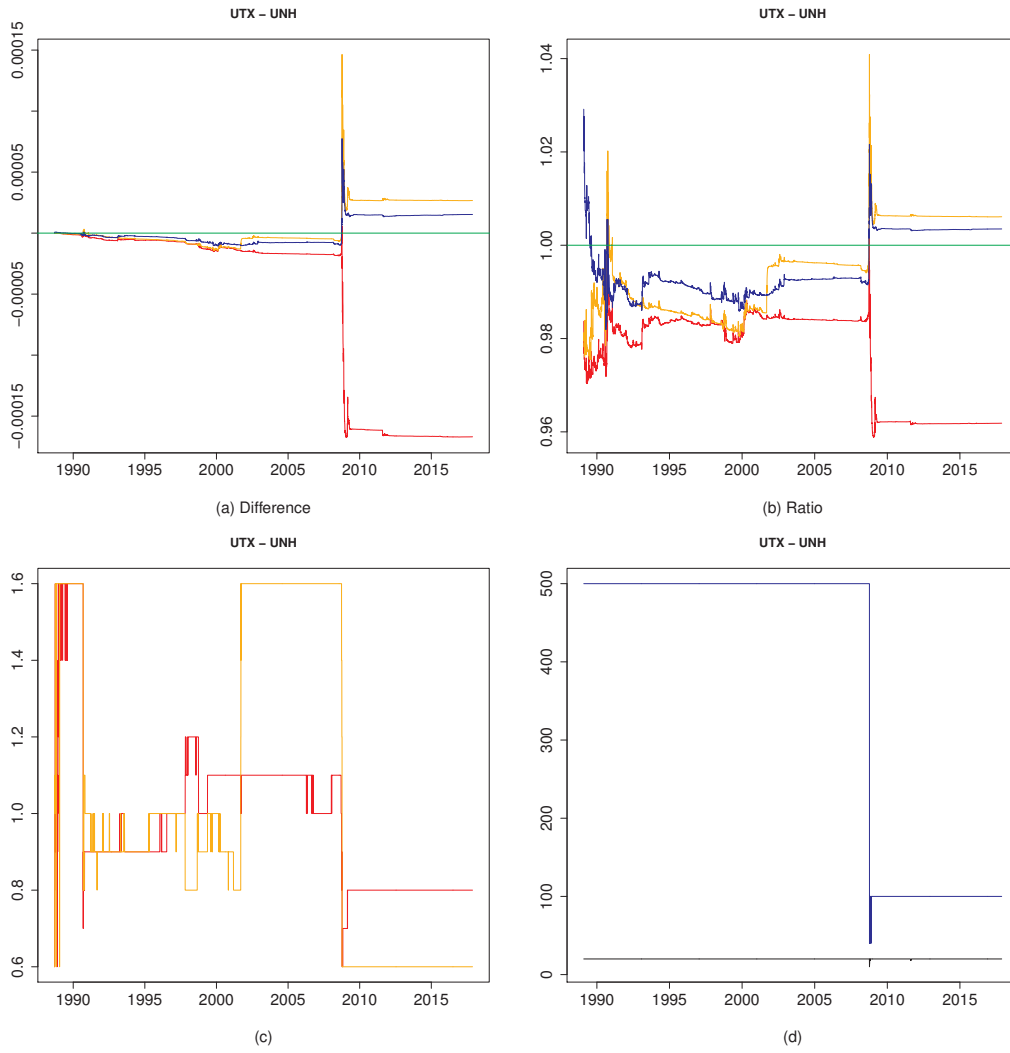


Figure 79: 03-25

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1.4 Pairs from 4-5 to 4-30

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1.5 Pairs from 5-6 to 5-30

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Figure 114

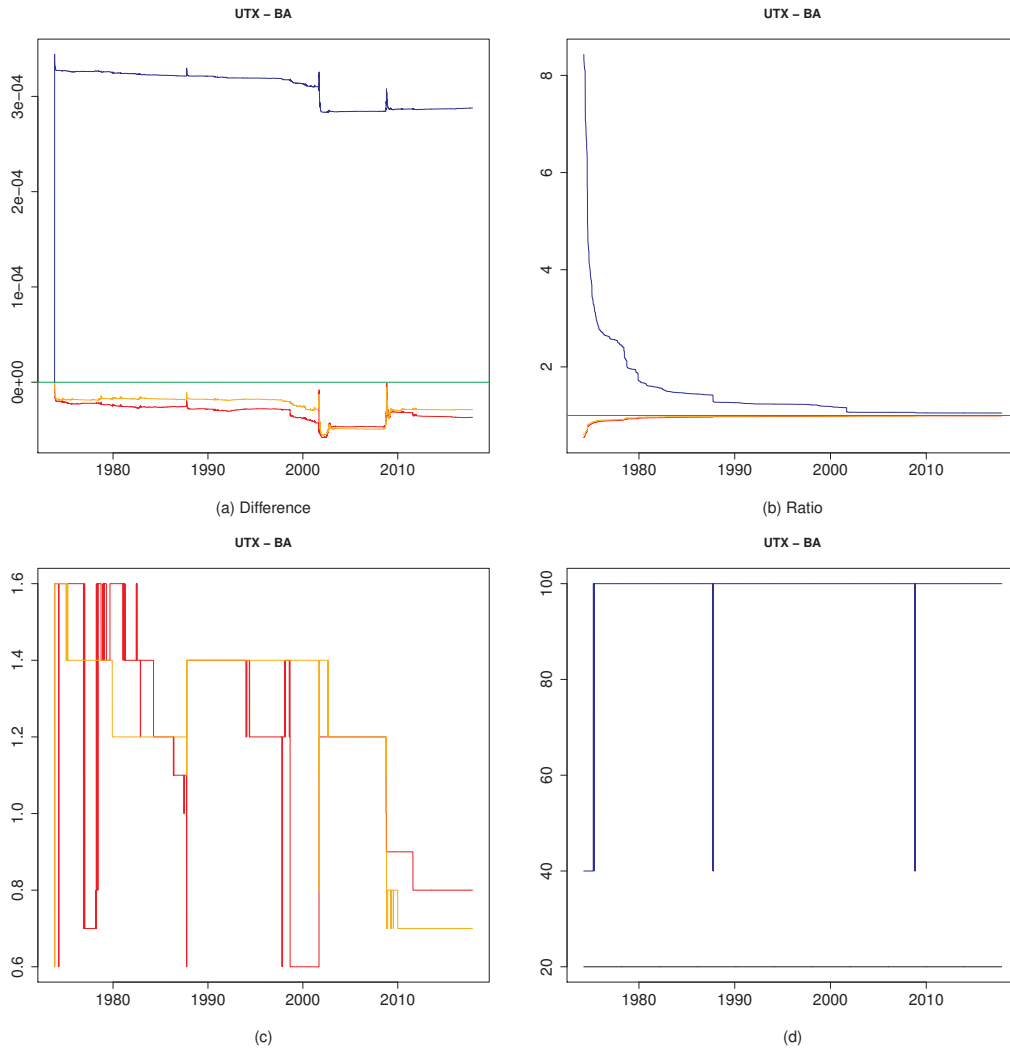


Figure 80: 03-26

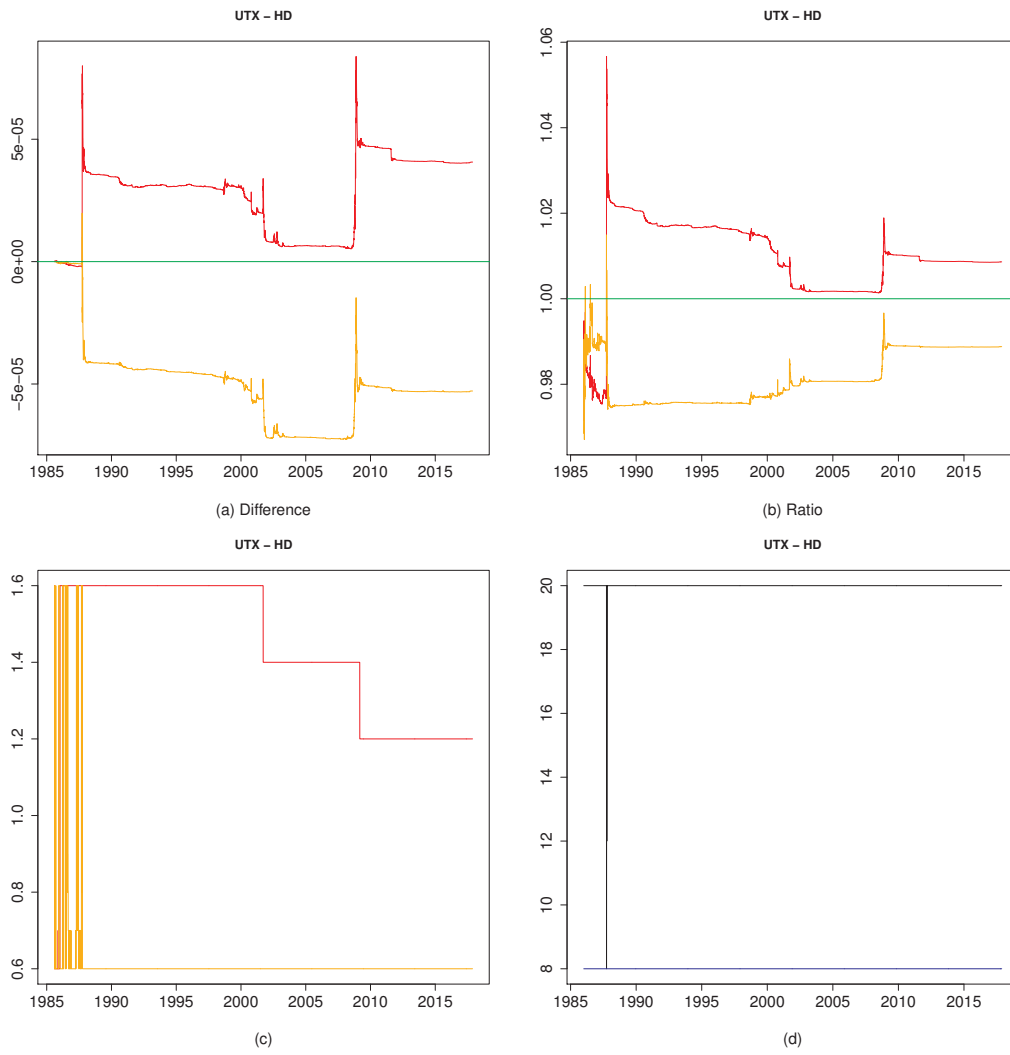


Figure 81: 03-27

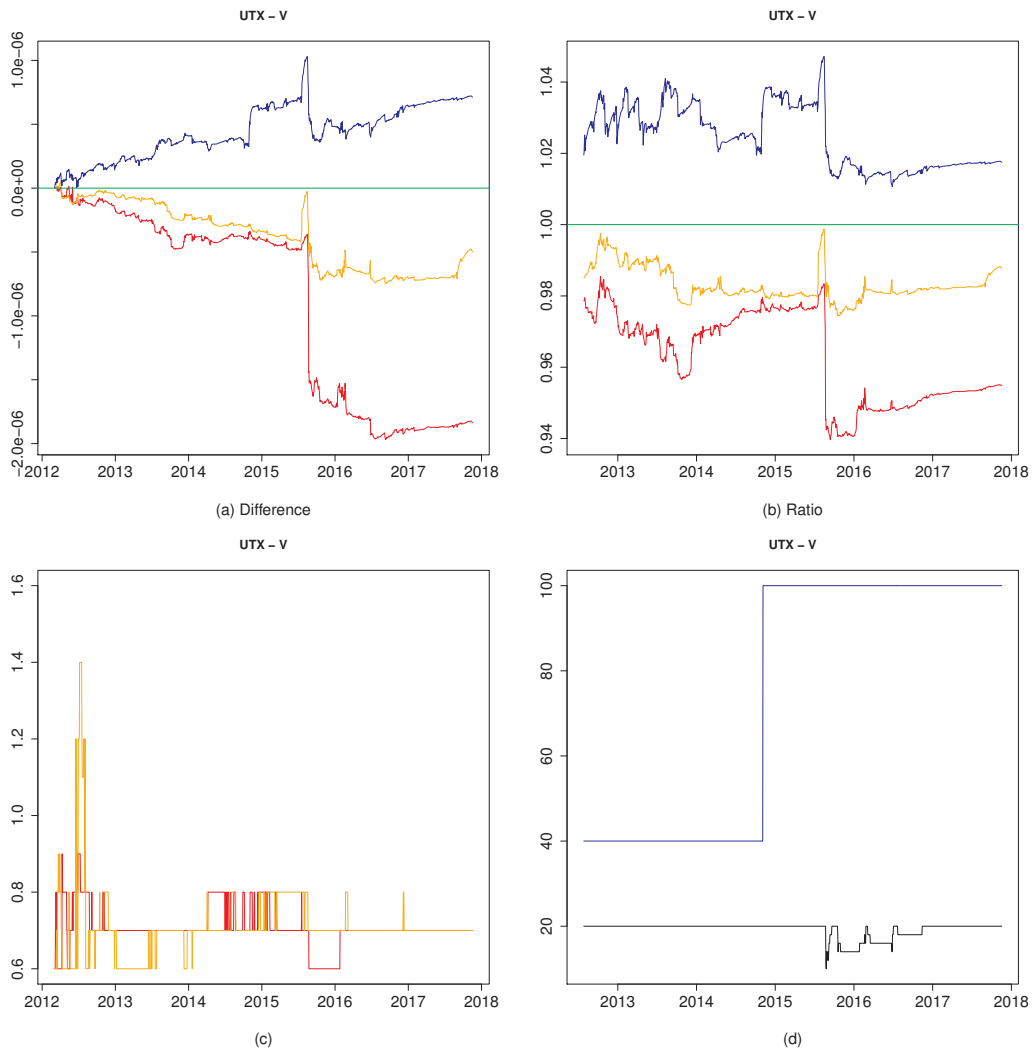


Figure 82: 03-28

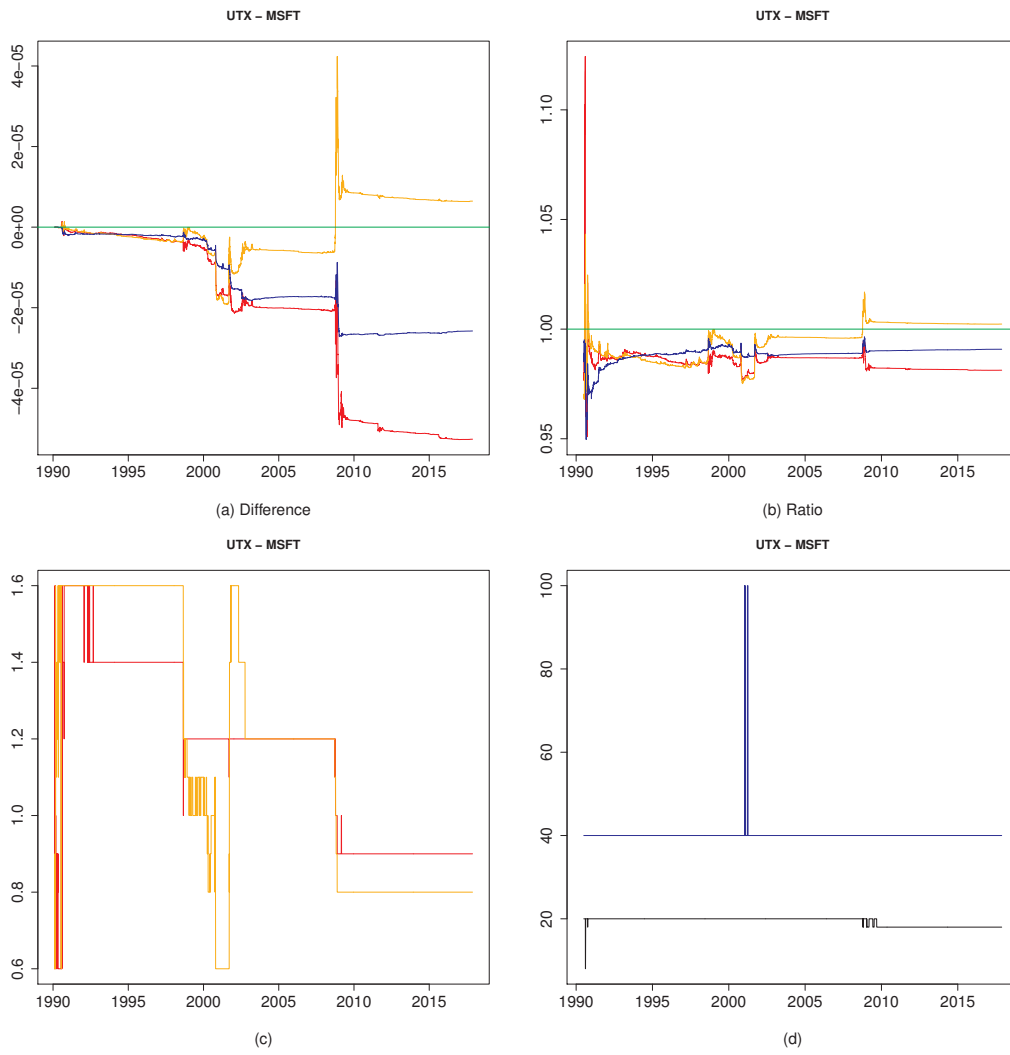


Figure 83: 03-29

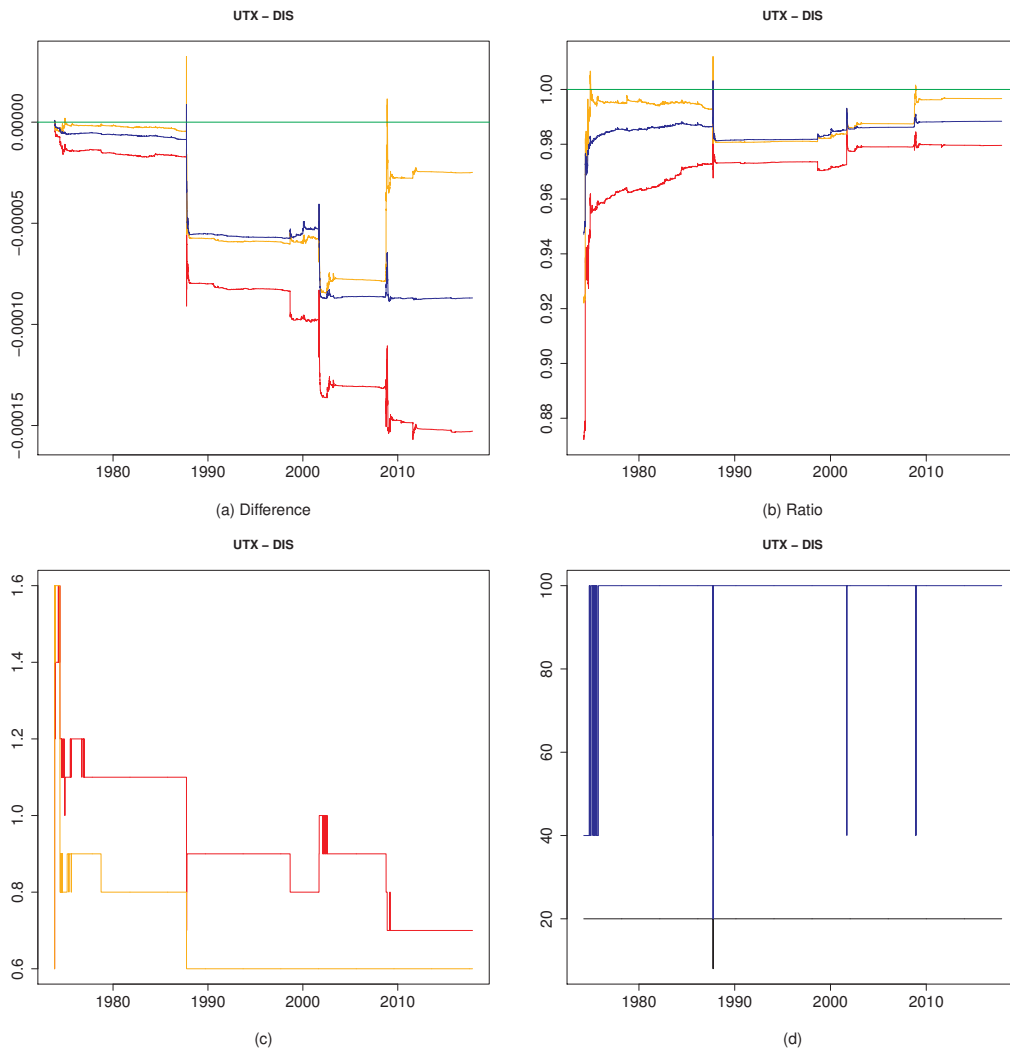


Figure 84: 03-30

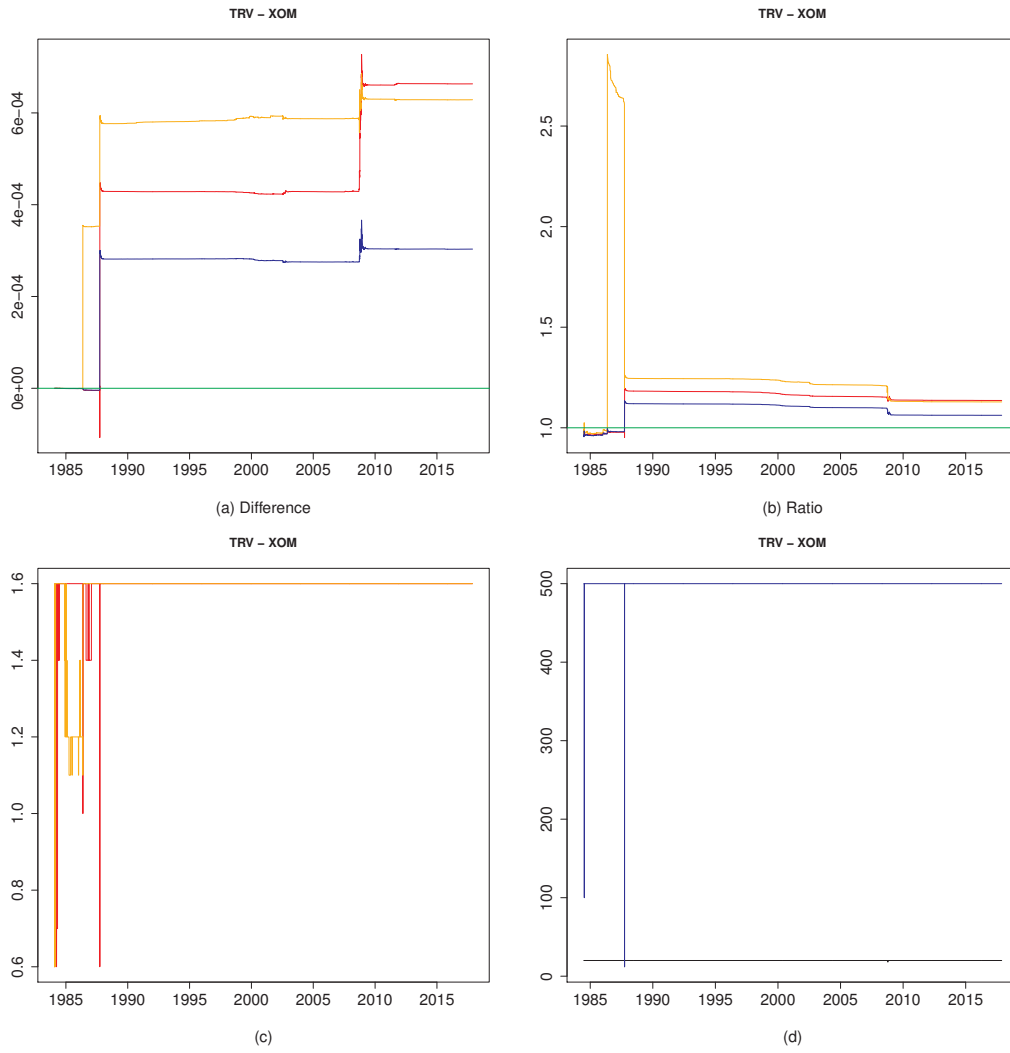


Figure 85: 04-05

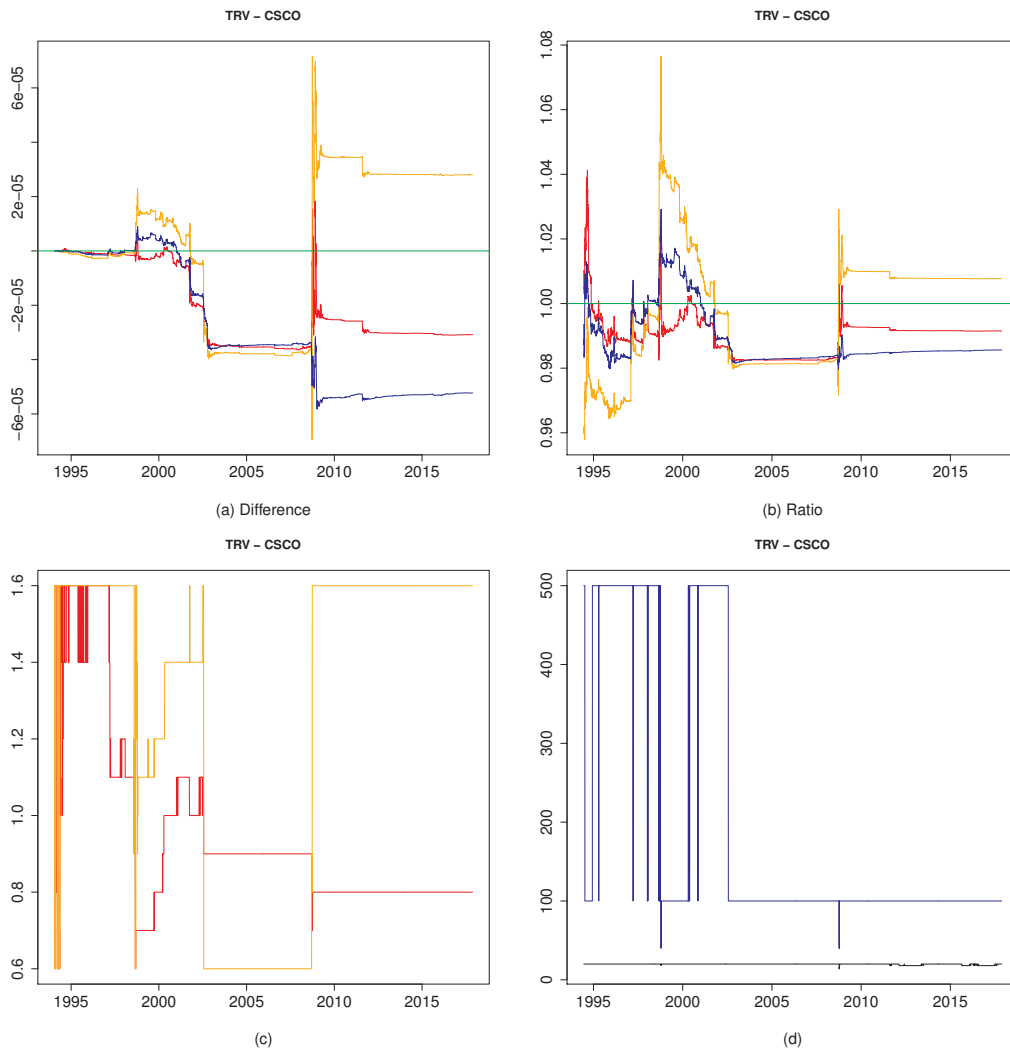


Figure 86: 04-06

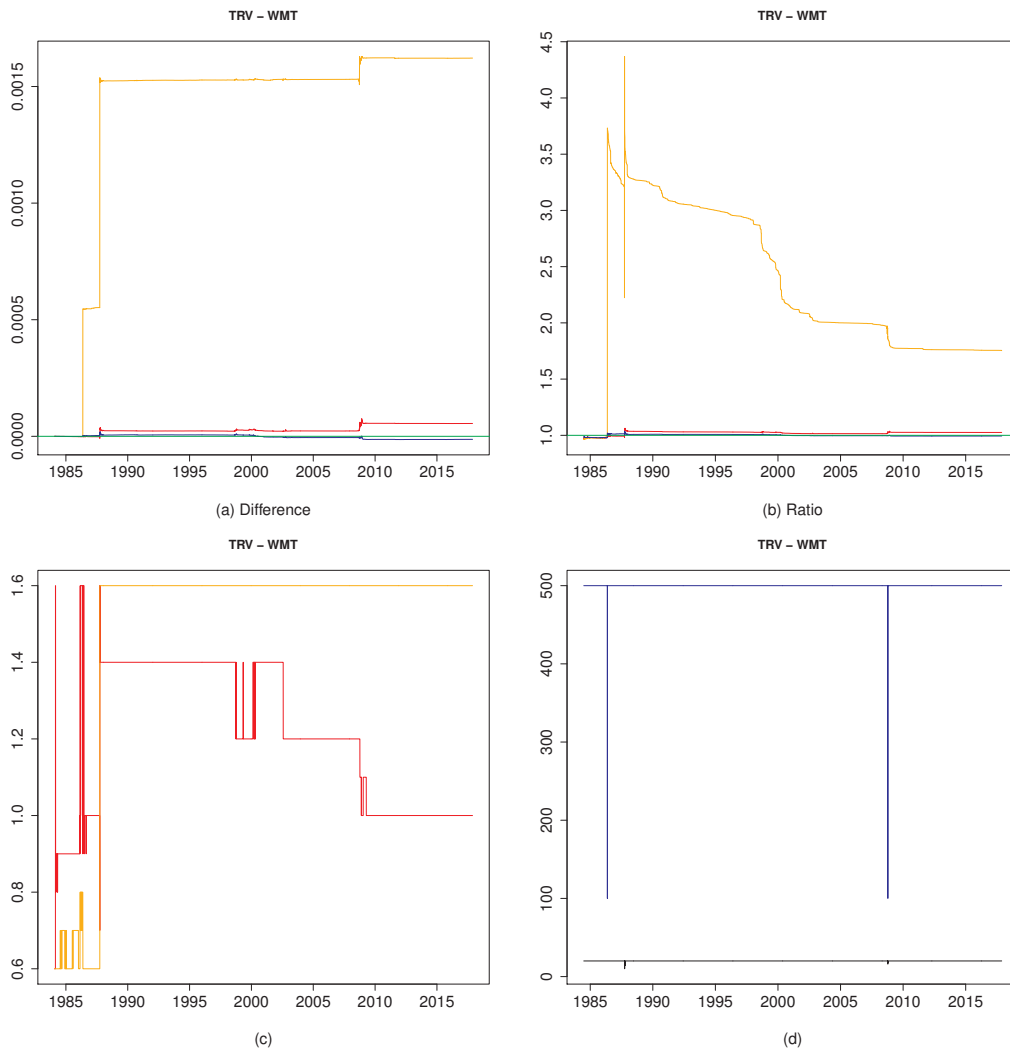


Figure 87: 04-07

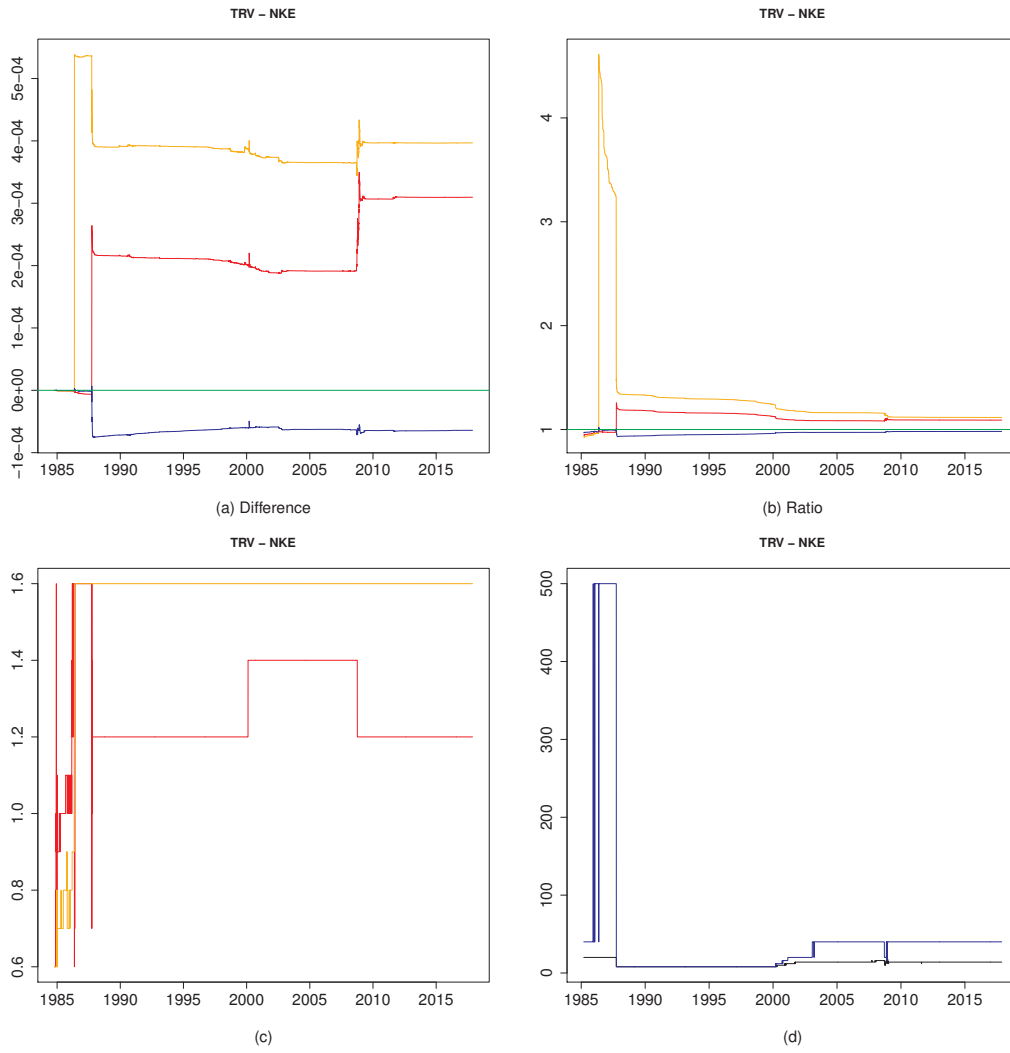


Figure 88: 04-08

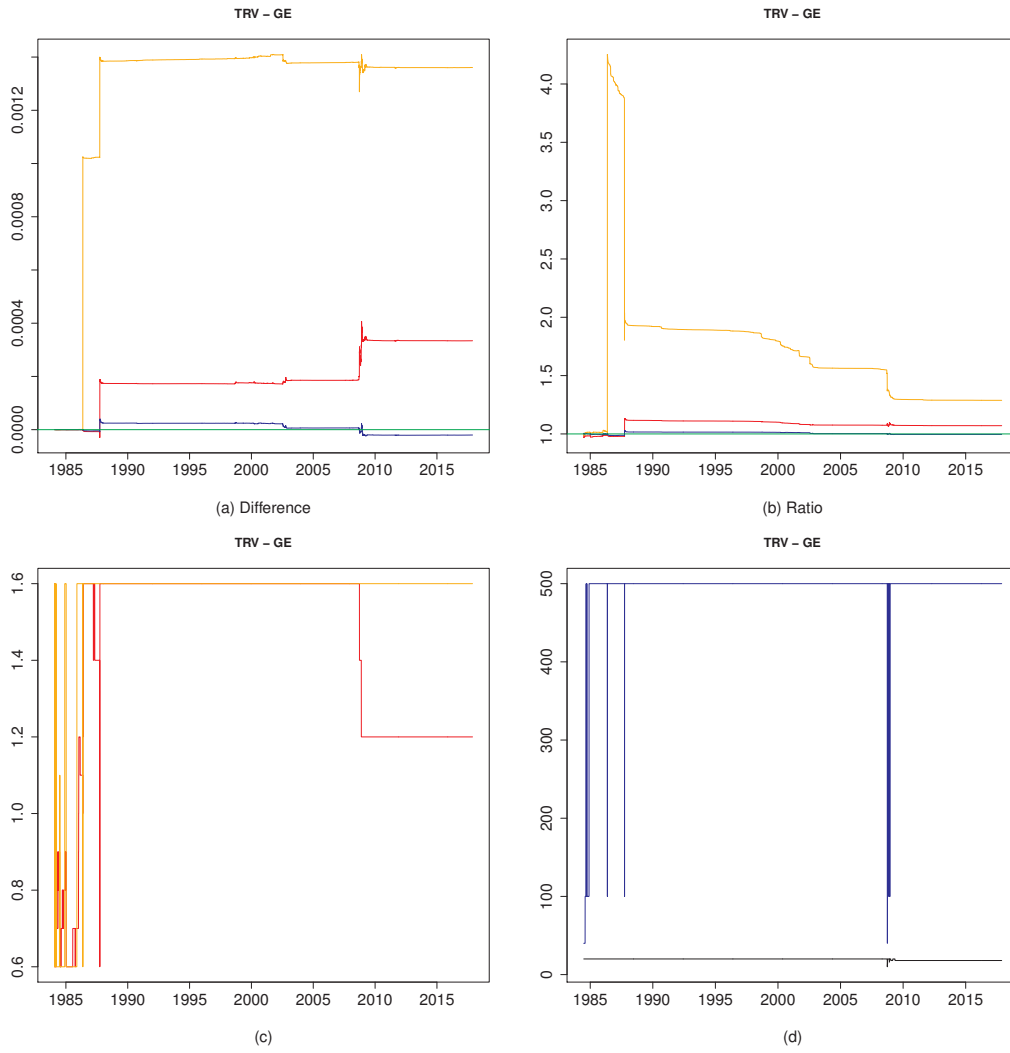


Figure 89: 04-09

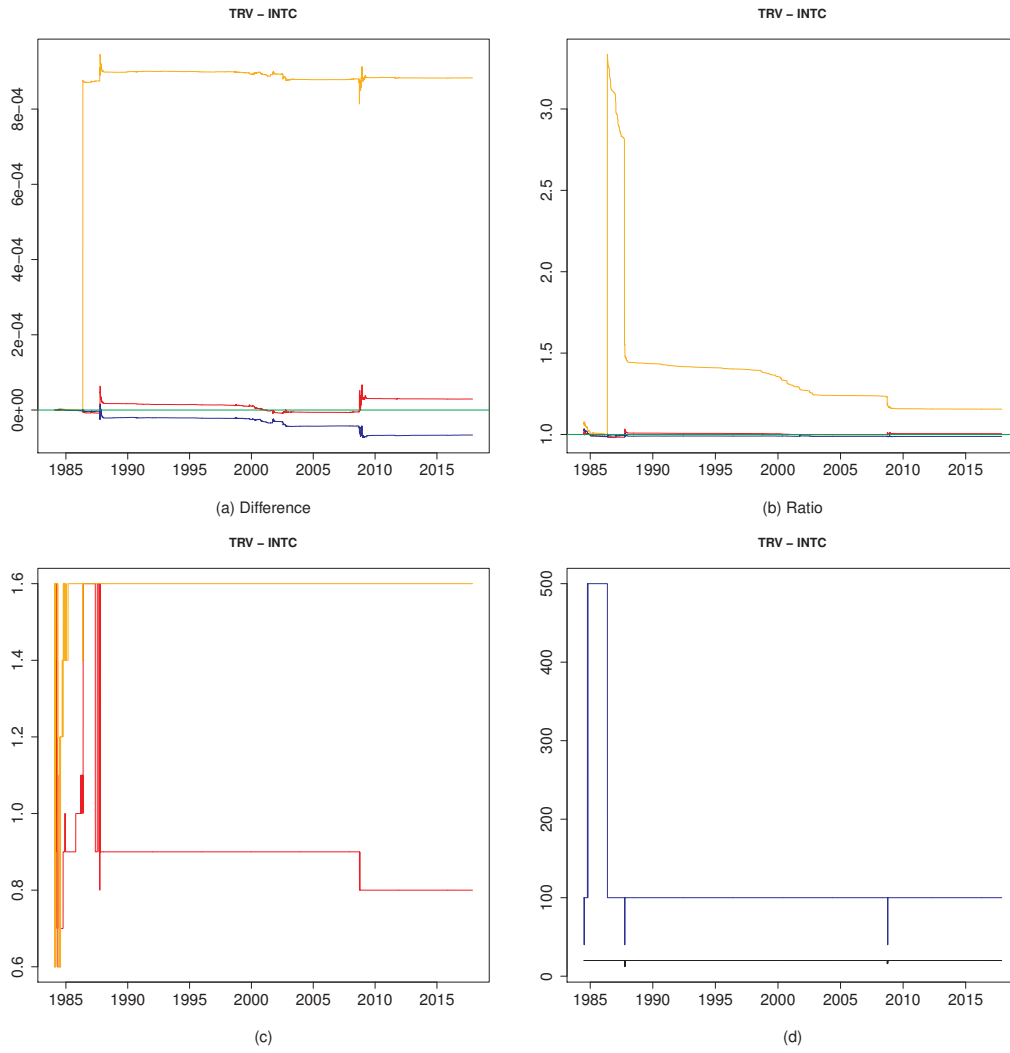


Figure 90: 04-10

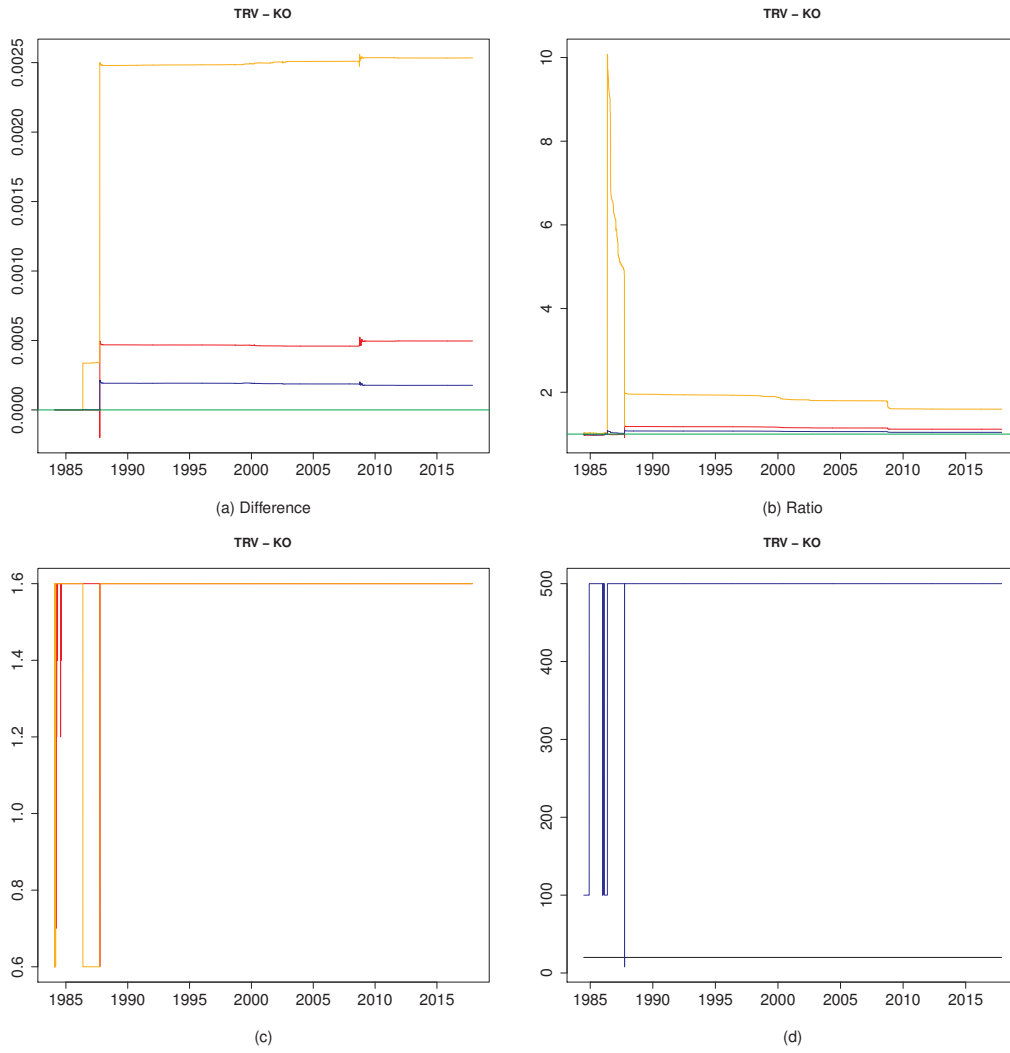


Figure 91: 04-11

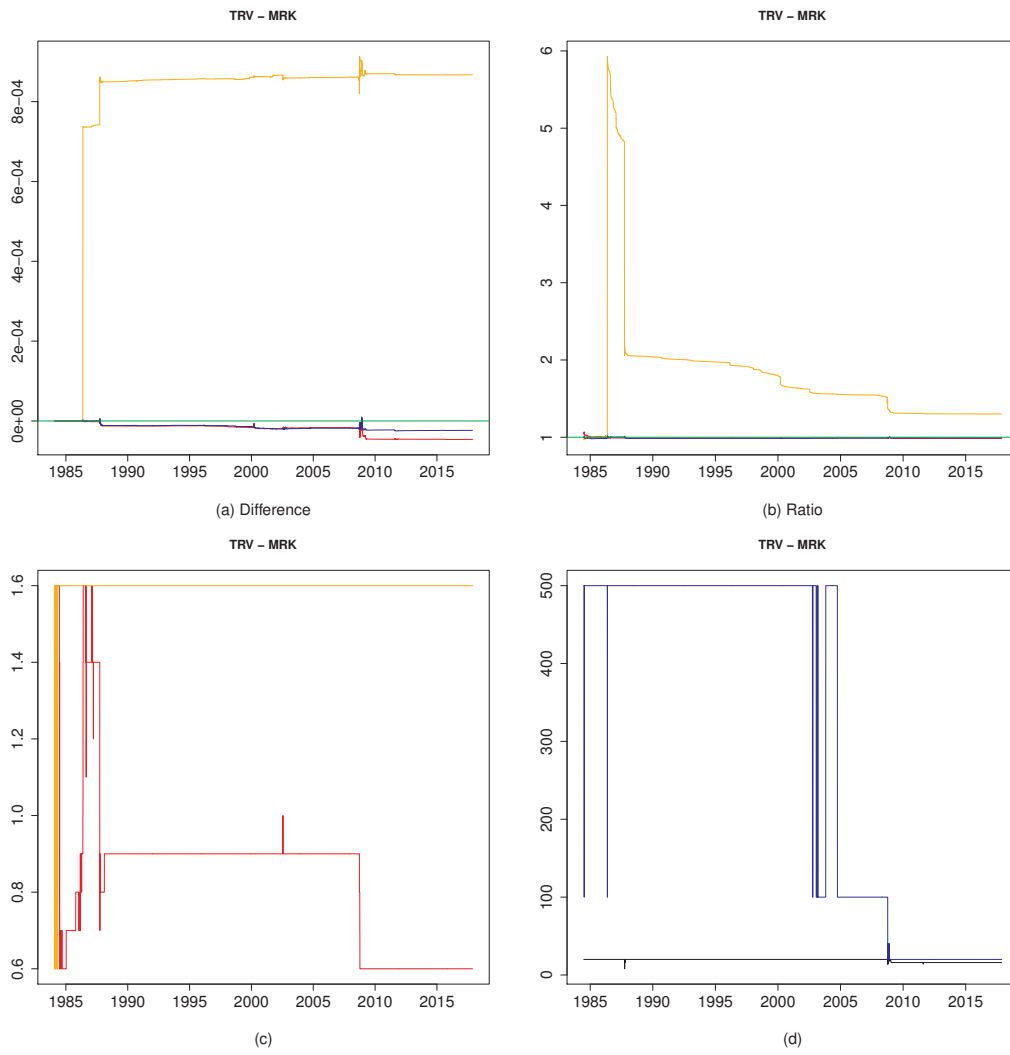


Figure 92: 04-12

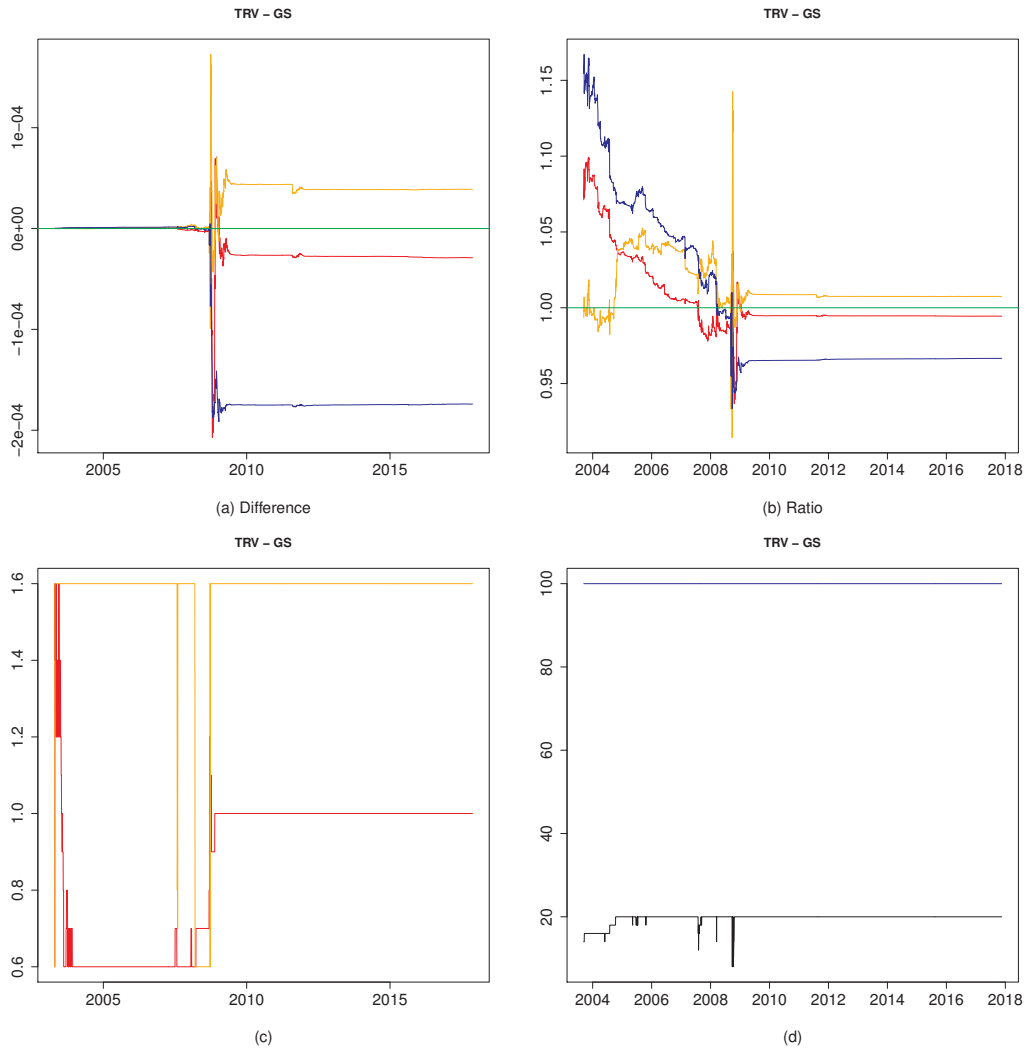


Figure 93: 04-13

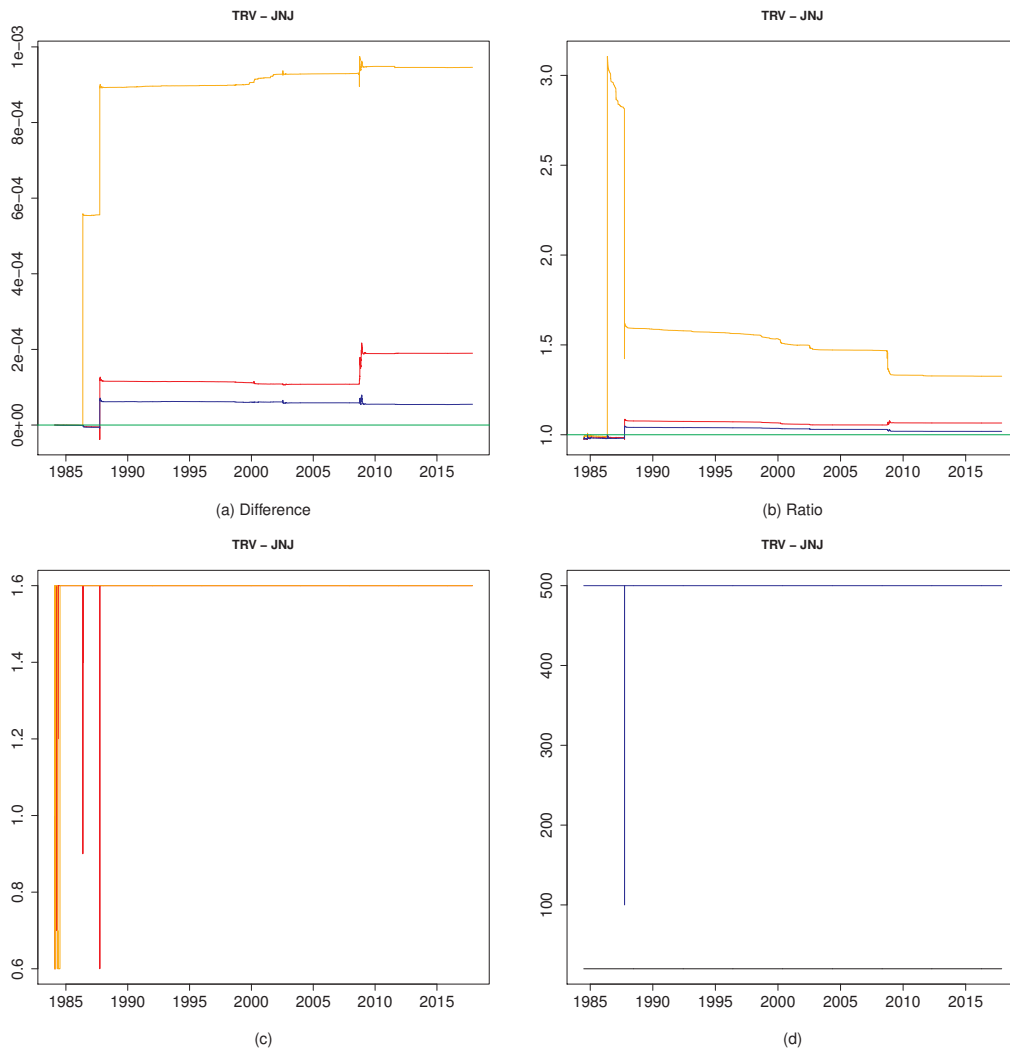


Figure 94: 04-14

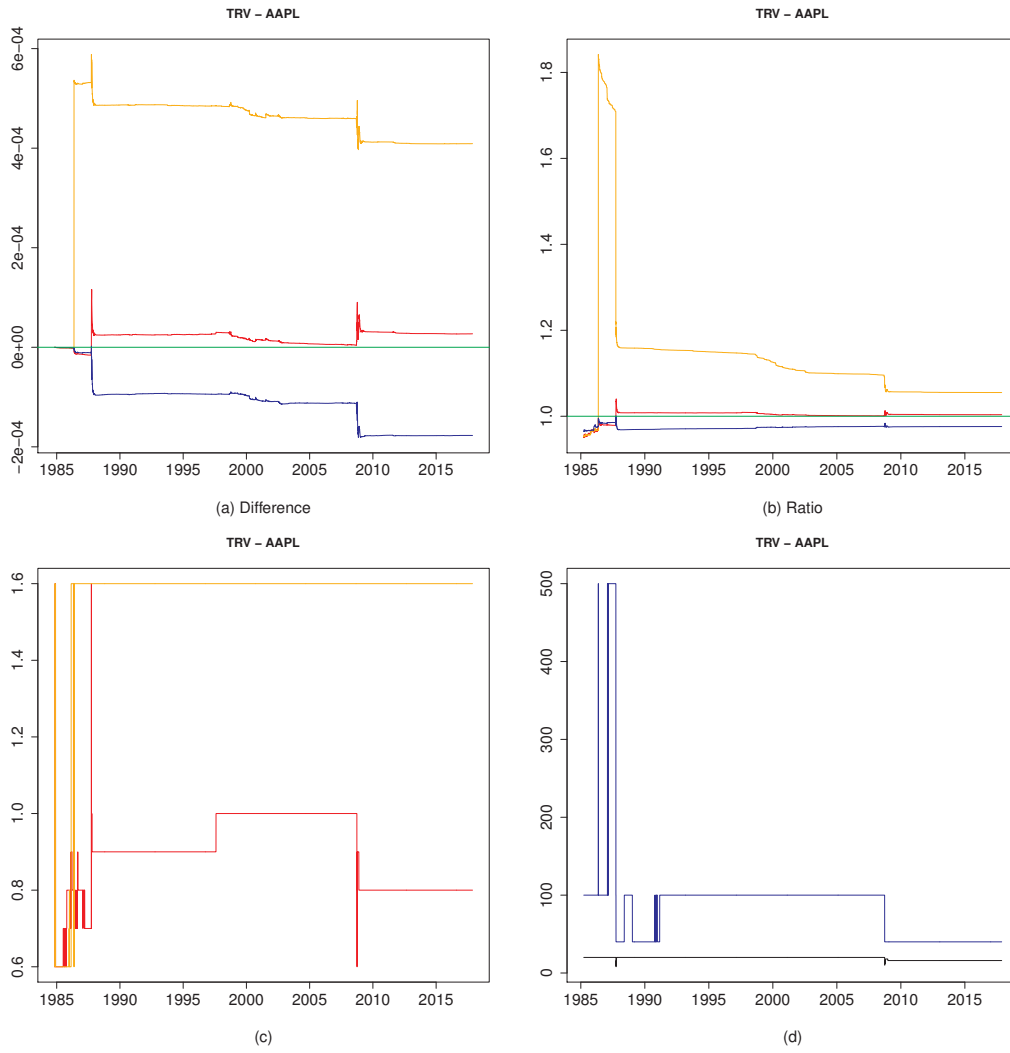


Figure 95: 04-15

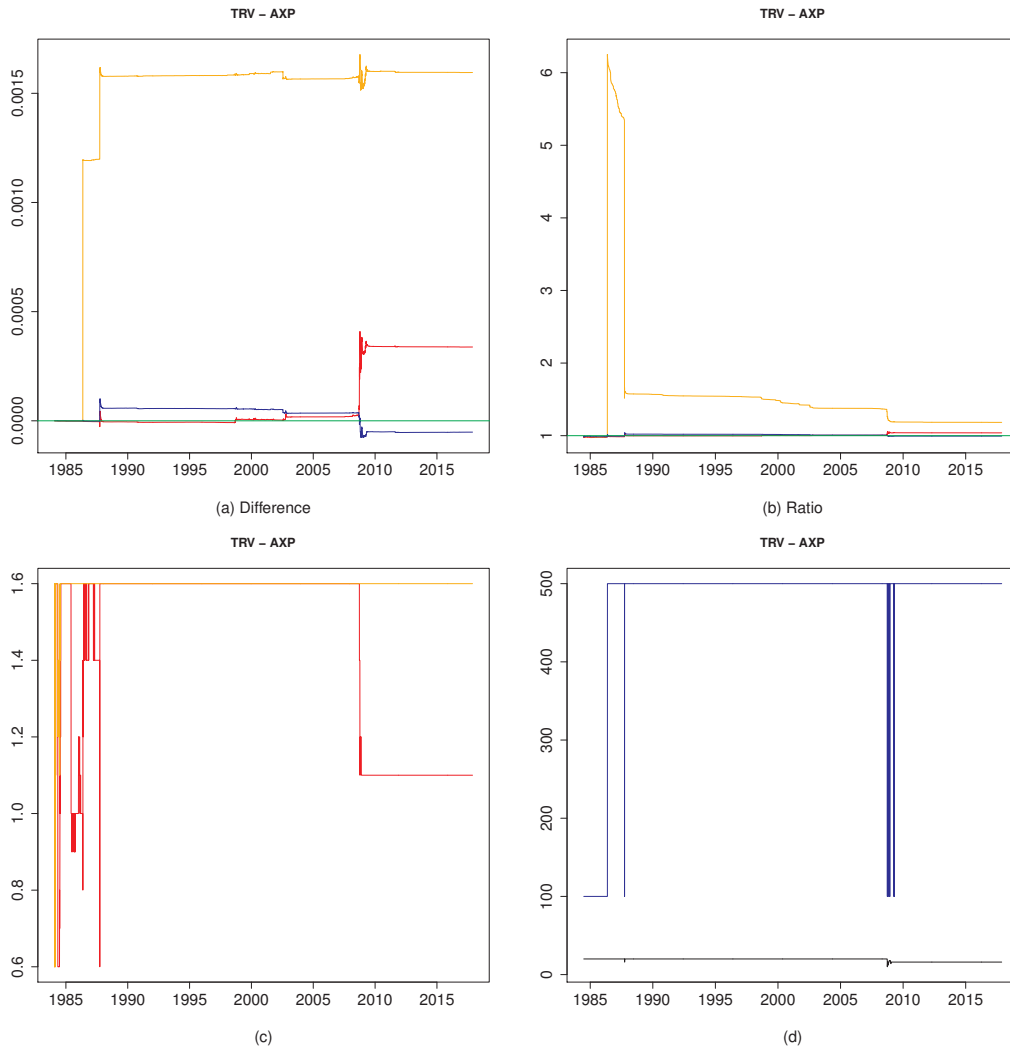


Figure 96: 04-16

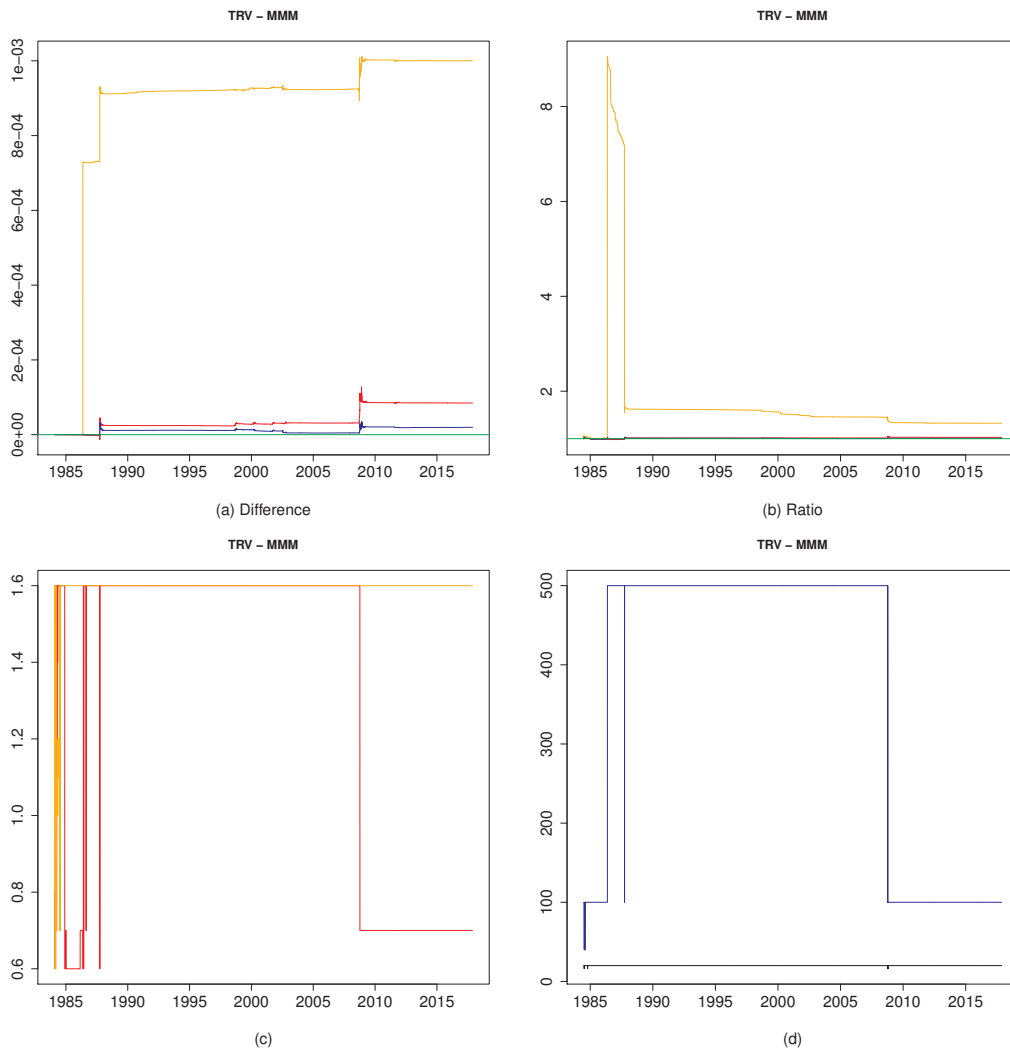


Figure 97: 04-17

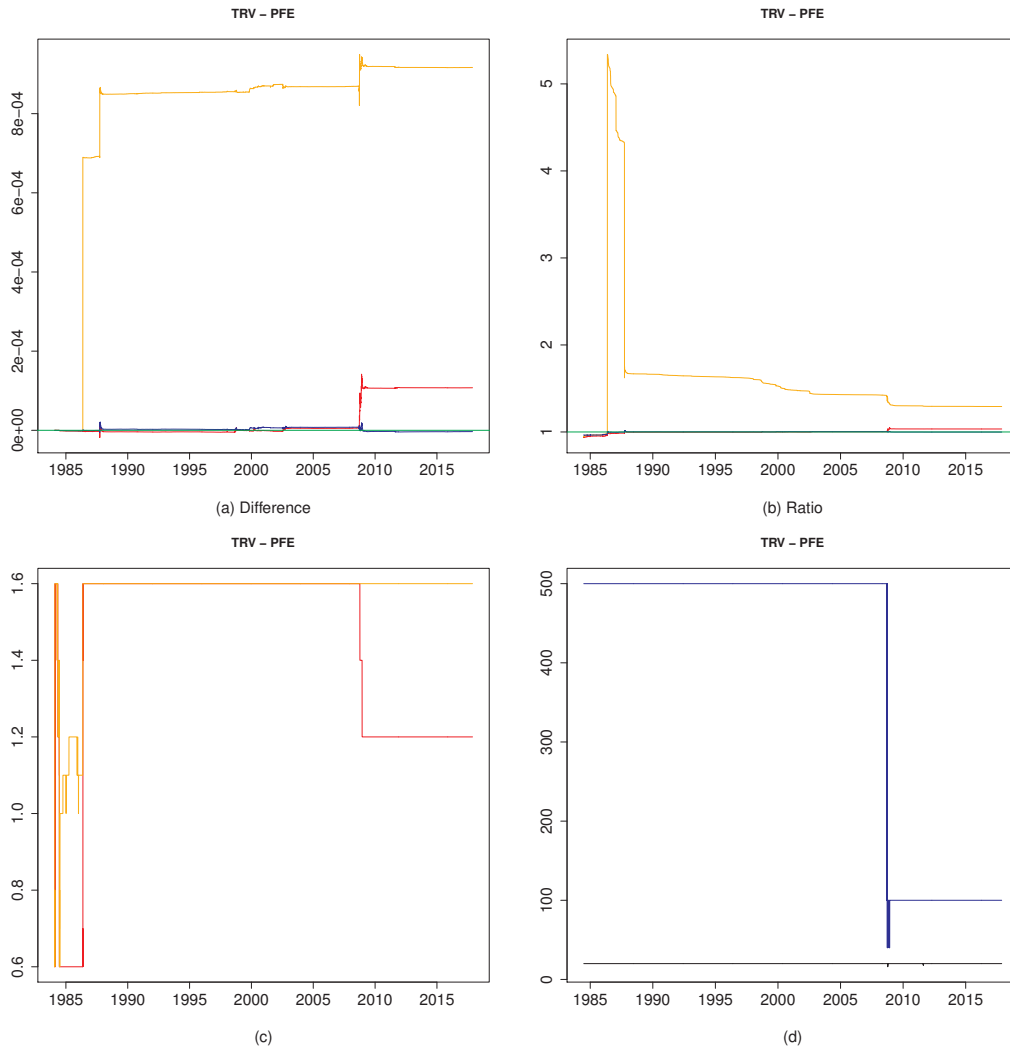


Figure 98: 04-18

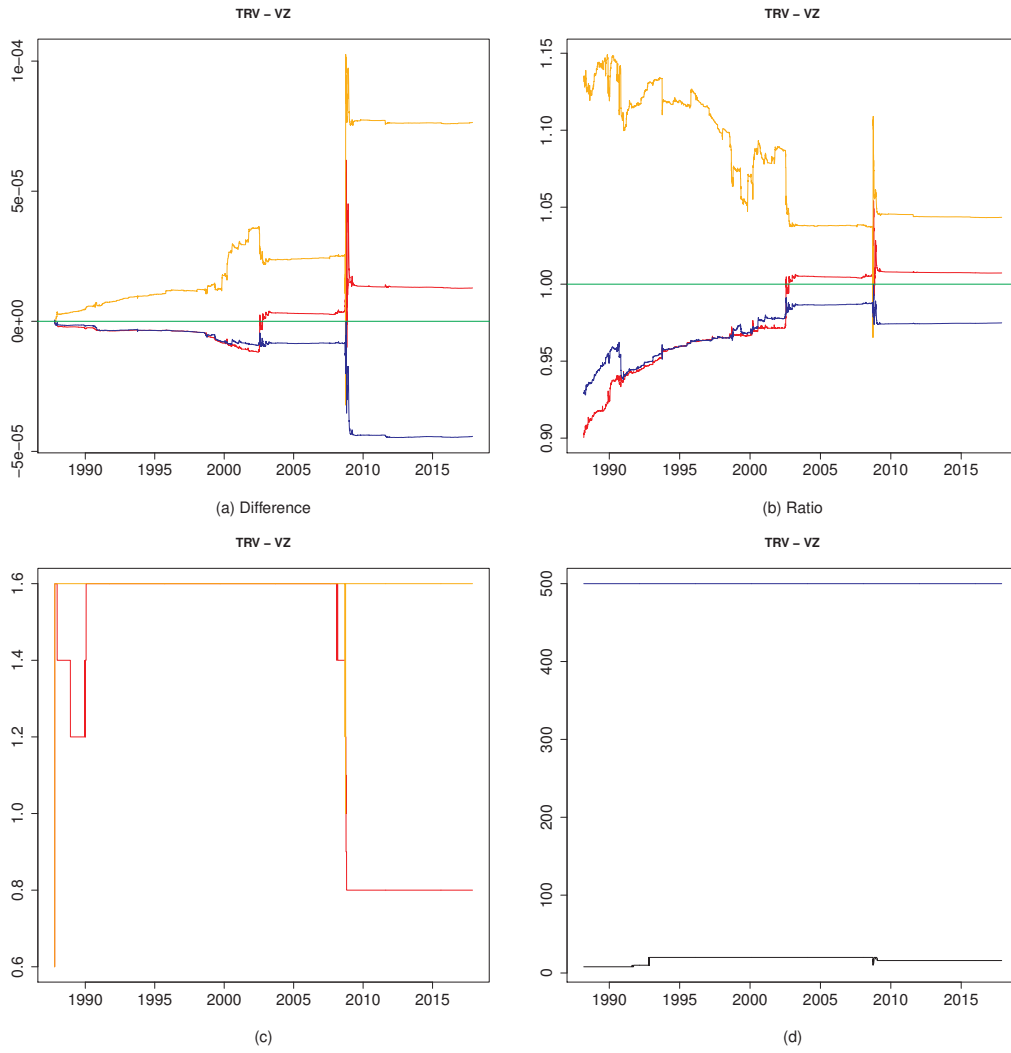


Figure 99: 04-19

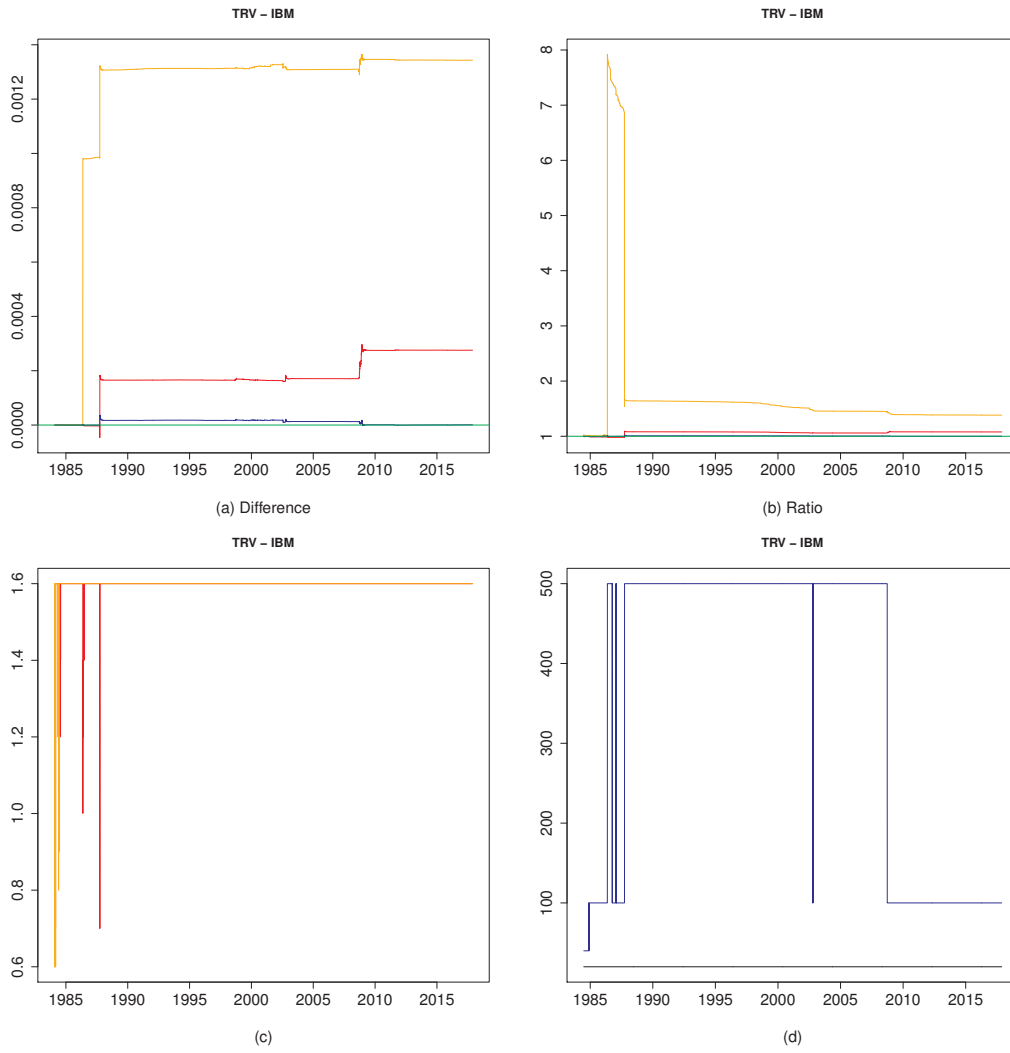


Figure 100: 04-20

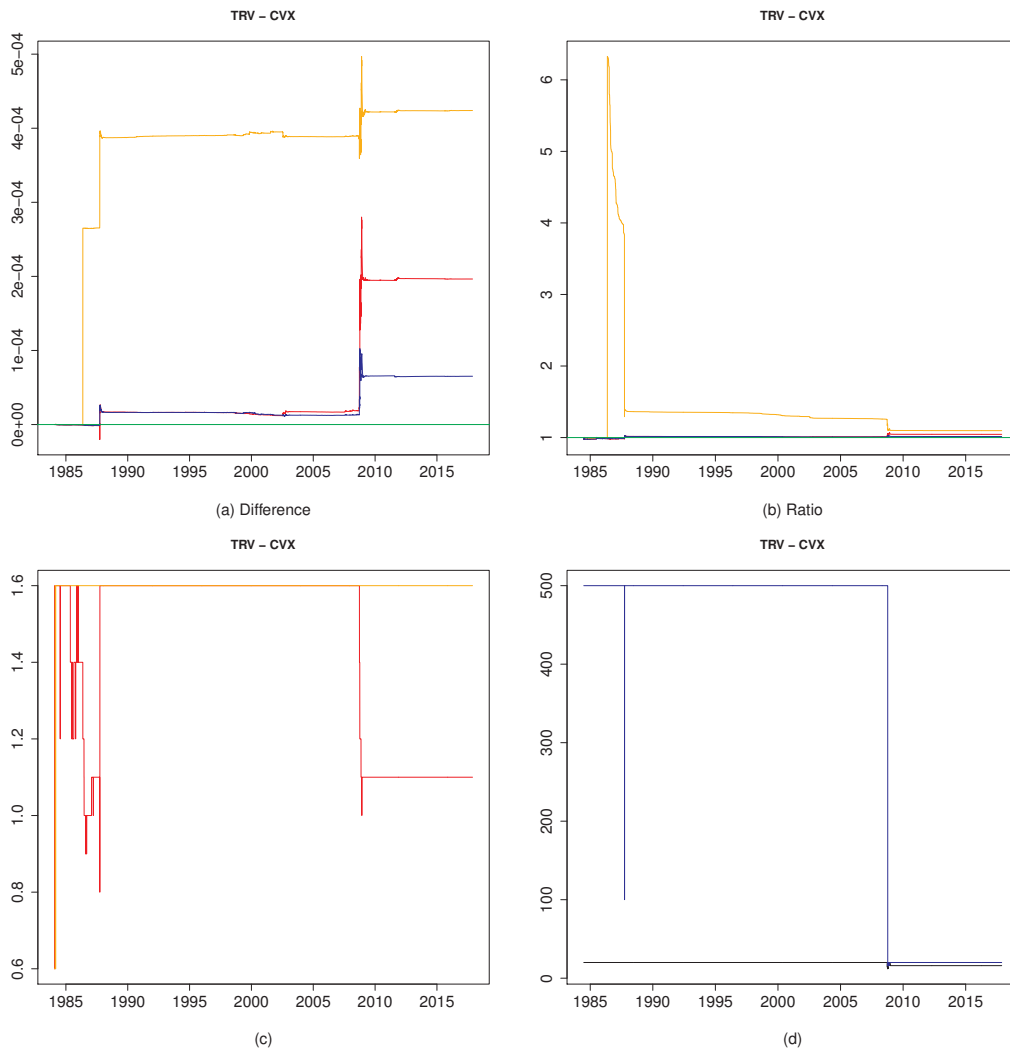


Figure 101: 04-21

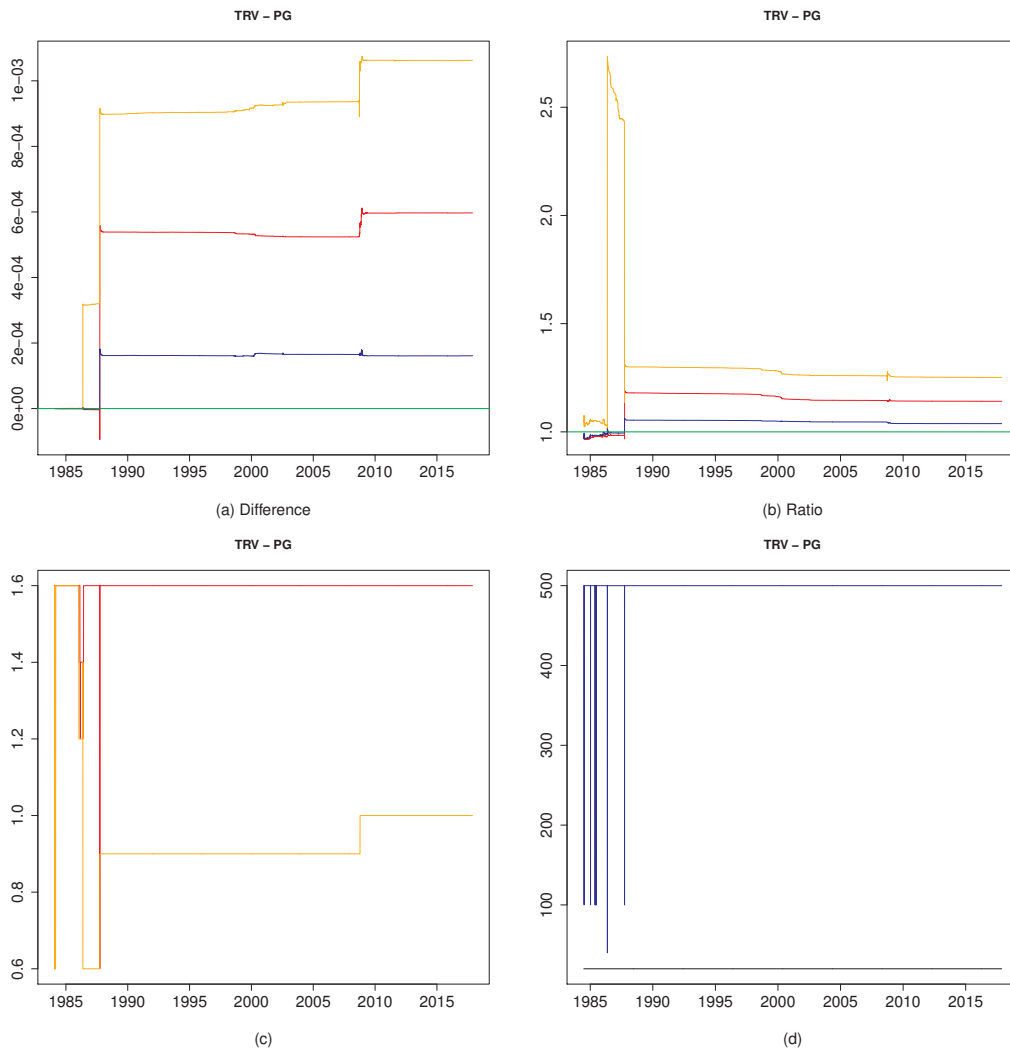


Figure 102: 04-22

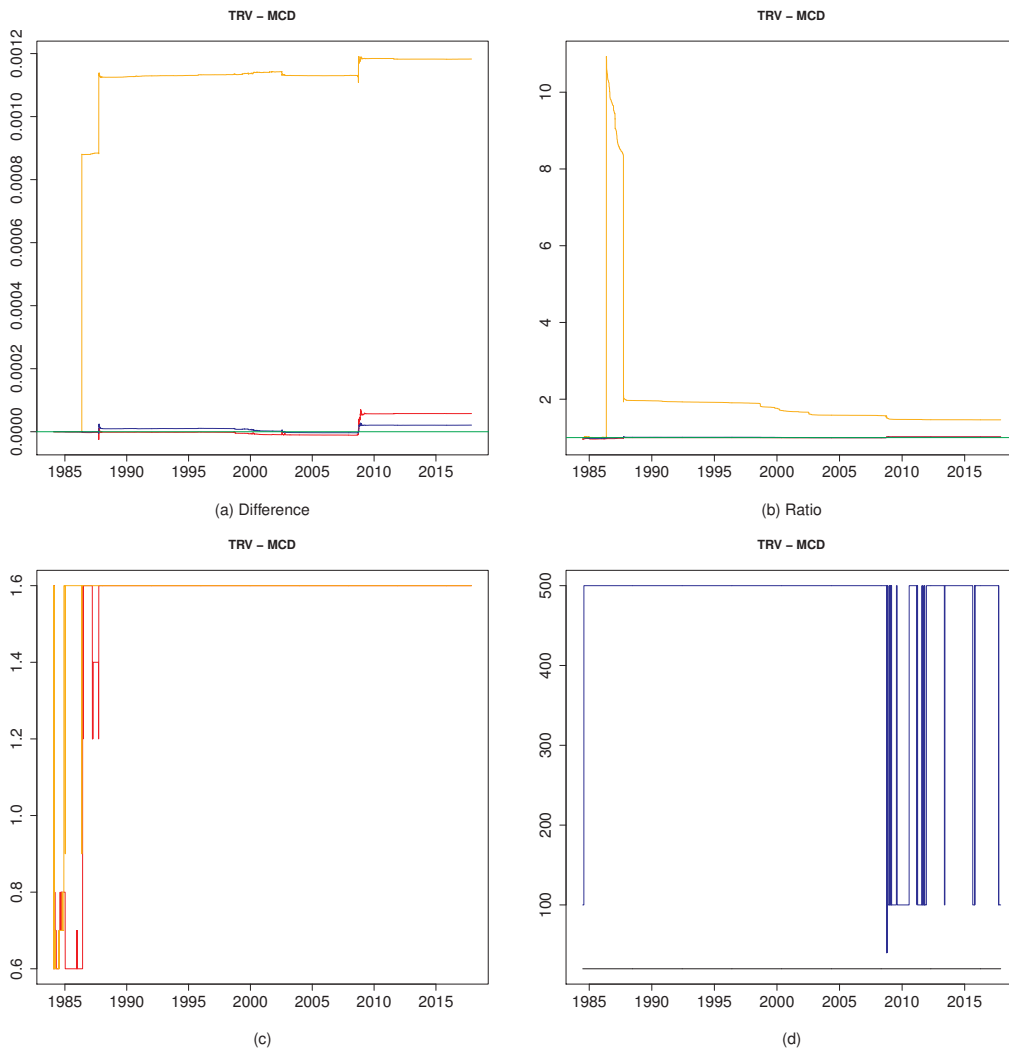


Figure 103: 04-23

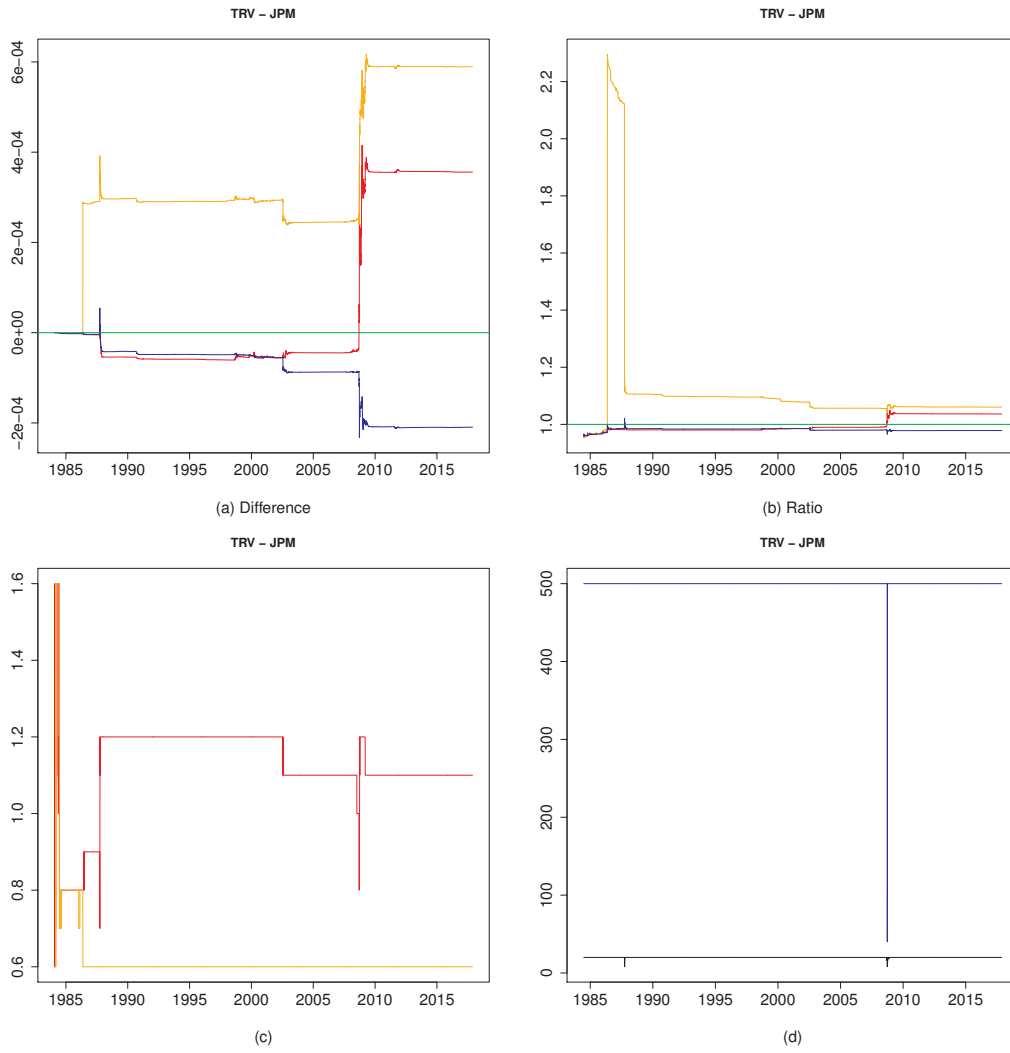


Figure 104: 04-24

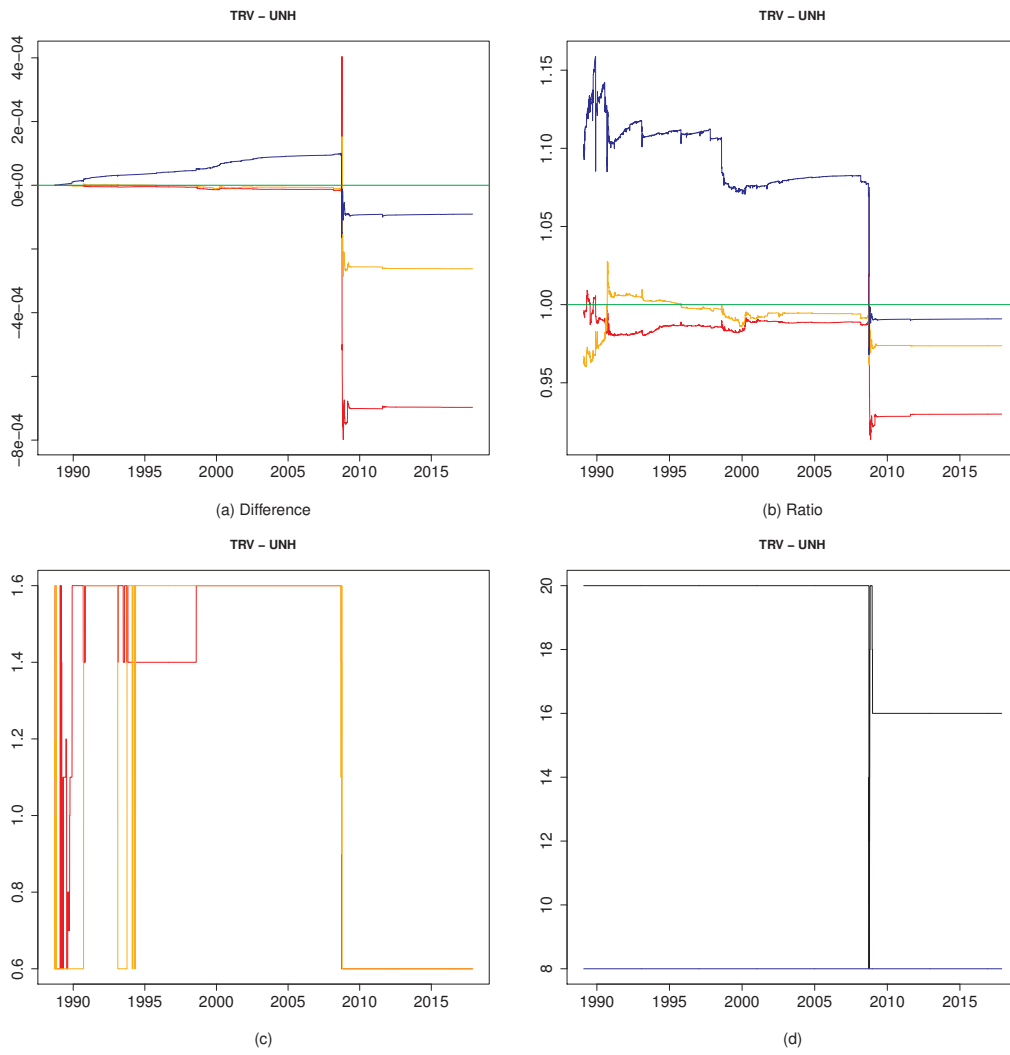


Figure 105: 04-25

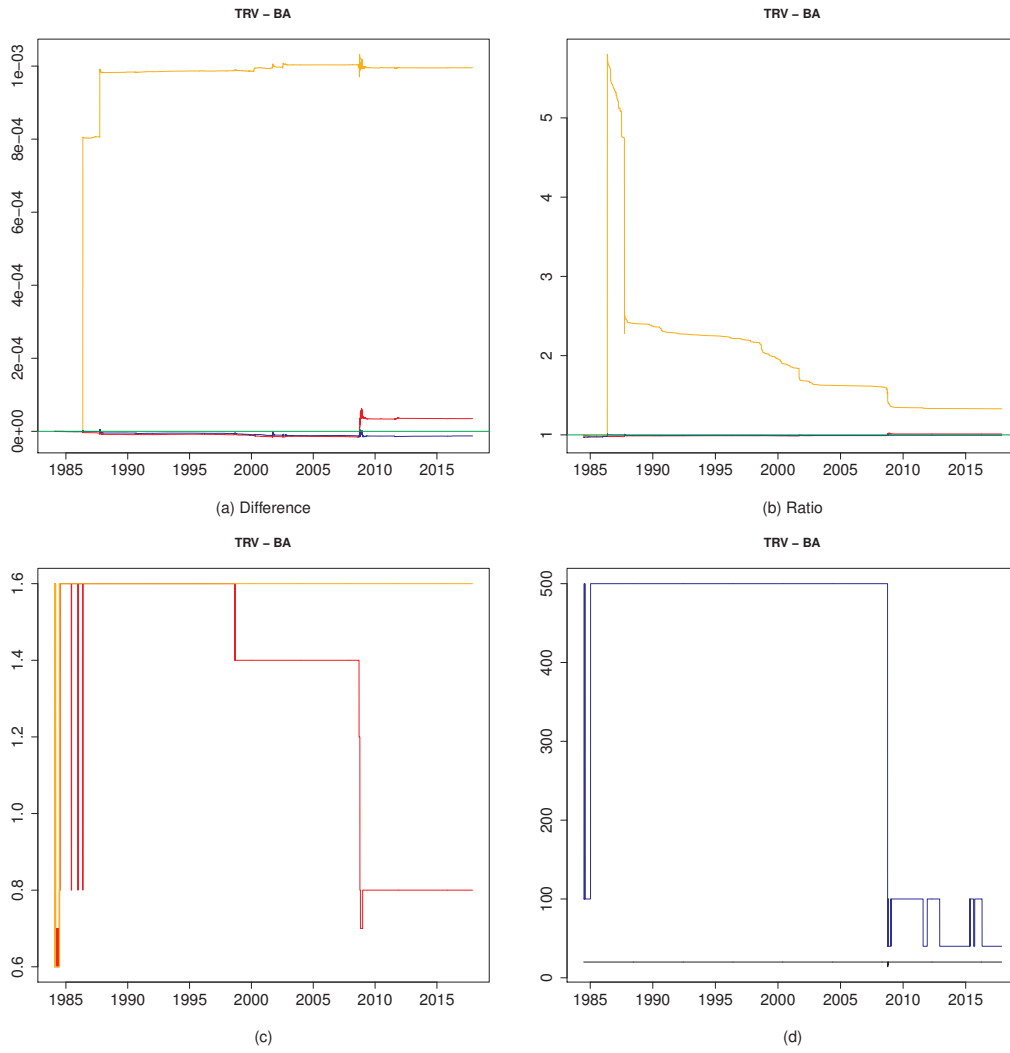


Figure 106: 04-26

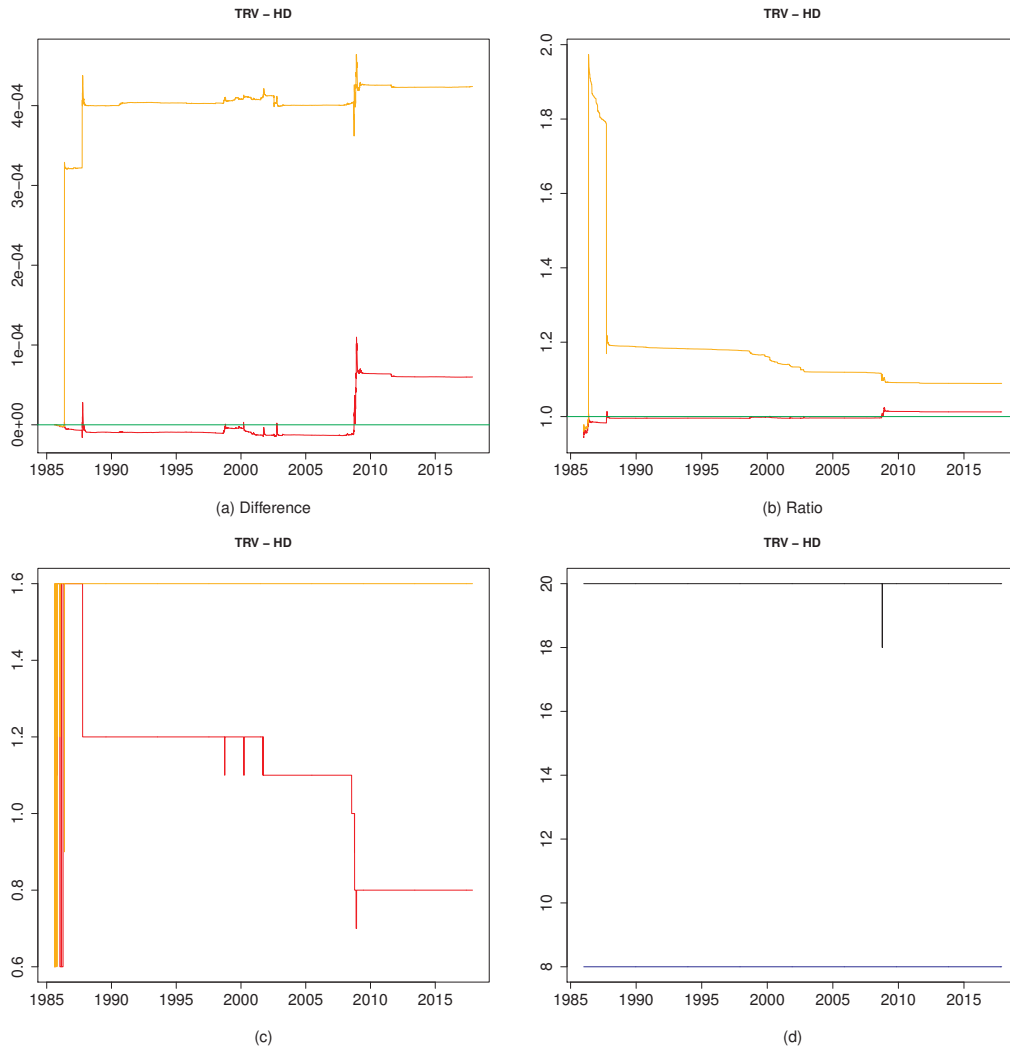


Figure 107: 04-27

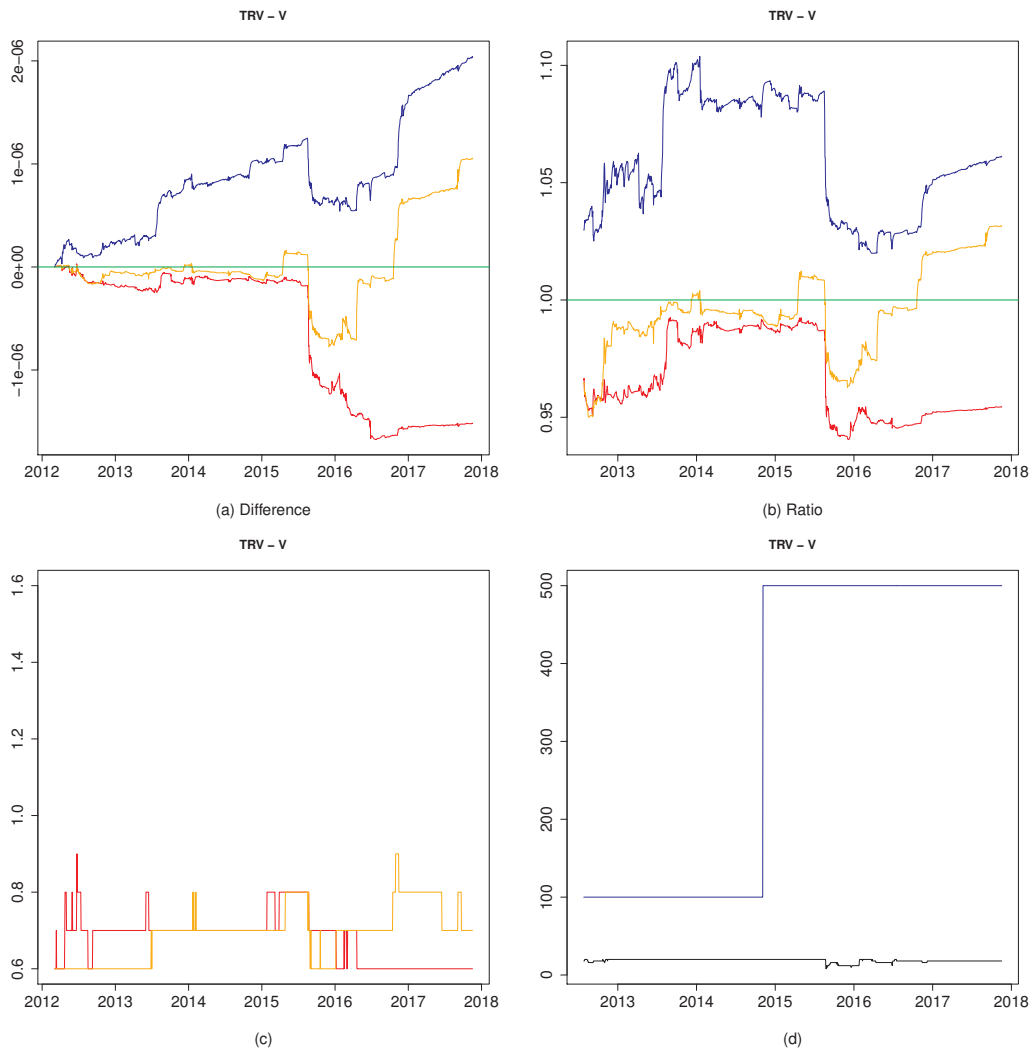


Figure 108: 04-28

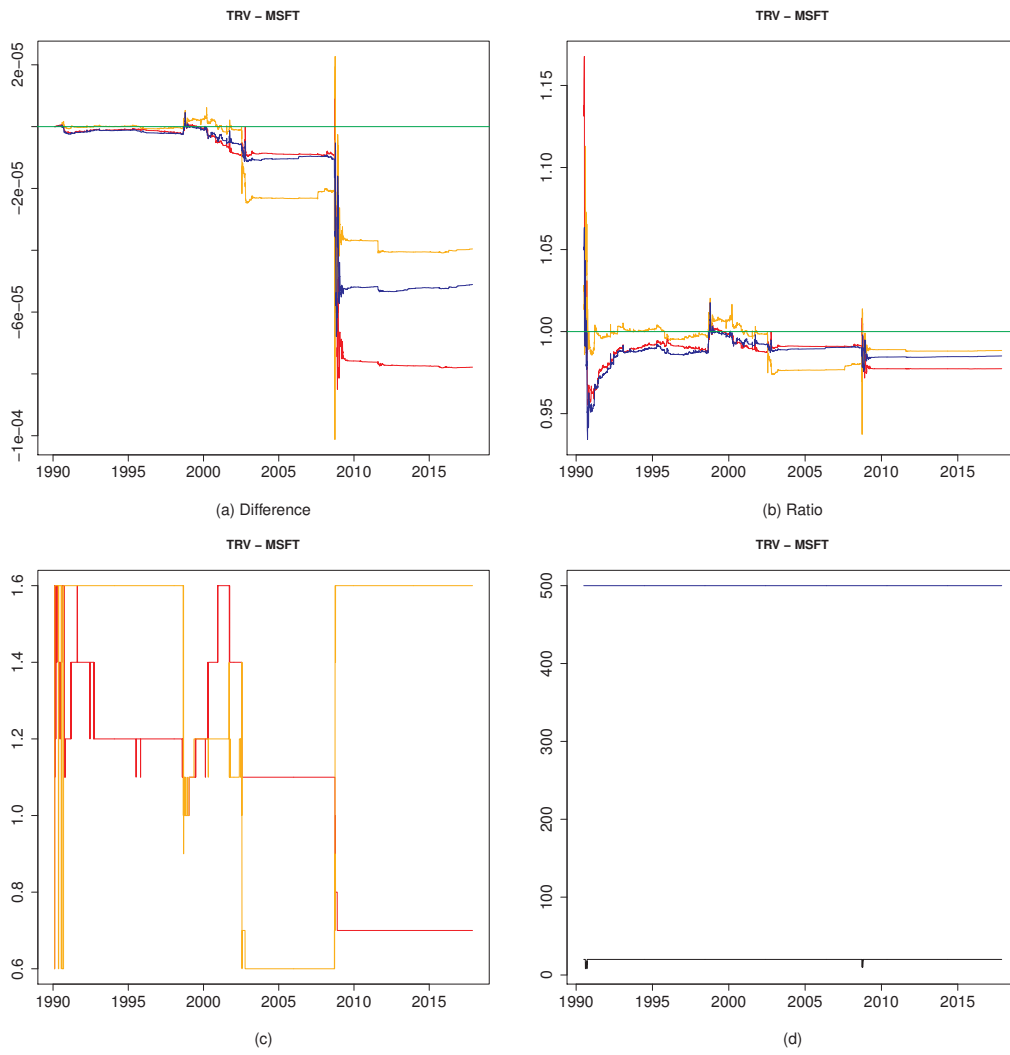


Figure 109: 04-29

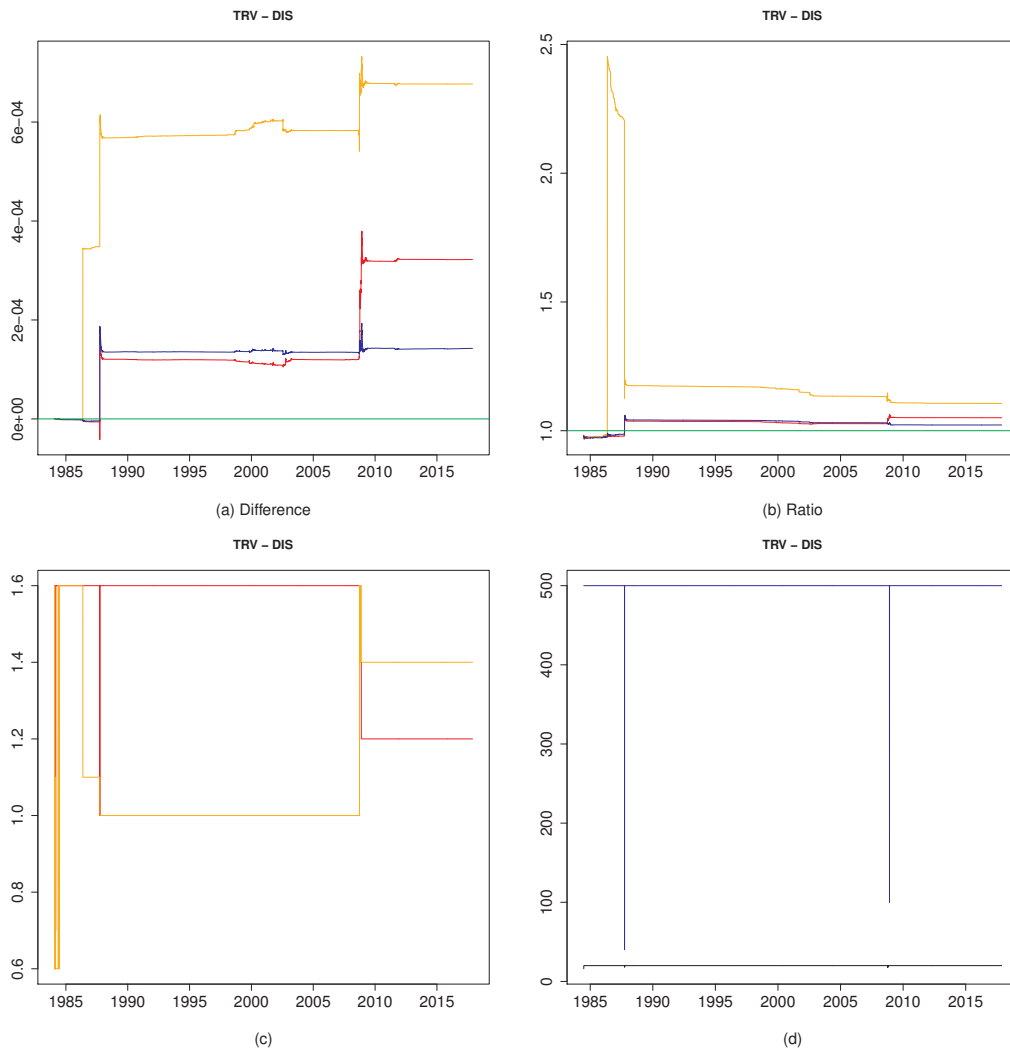


Figure 110: 04-30

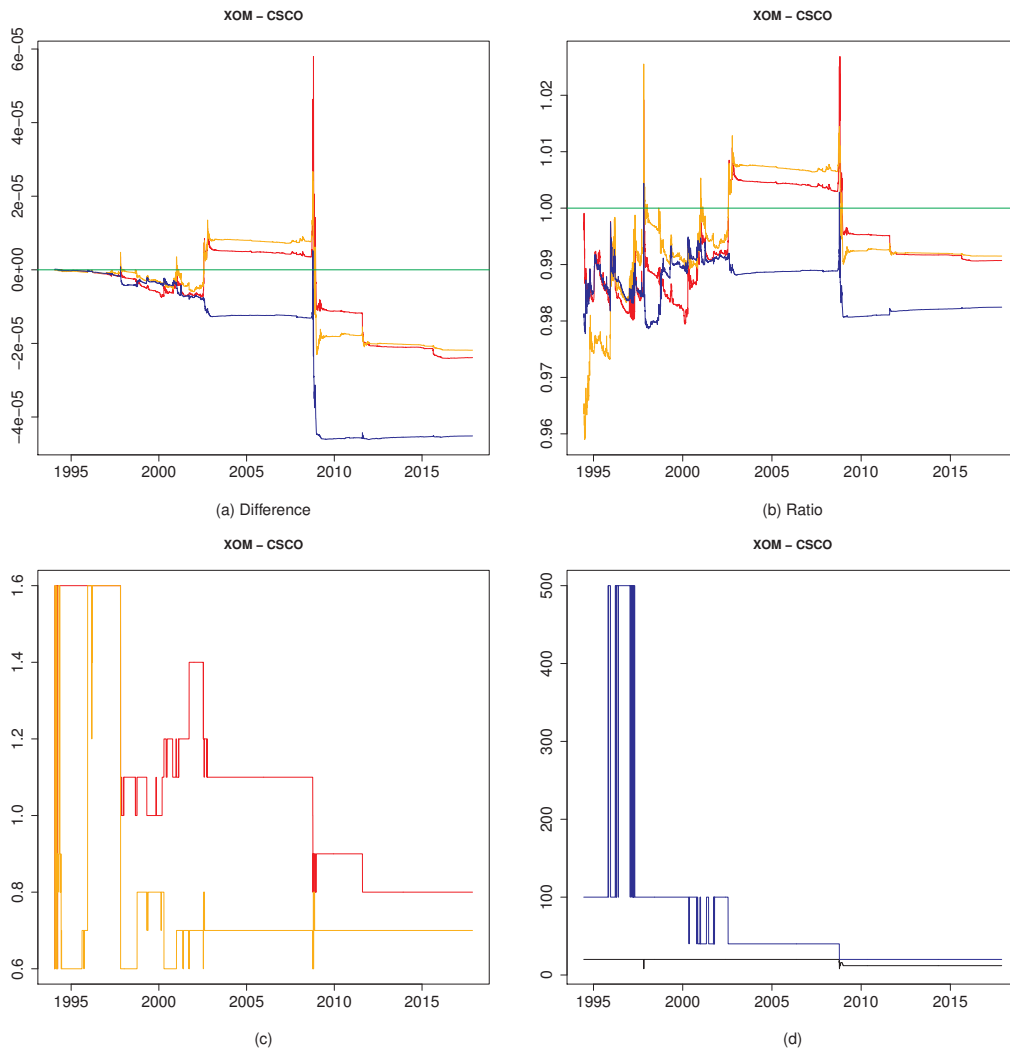


Figure 111: 05-06

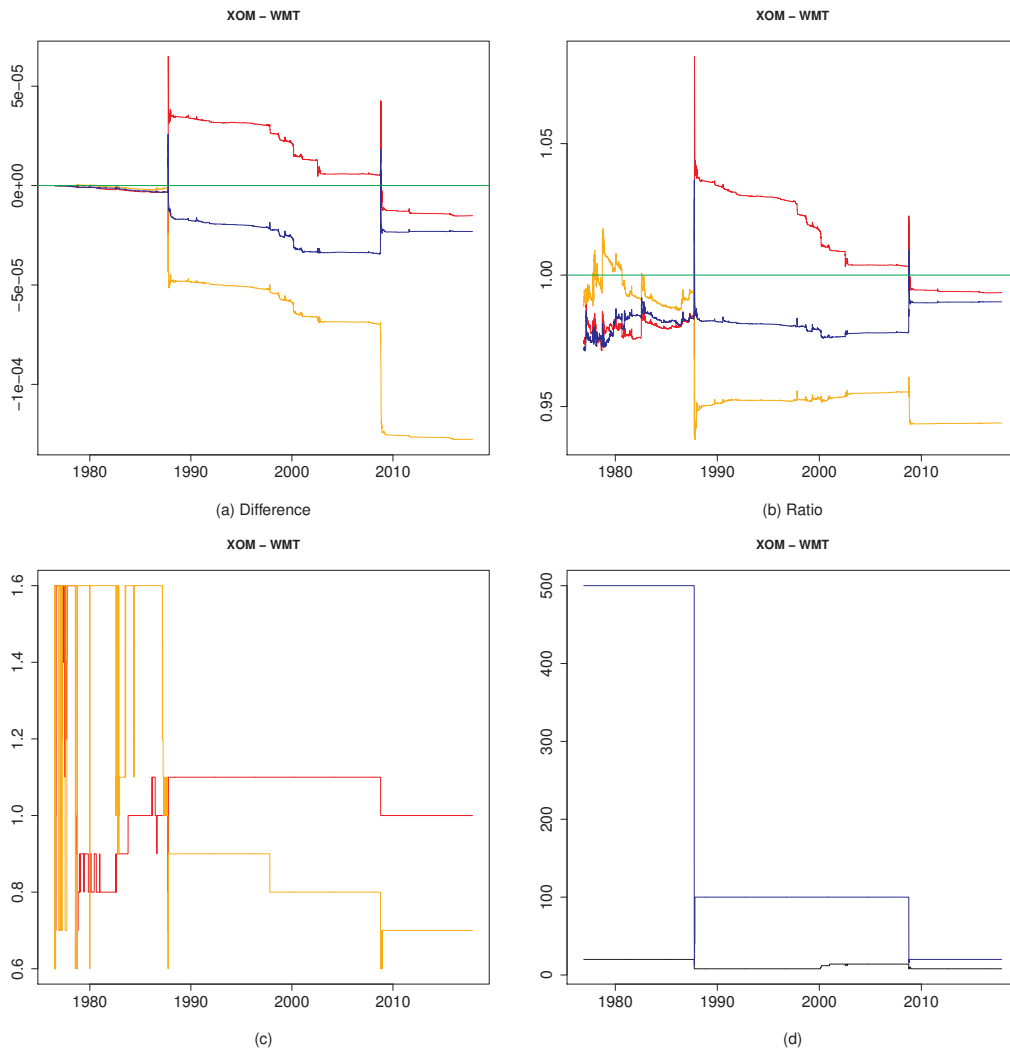


Figure 112: 05-07

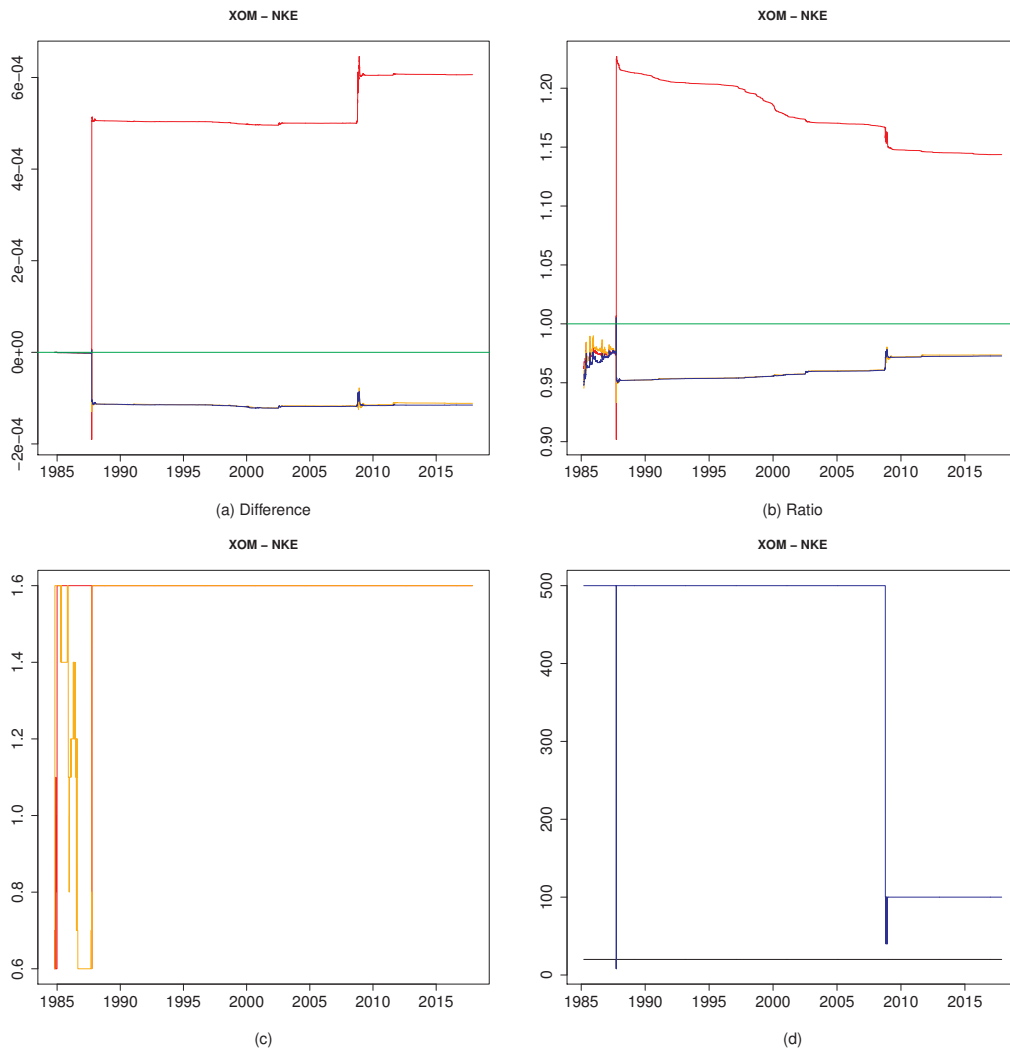


Figure 113: 05-08

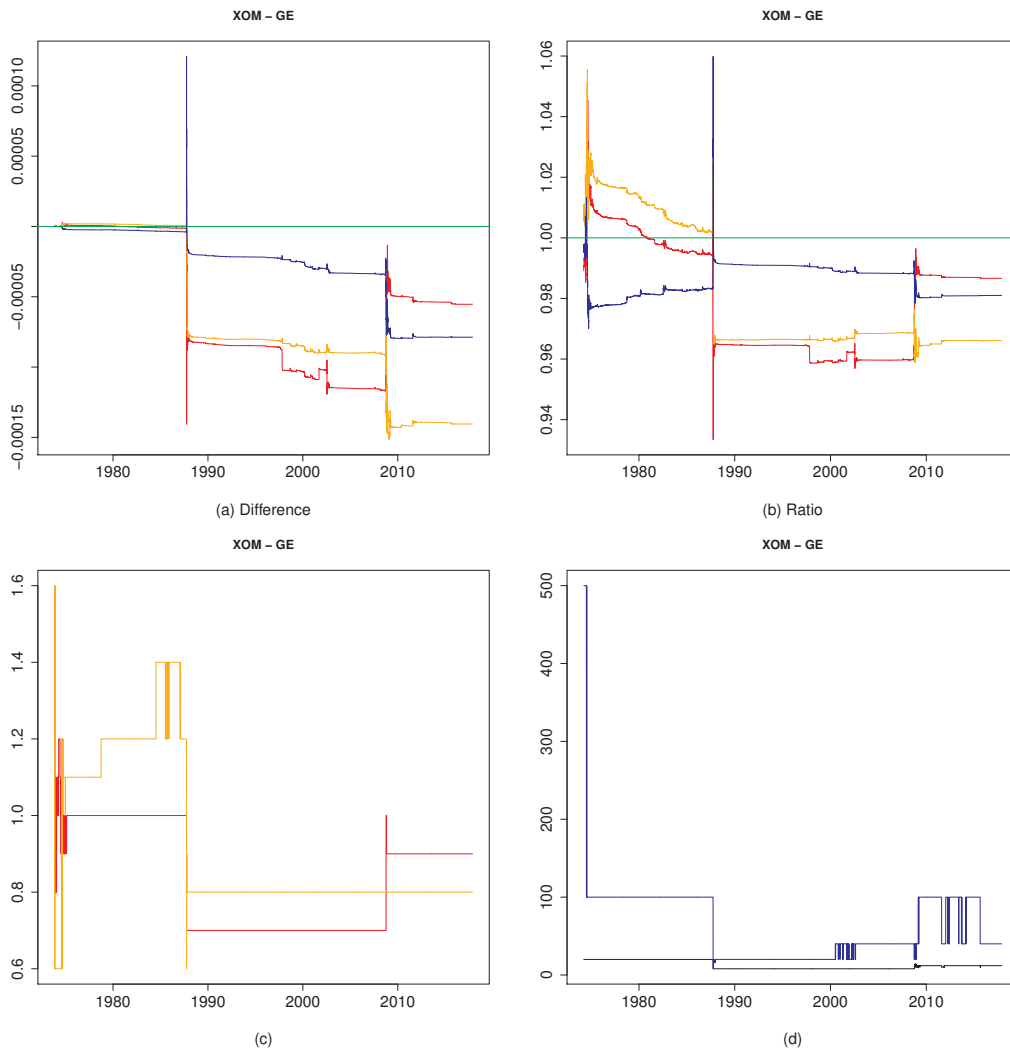


Figure 114: 05-09

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1.6 Pairs from 6-7 to 6-30

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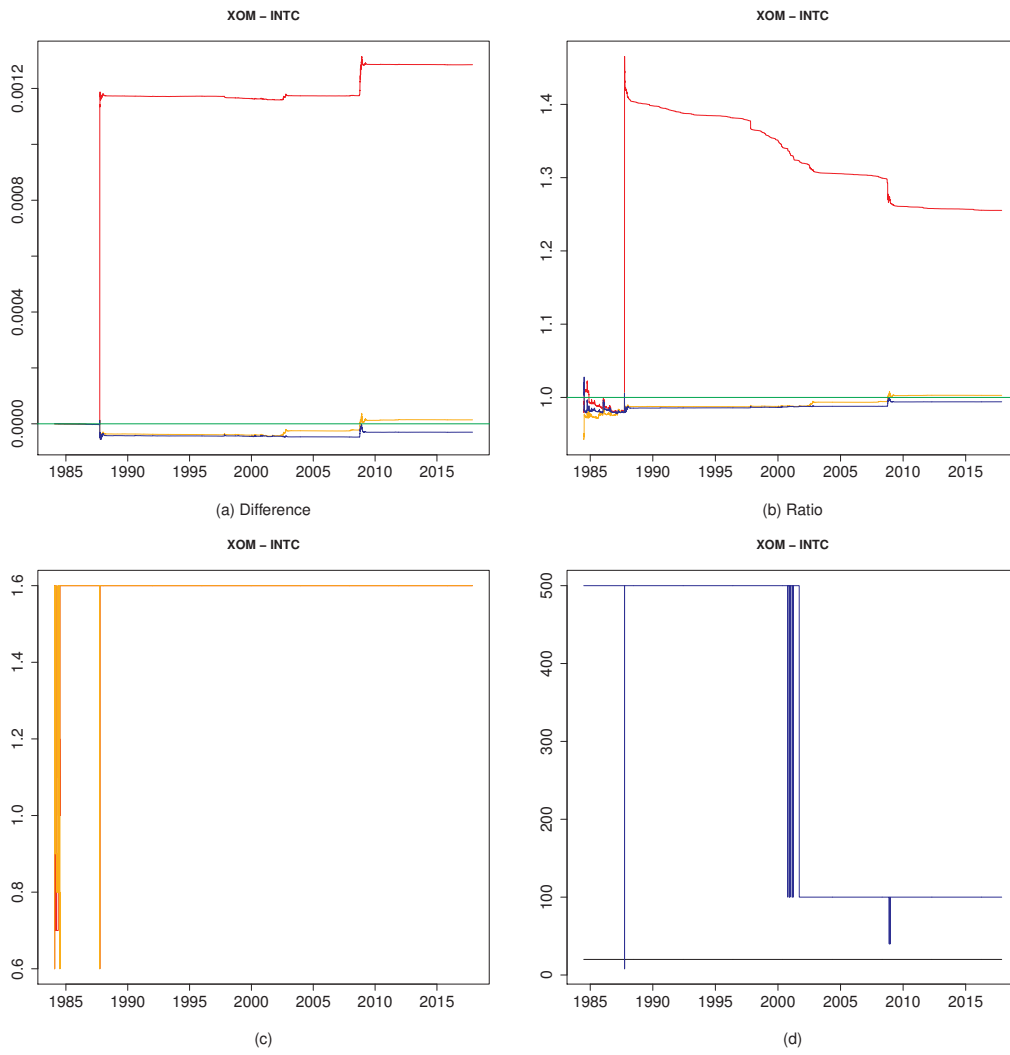


Figure 115: 05-10

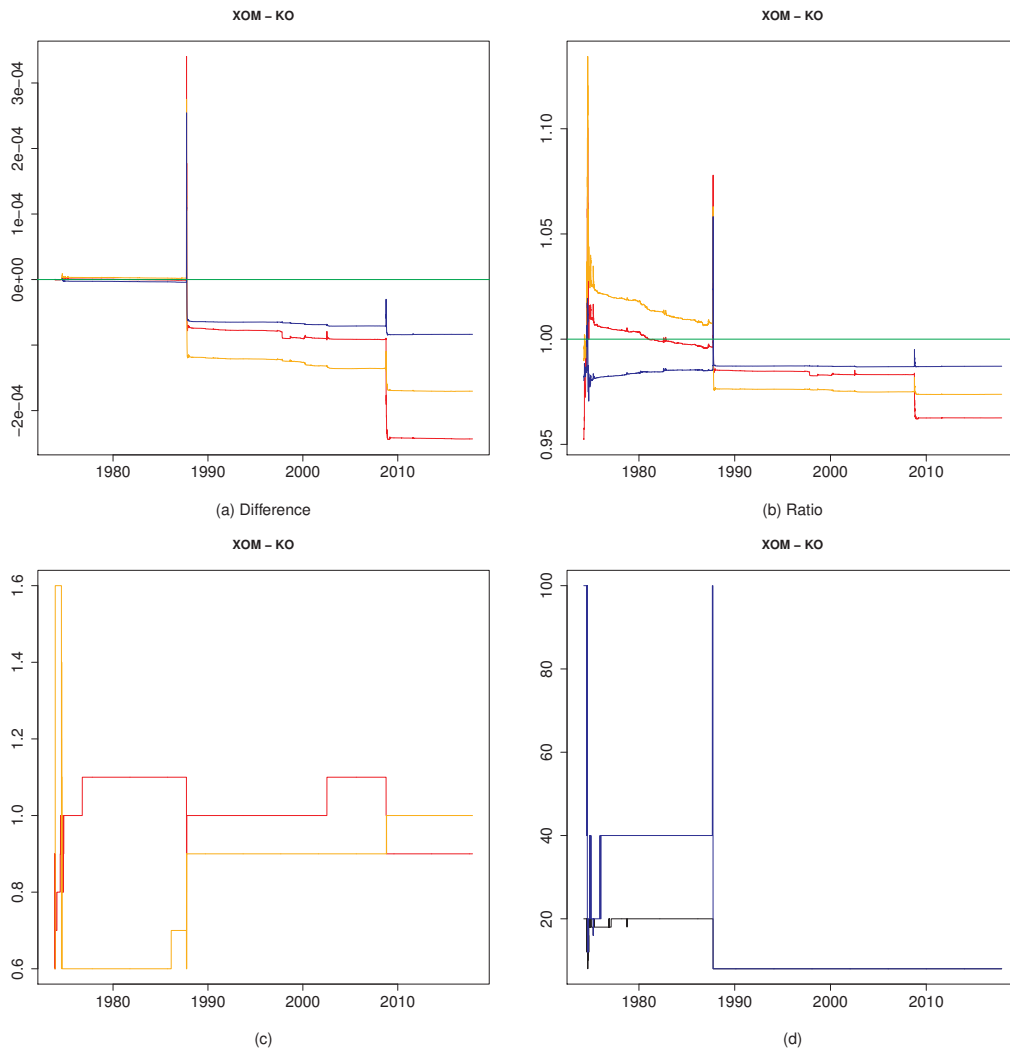


Figure 116: 05-11

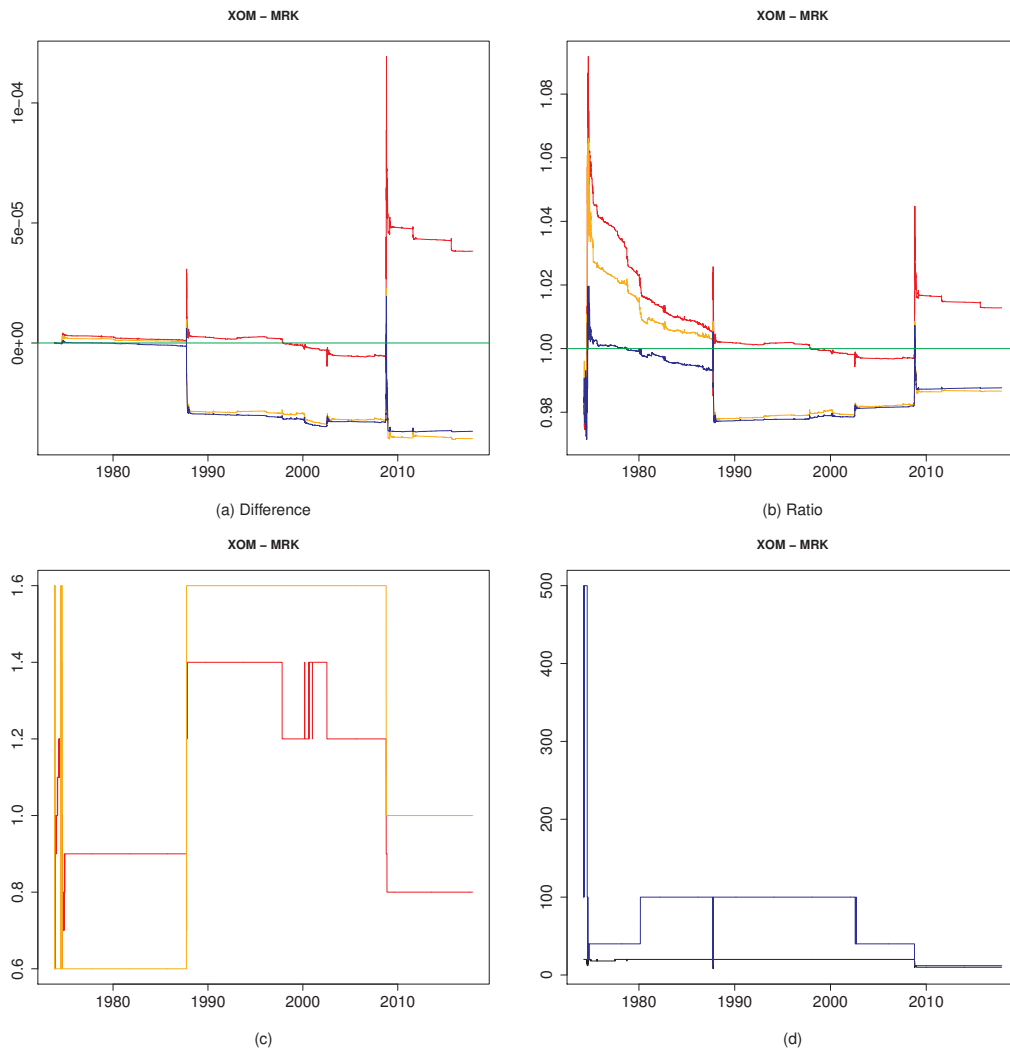


Figure 117: 05-12

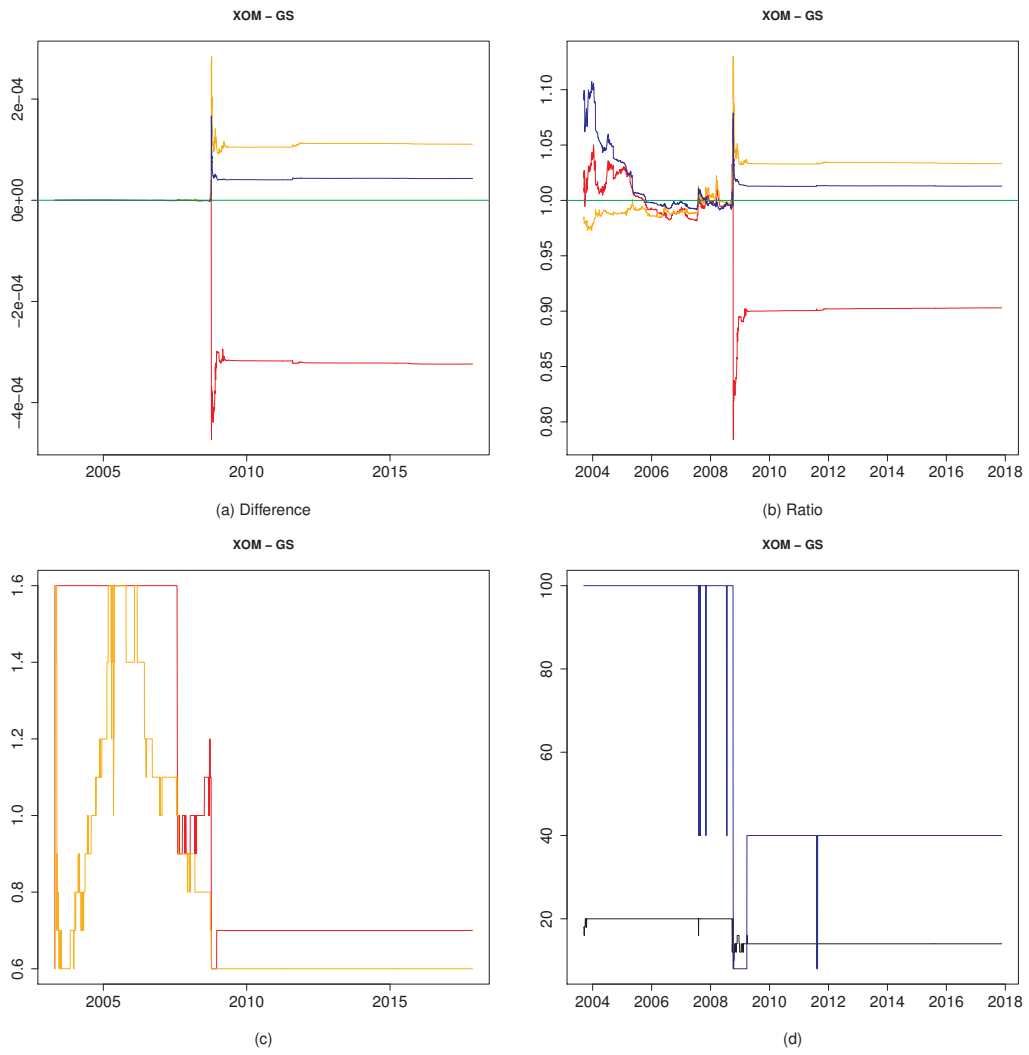


Figure 118: 05-13

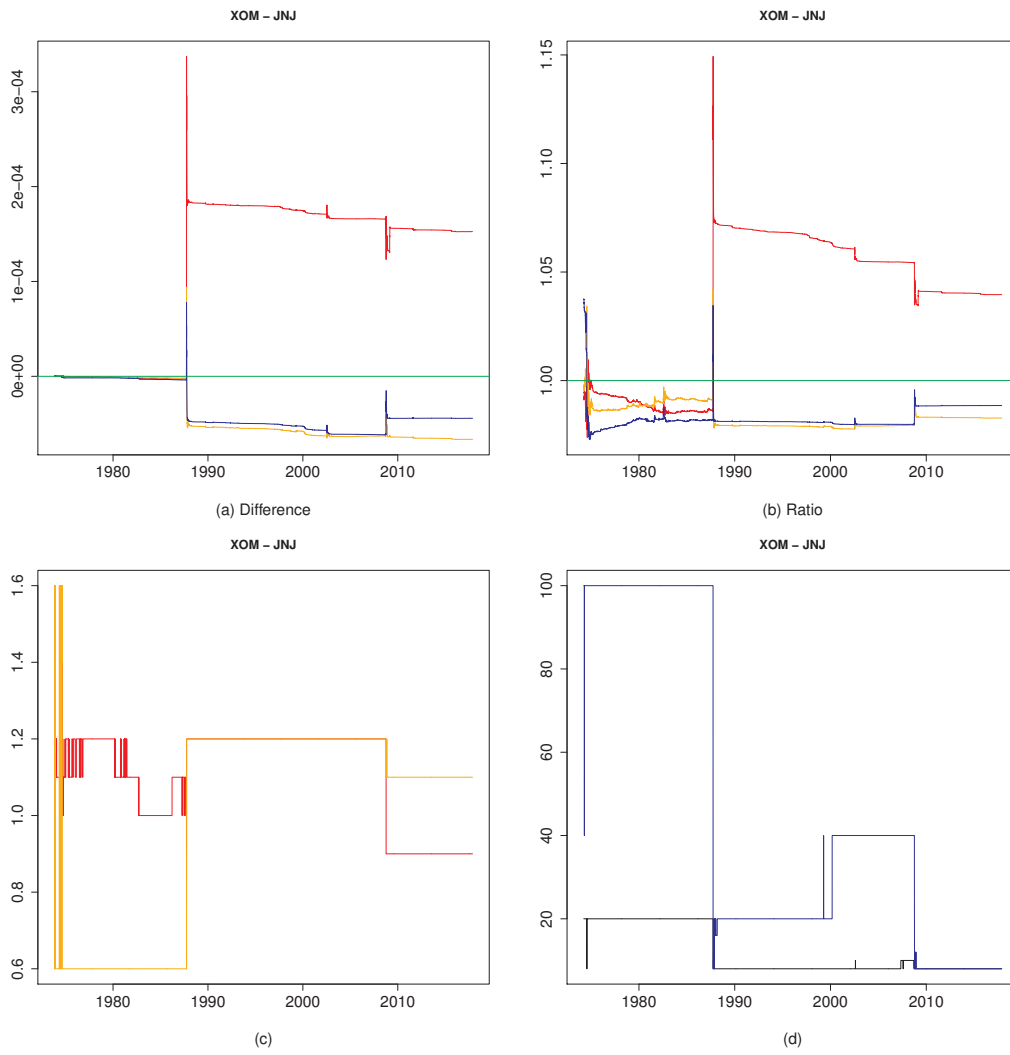


Figure 119: 05-14

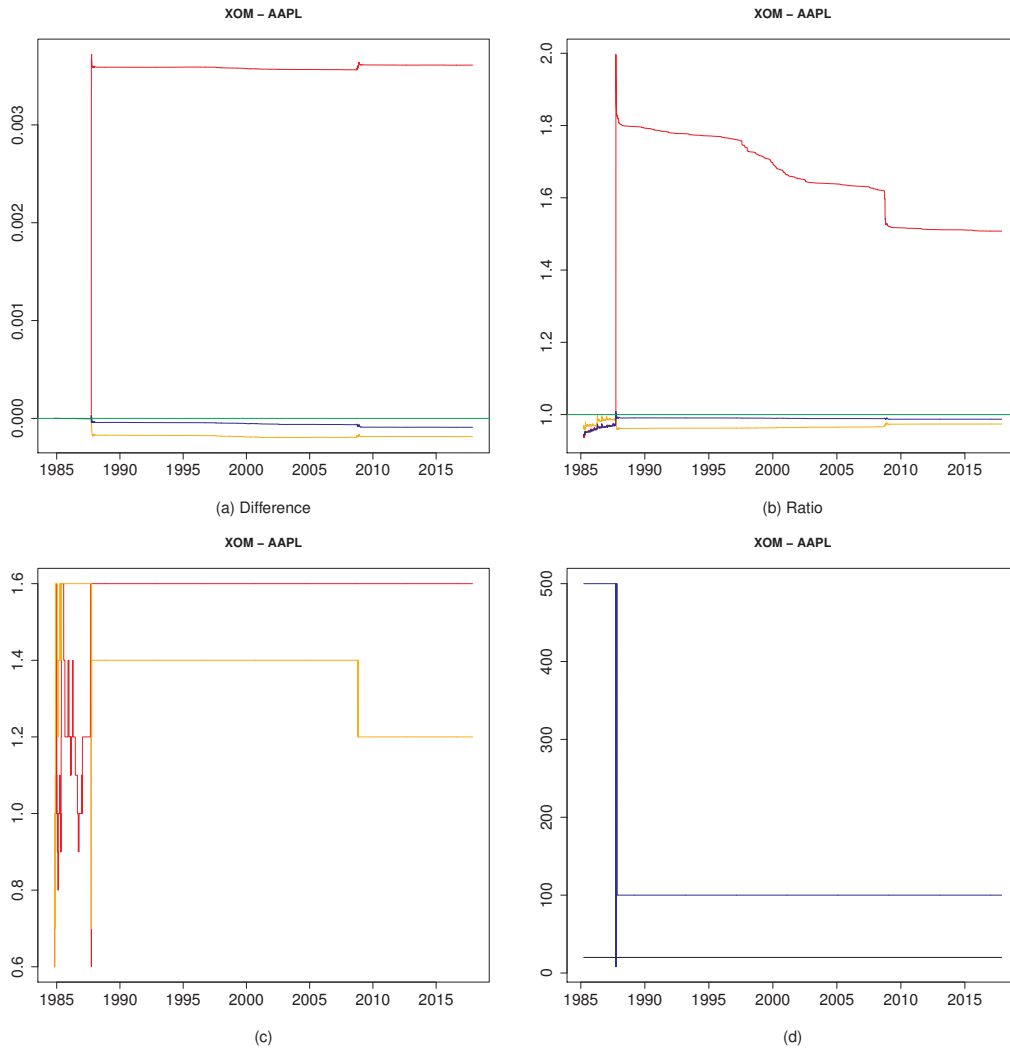


Figure 120: 05-15

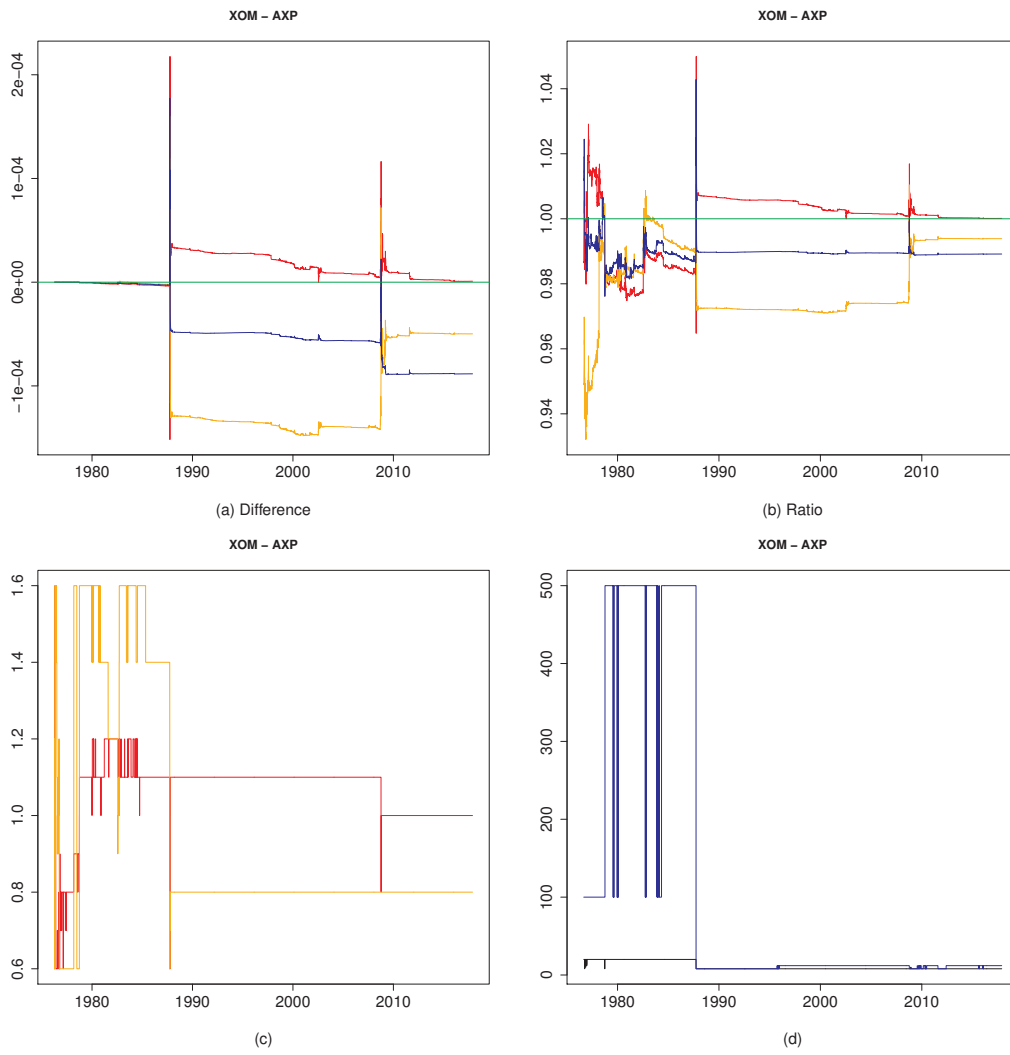


Figure 121: 05-16

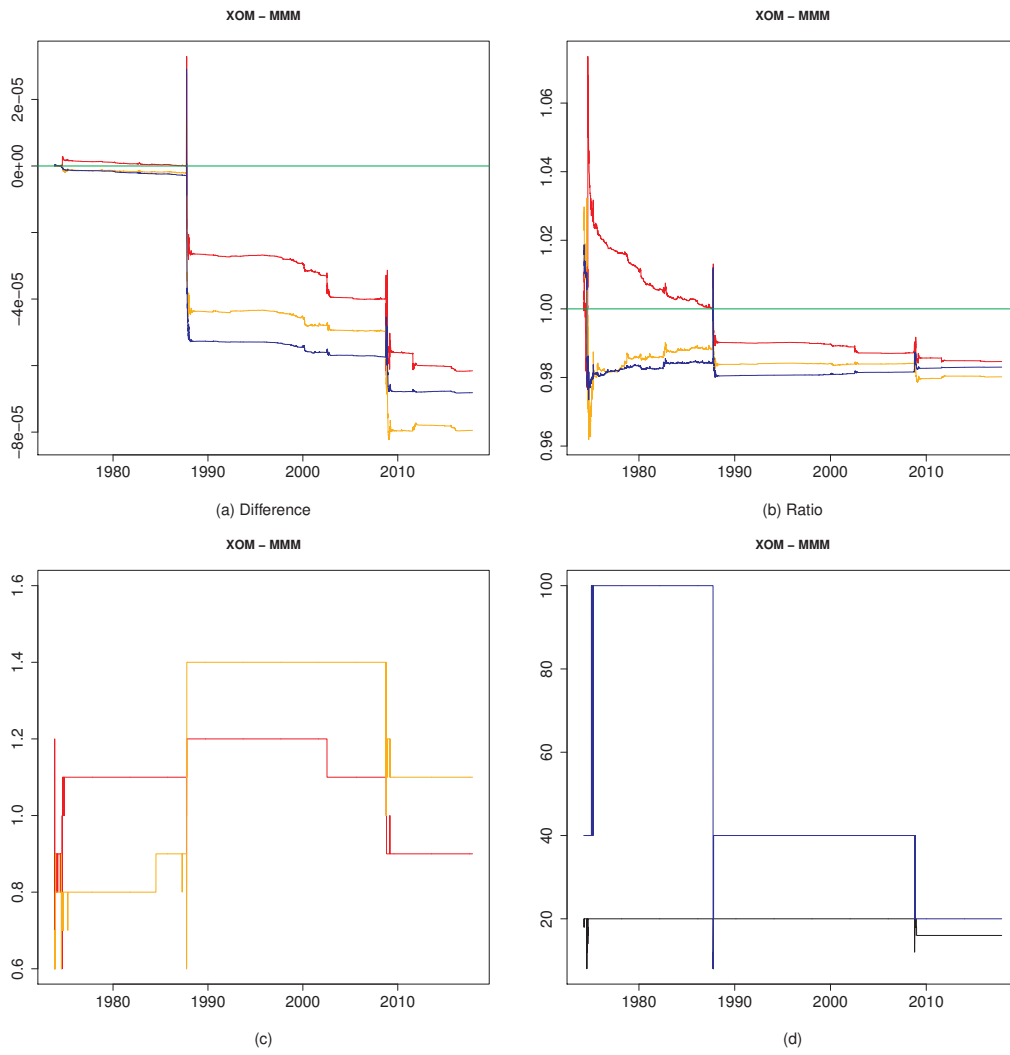


Figure 122: 05-17

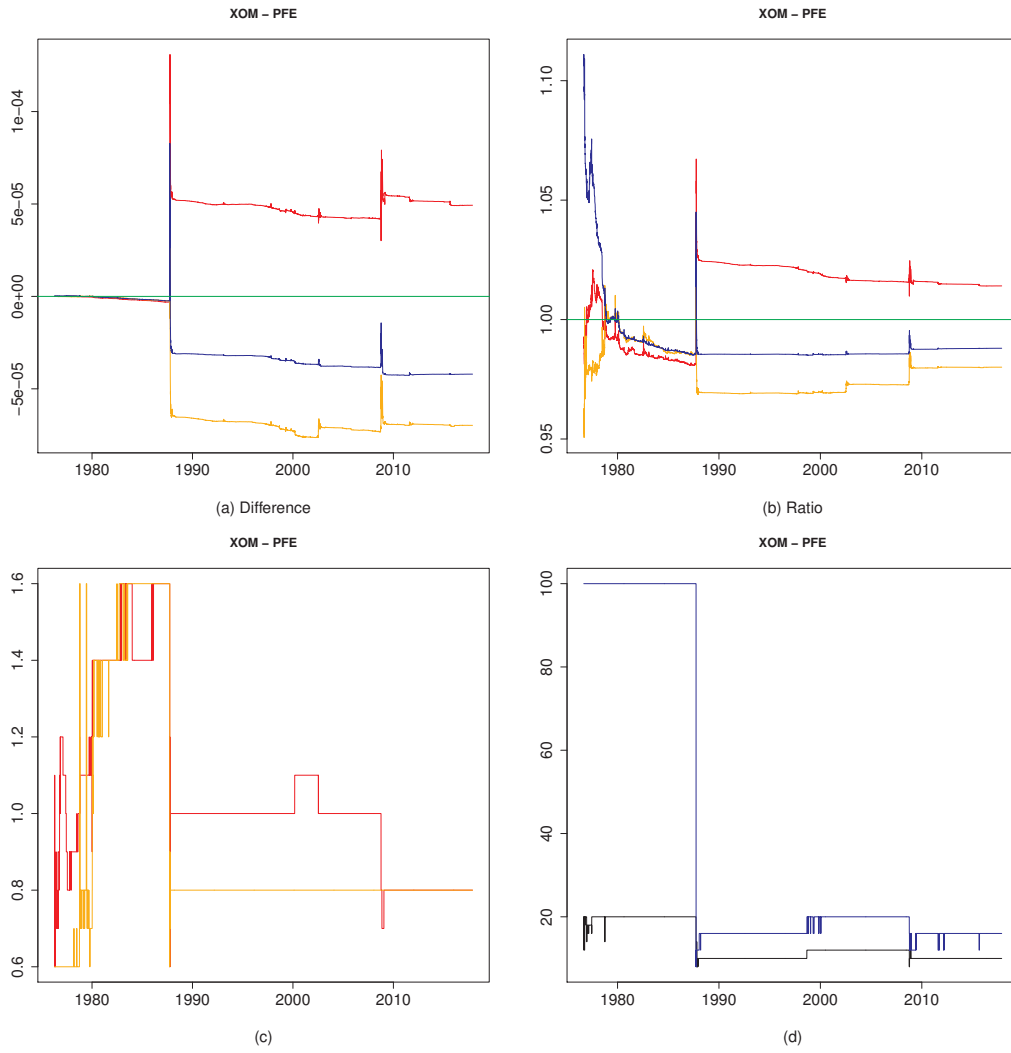


Figure 123: 05-18

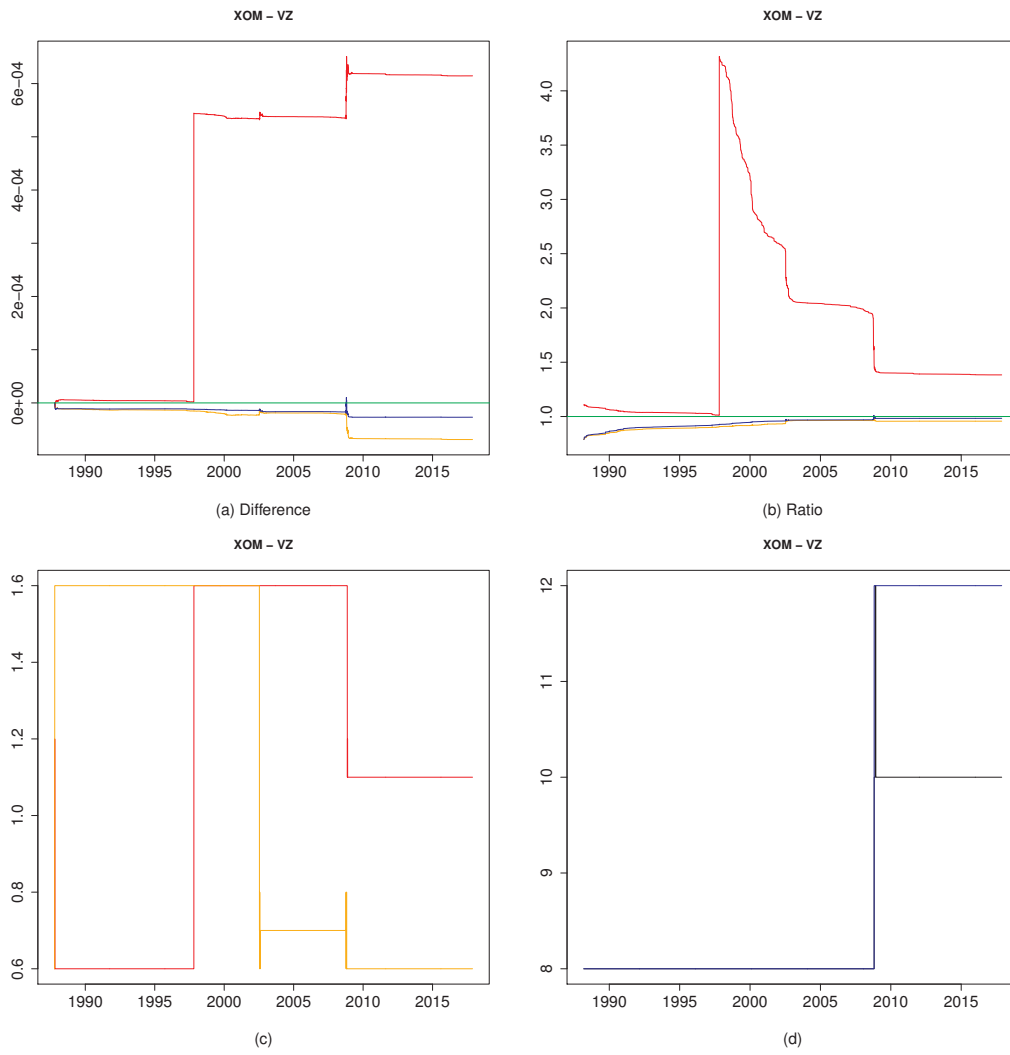


Figure 124: 05-19

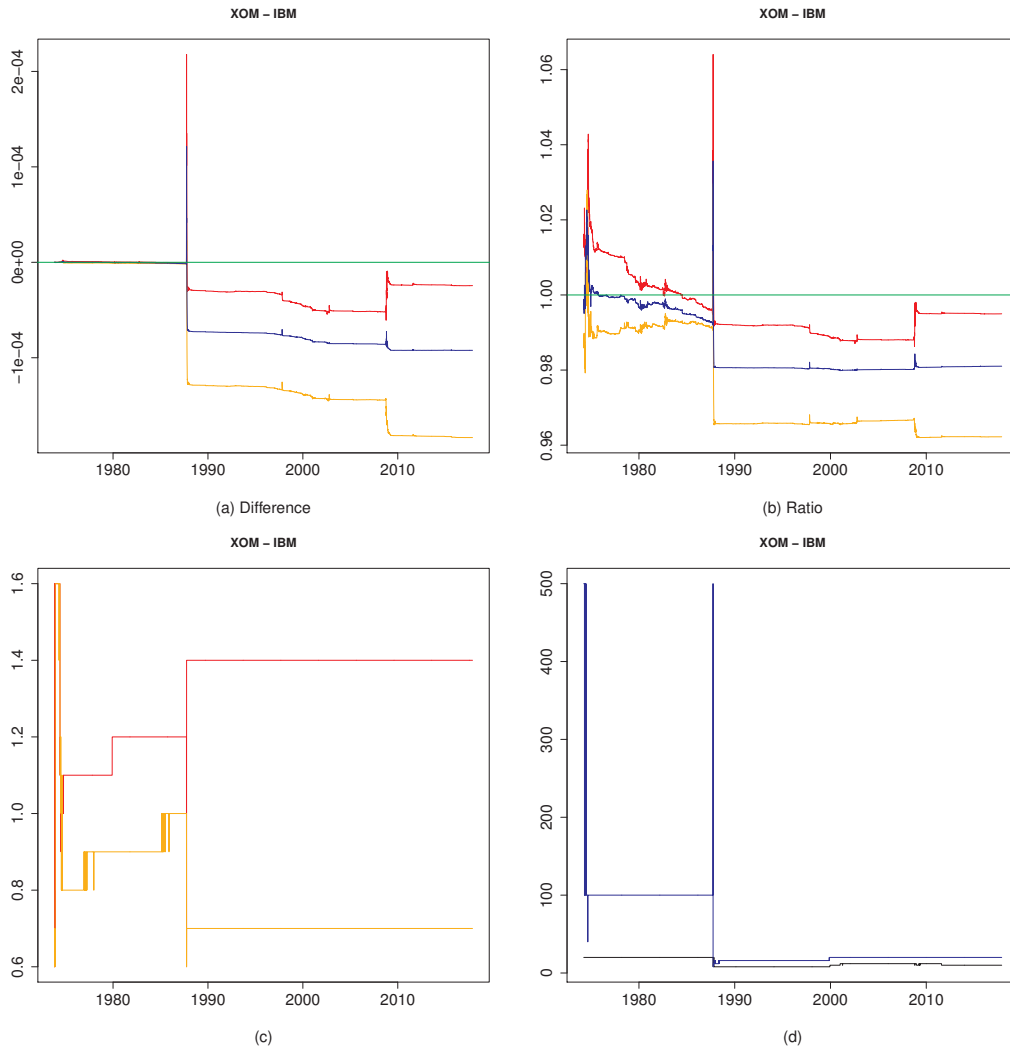


Figure 125: 05-20

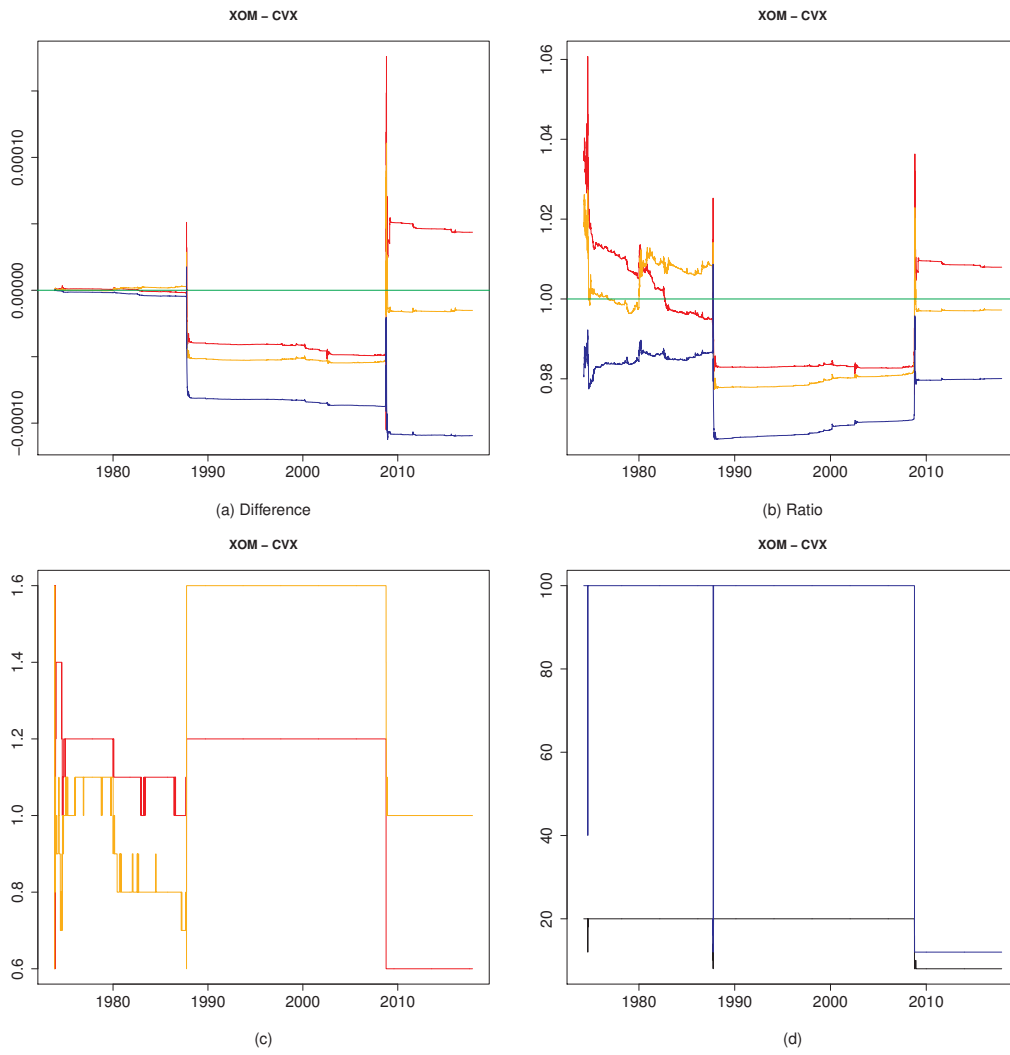


Figure 126: 05-21

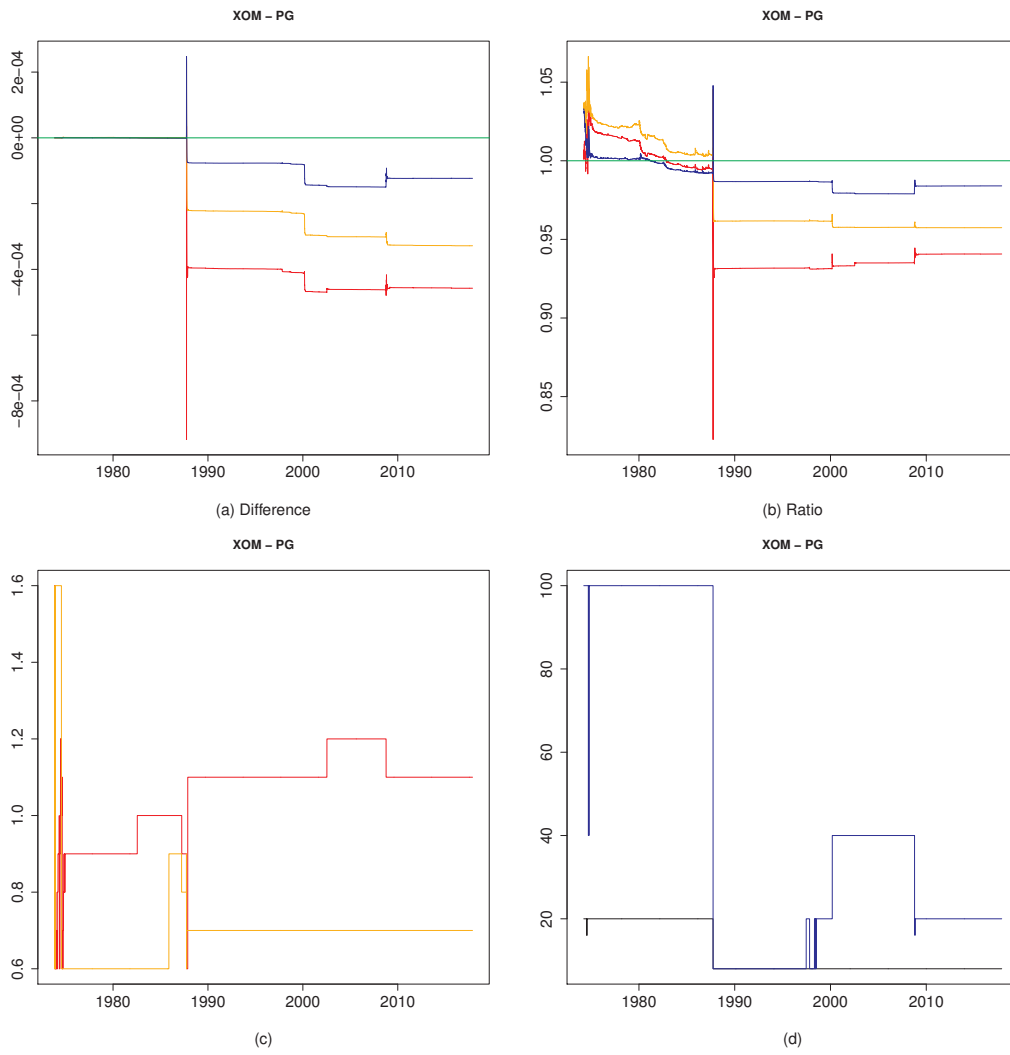


Figure 127: 05-22

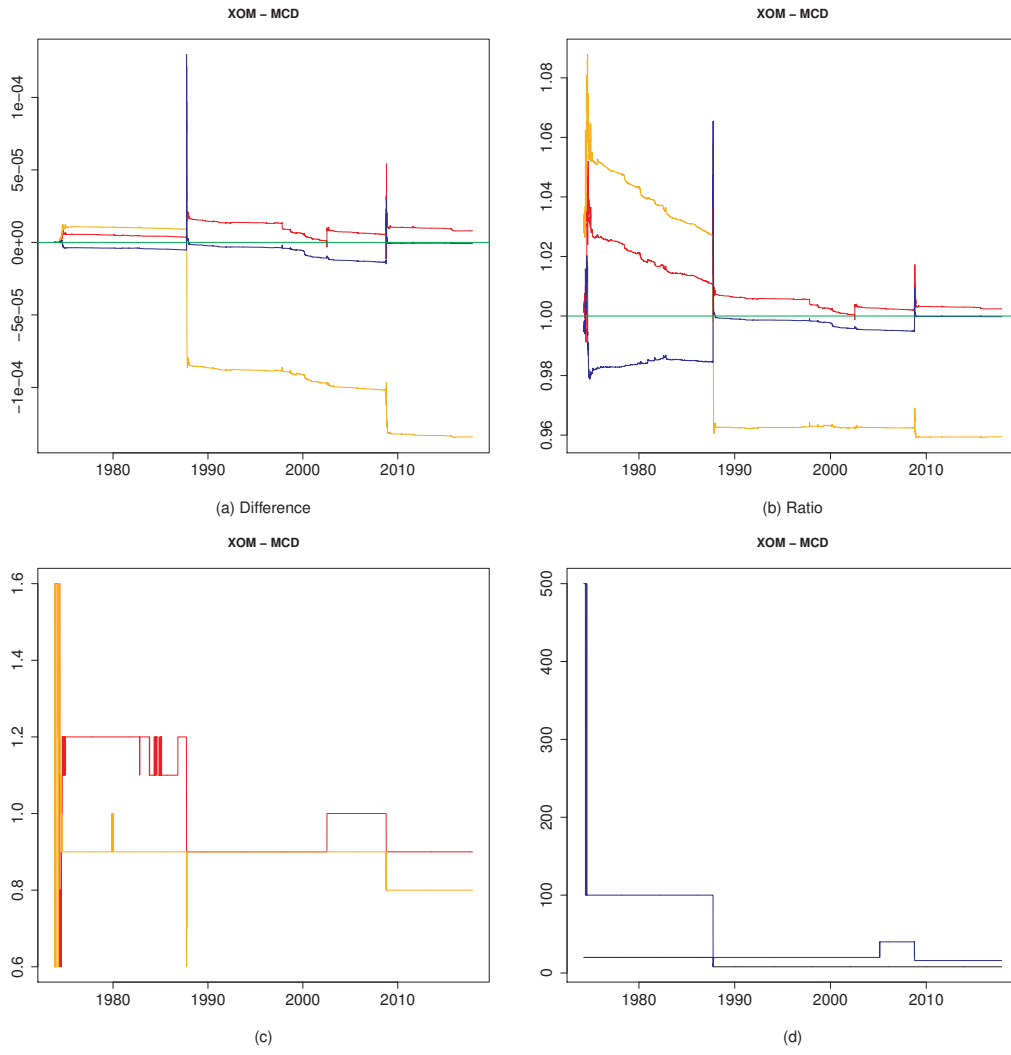


Figure 128: 05-23

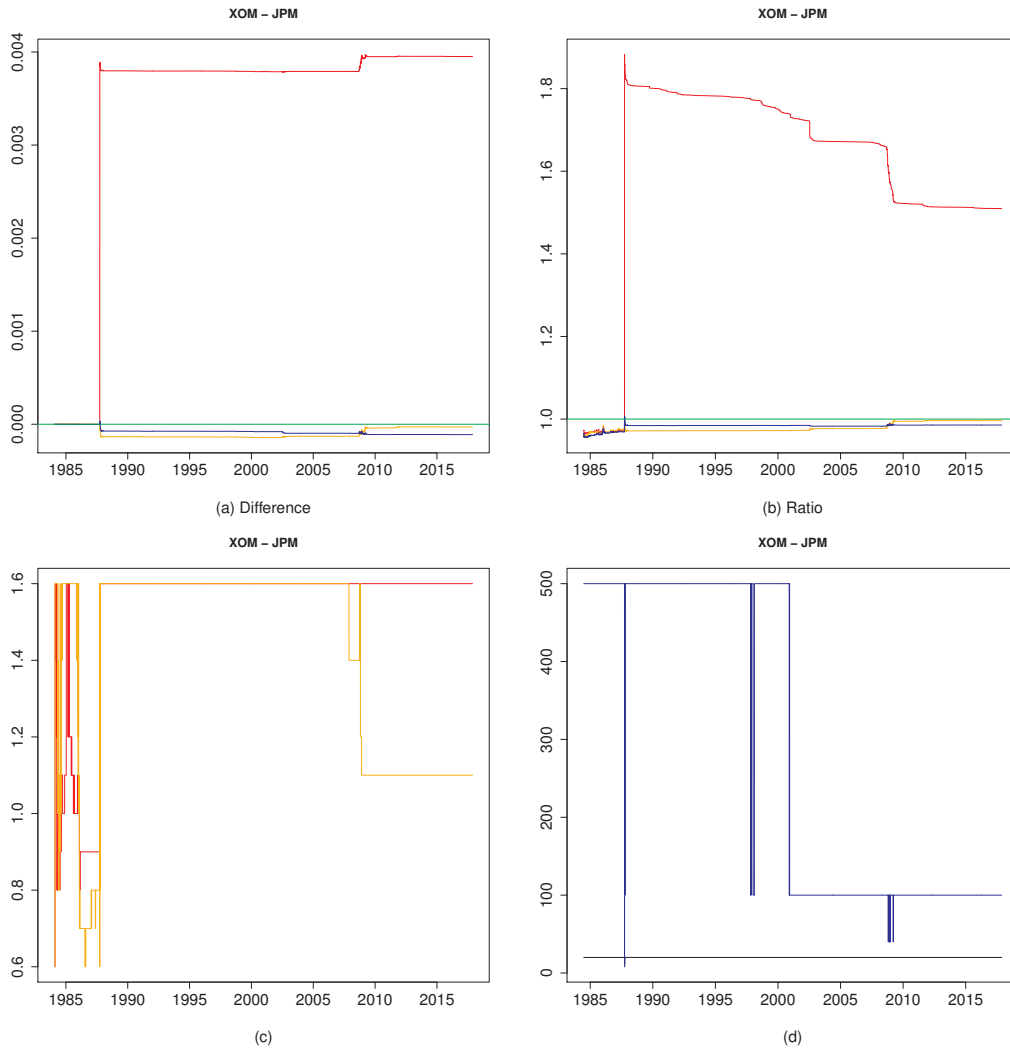


Figure 129: 05-24

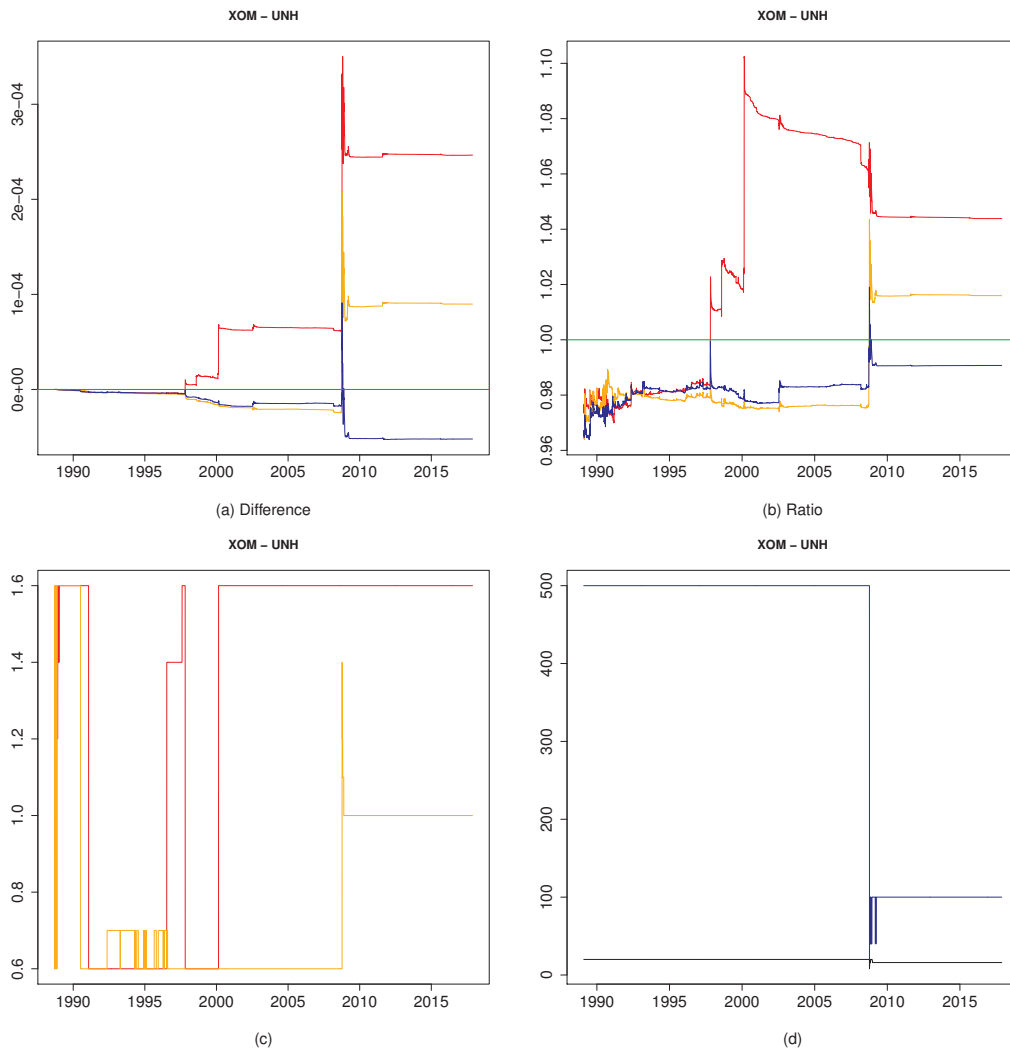


Figure 130: 05-25

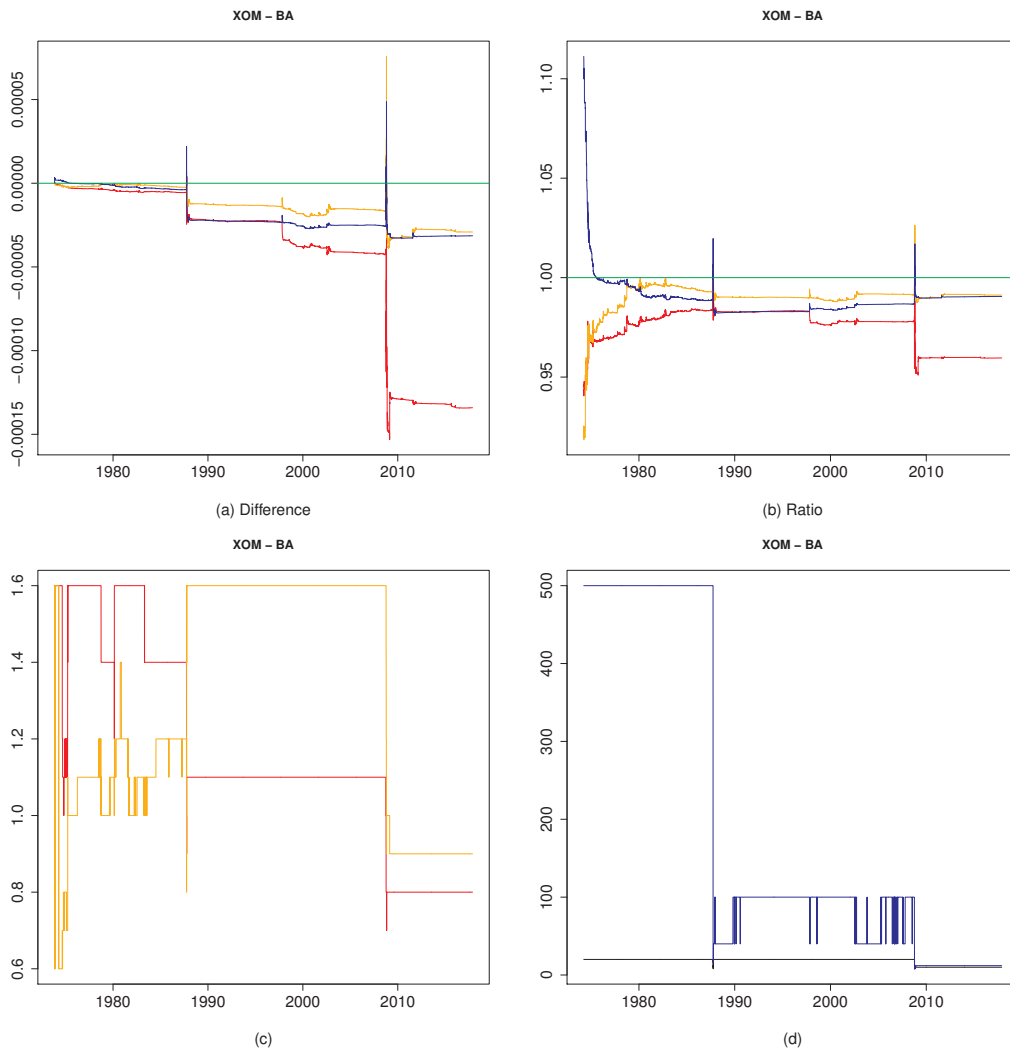


Figure 131: 05-26

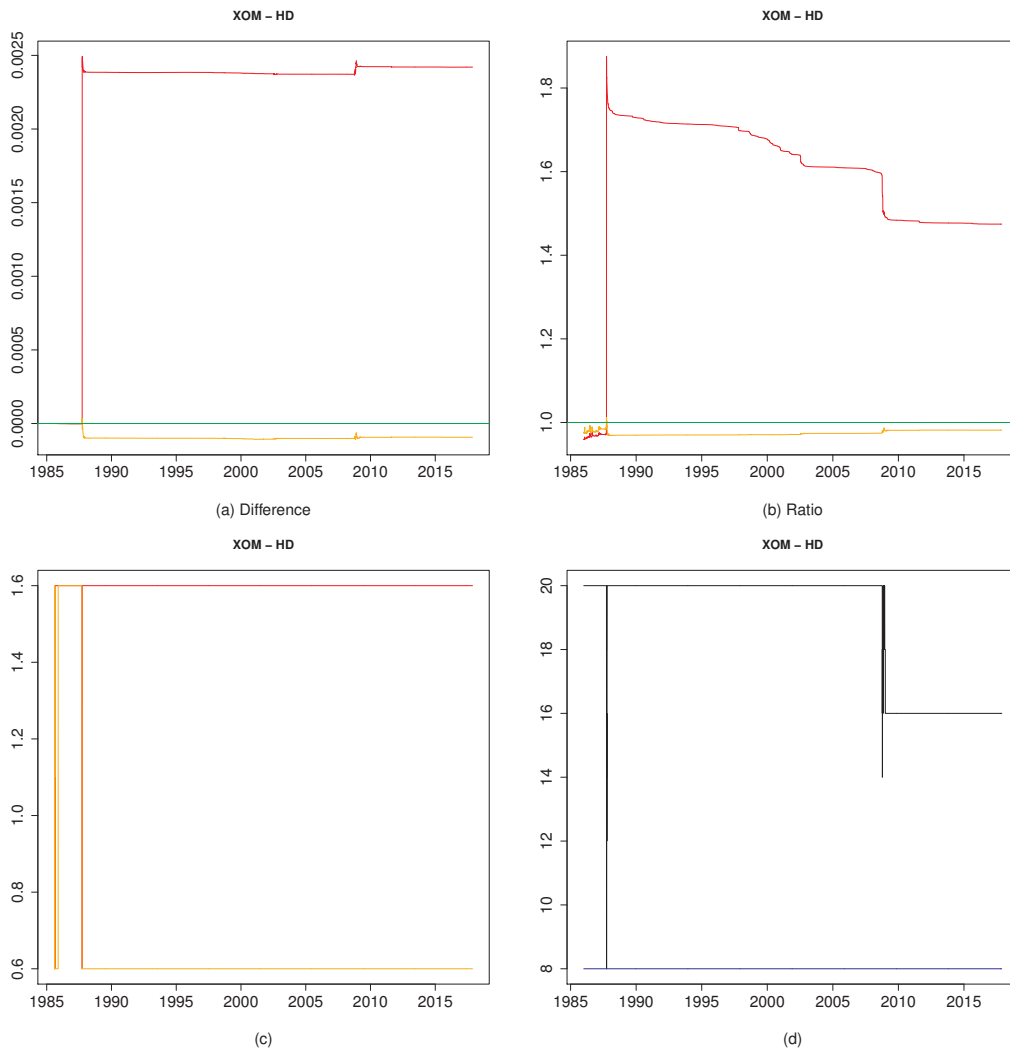


Figure 132: 05-27

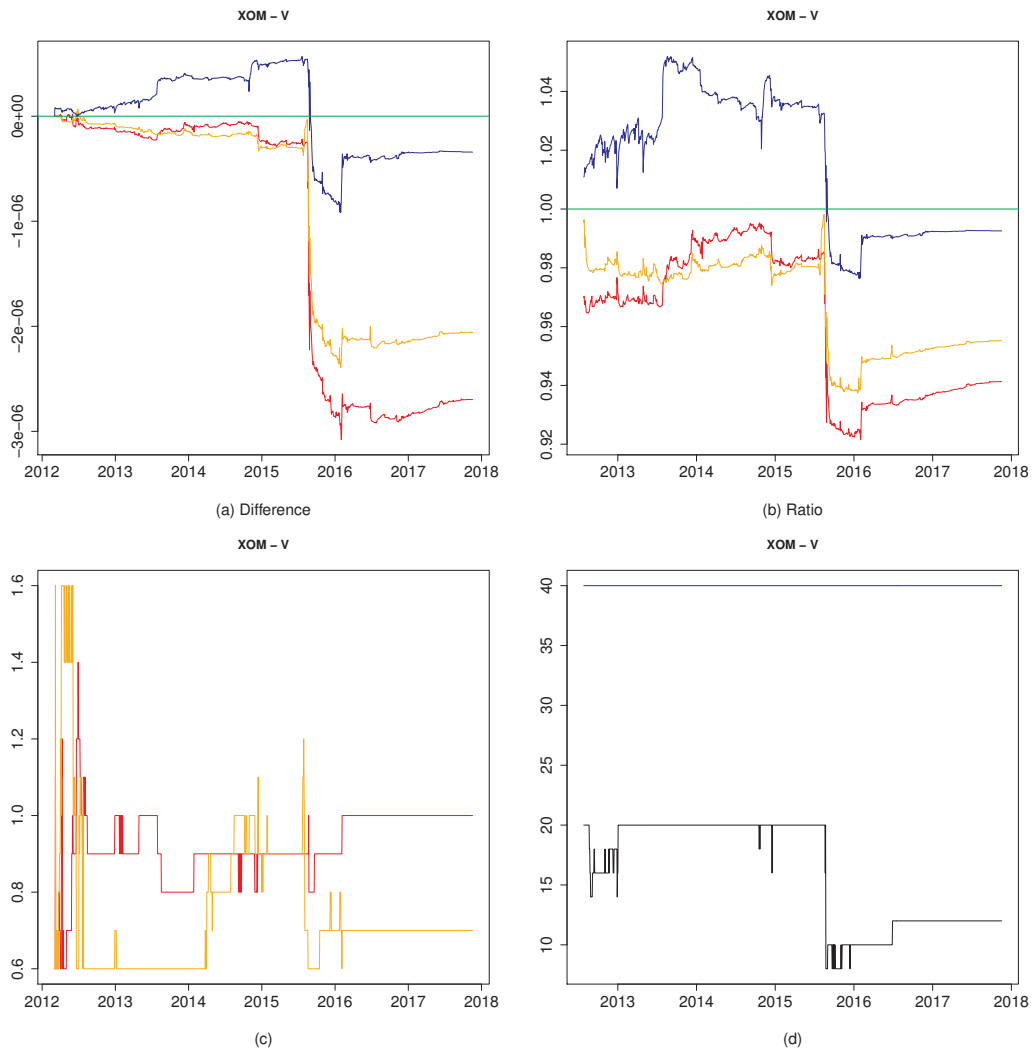


Figure 133: 05-28

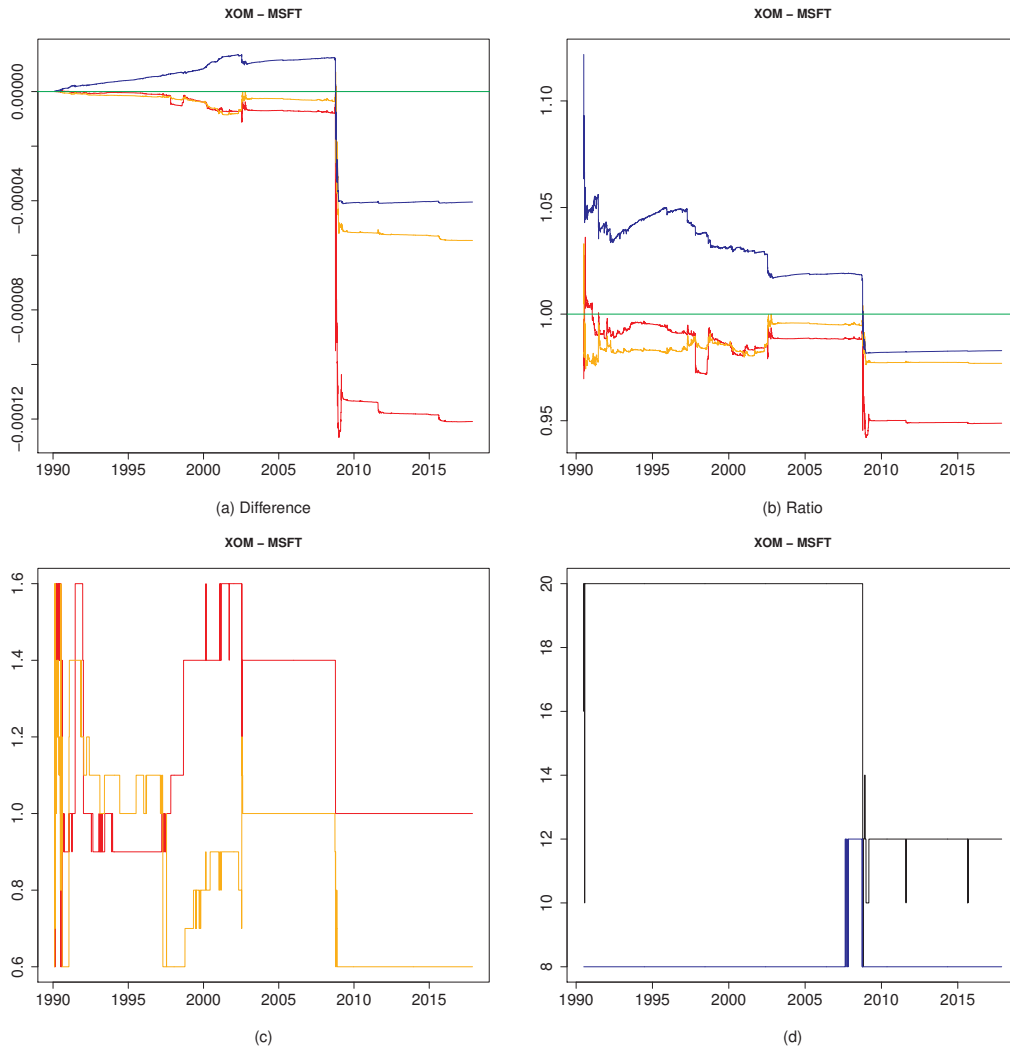


Figure 134: 05-29

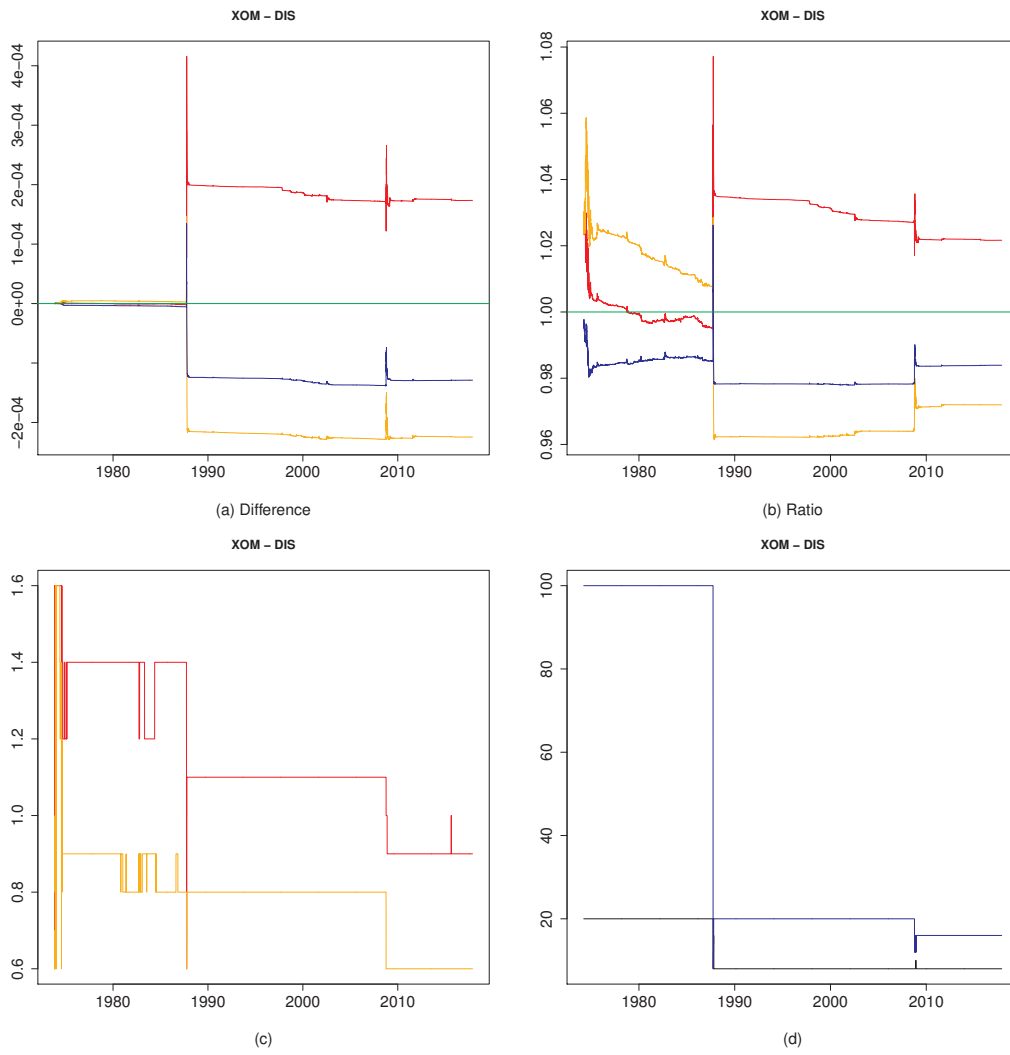


Figure 135: 05-30

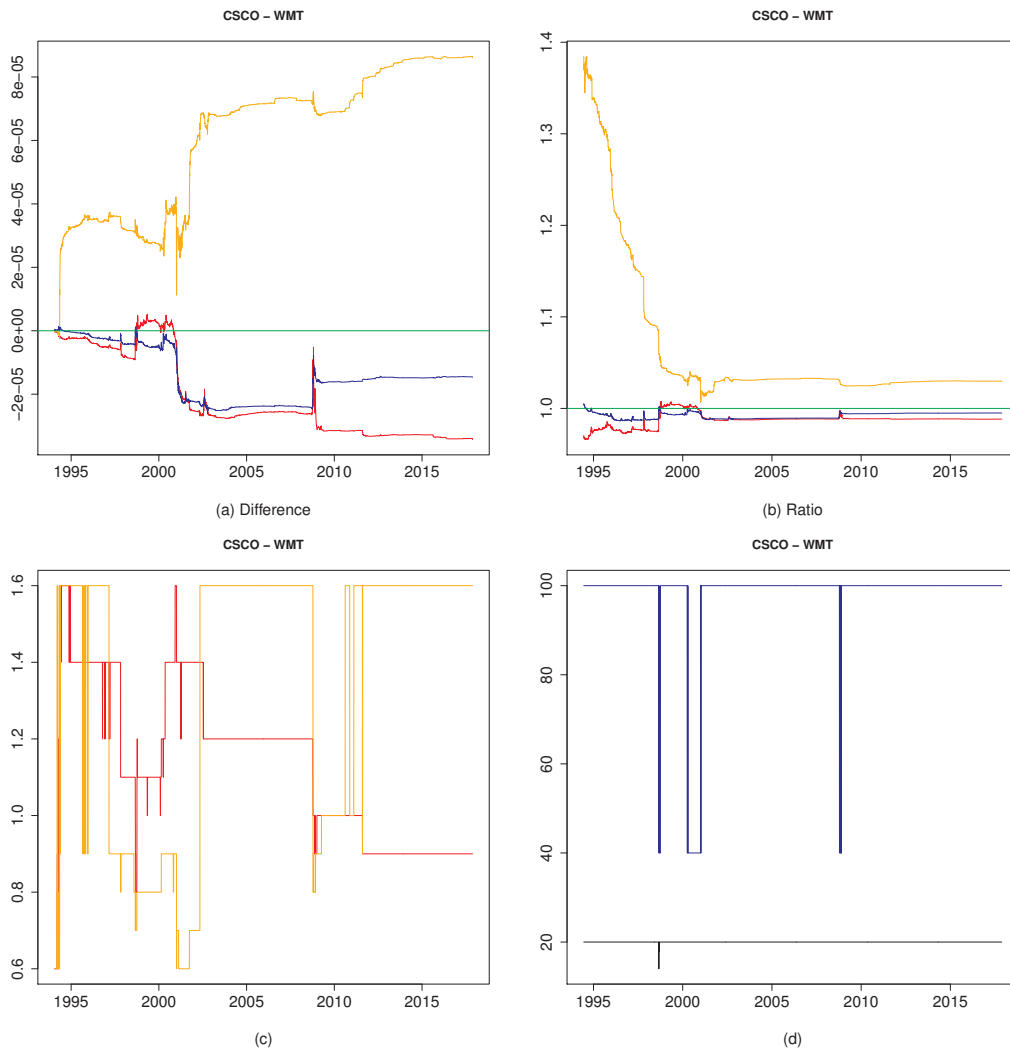


Figure 136: 06-07

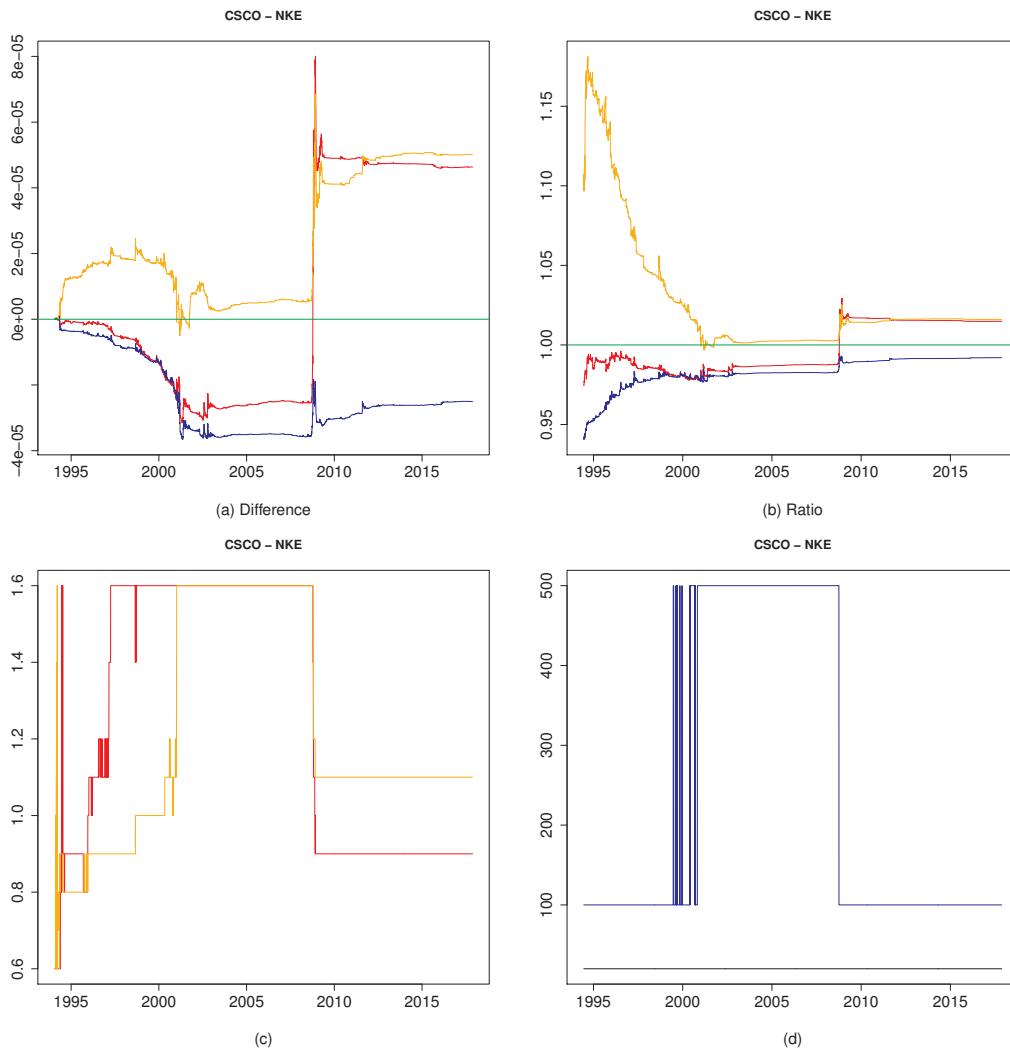


Figure 137: 06-08

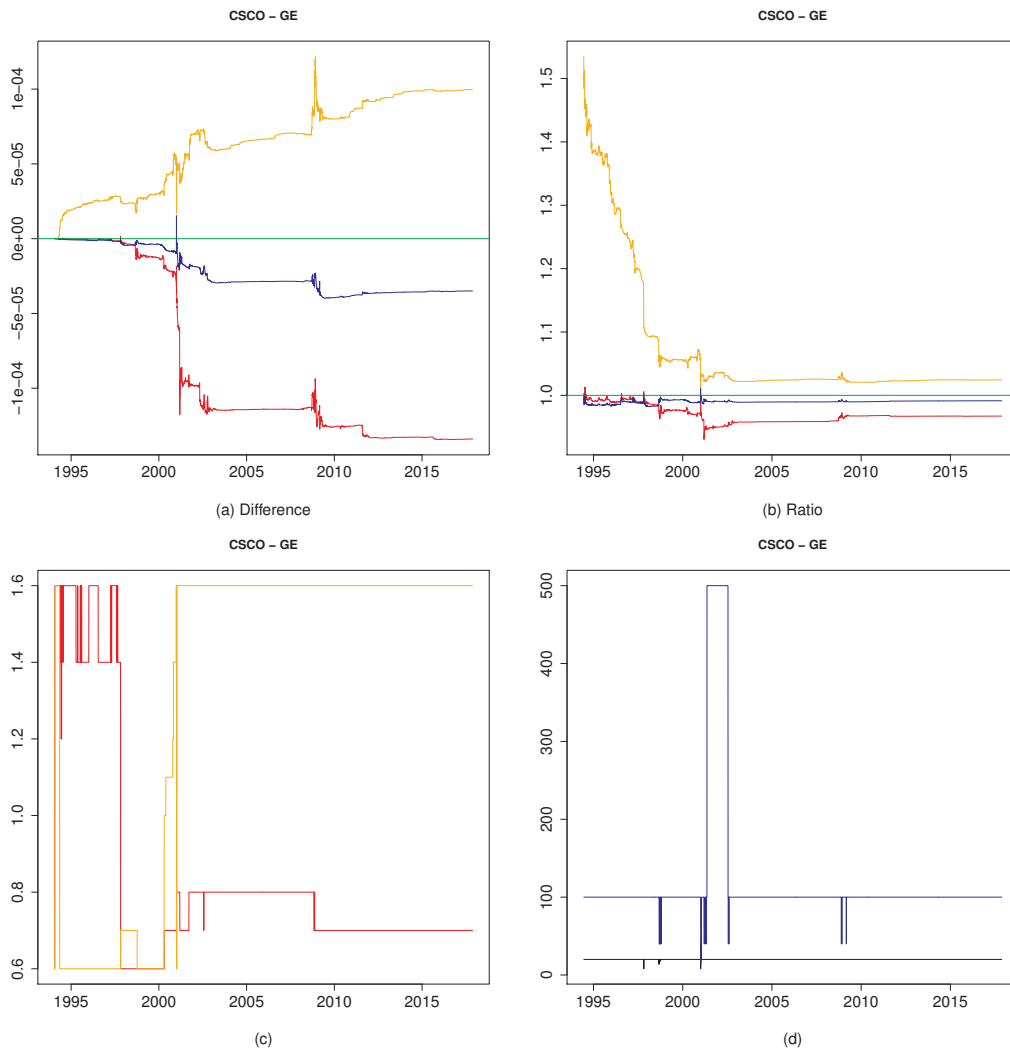


Figure 138: 06-09

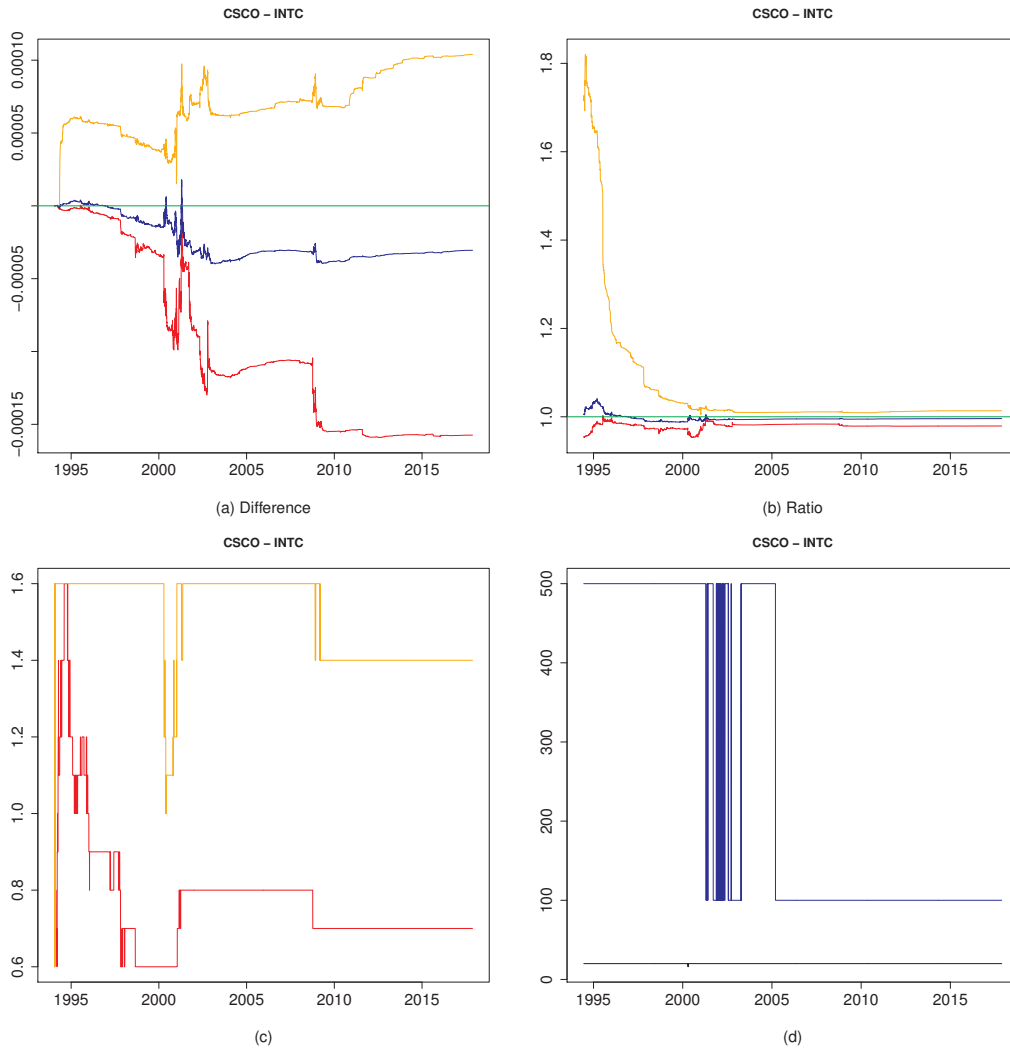


Figure 139: 06-10

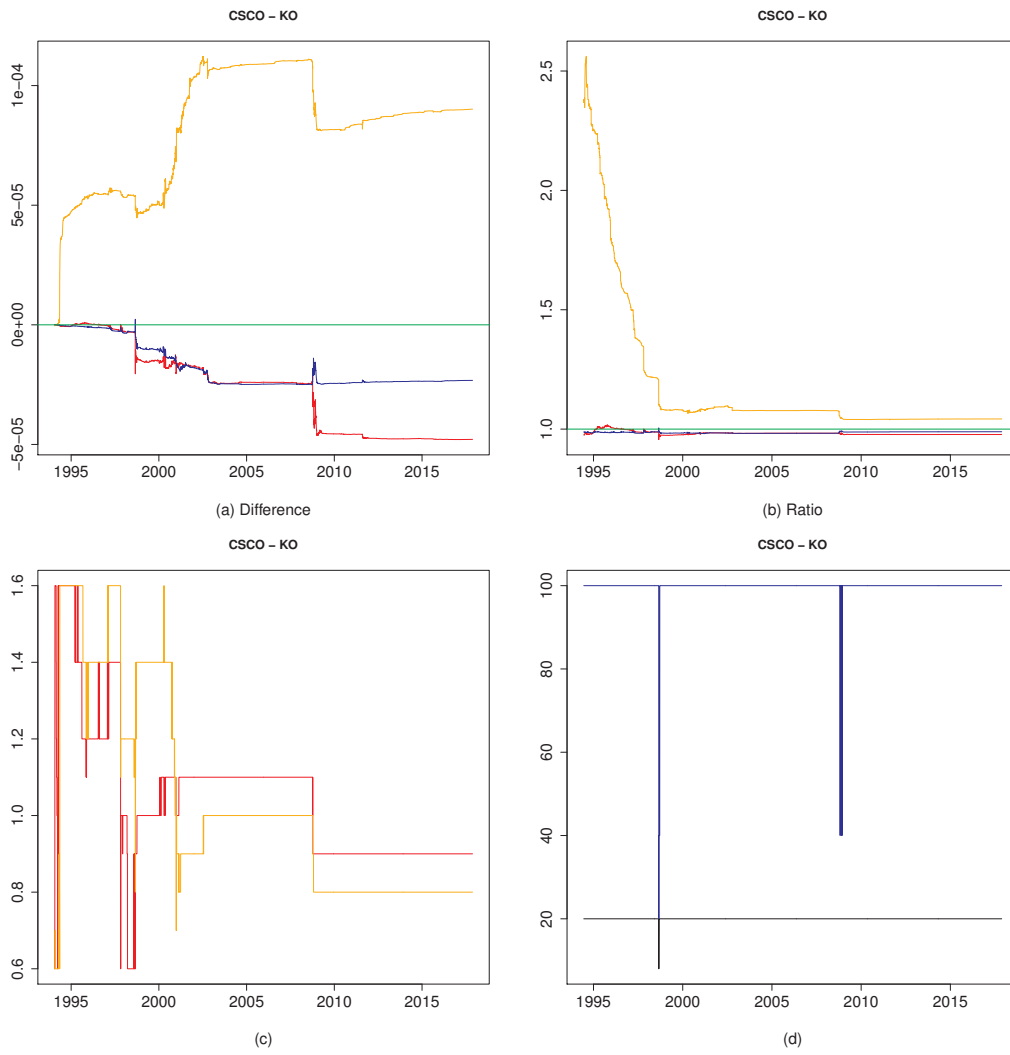


Figure 140: 06-11

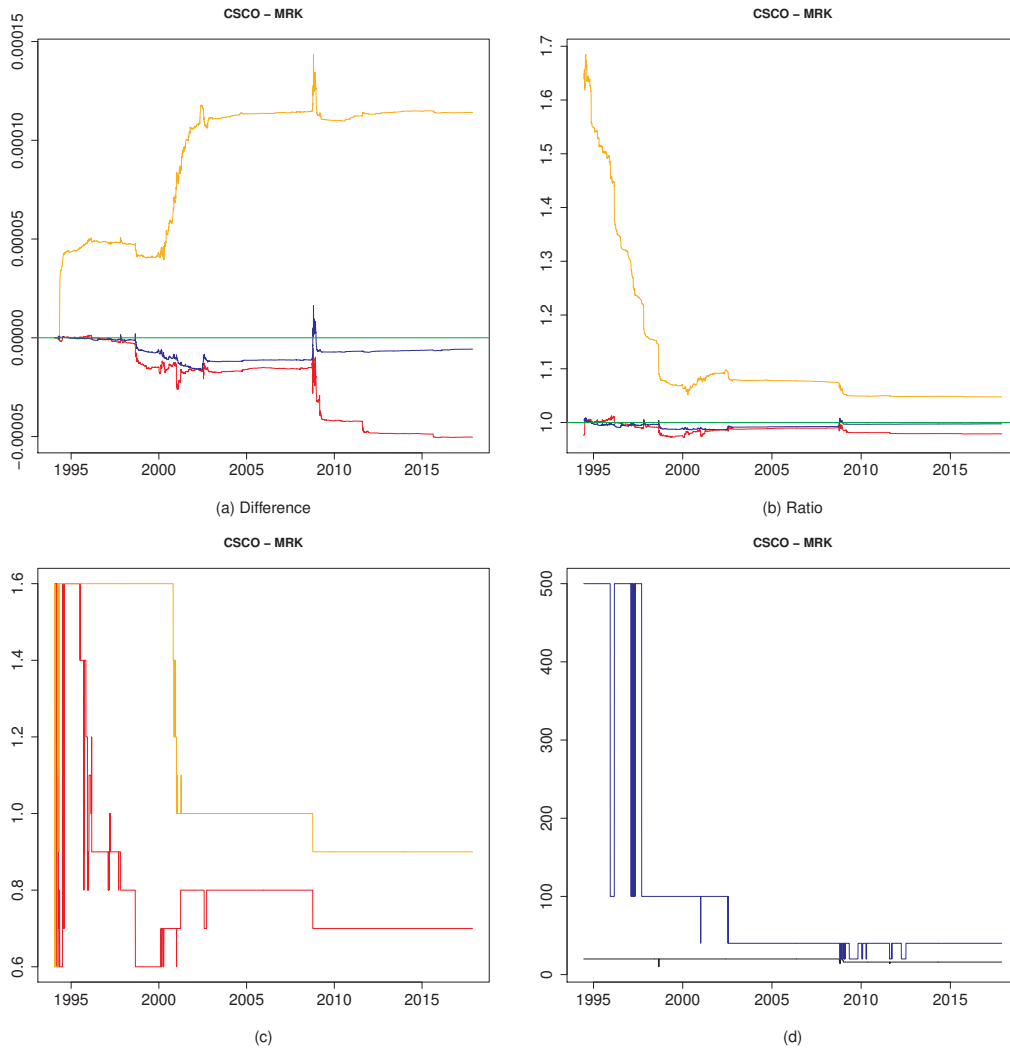


Figure 141: 06-12

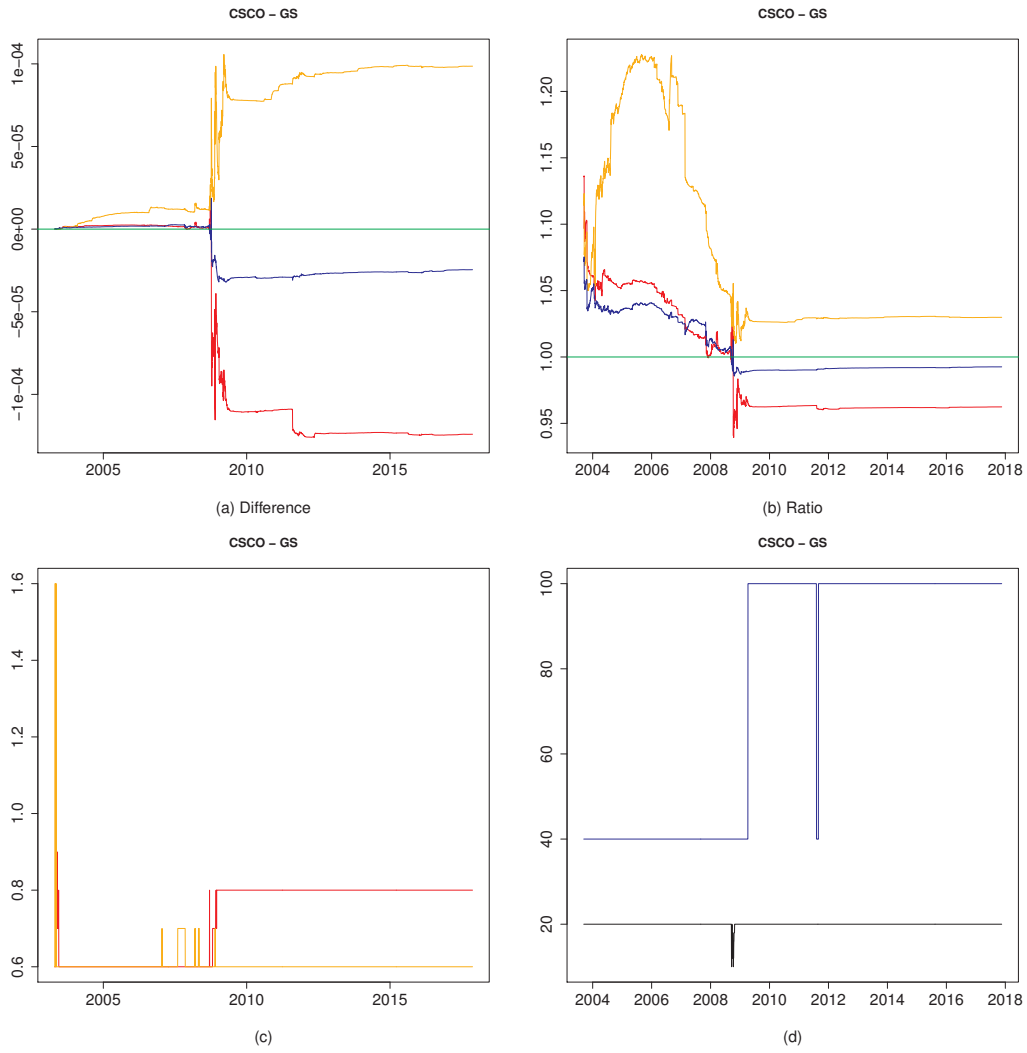


Figure 142: 06-13

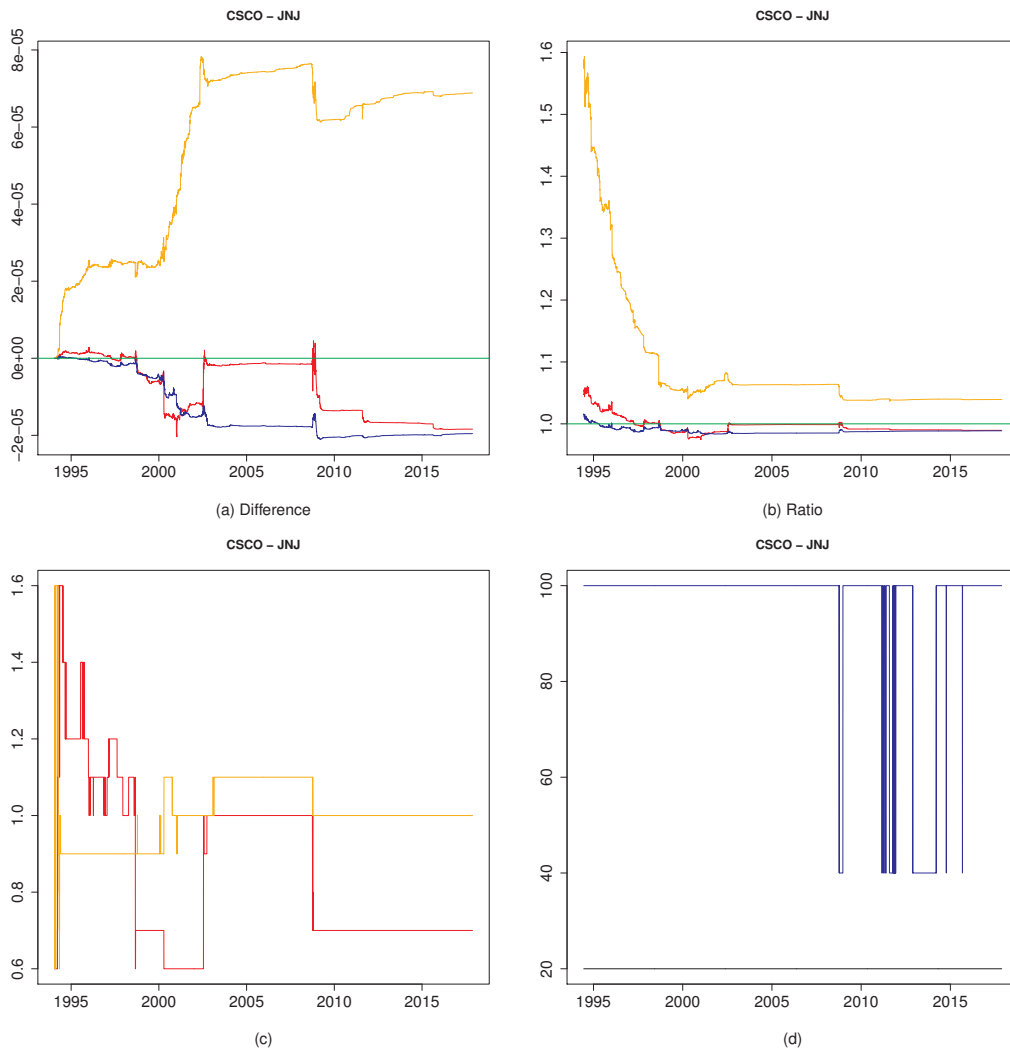


Figure 143: 06-14

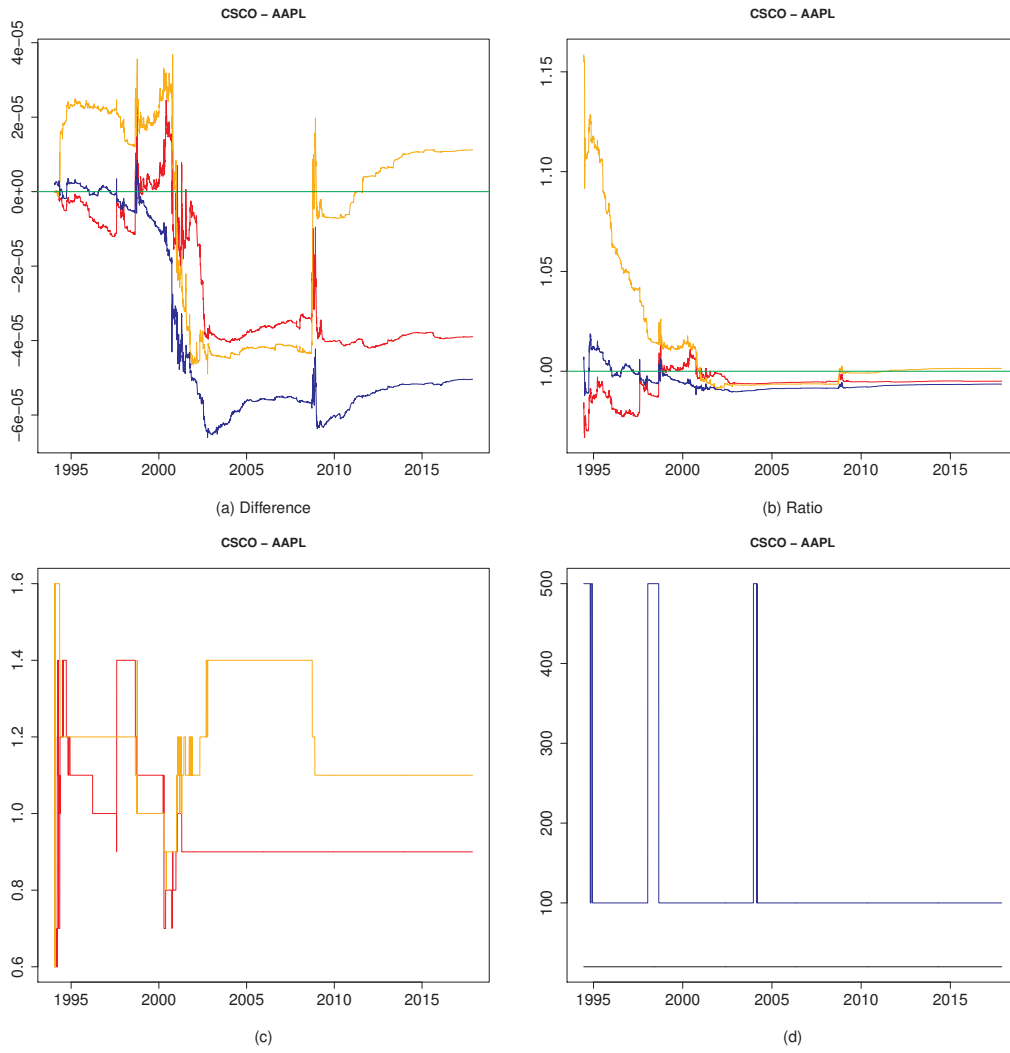


Figure 144: 06-15

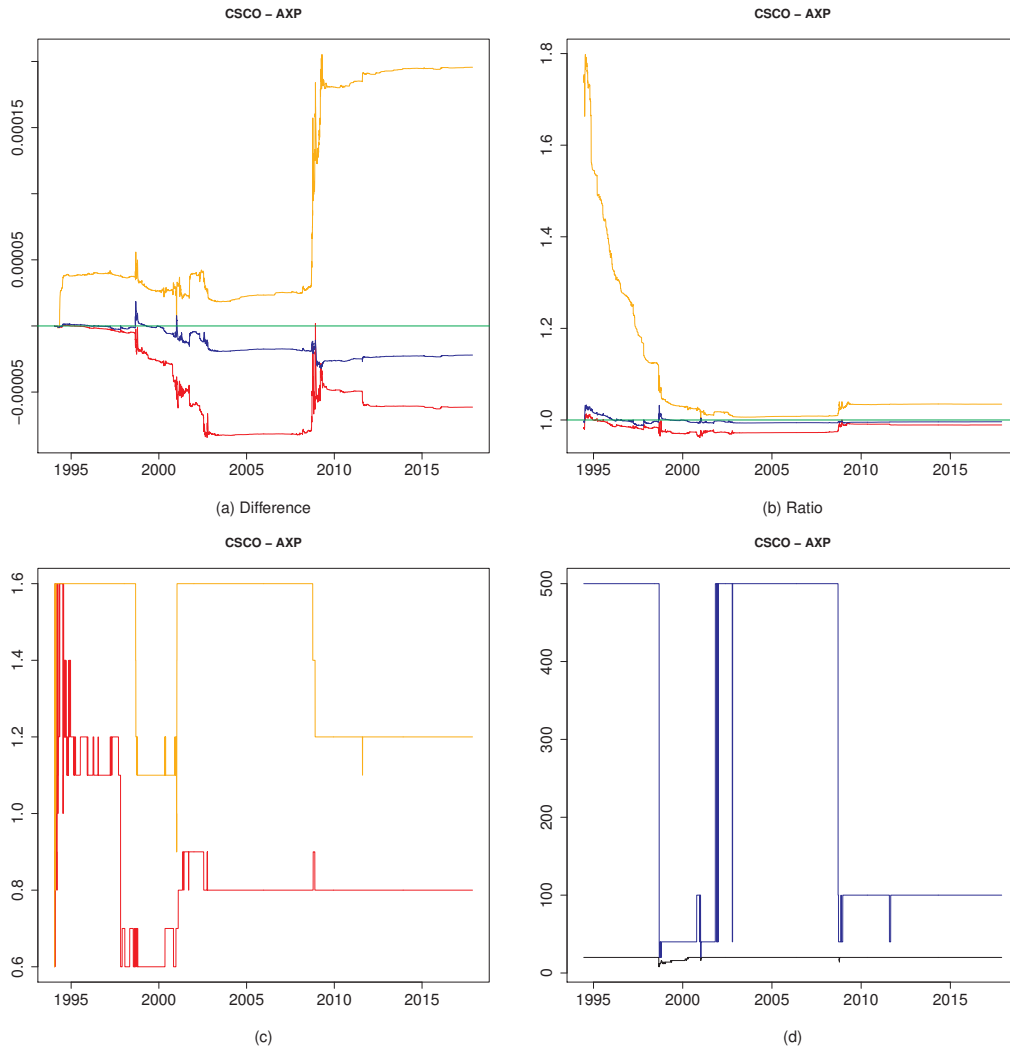


Figure 145: 06-16

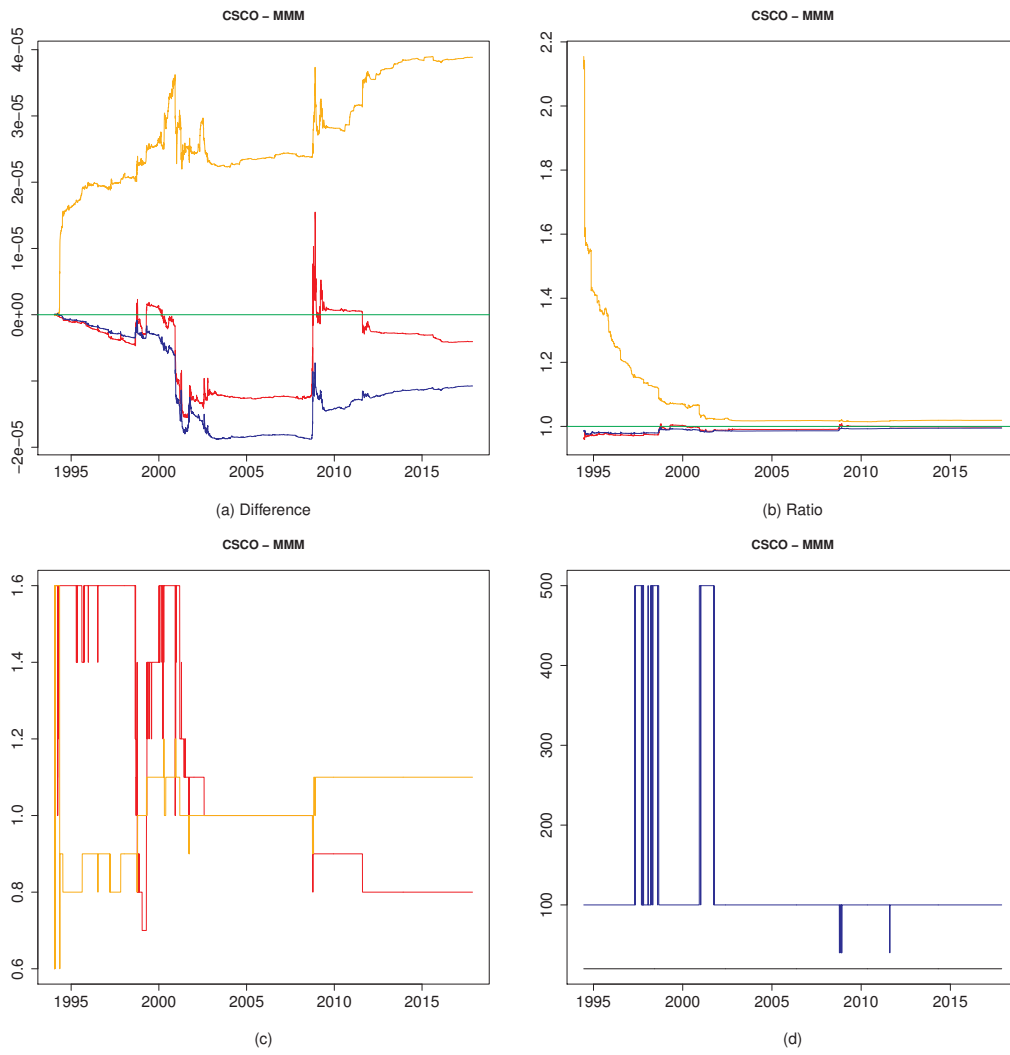


Figure 146: 06-17

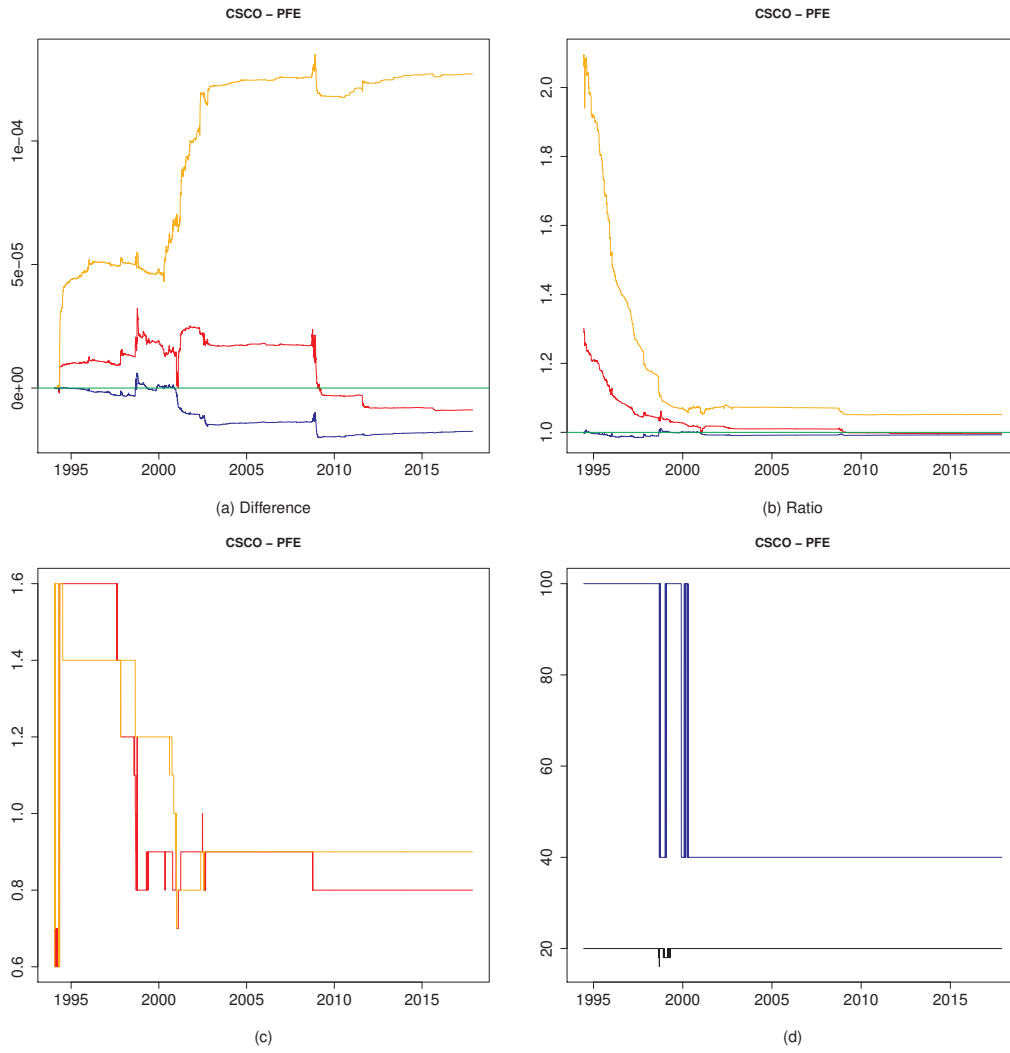


Figure 147: 06-18

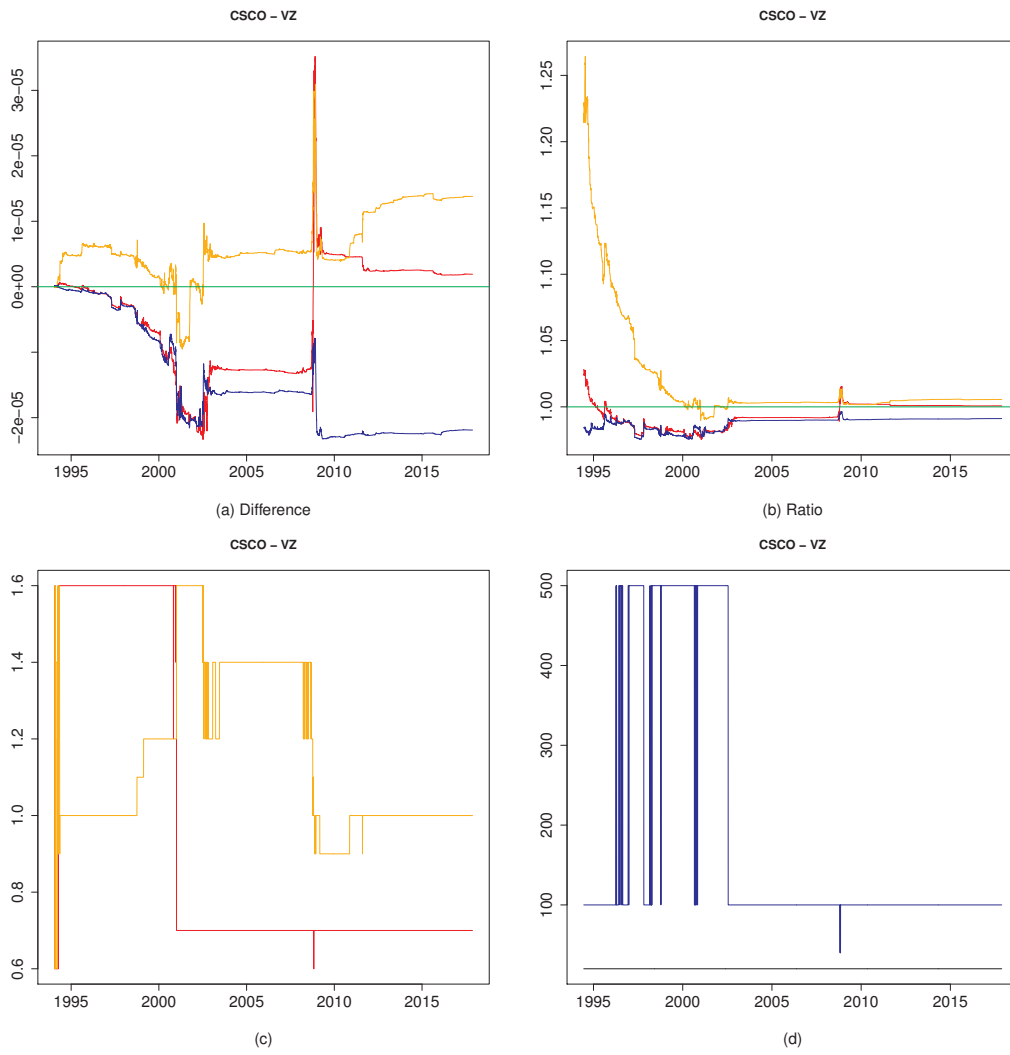


Figure 148: 06-19

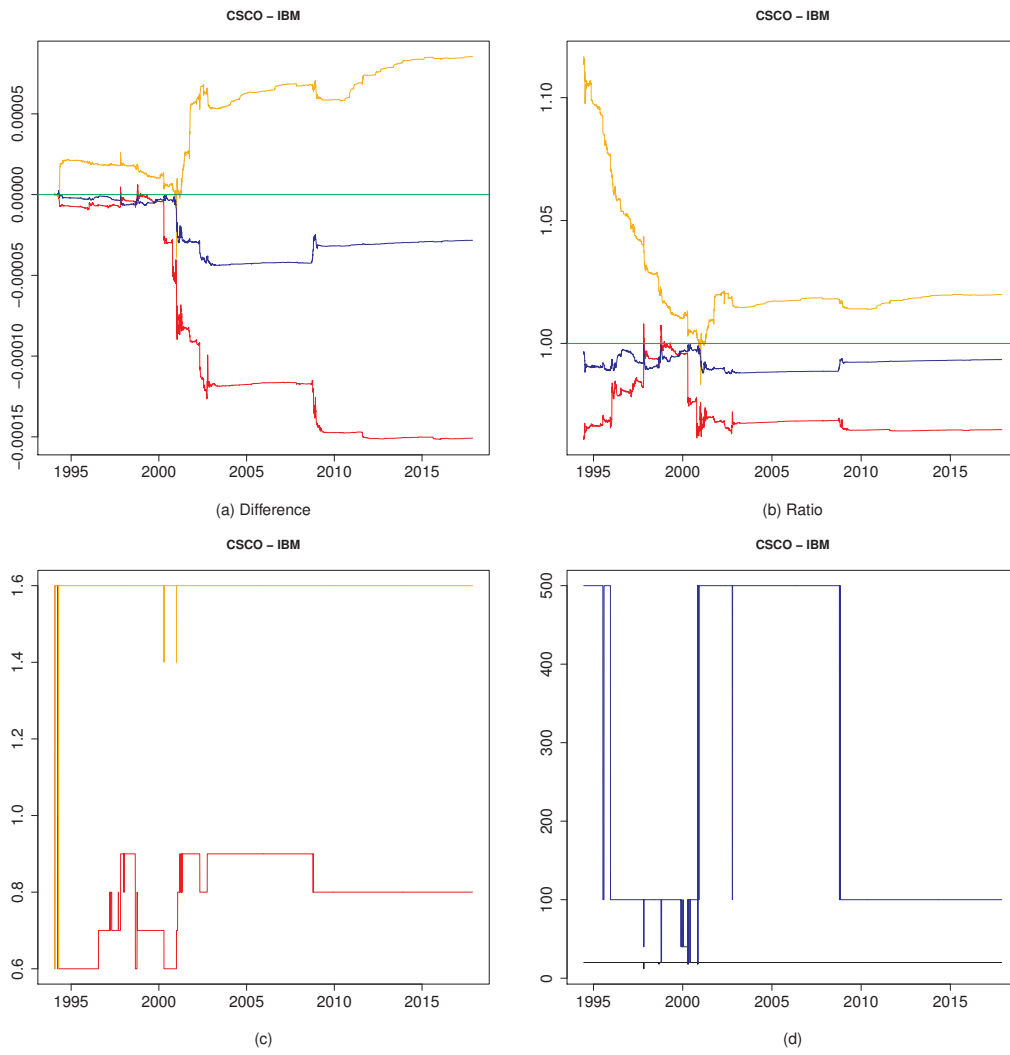


Figure 149: 06-20

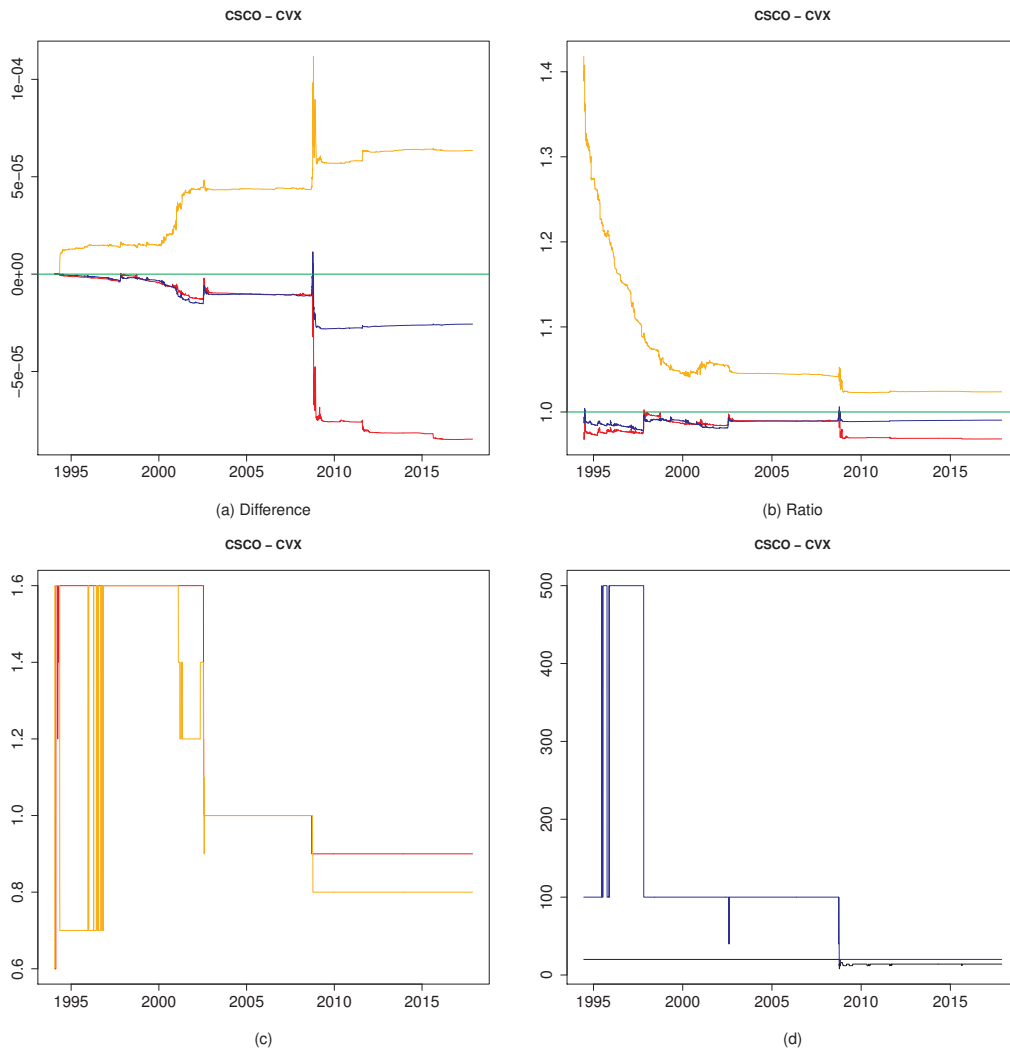


Figure 150: 06-21

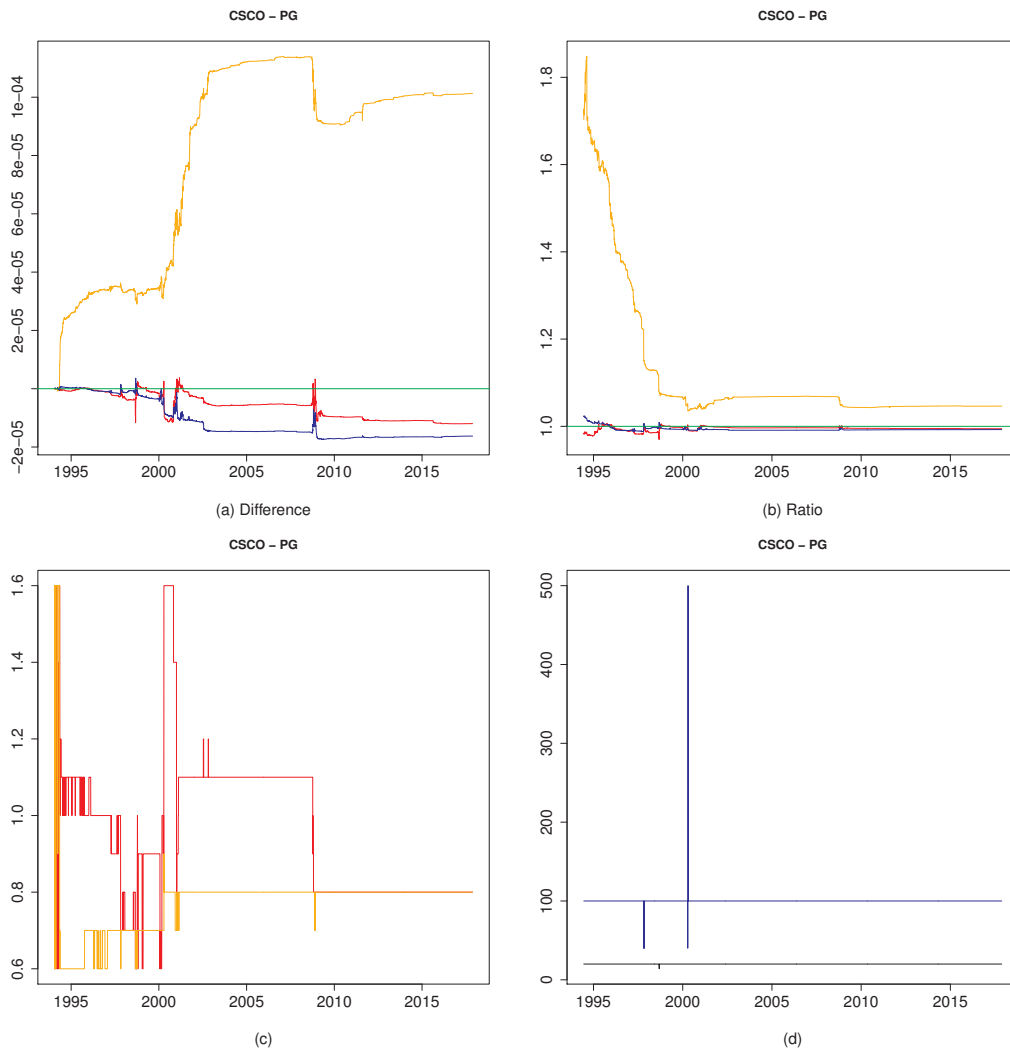


Figure 151: 06-22

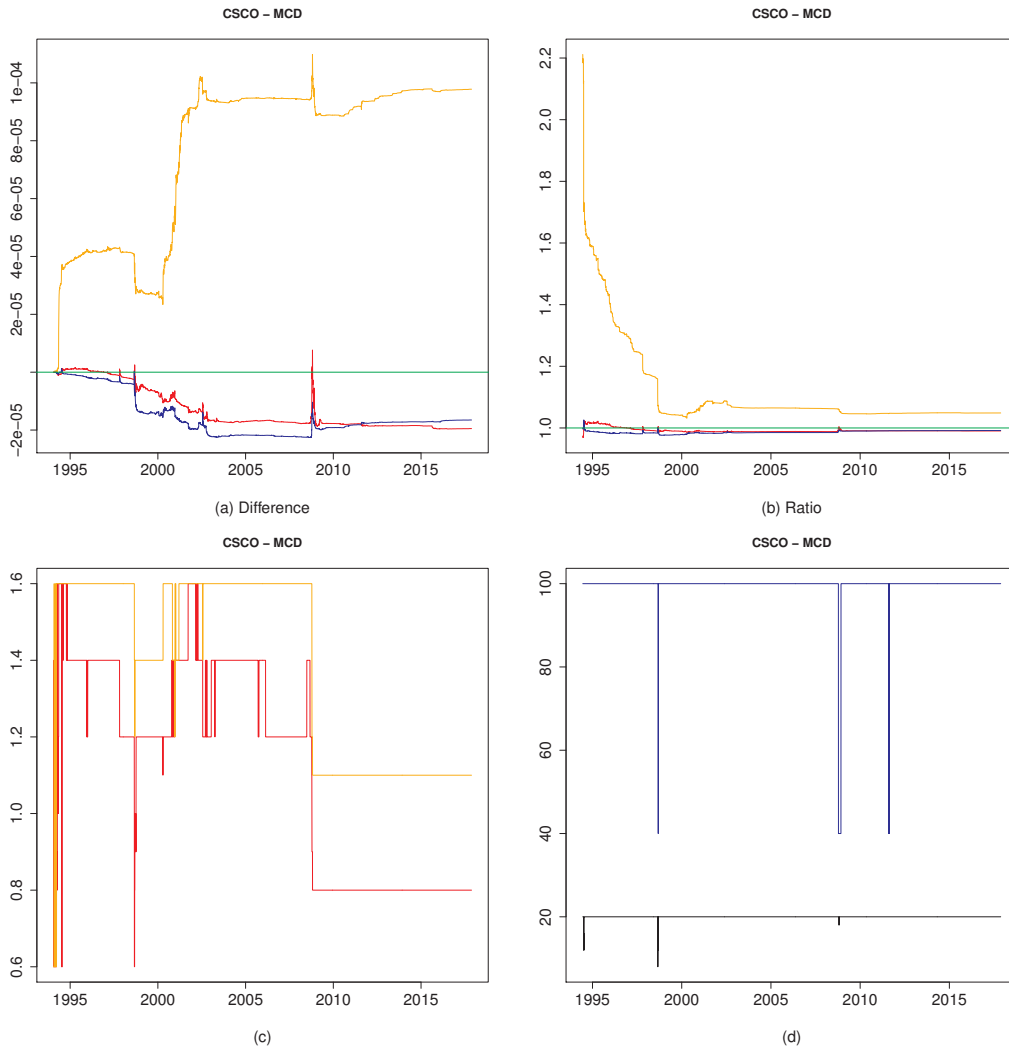


Figure 152: 06-23

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1.7 Pairs from 7-8 to 7-30

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1.8 Pairs from 8-9 to 8-30

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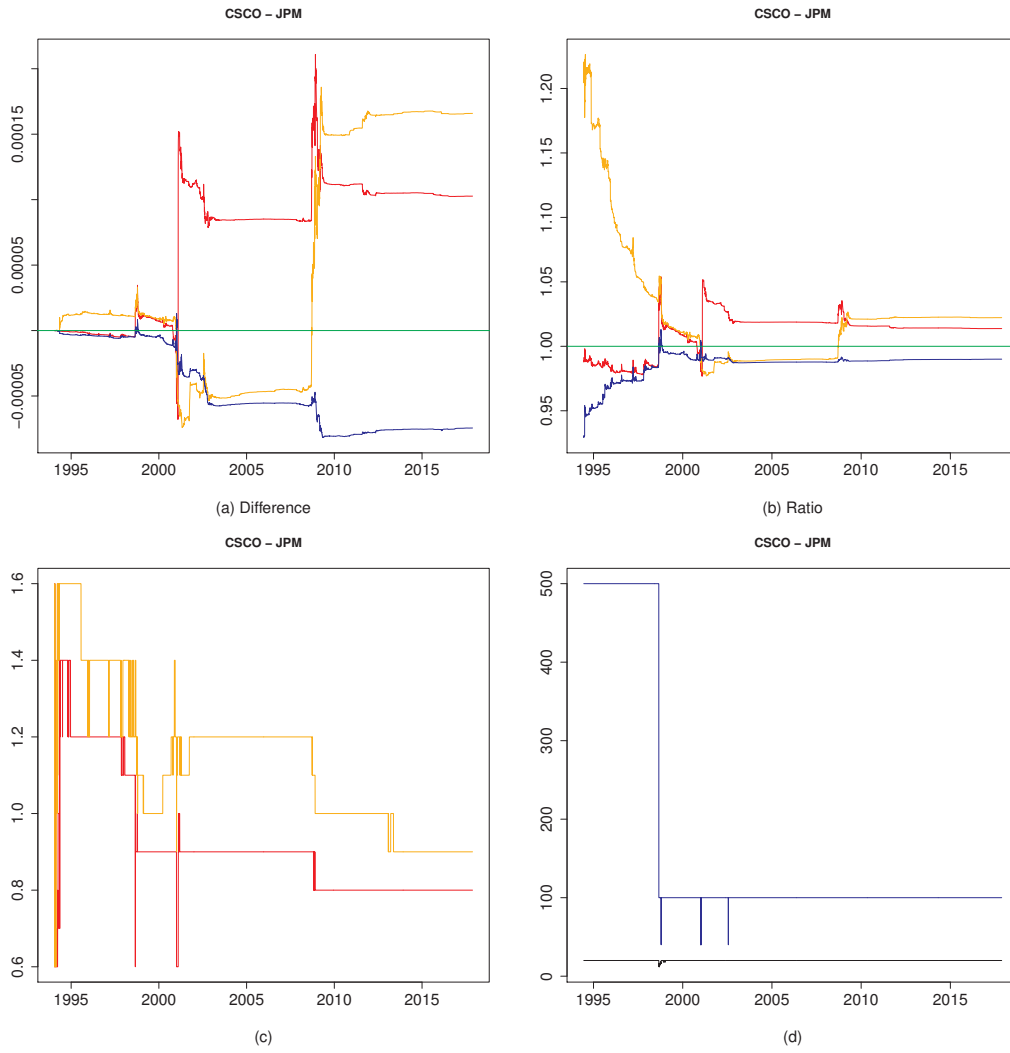


Figure 153: 06-24

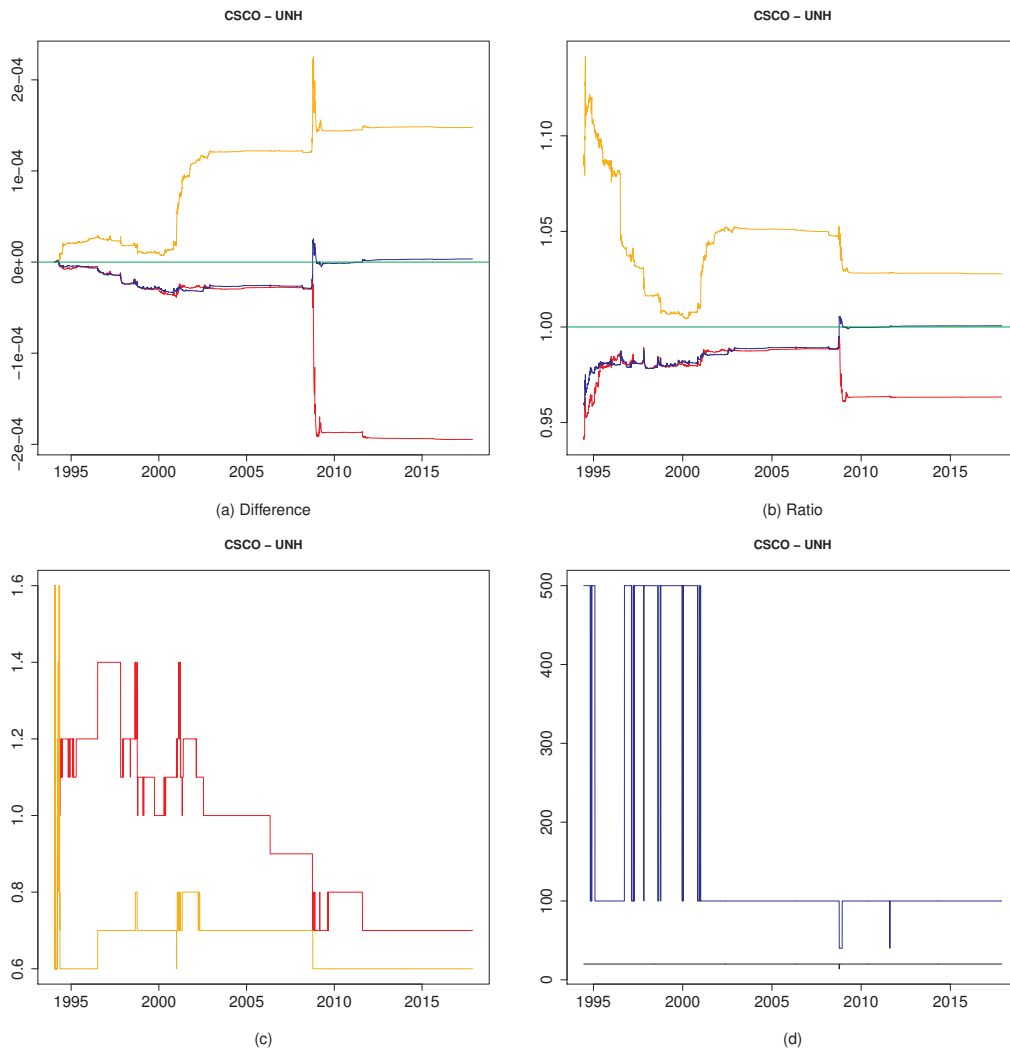


Figure 154: 06-25

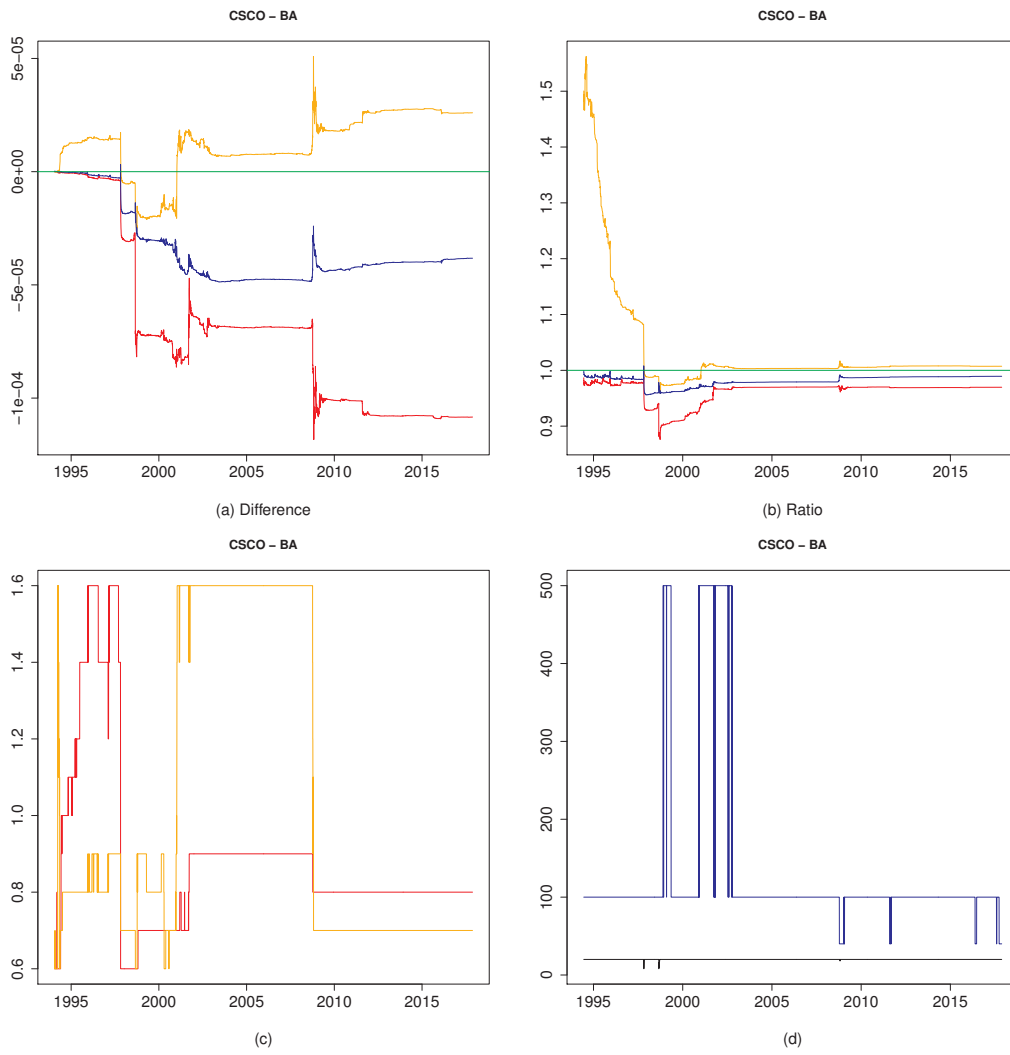


Figure 155: 06-26

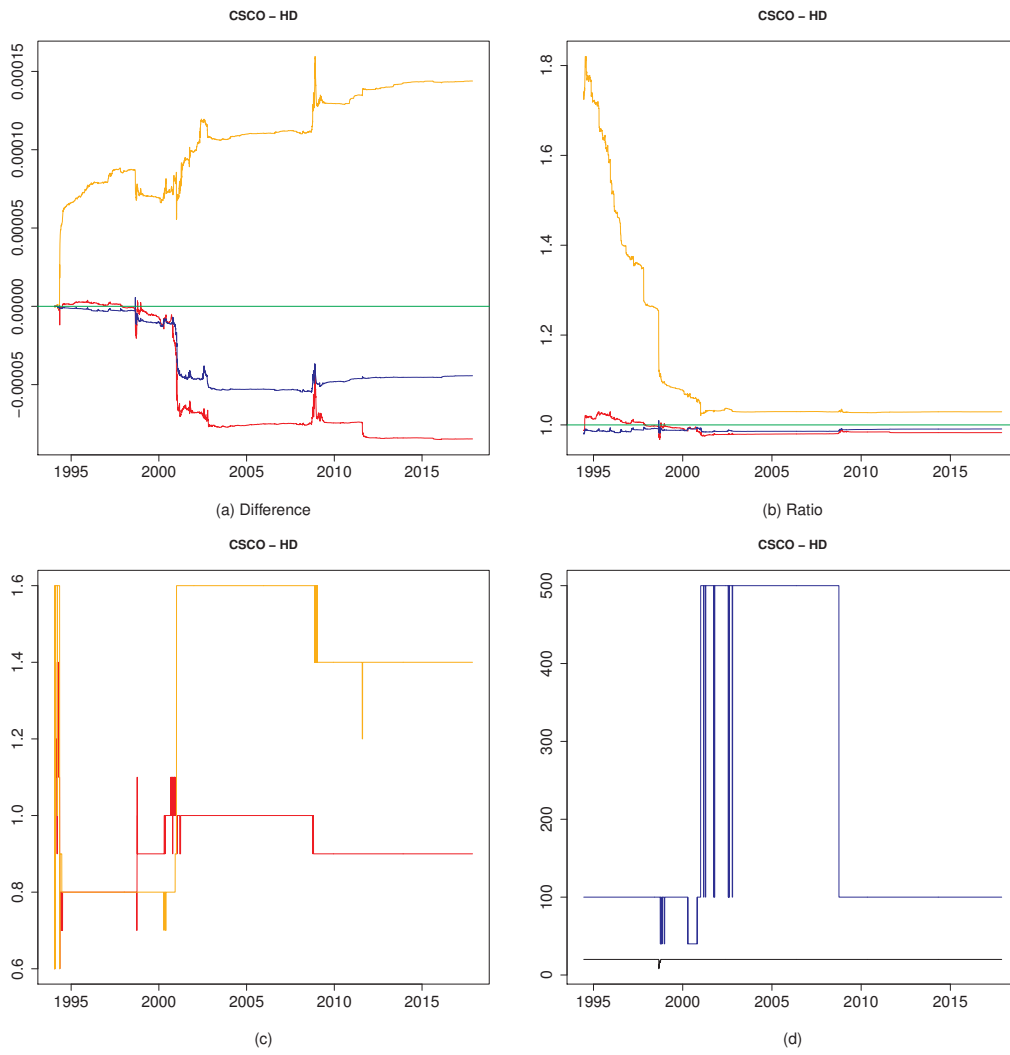


Figure 156: 06-27

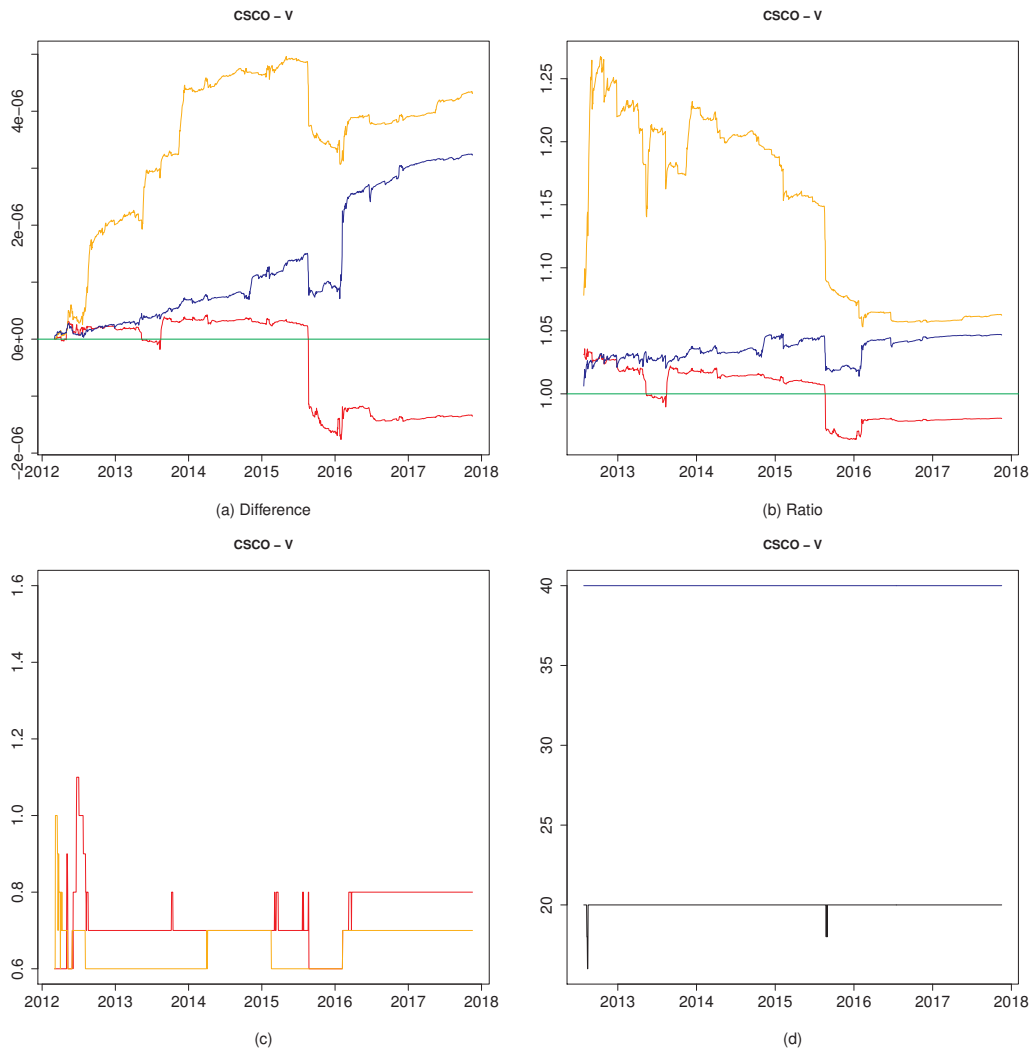


Figure 157: 06-28

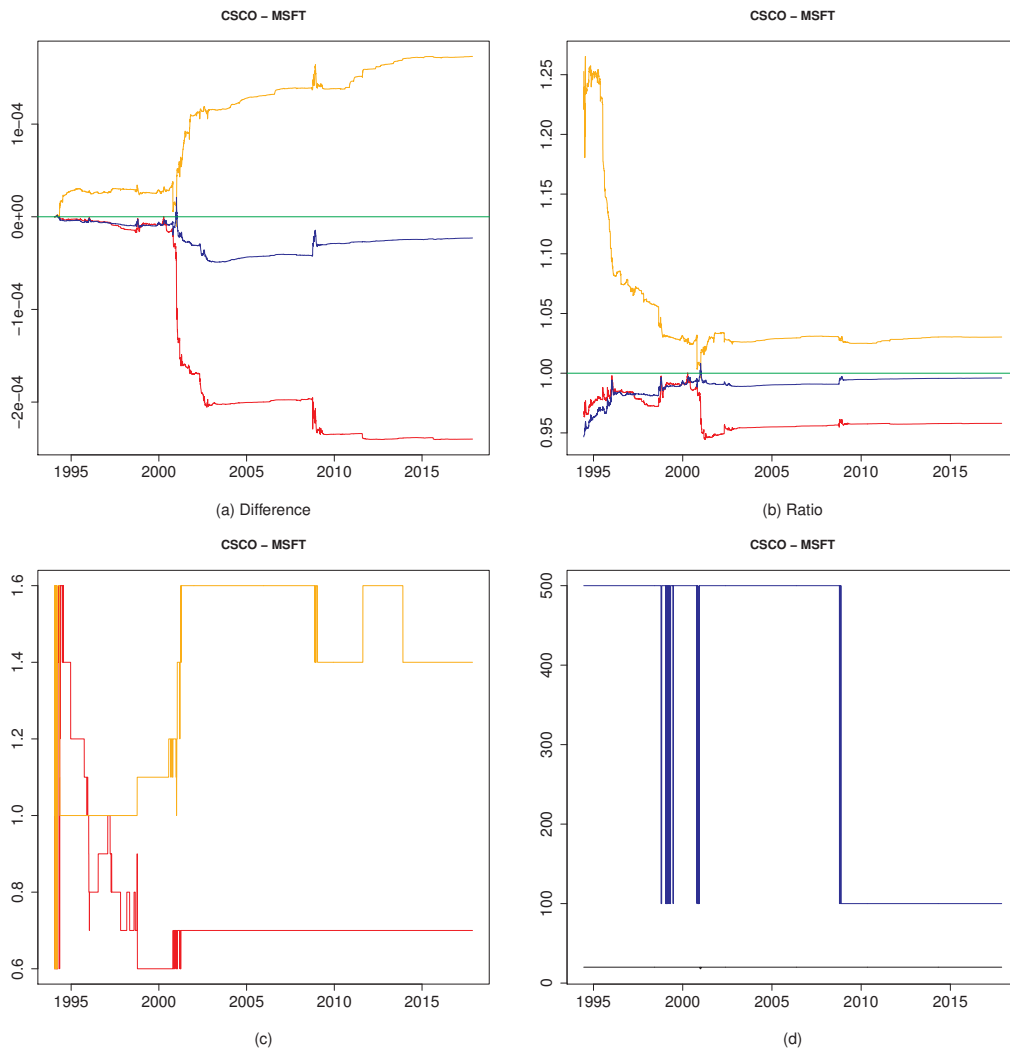


Figure 158: 06-29

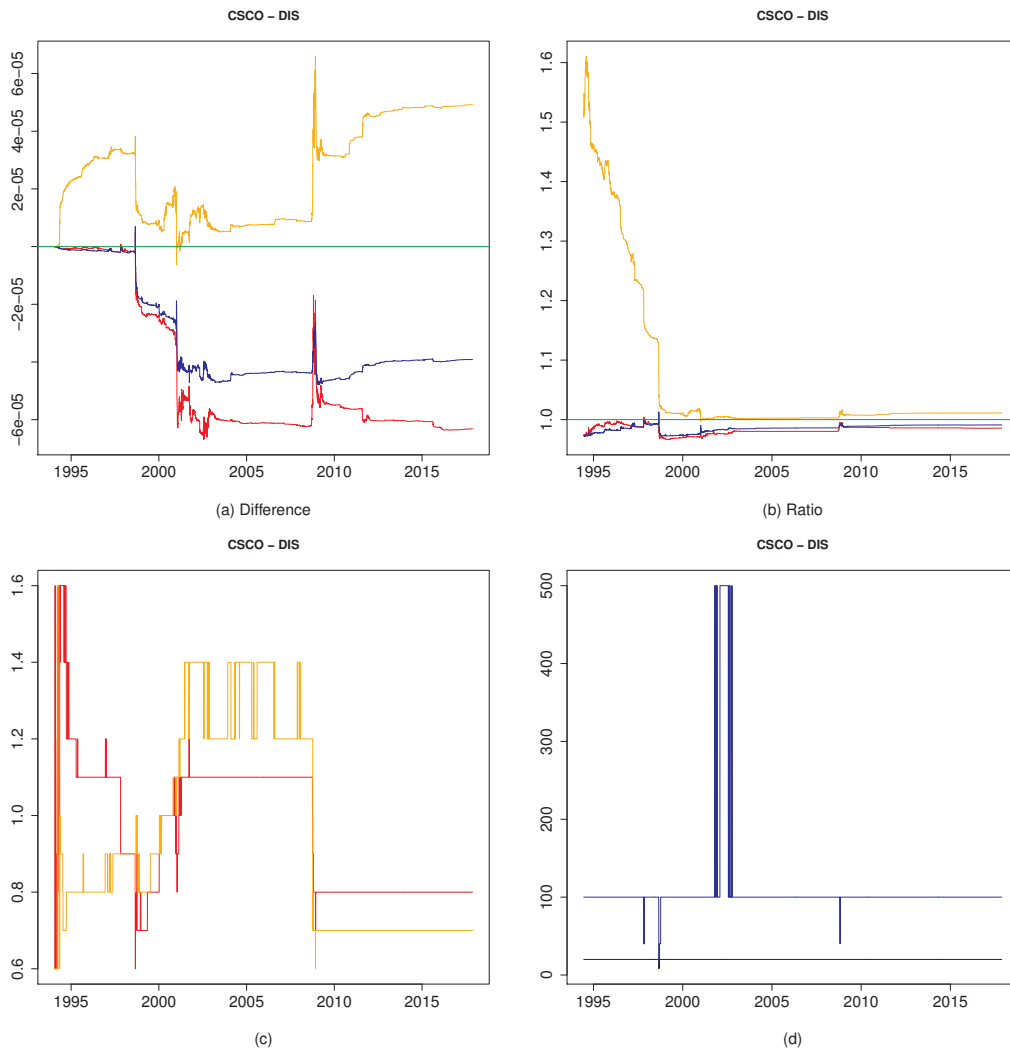


Figure 159: 06-30

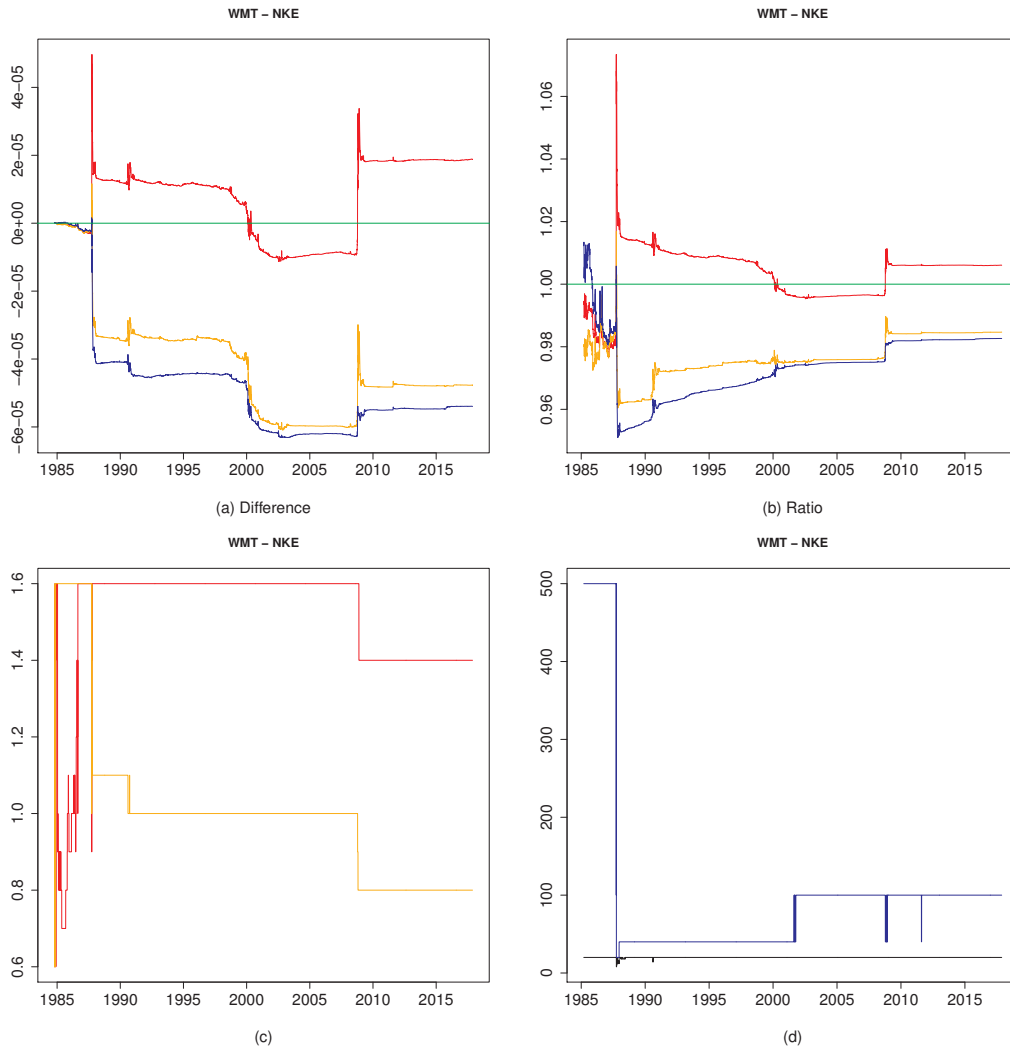


Figure 160: 07-08

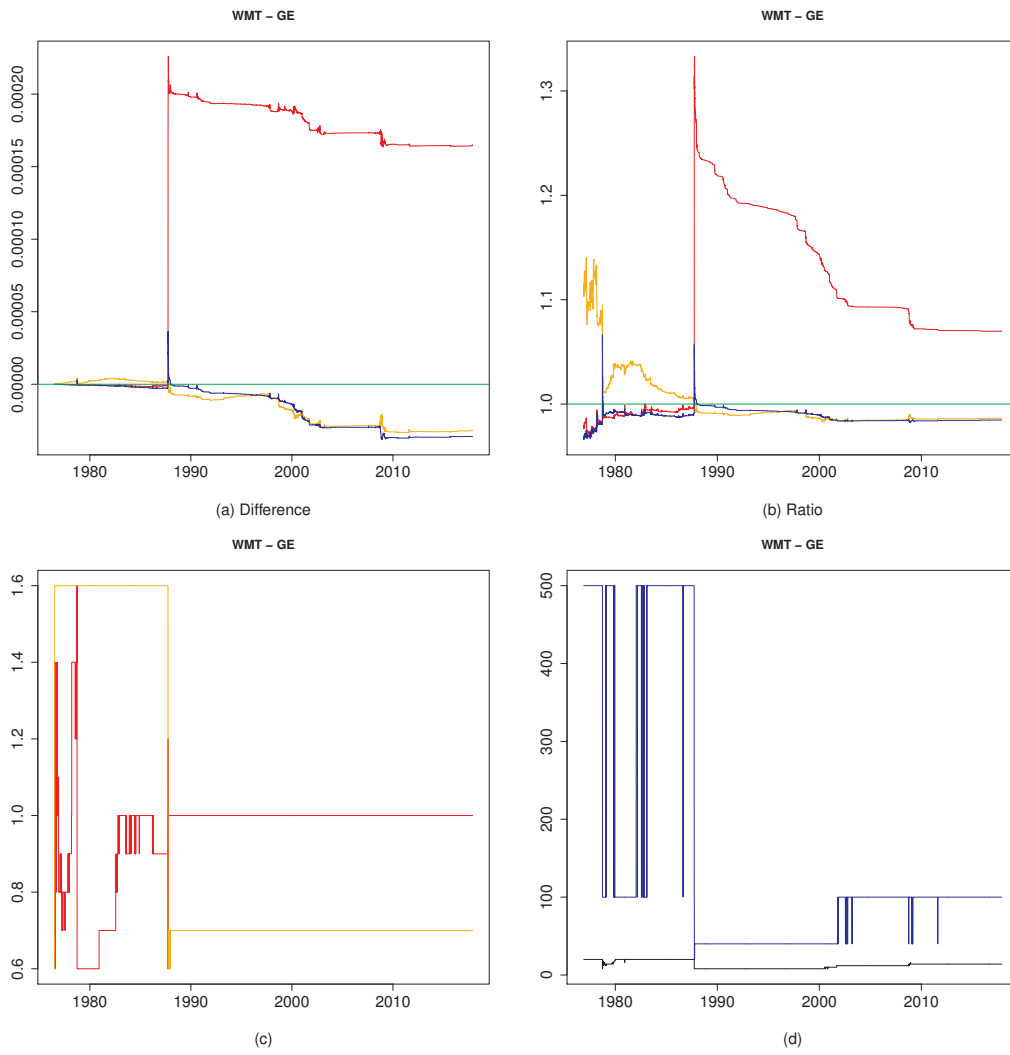


Figure 161: 07-09

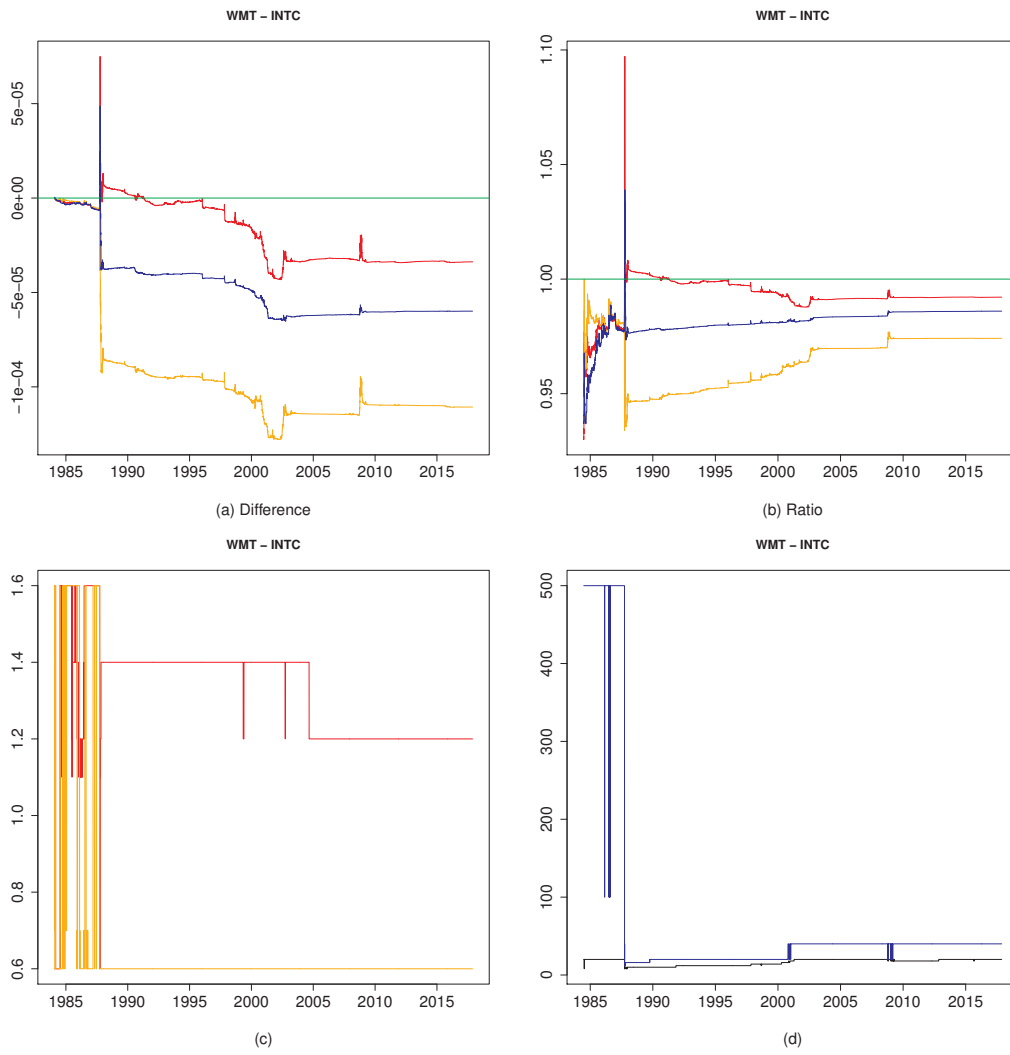


Figure 162: 07-10

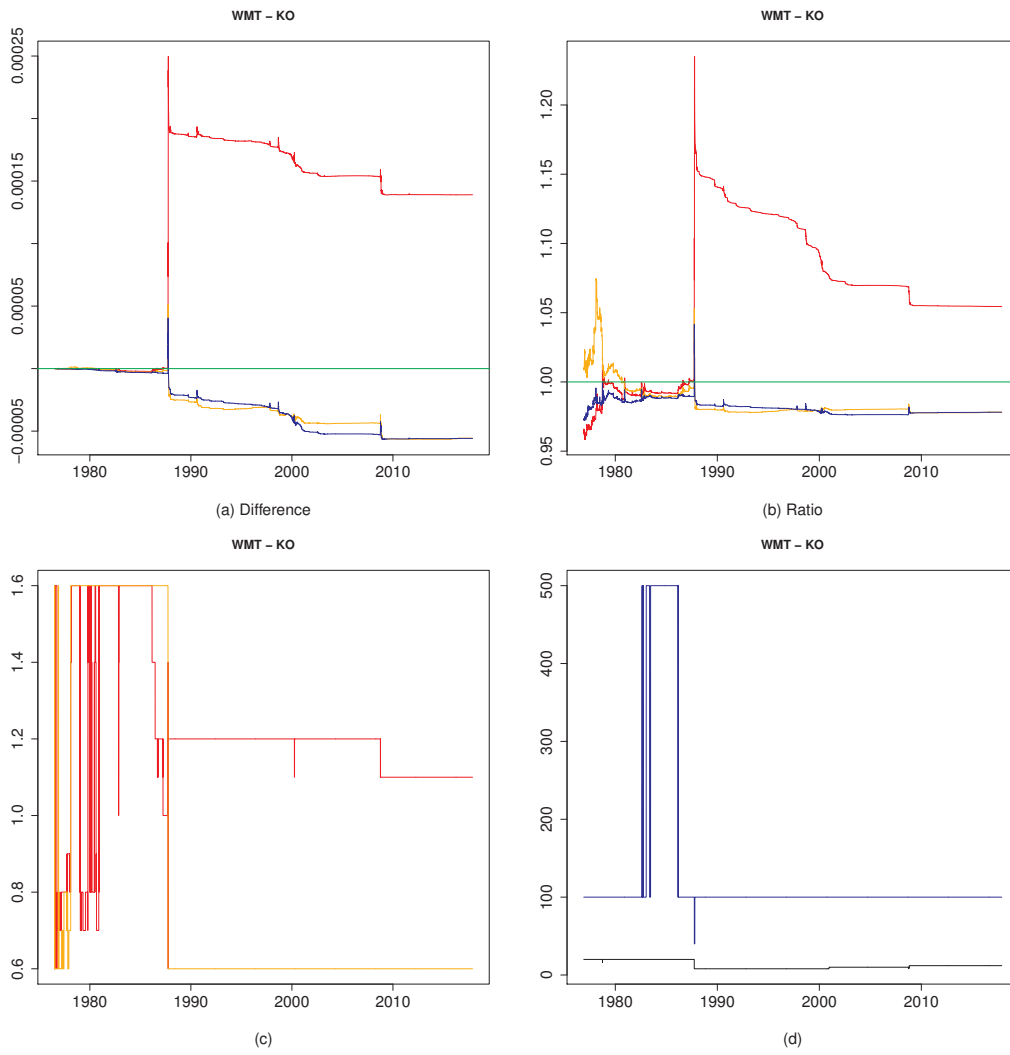


Figure 163: 07-11

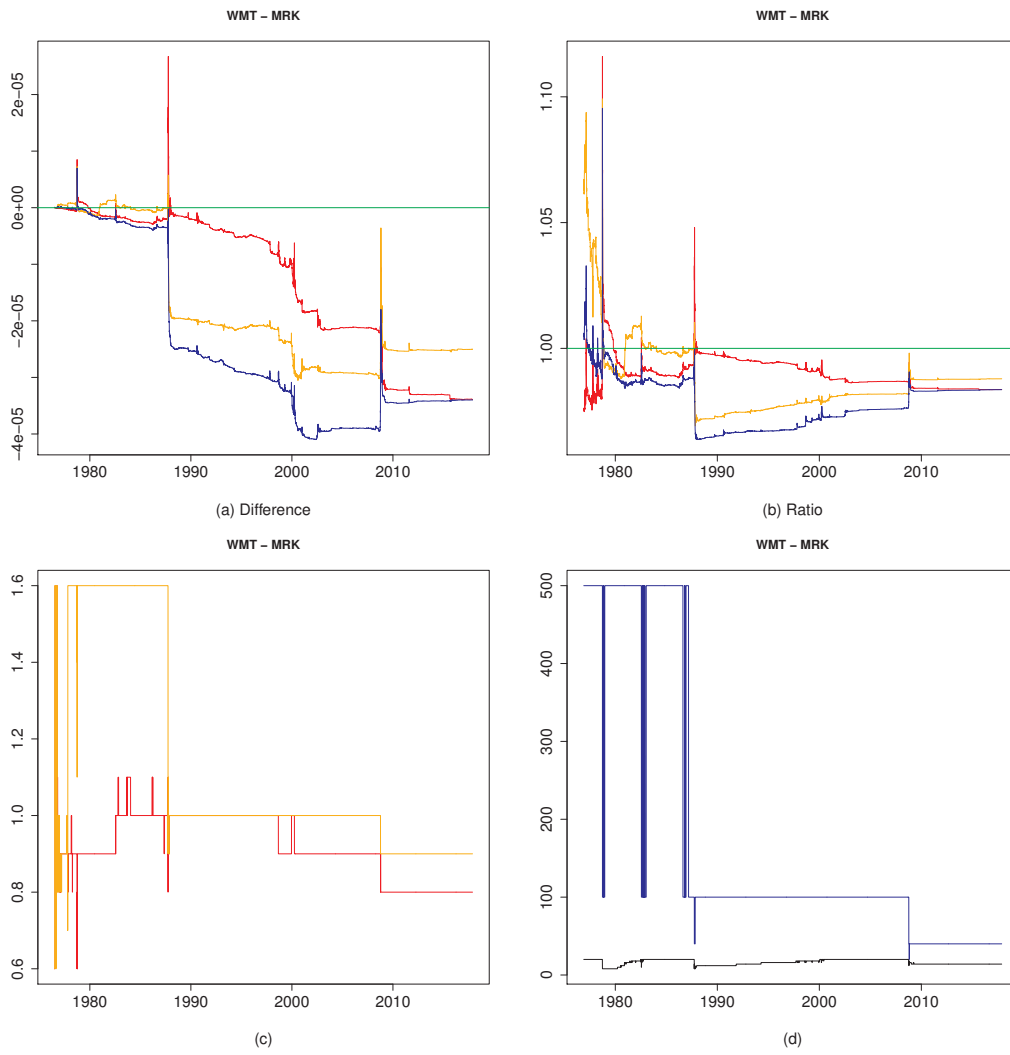


Figure 164: 07-12

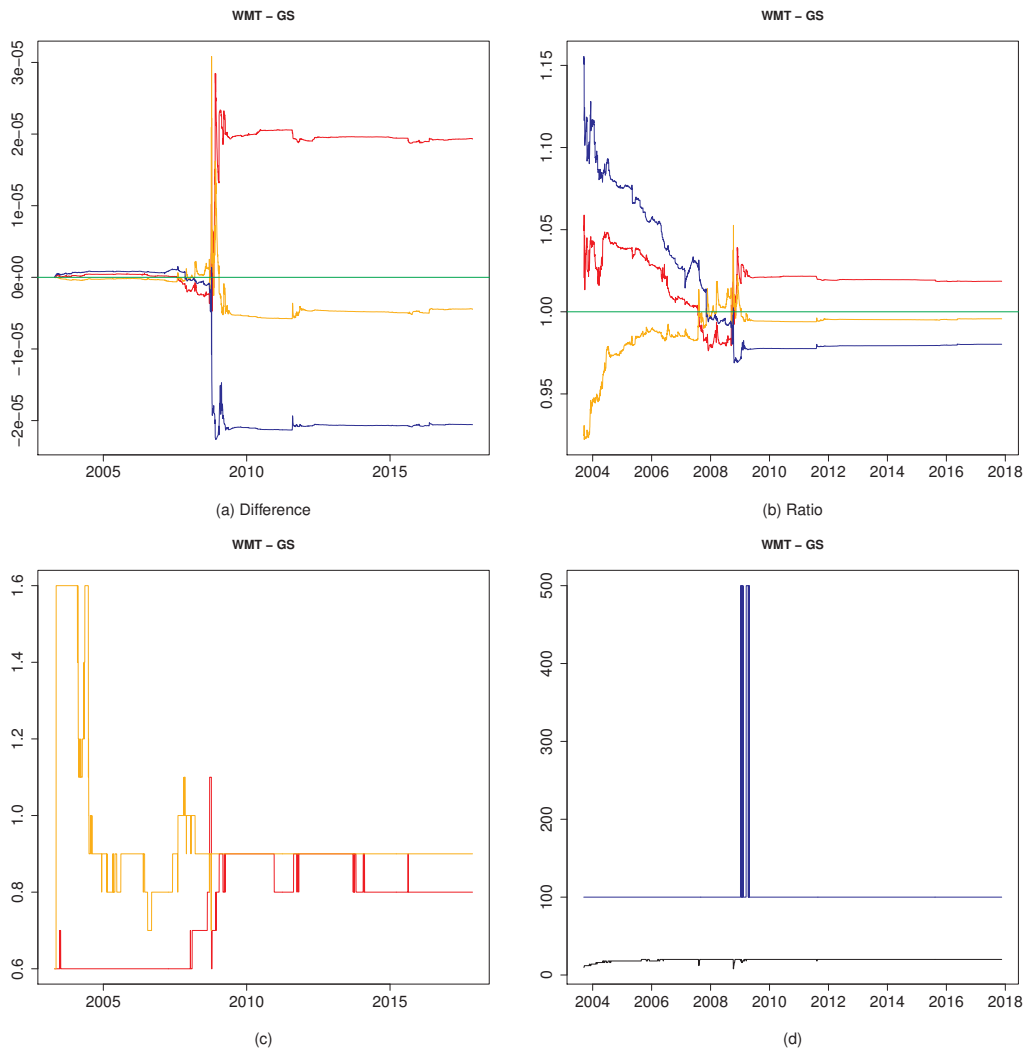


Figure 165: 07-13

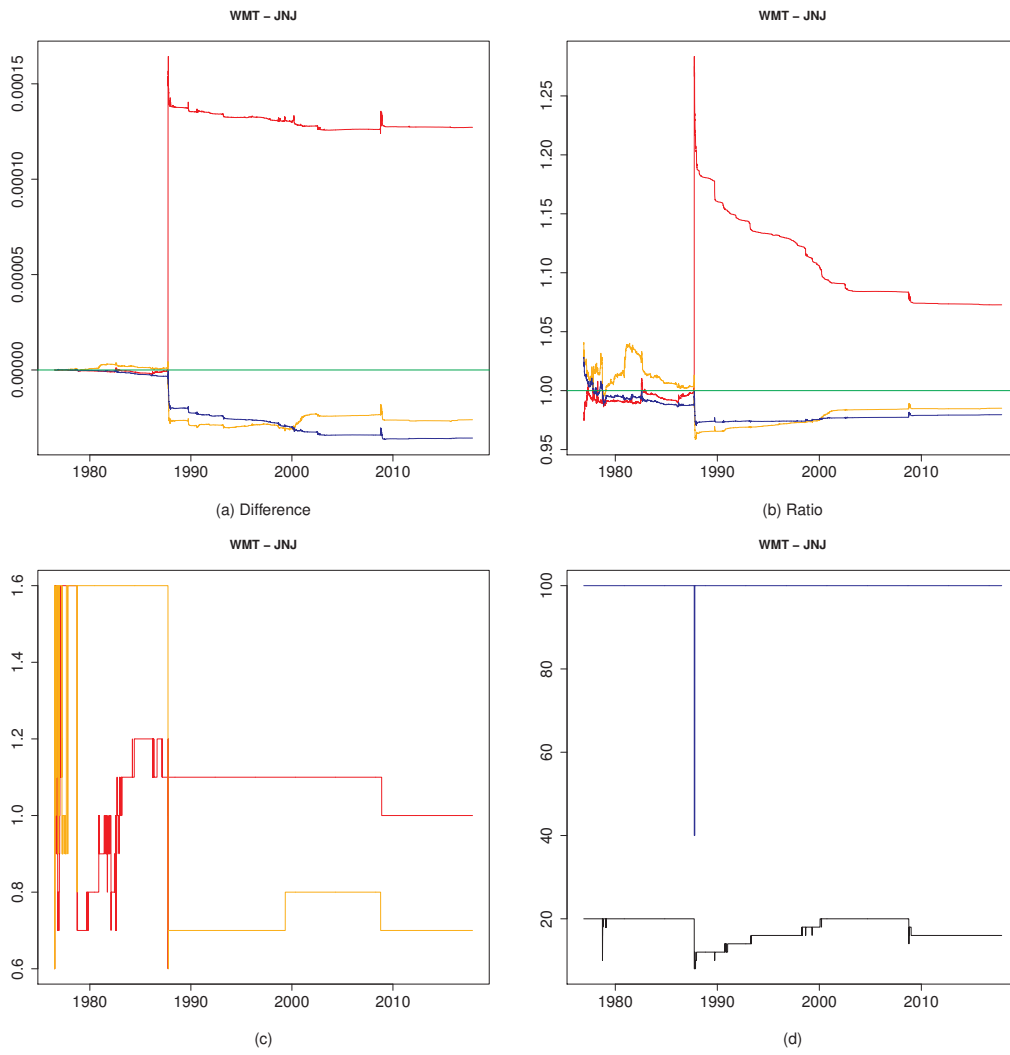


Figure 166: 07-14

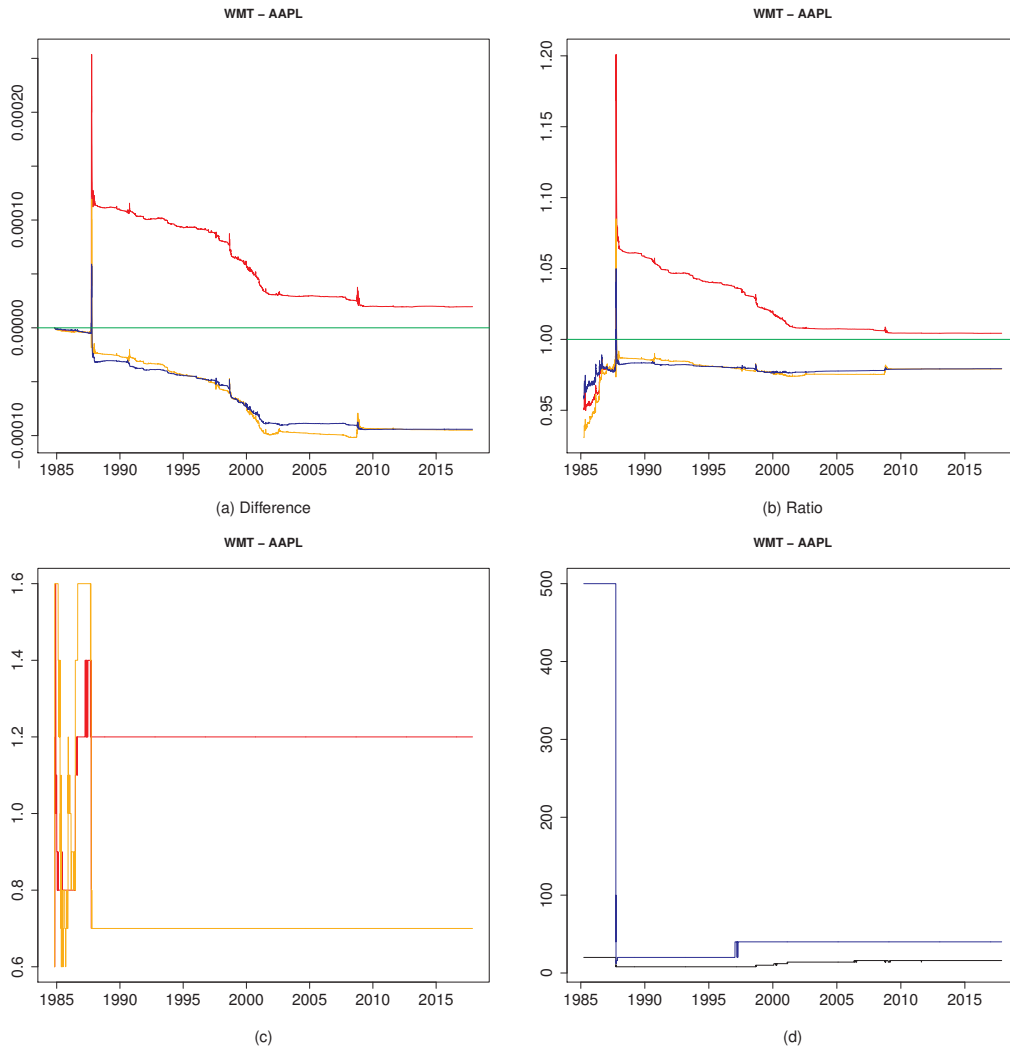


Figure 167: 07-15

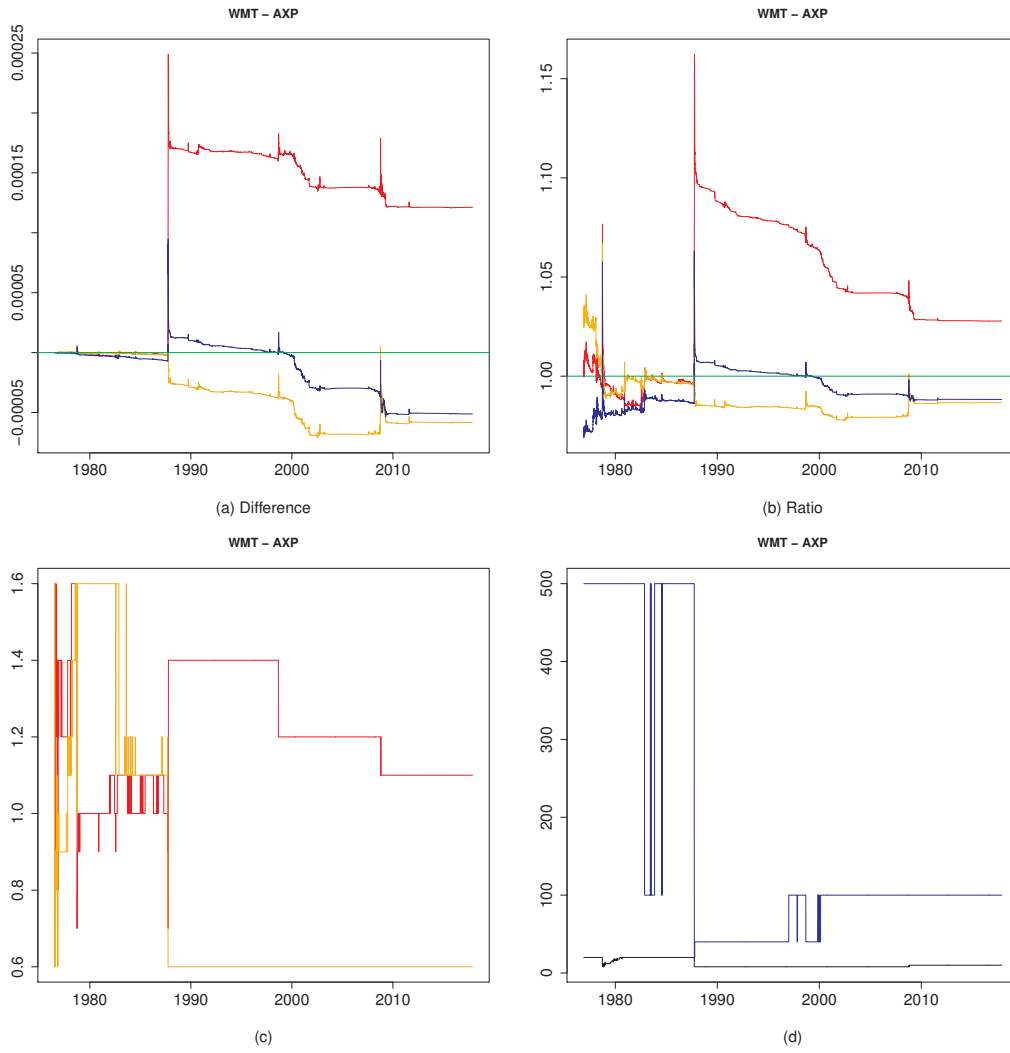


Figure 168: 07-16

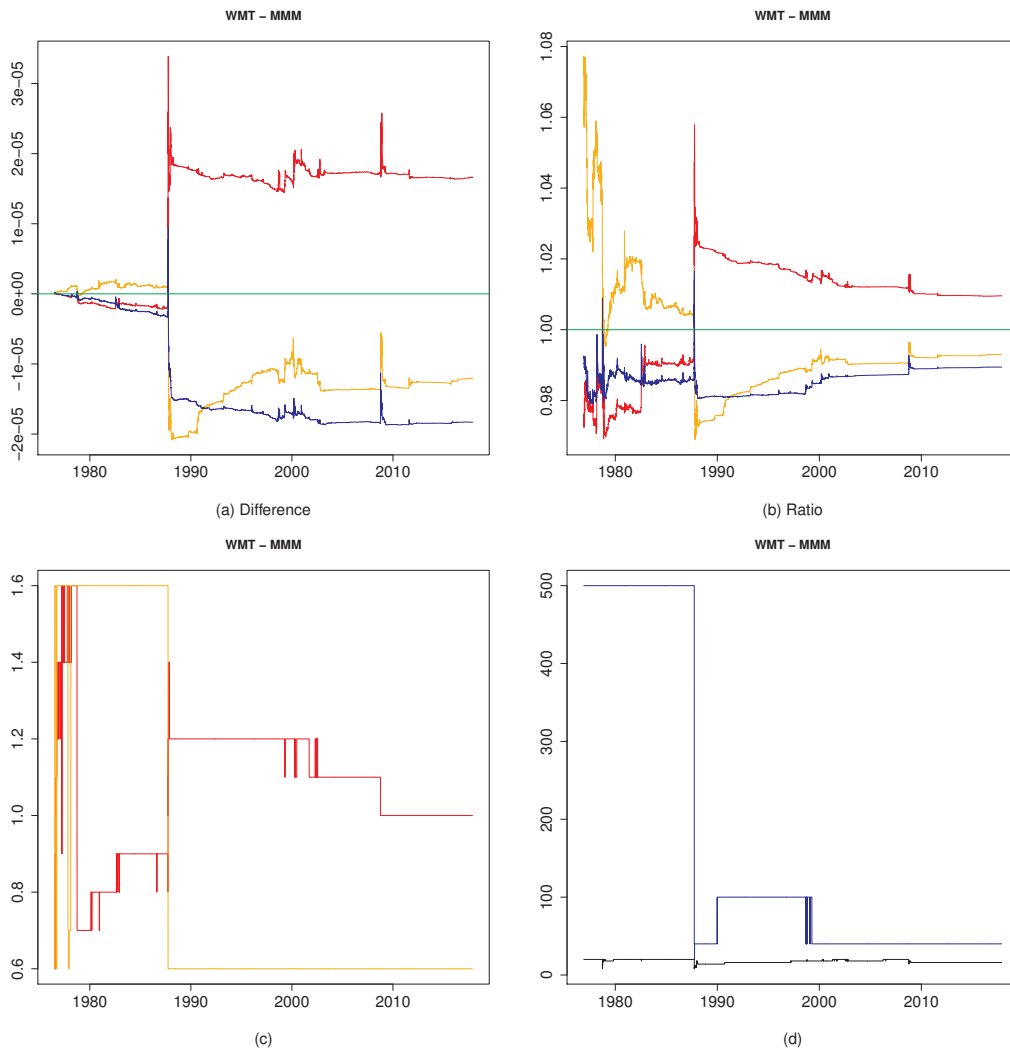


Figure 169: 07-17

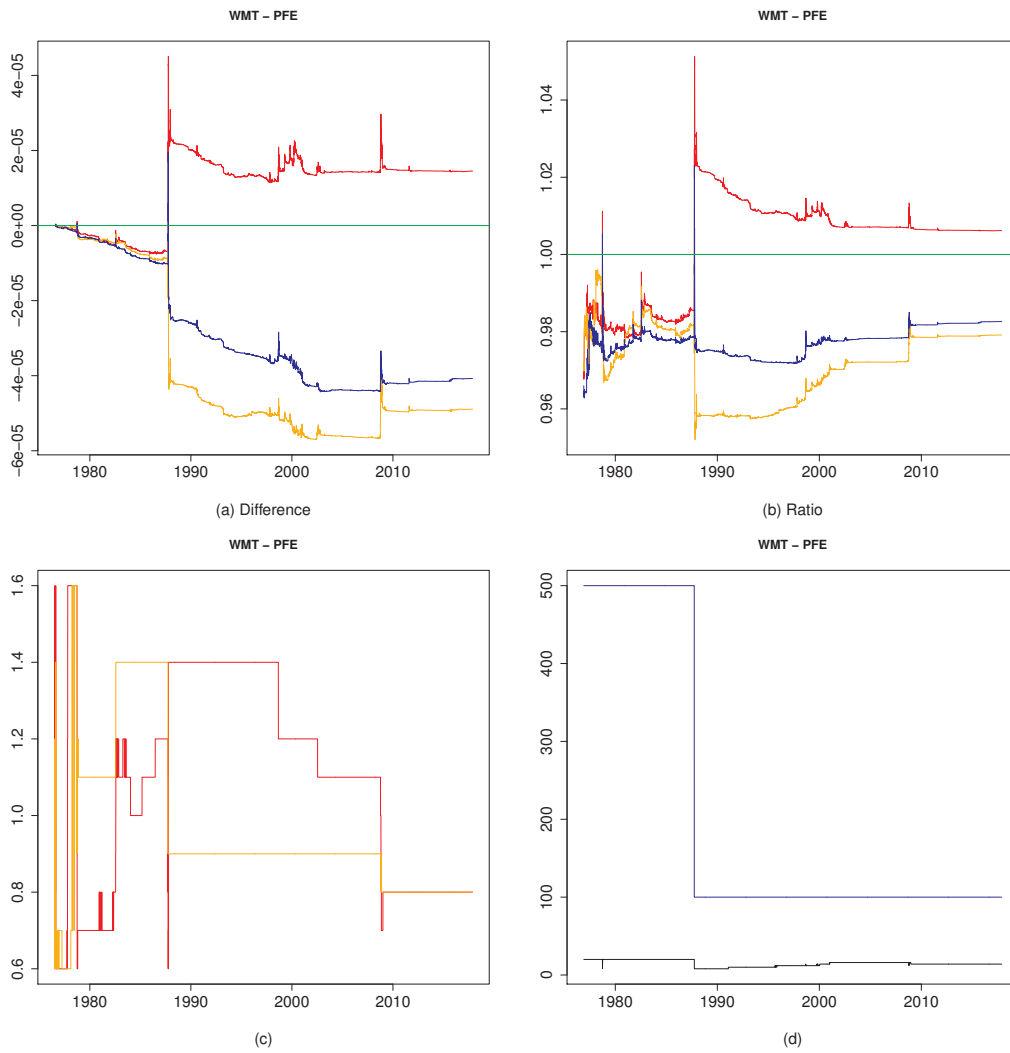


Figure 170: 07-18

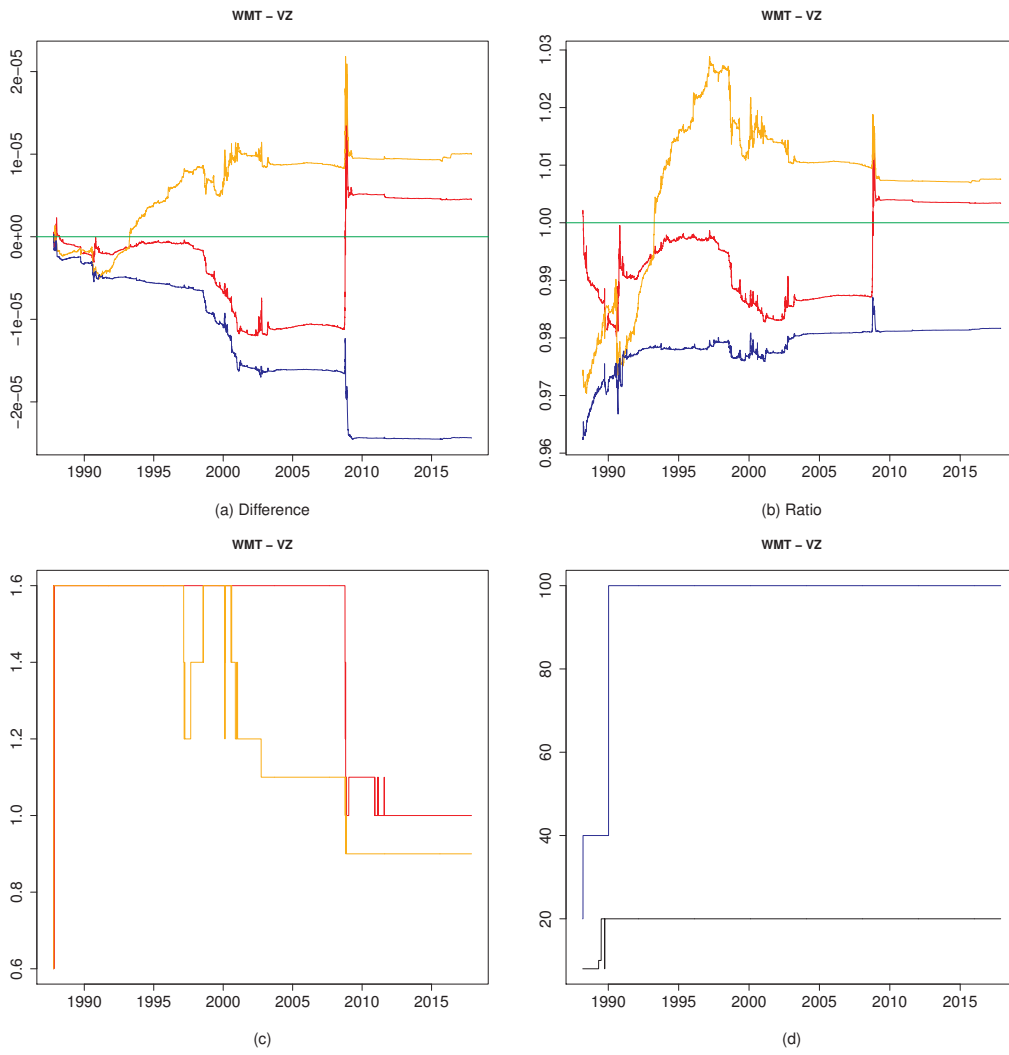


Figure 171: 07-19

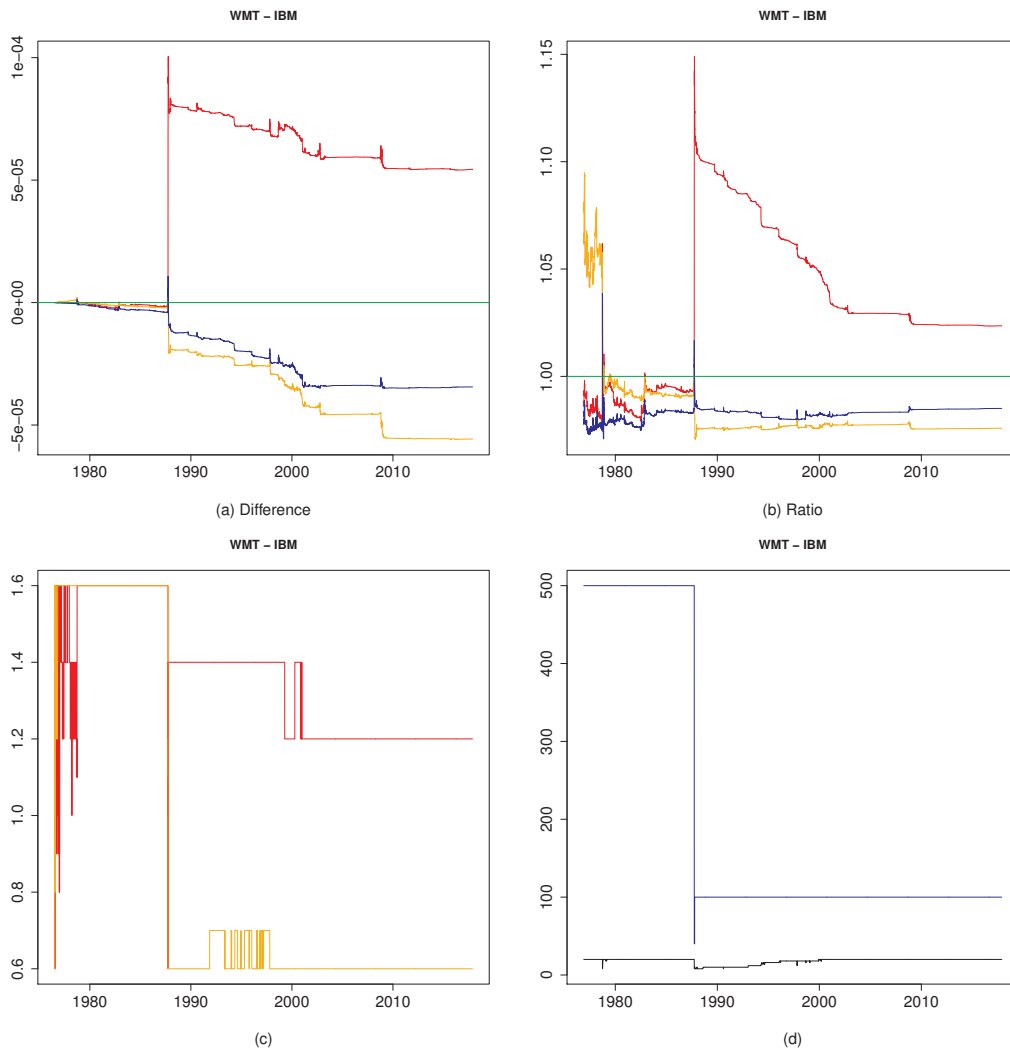


Figure 172: 07-20

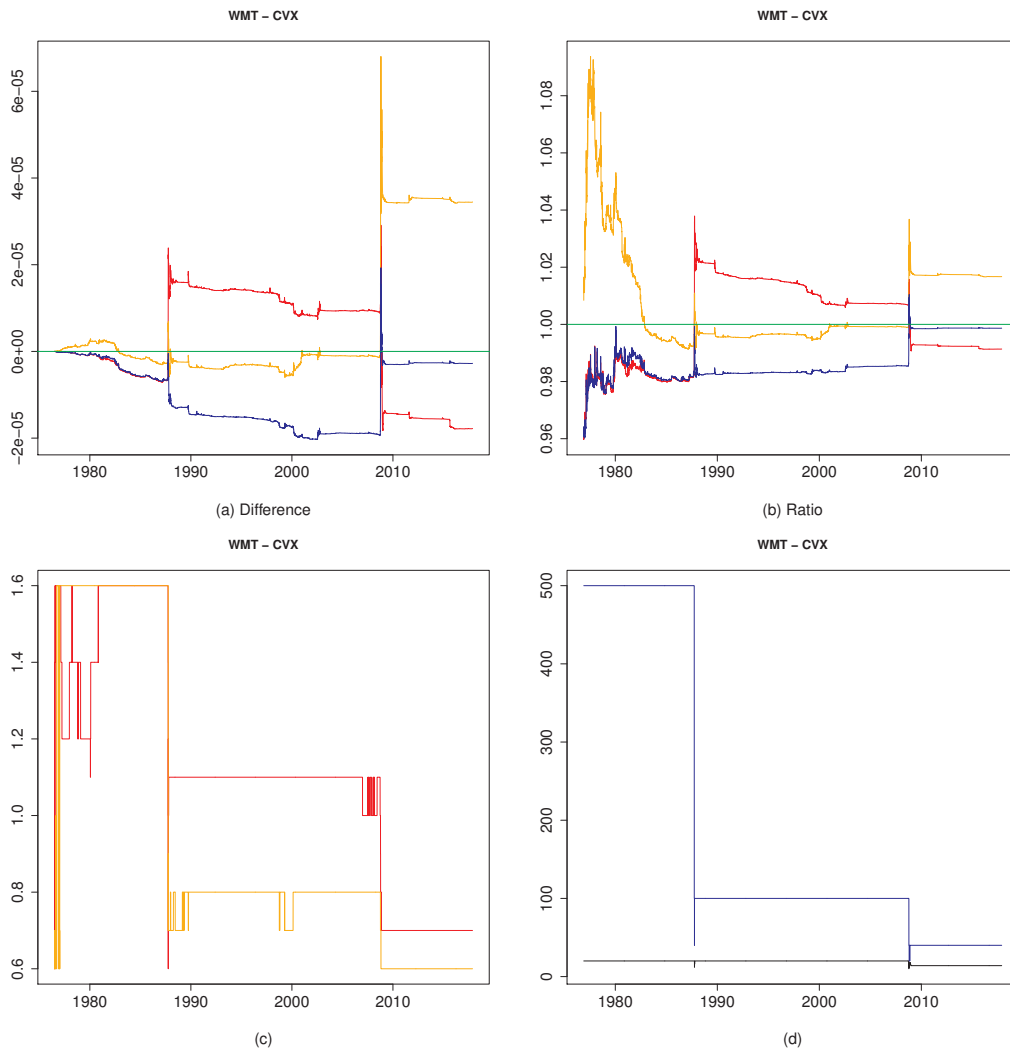


Figure 173: 07-21

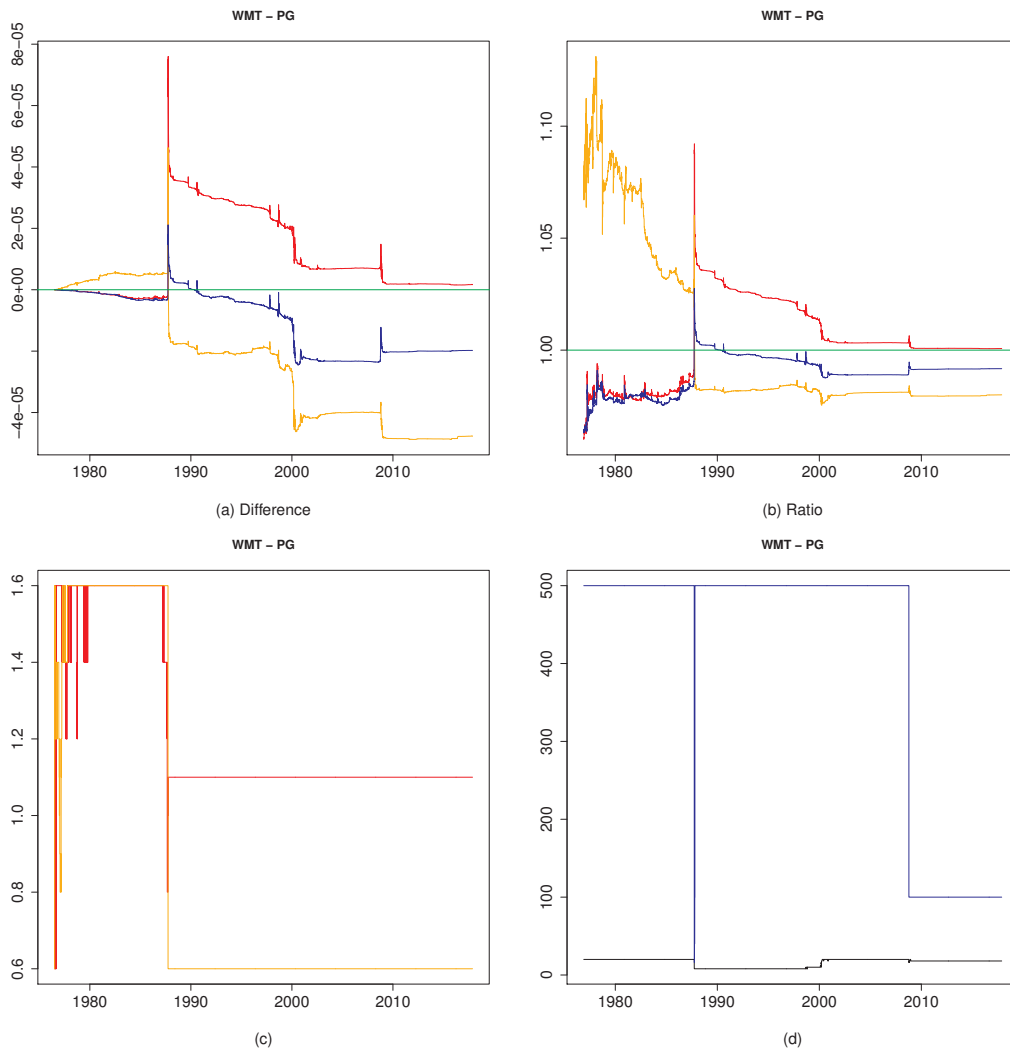


Figure 174: 07-22

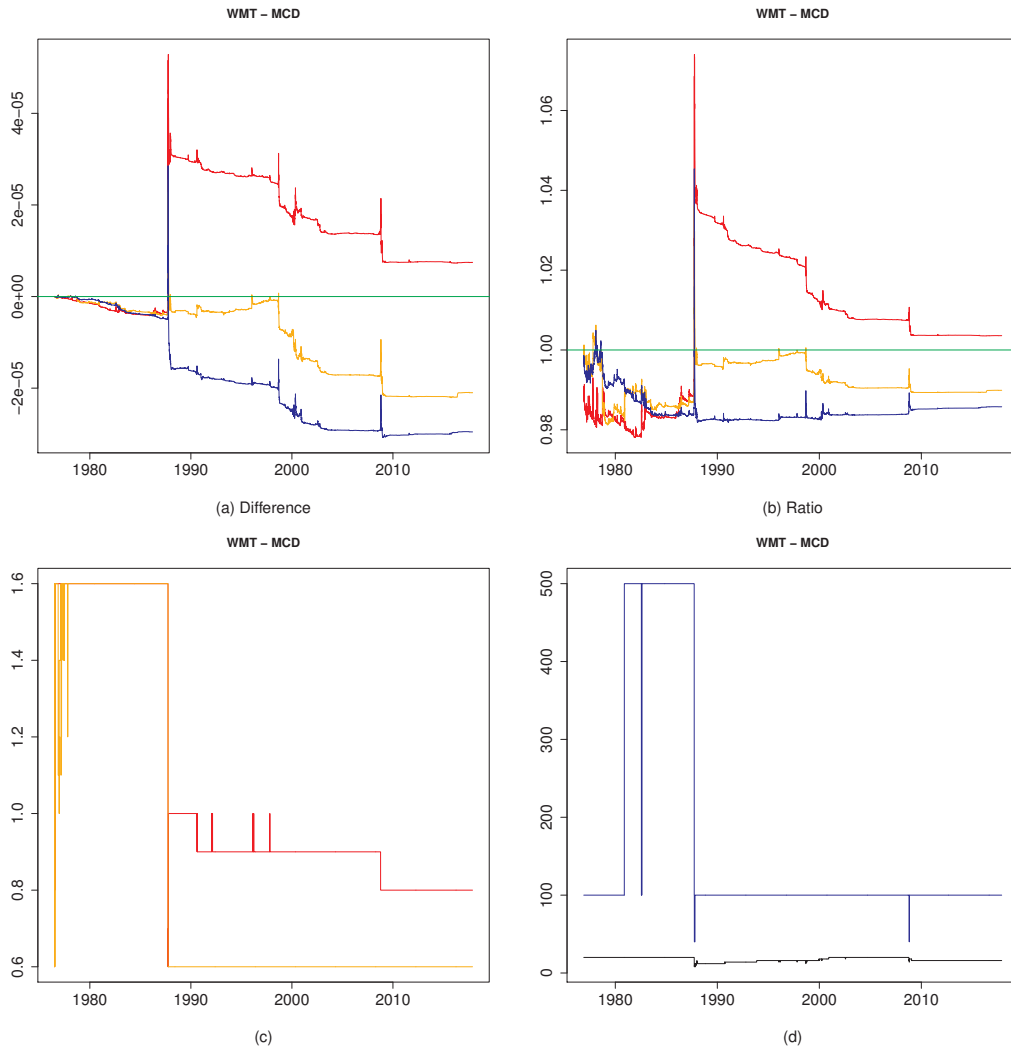


Figure 175: 07-23

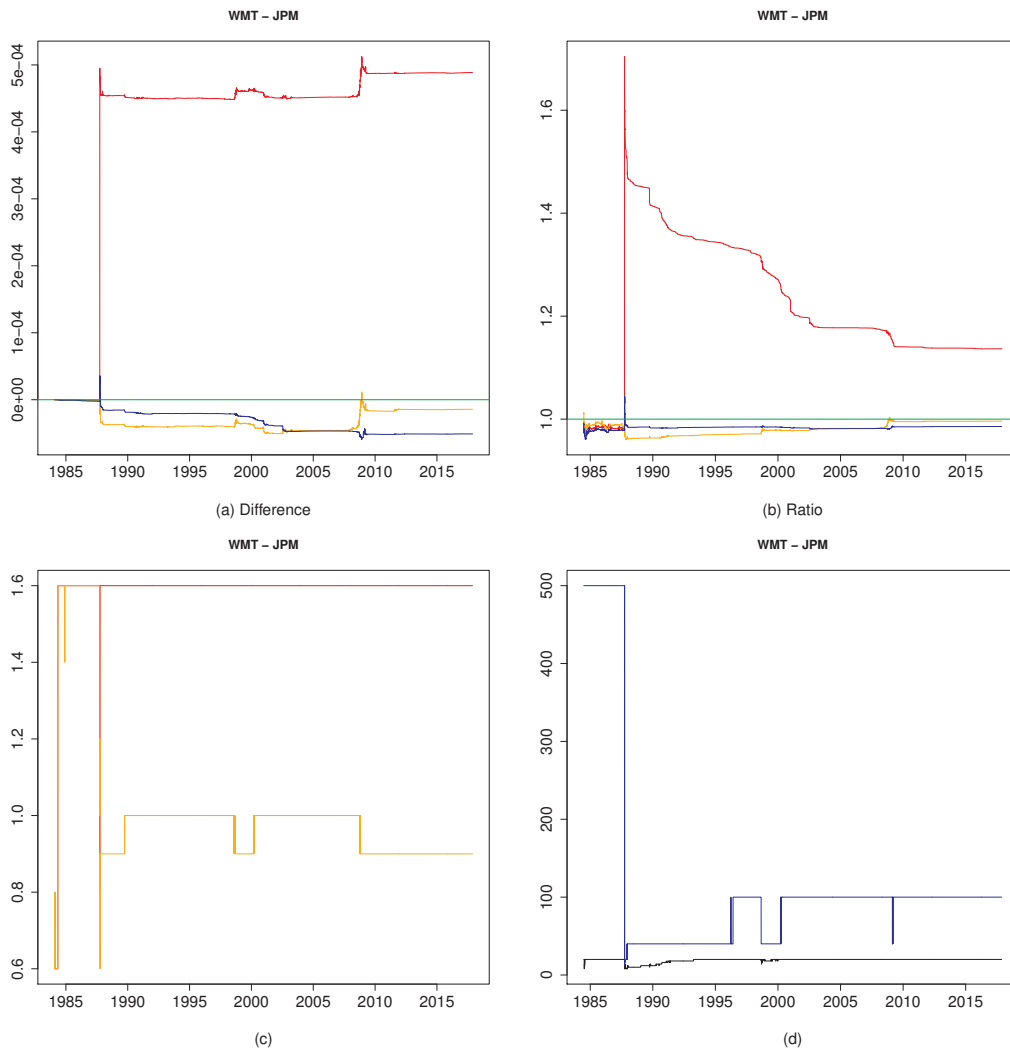


Figure 176: 07-24

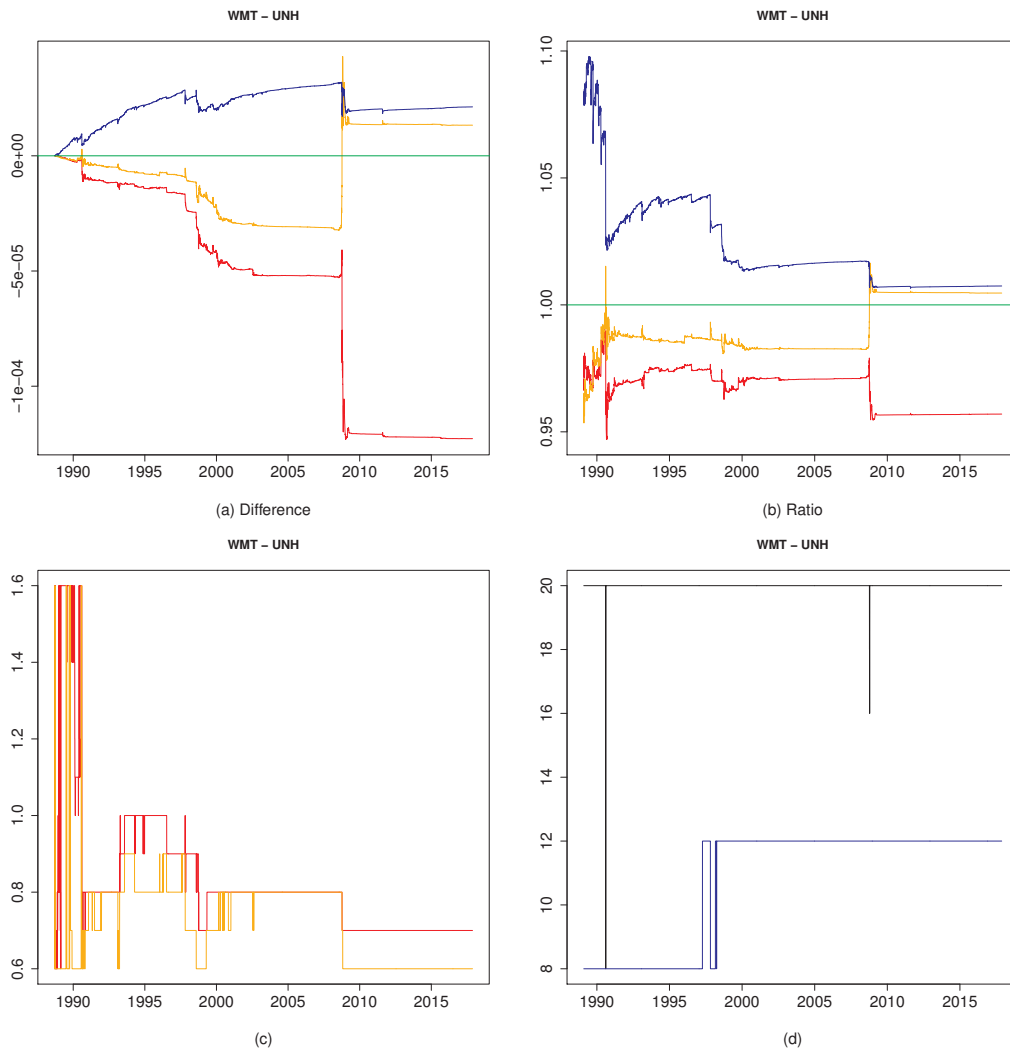


Figure 177: 07-25

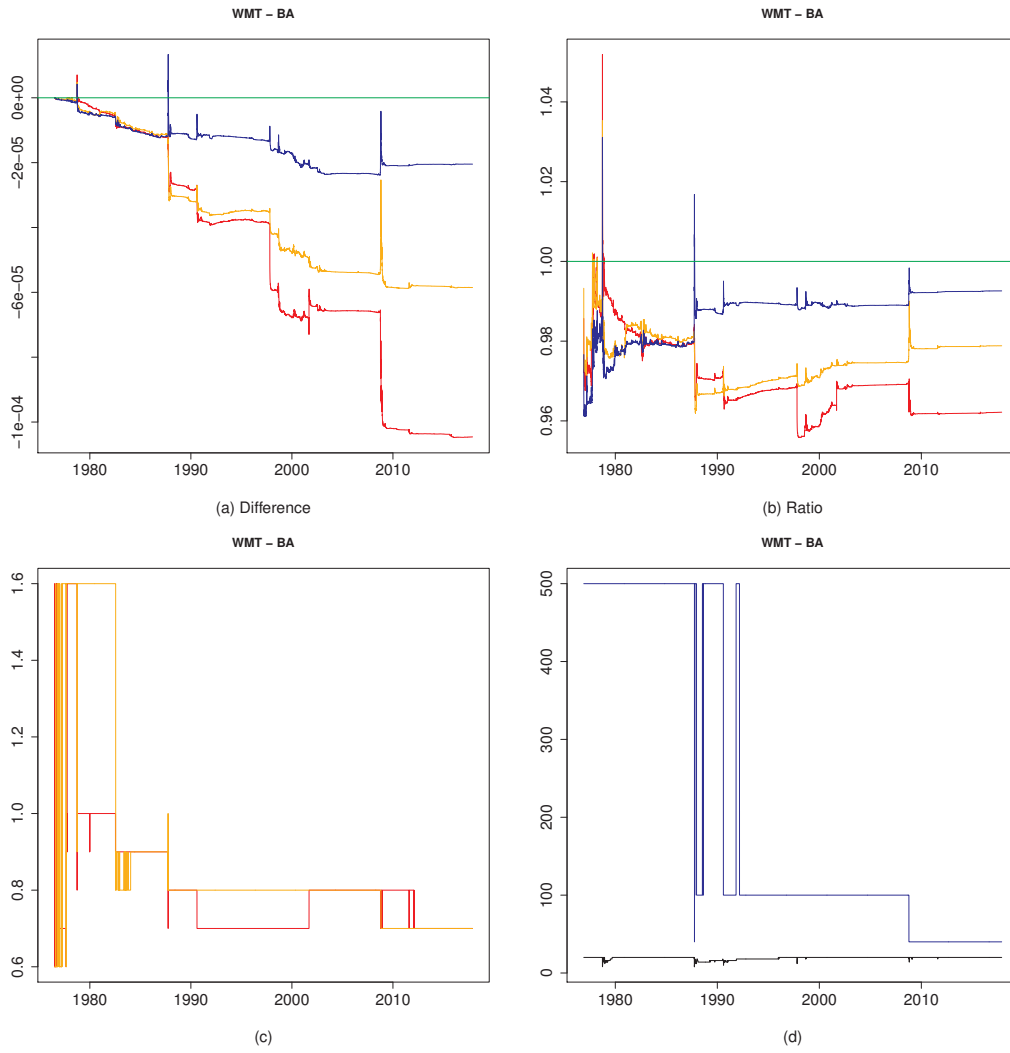


Figure 178: 07-26

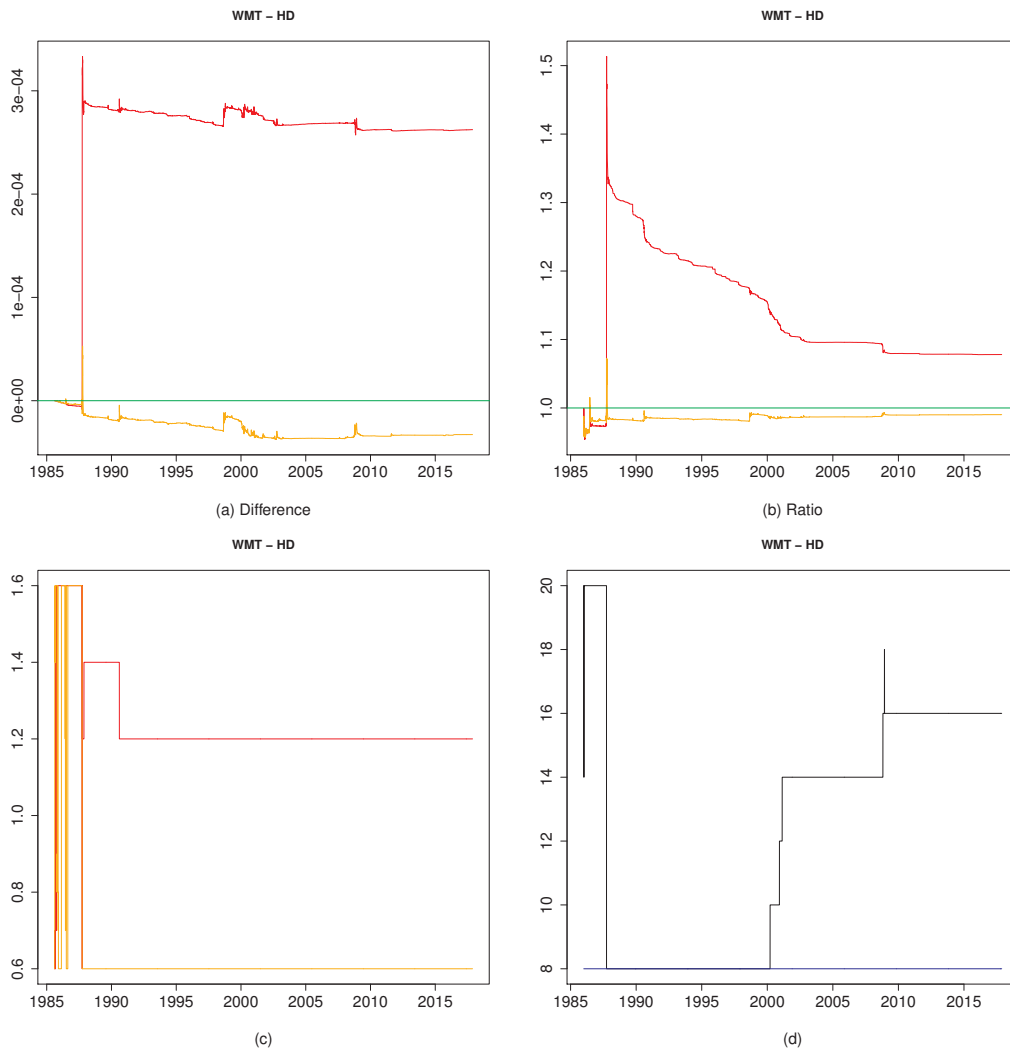


Figure 179: 07-27

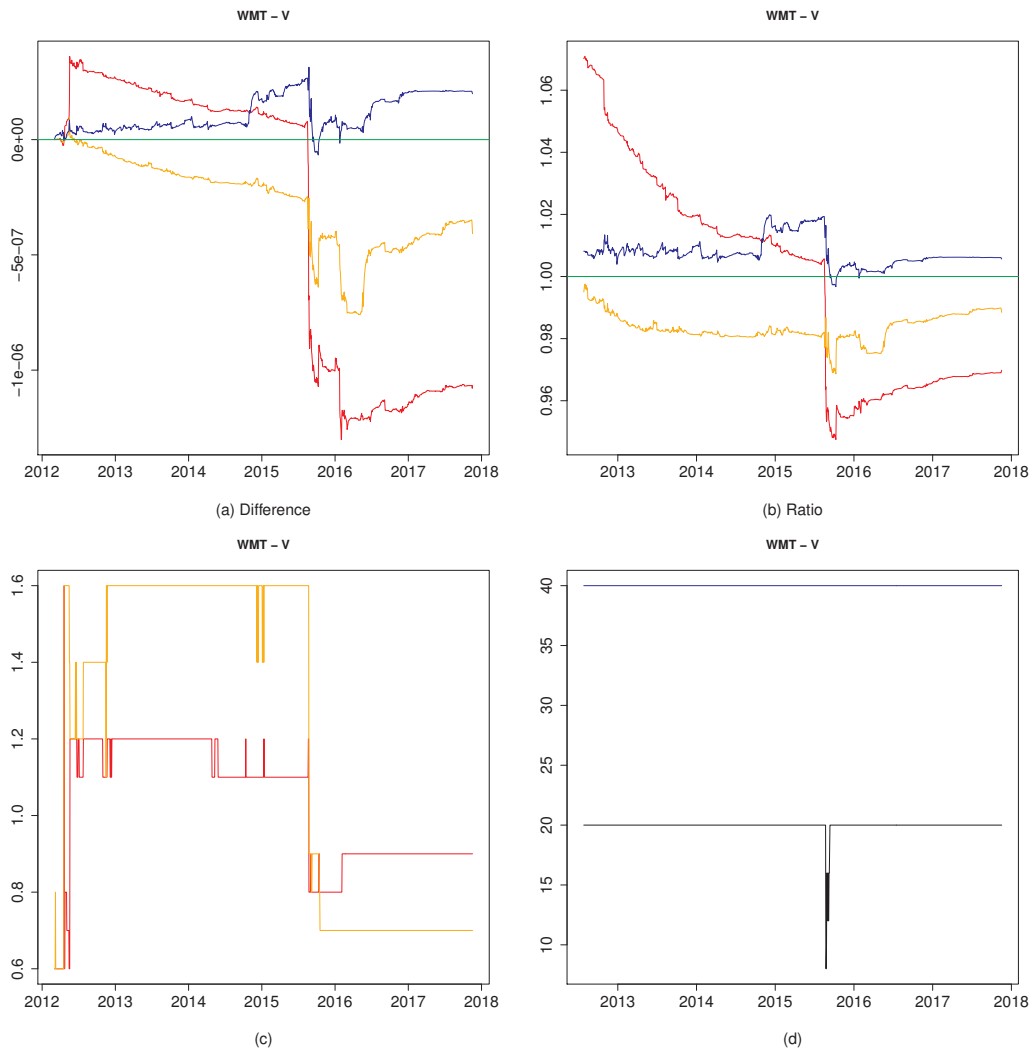


Figure 180: 07-28

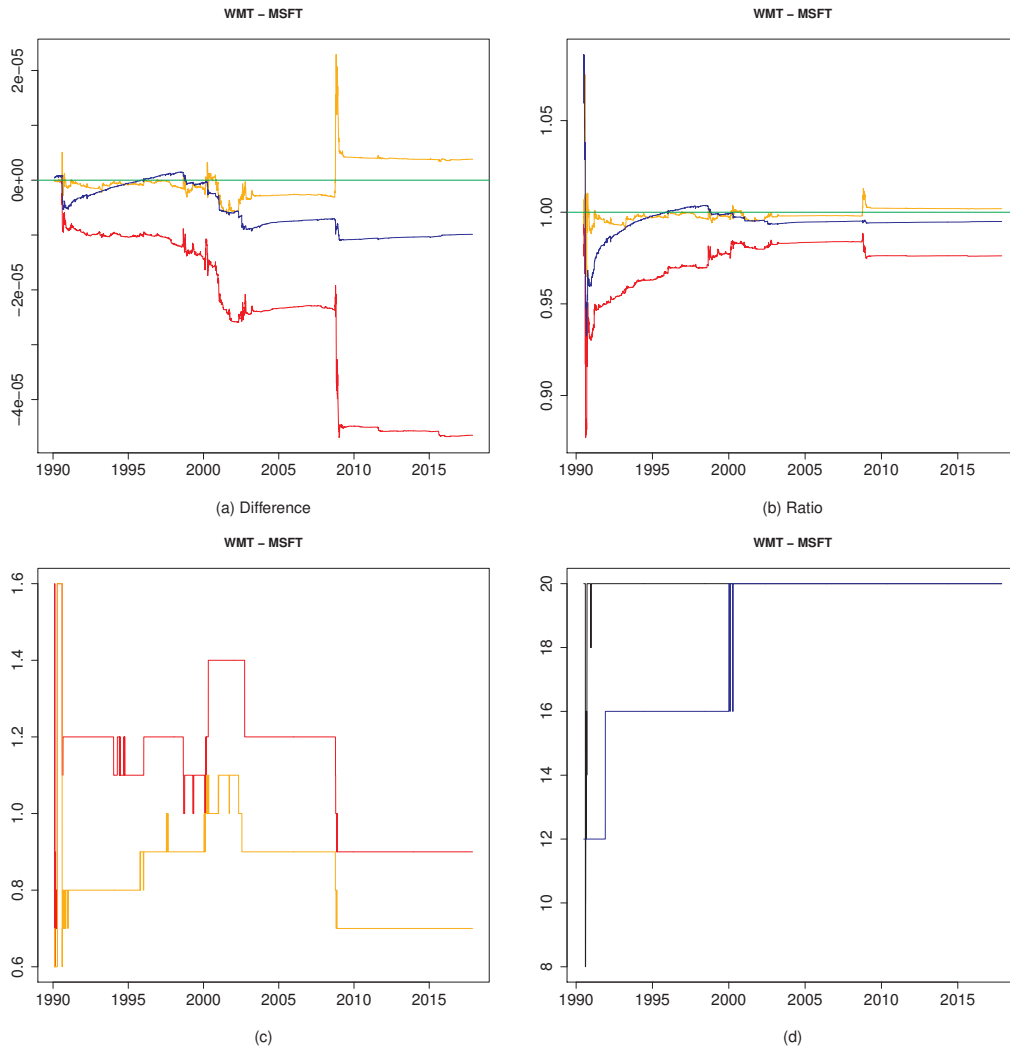


Figure 181: 07-29

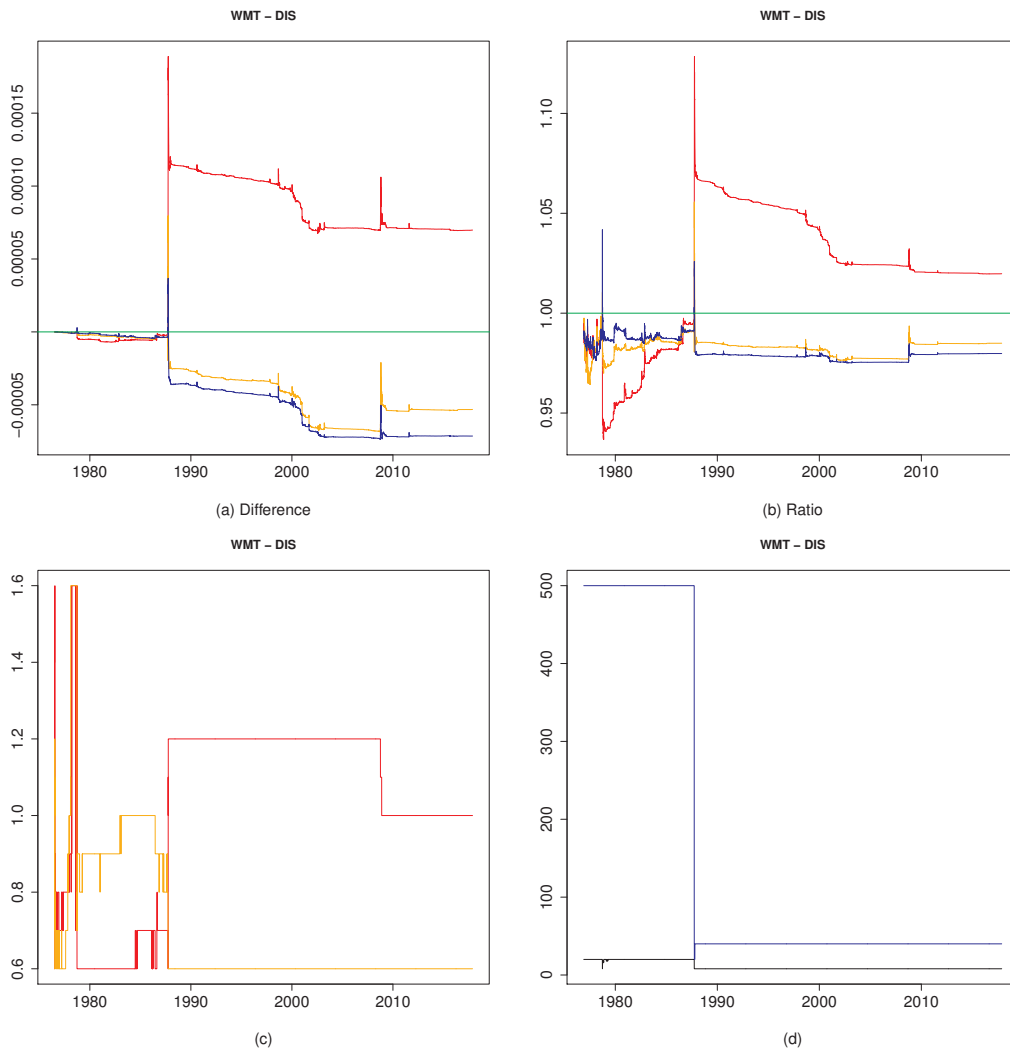


Figure 182: 07-30

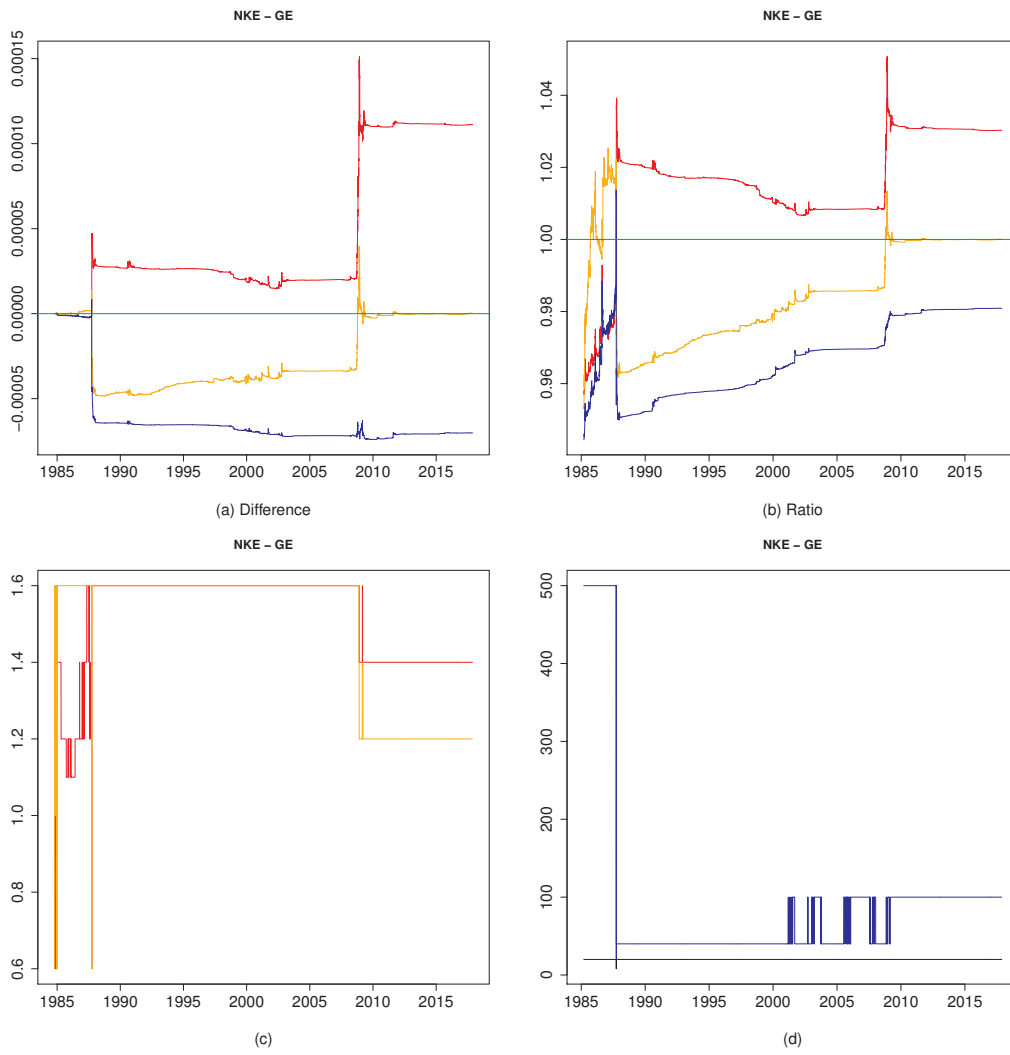


Figure 183: 08-09

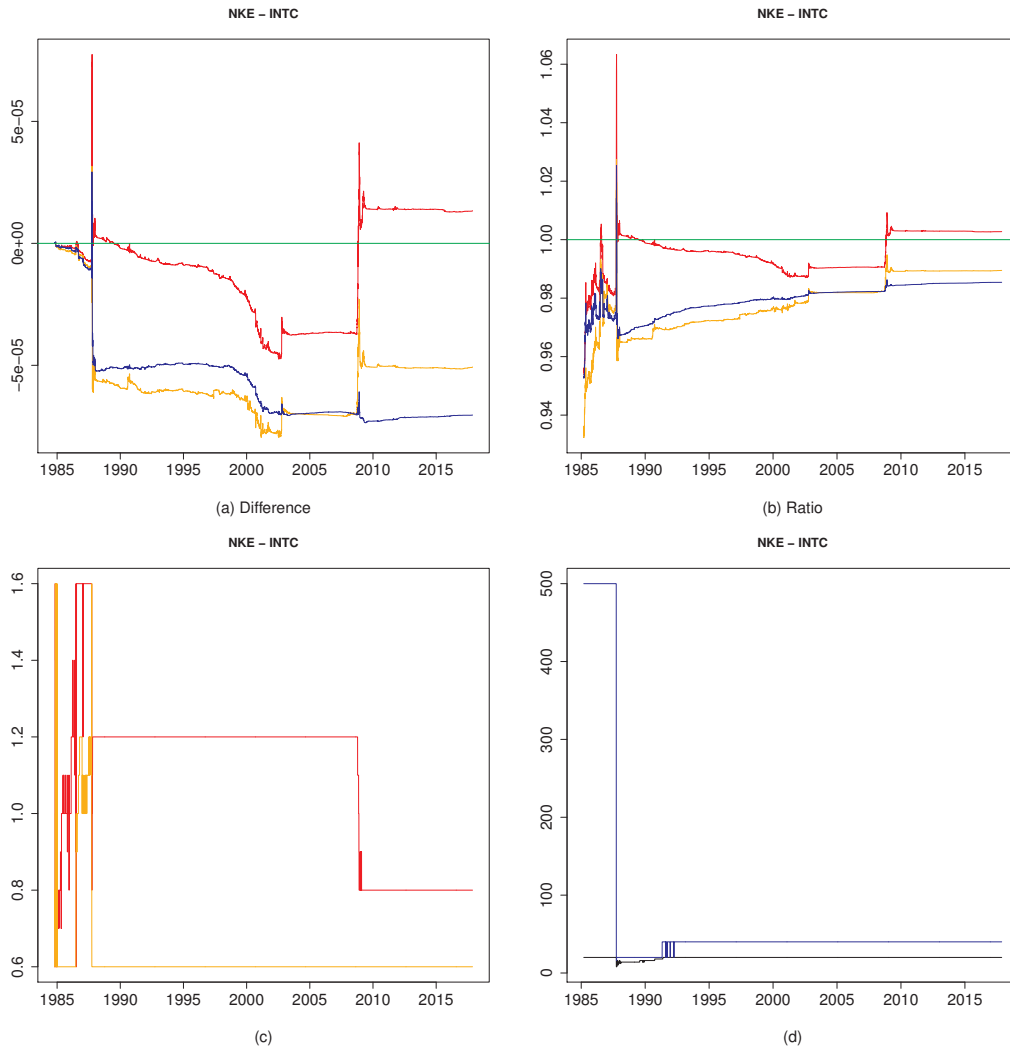


Figure 184: 08-10

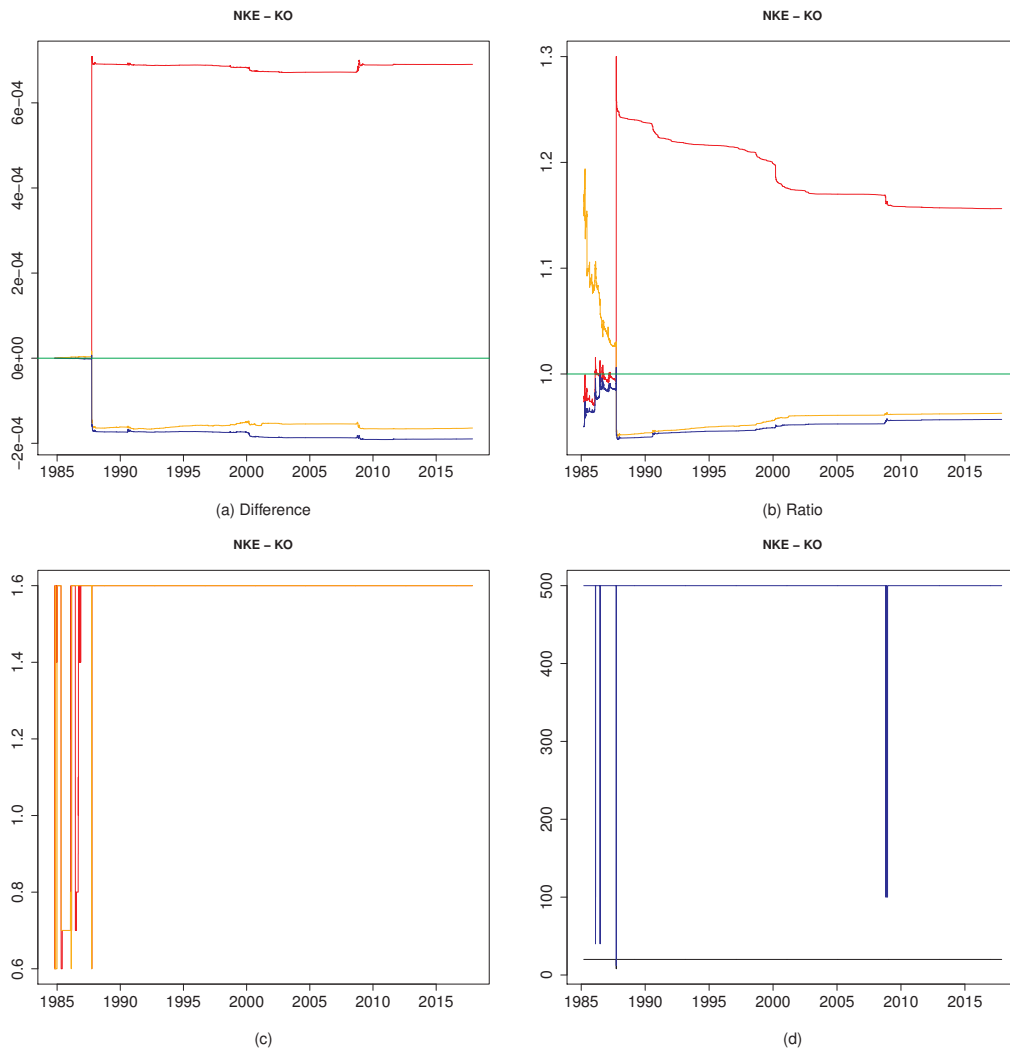


Figure 185: 08-11

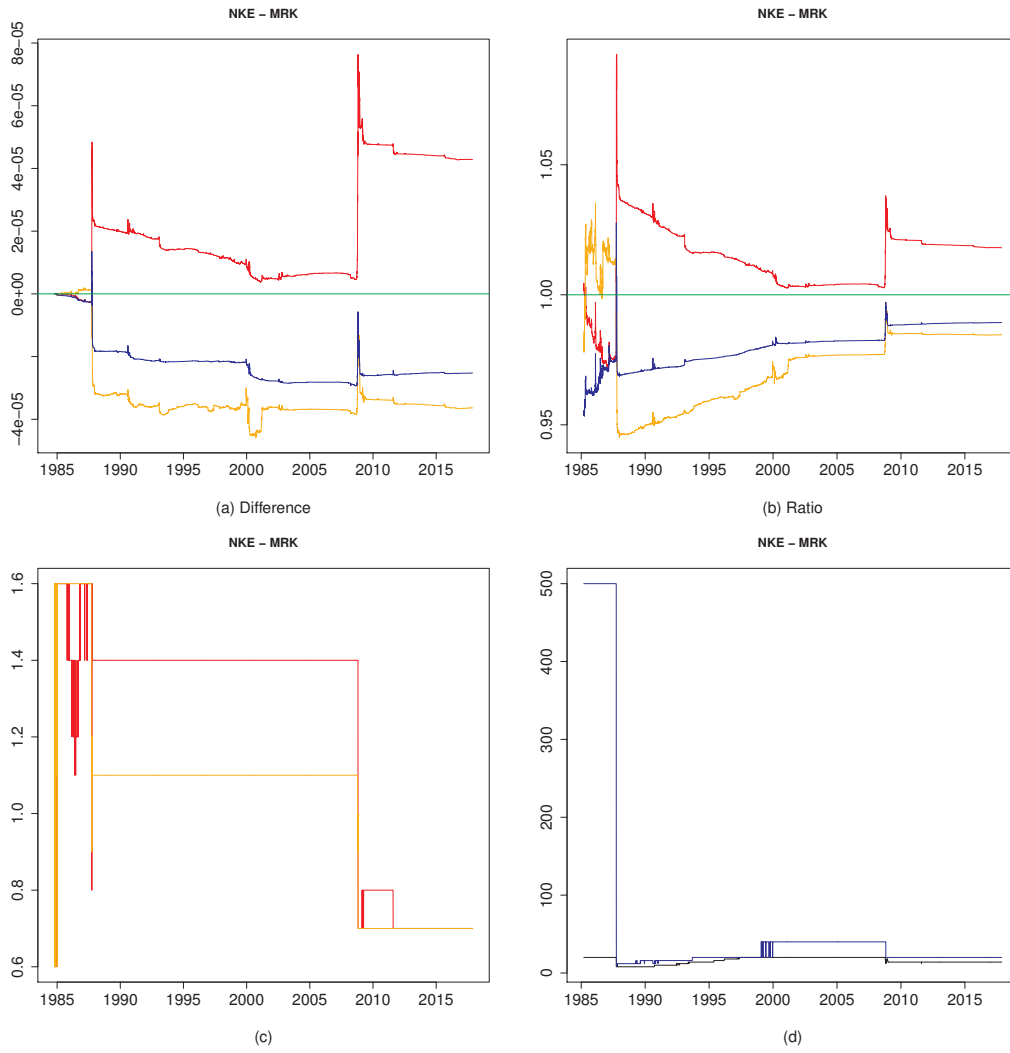


Figure 186: 08-12

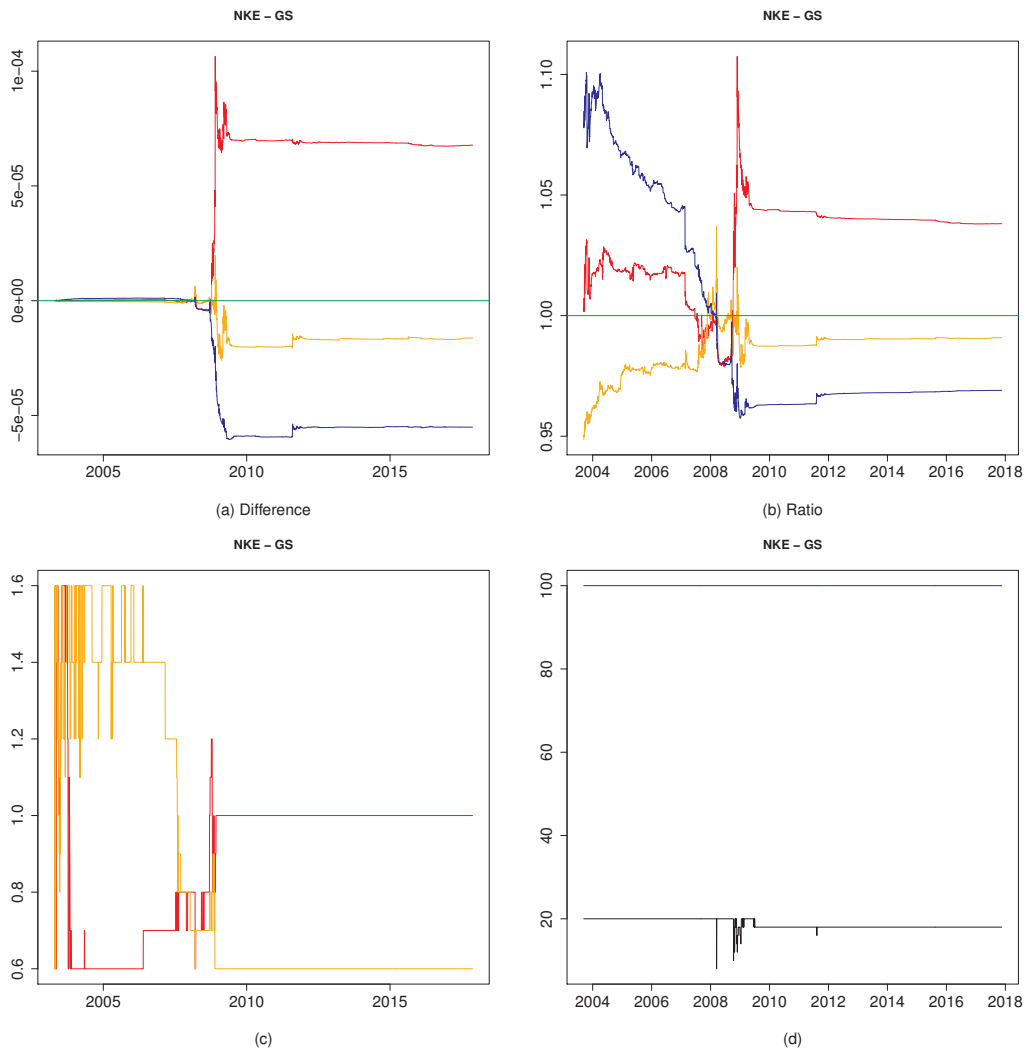


Figure 187: 08-13

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1.9 Pairs from 9-10 to 9-30

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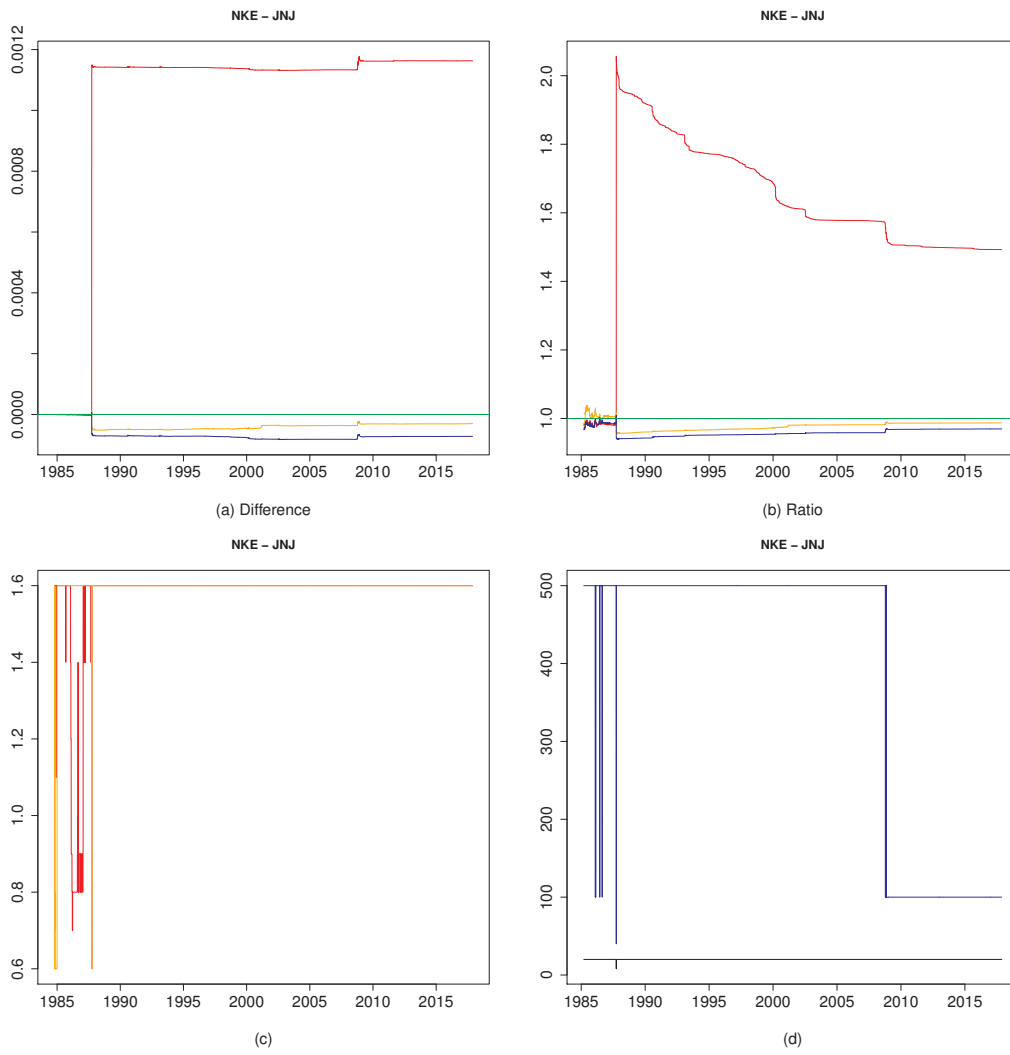


Figure 188: 08-14

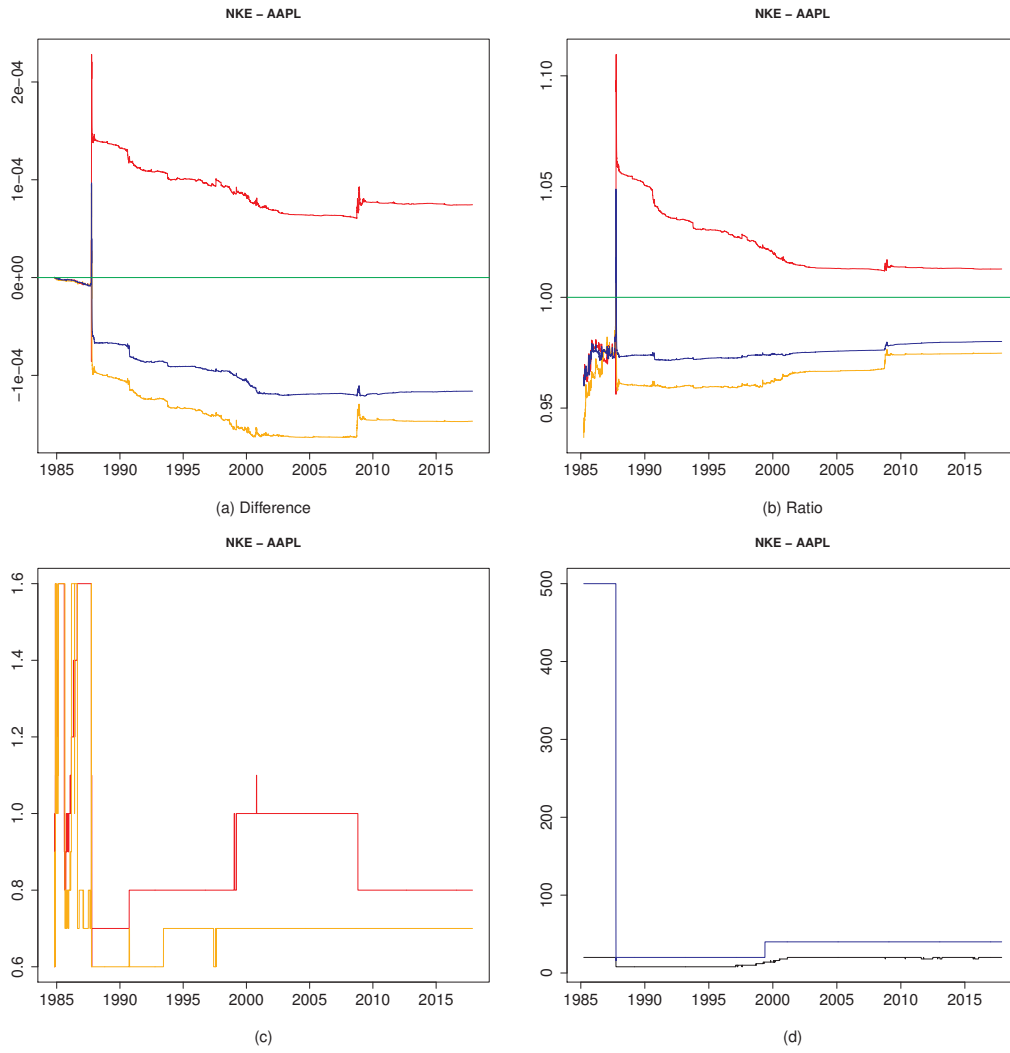


Figure 189: 08-15

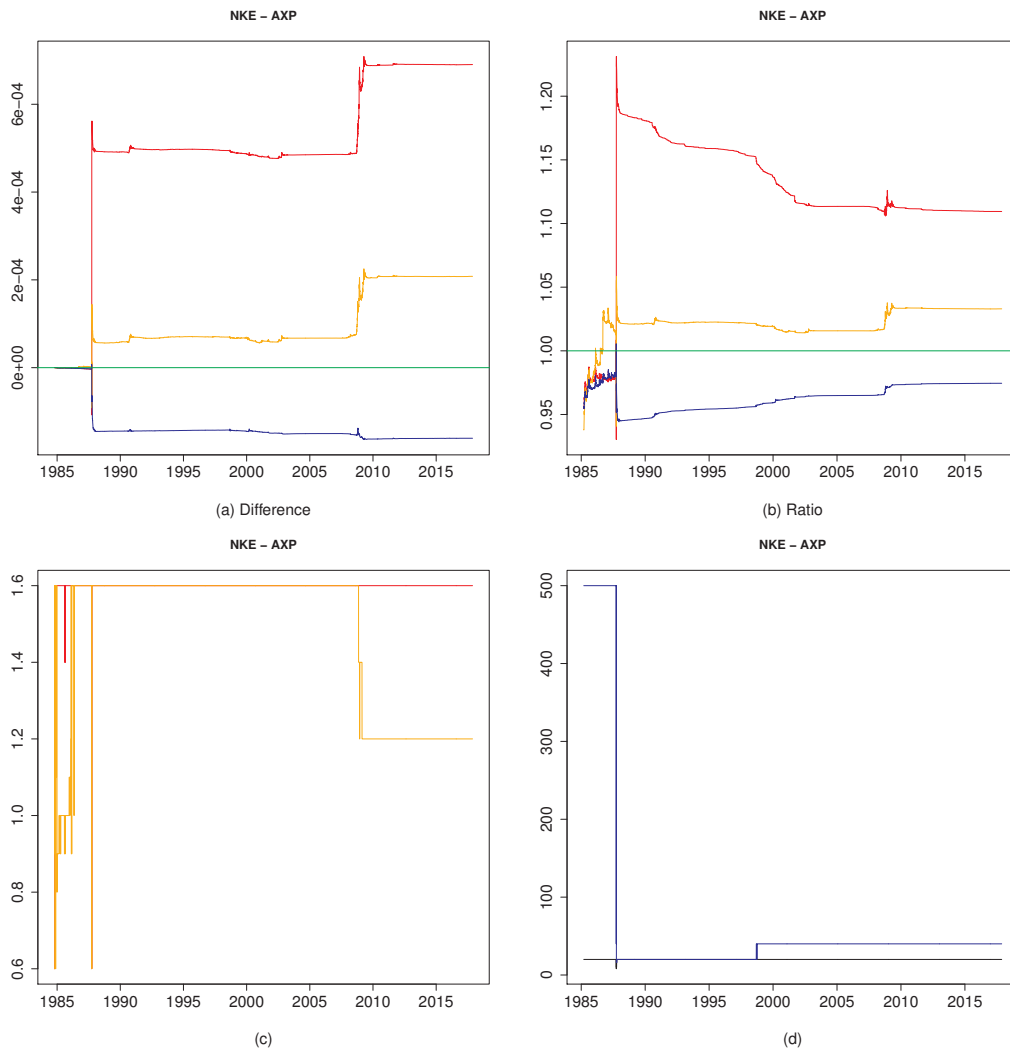


Figure 190: 08-16

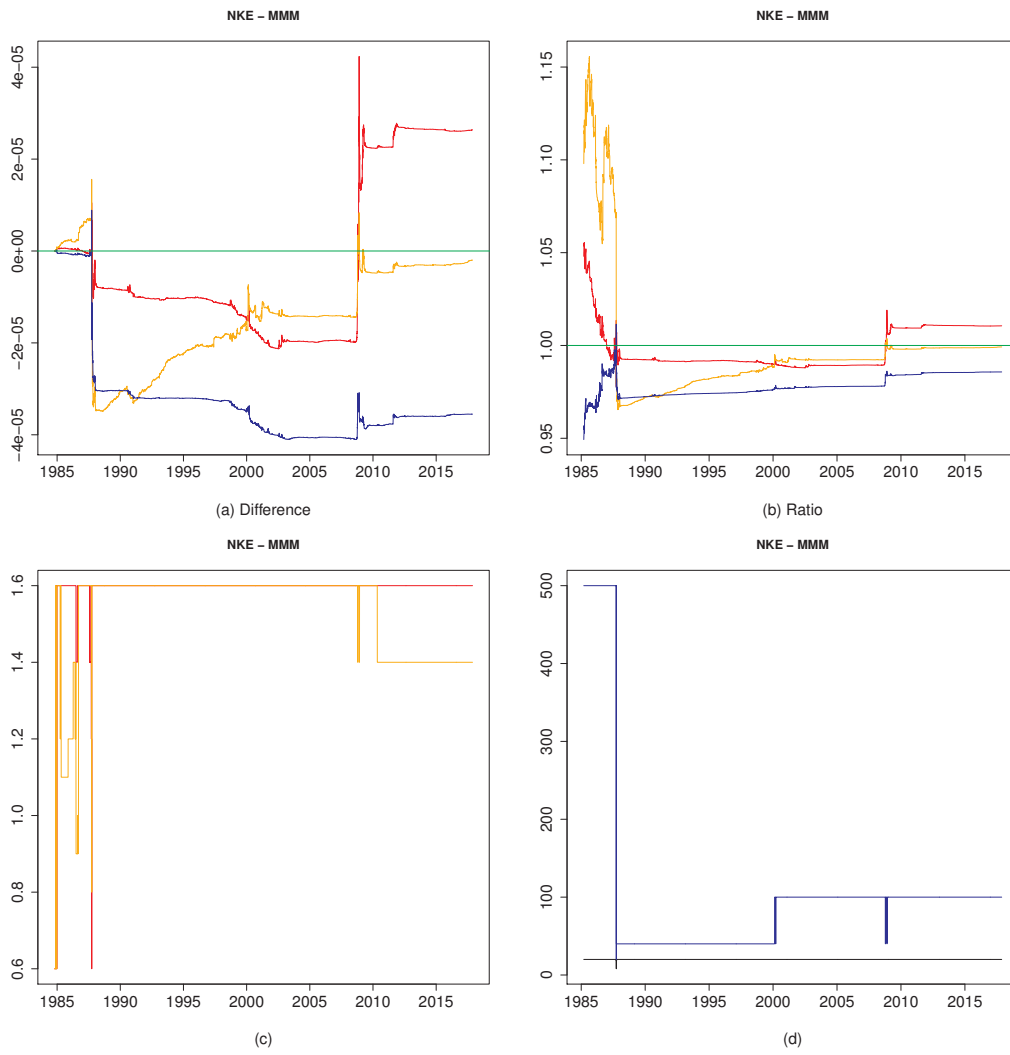


Figure 191: 08-17

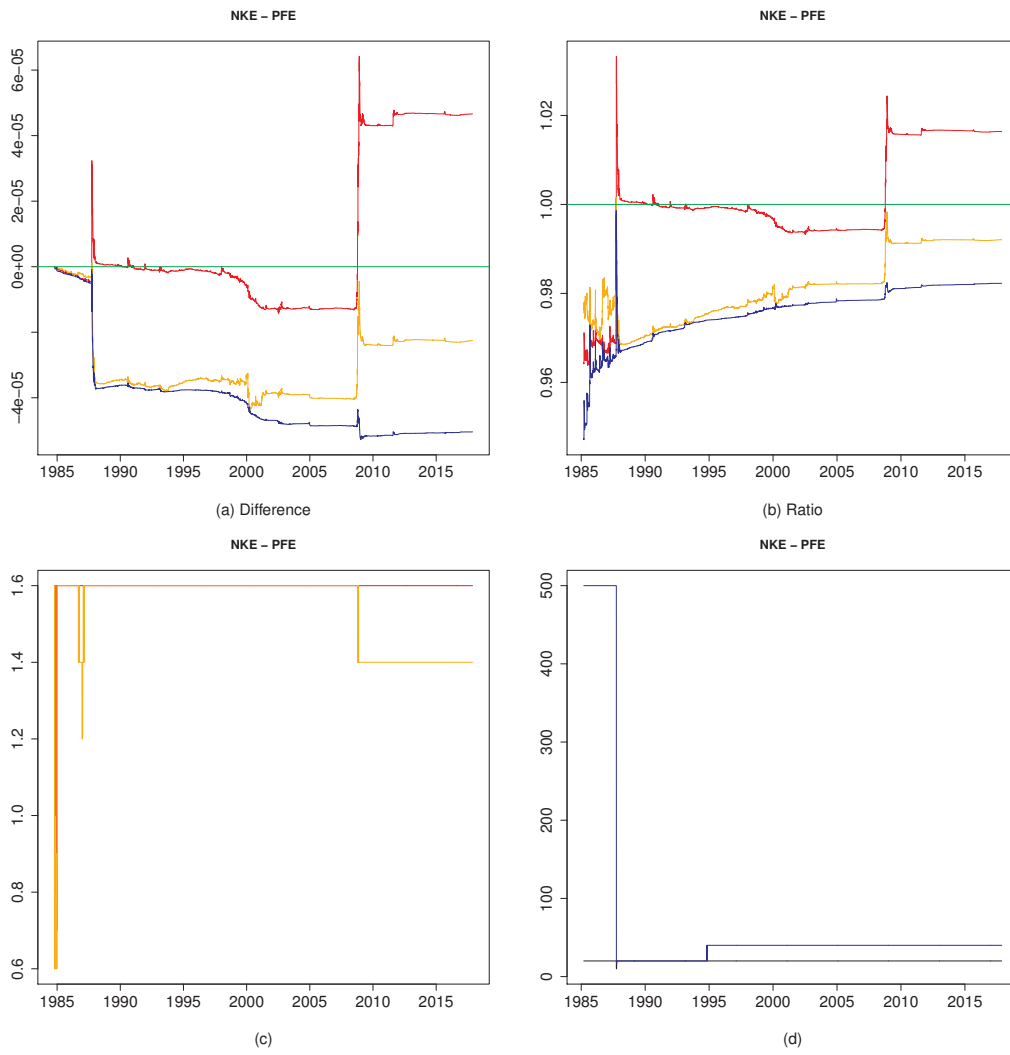


Figure 192: 08-18

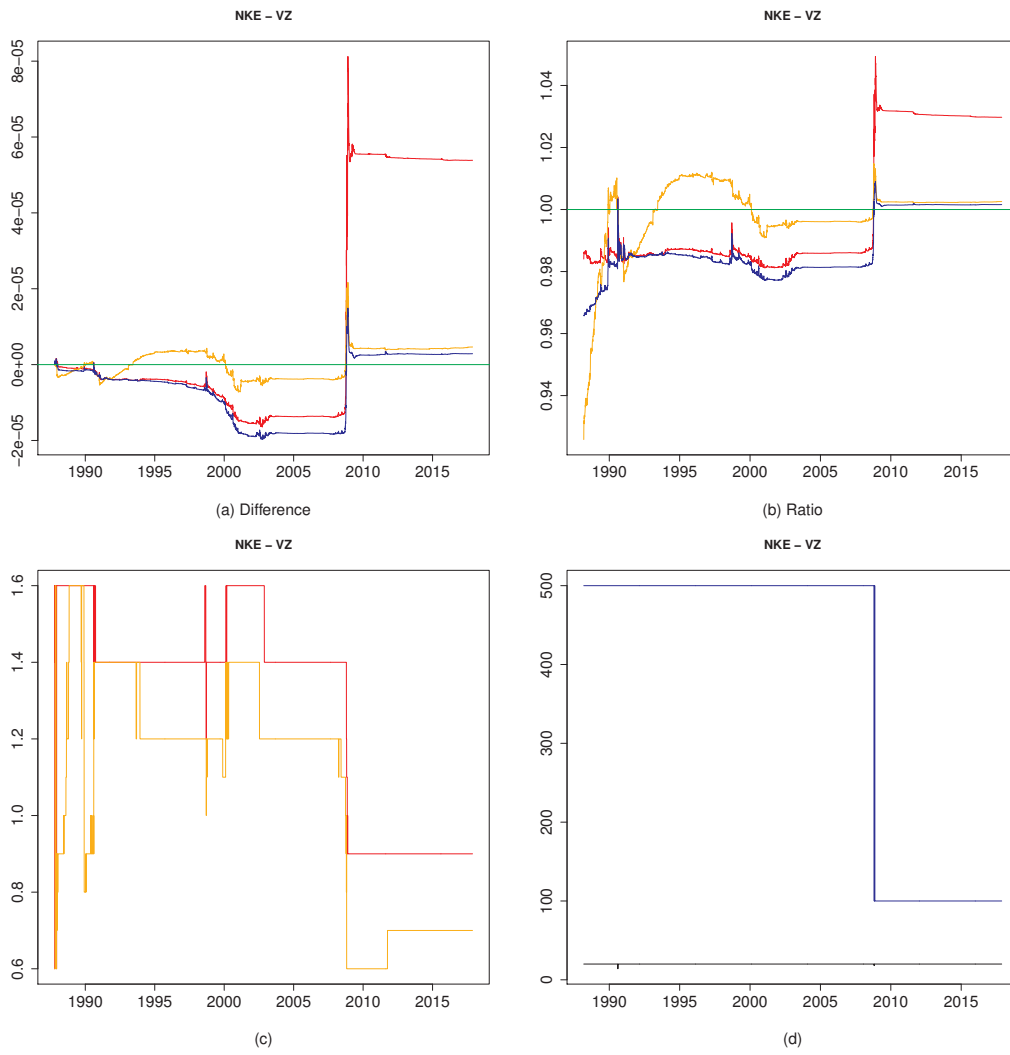


Figure 193: 08-19

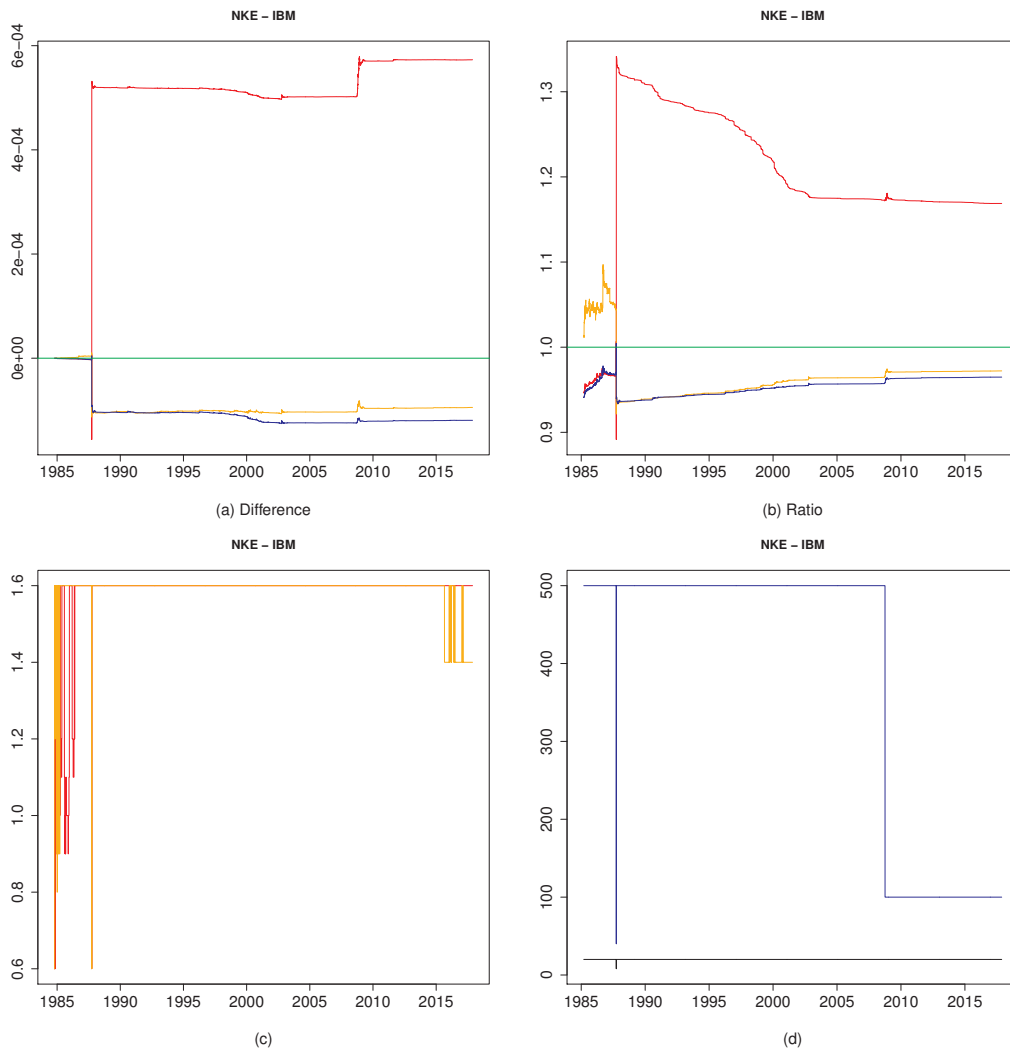


Figure 194: 08-20

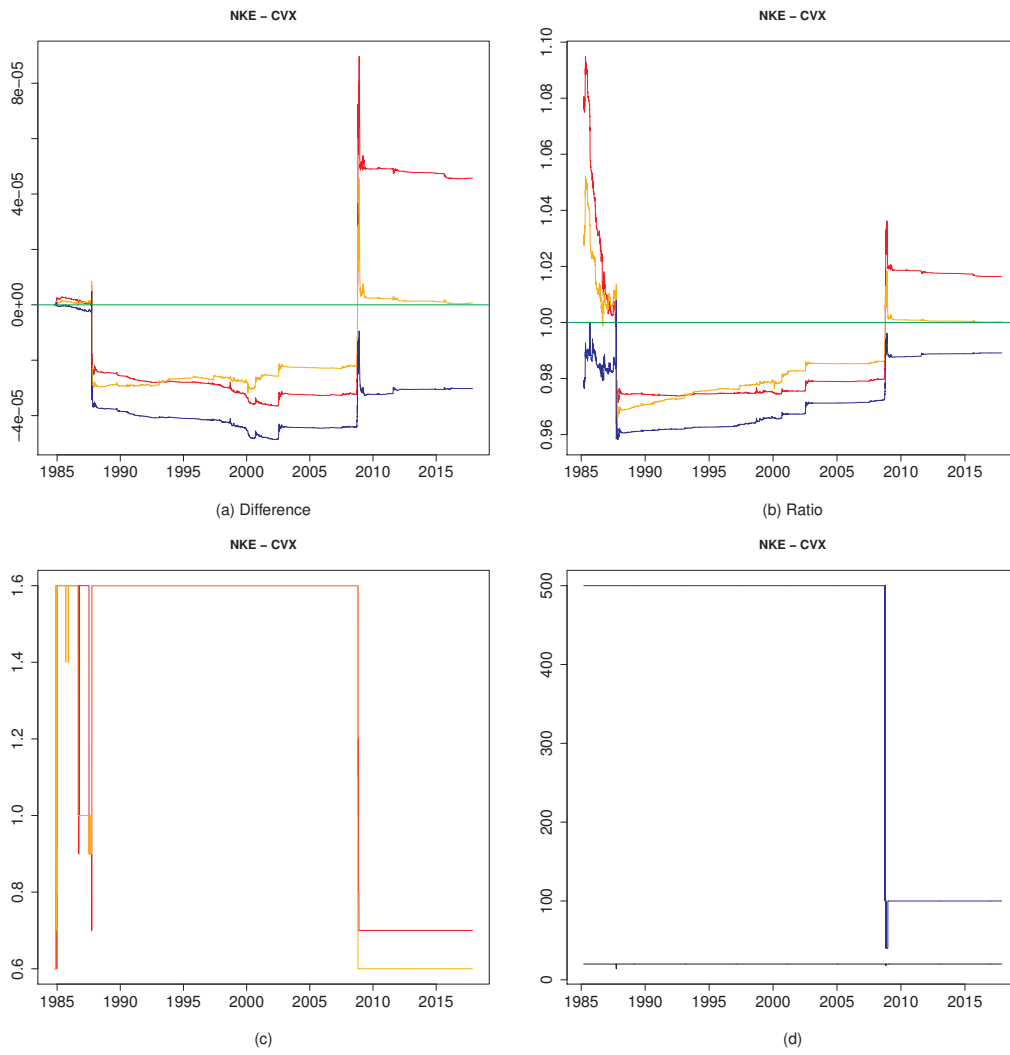


Figure 195: 08-21

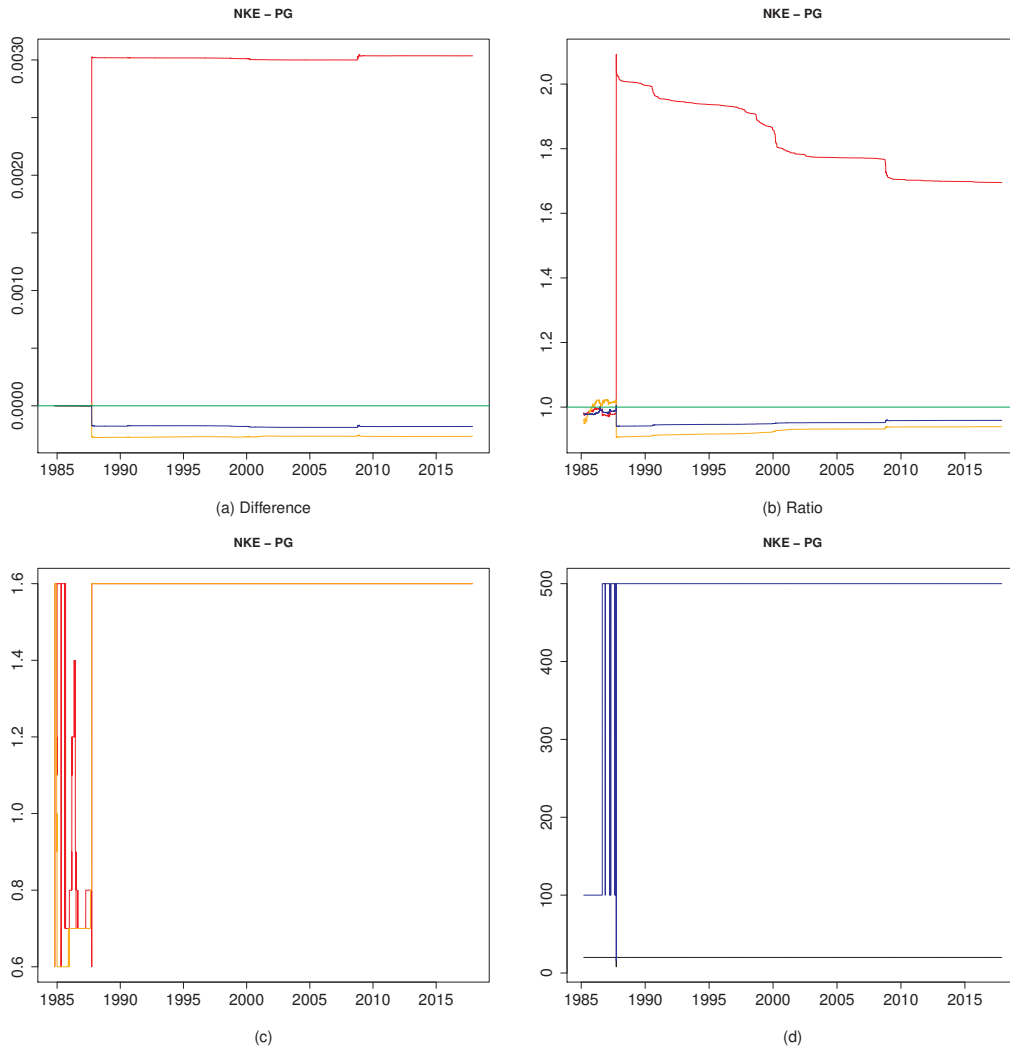


Figure 196: 08-22

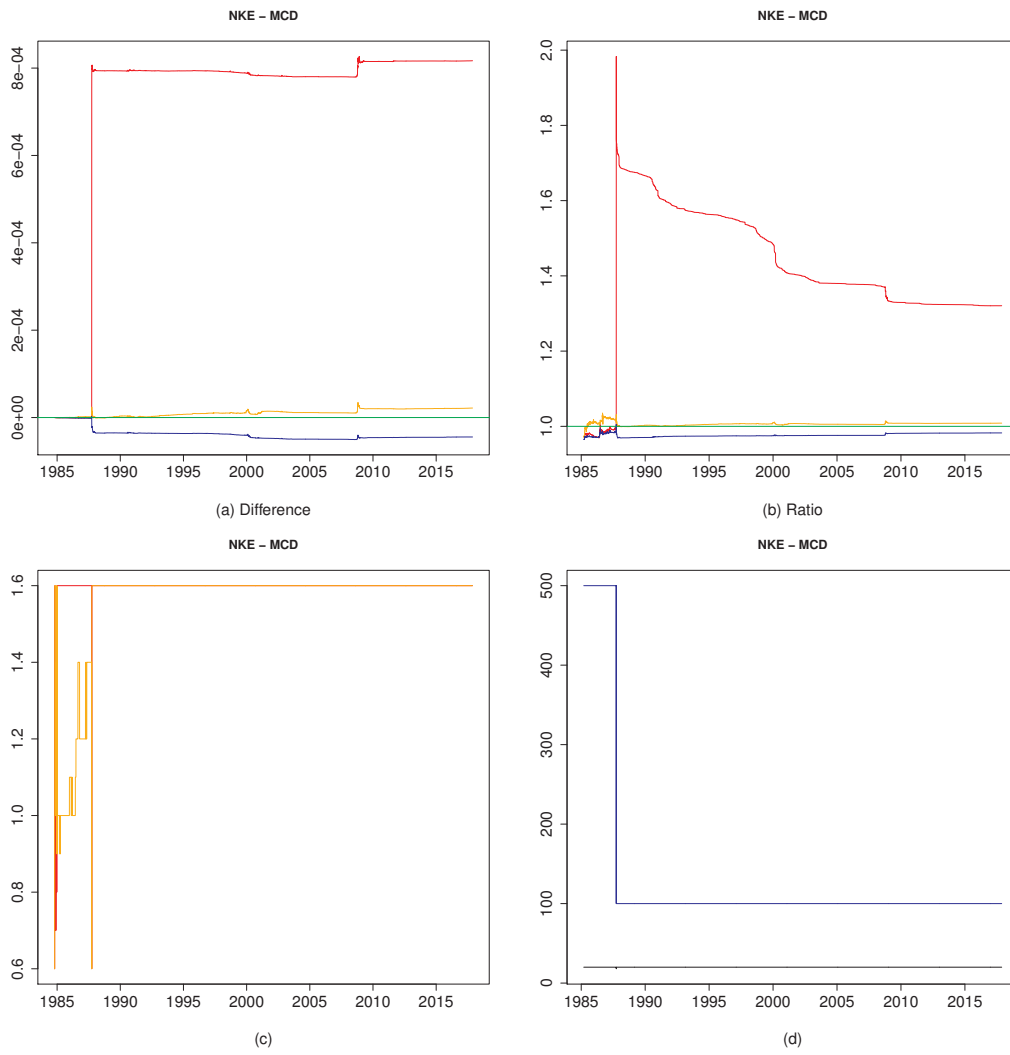


Figure 197: 08-23

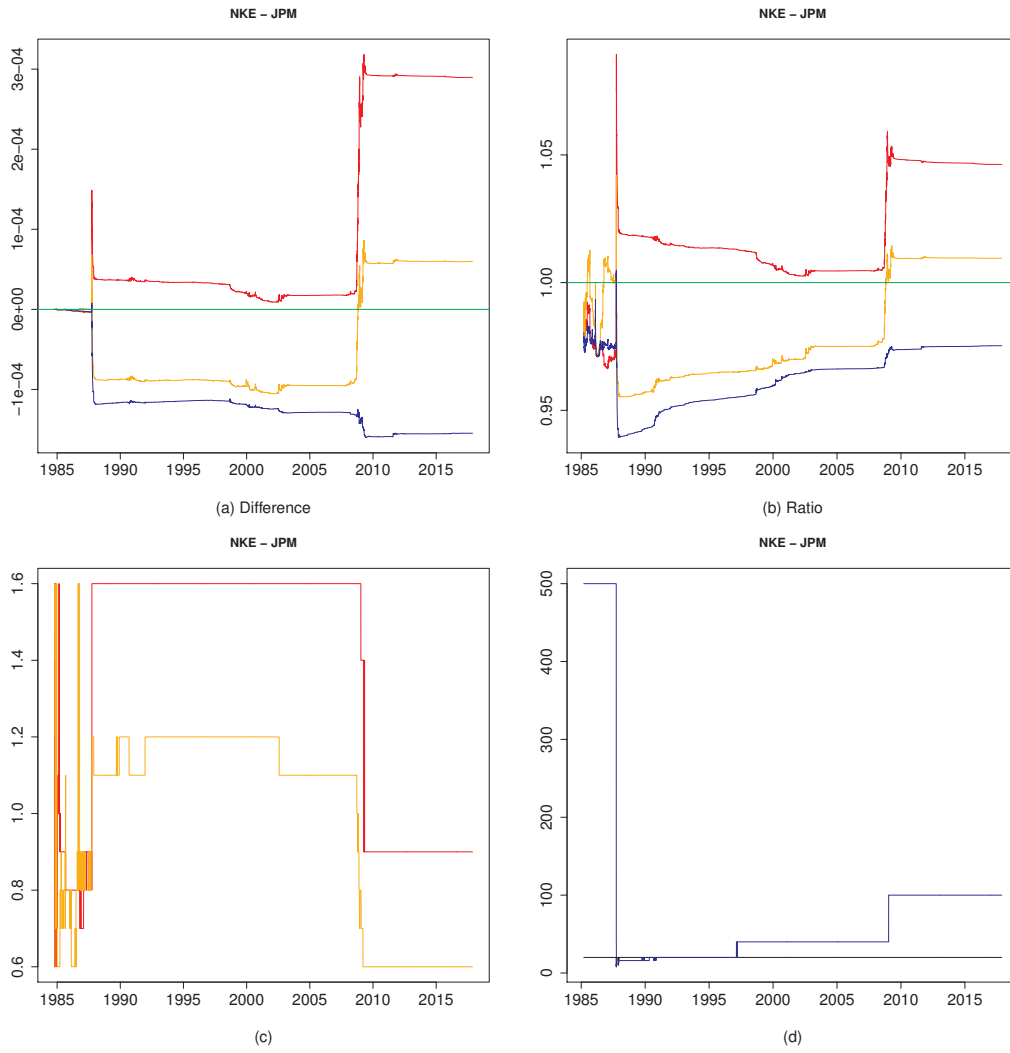


Figure 198: 08-24

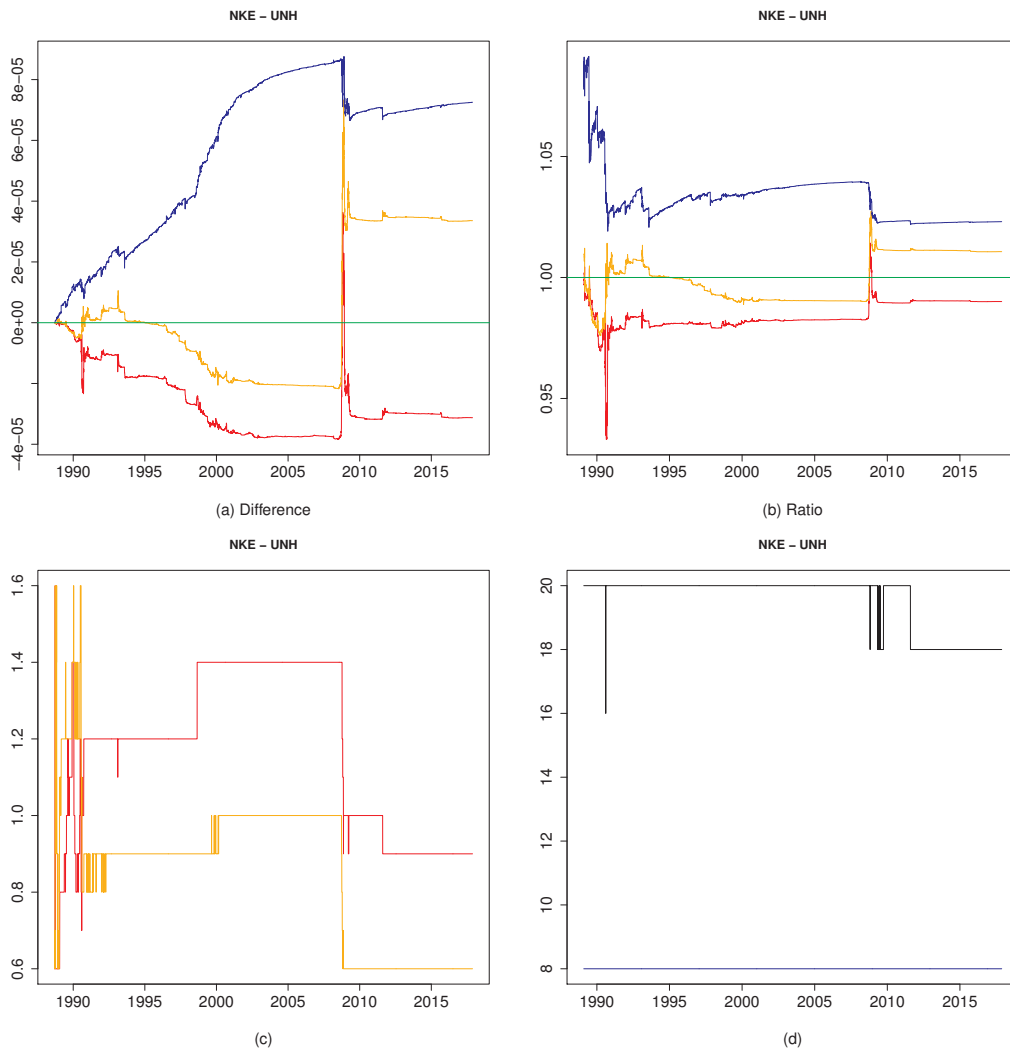


Figure 199: 08-25

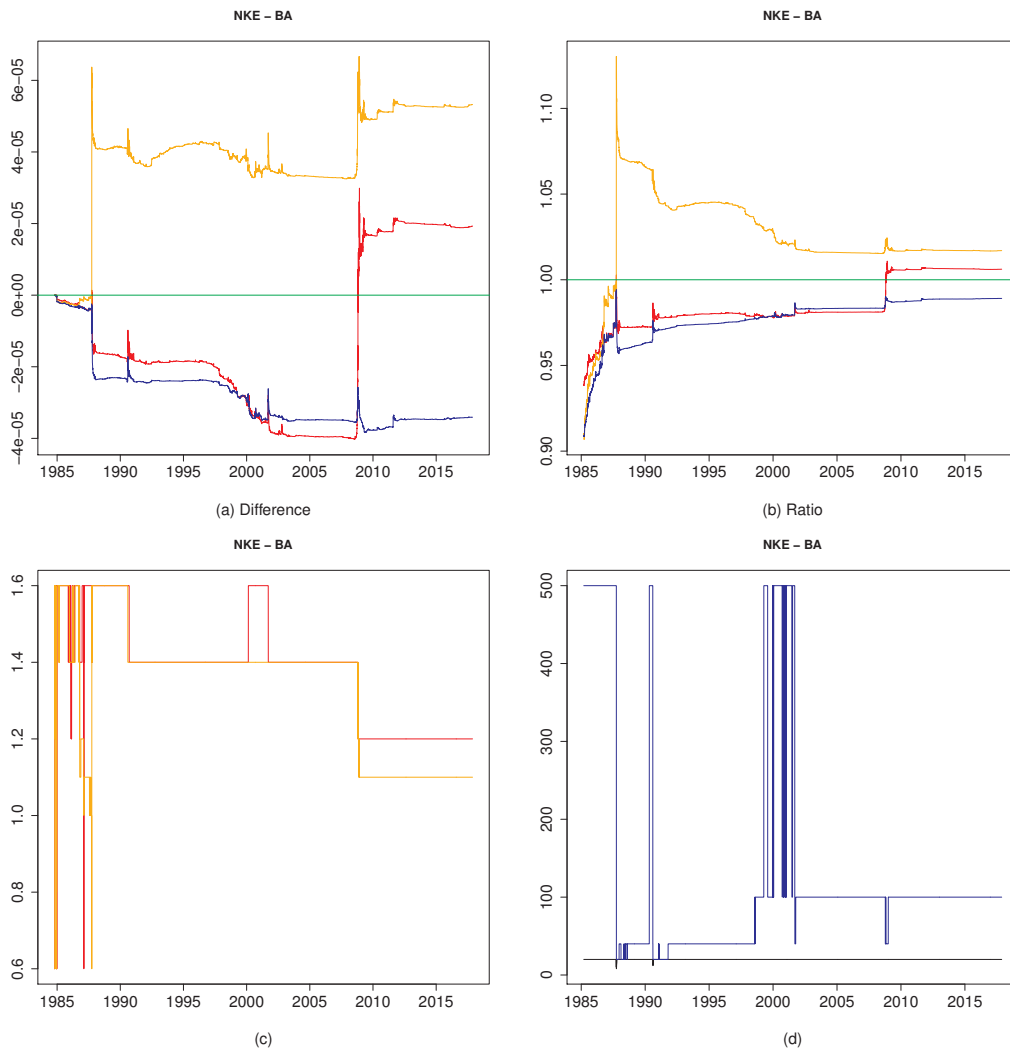


Figure 200: 08-26

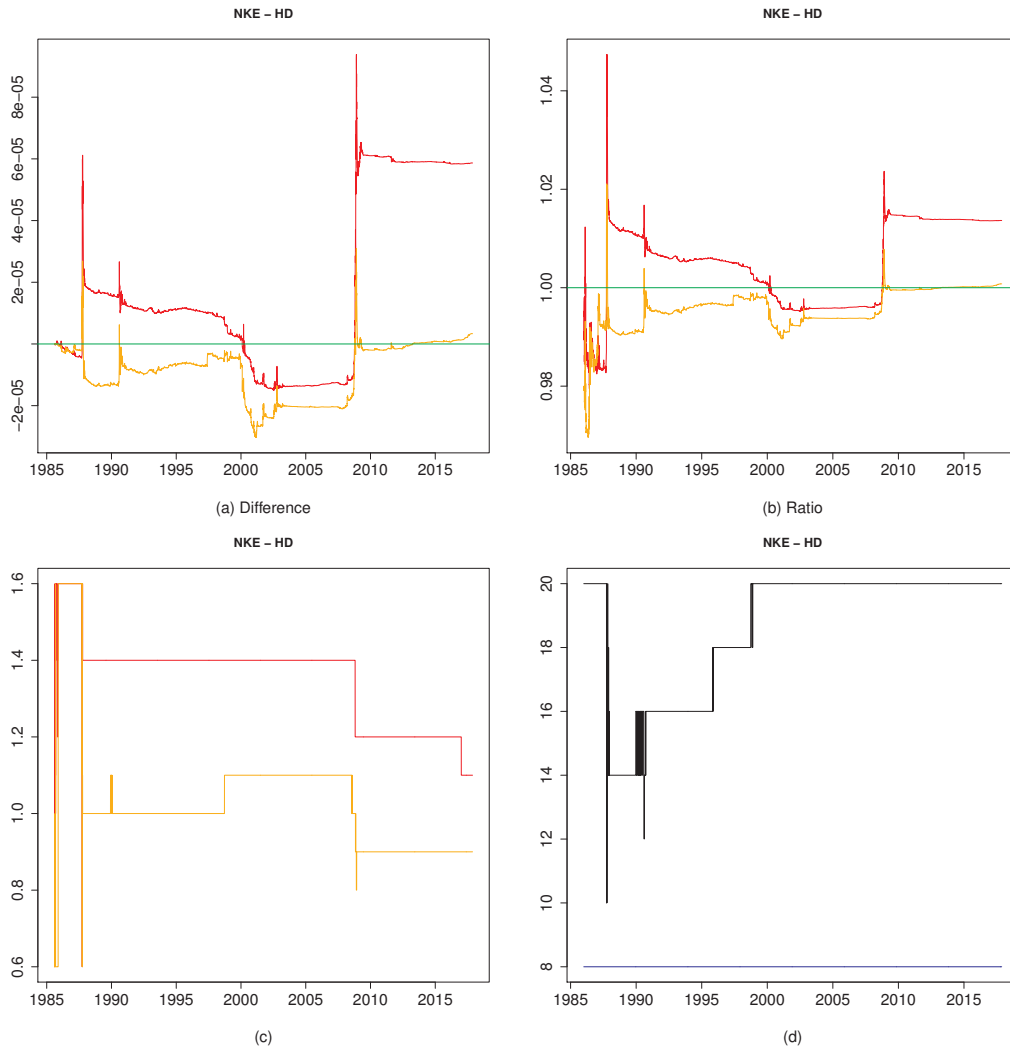


Figure 201: 08-27

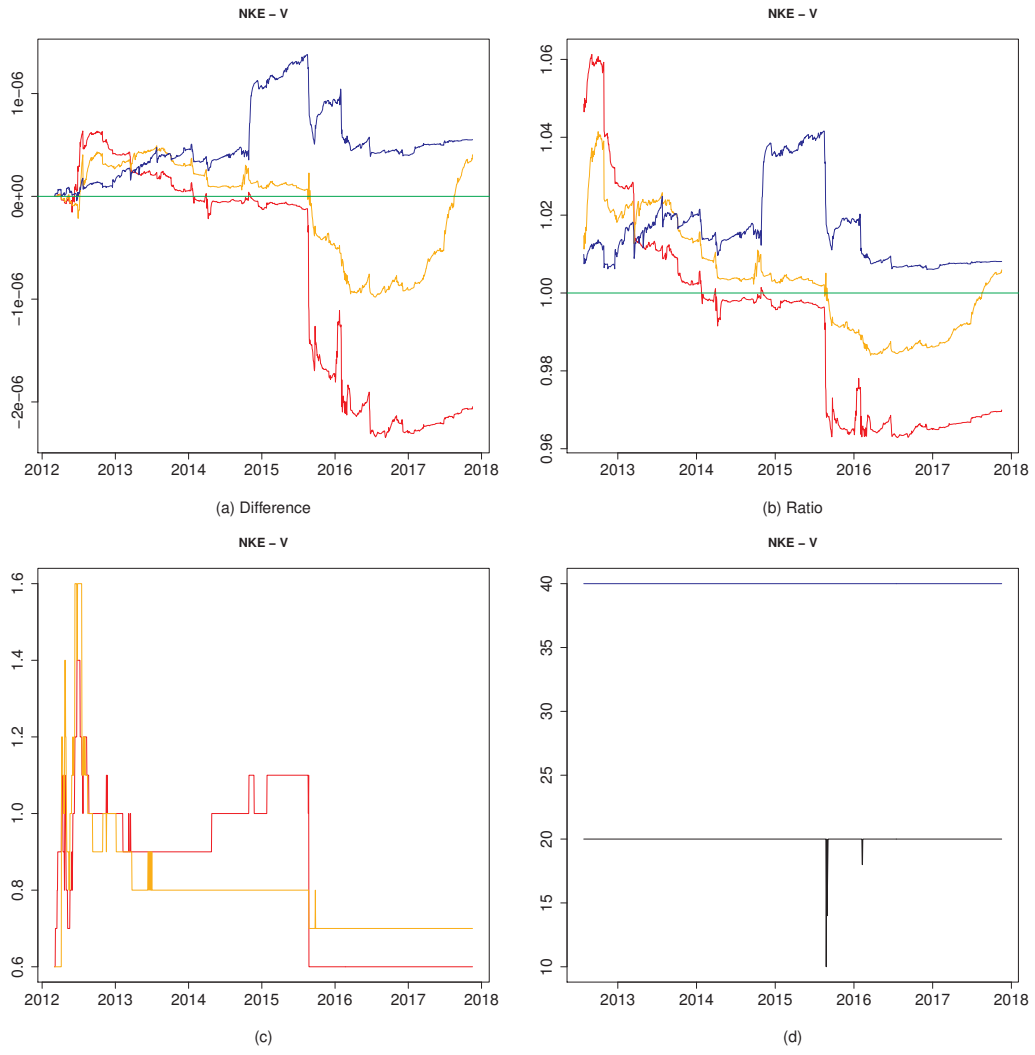


Figure 202: 08-28

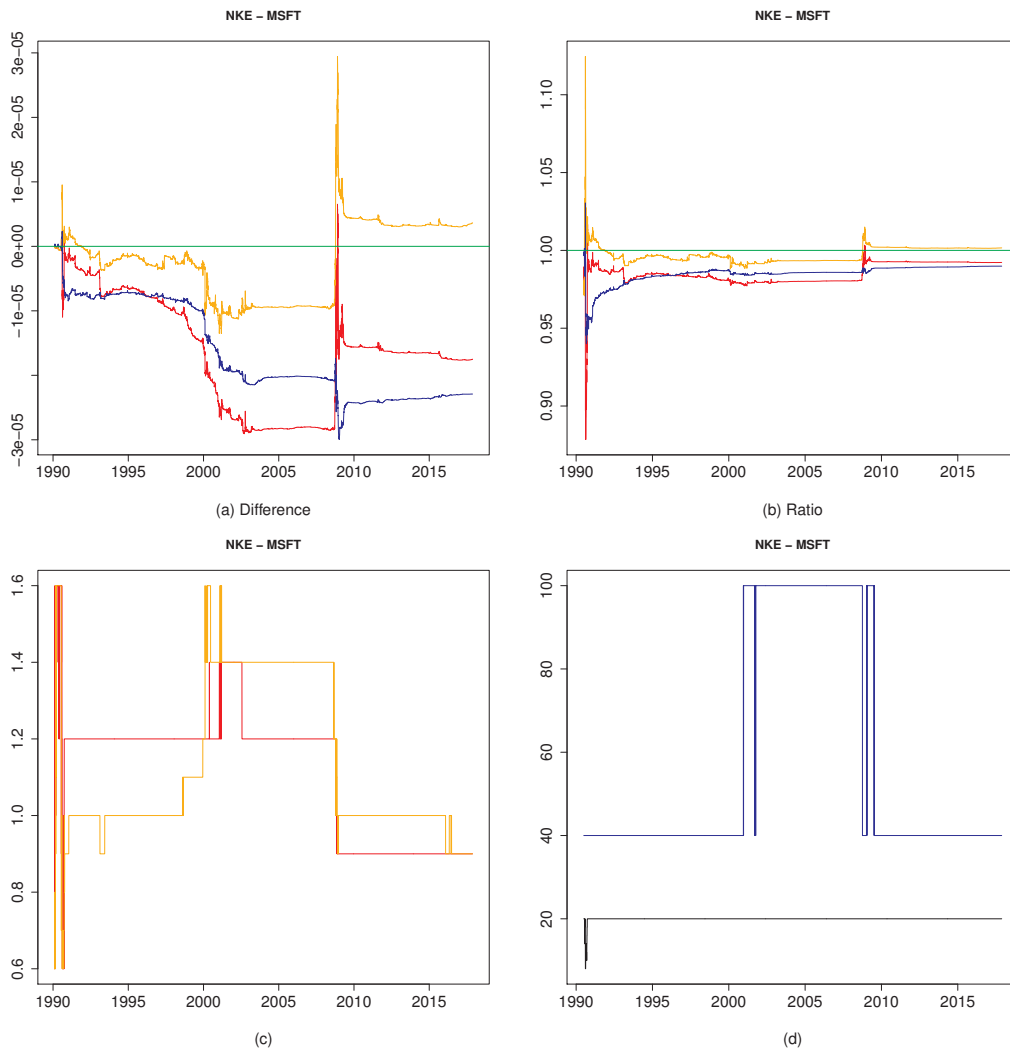


Figure 203: 08-29

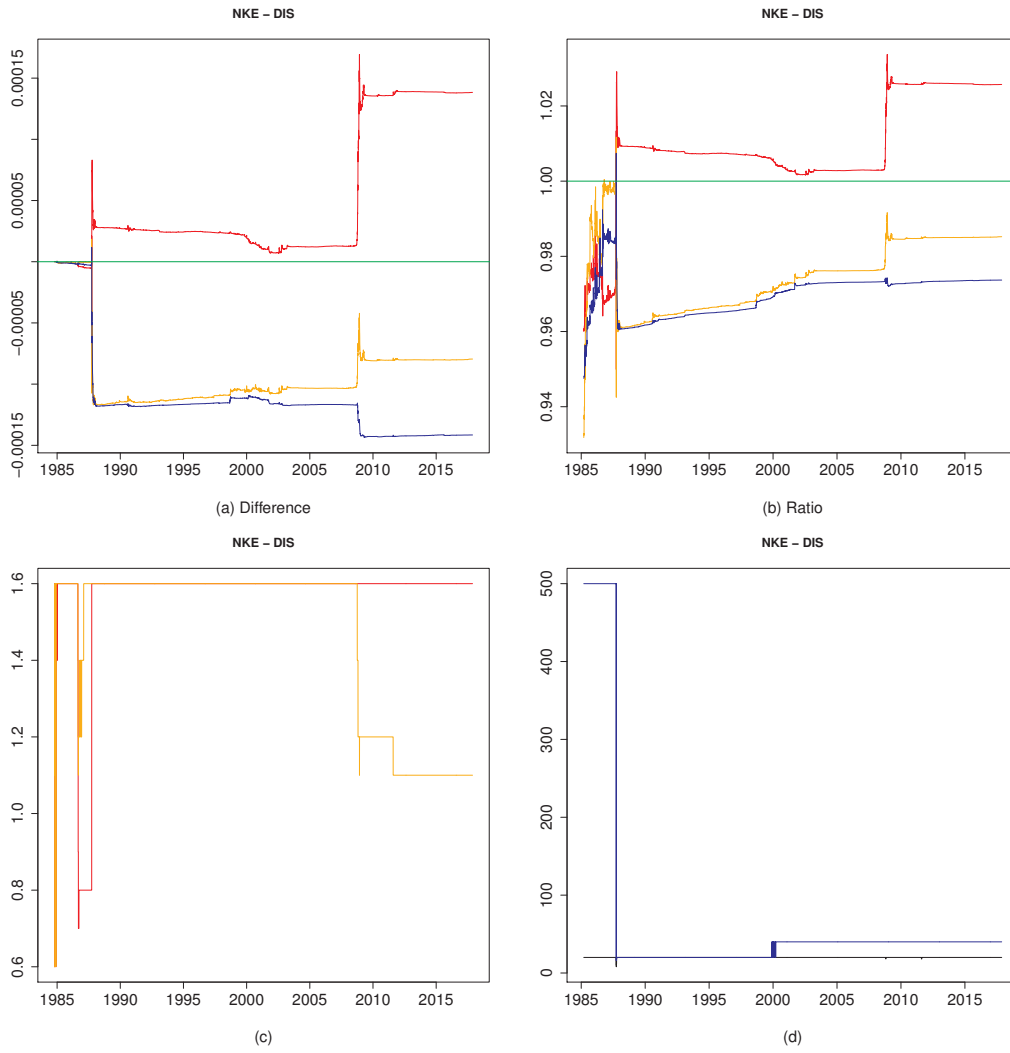


Figure 204: 08-30

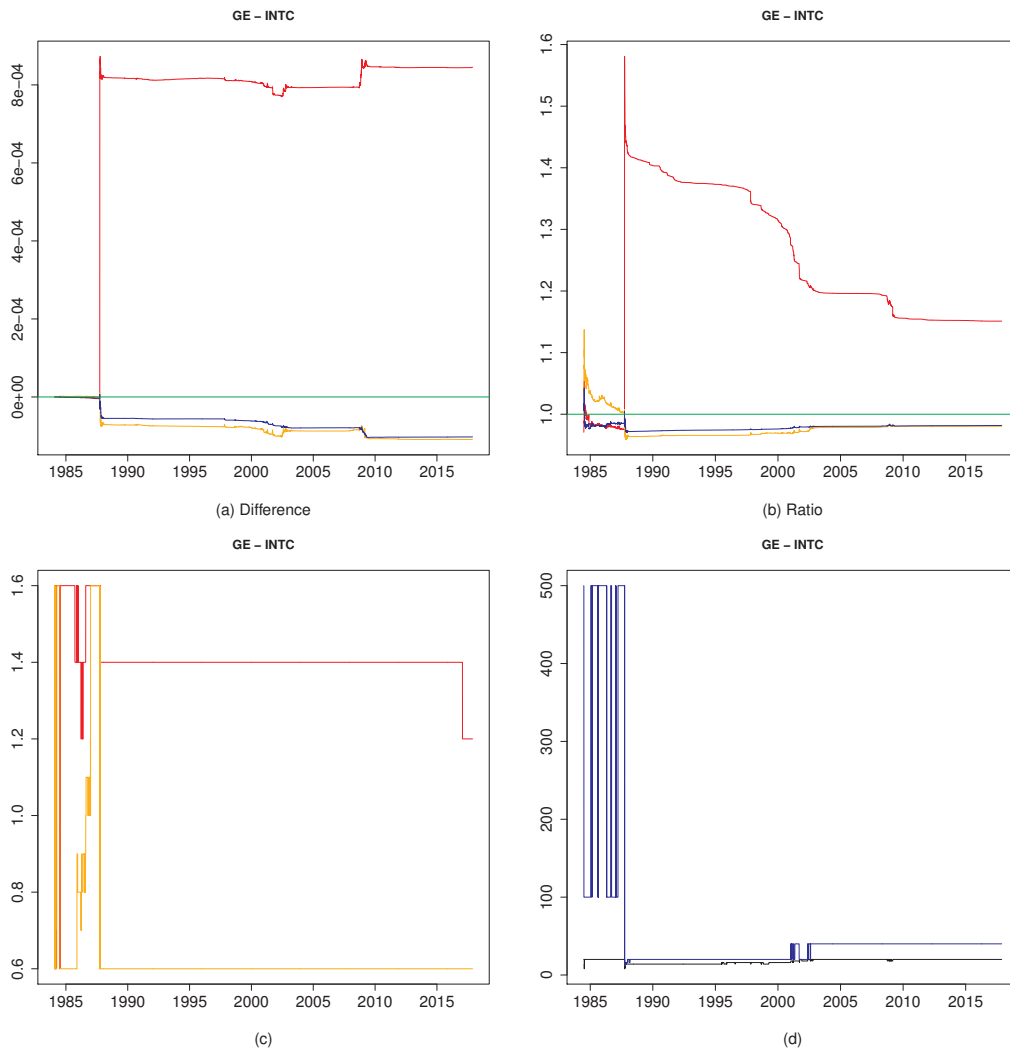


Figure 205: 09-10

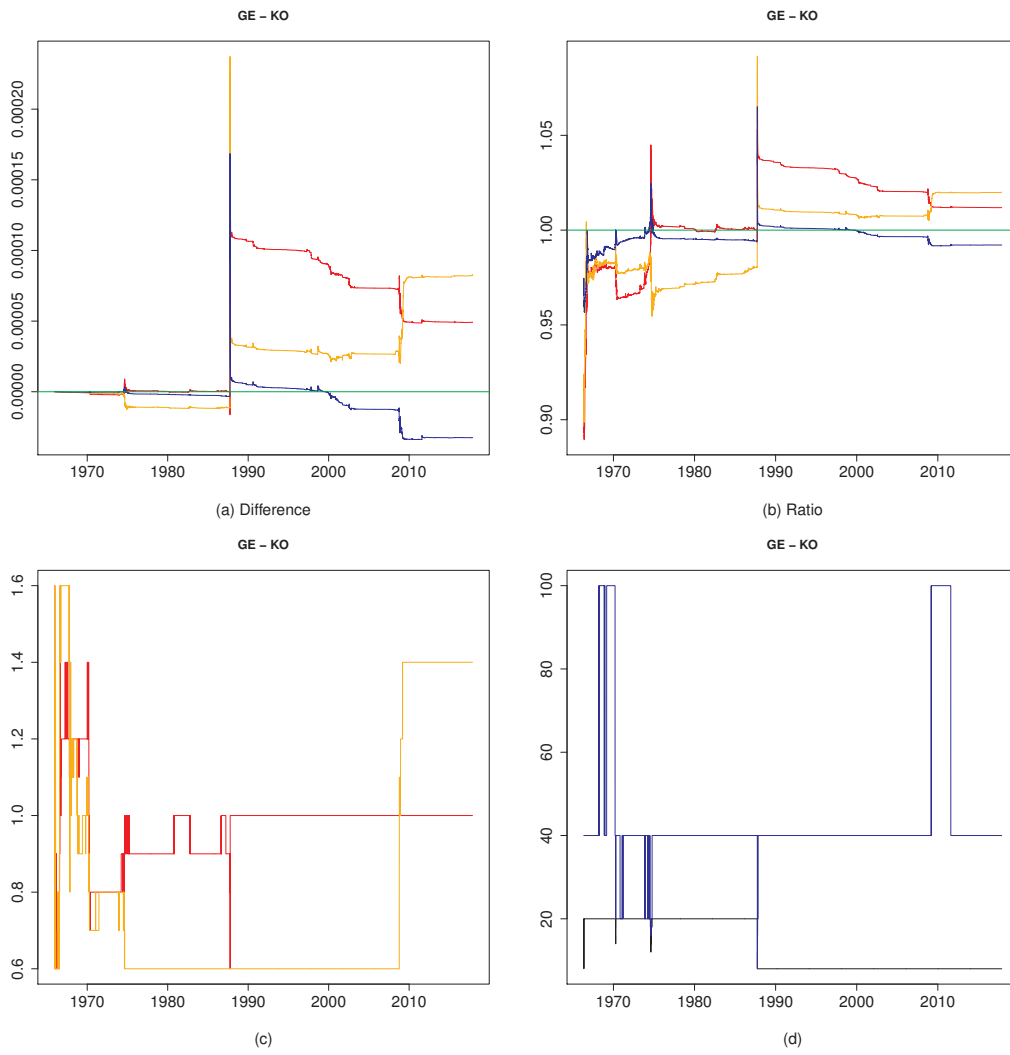


Figure 206: 09-11

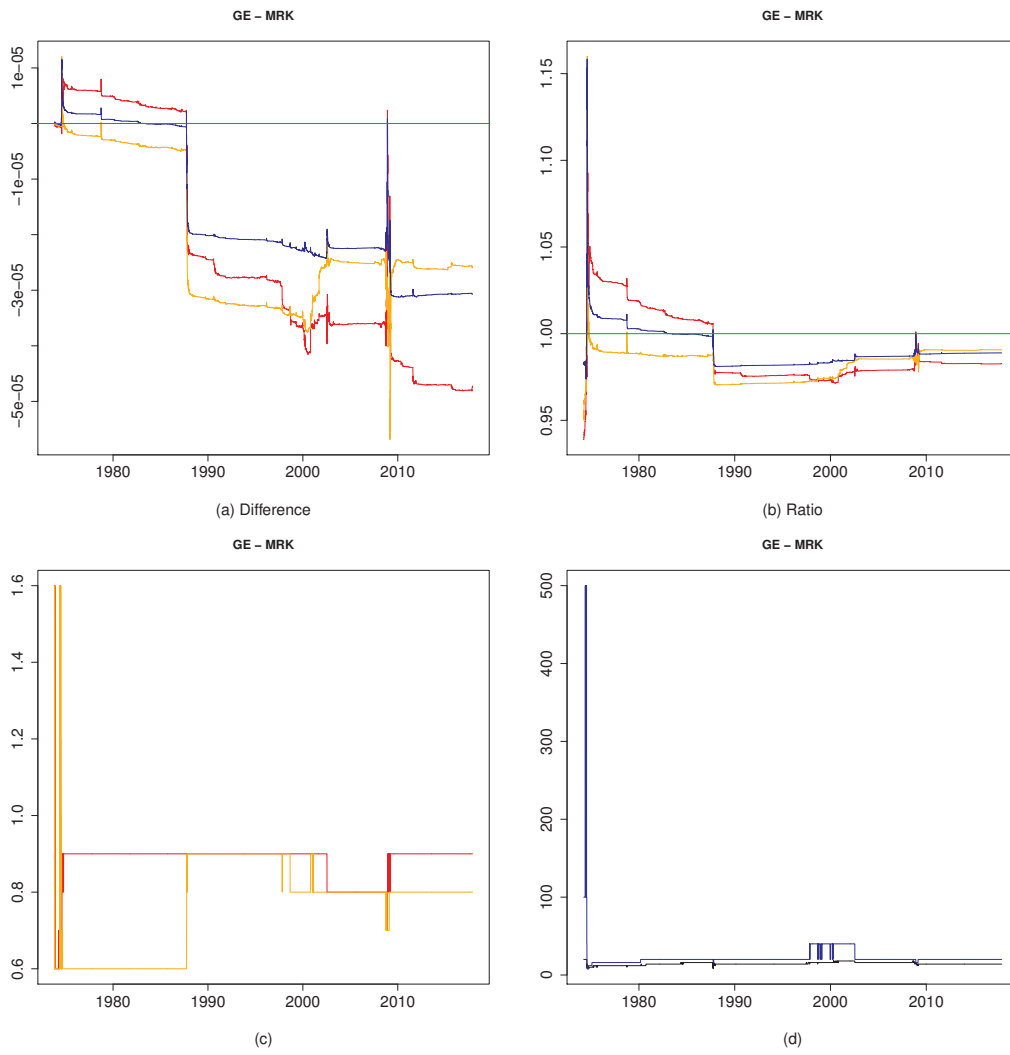


Figure 207: 09-12

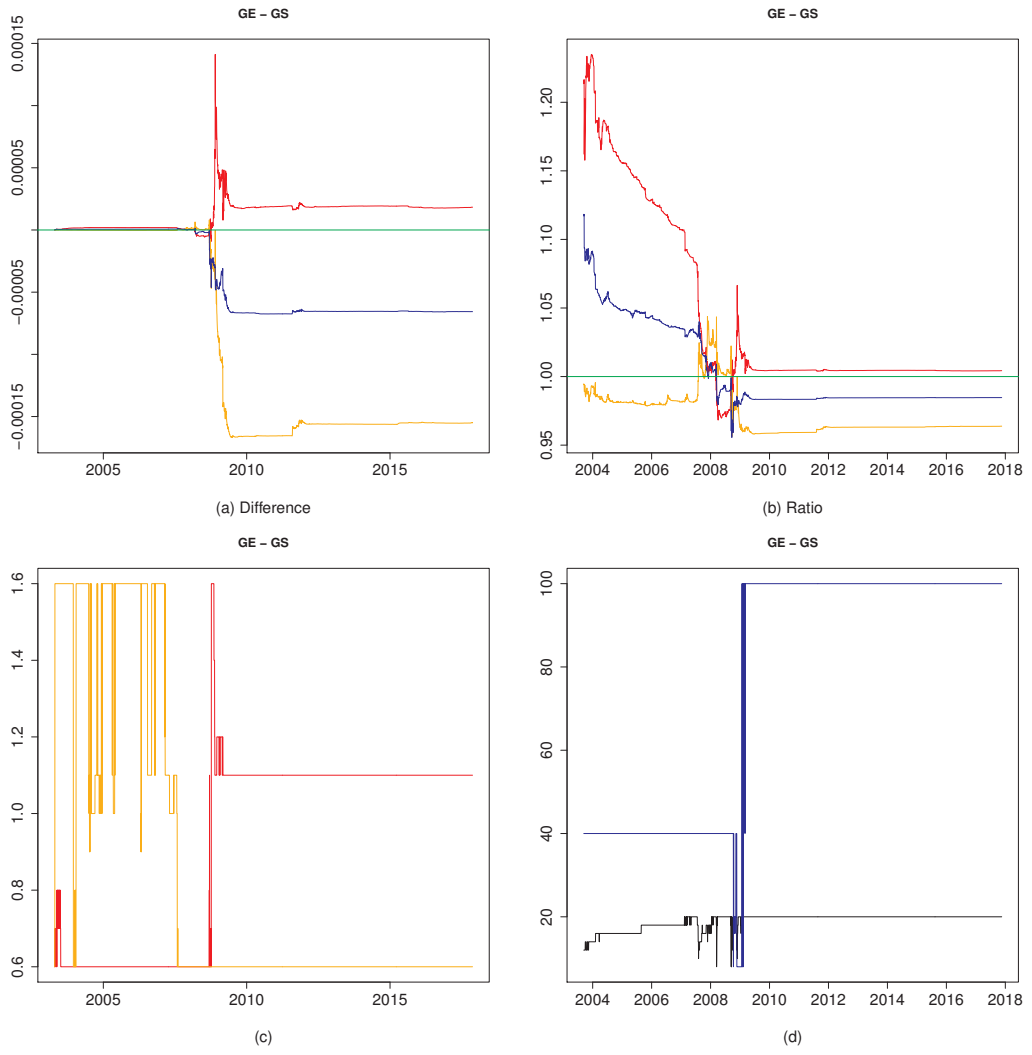


Figure 208: 09-13

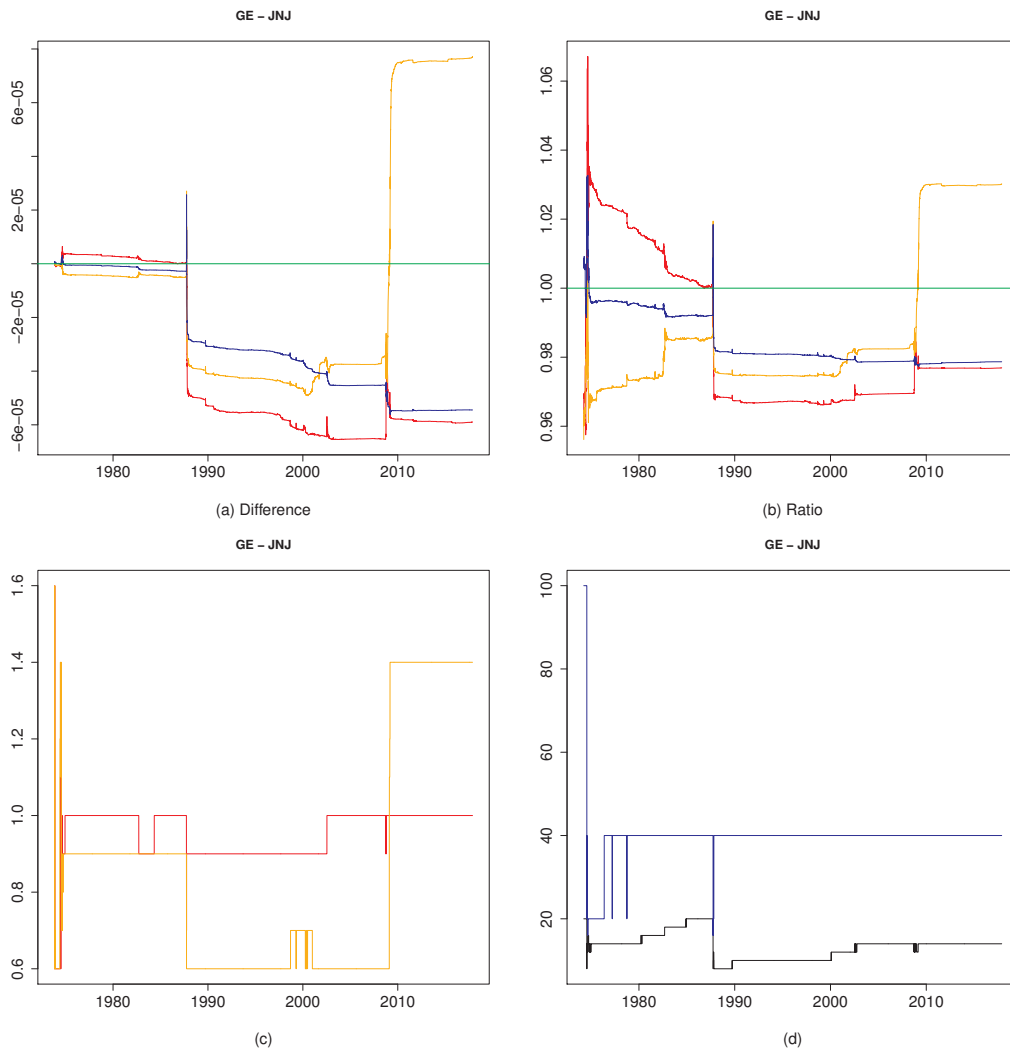


Figure 209: 09-14

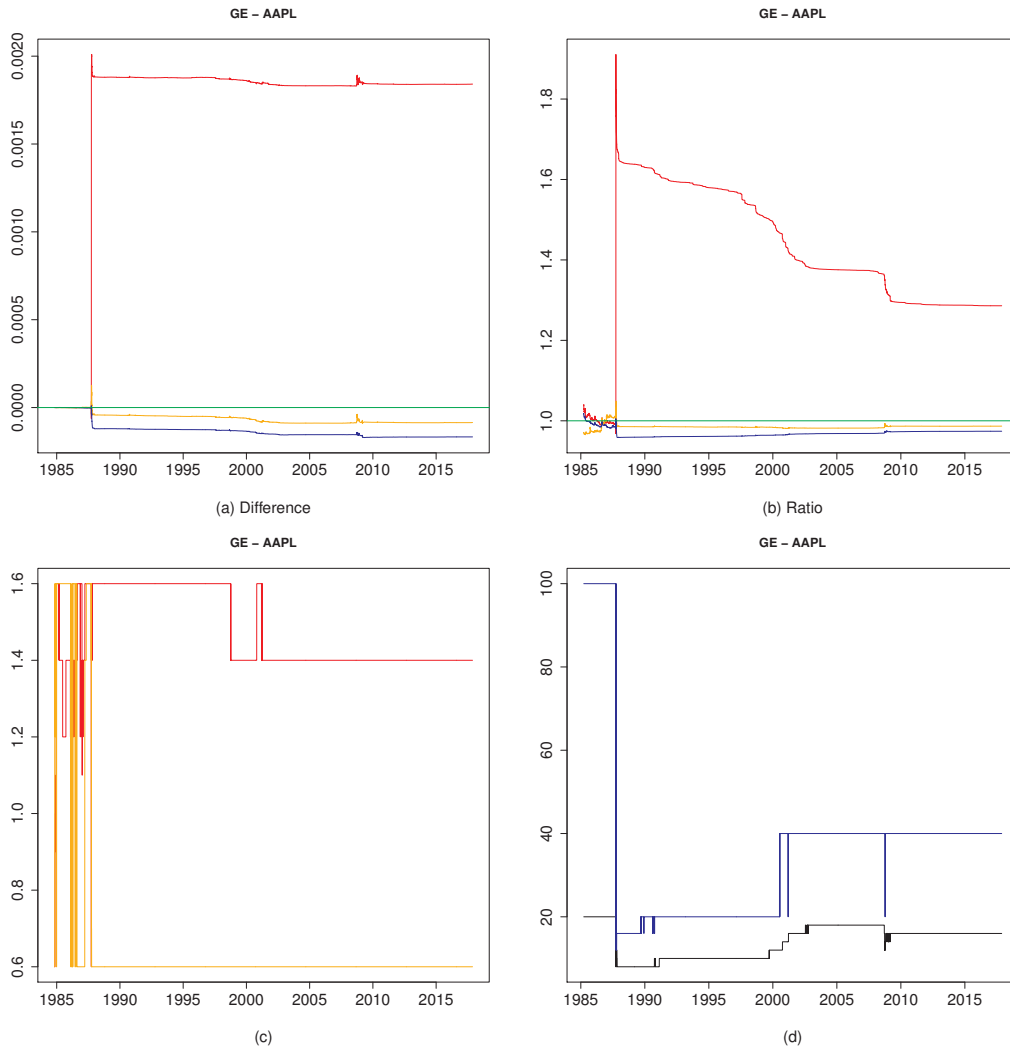


Figure 210: 09-15

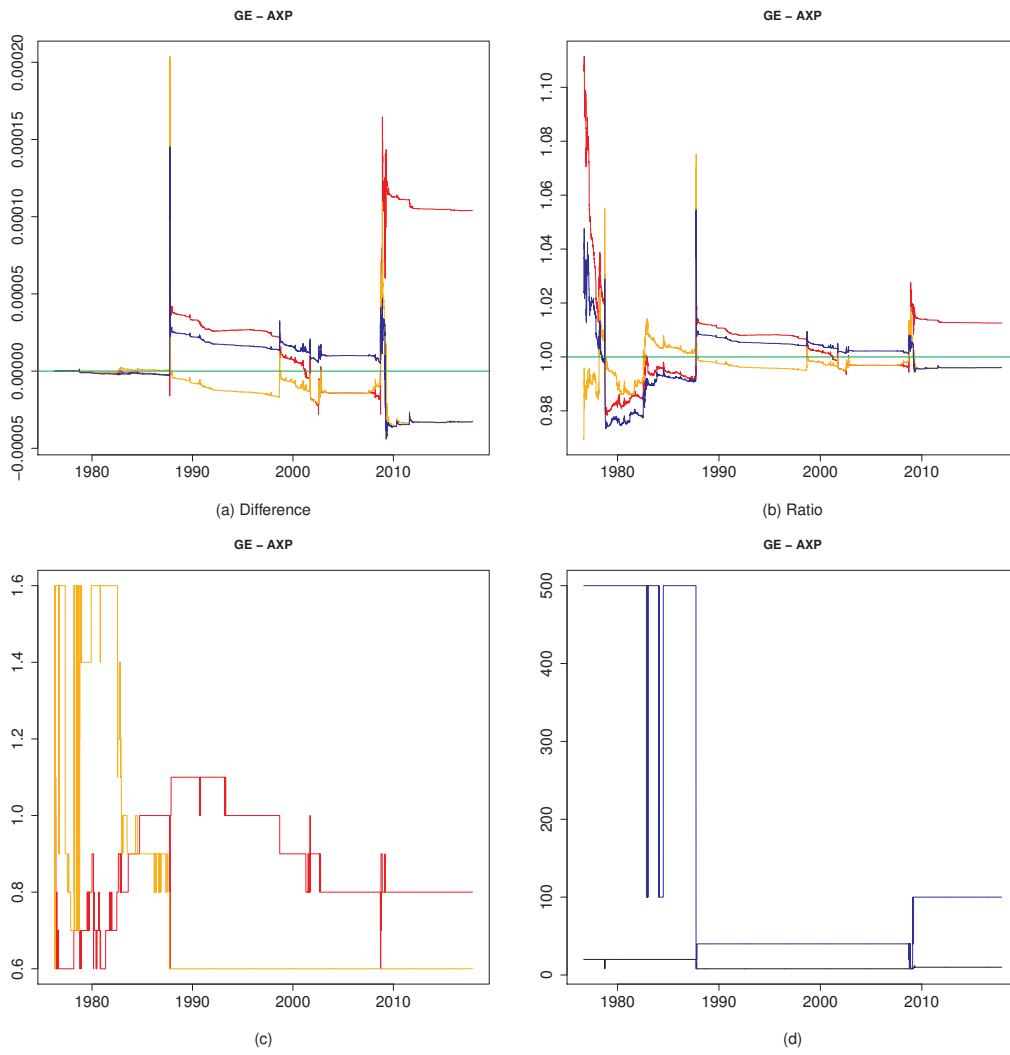


Figure 211: 09-16

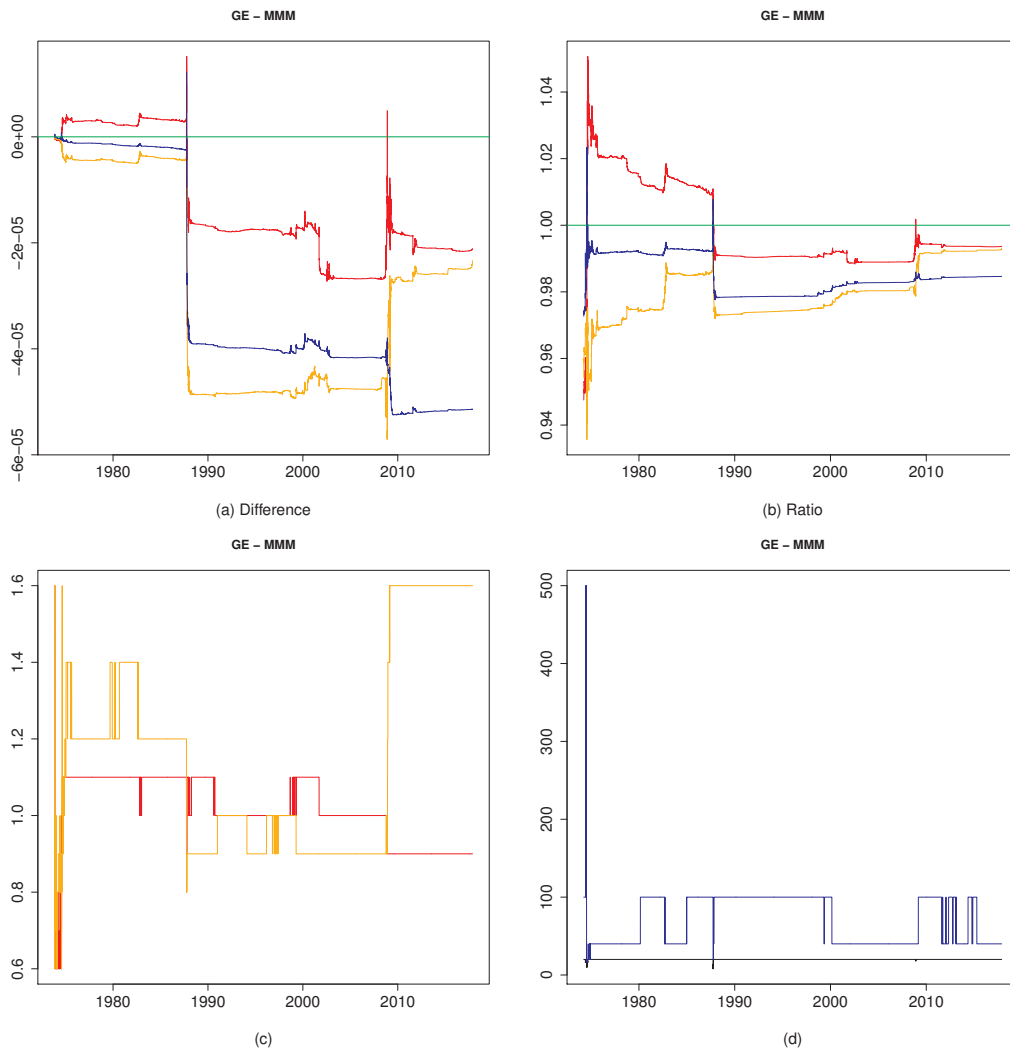


Figure 212: 09-17

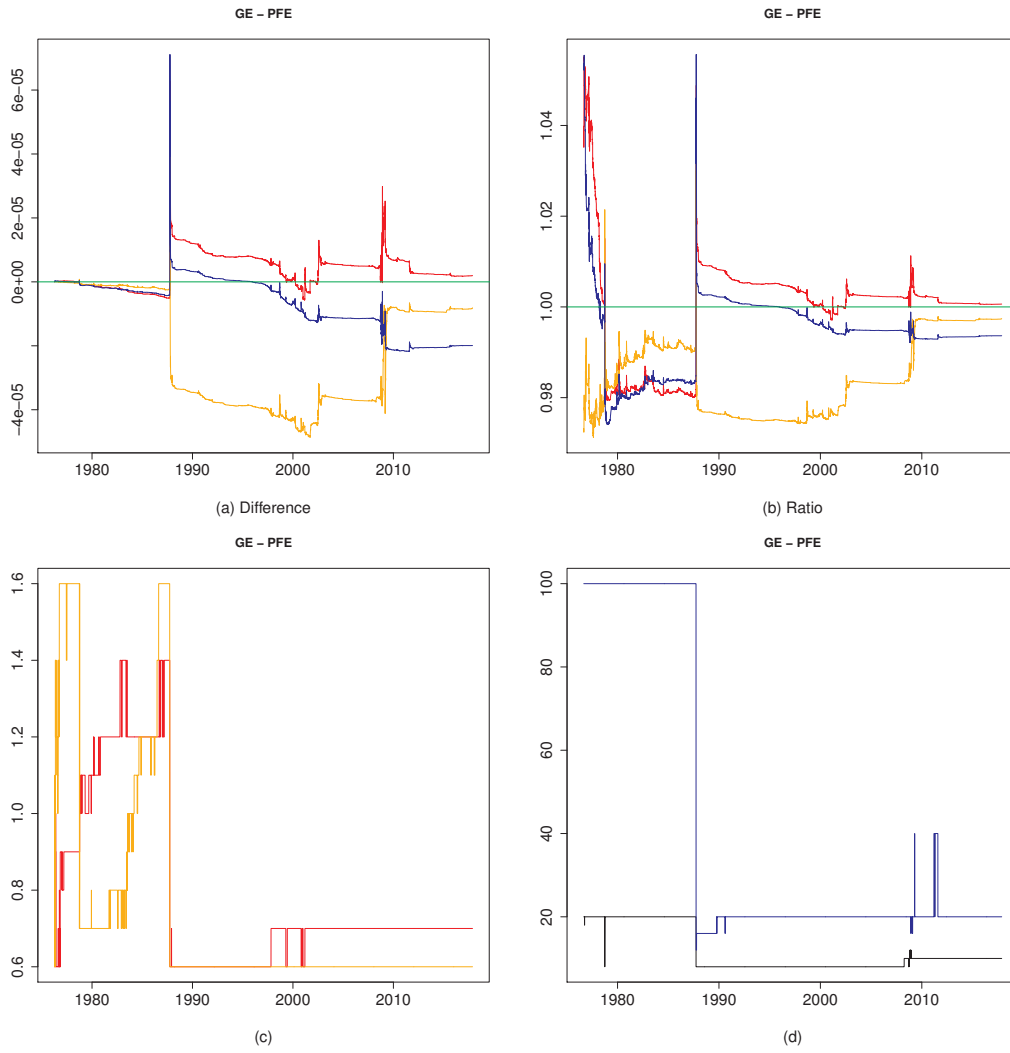


Figure 213: 09-18

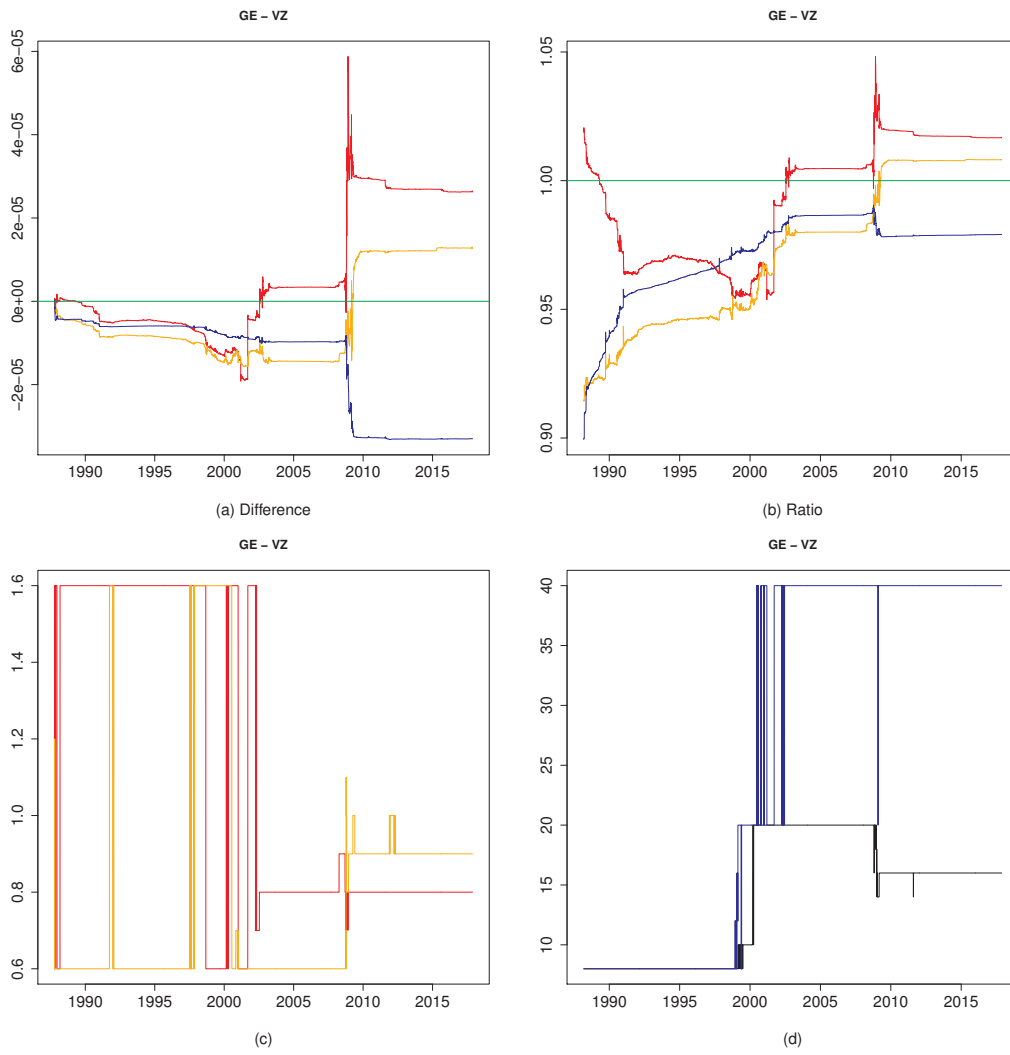


Figure 214: 09-19

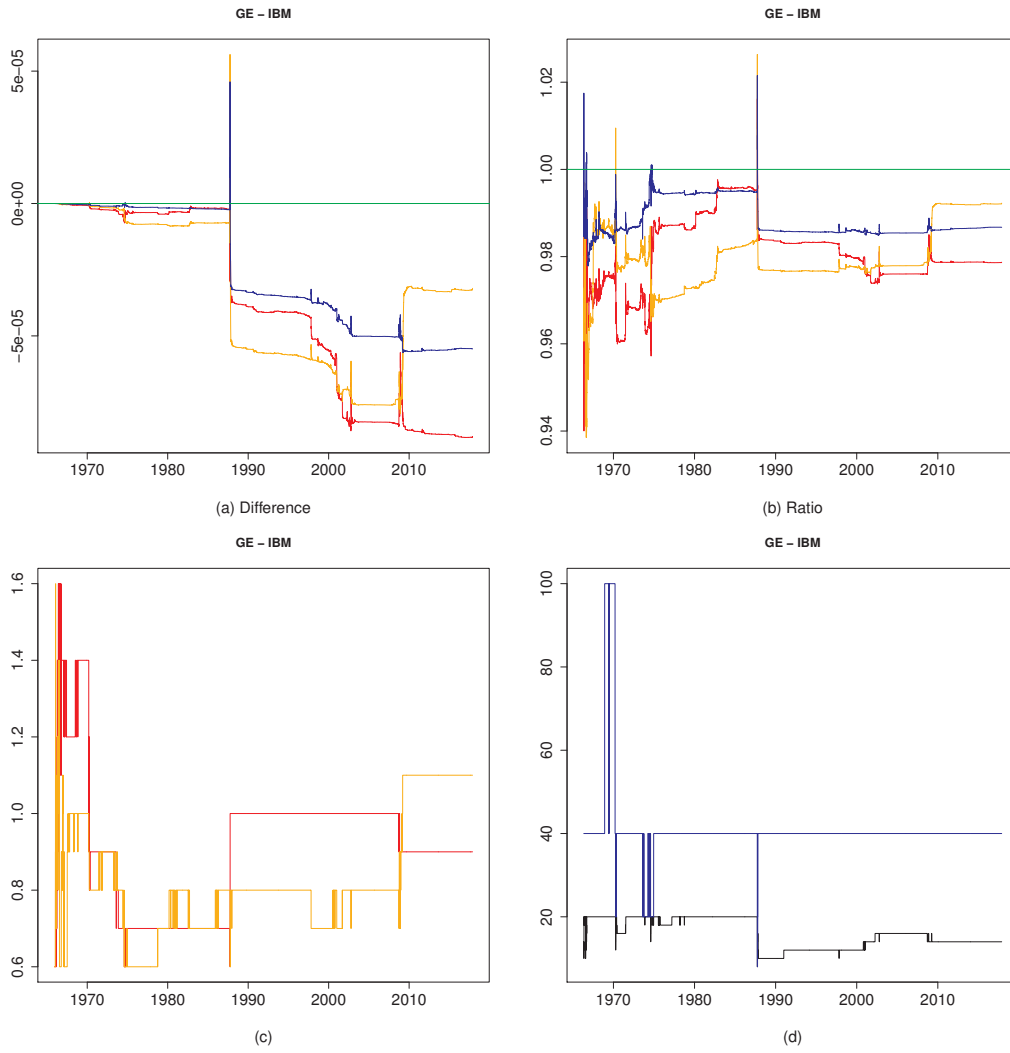


Figure 215: 09-20

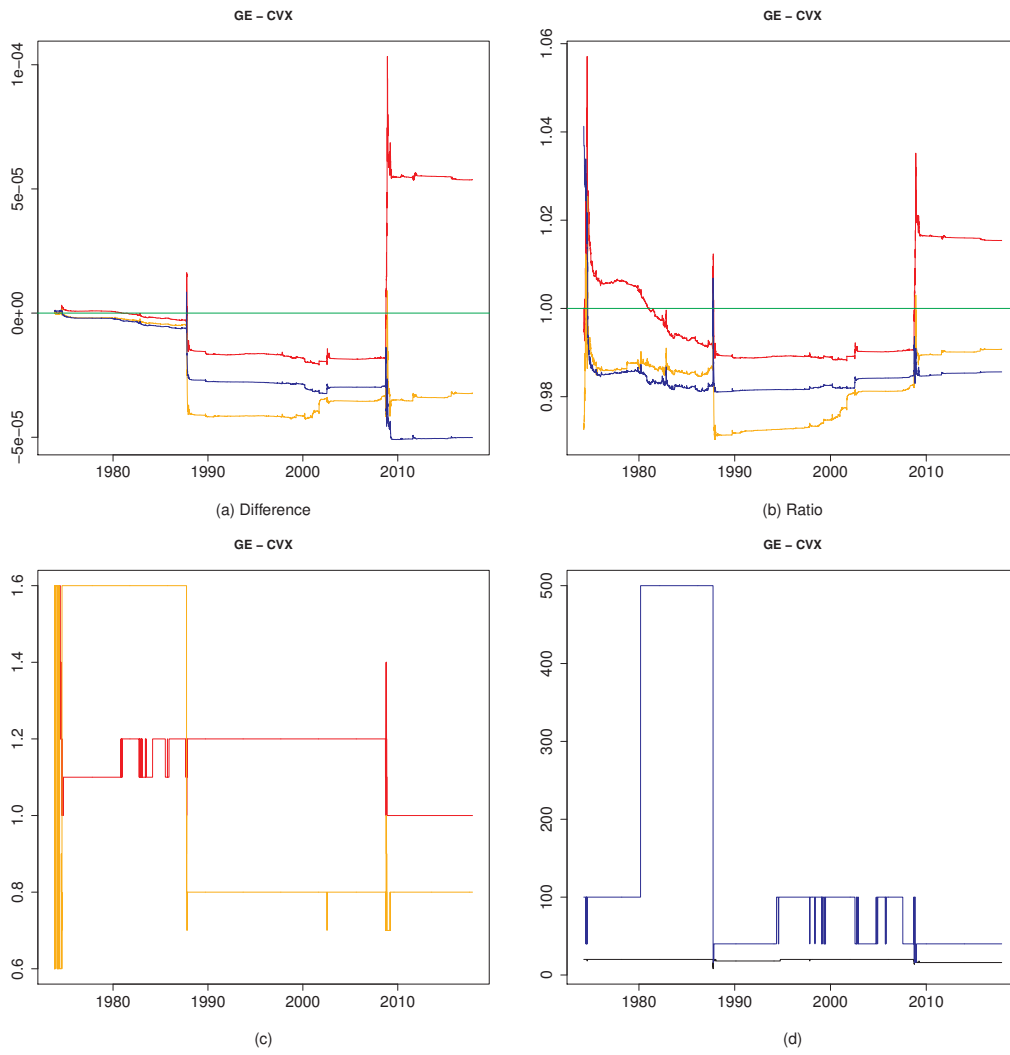


Figure 216: 09-21

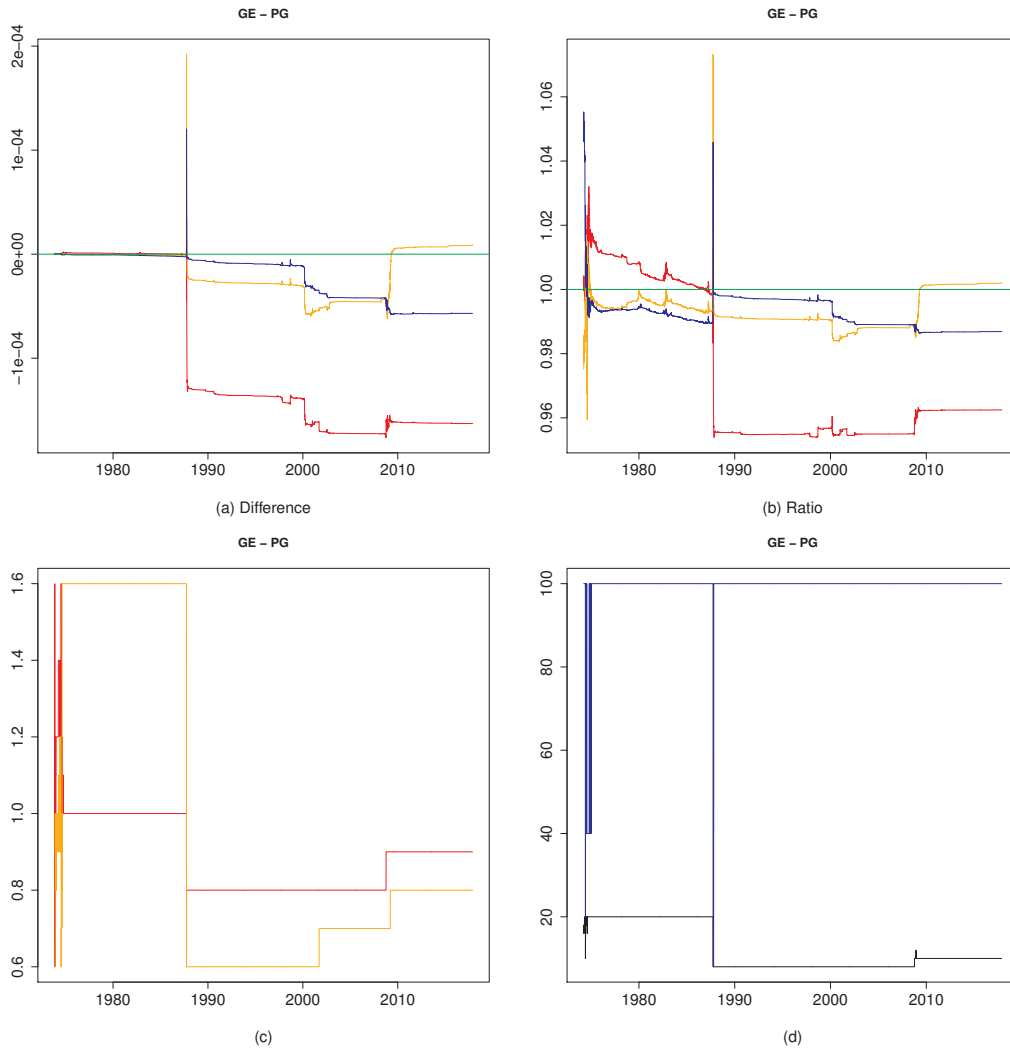


Figure 217: 09-22

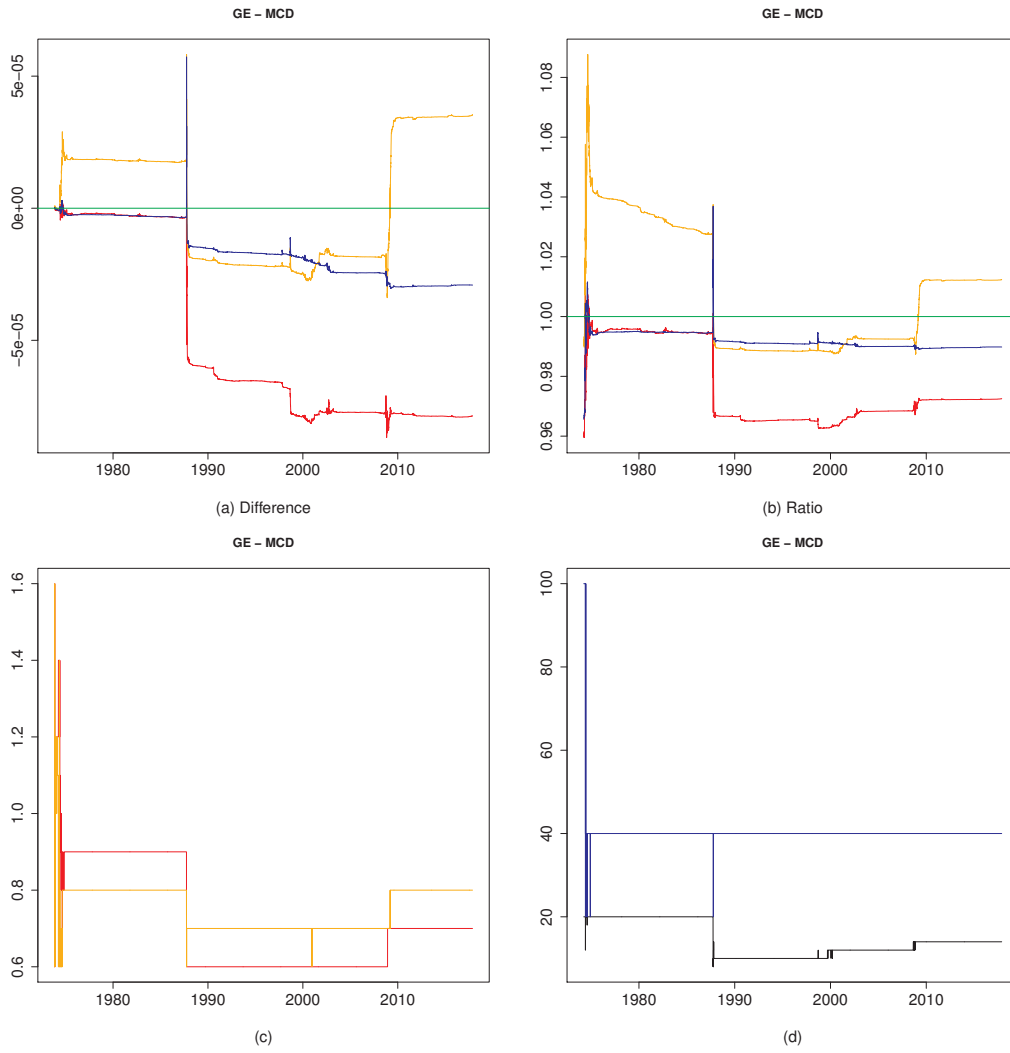


Figure 218: 09-23

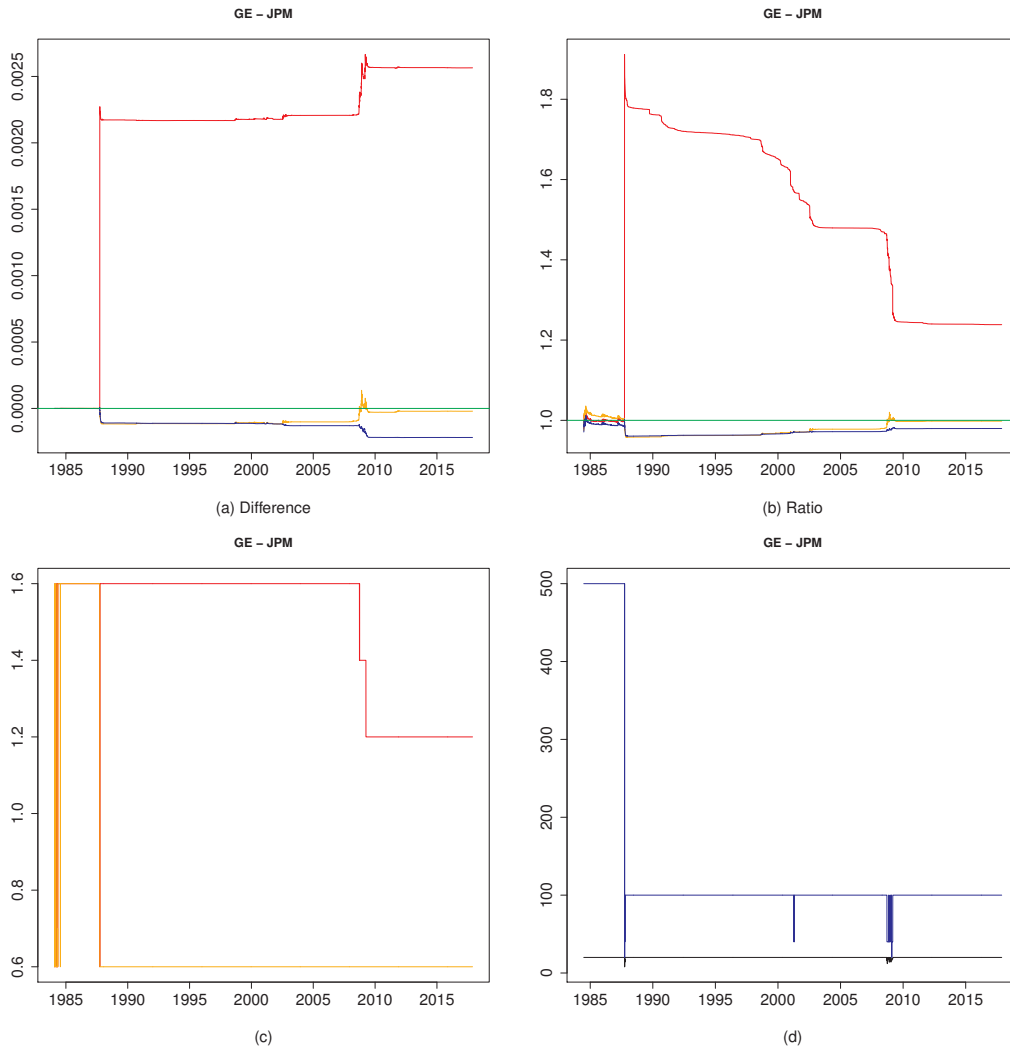


Figure 219: 09-24

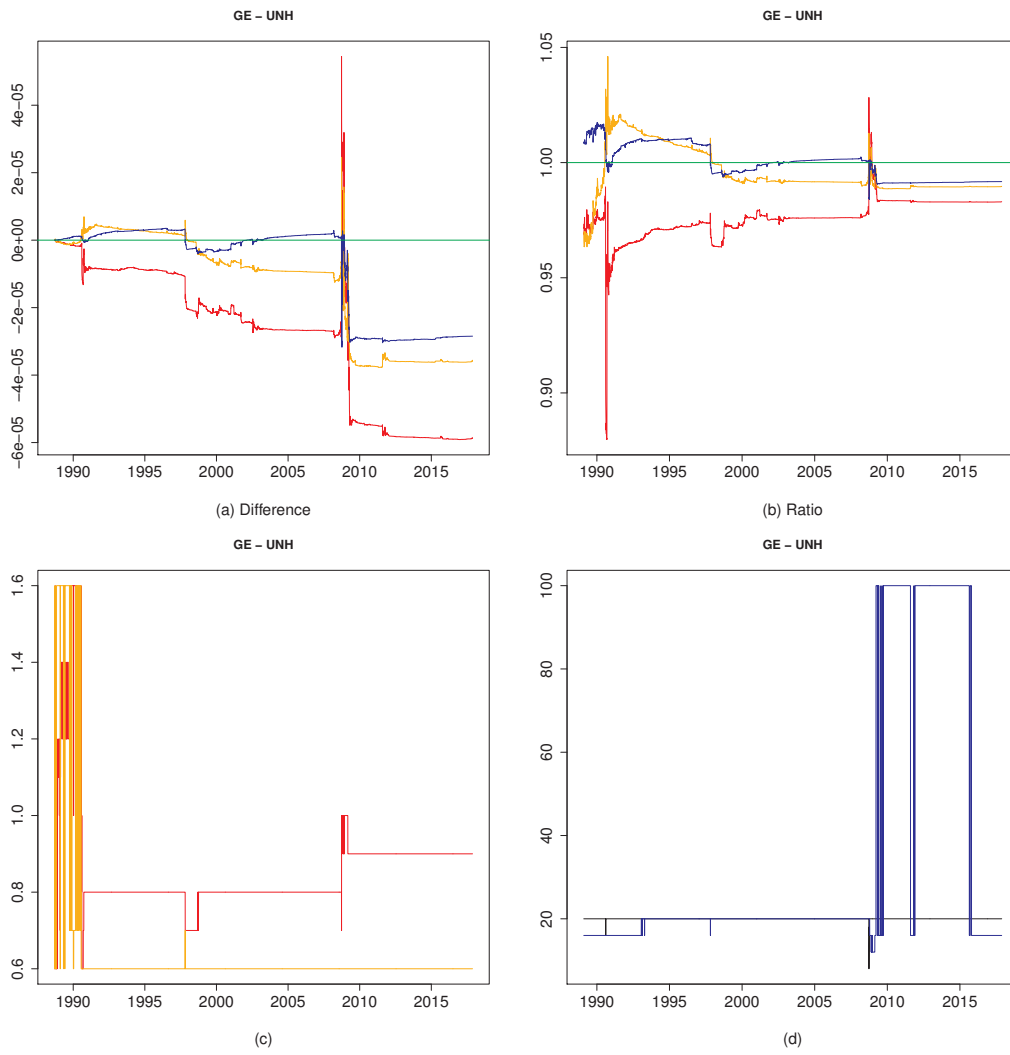


Figure 220: 09-25

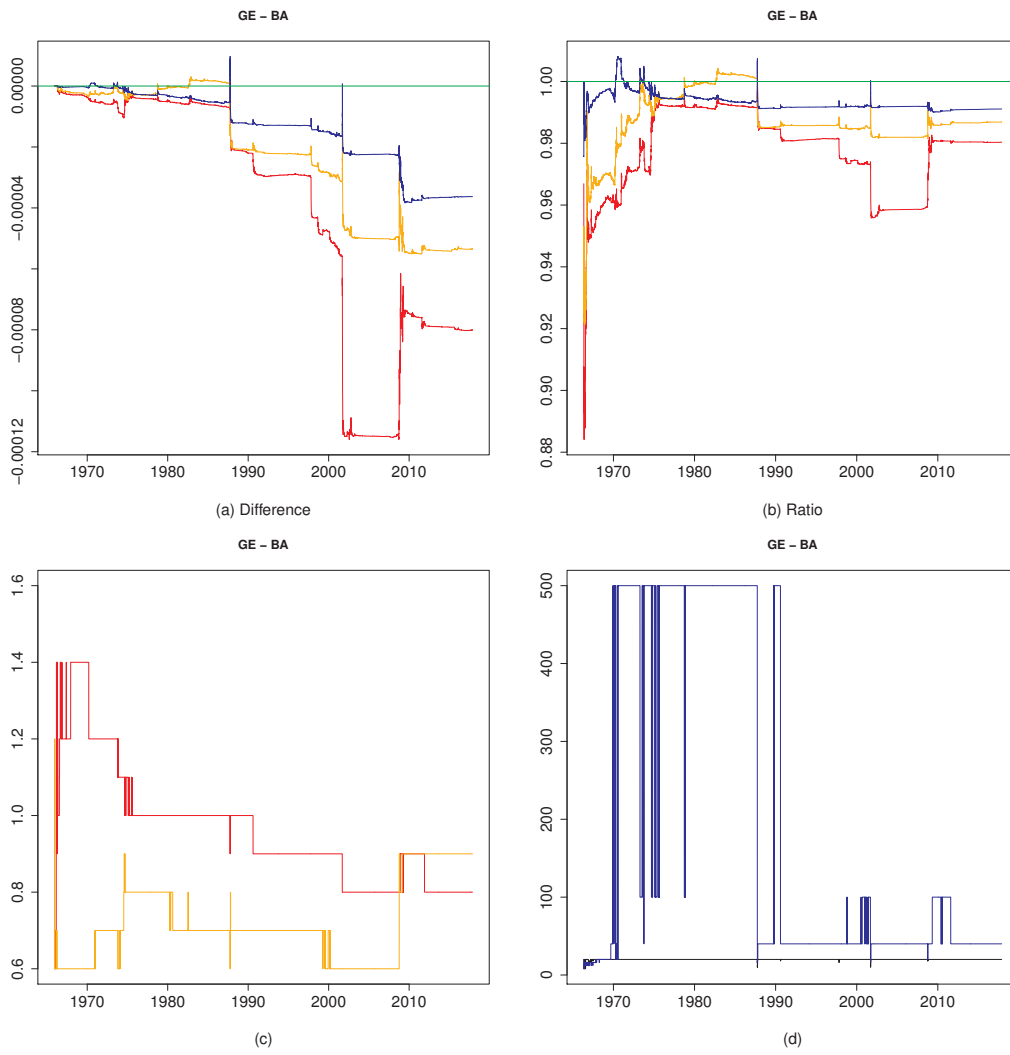


Figure 221: 09-26

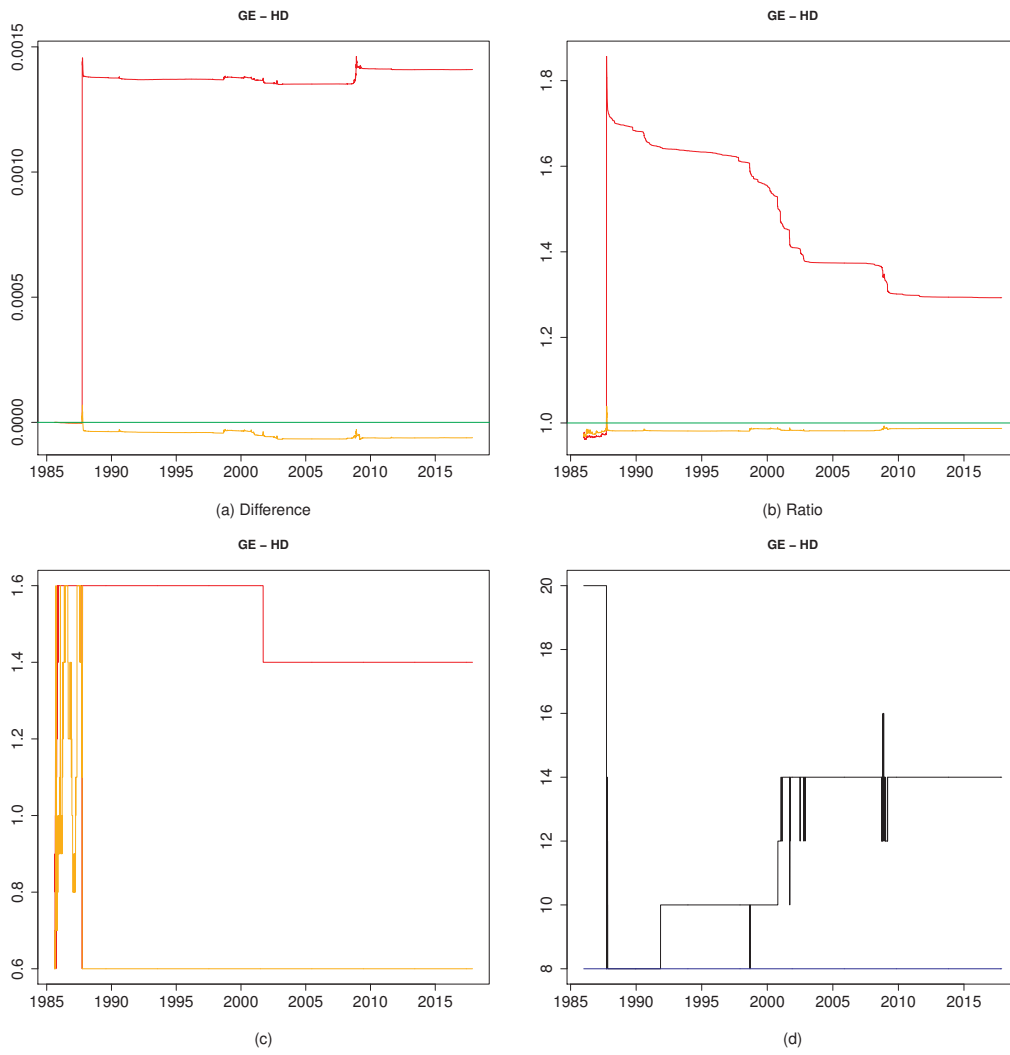


Figure 222: 09-27

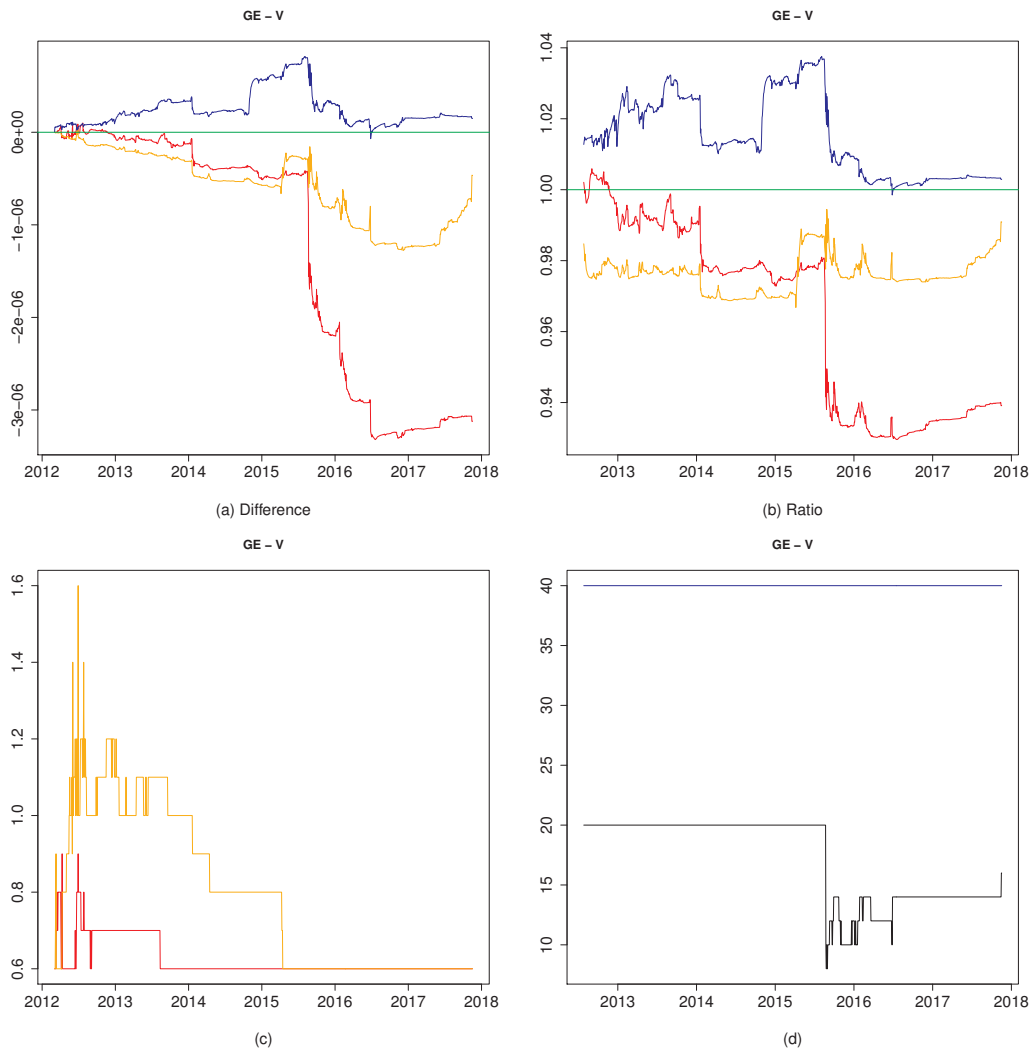


Figure 223: 09-28

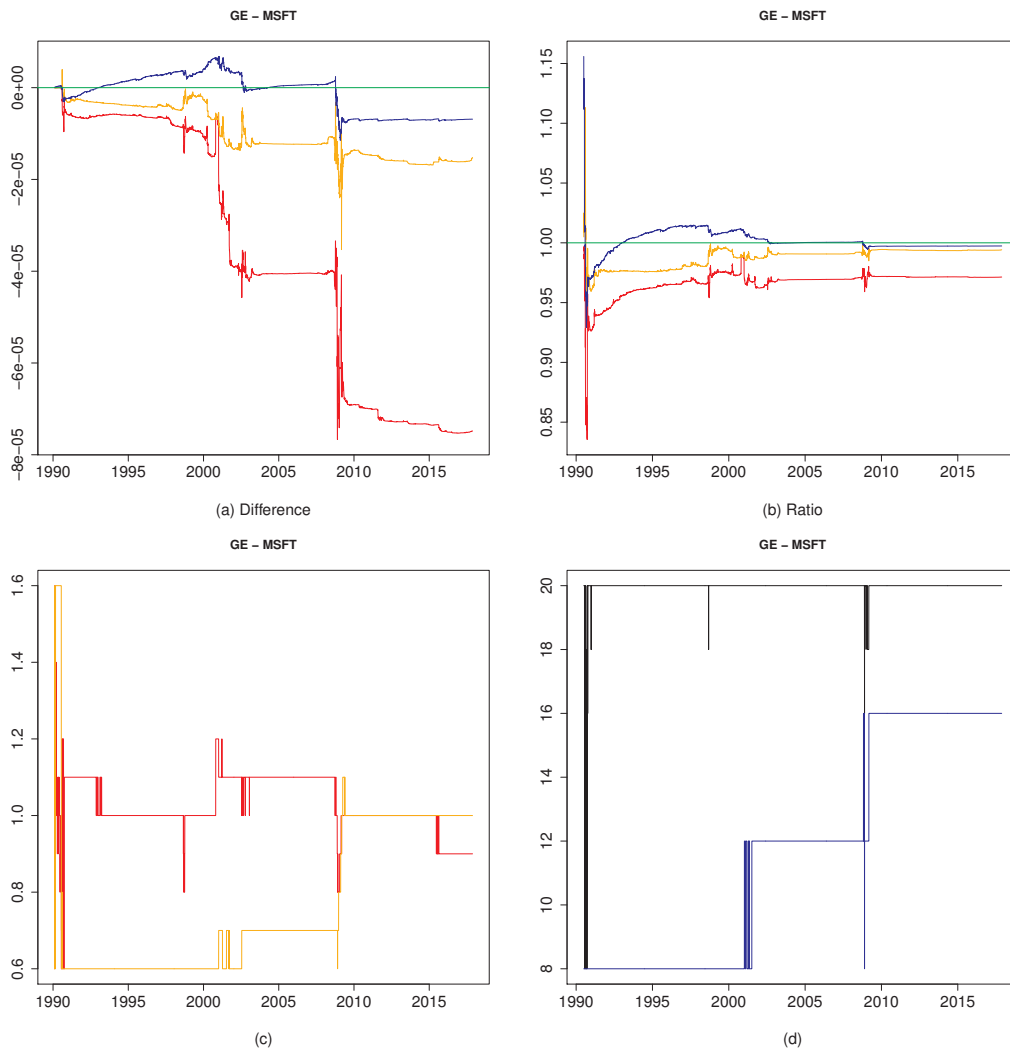


Figure 224: 09-29

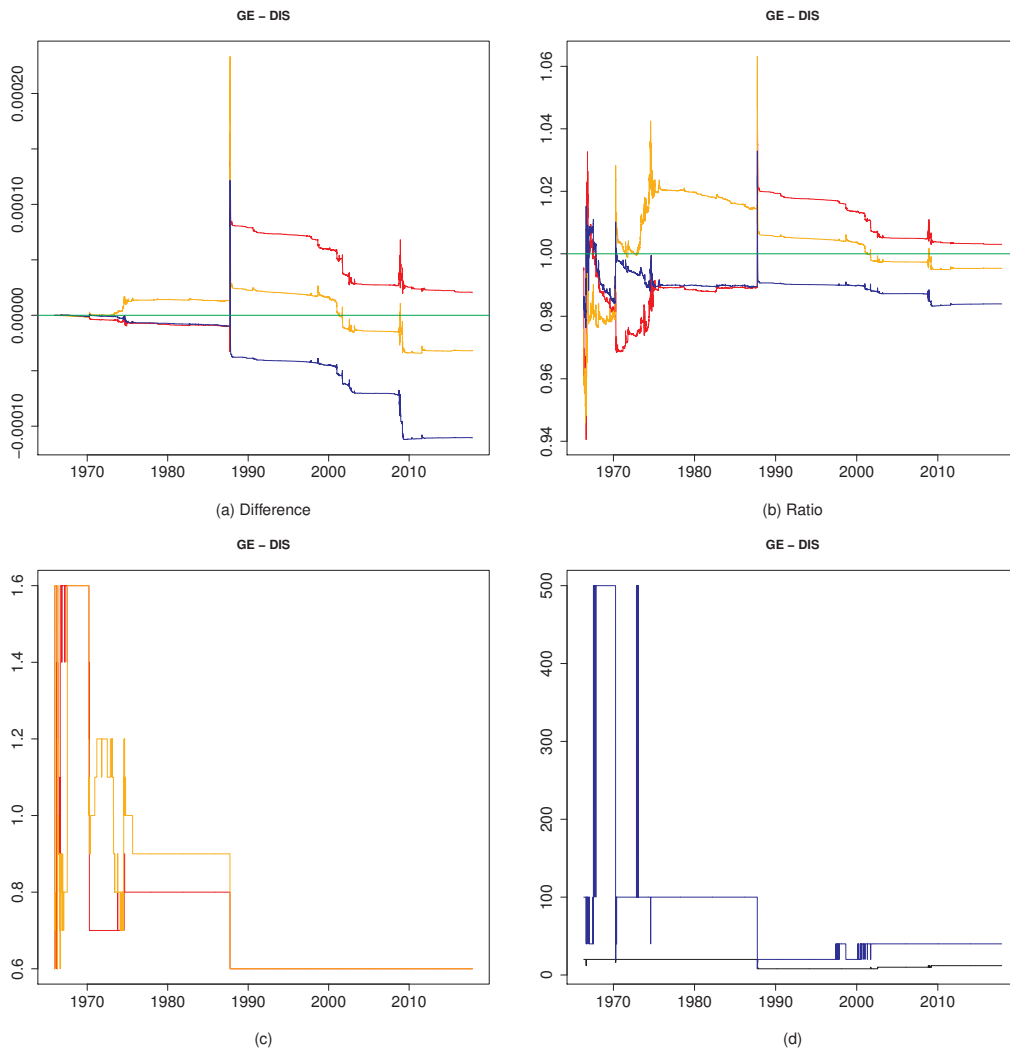


Figure 225: 09-30

1.10 Pairs from 10-11 to 10-30

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Figure 245

1.11 Pairs from 11-12 to 11-30

Figure 246

Figure 247

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Figure 251

Figure 252

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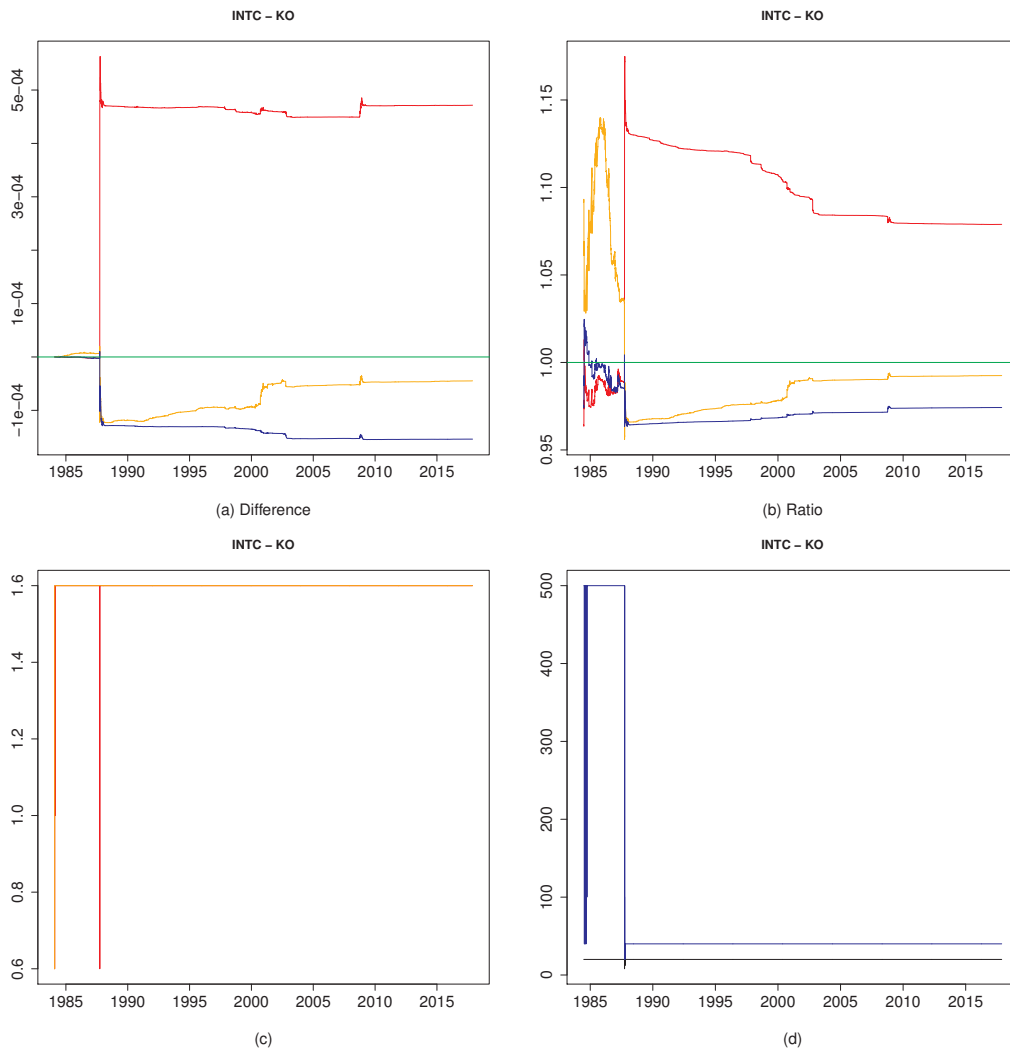


Figure 226: 10-11

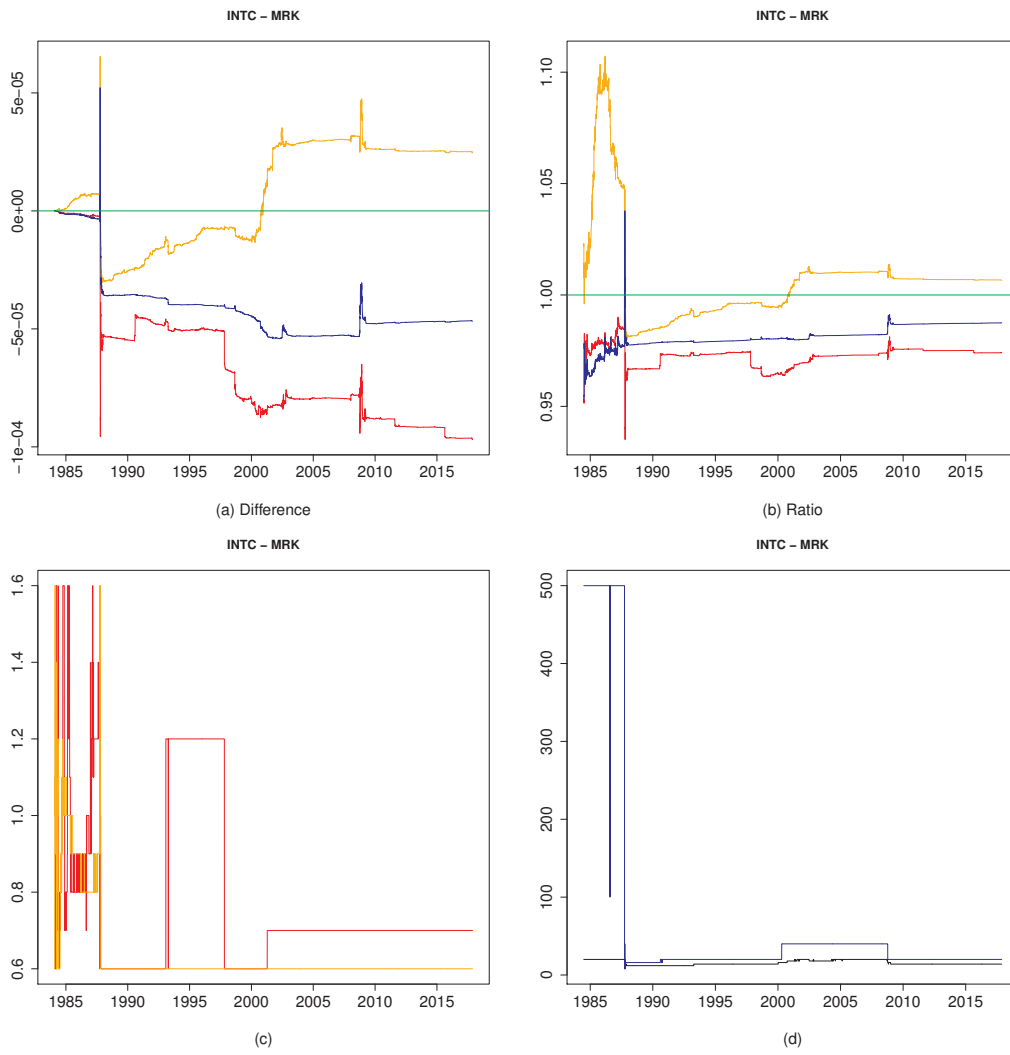


Figure 227: 10-12

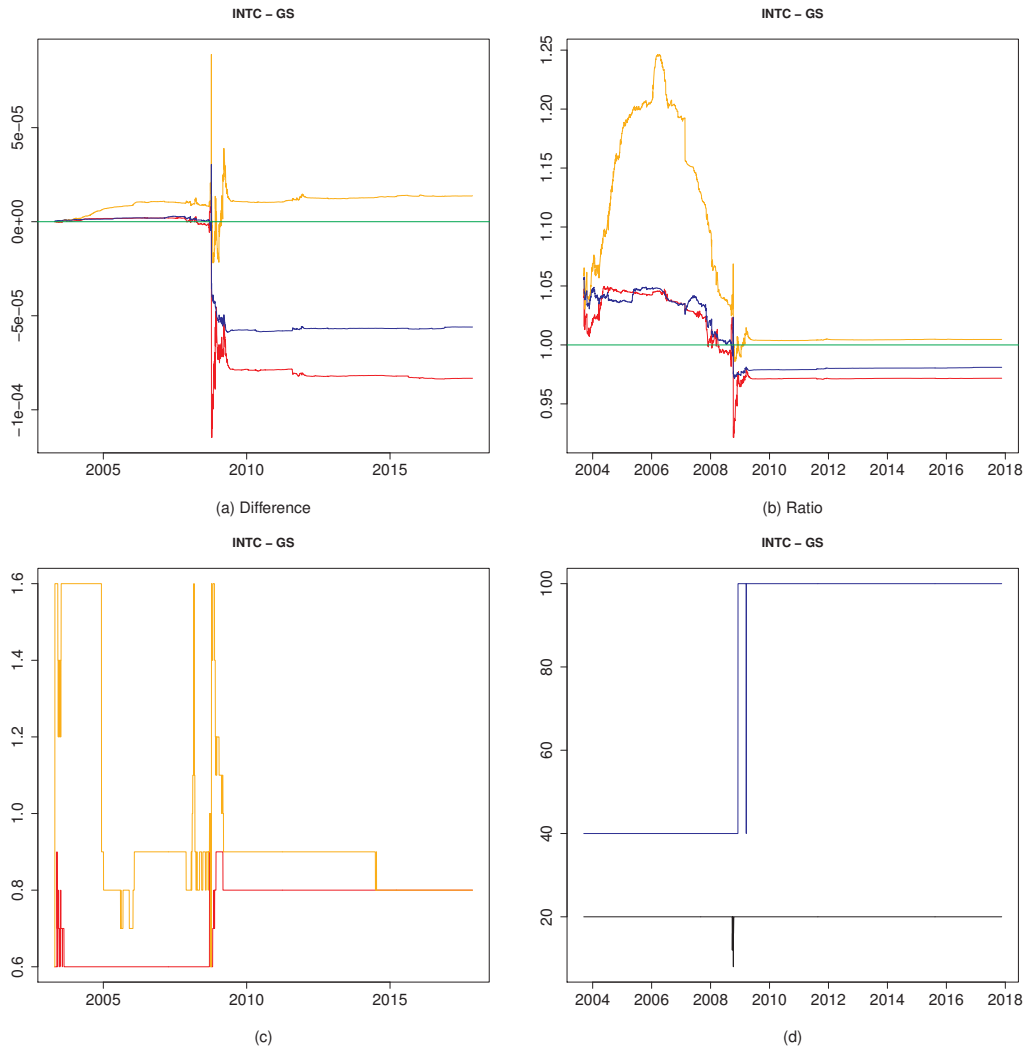


Figure 228: 10-13

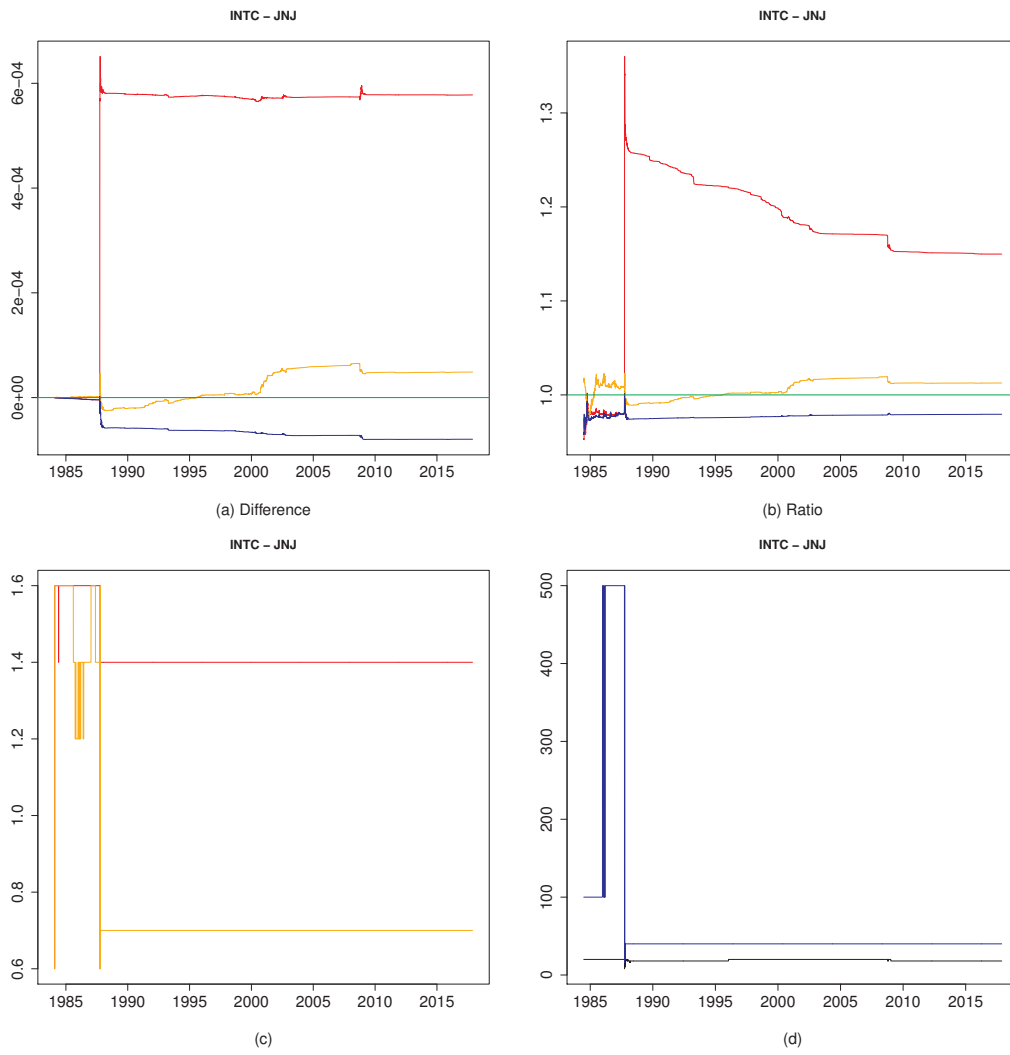


Figure 229: 10-14

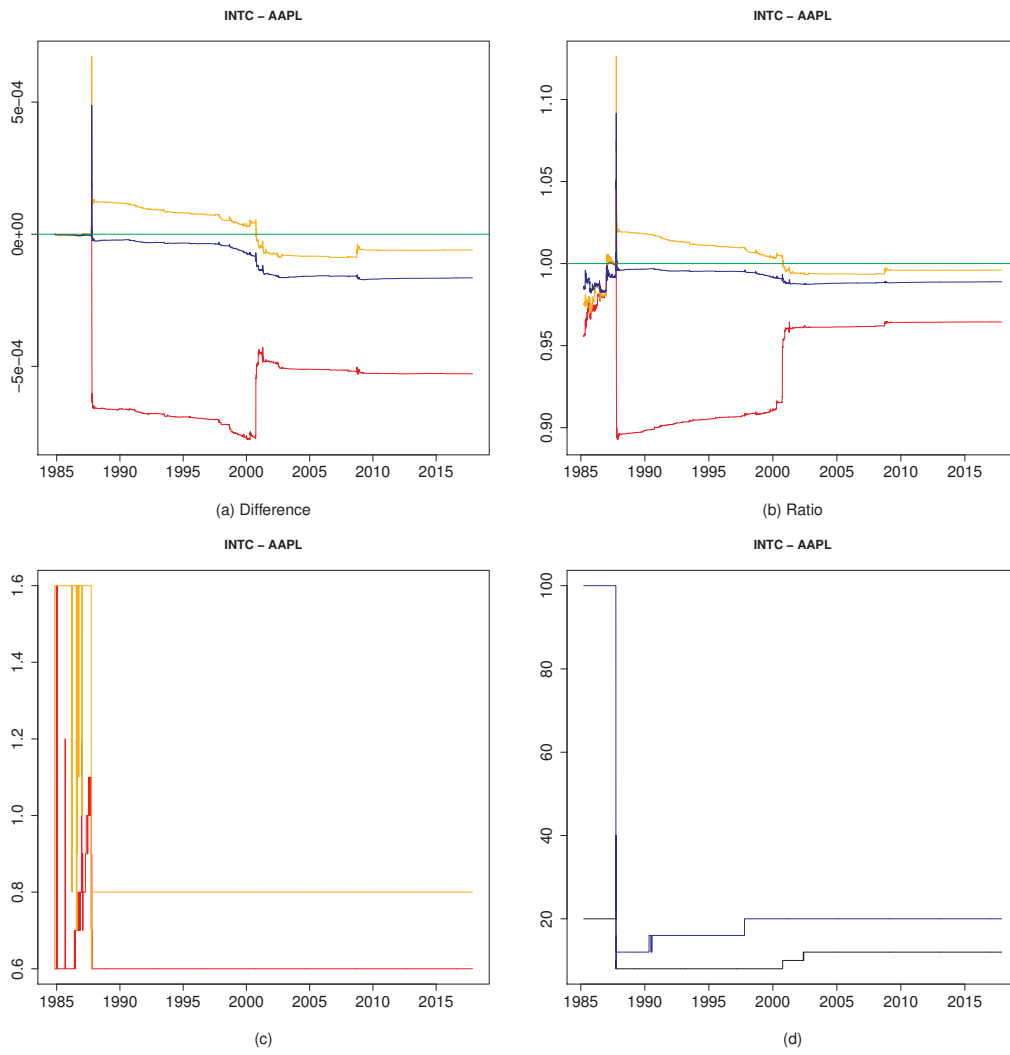


Figure 230: 10-15

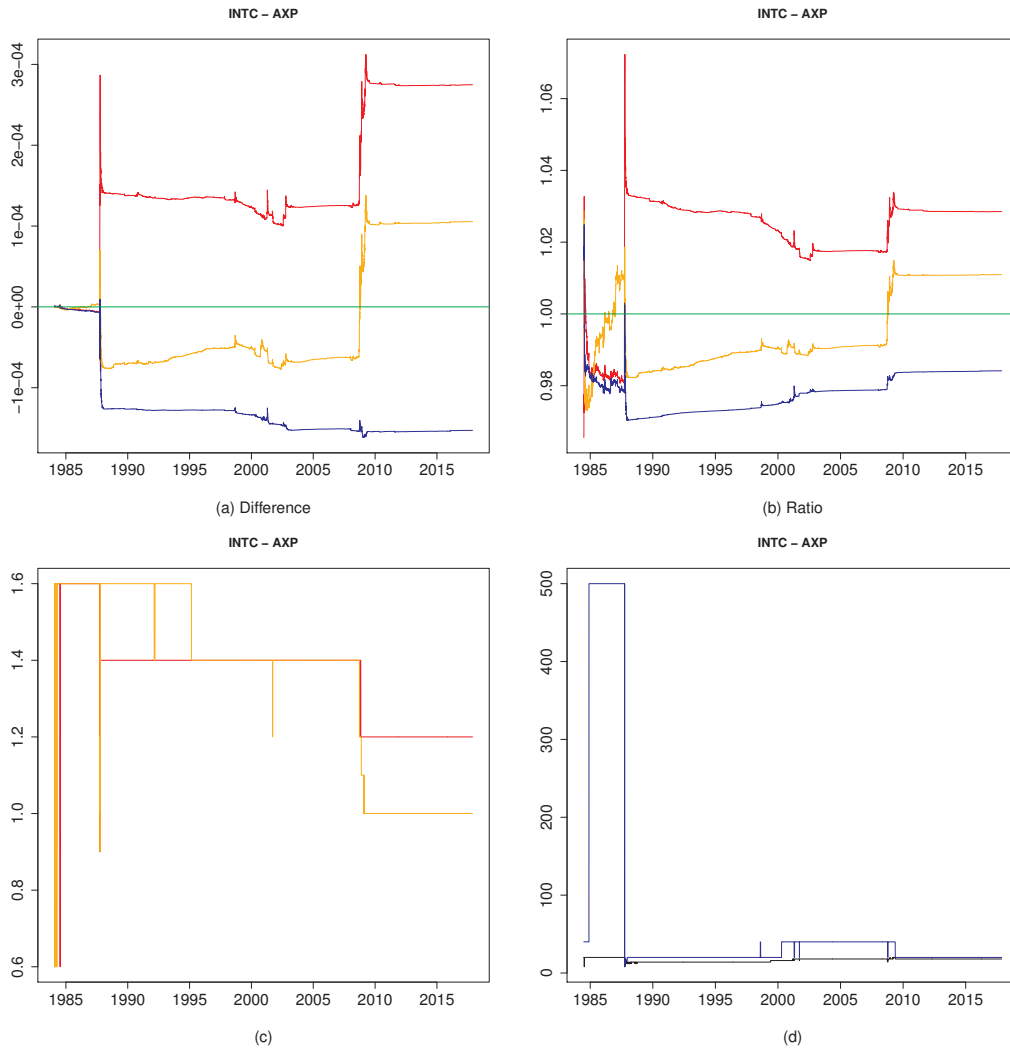


Figure 231: 10-16

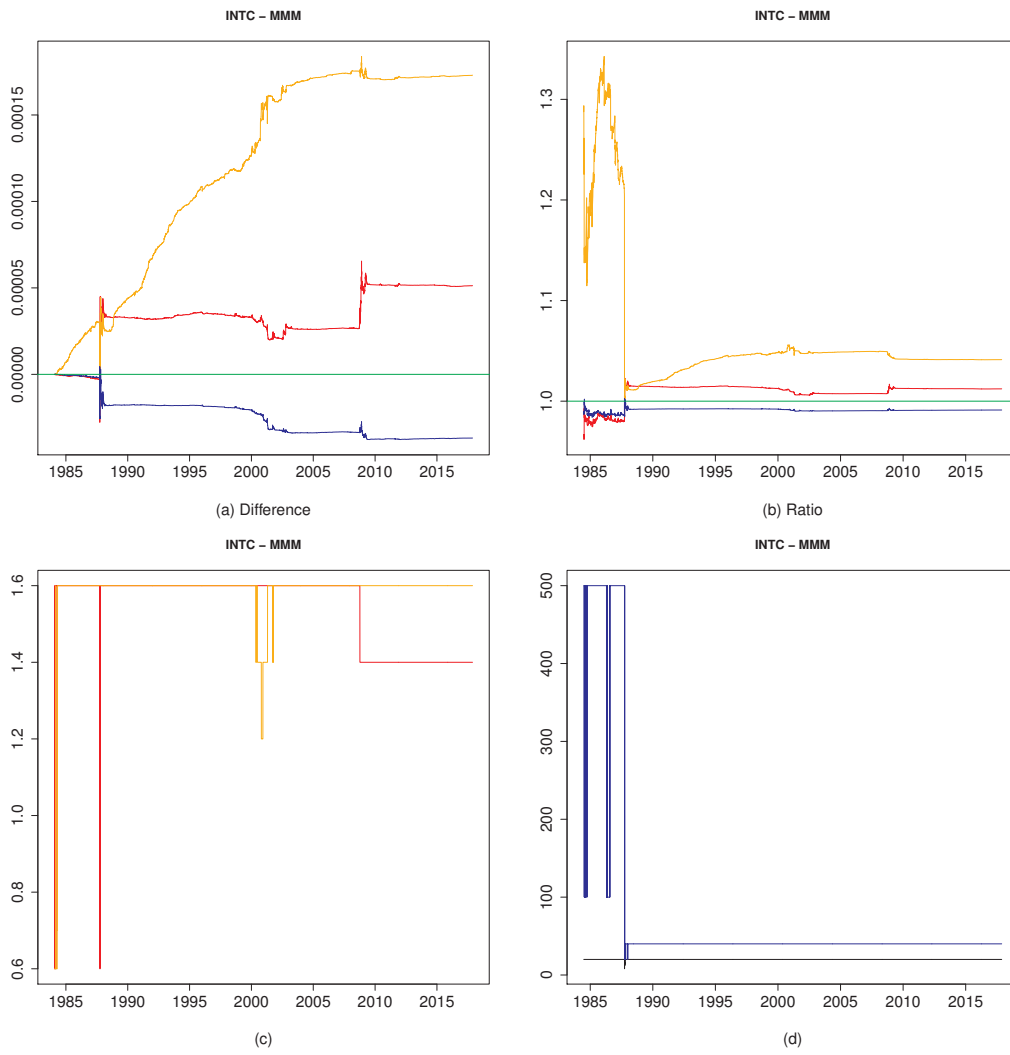


Figure 232: 10-17

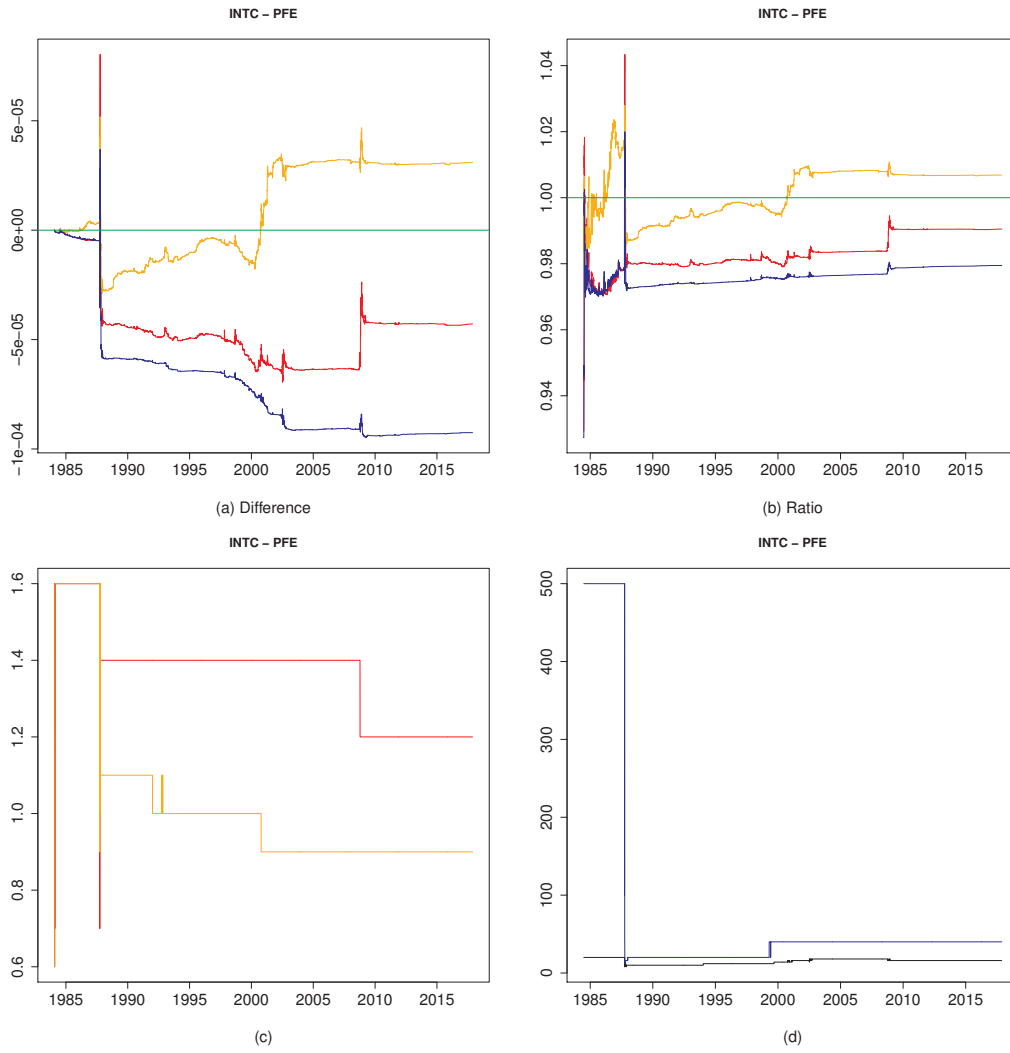


Figure 233: 10-18

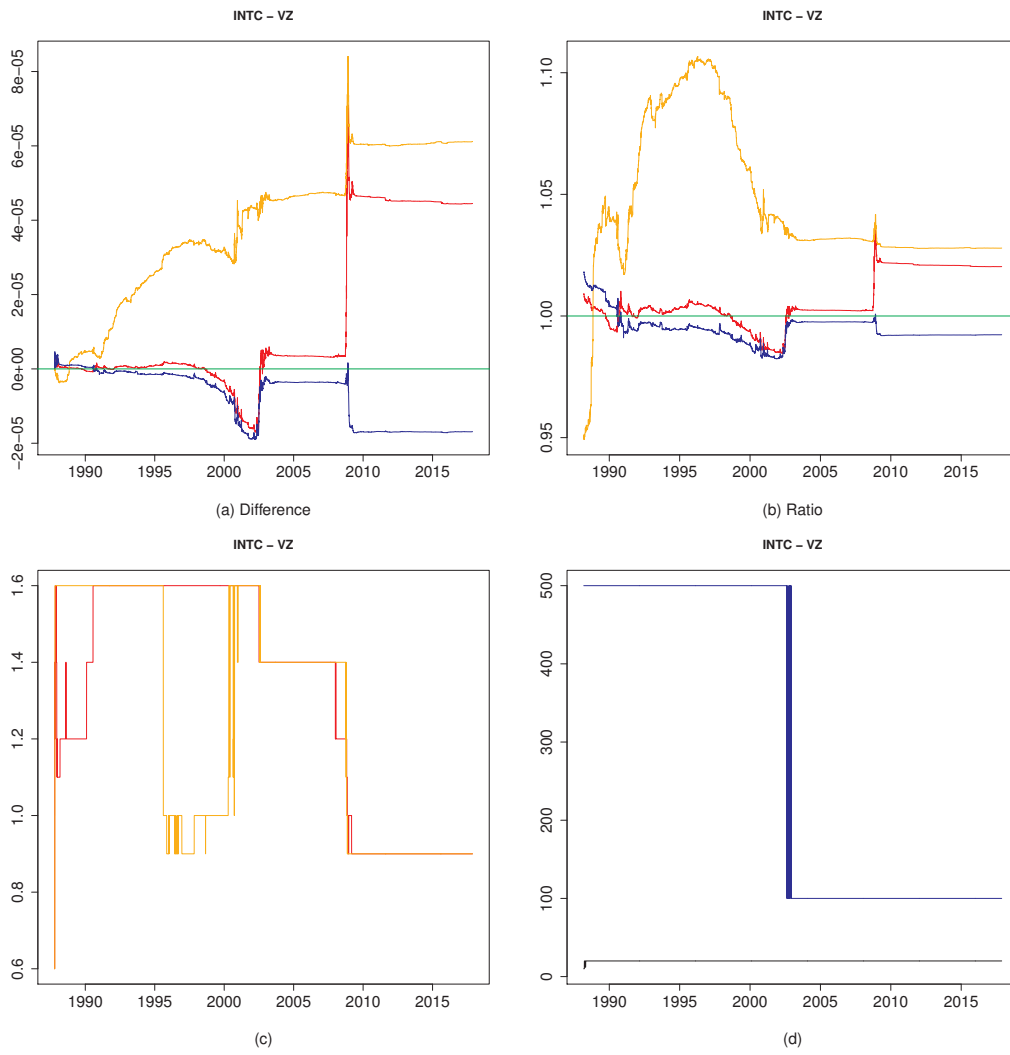


Figure 234: 10-19

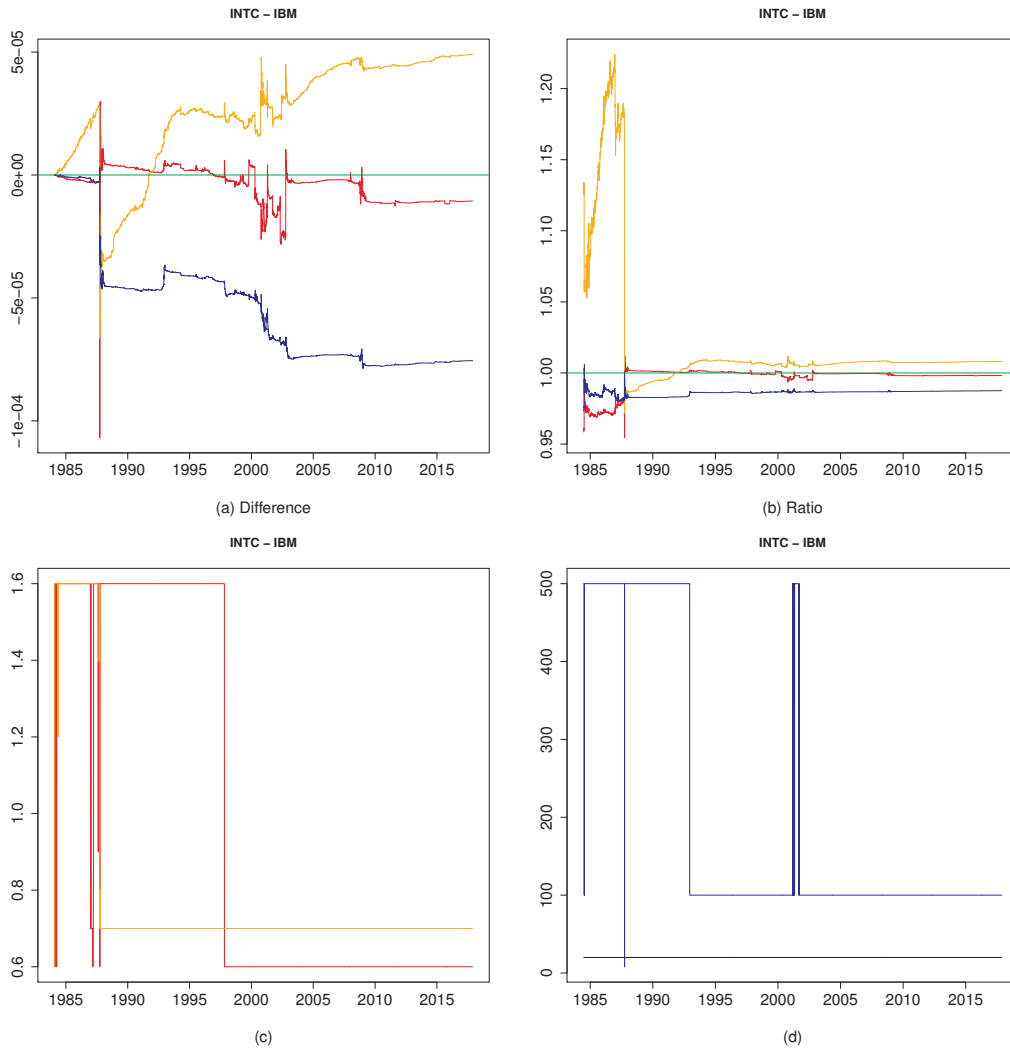


Figure 235: 10-20

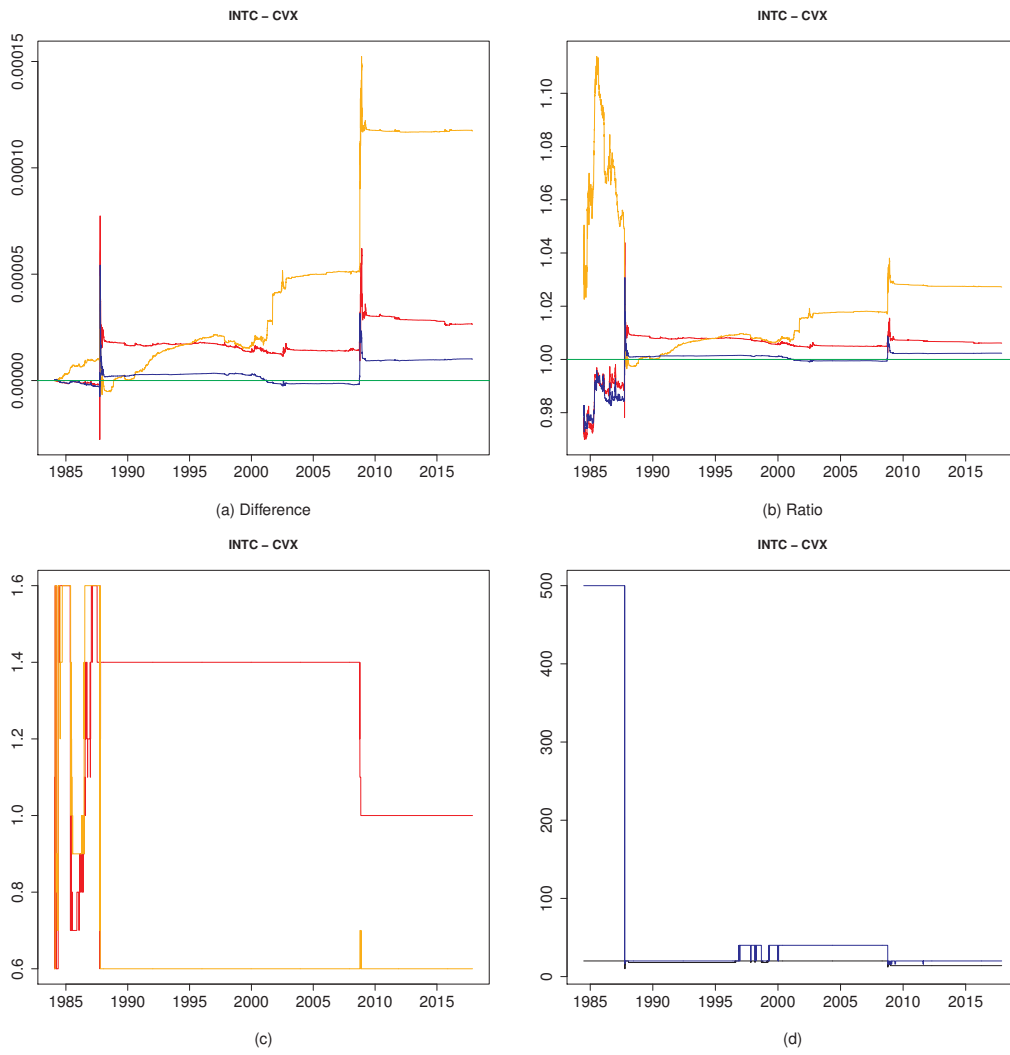


Figure 236: 10-21

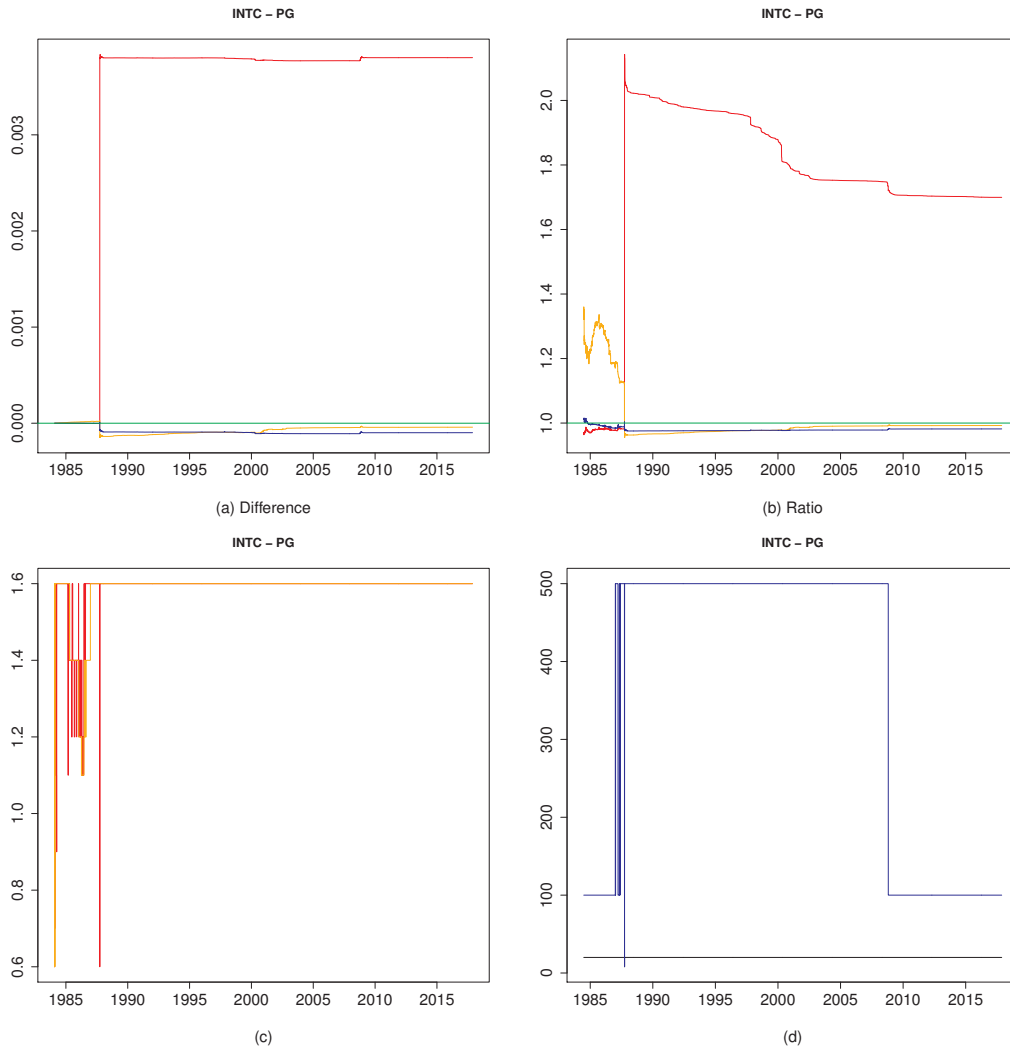


Figure 237: 10-22

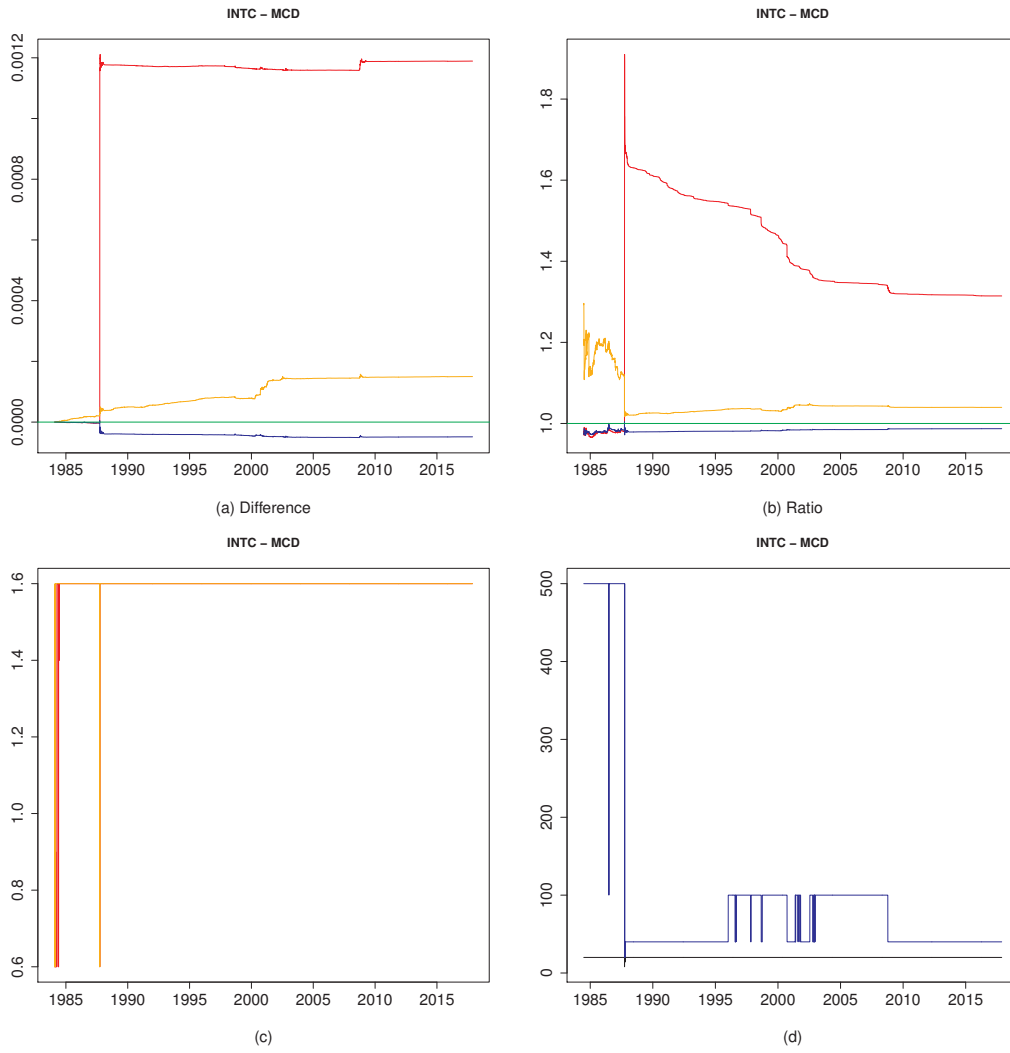


Figure 238: 10-23

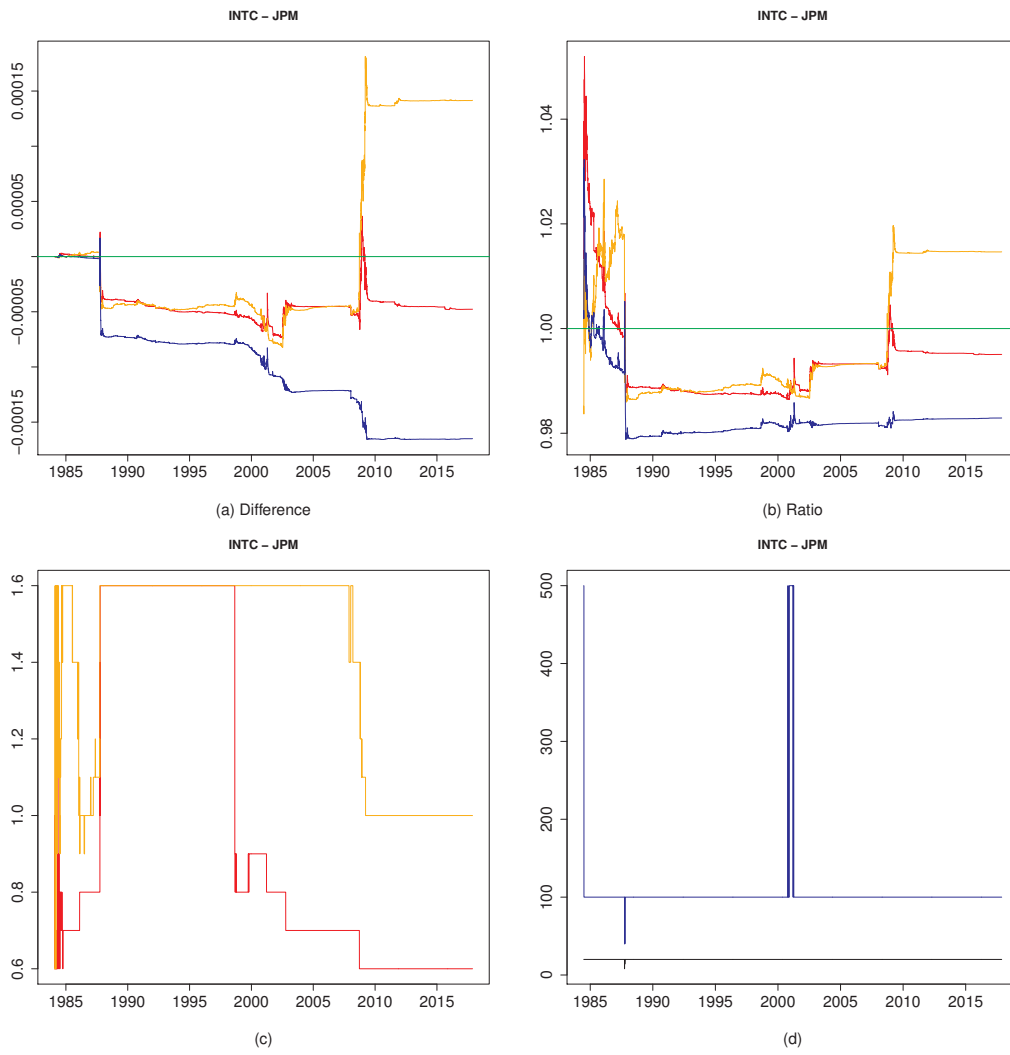


Figure 239: 10-24

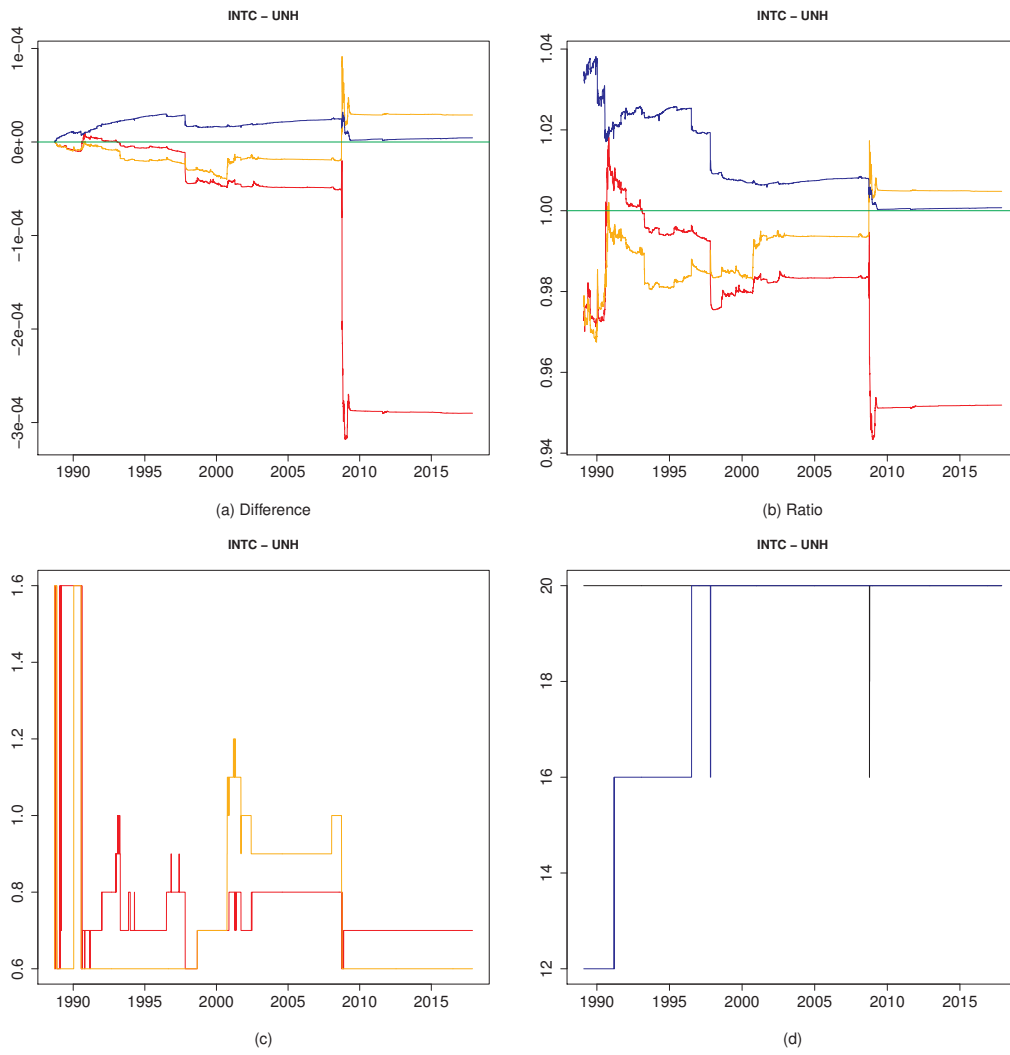


Figure 240: 10-25

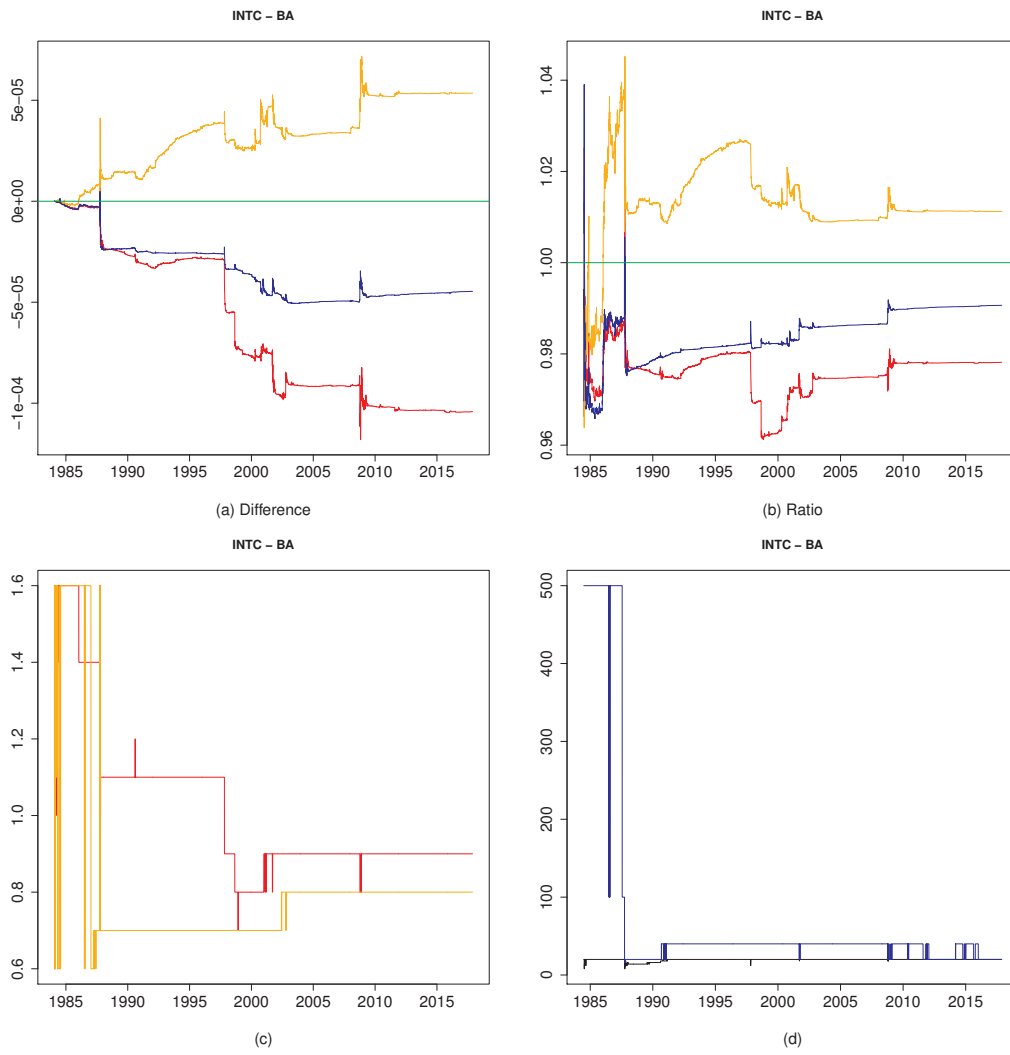


Figure 241: 10-26

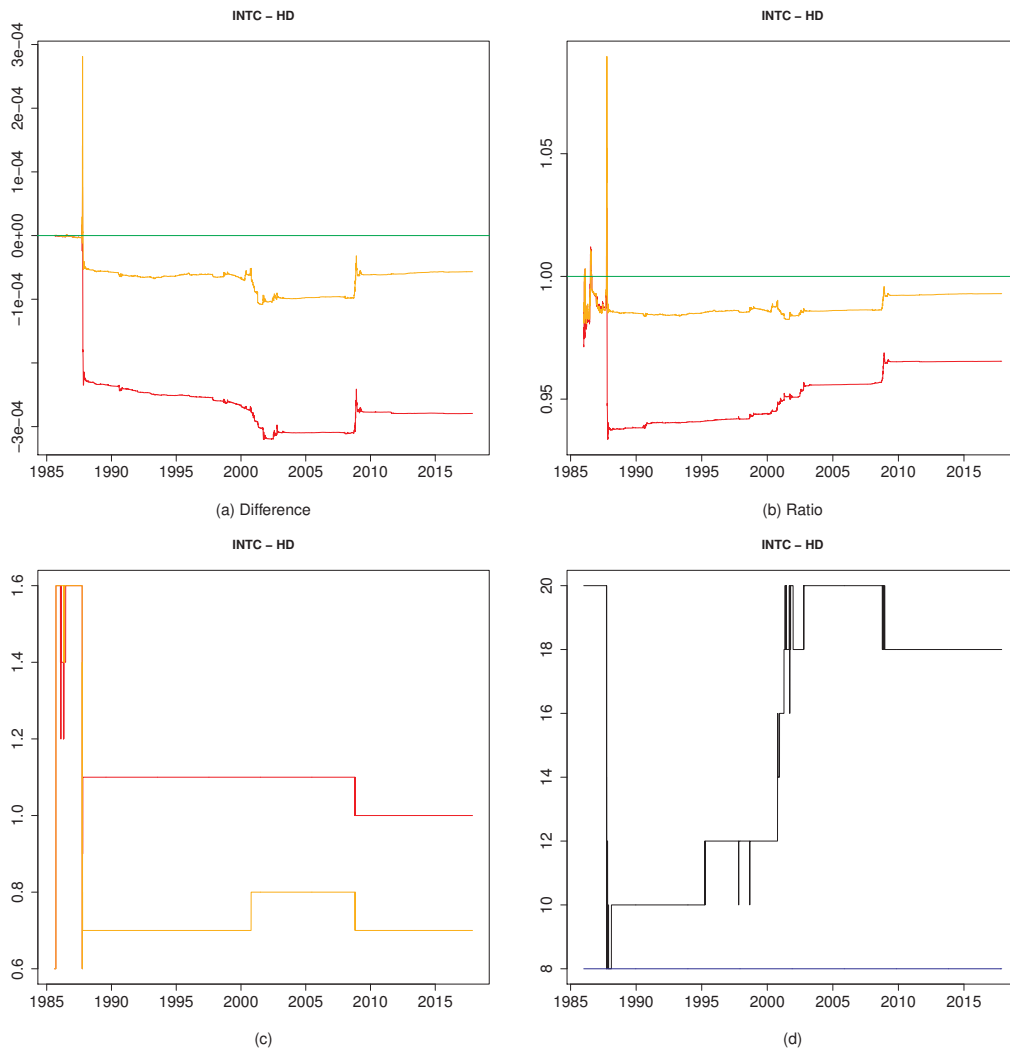


Figure 242: 10-27

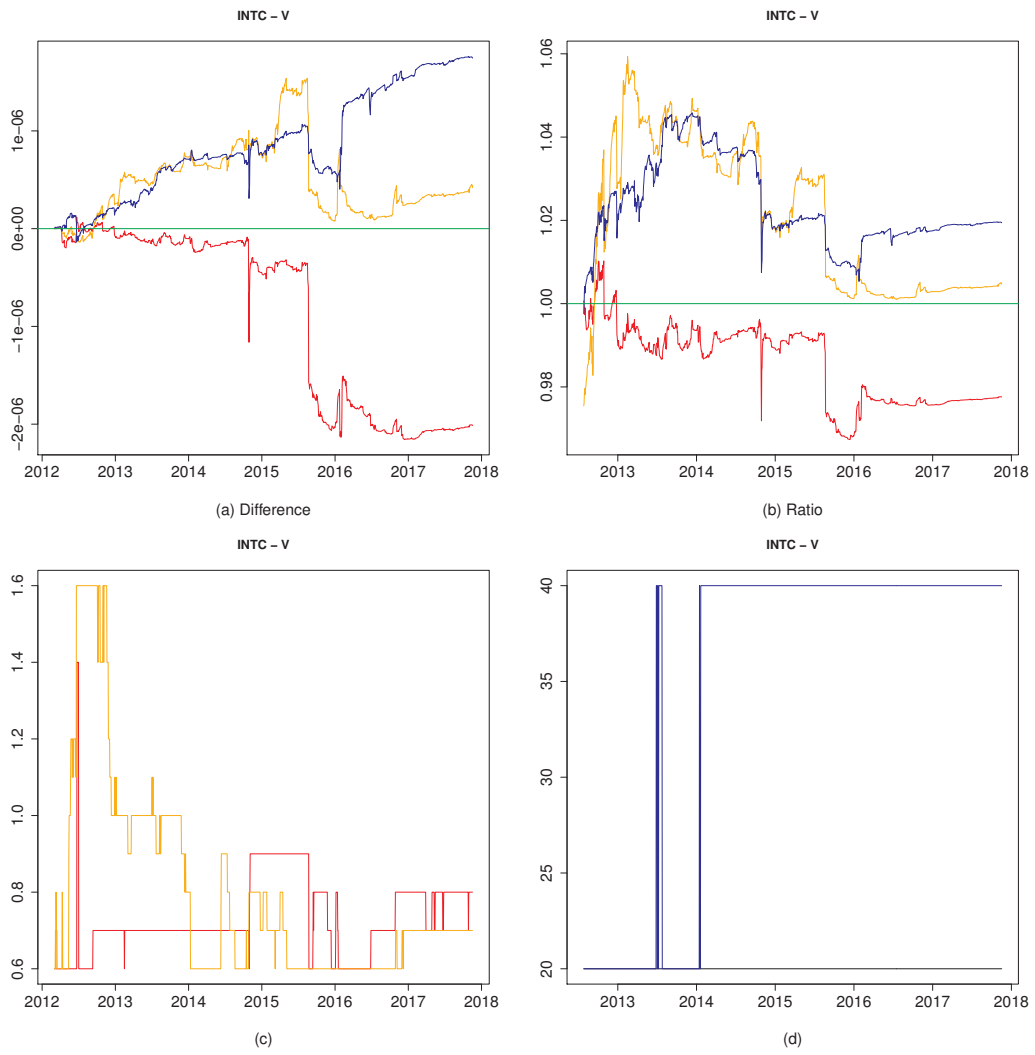


Figure 243: 10-28

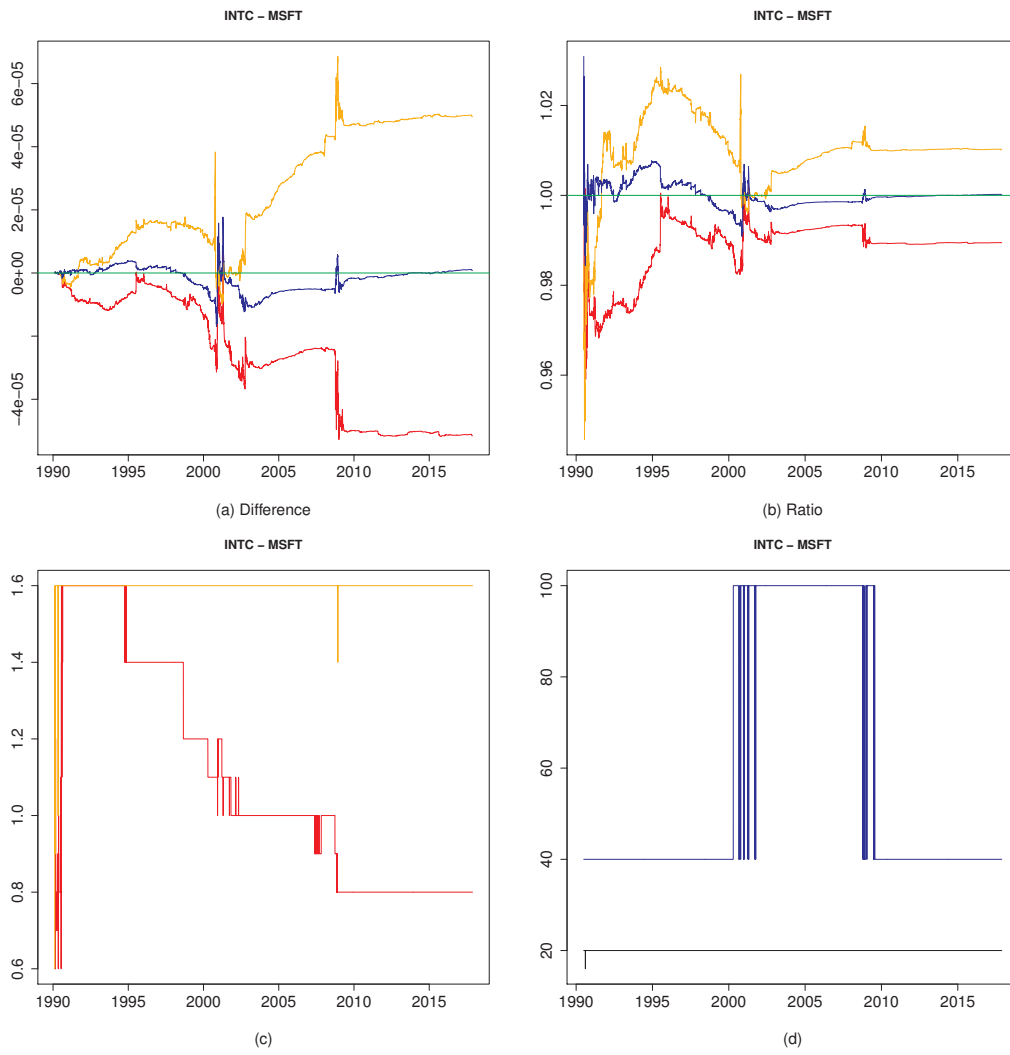


Figure 244: 10-29

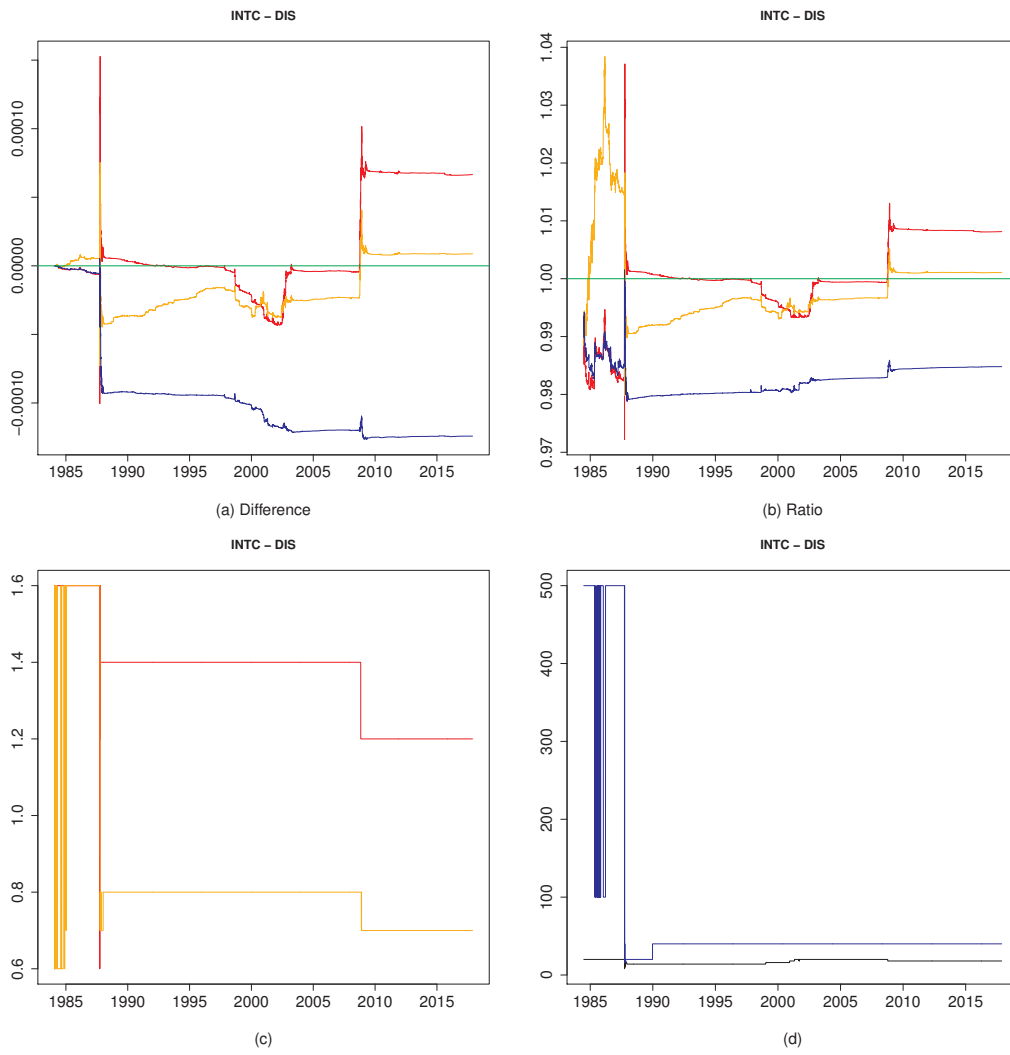


Figure 245: 10-30

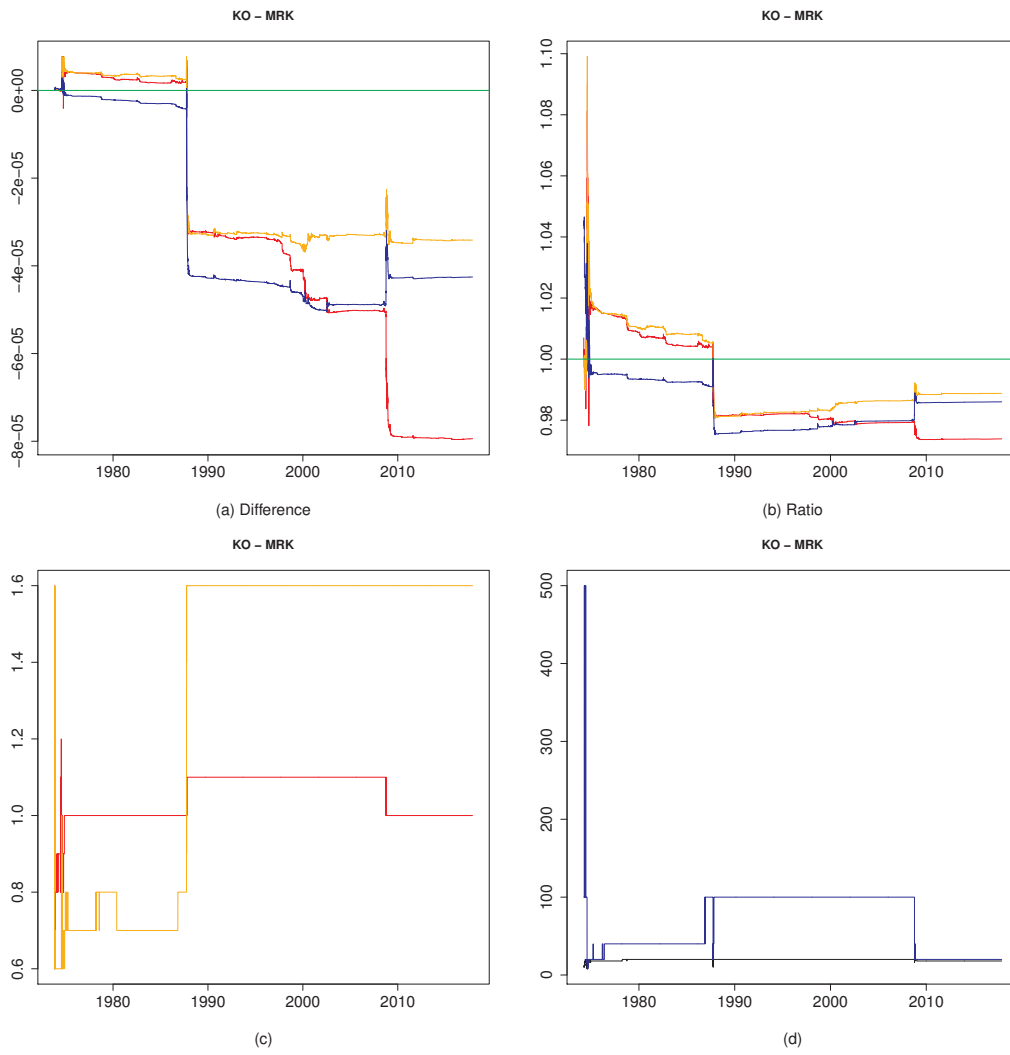


Figure 246: 11-12

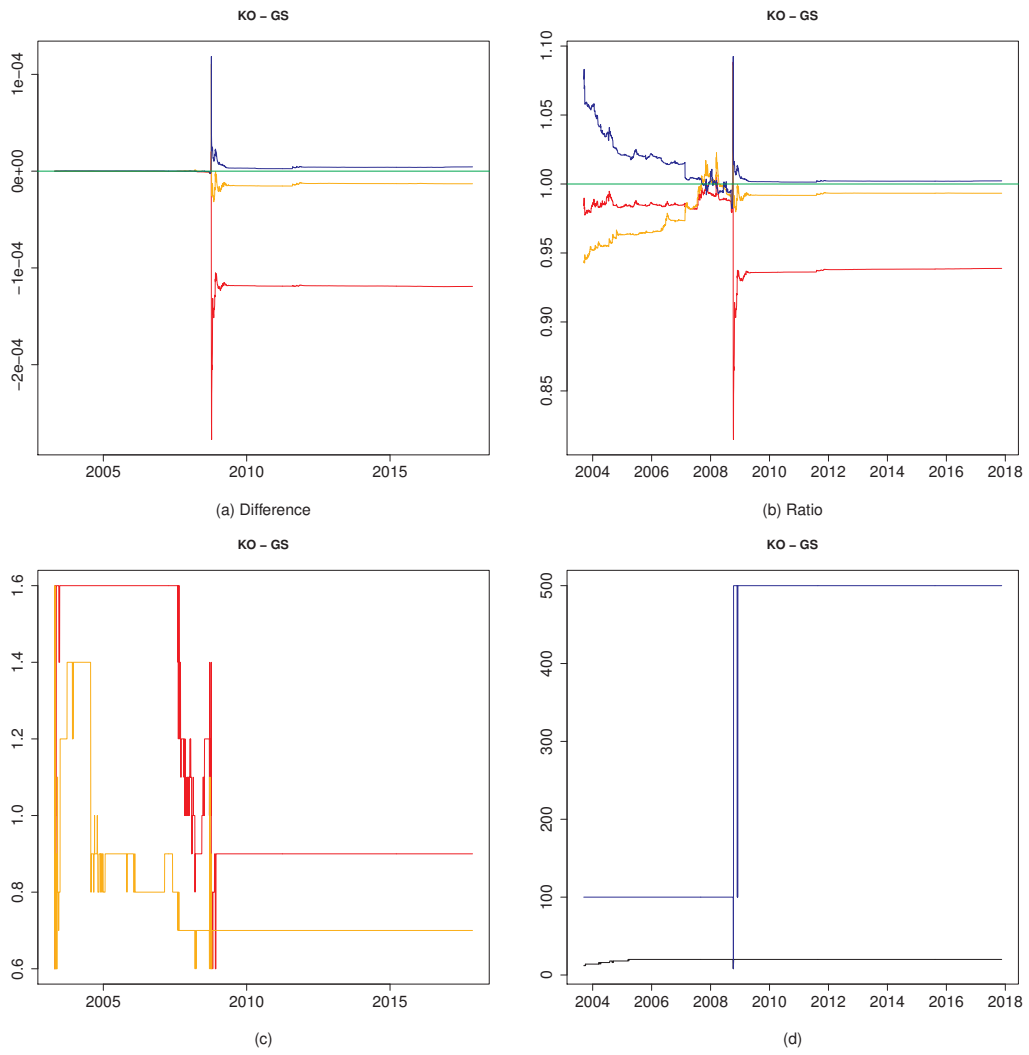


Figure 247: 11-13

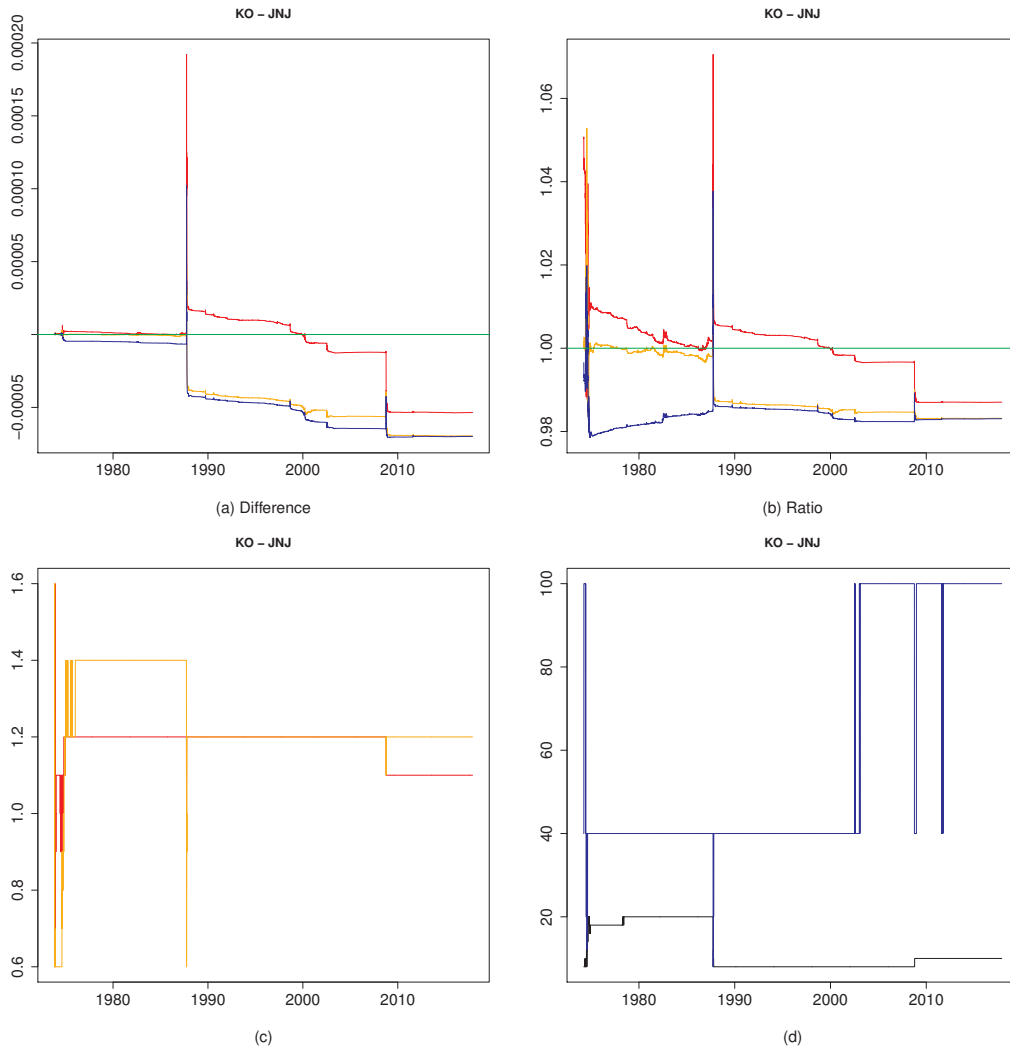


Figure 248: 11-14

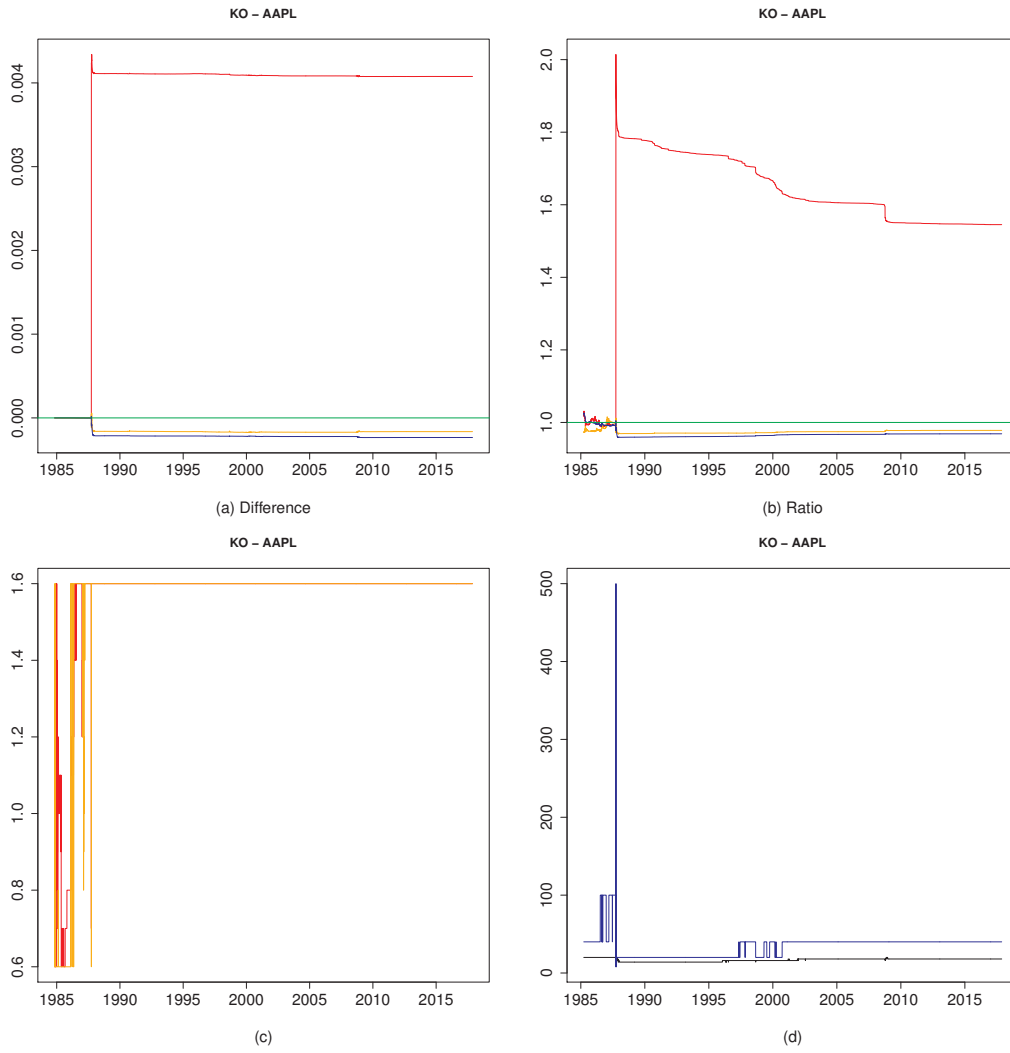


Figure 249: 11-15

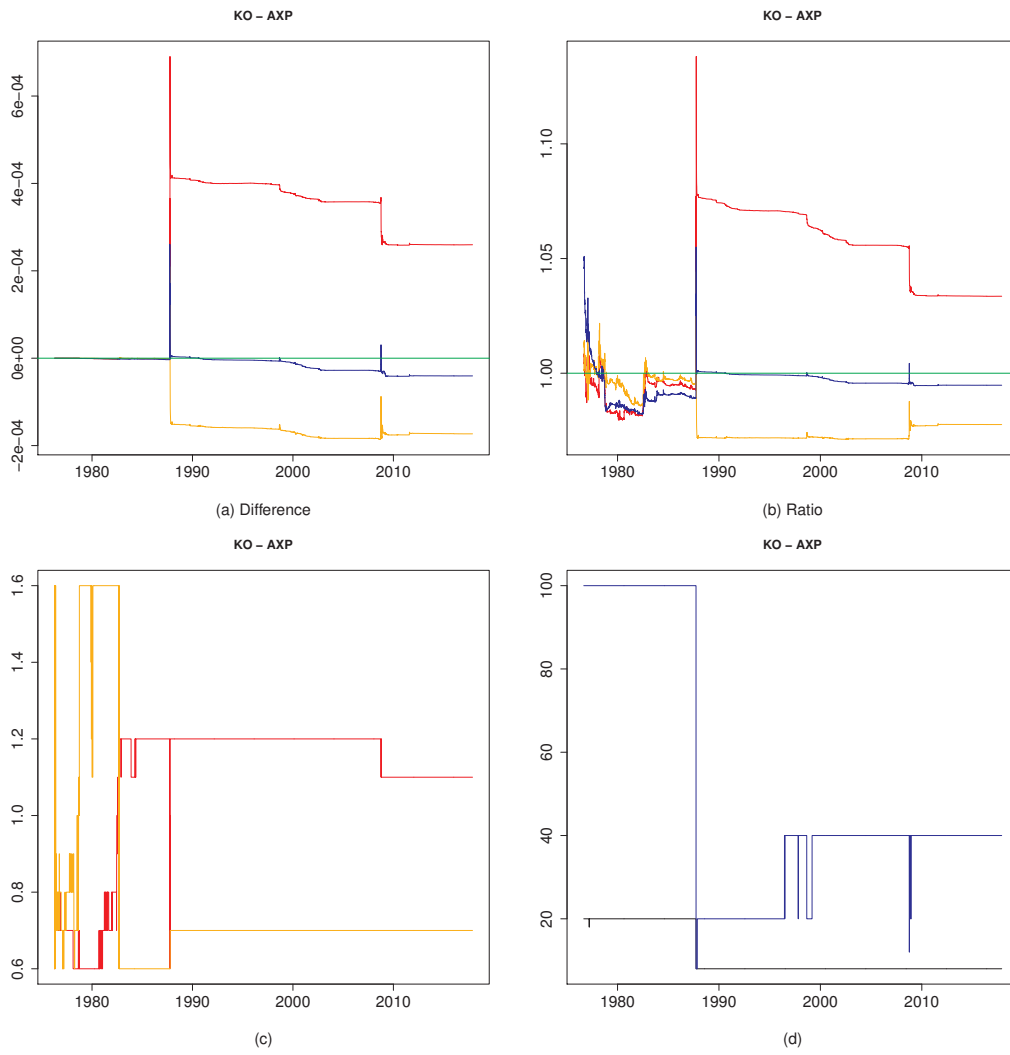


Figure 250: 11-16

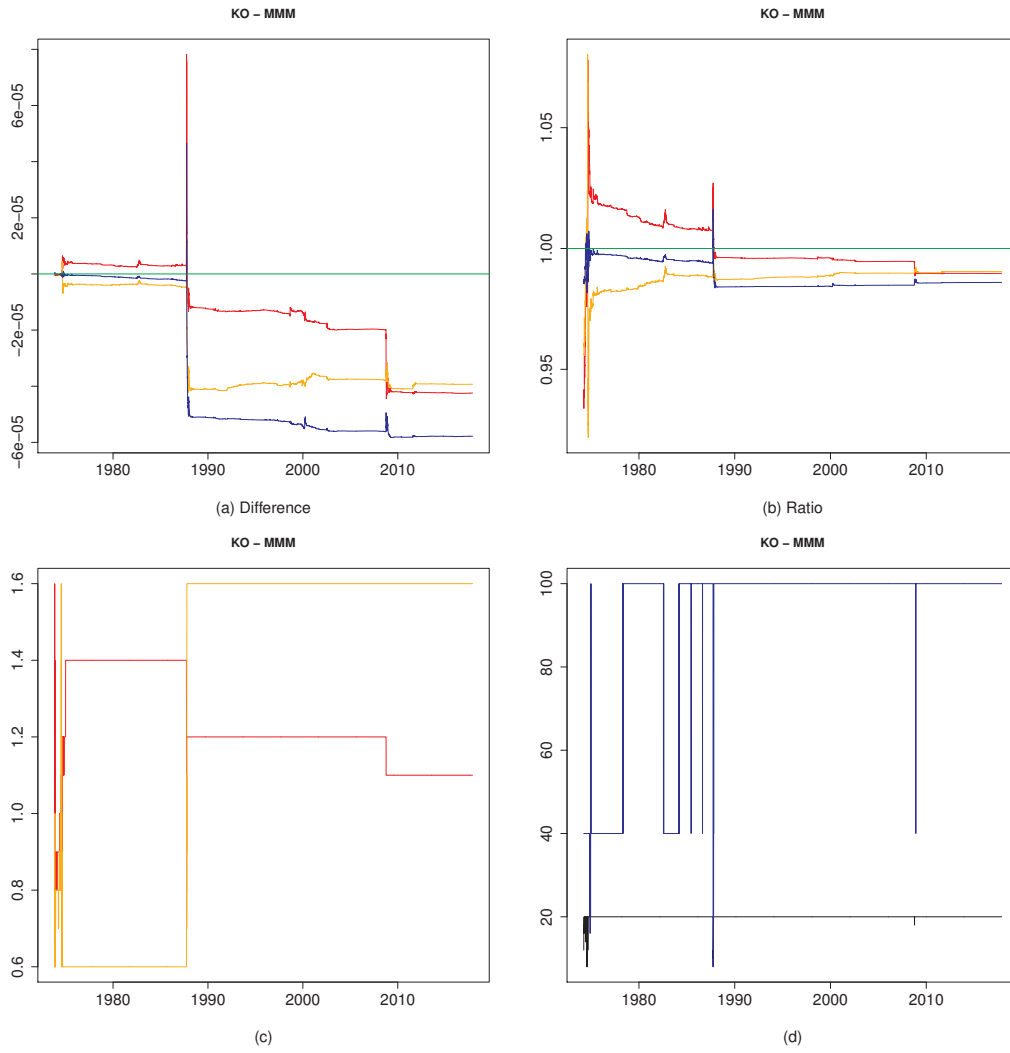


Figure 251: 11-17

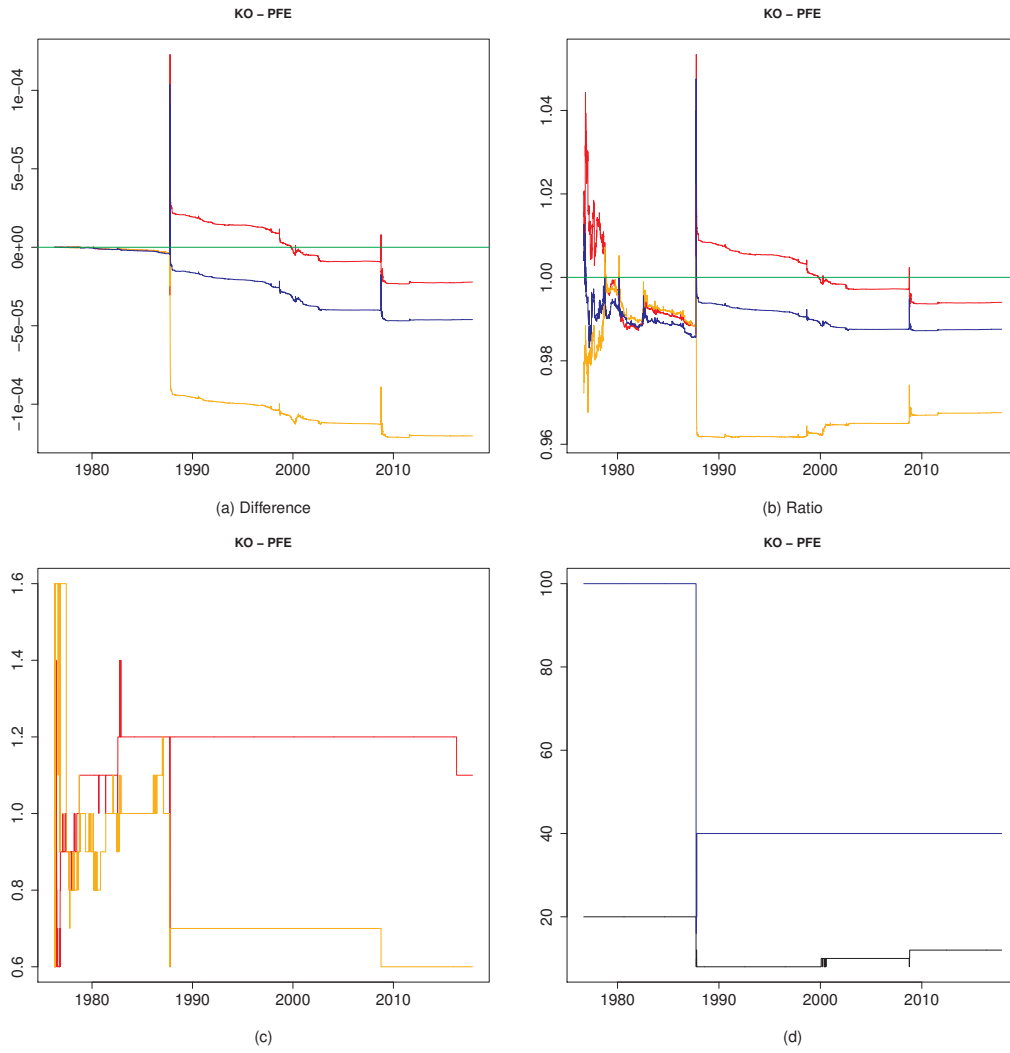


Figure 252: 11-18

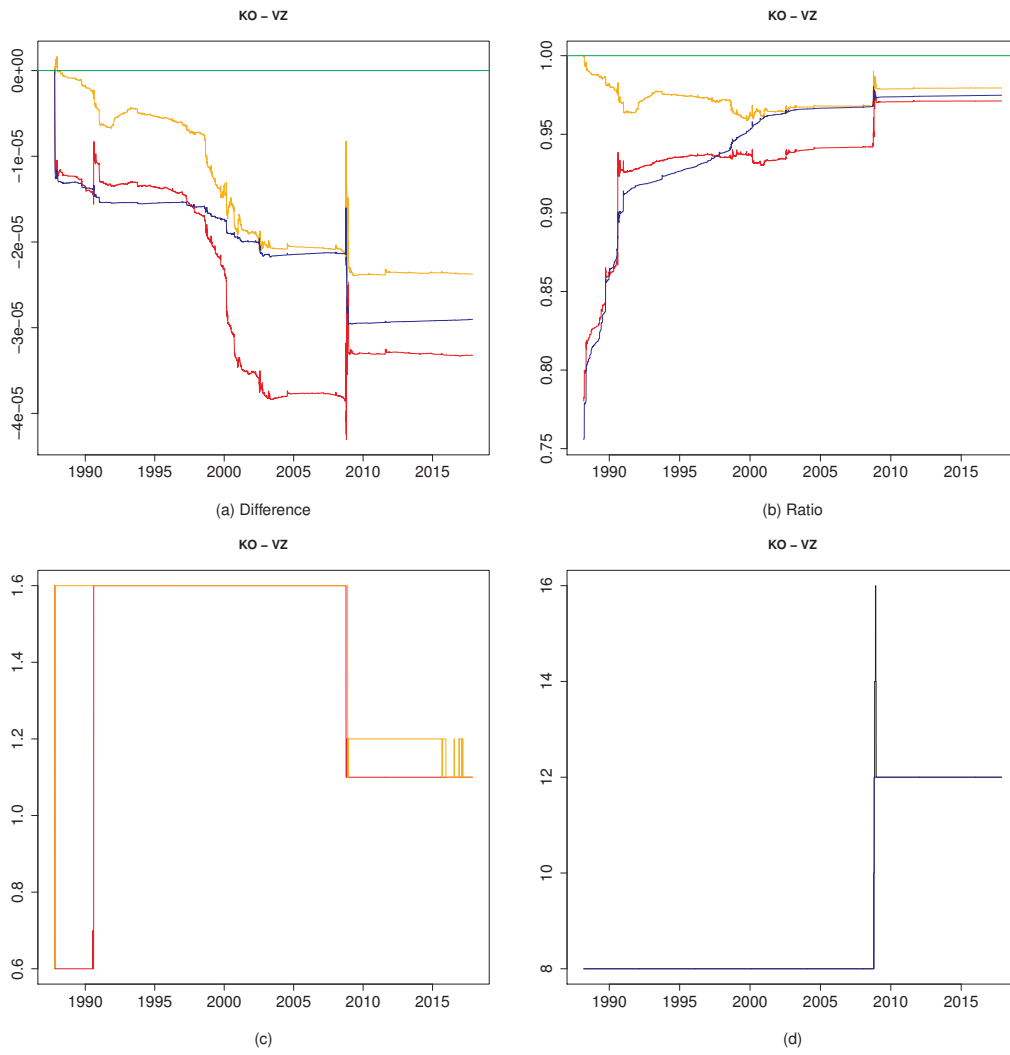


Figure 253: 11-19

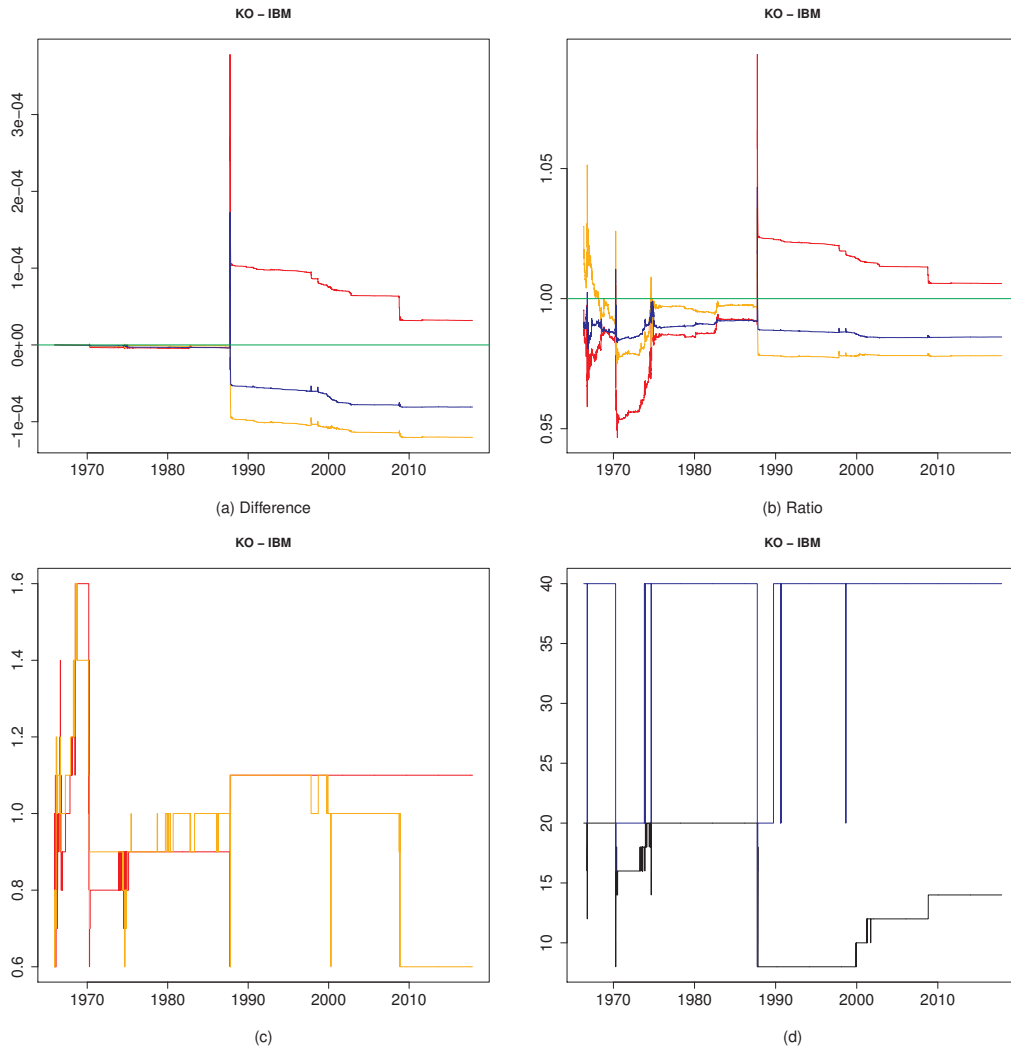


Figure 254: 11-20

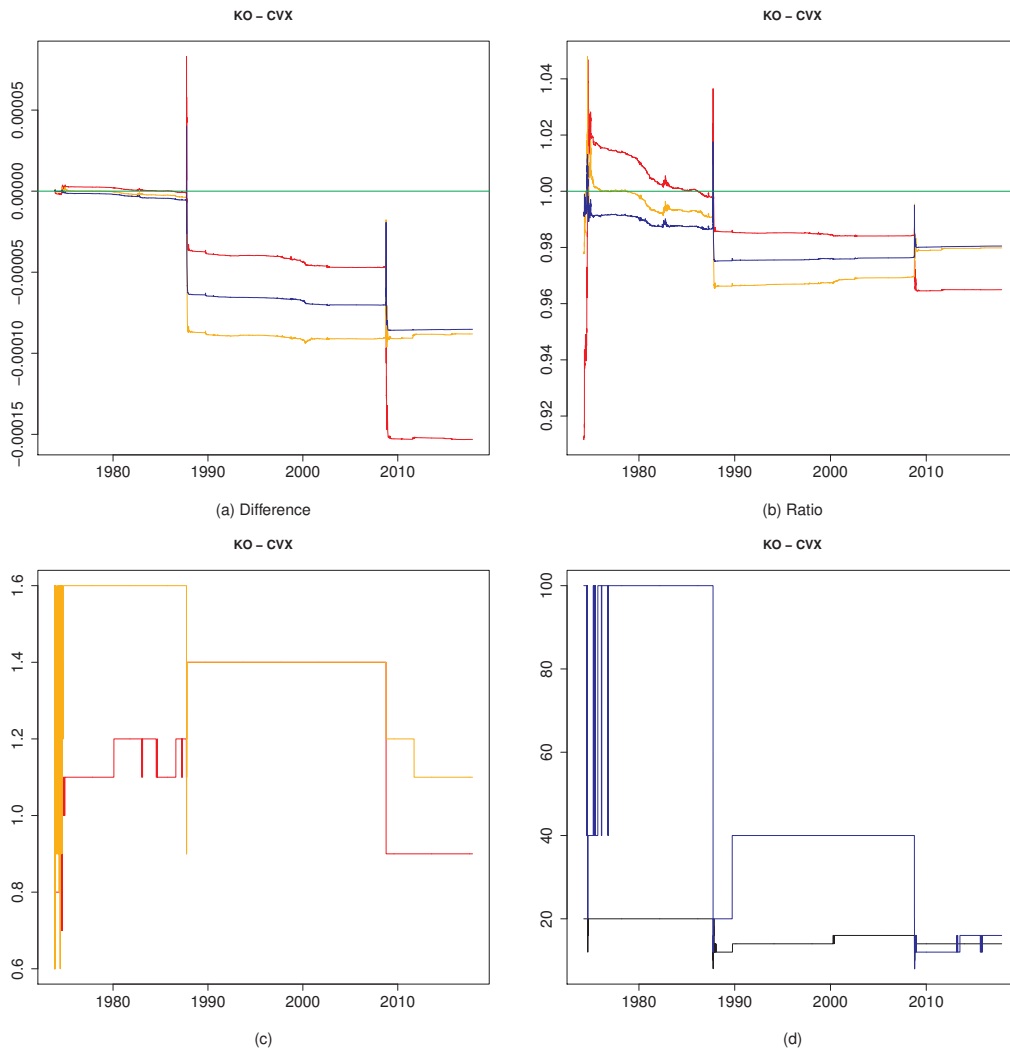


Figure 255: 11-21

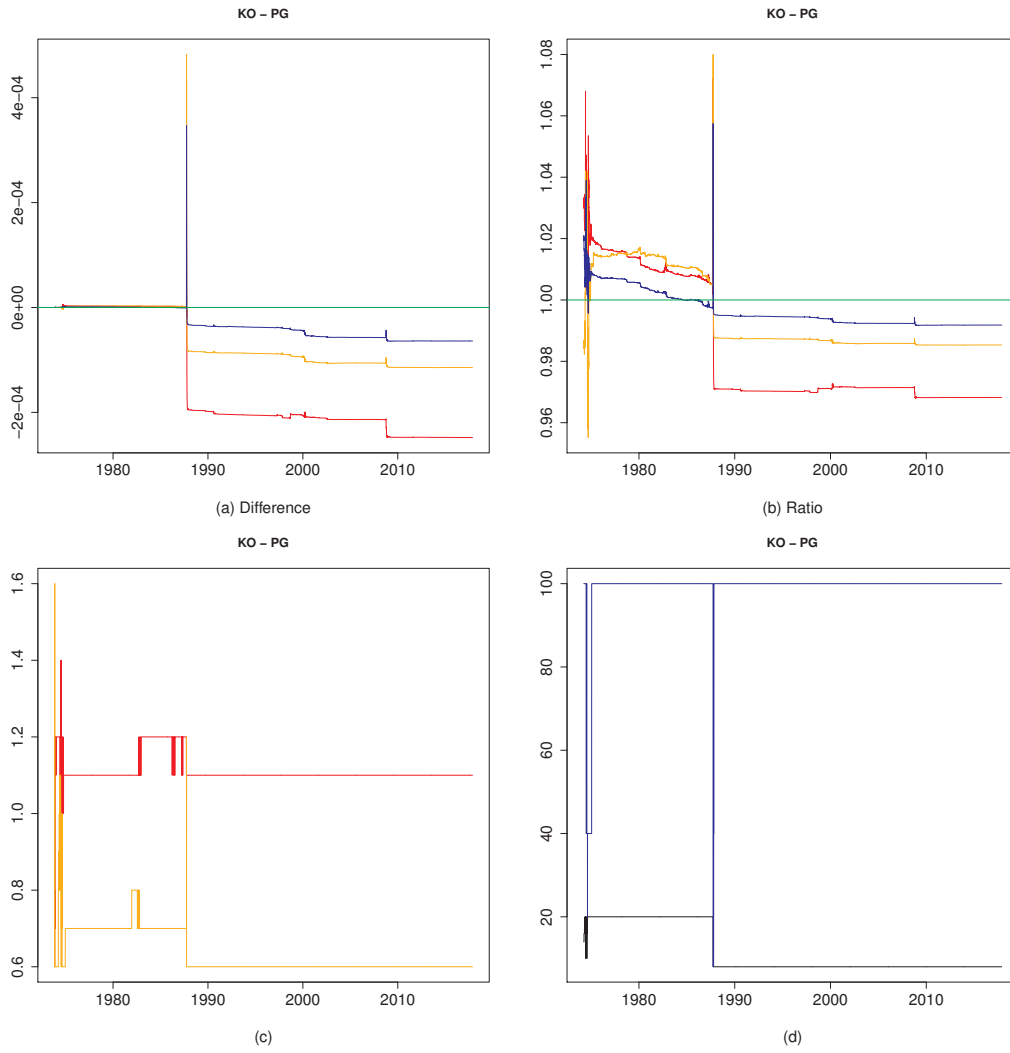


Figure 256: 11-22

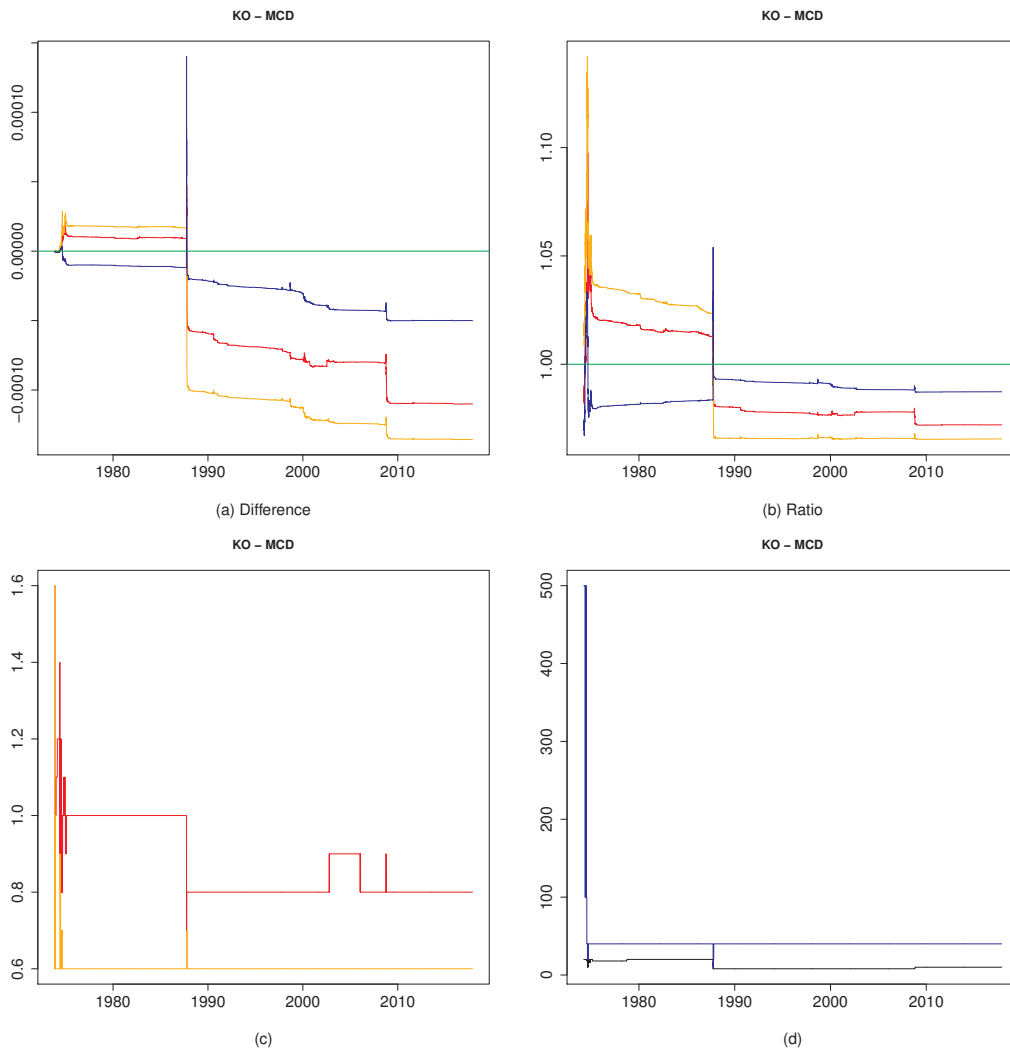


Figure 257: 11-23

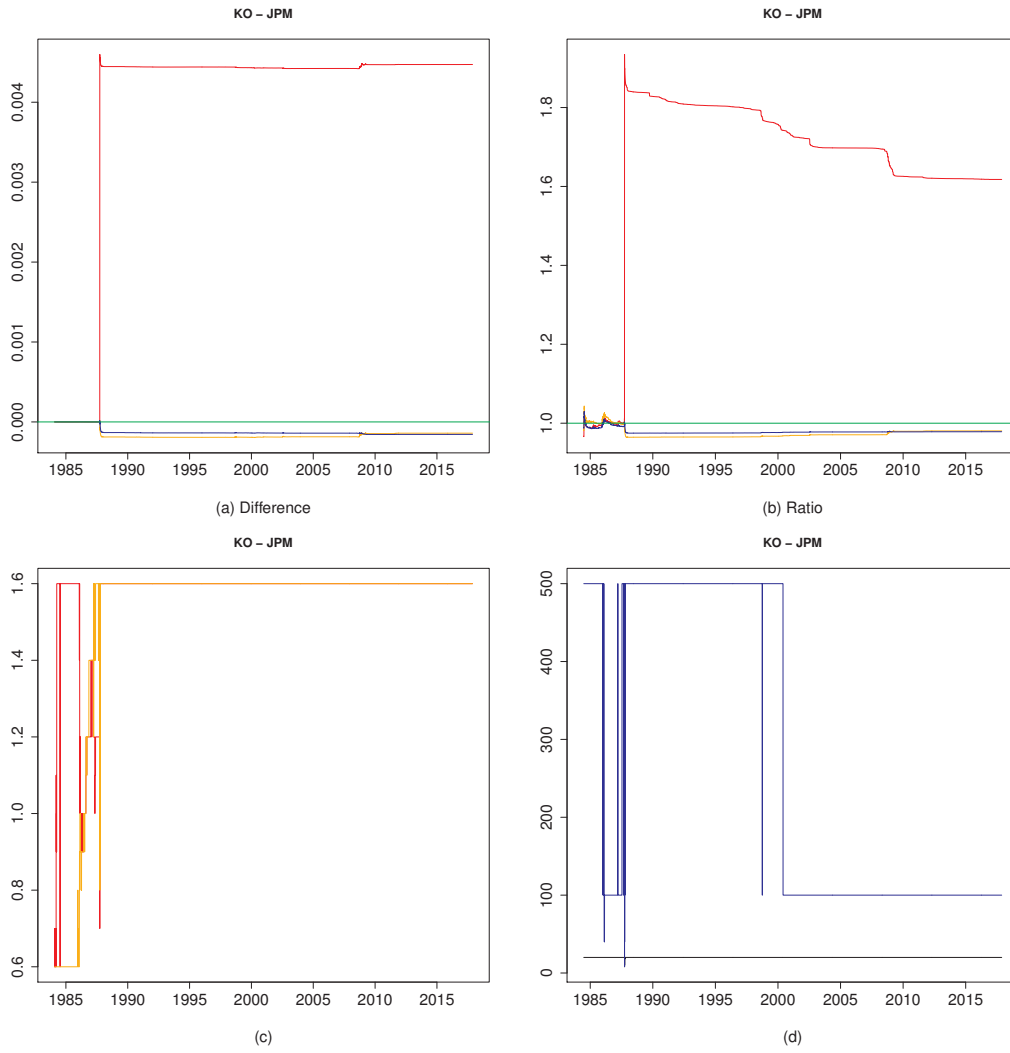


Figure 258: 11-24

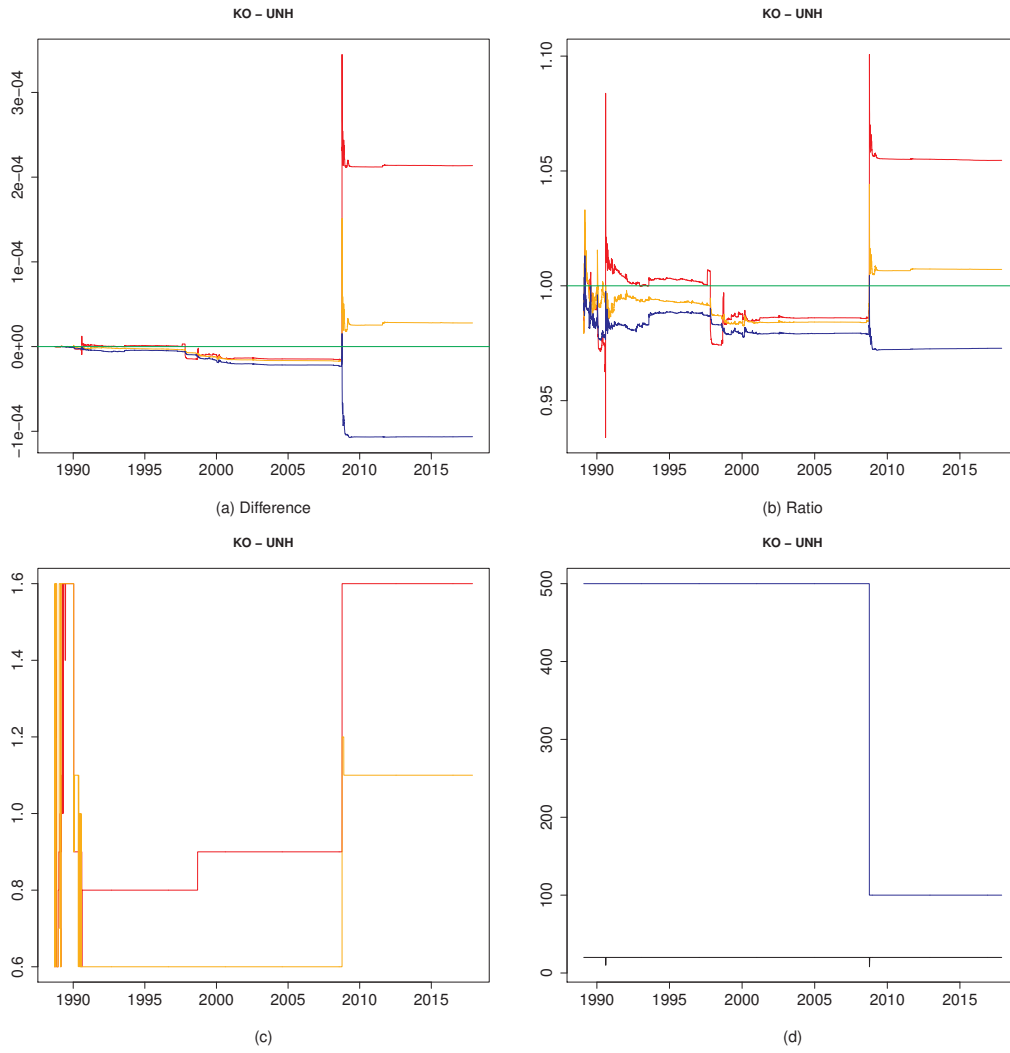


Figure 259: 11-25

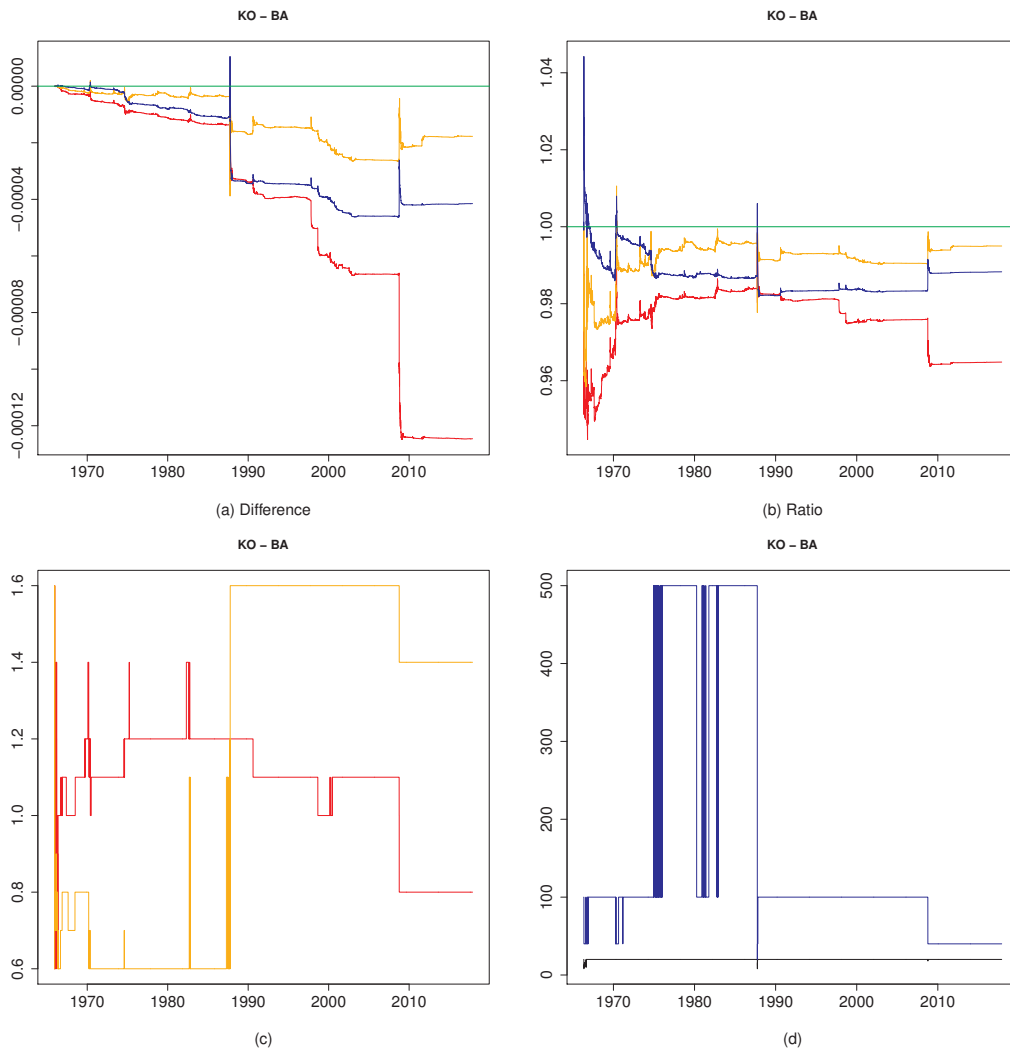


Figure 260: 11-26

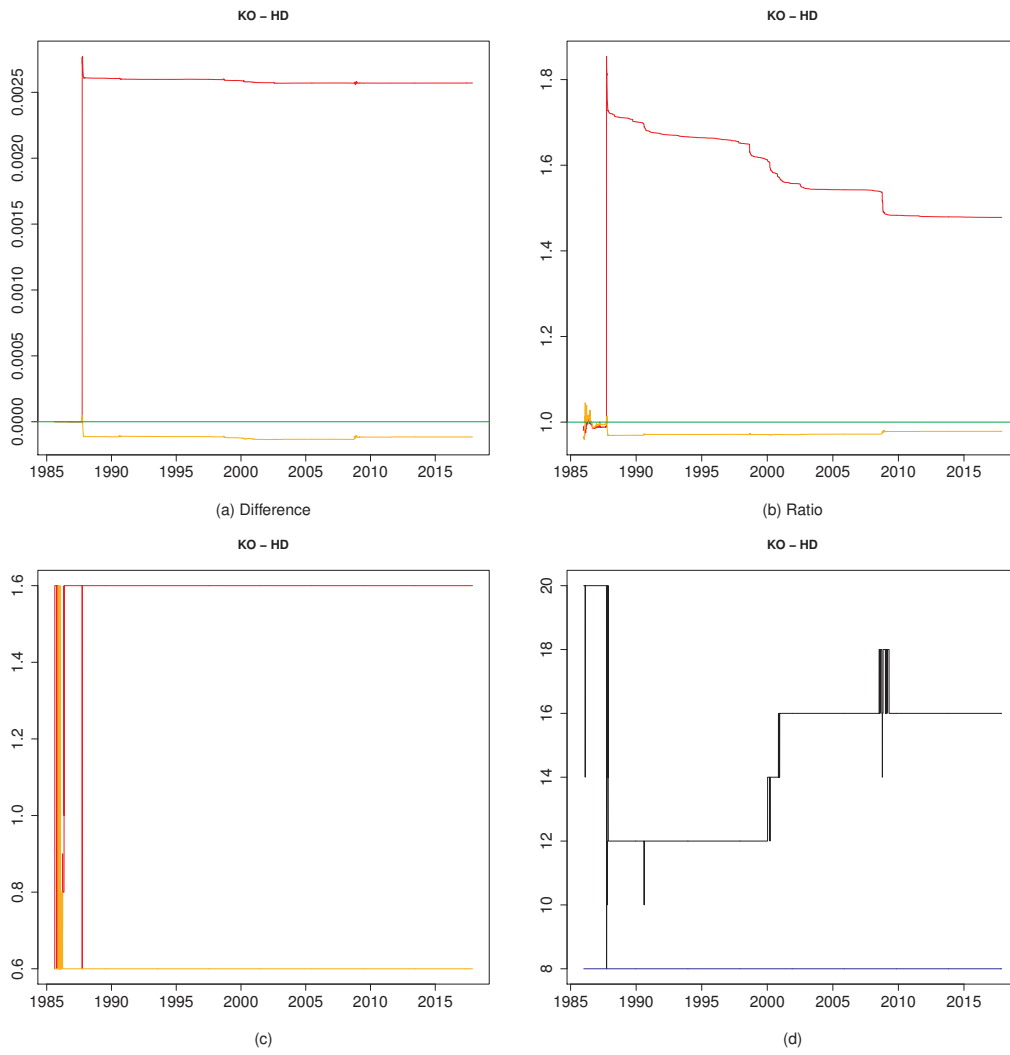


Figure 261: 11-27

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Figure 264

1.12 Pairs from 12-13 to 12-30

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1.13 Pairs from 13-14 to 13-30

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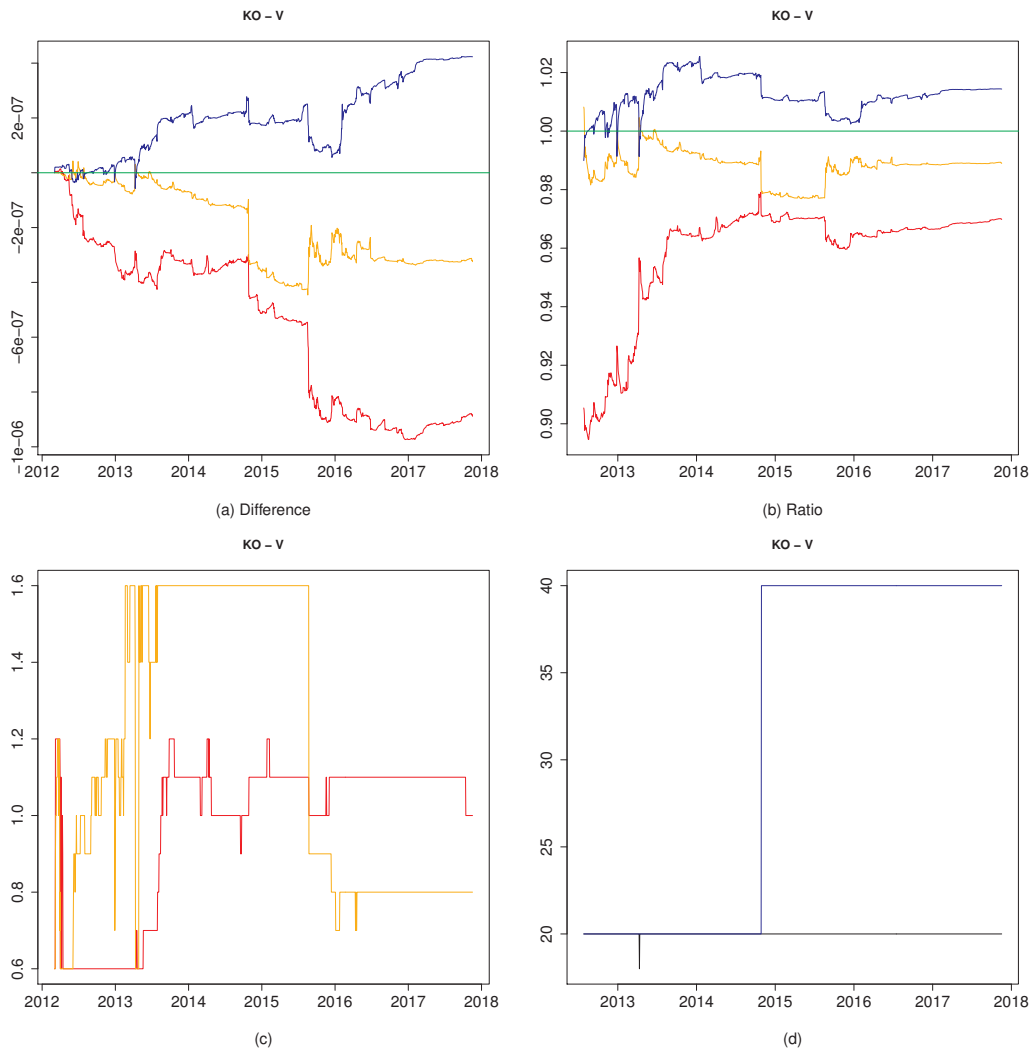


Figure 262: 11-28

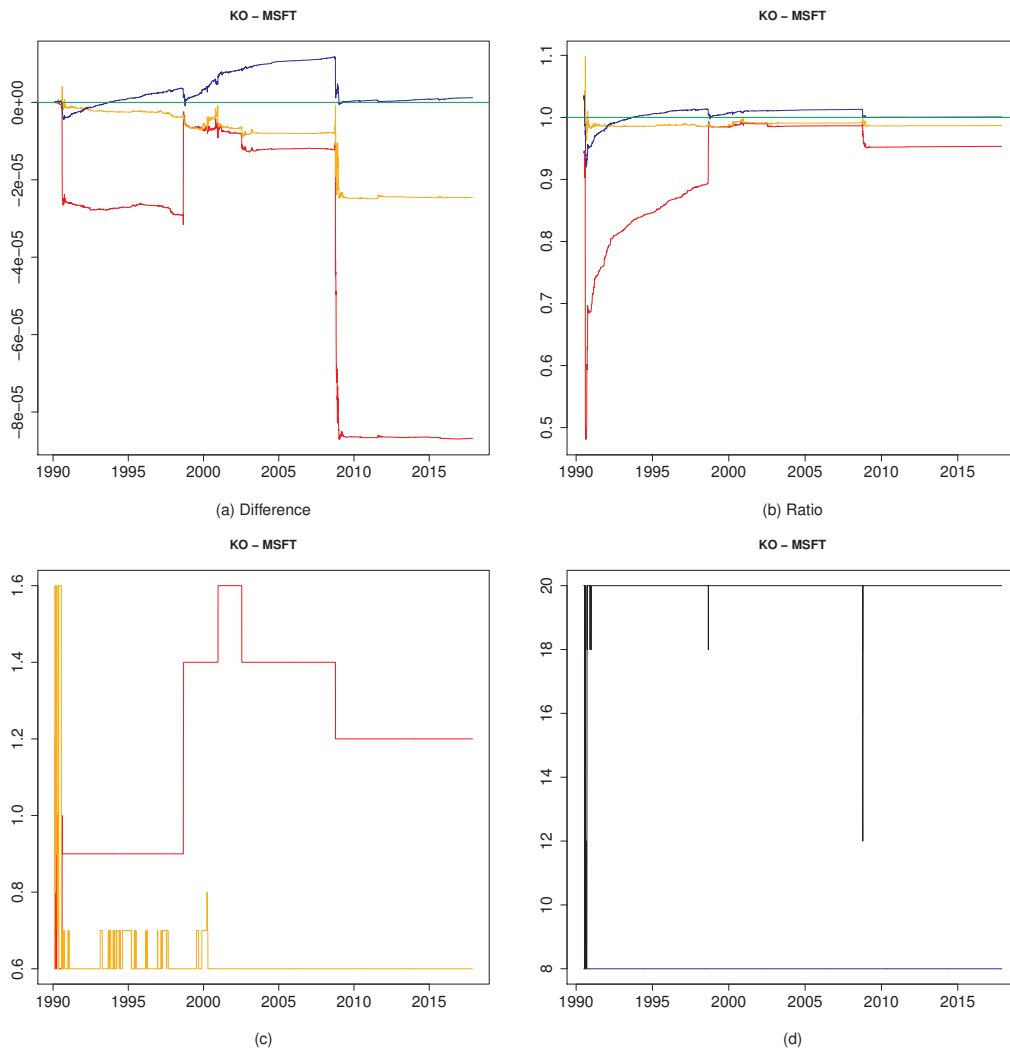


Figure 263: 11-29

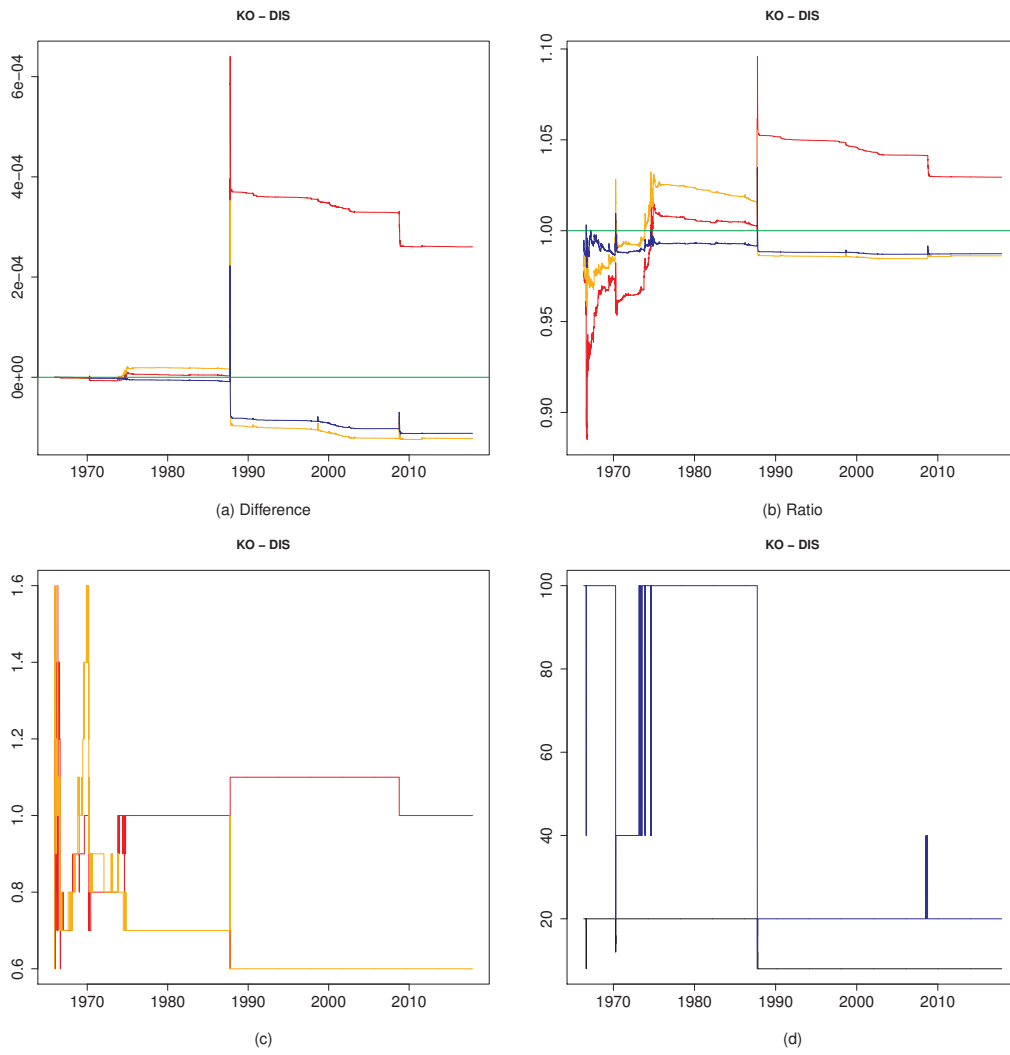


Figure 264: 11-30

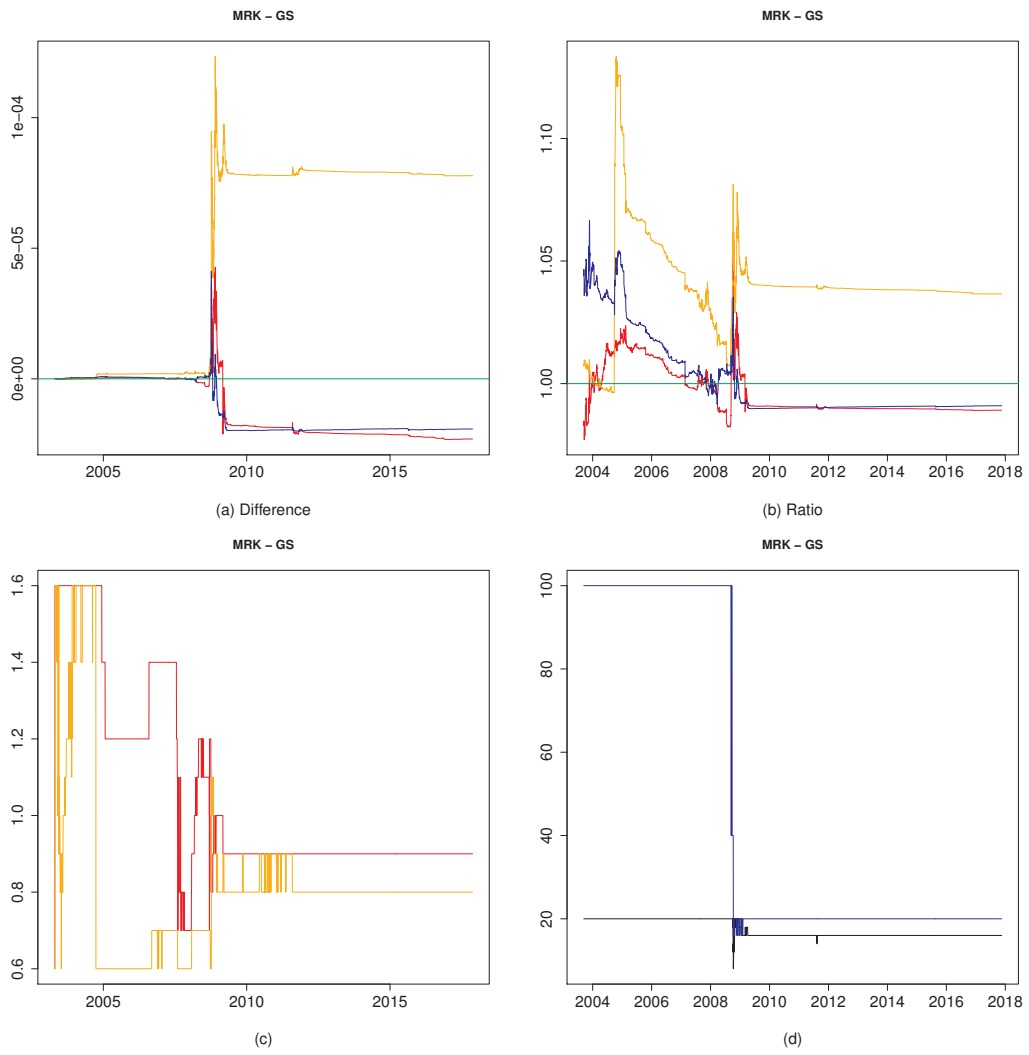


Figure 265: 12-13

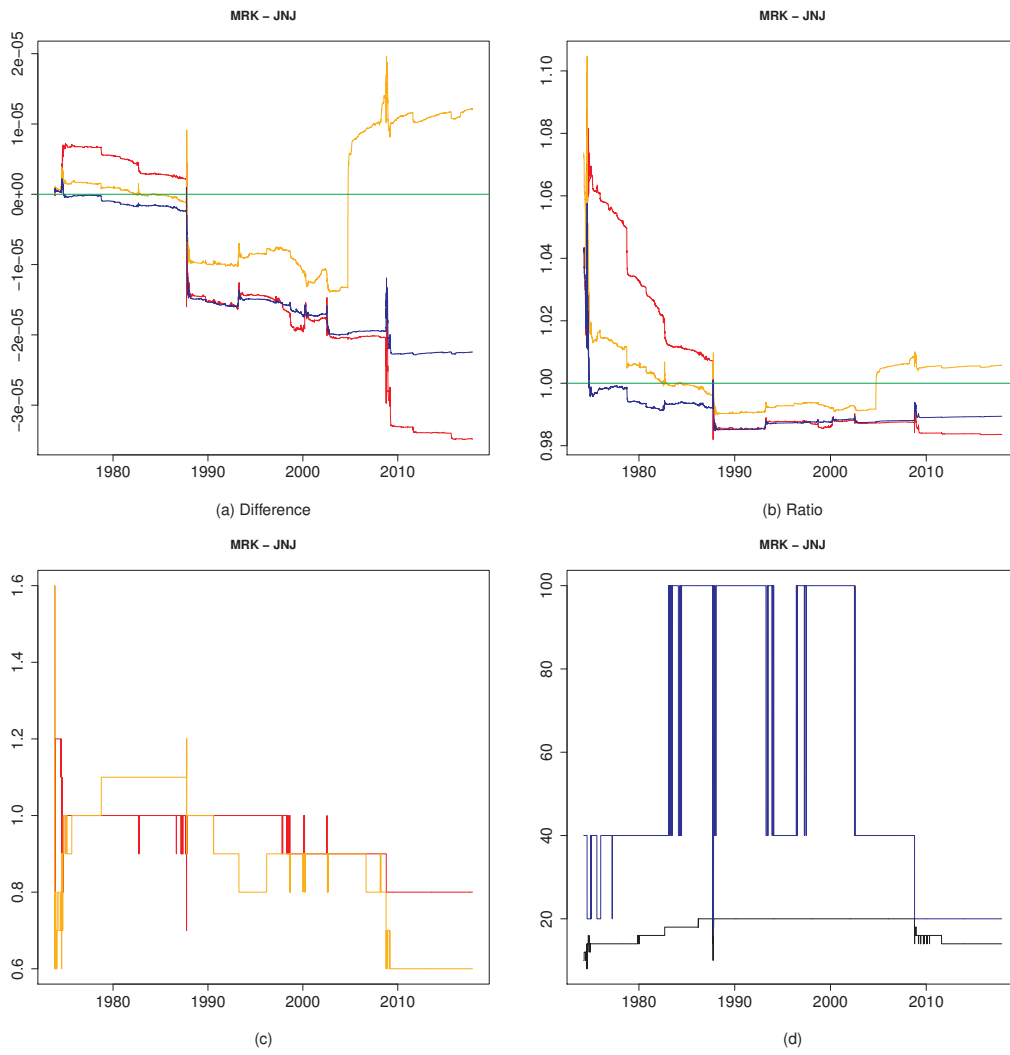


Figure 266: 12-14

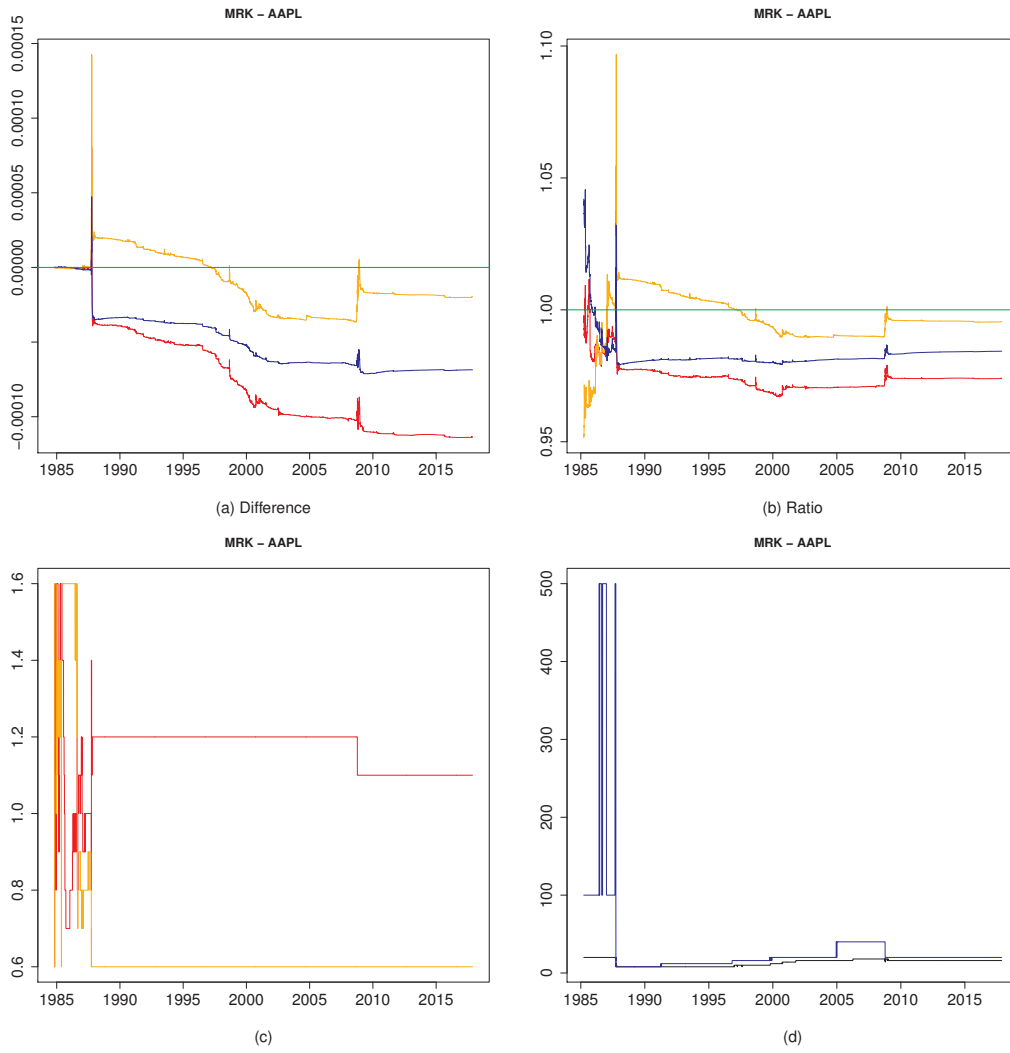


Figure 267: 12-15

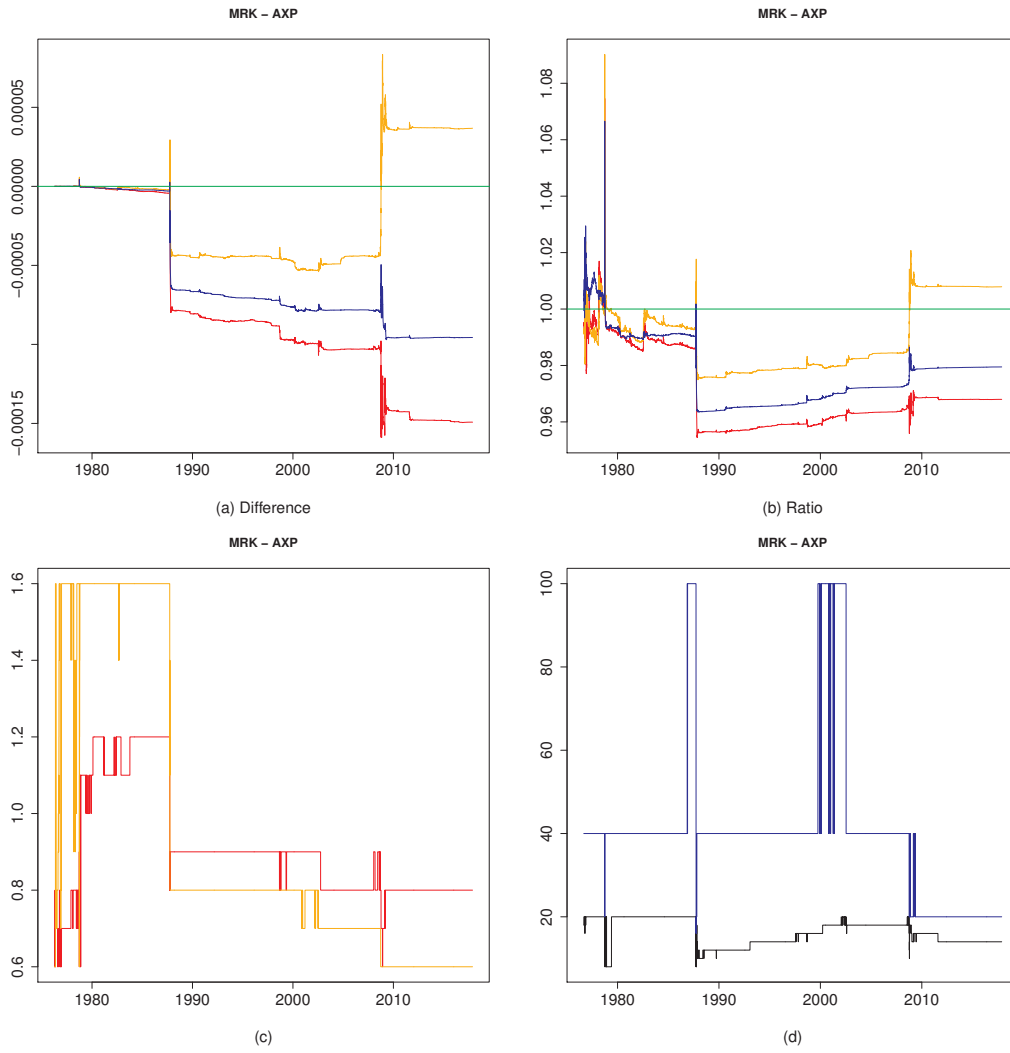


Figure 268: 12-16

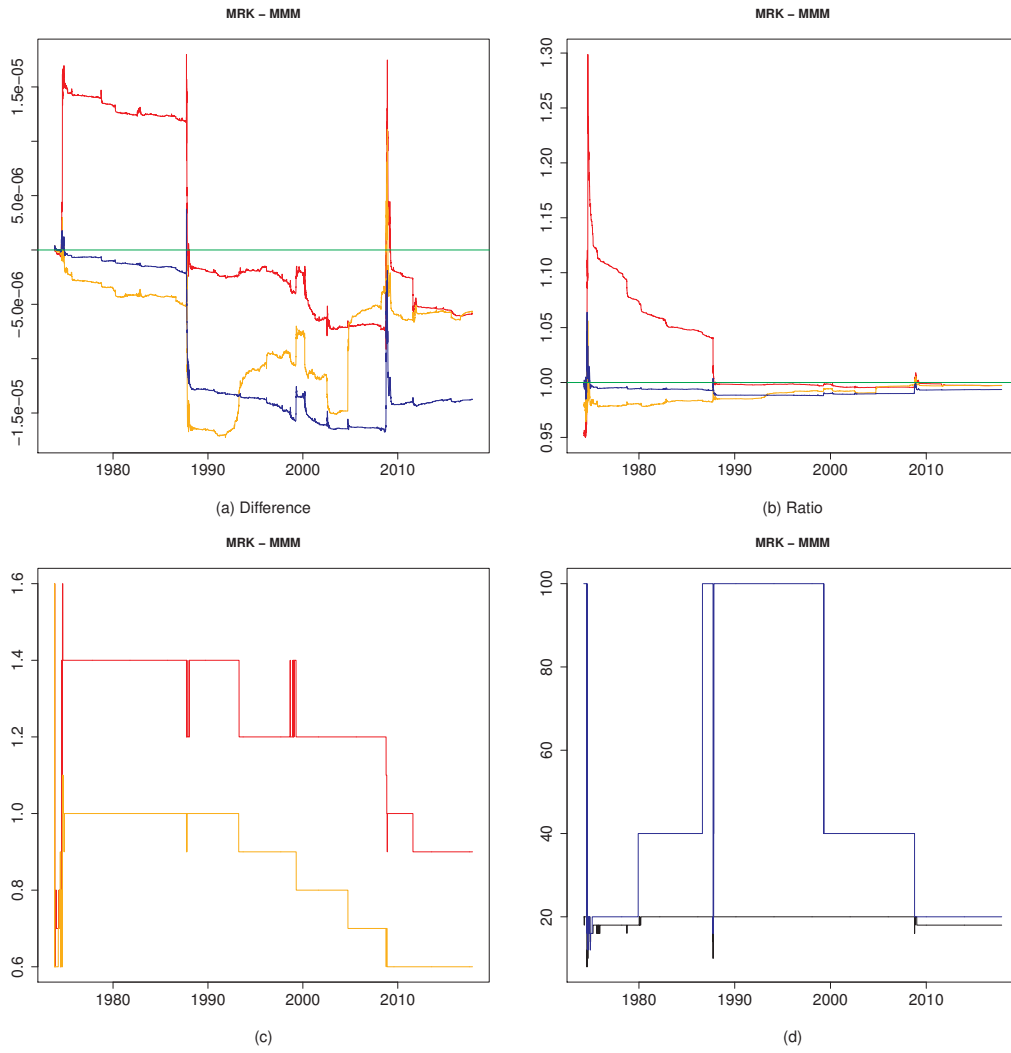


Figure 269: 12-17

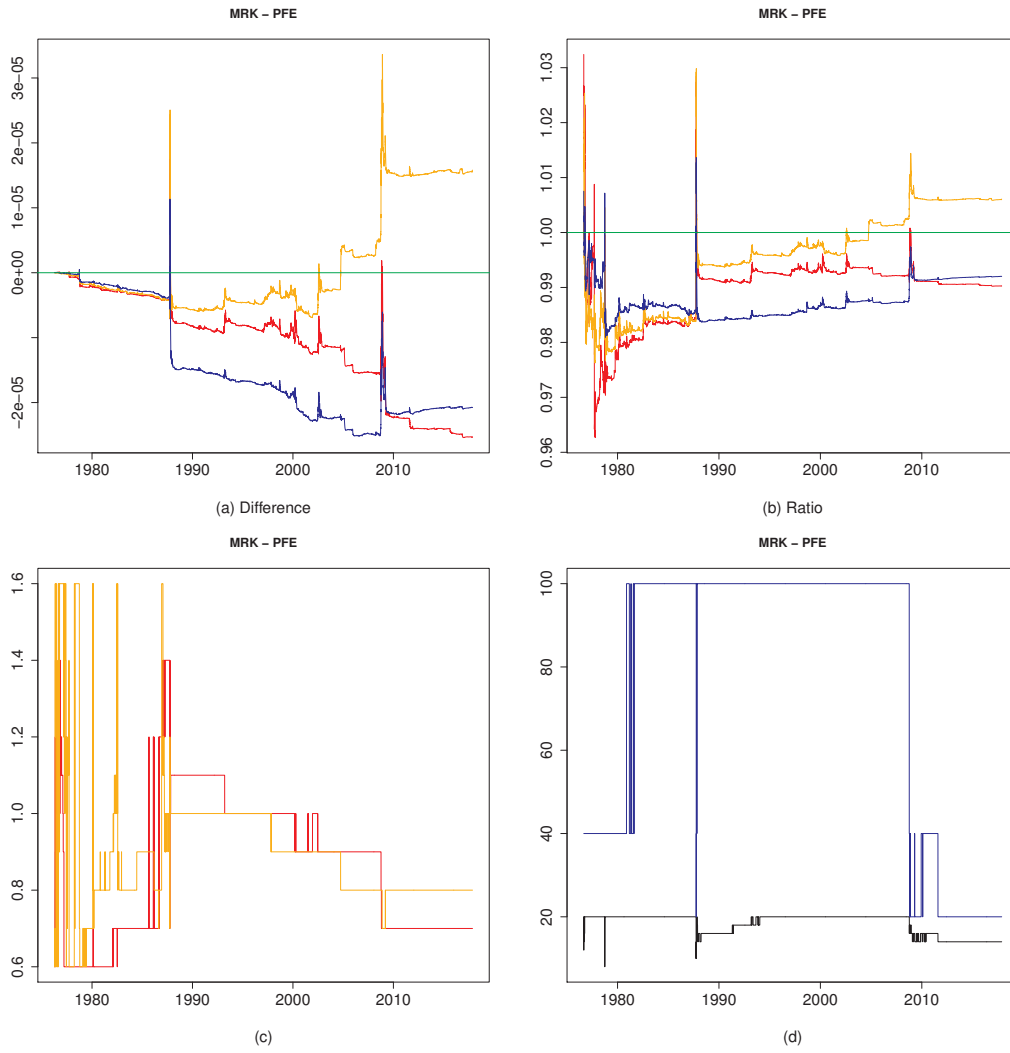


Figure 270: 12-18

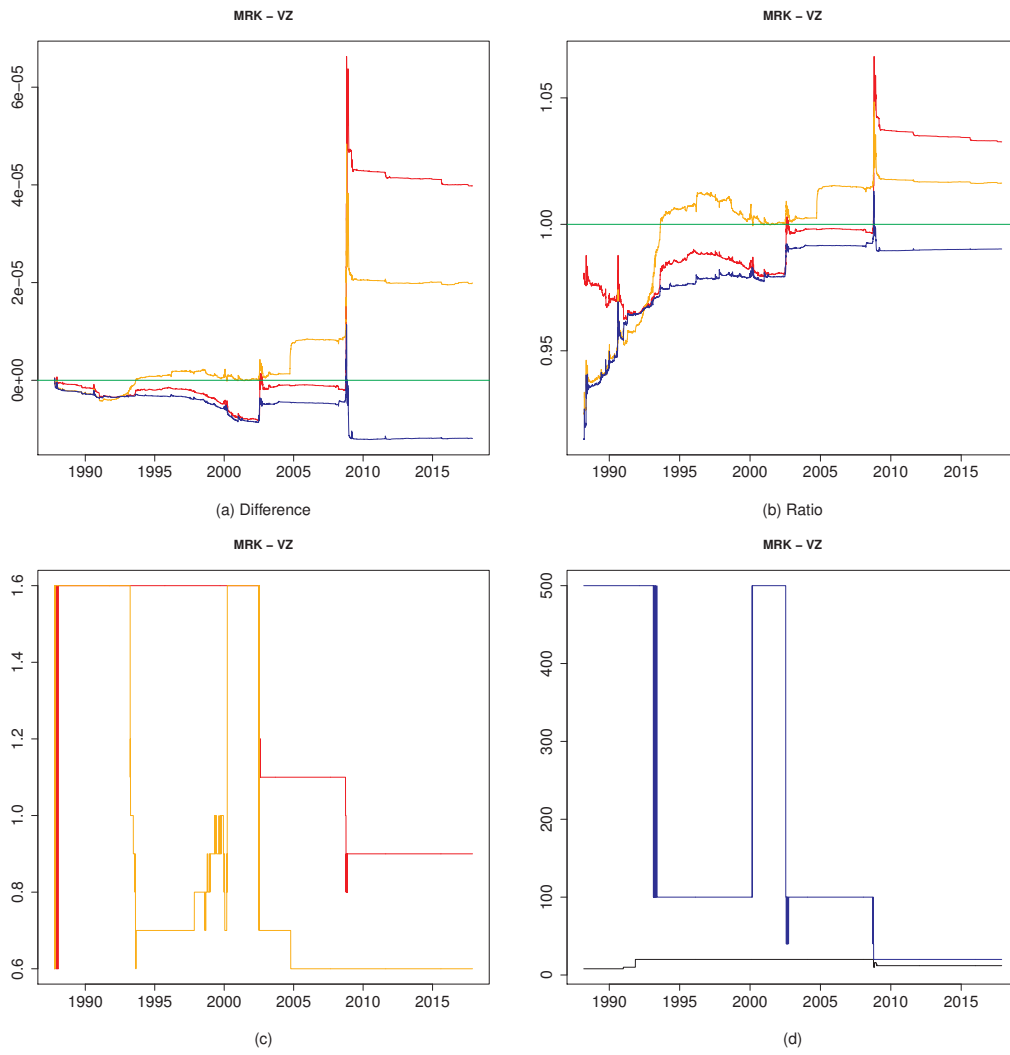


Figure 271: 12-19

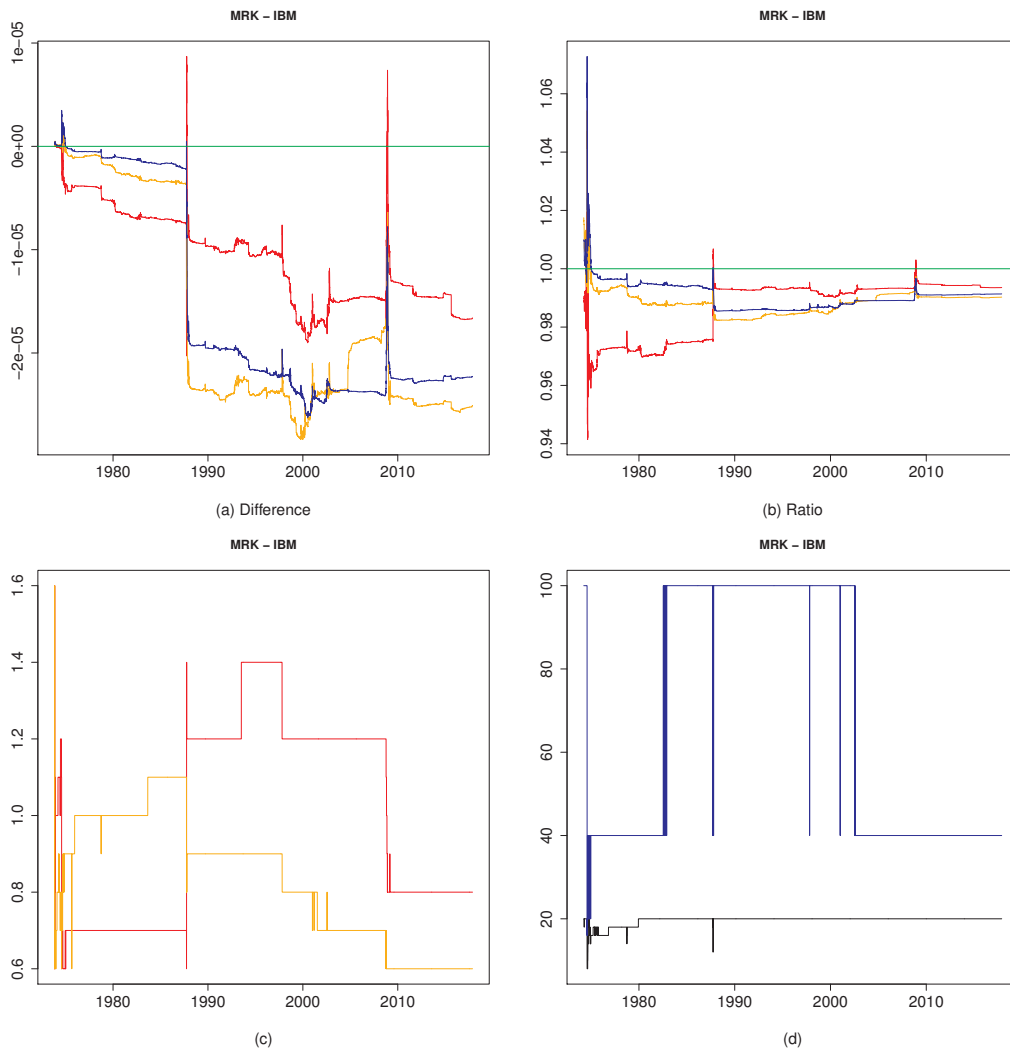


Figure 272: 12-20

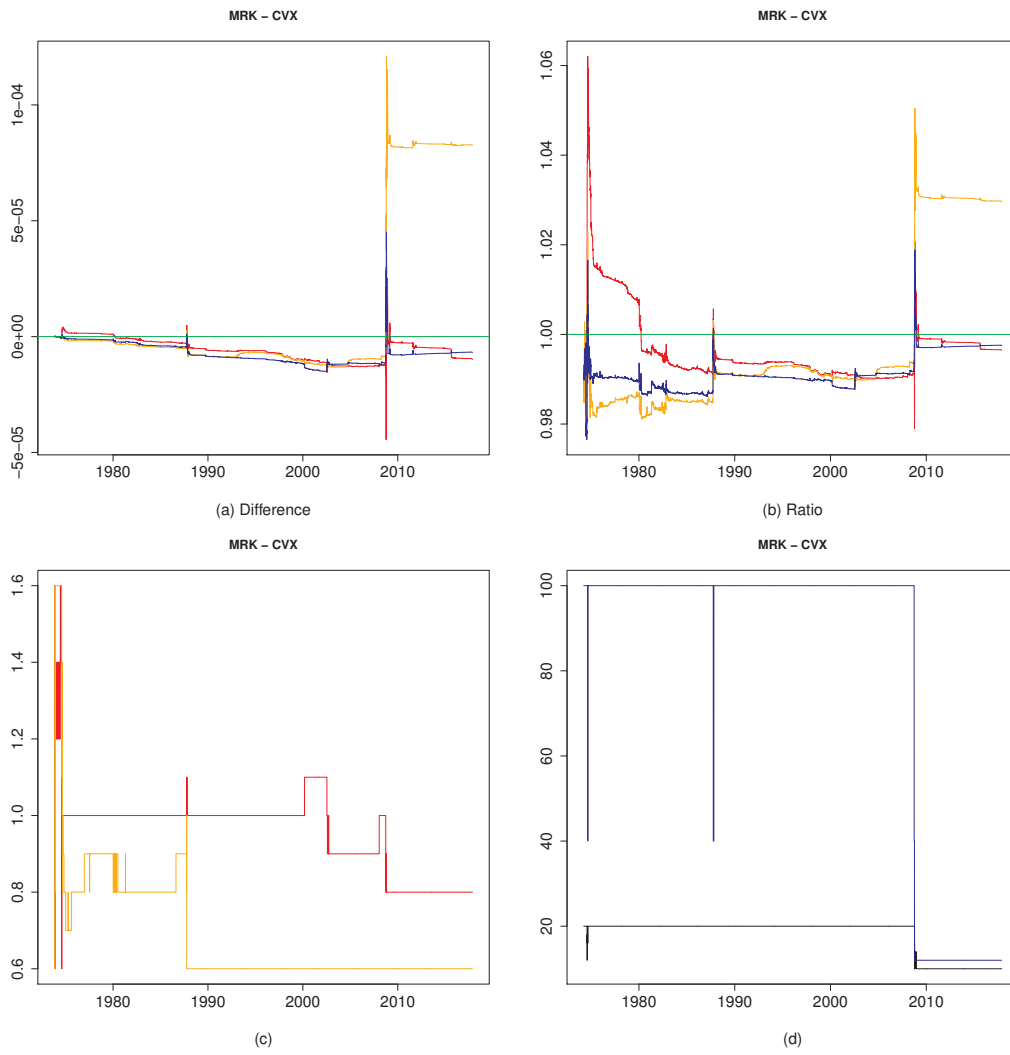


Figure 273: 12-21

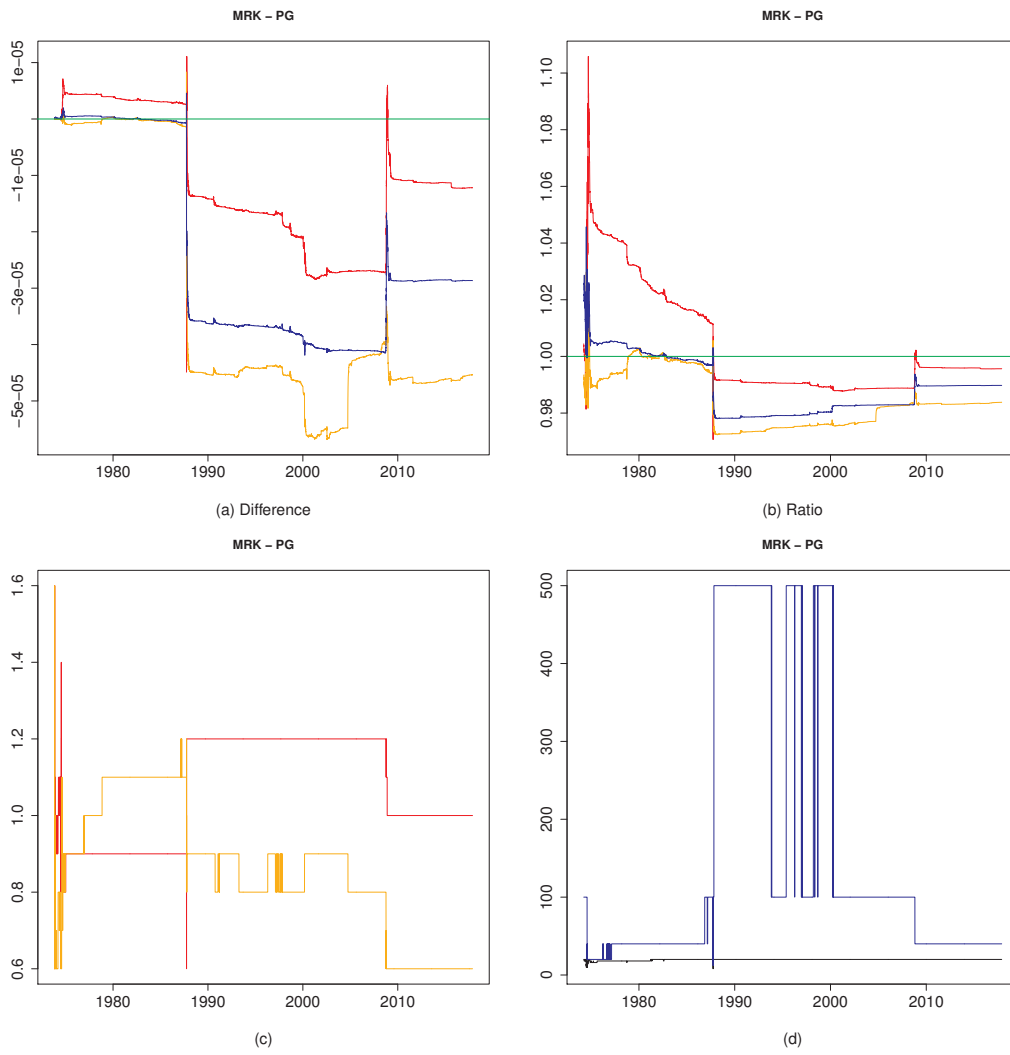


Figure 274: 12-22

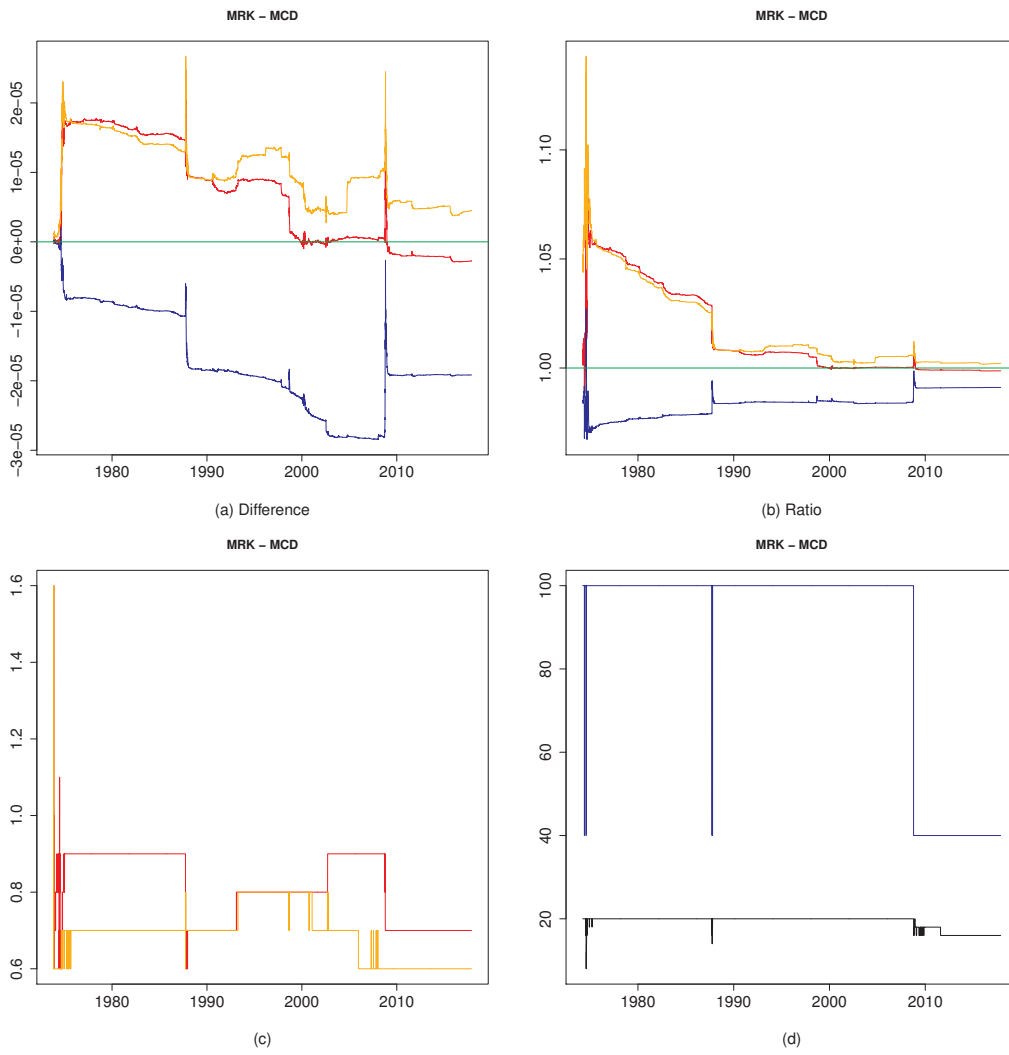


Figure 275: 12-23

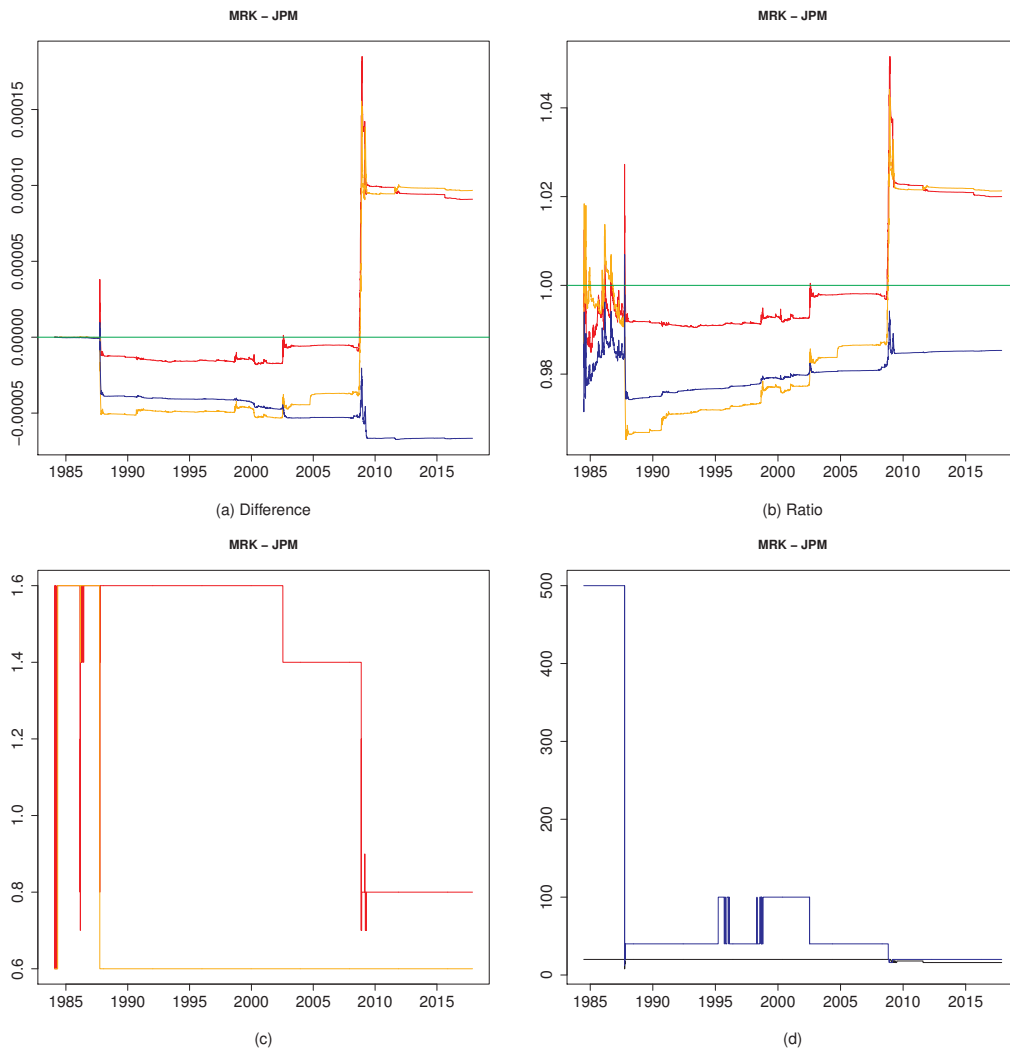


Figure 276: 12-24

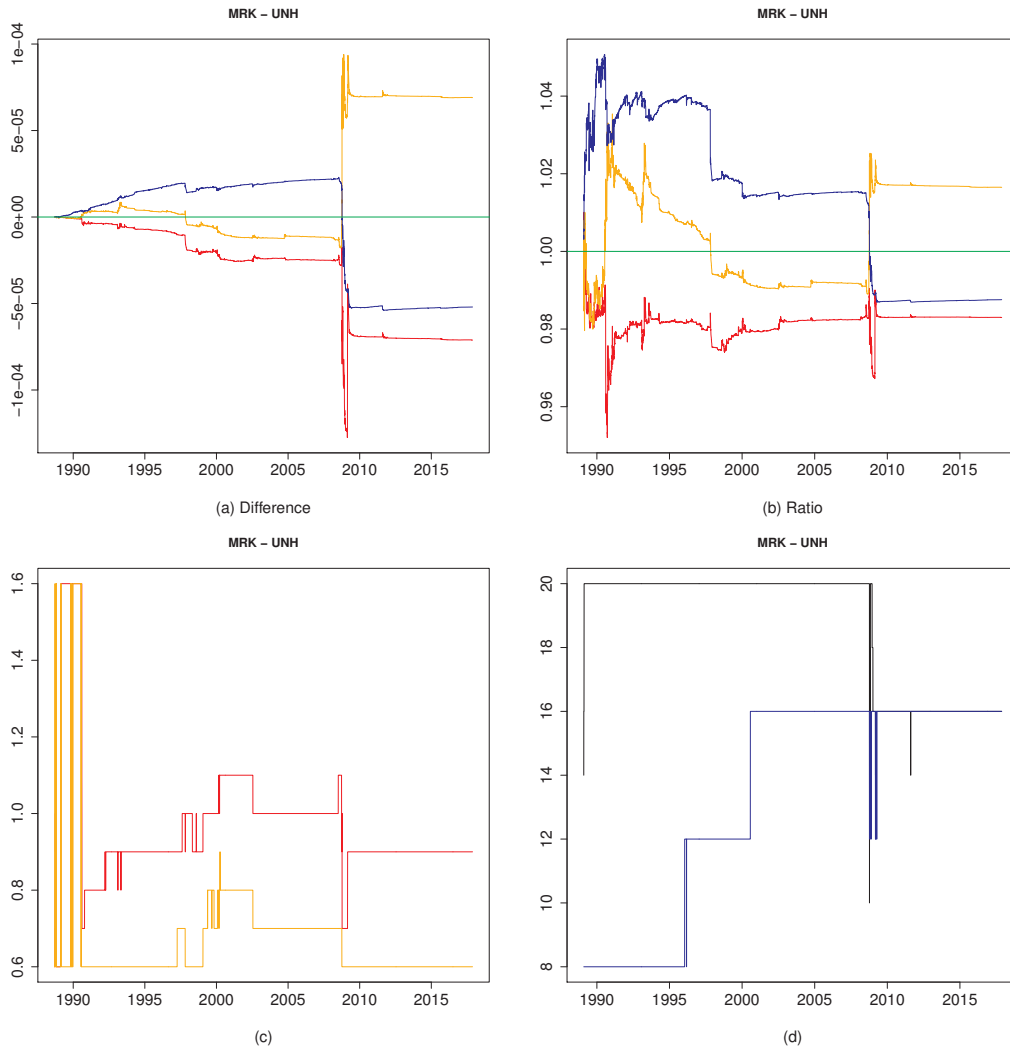


Figure 277: 12-25

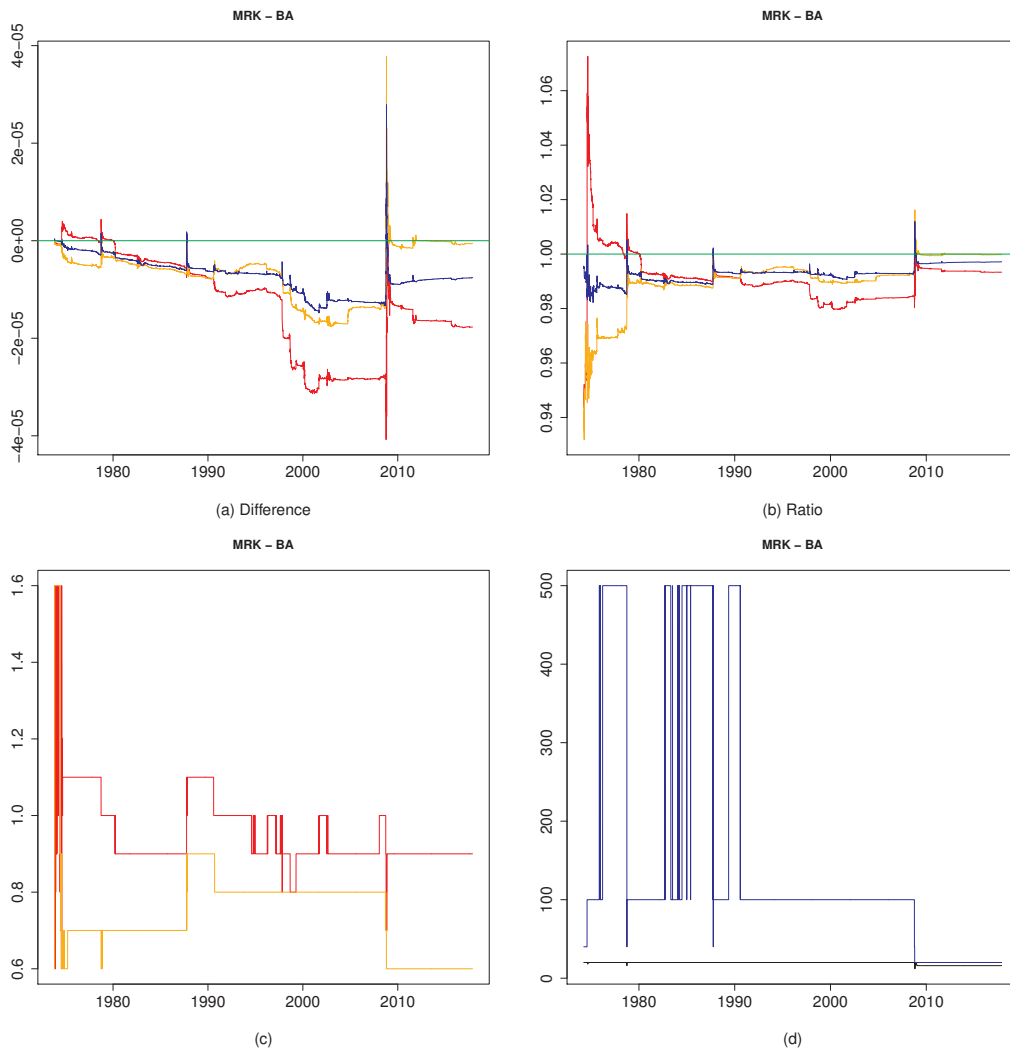


Figure 278: 12-26

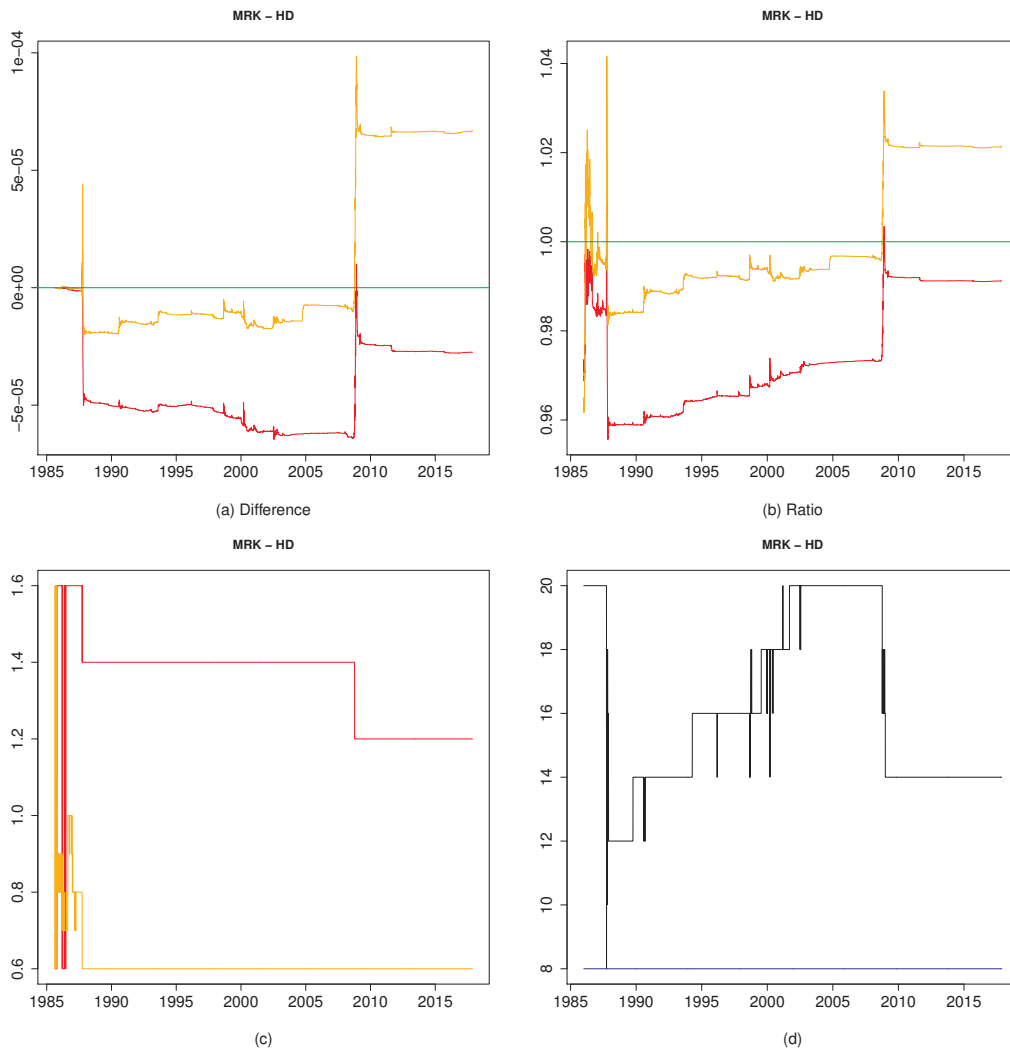


Figure 279: 12-27

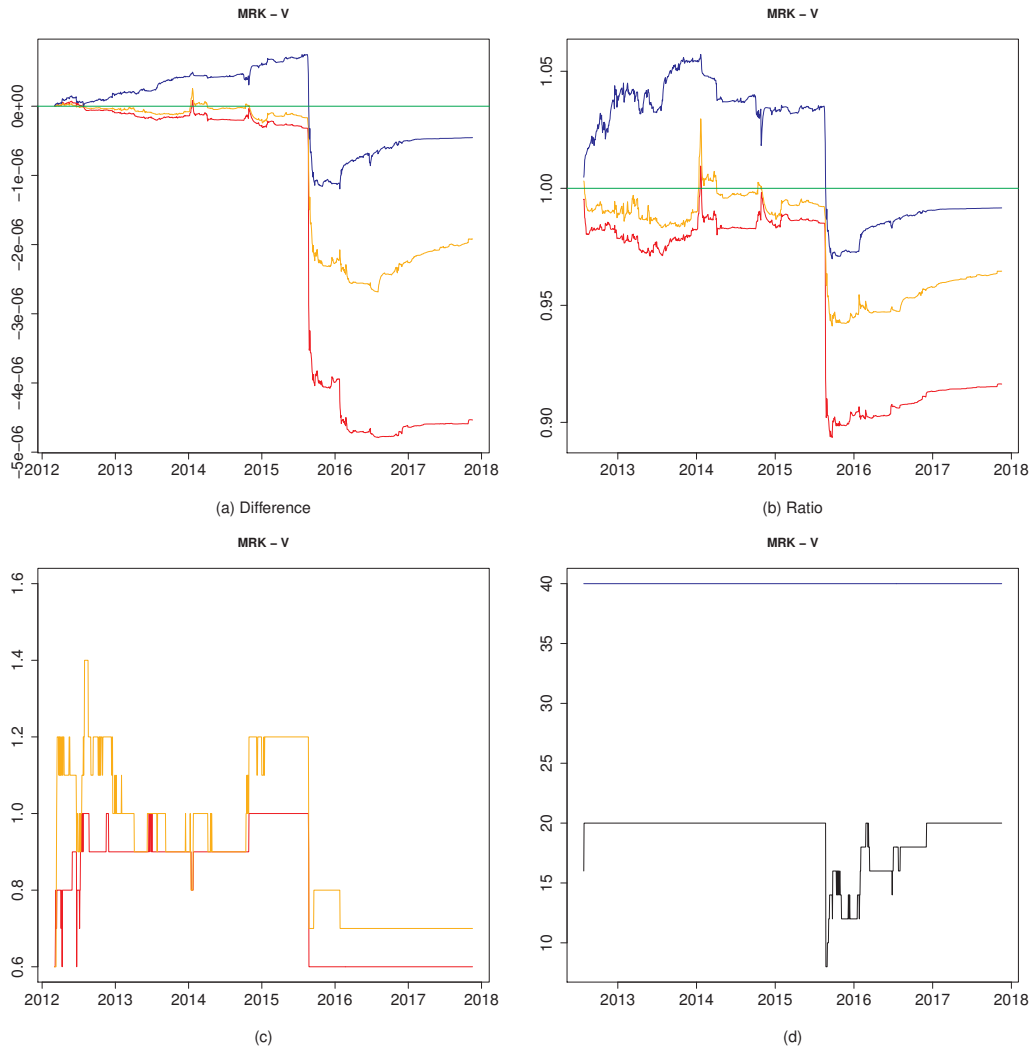


Figure 280: 12-28

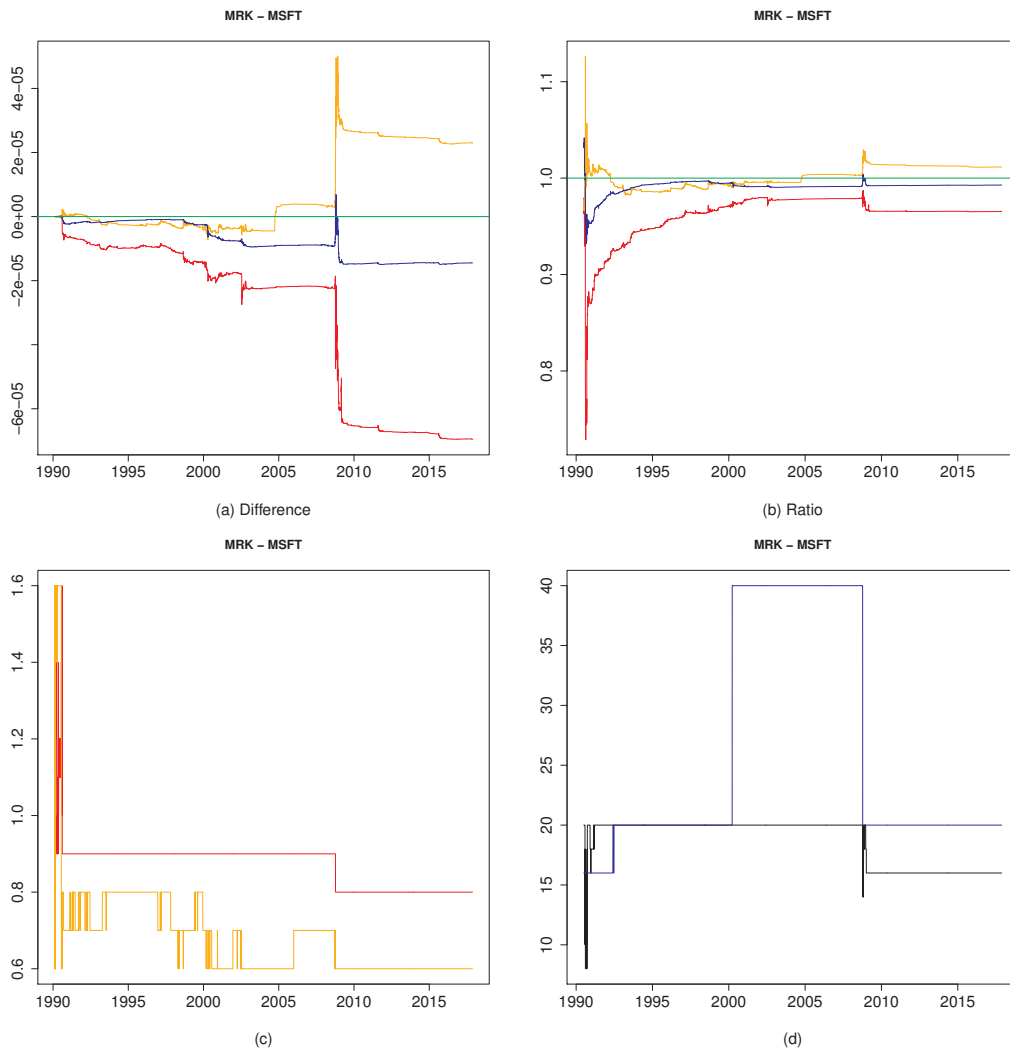


Figure 281: 12-29

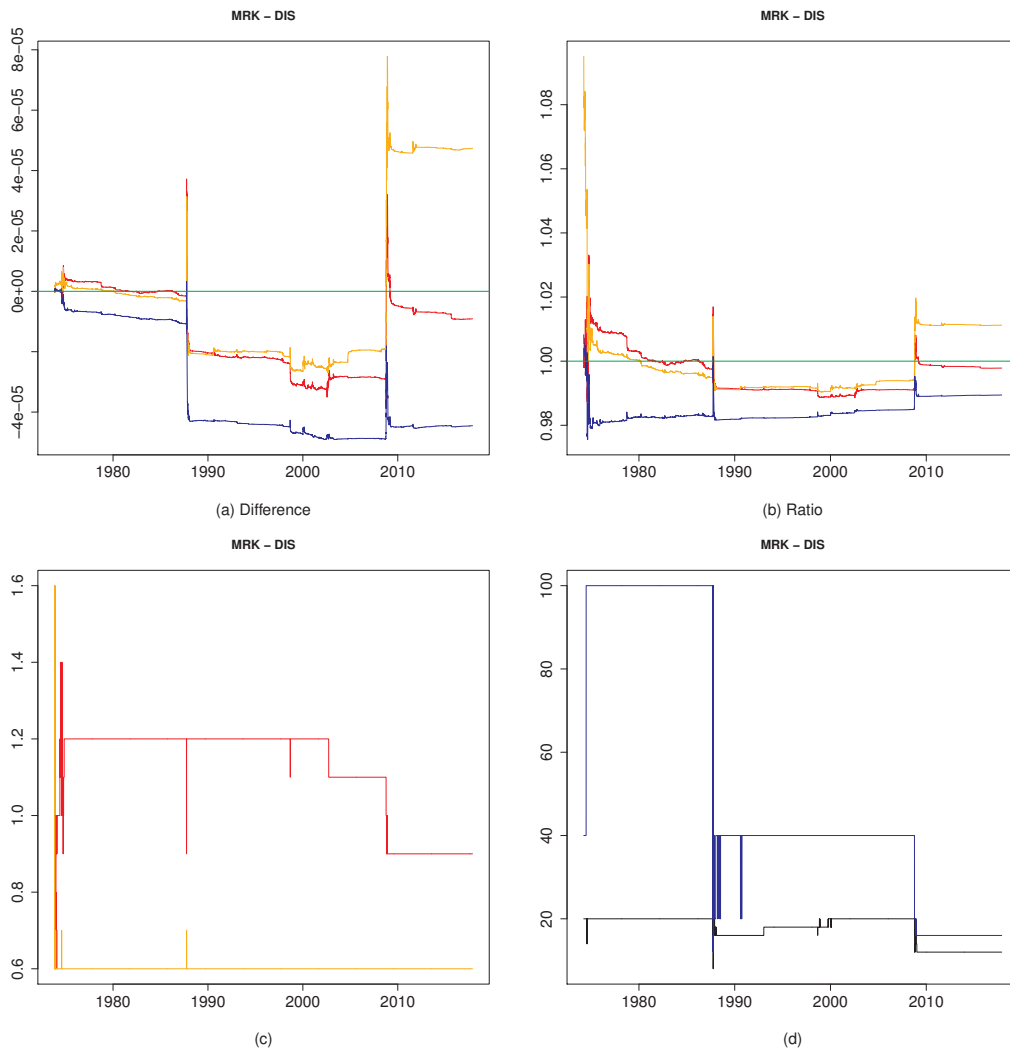


Figure 282: 12-30

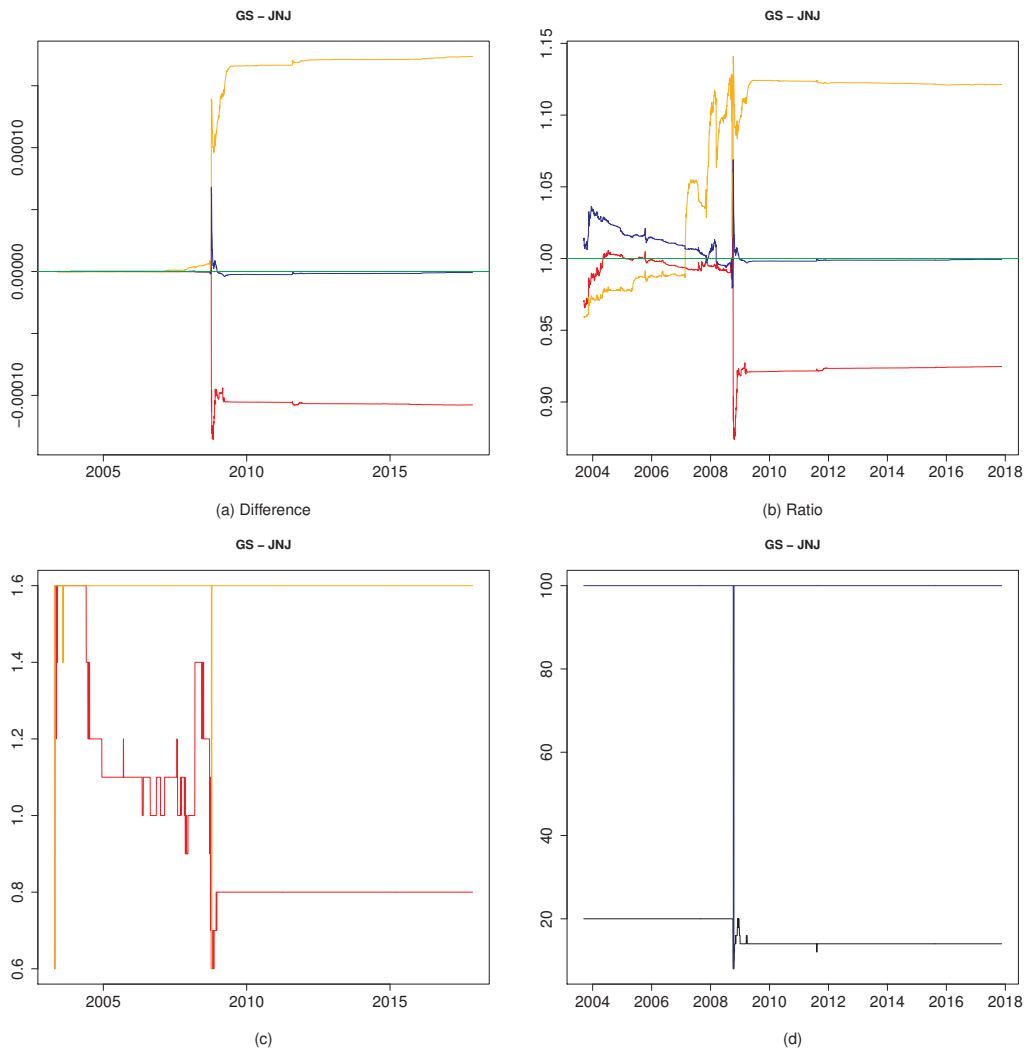


Figure 283: 13-14

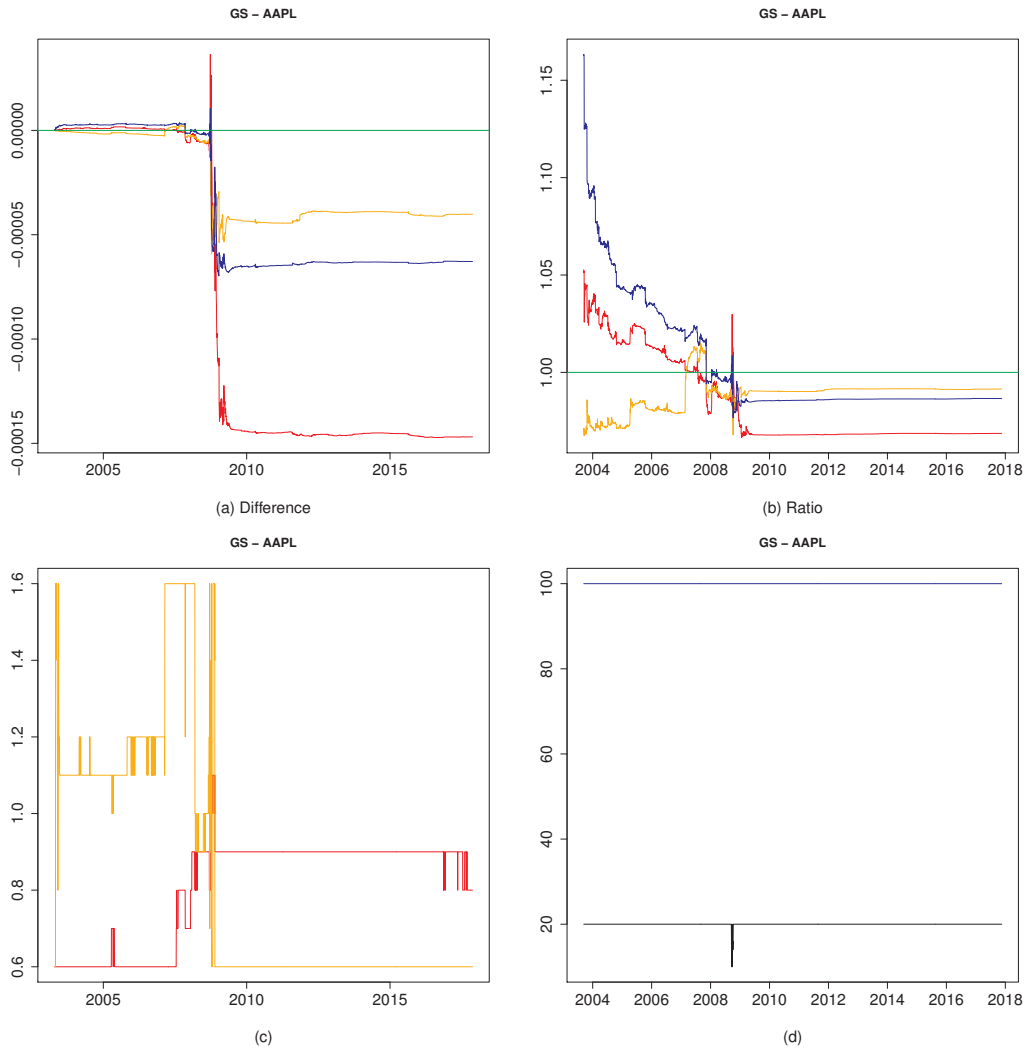


Figure 284: 13-15

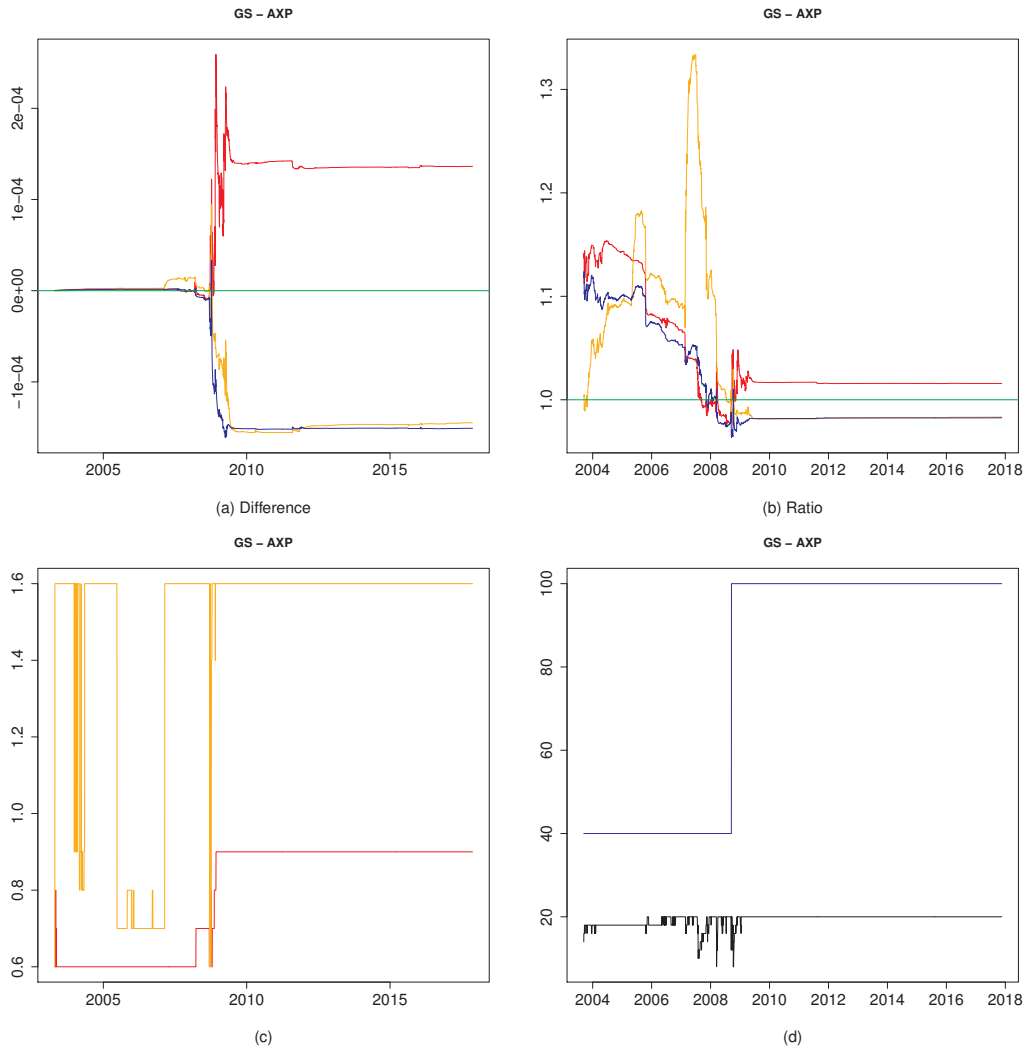


Figure 285: 13-16

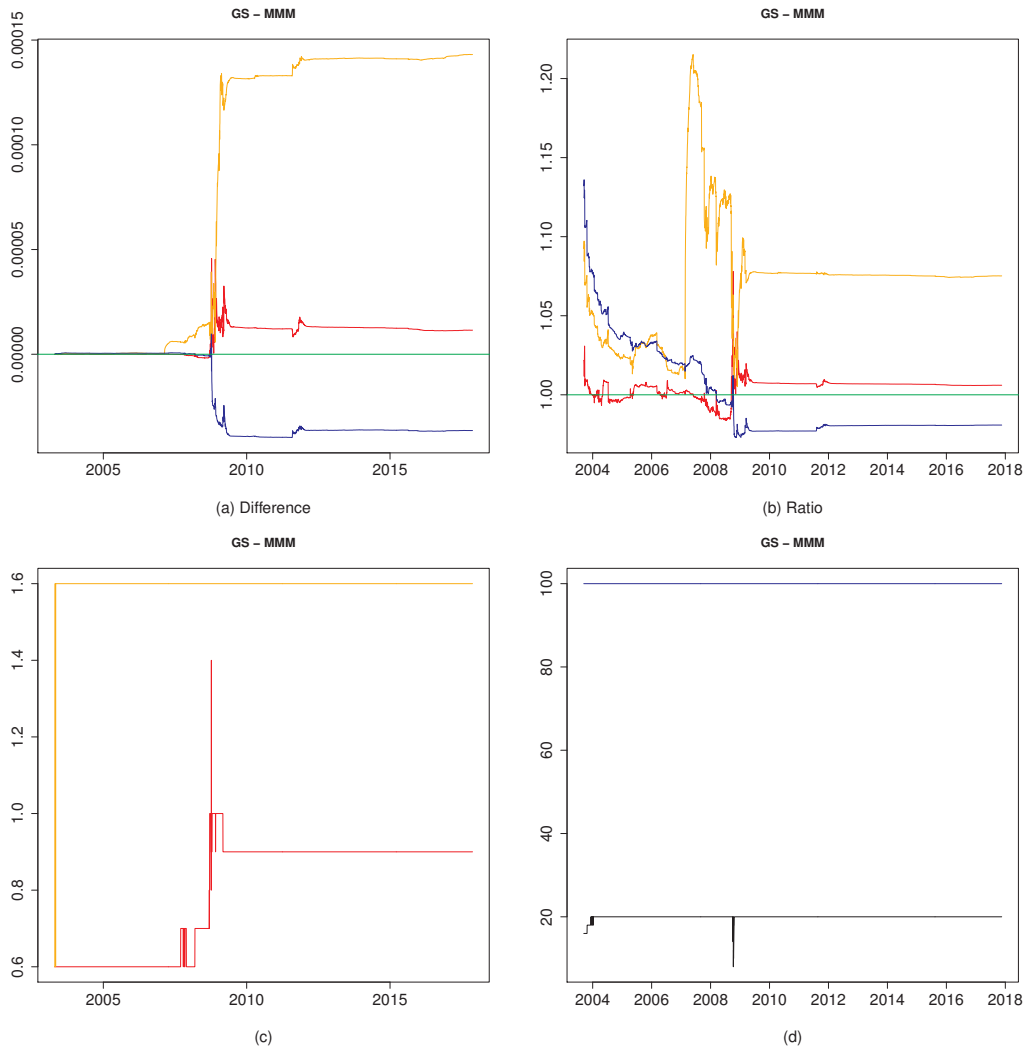


Figure 286: 13-17

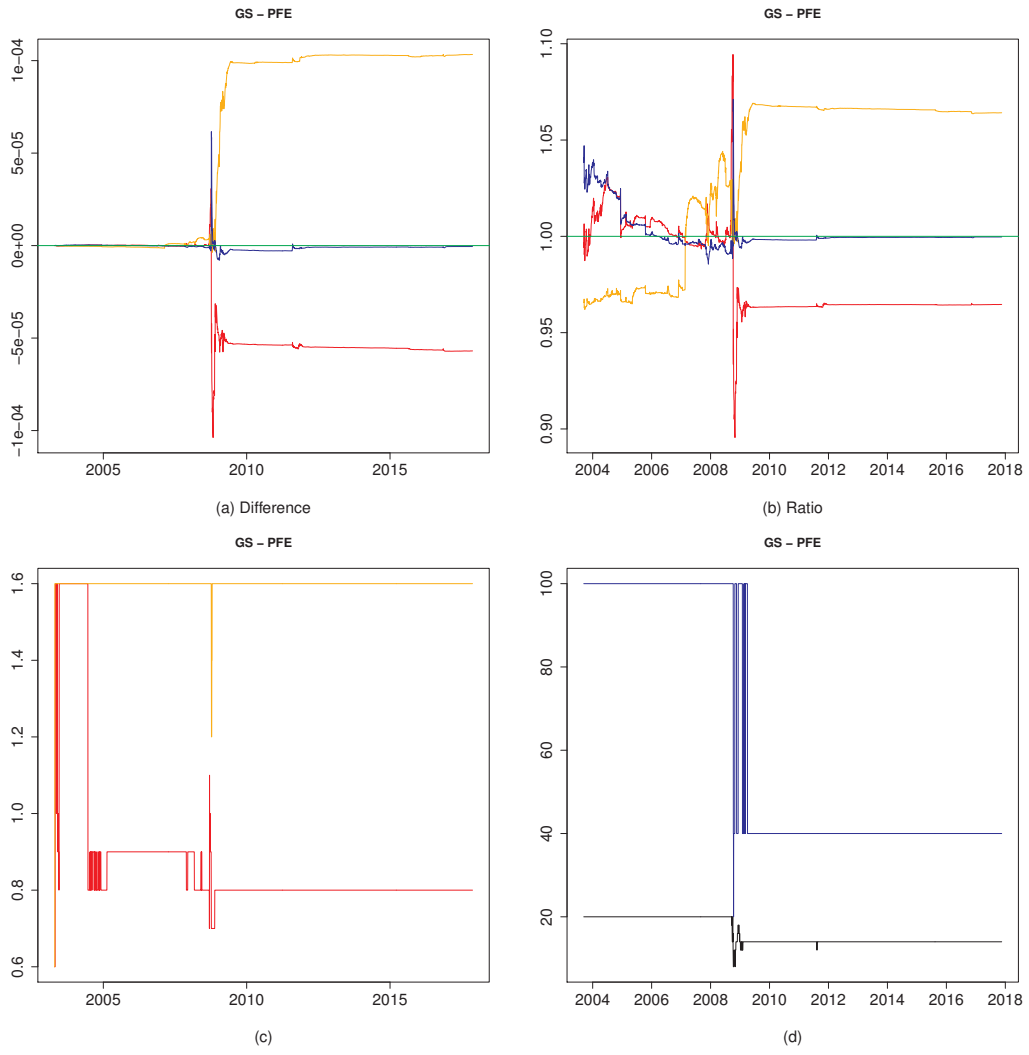


Figure 287: 13-18

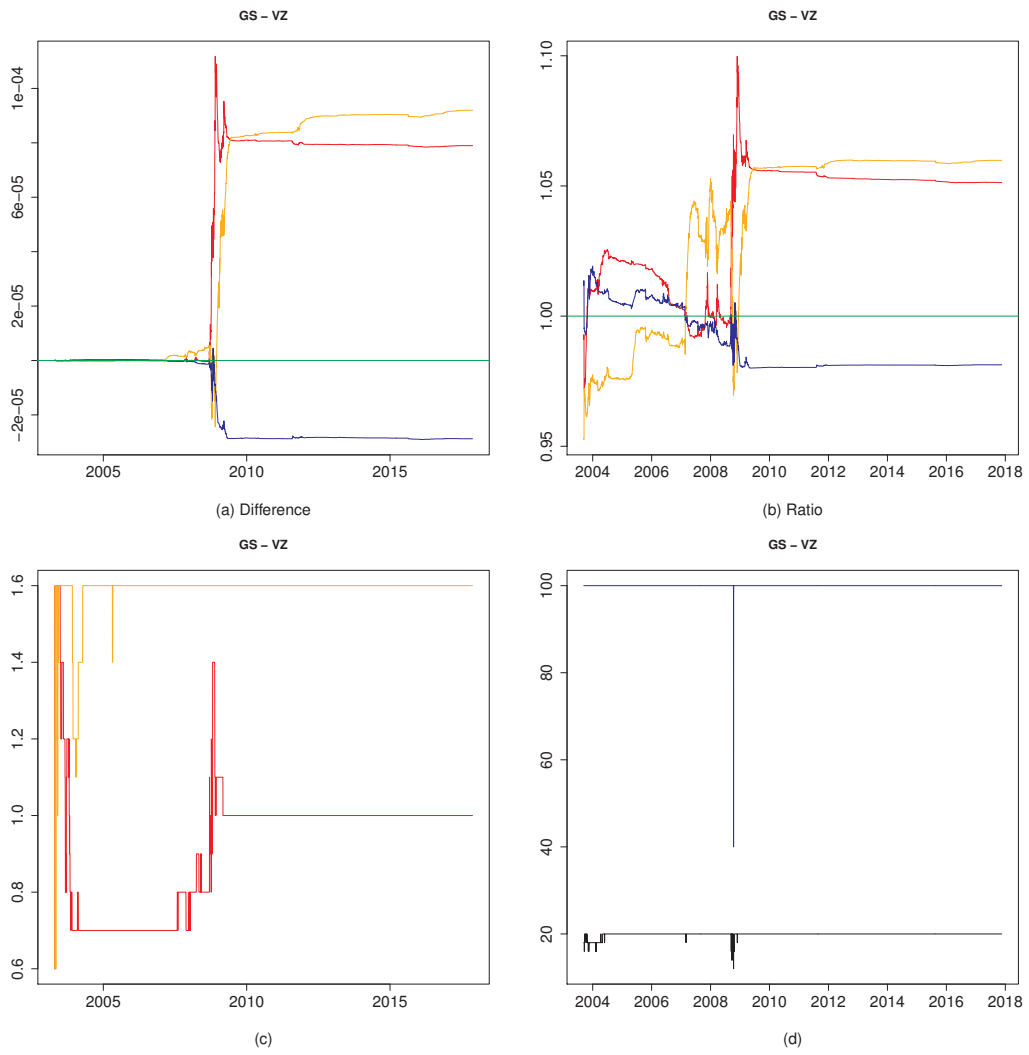


Figure 288: 13-19

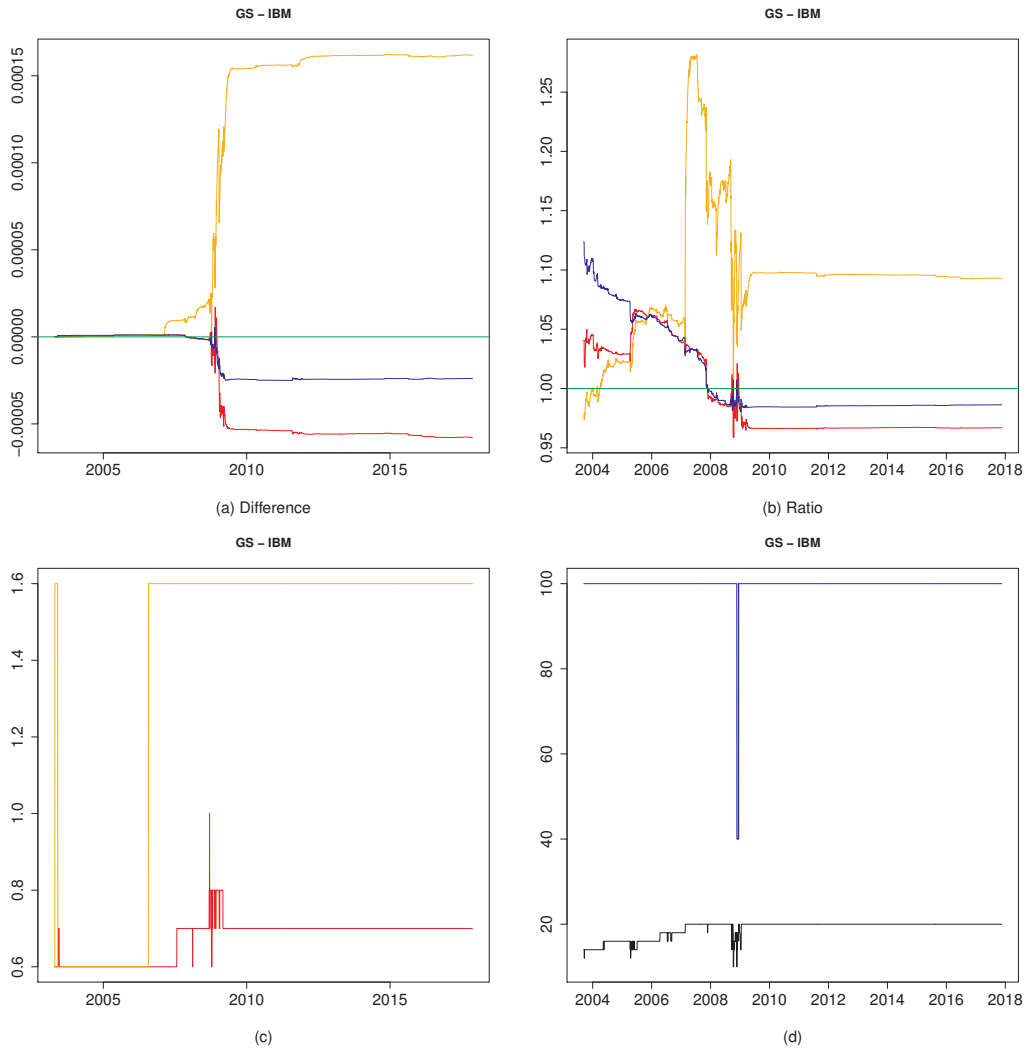


Figure 289: 13-20

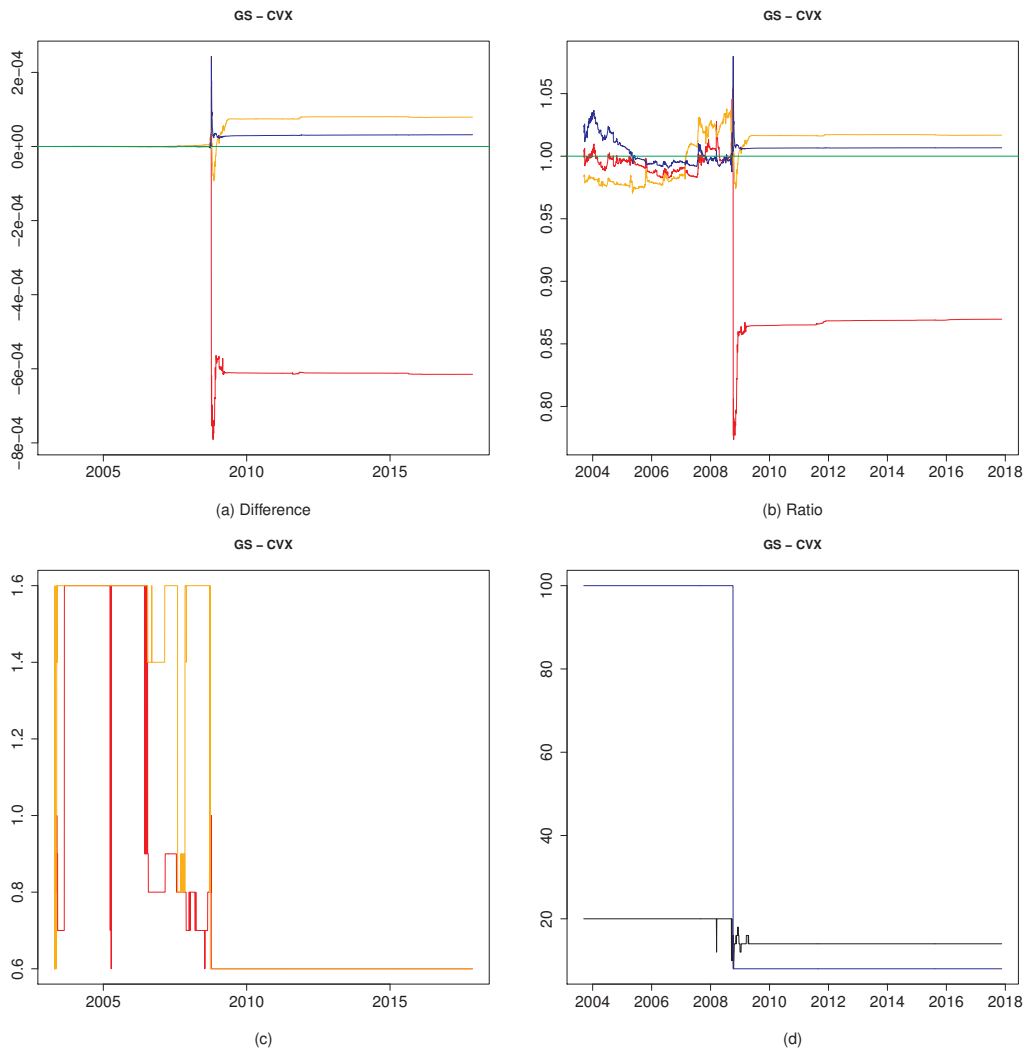


Figure 290: 13-21

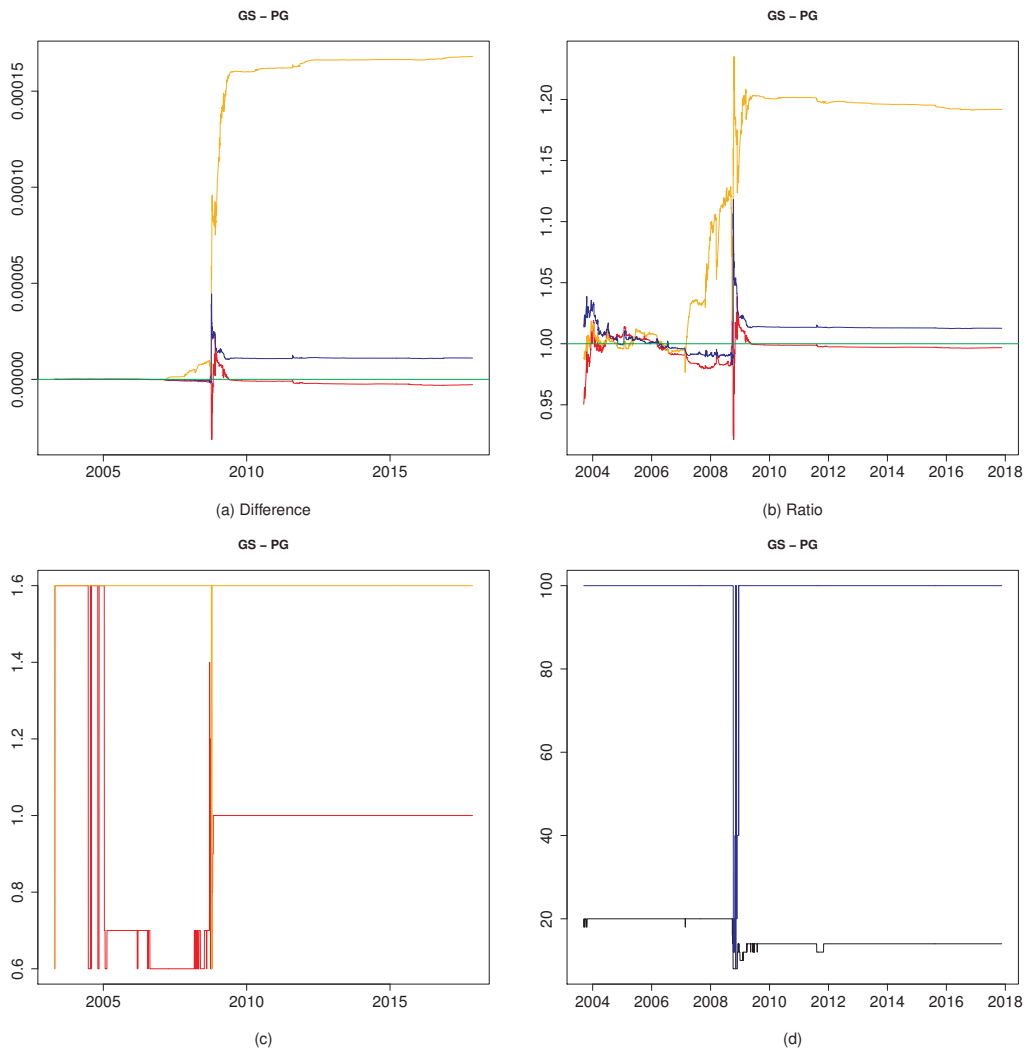


Figure 291: 13-22

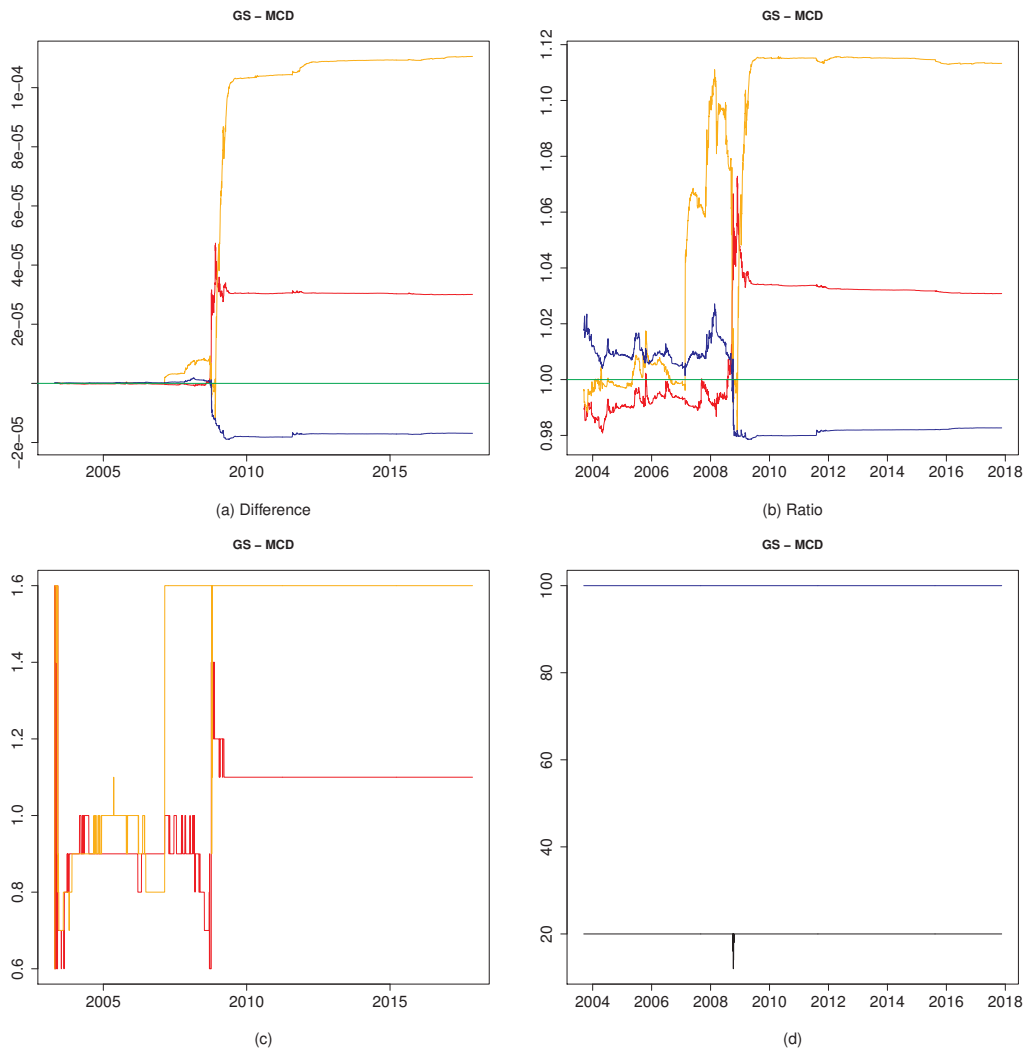


Figure 292: 13-23

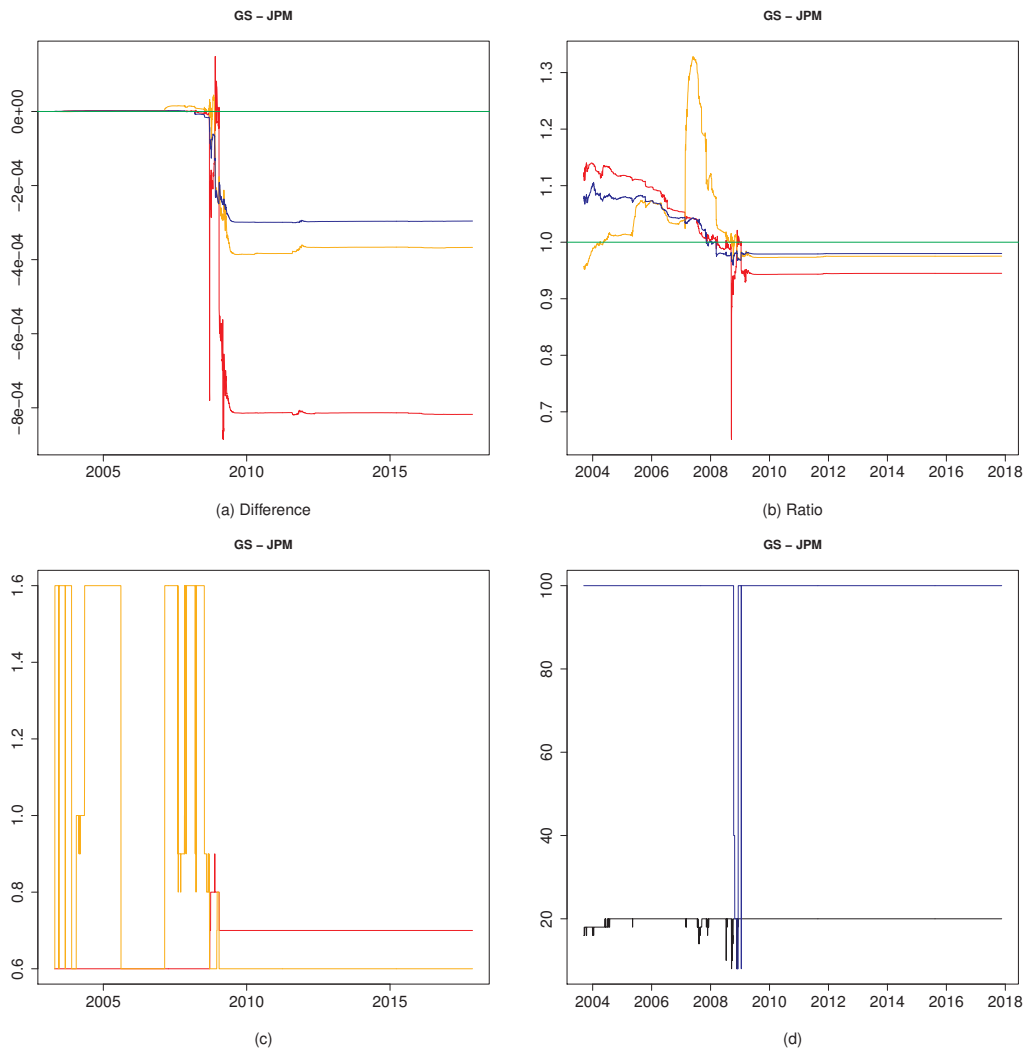


Figure 293: 13-24

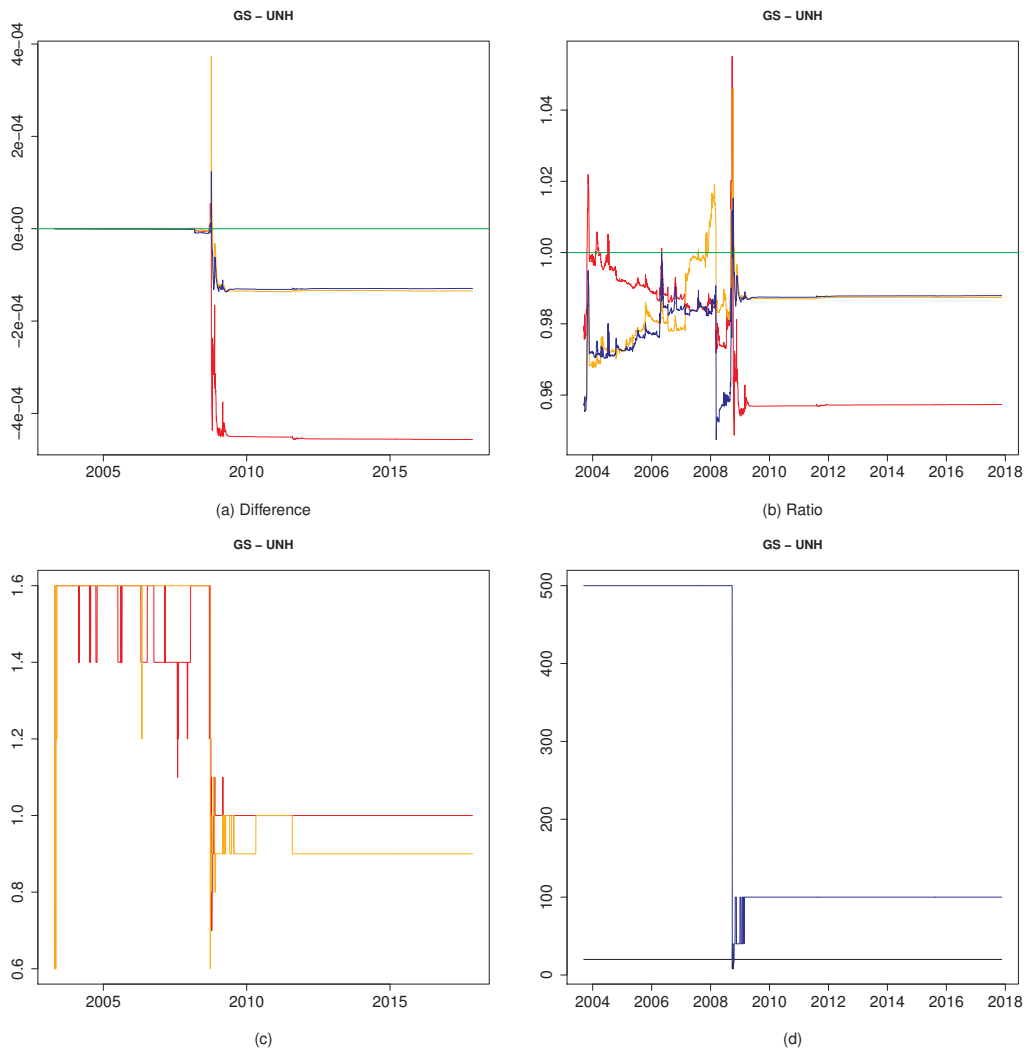


Figure 294: 13-25

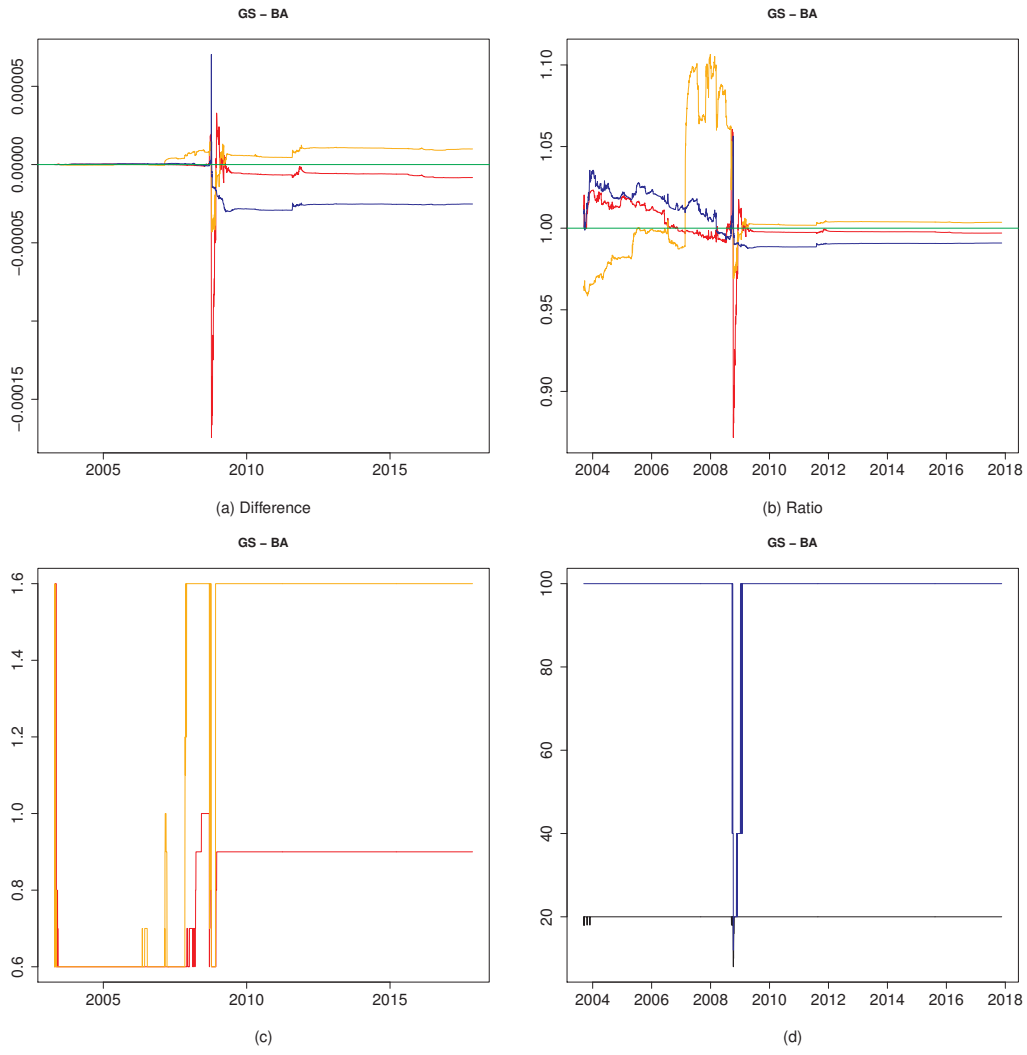


Figure 295: 13-26

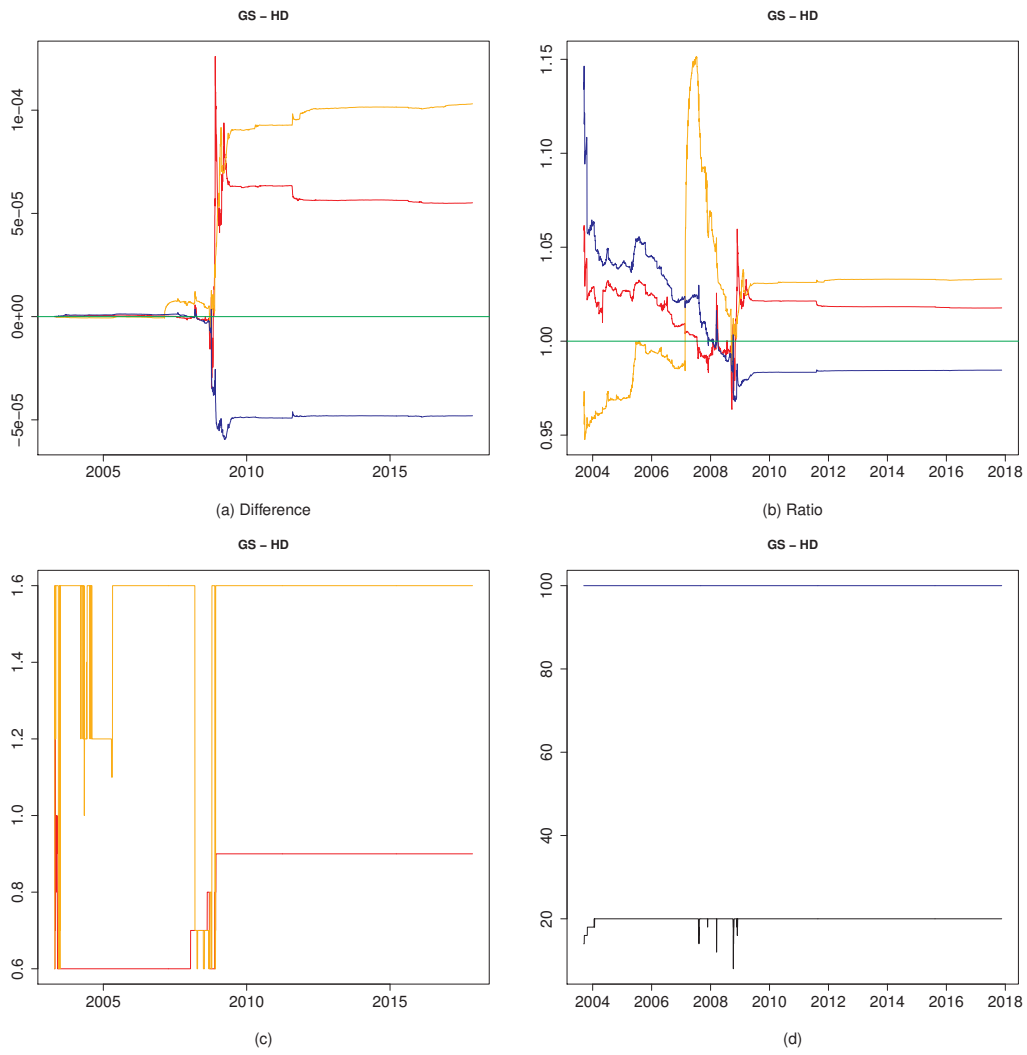


Figure 296: 13-27

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Figure 299

1.14 Pairs from 14-15 to 14-30

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1.15 Pairs from 15-16 to 15-30

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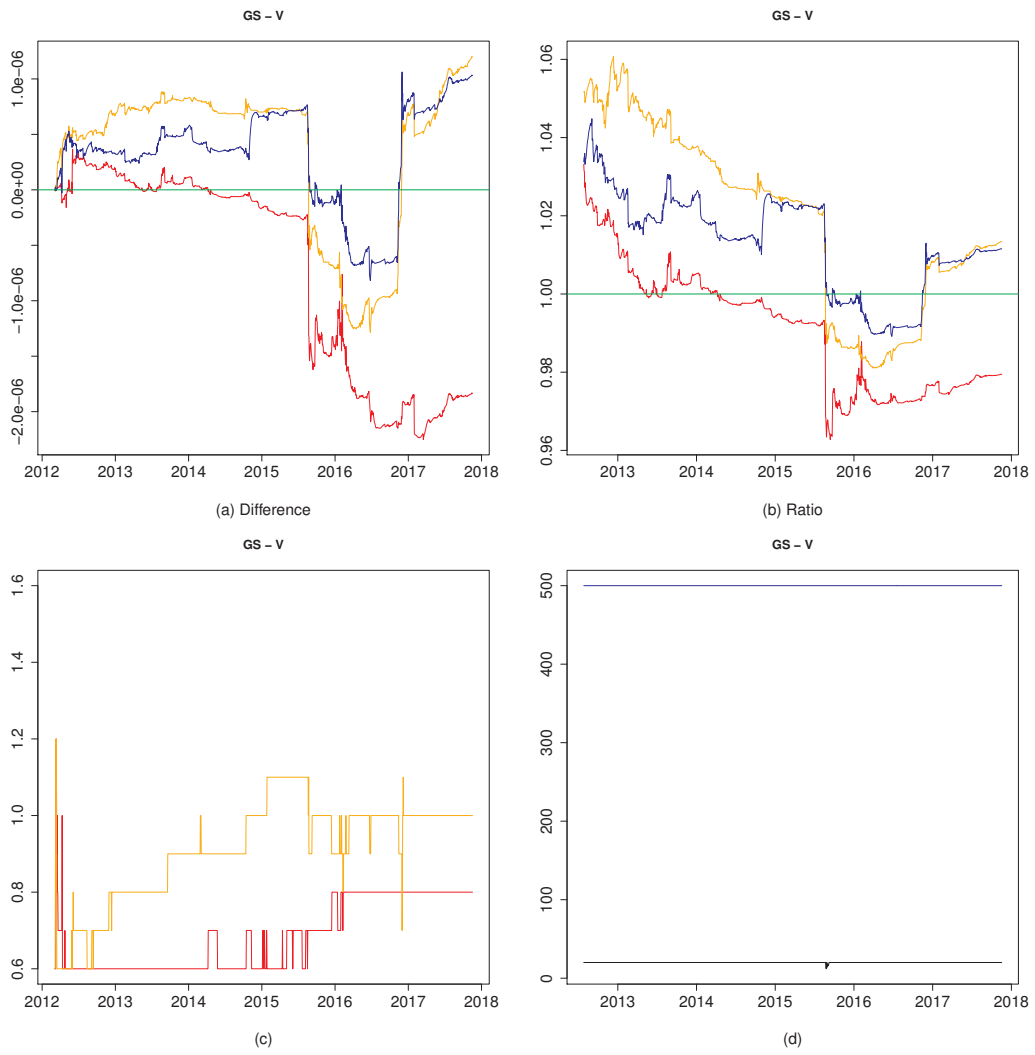


Figure 297: 13-28

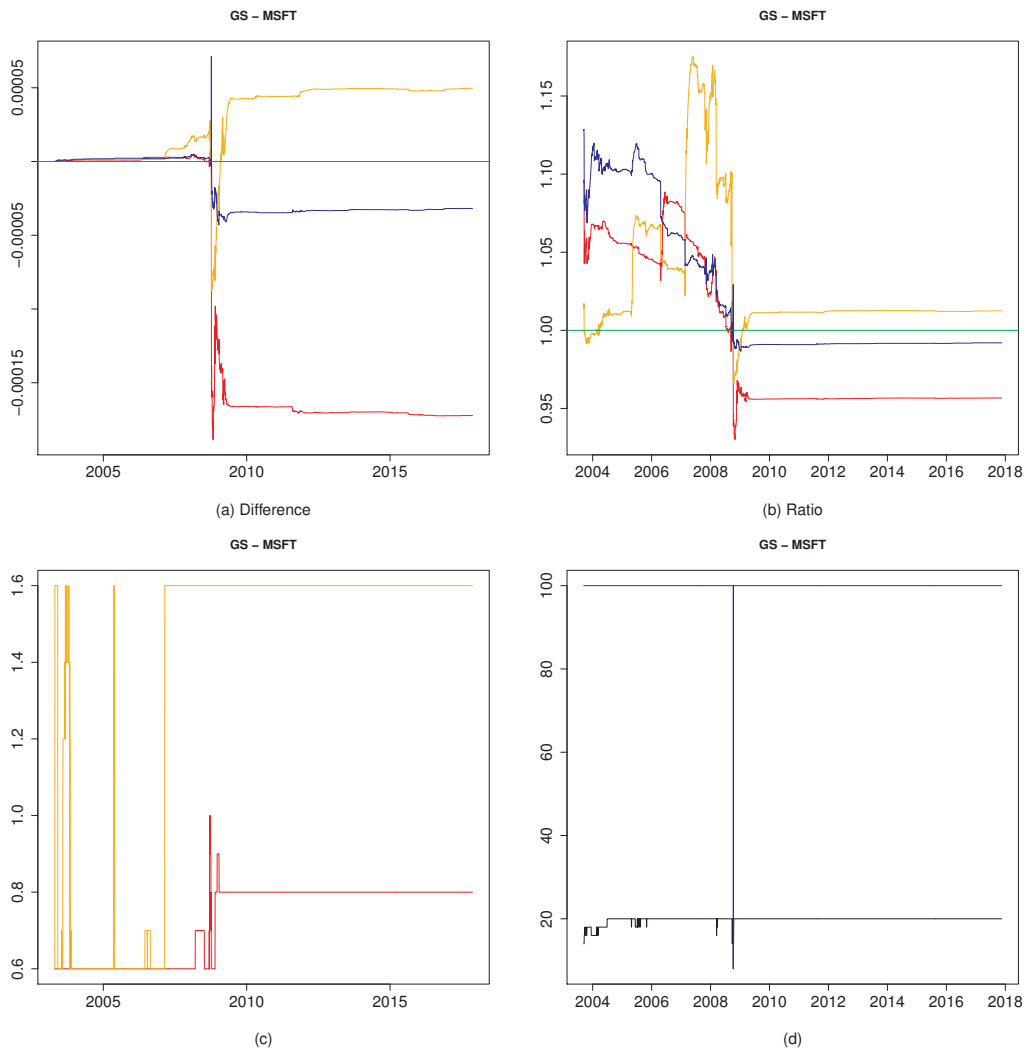


Figure 298: 13-29

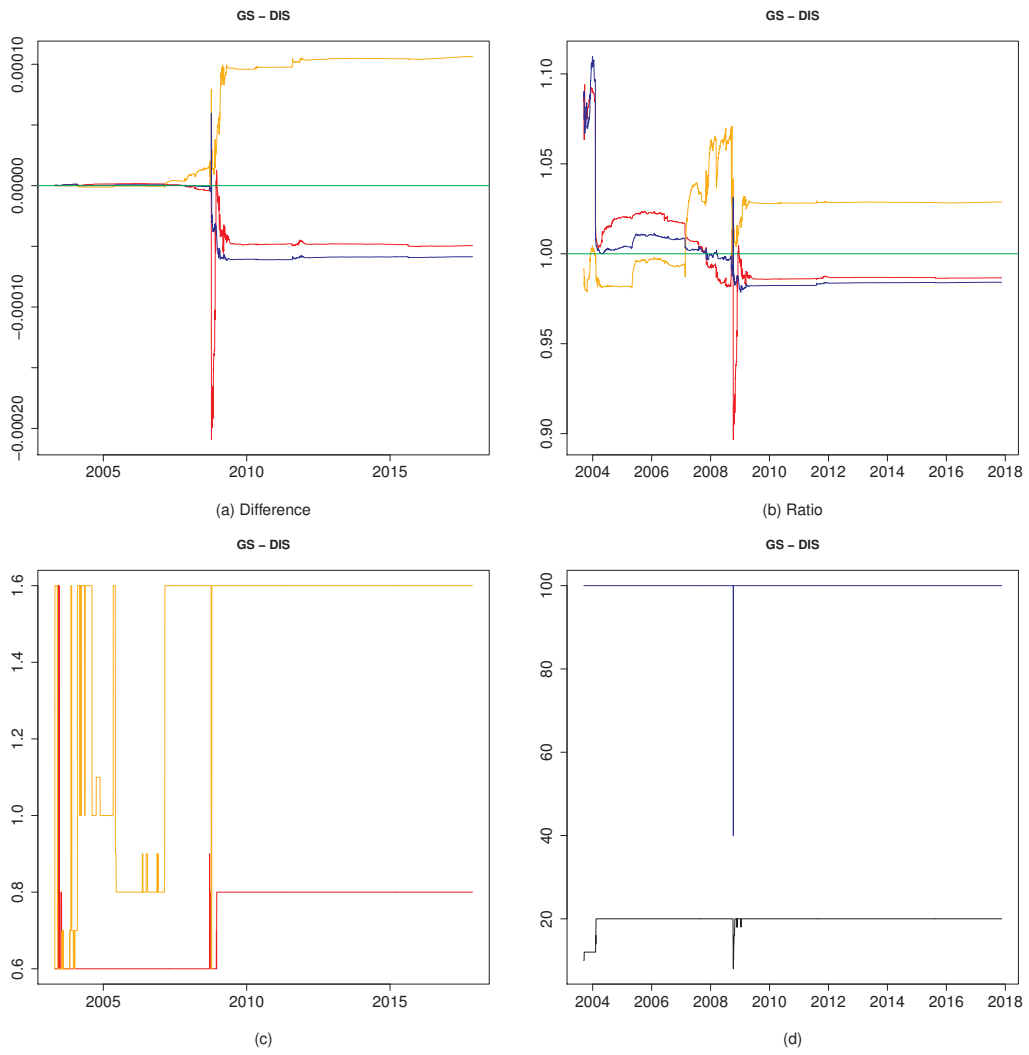


Figure 299: 13-30

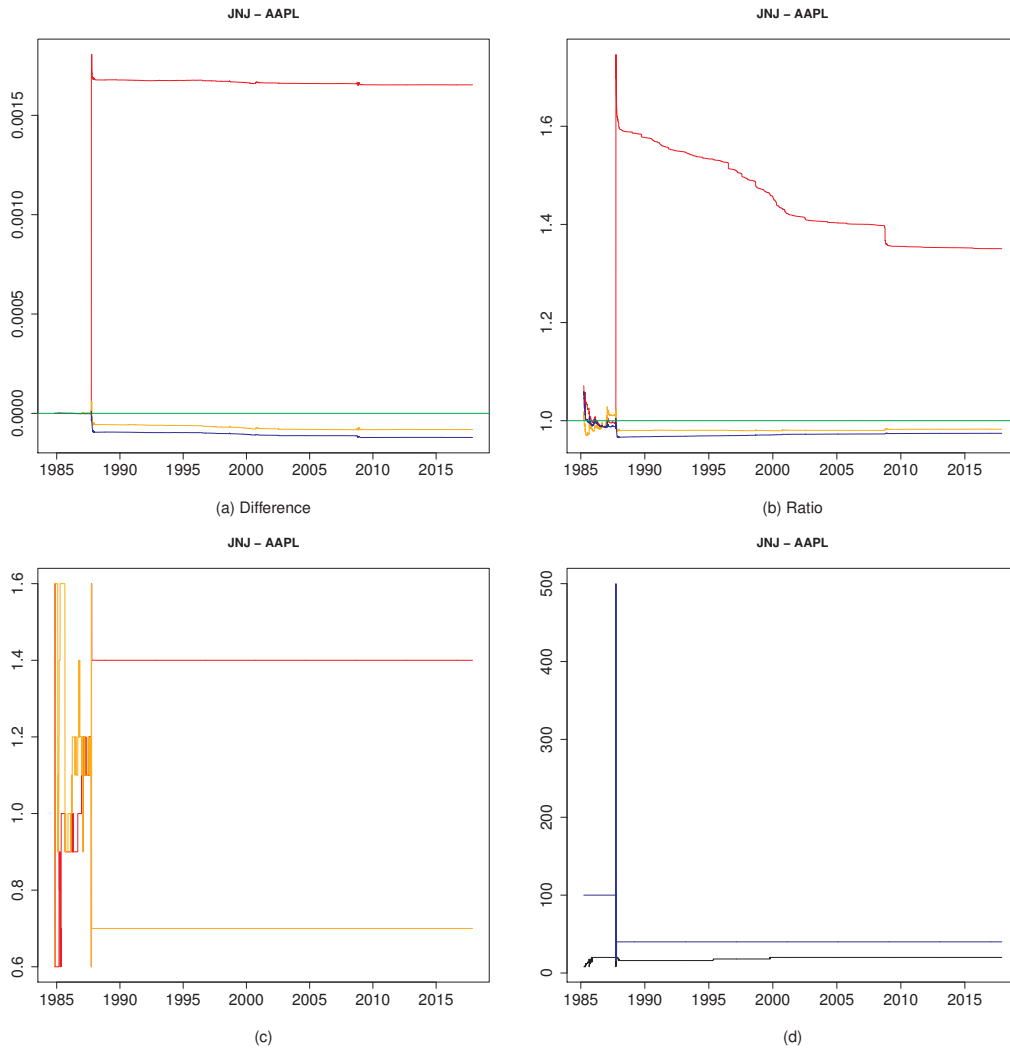


Figure 300: 14-15

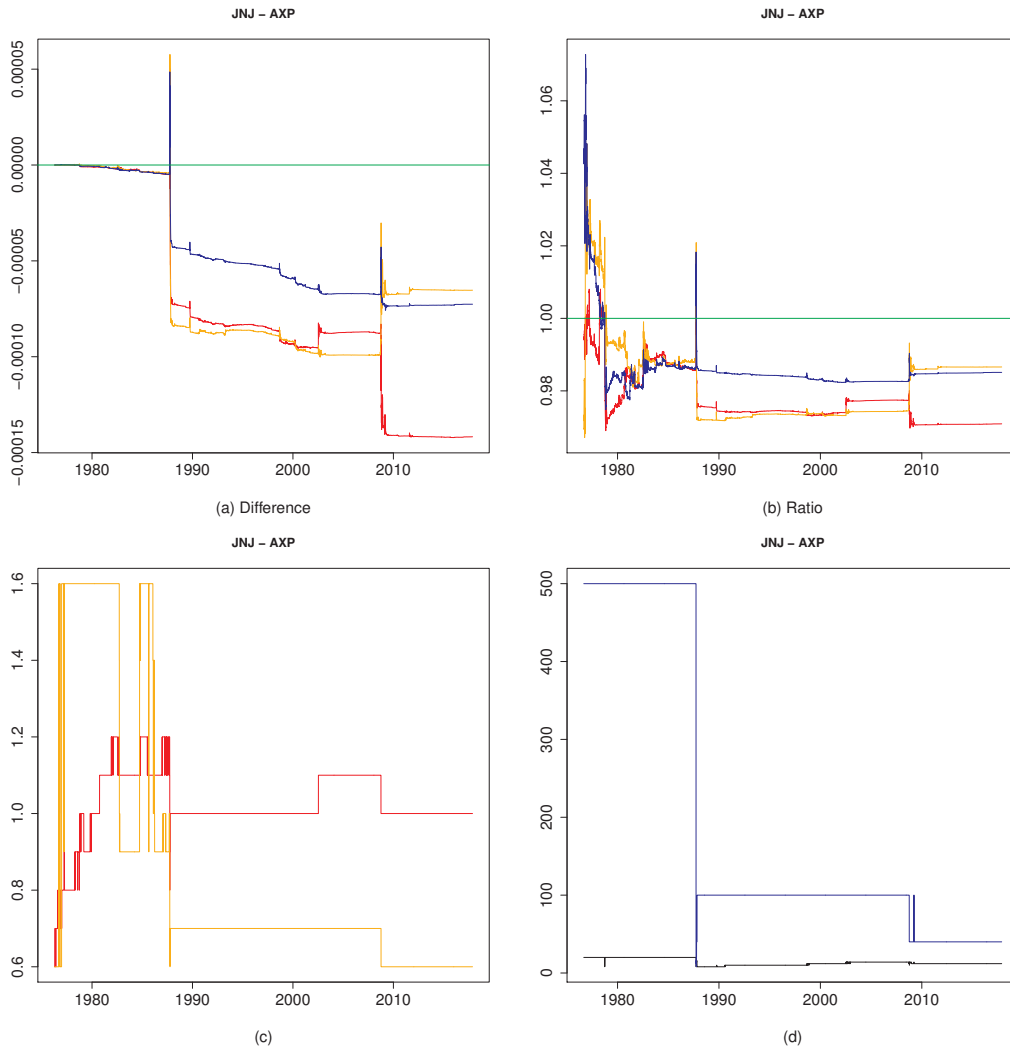


Figure 301: 14-16

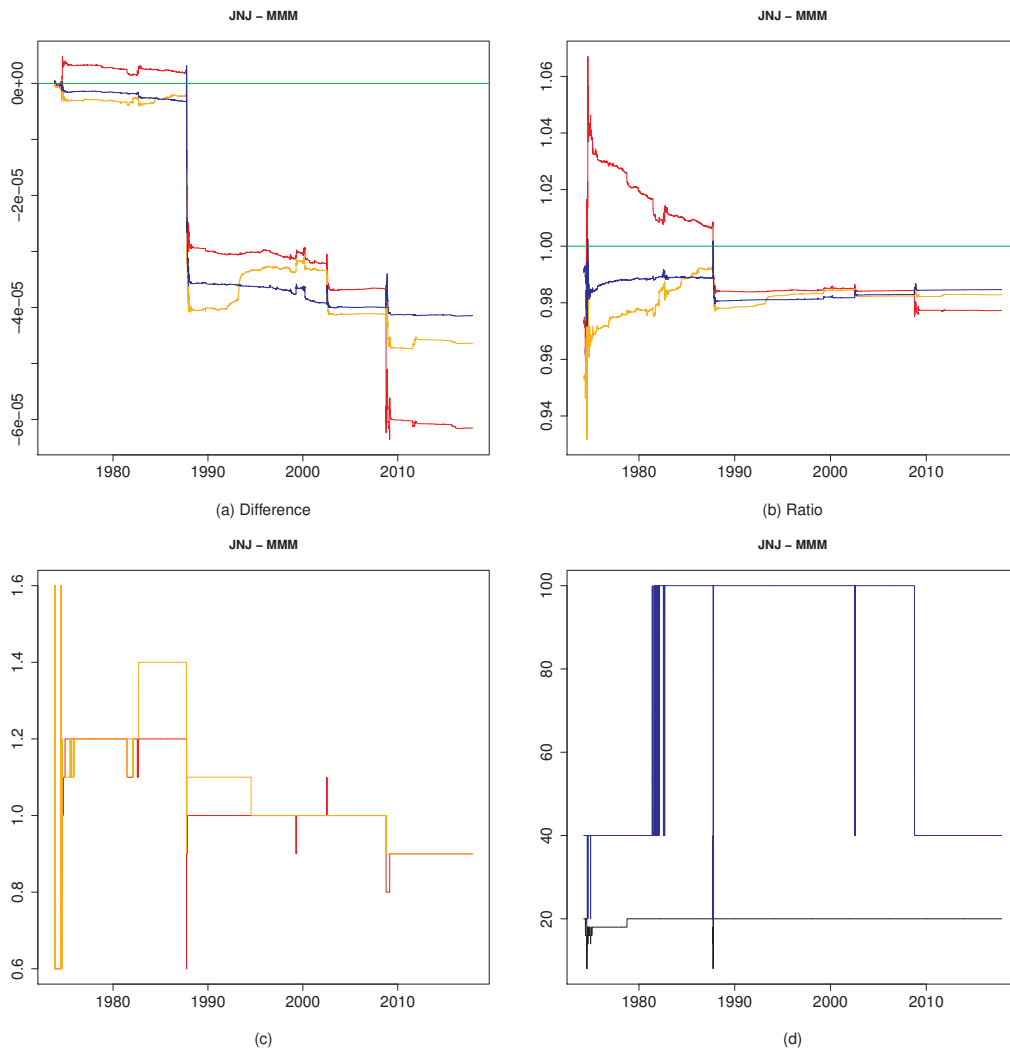


Figure 302: 14-17

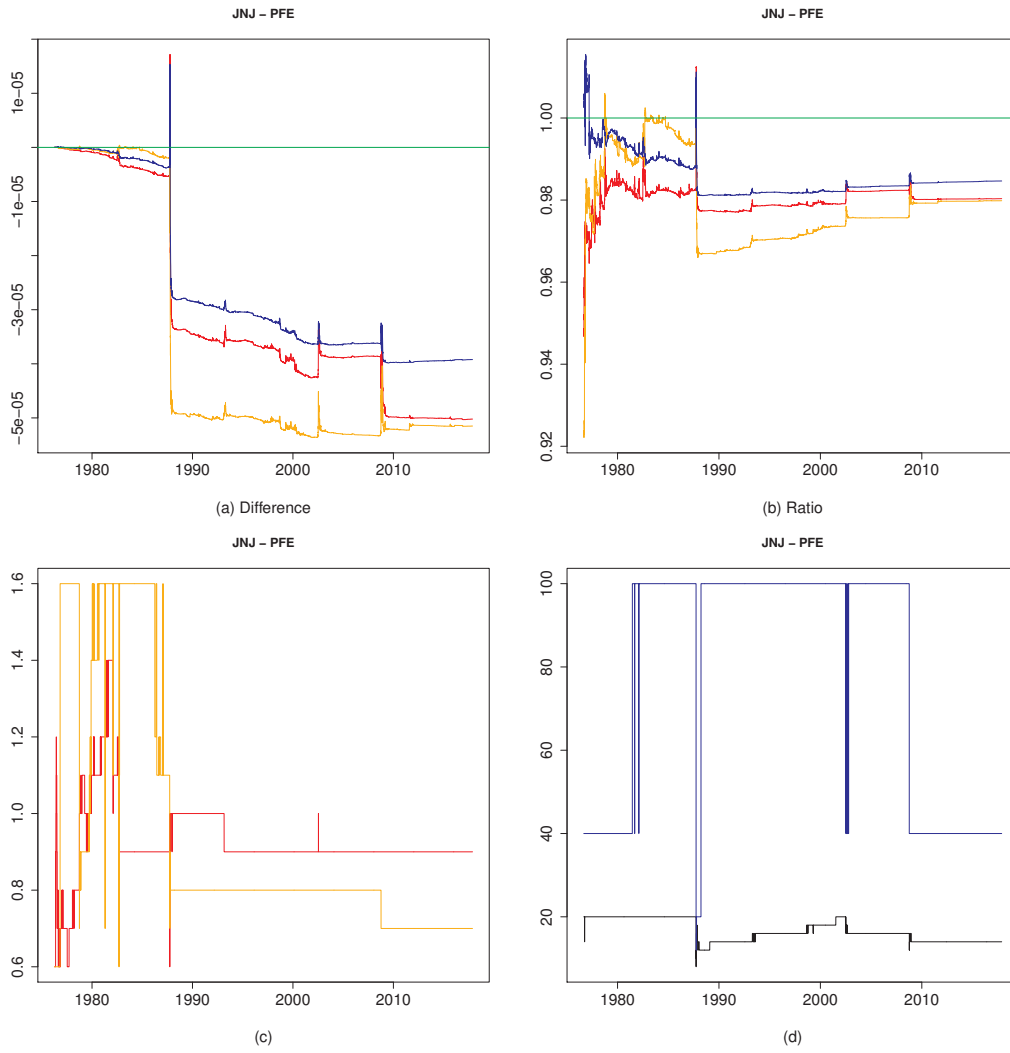


Figure 303: 14-18

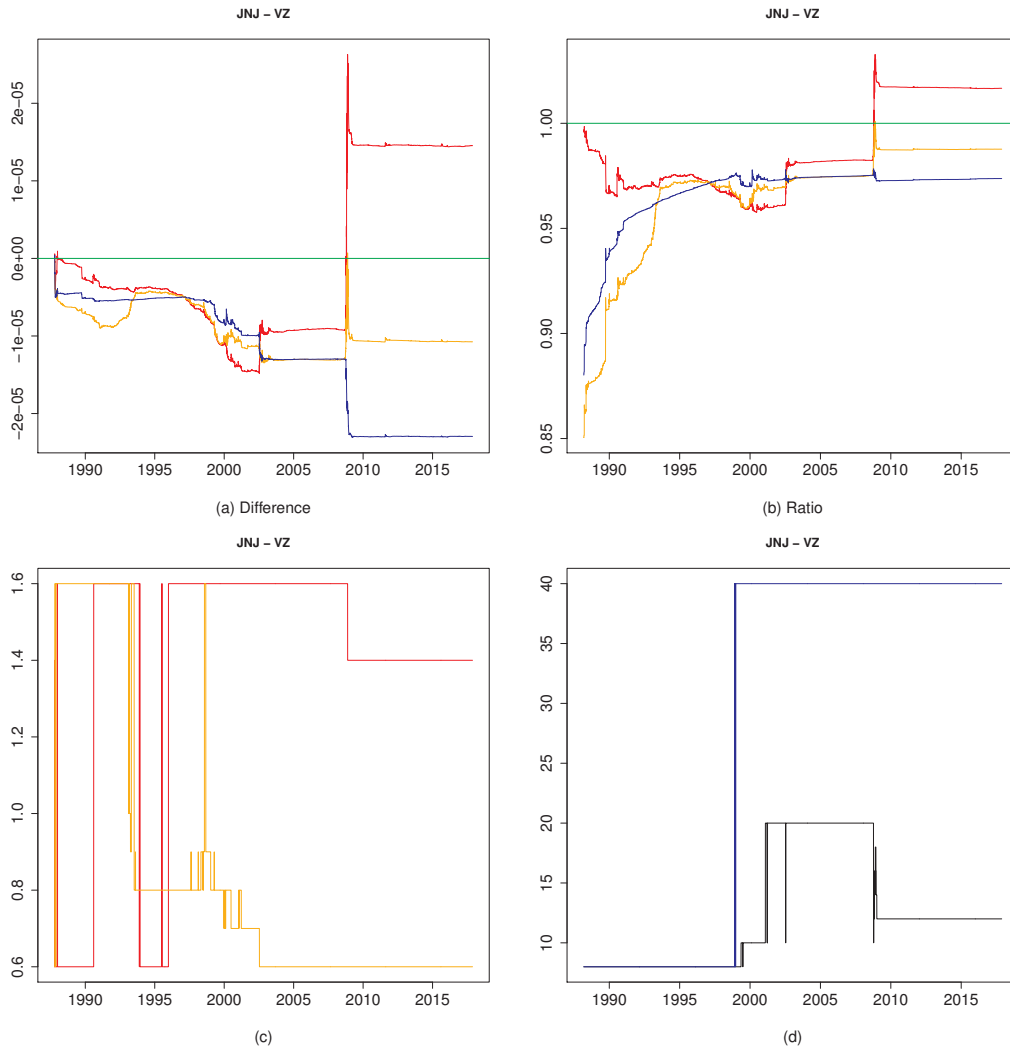


Figure 304: 14-19

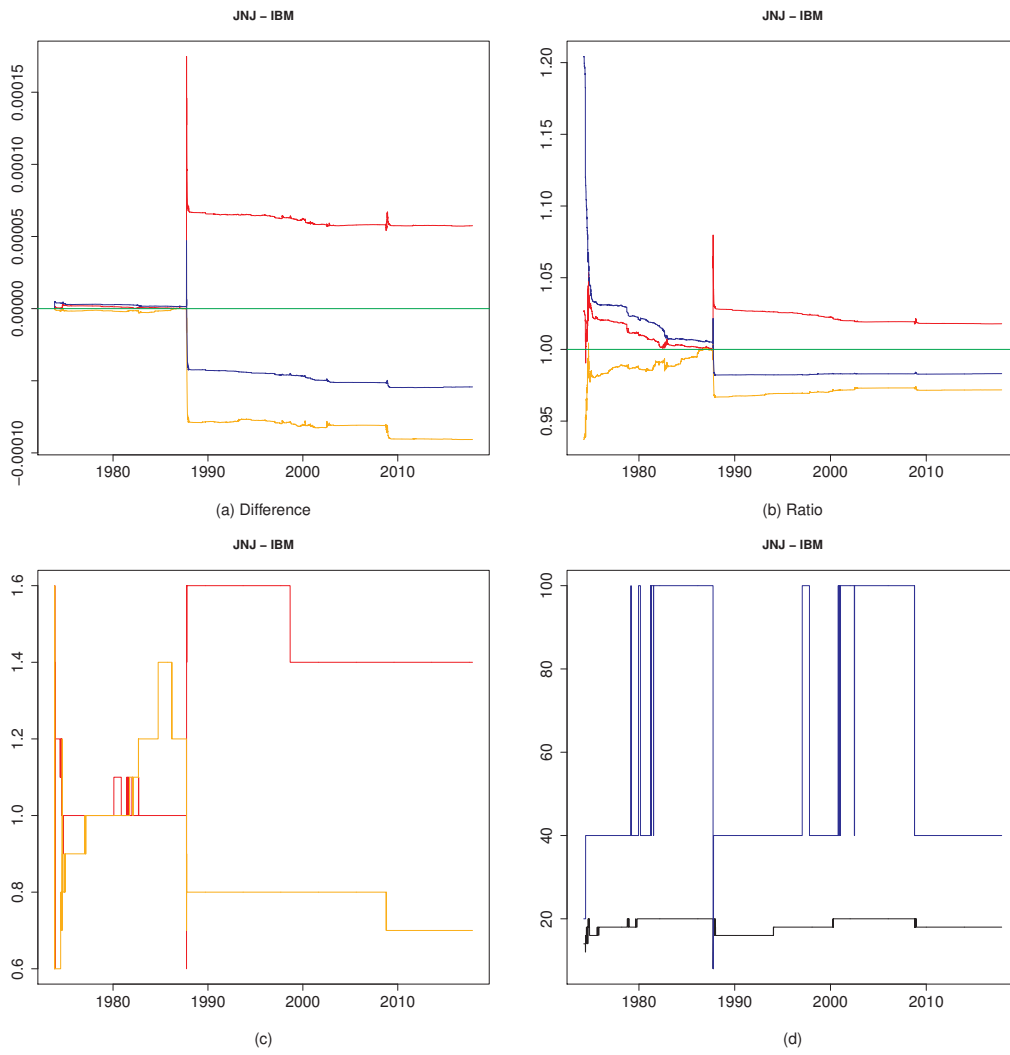


Figure 305: 14-20

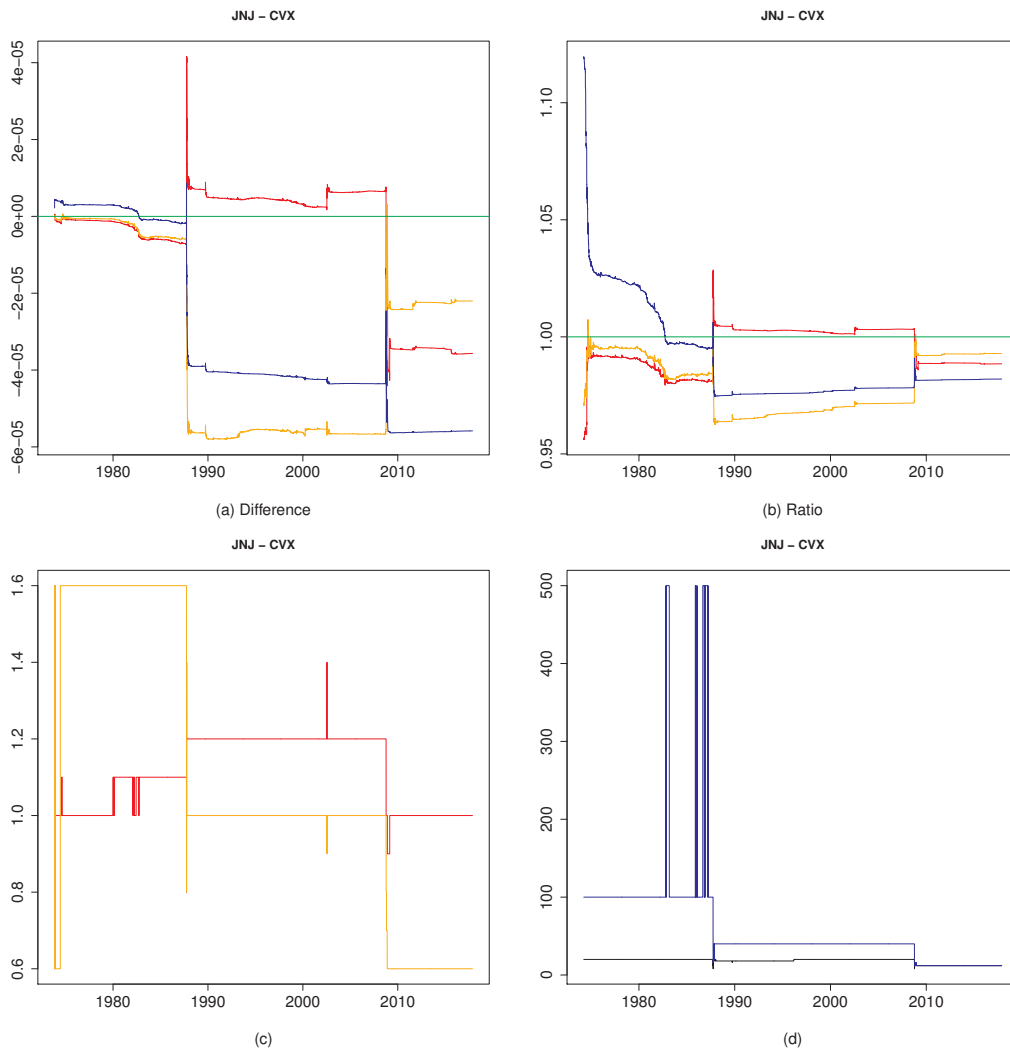


Figure 306: 14-21

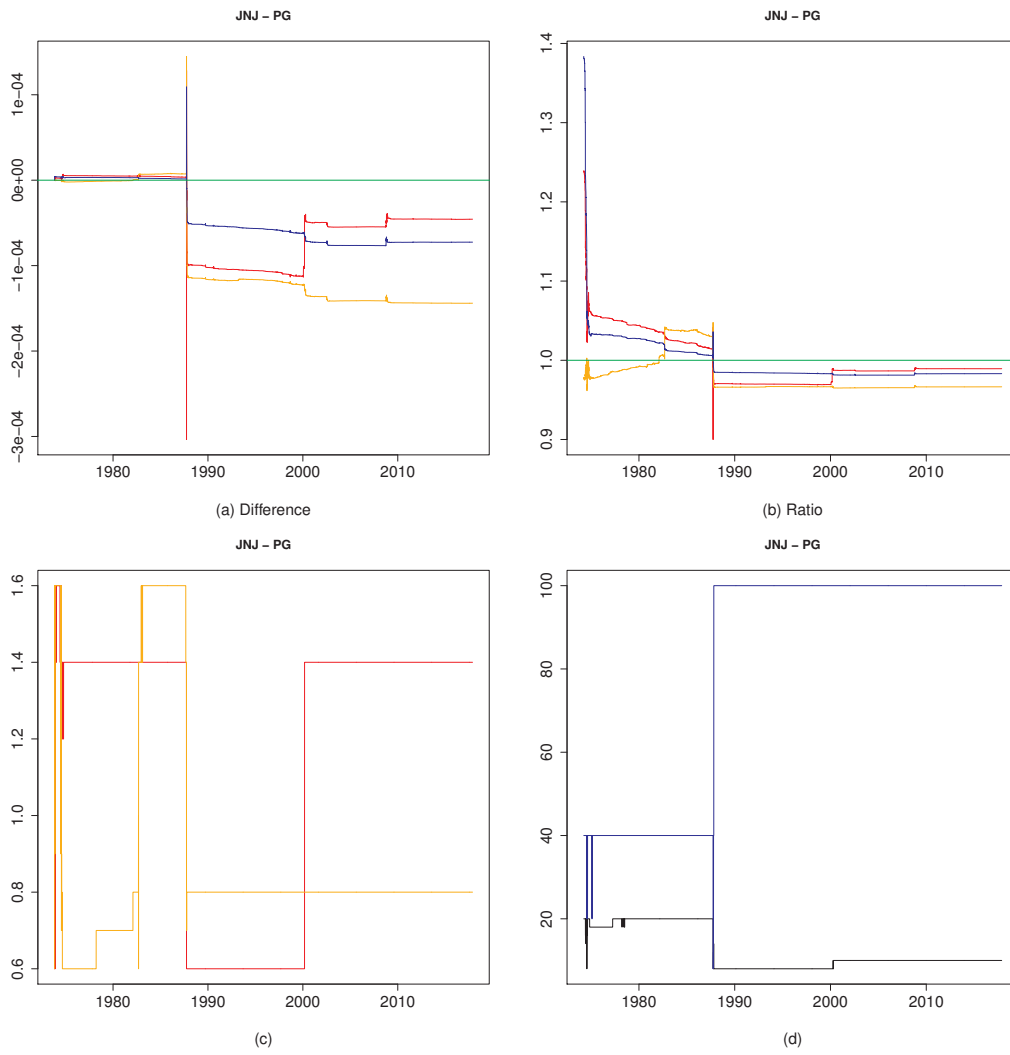


Figure 307: 14-22

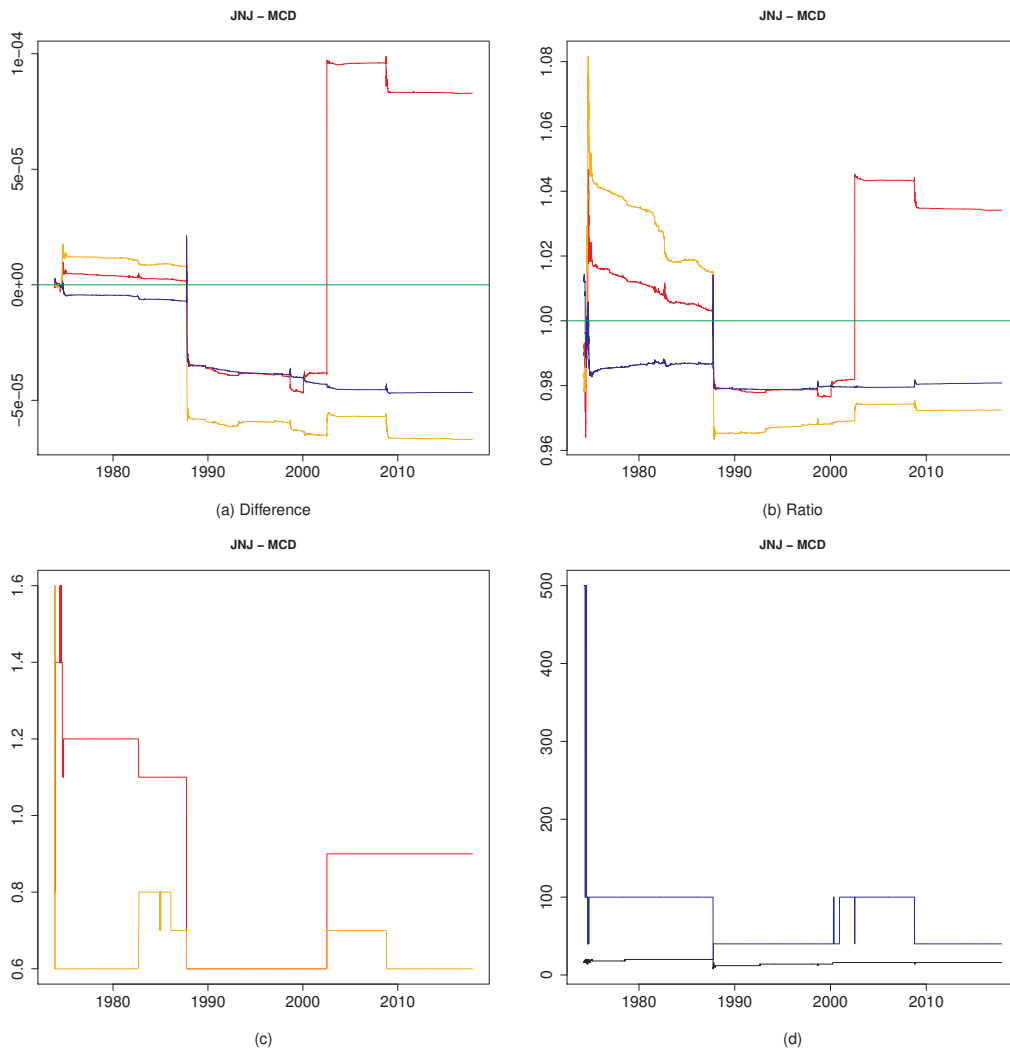


Figure 308: 14-23

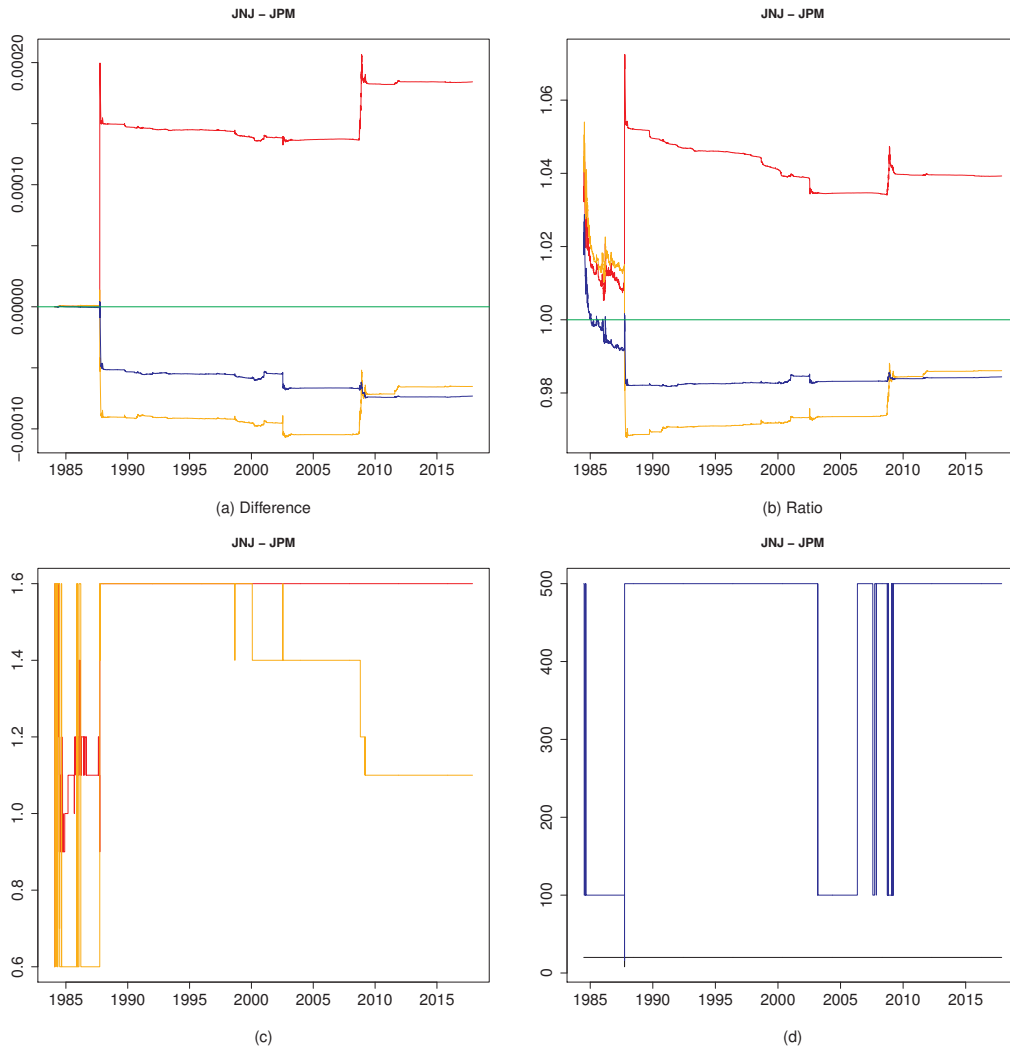


Figure 309: 14-24

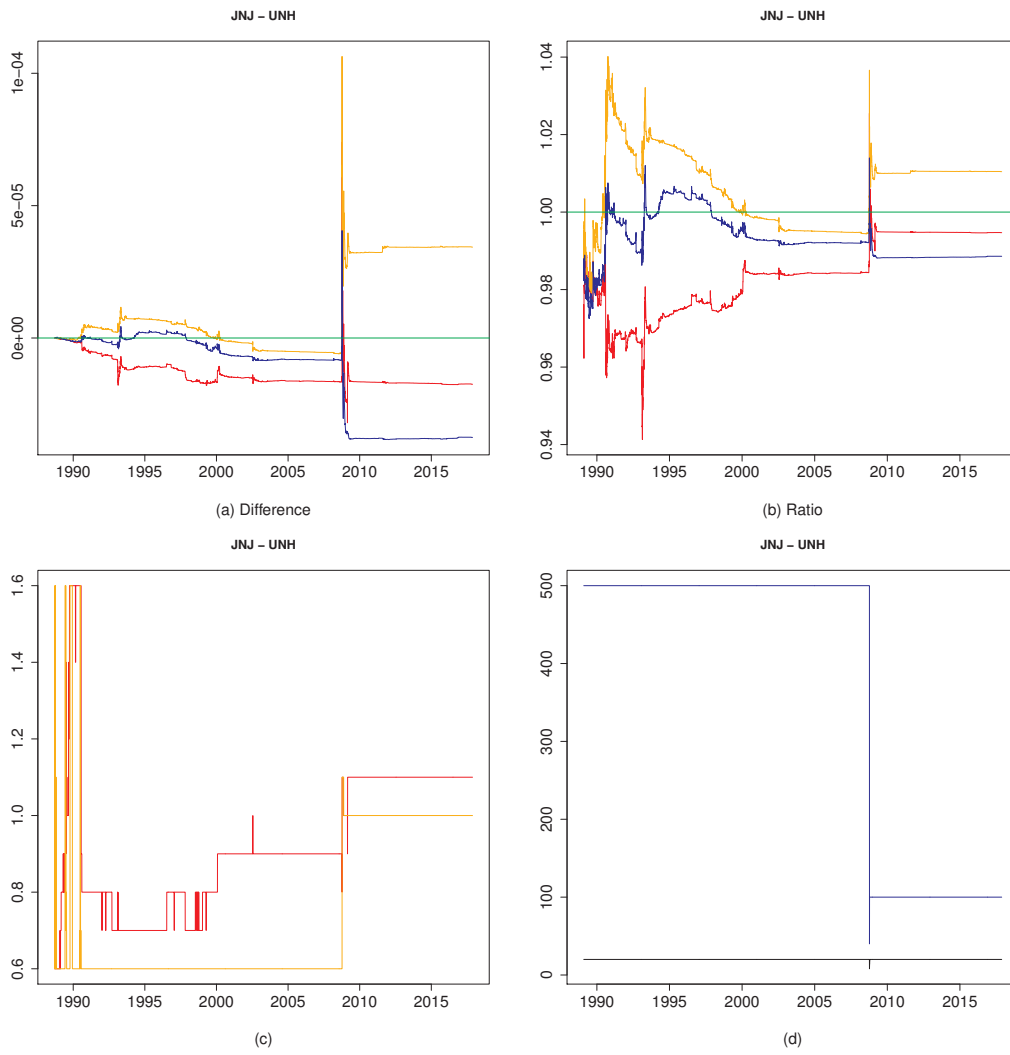


Figure 310: 14-25

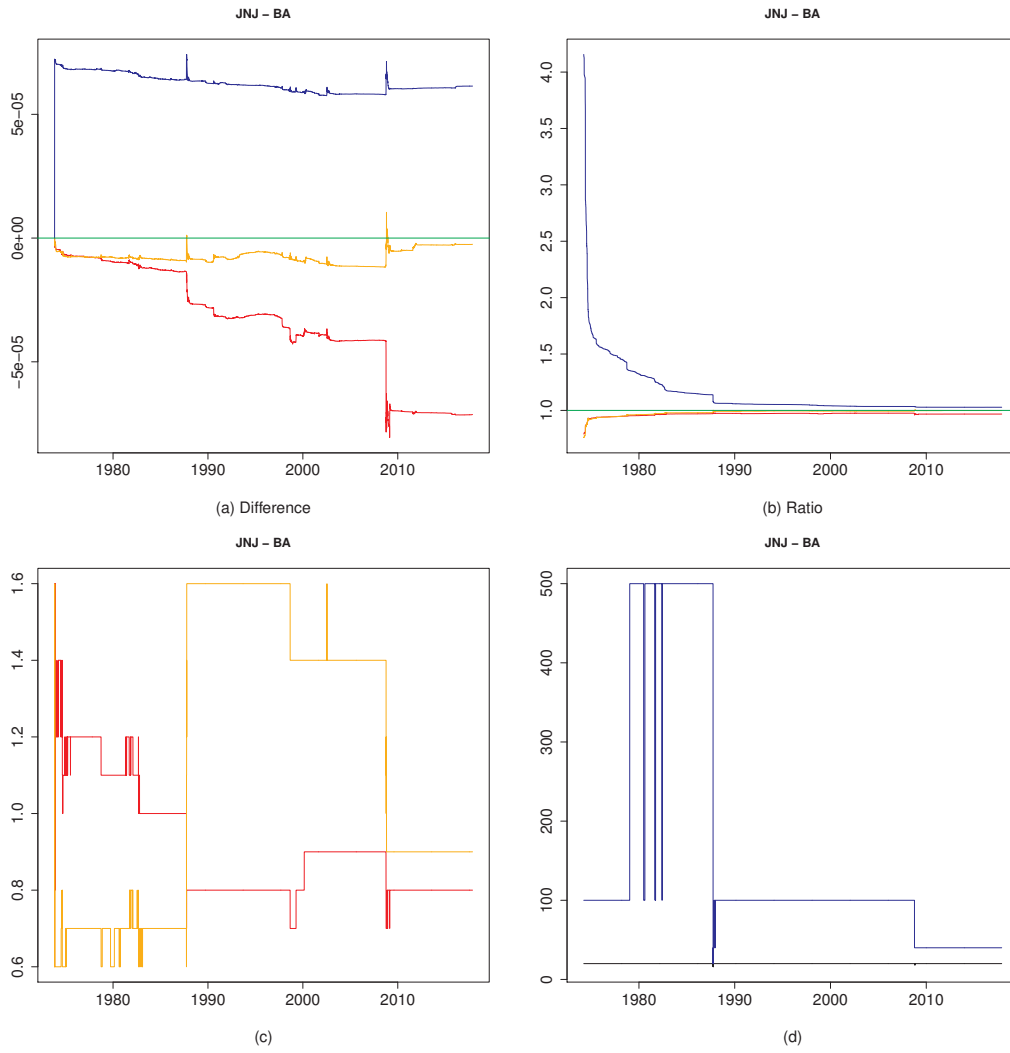


Figure 311: 14-26

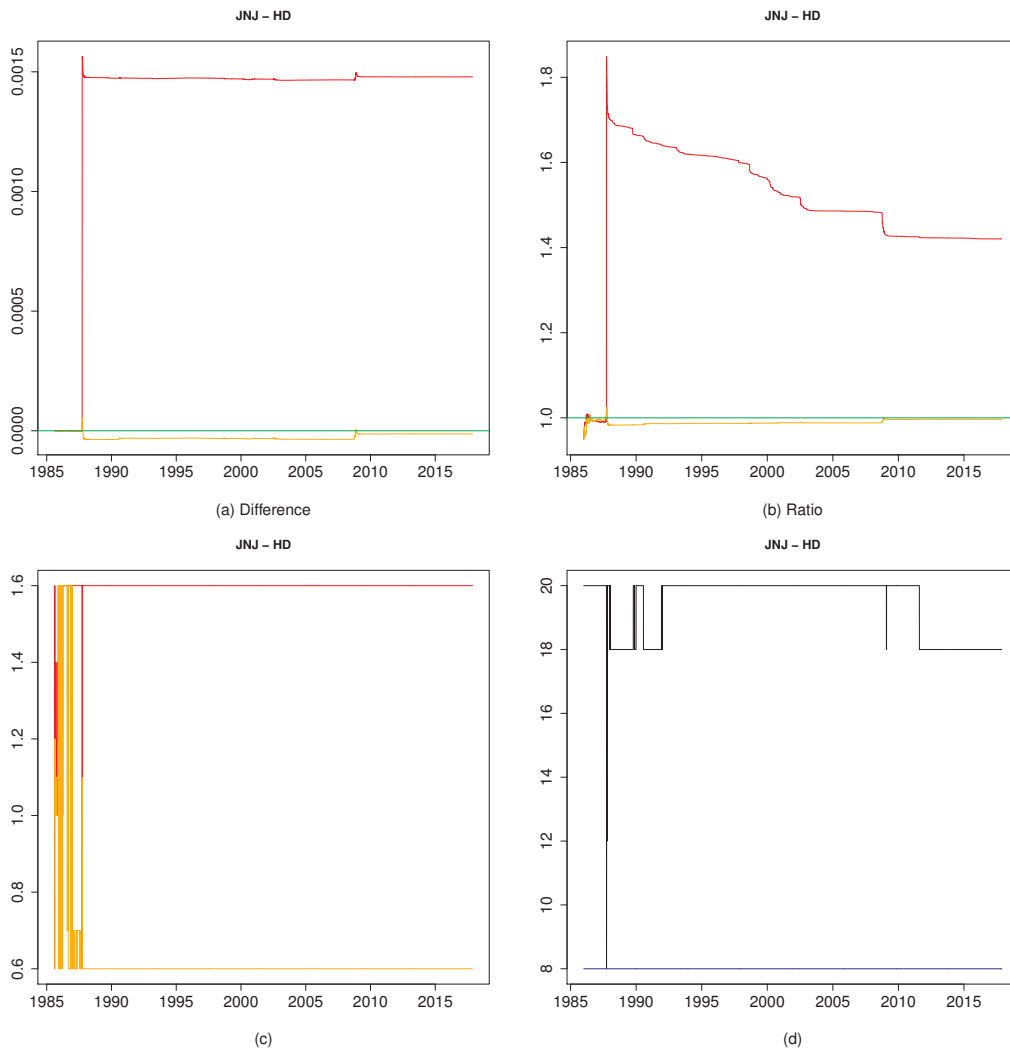


Figure 312: 14-27

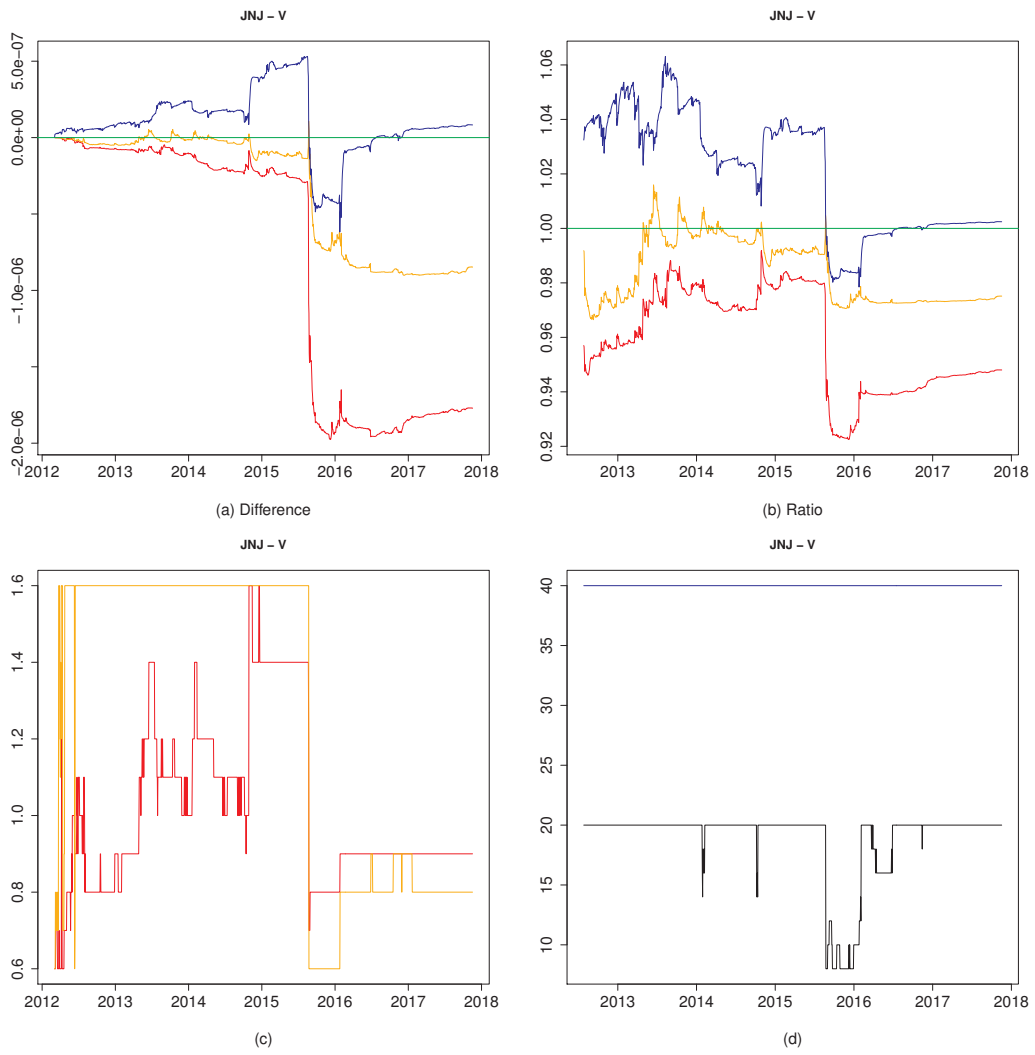


Figure 313: 14-28

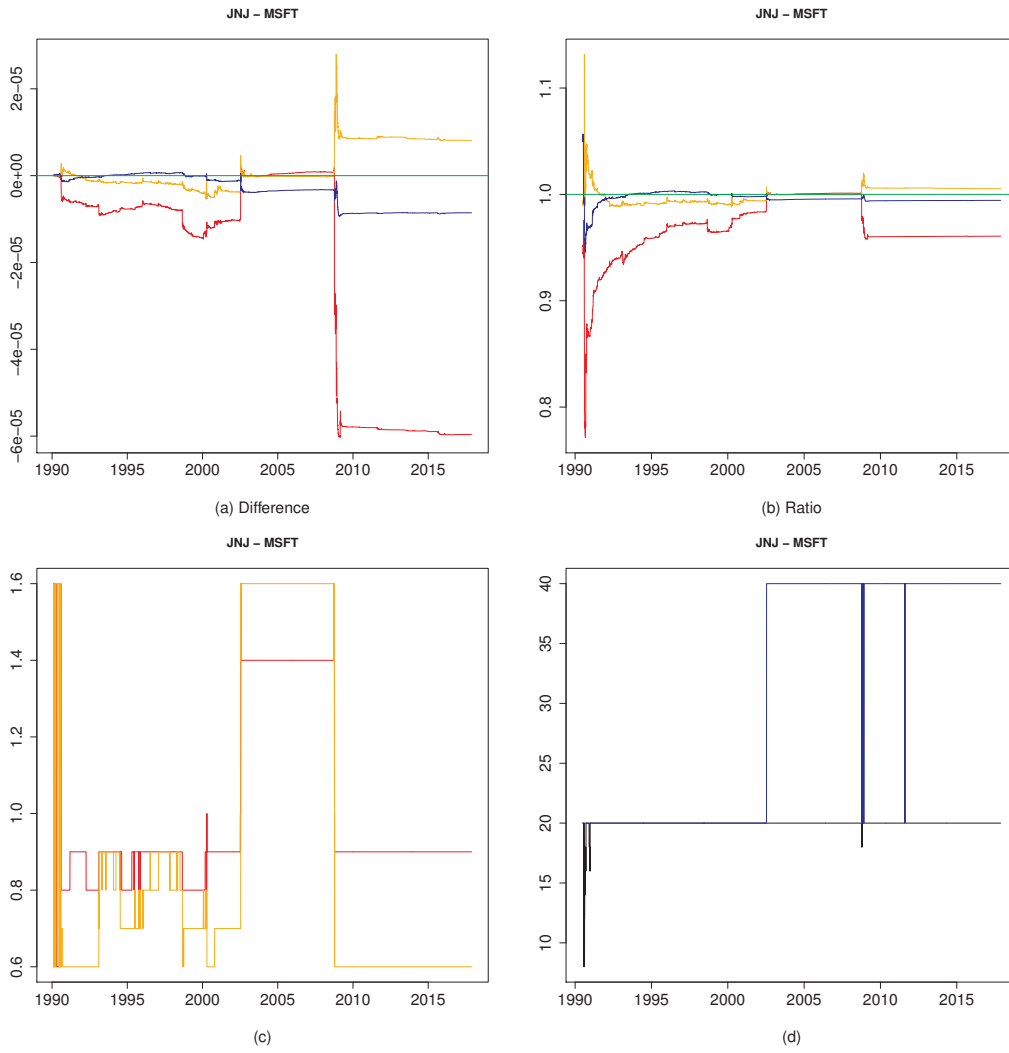


Figure 314: 14-29

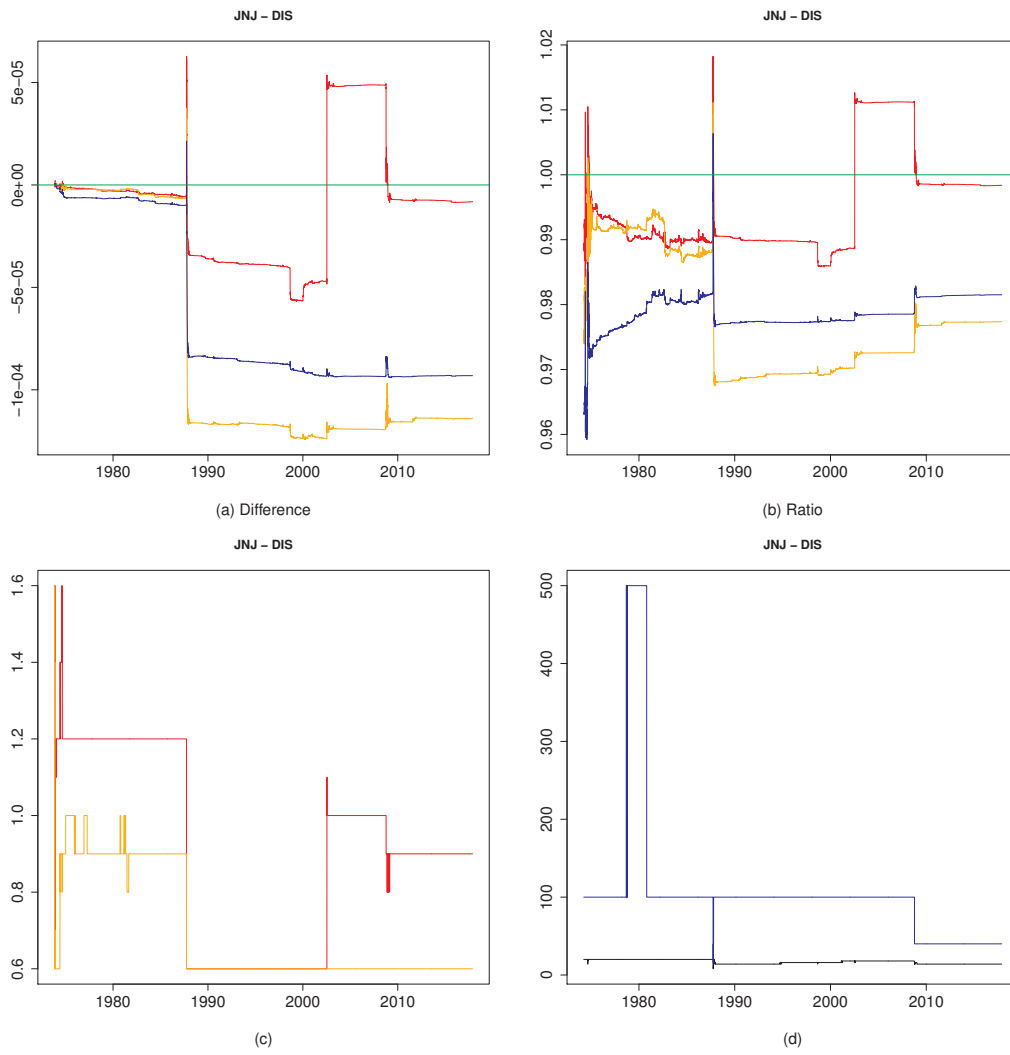


Figure 315: 14-30

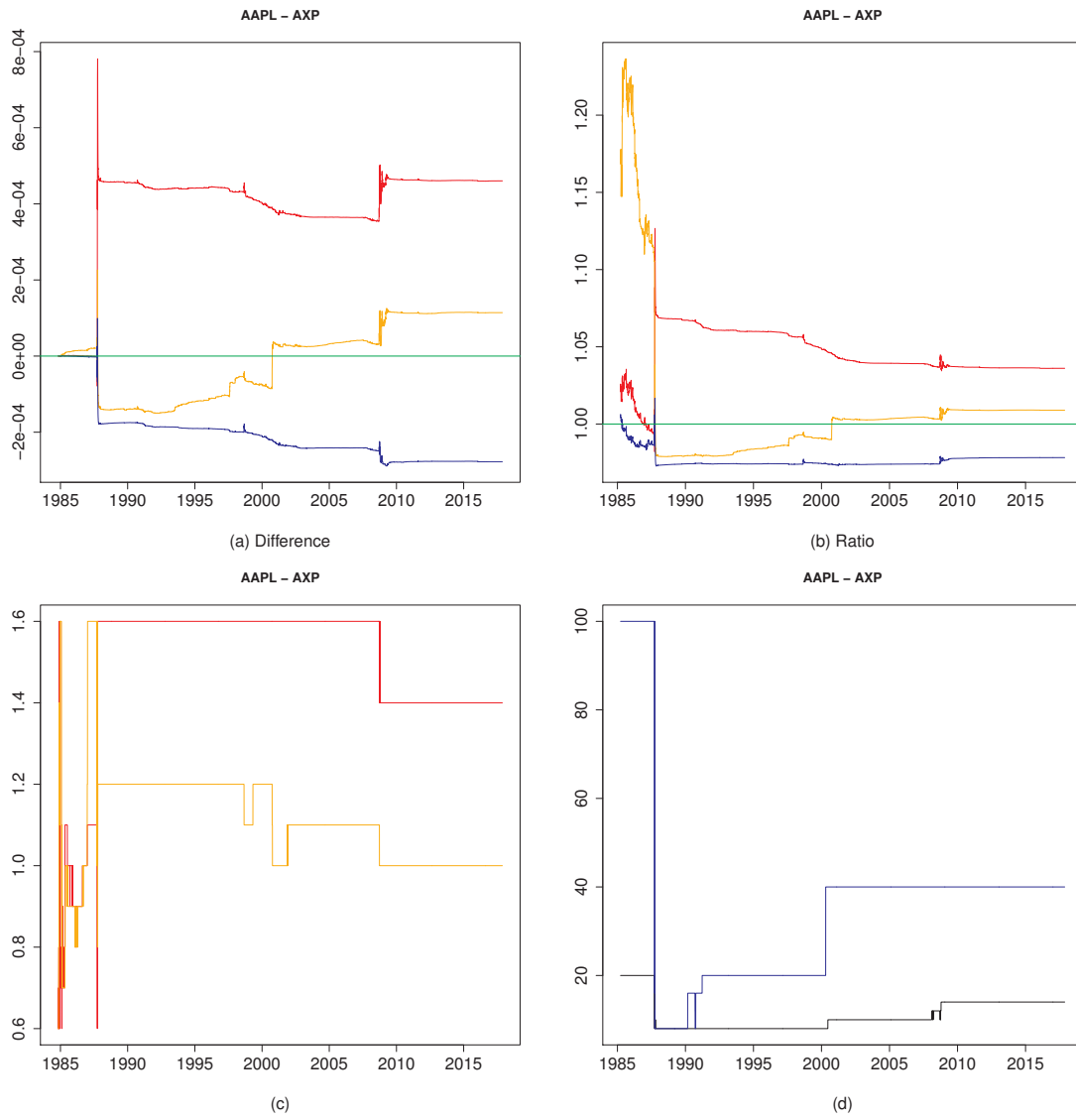
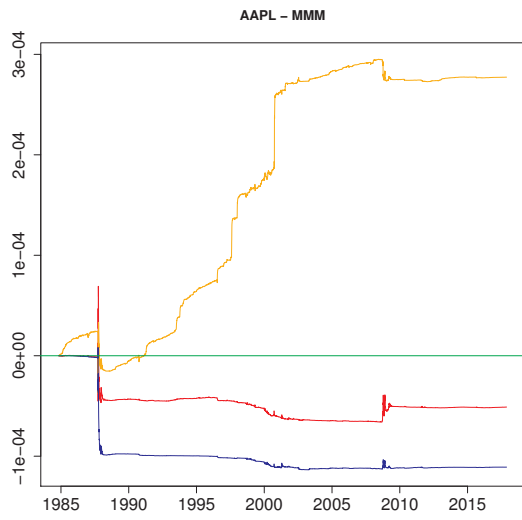
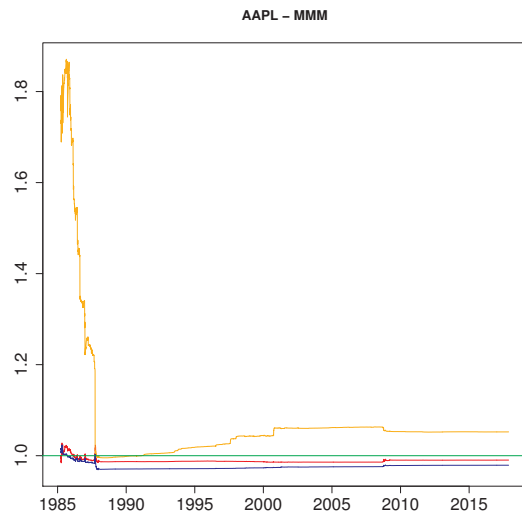


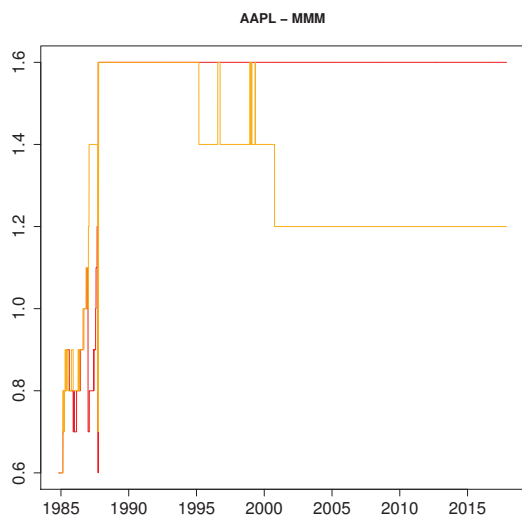
Figure 316: 15-16



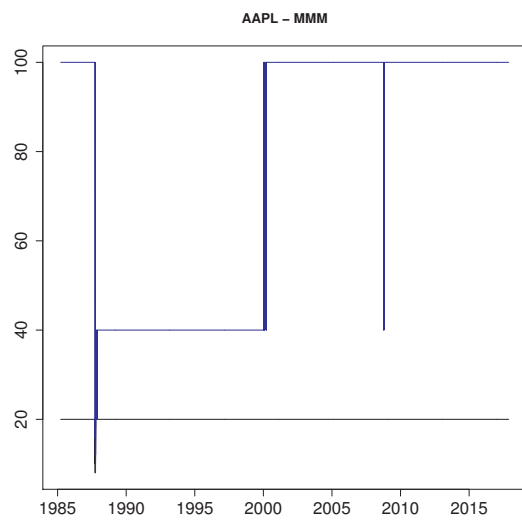
(a) Difference



(b) Ratio



(c)



(d)

Figure 317: 15-17

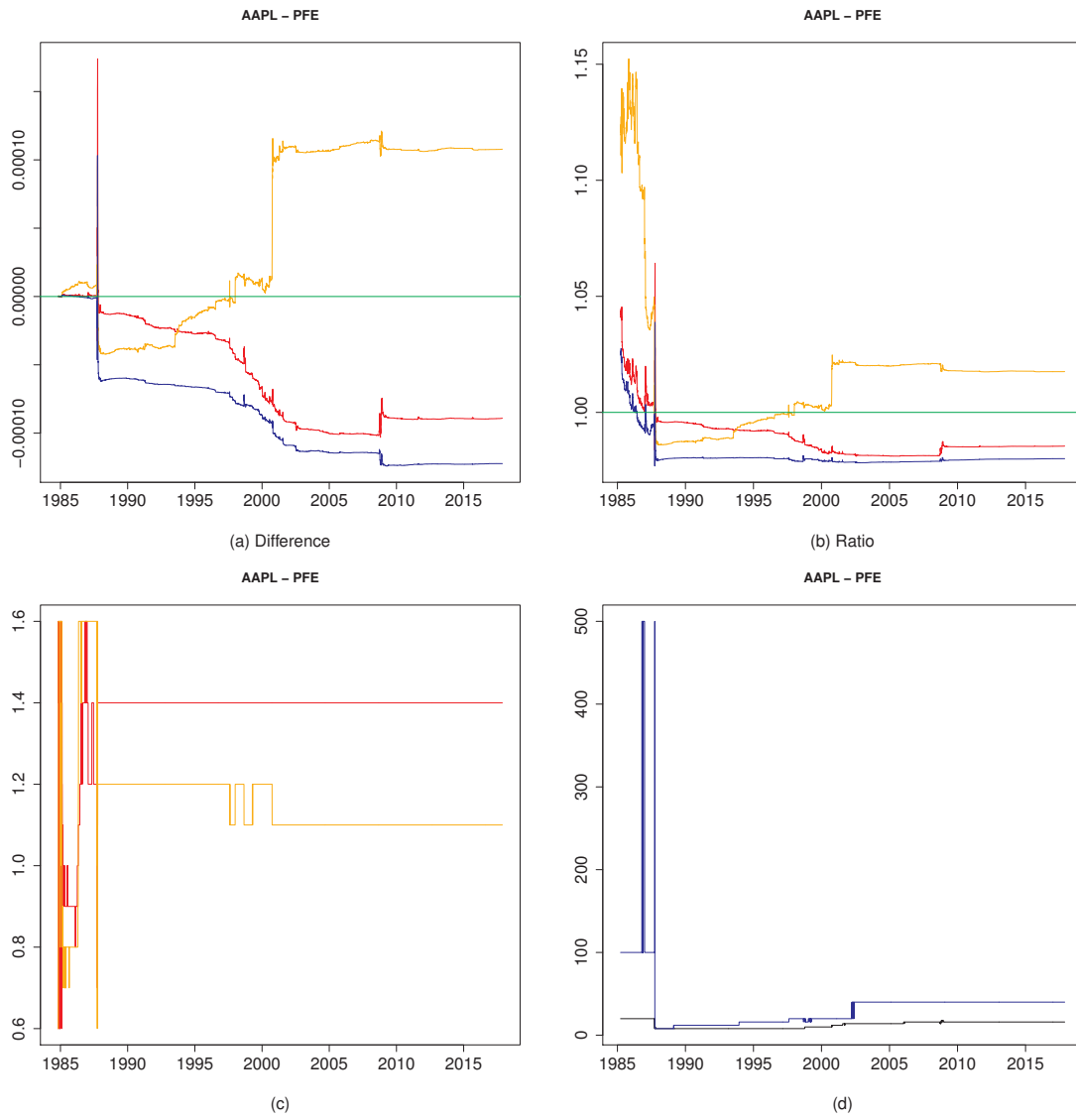


Figure 318: 15-18

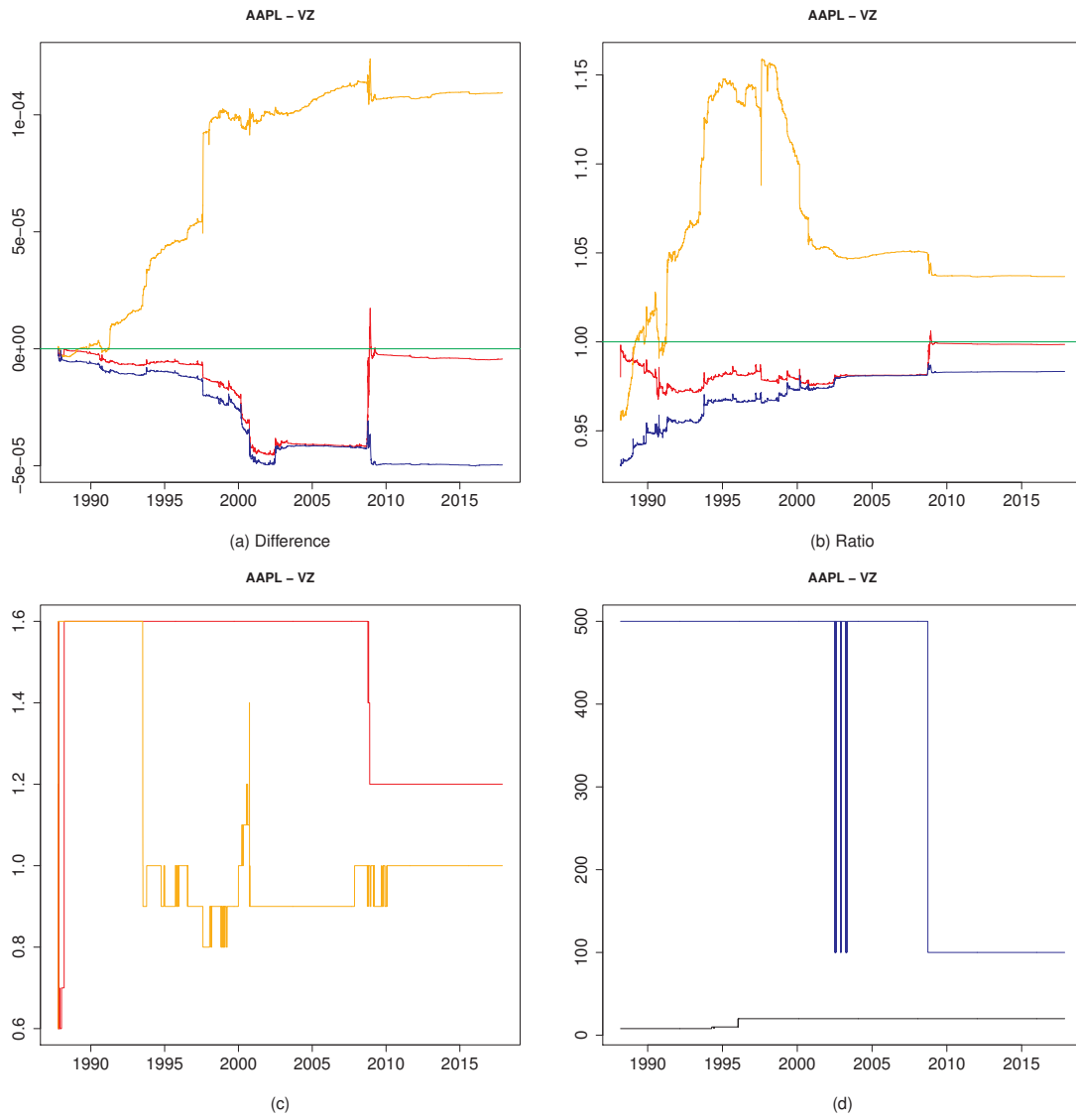


Figure 319: 15-19

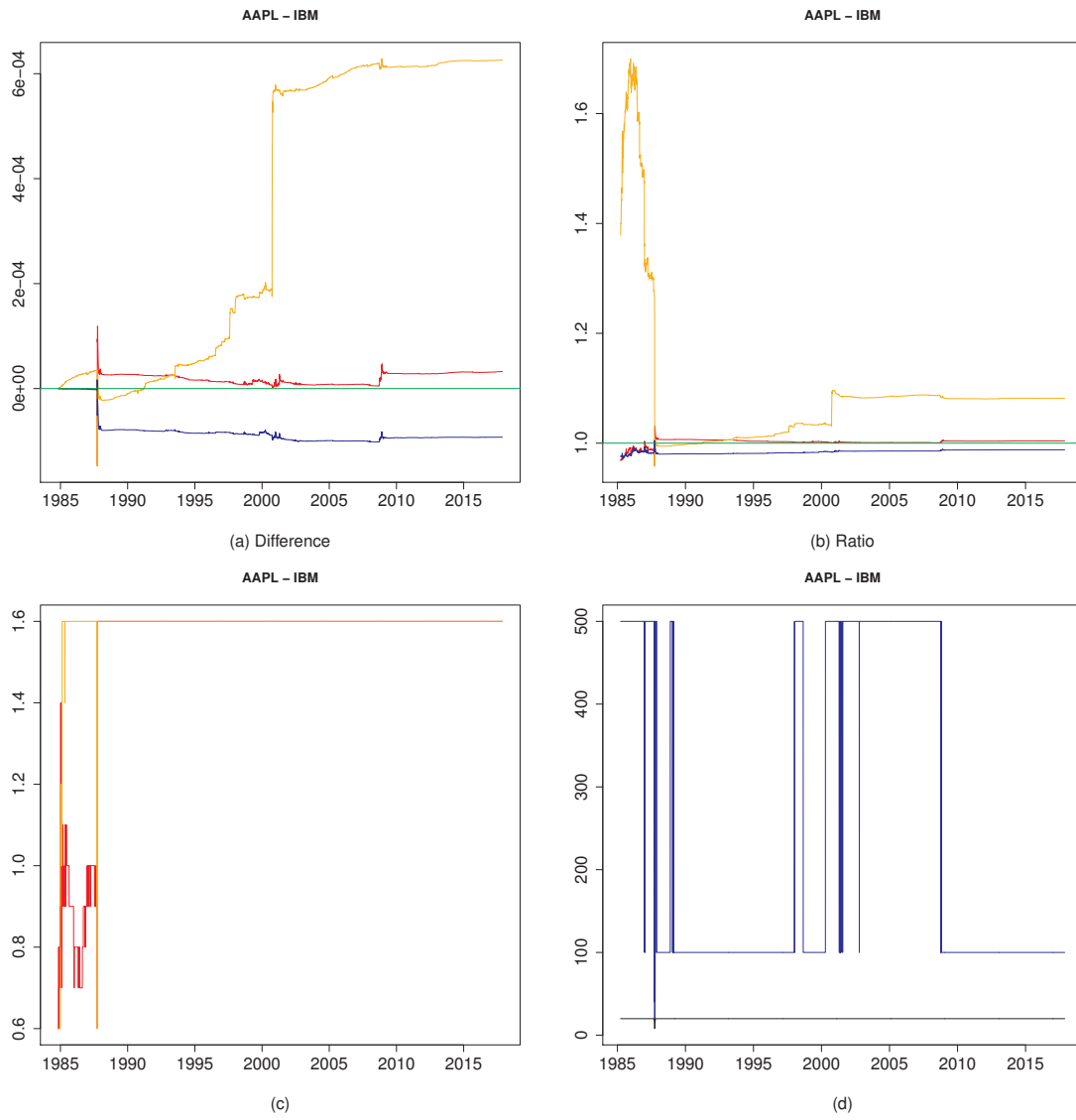


Figure 320: 15-20

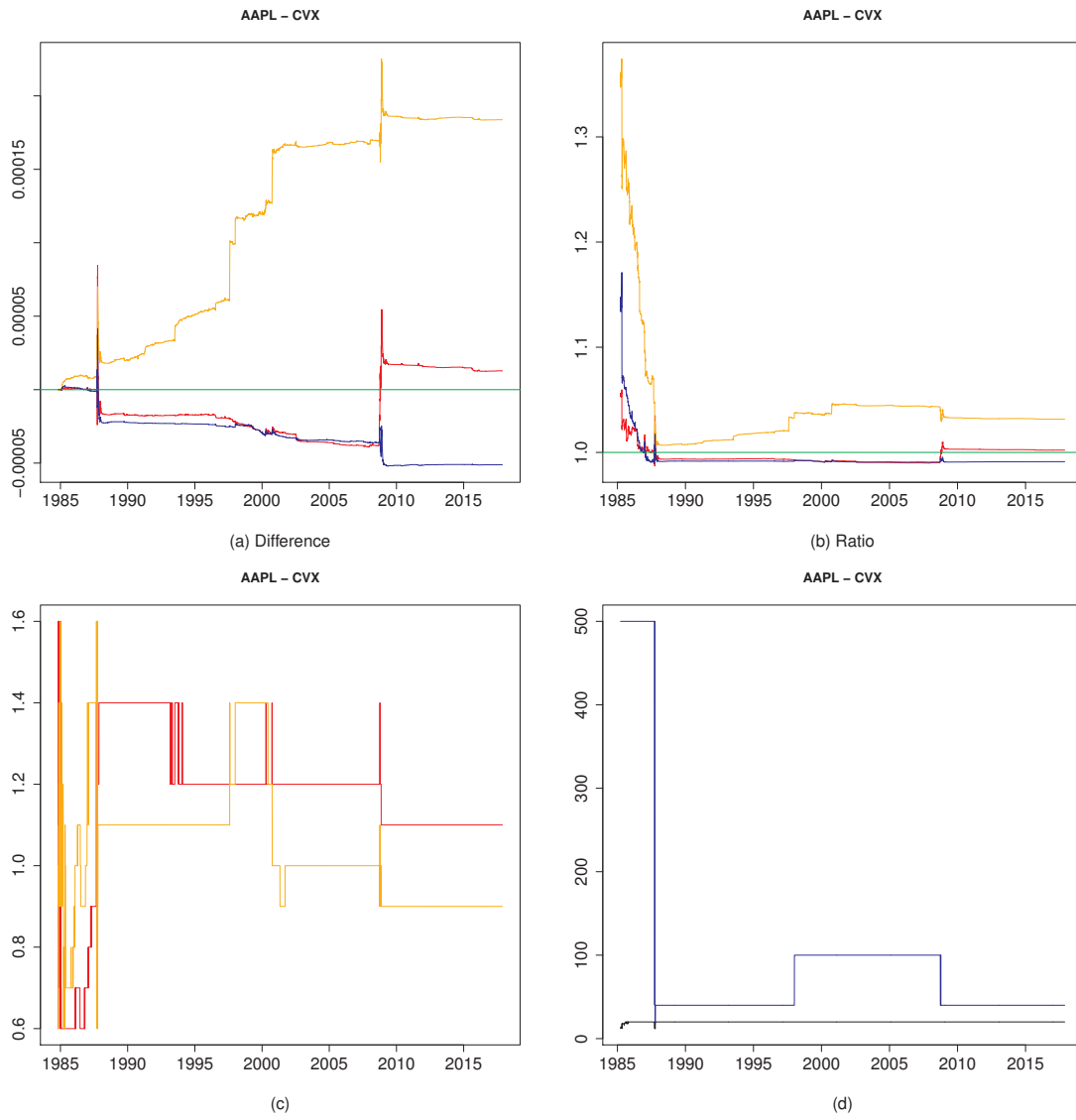


Figure 321: 15-21

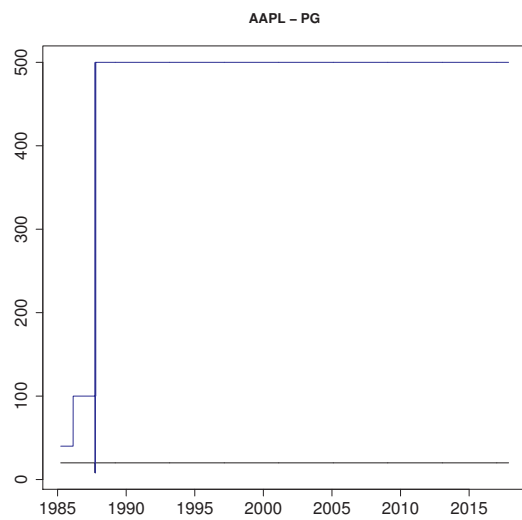
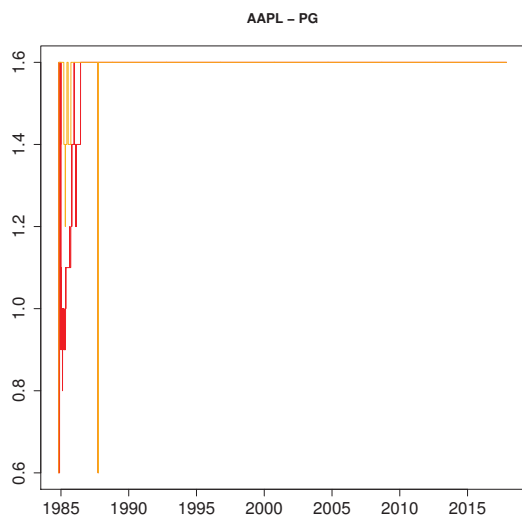
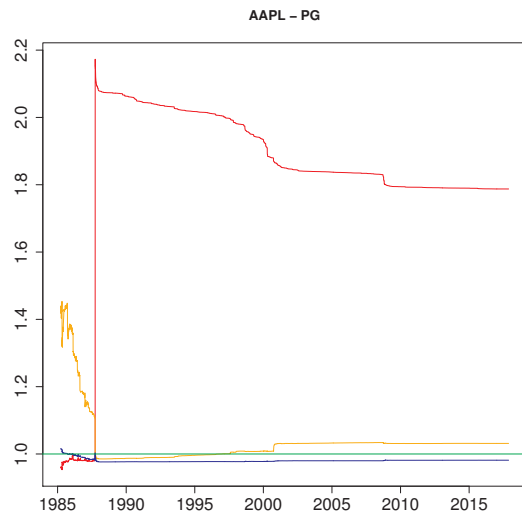
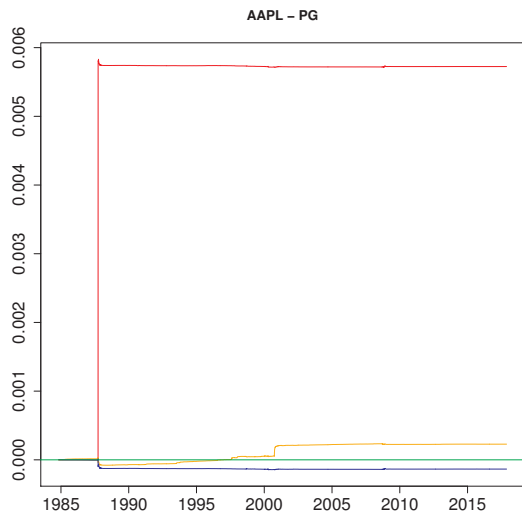


Figure 322: 15-22

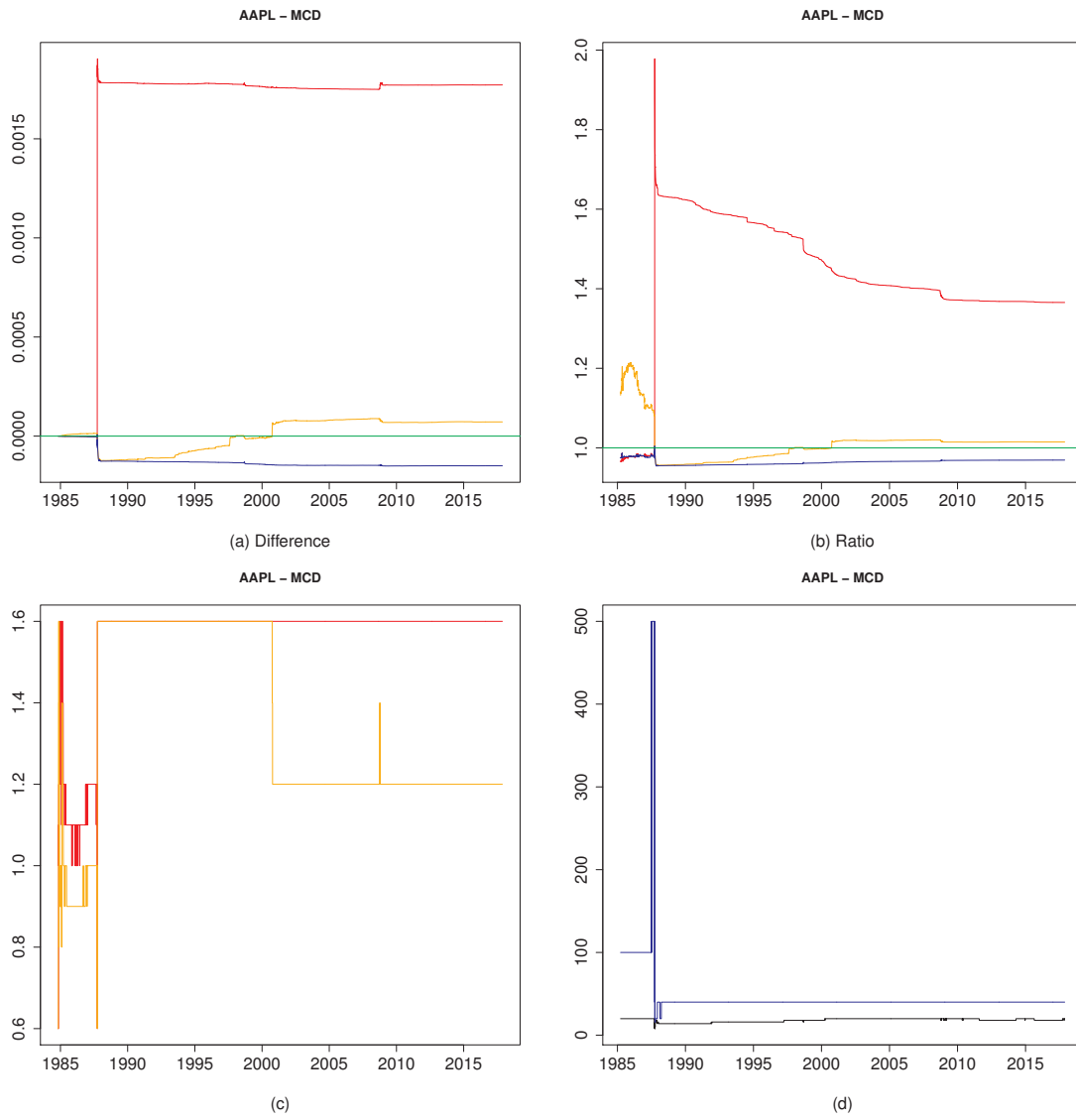


Figure 323: 15-23

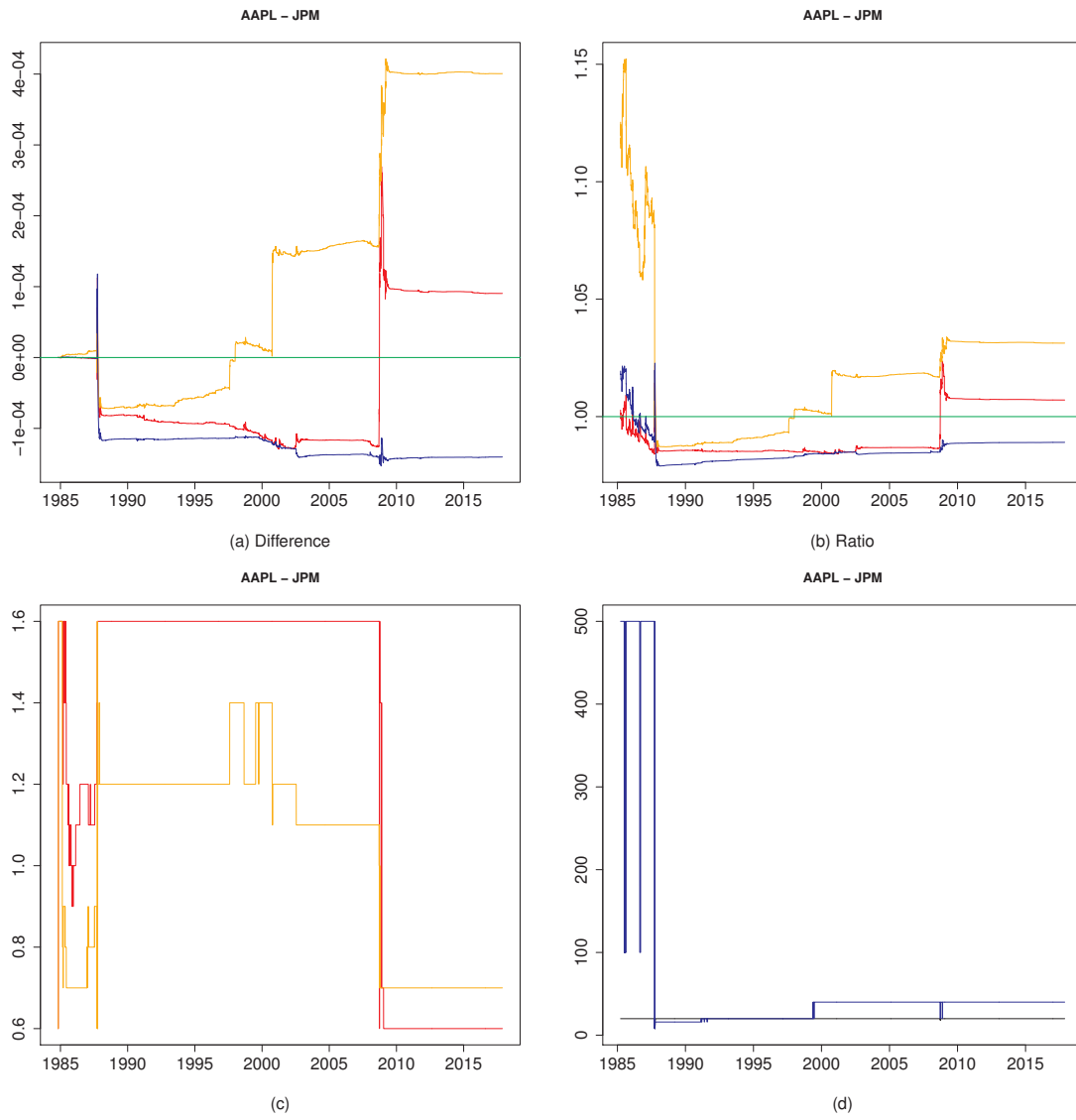
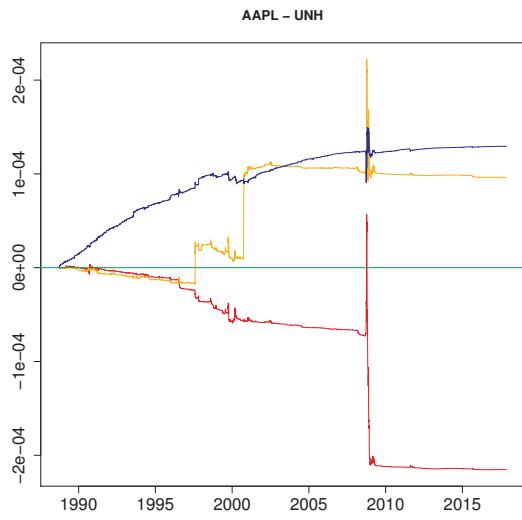
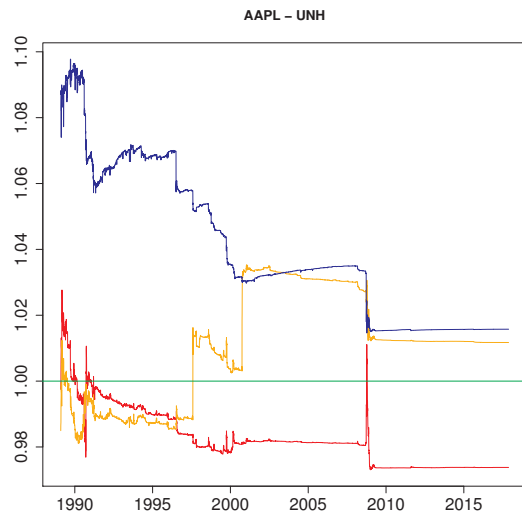


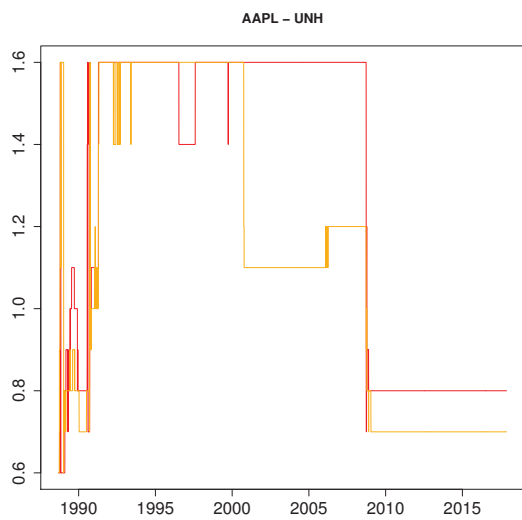
Figure 324: 15-24



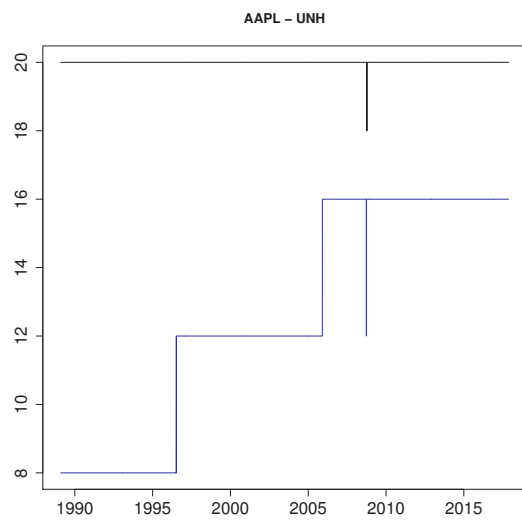
(a) Difference



(b) Ratio



(c)



(d)

Figure 325: 15-25

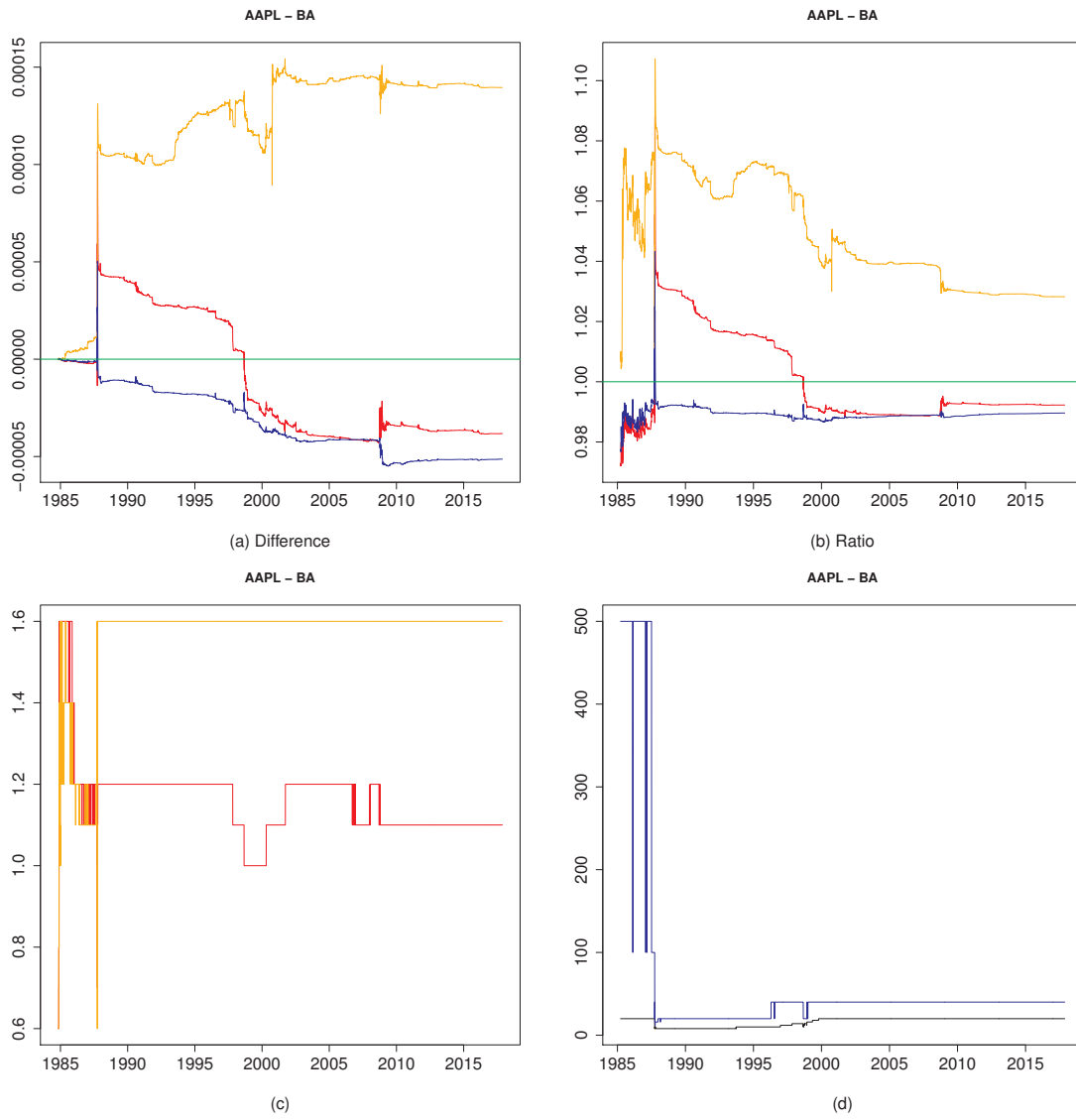


Figure 326: 15-26

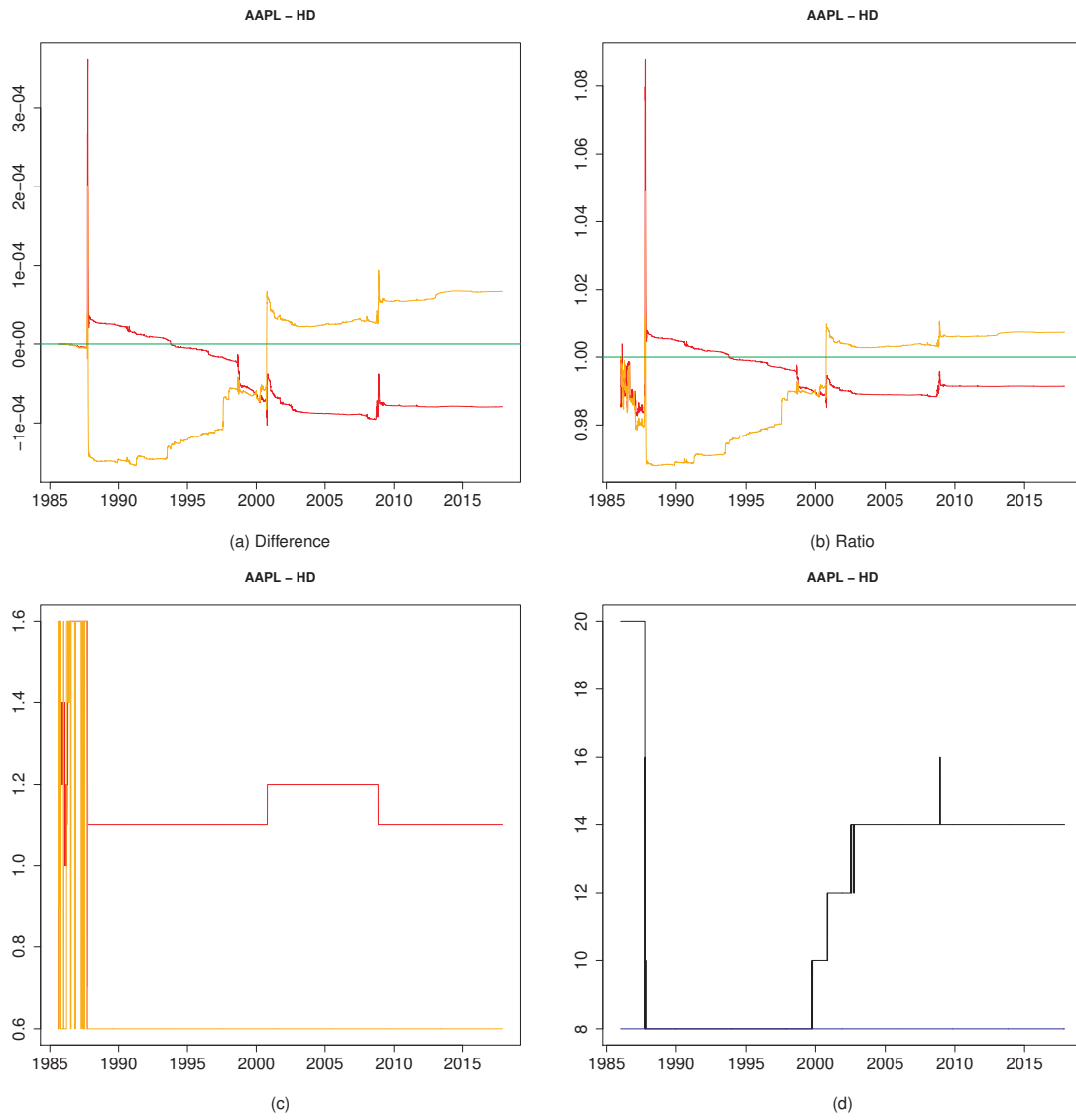


Figure 327: 15-27

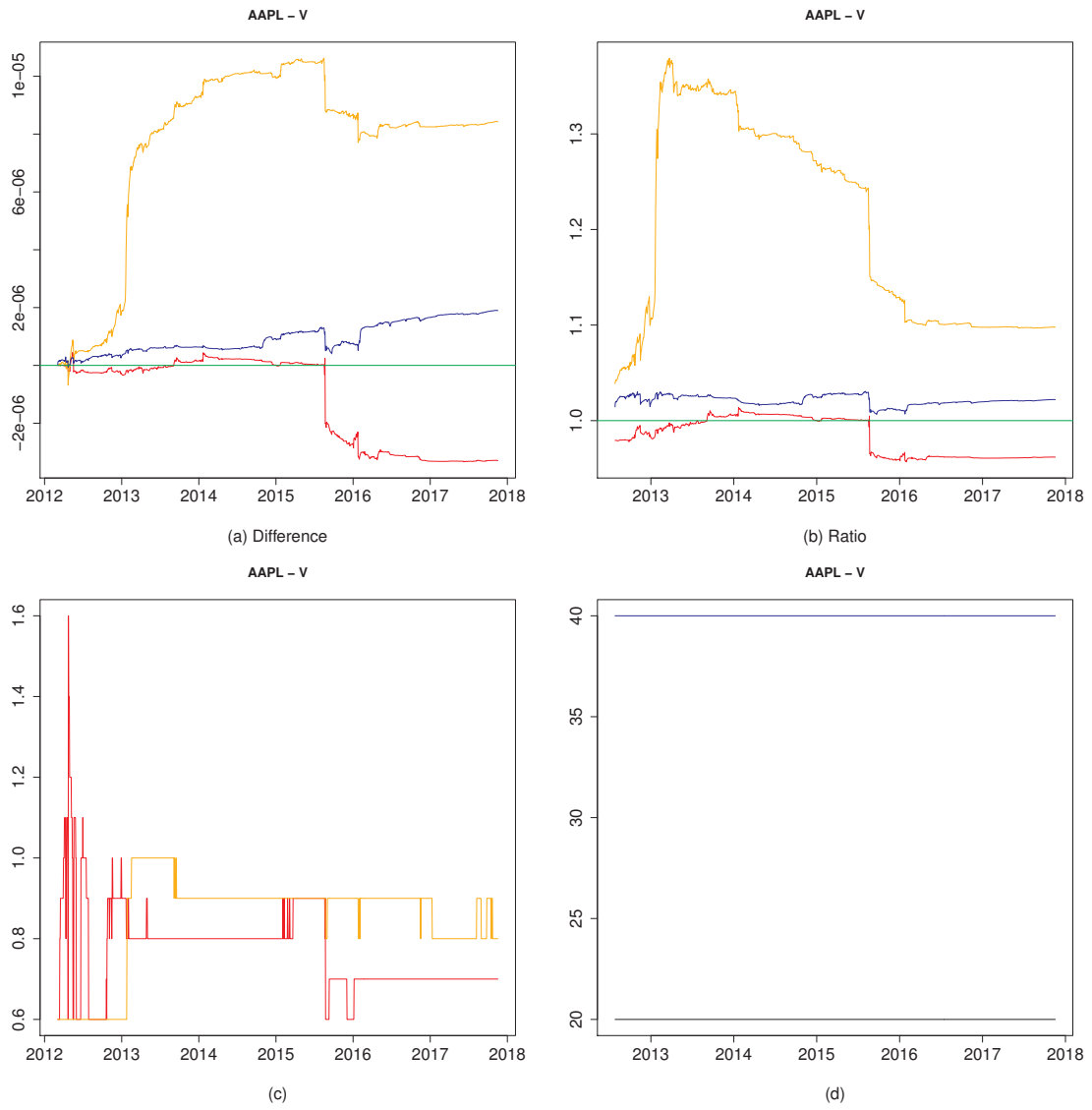
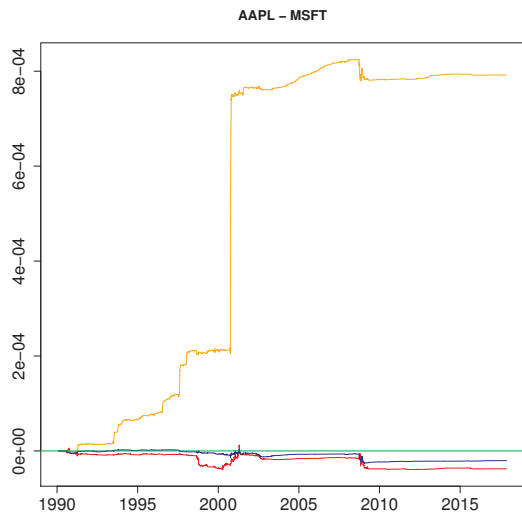
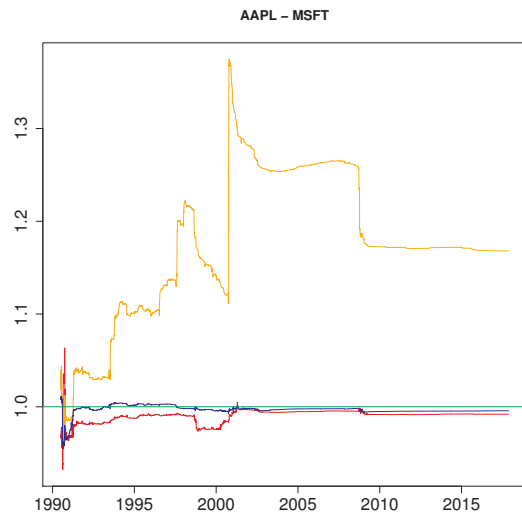


Figure 328: 15-28



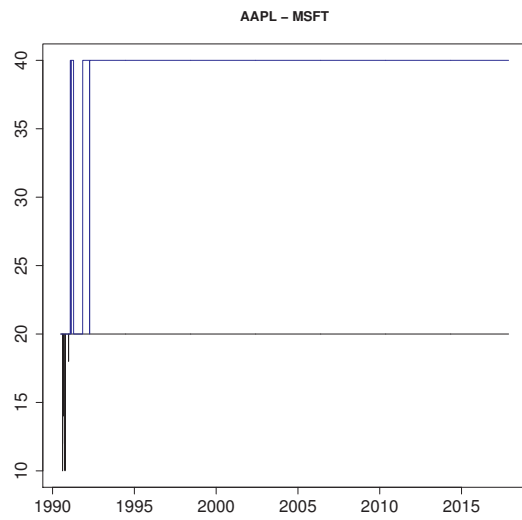
(a) Difference



(b) Ratio

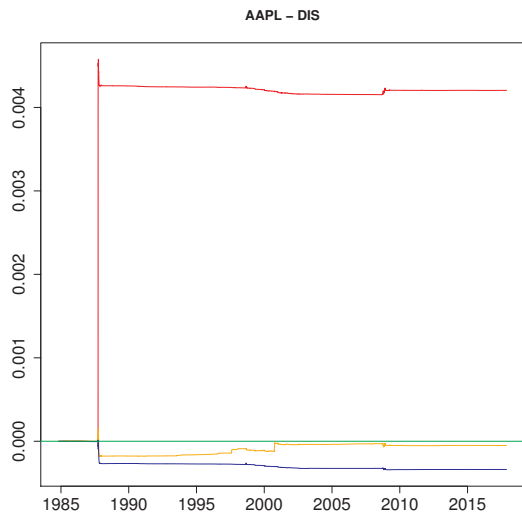


(c)

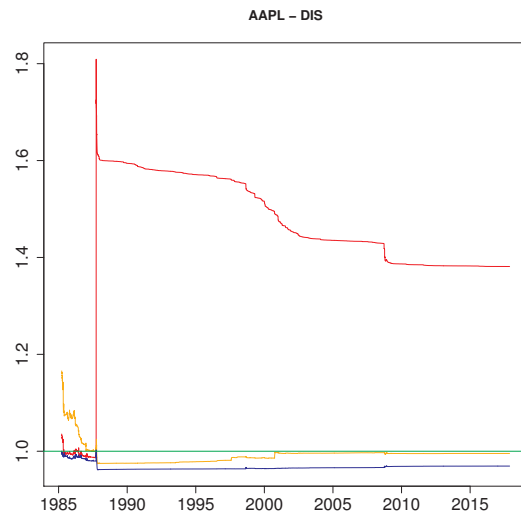


(d)

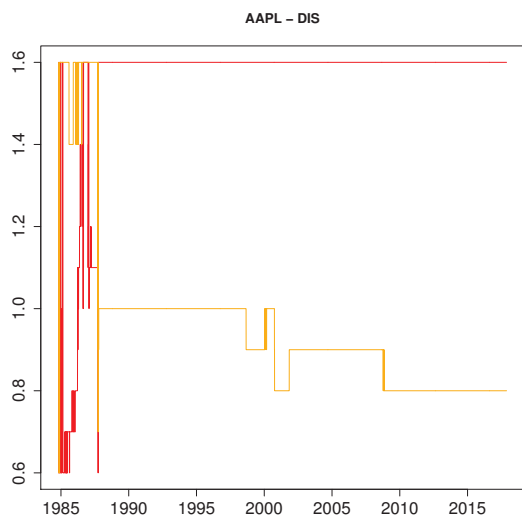
Figure 329: 15-29



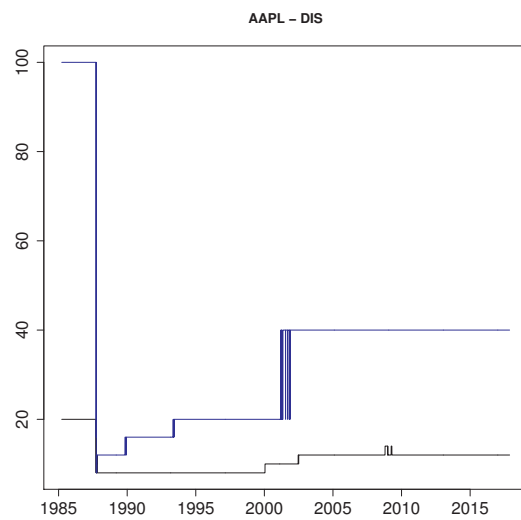
(a) Difference



(b) Ratio



(c)



(d)

Figure 330: 15-30

1.16 Pairs from 16-17 to 16-30

Figure 331

Figure 332

Figure 333

Figure 334

Figure 335

Figure 336

Figure 337

Figure 338

Figure 339

Figure 340

Figure 341

Figure 342

Figure 343

Figure 344

1.17 Pairs from 17-18 to 17-30

Figure 345

Figure 346

Figure 347

Figure 348

Figure 349

Figure 350

Figure 351

Figure 352

Figure 353

Figure 354

Figure 355

Figure 356

Figure 357

1.18 Pairs from 18-19 to 18-30

Figure 358

Figure 359

Figure 360

Figure 361

Figure 362

Figure 363

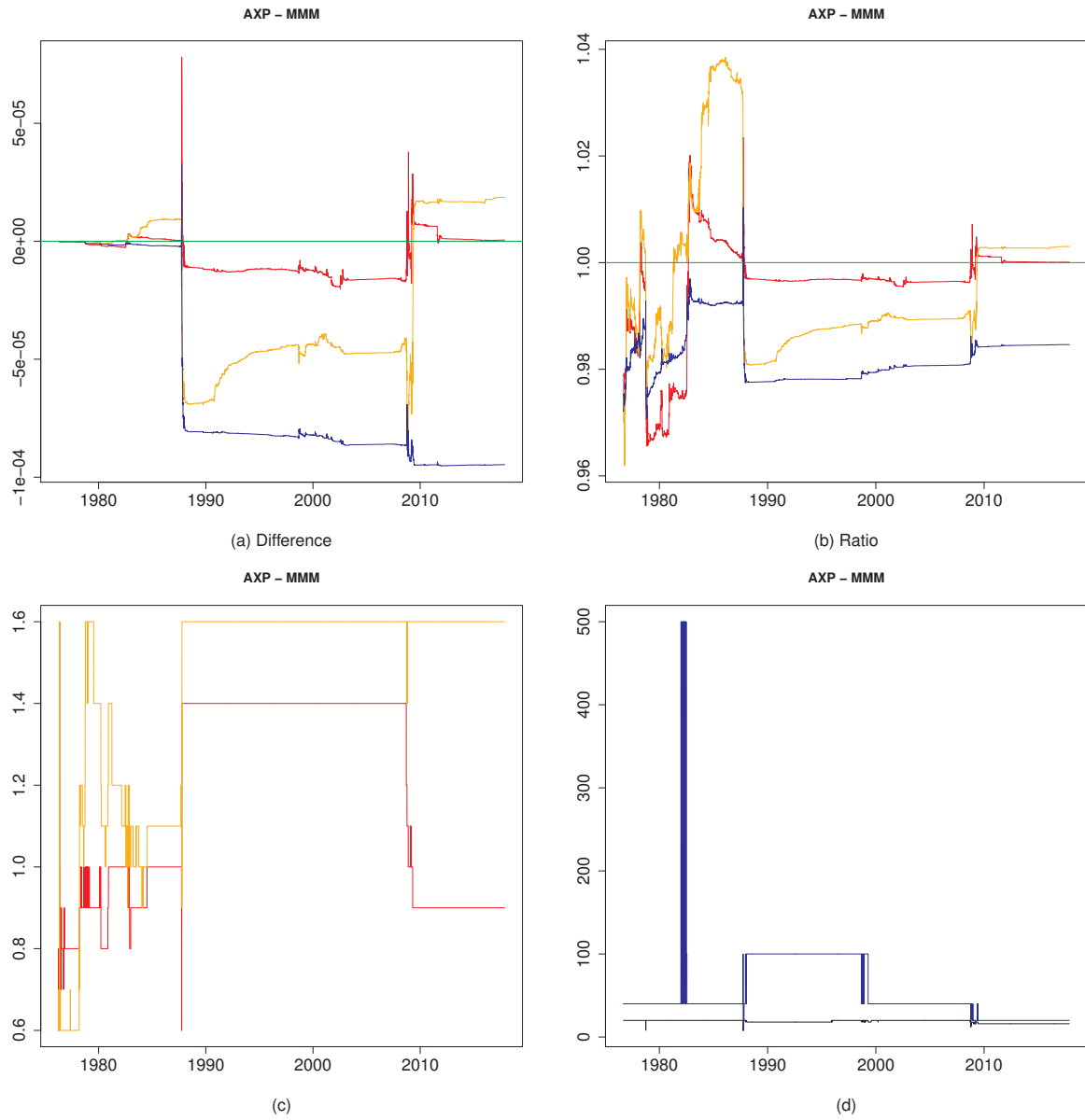


Figure 331: 16-17

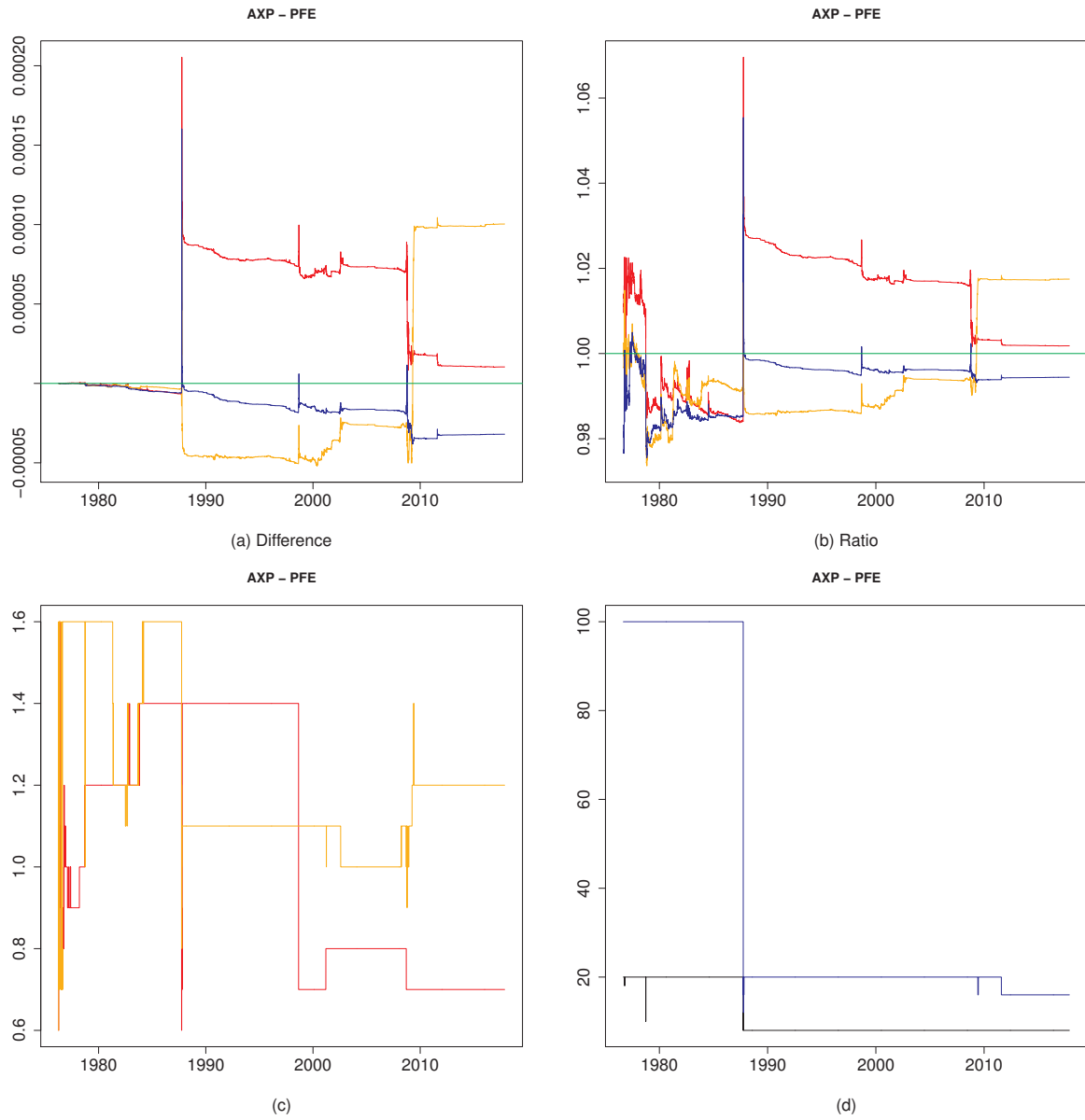


Figure 332: 16-18

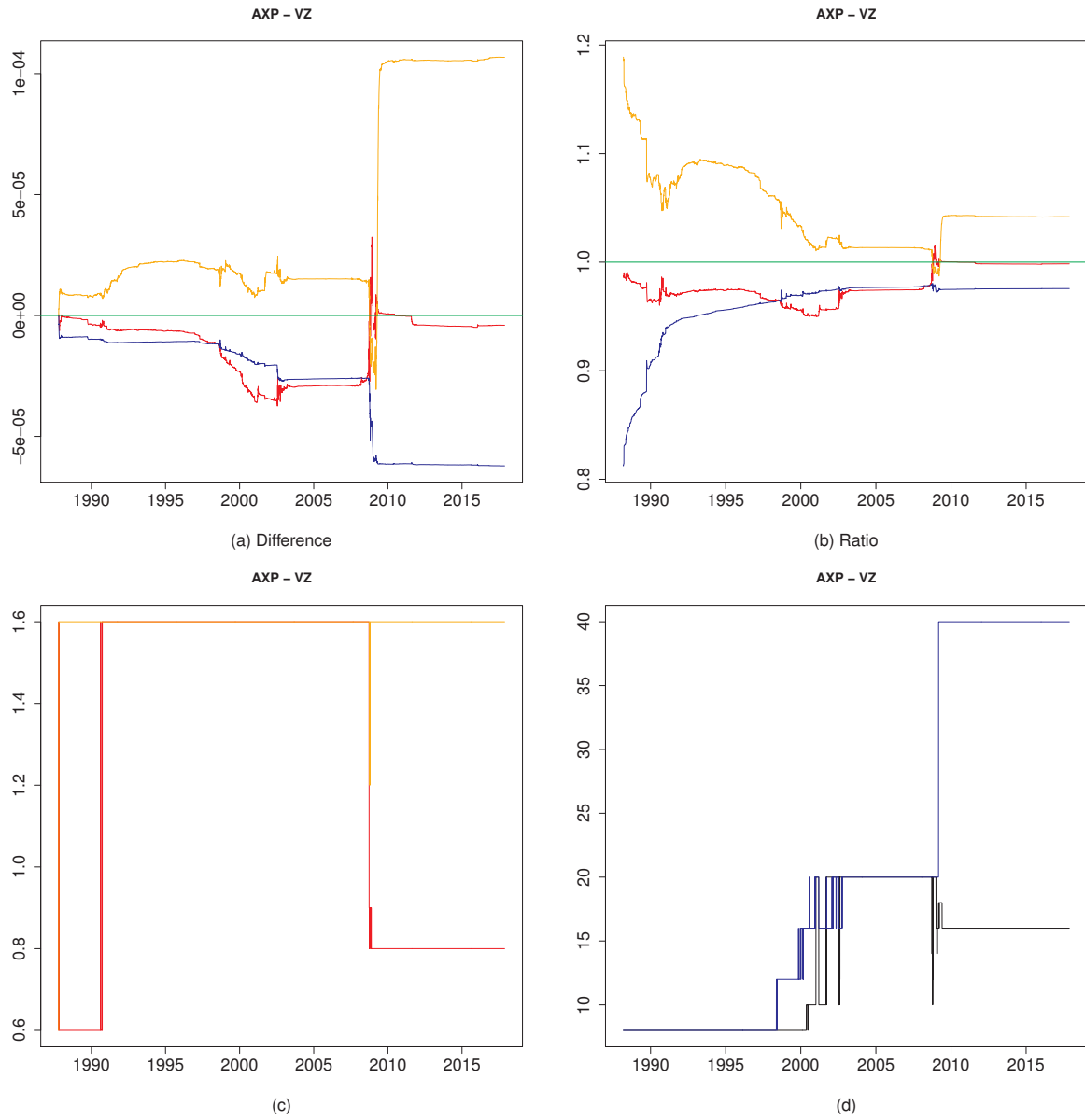


Figure 333: 16-19

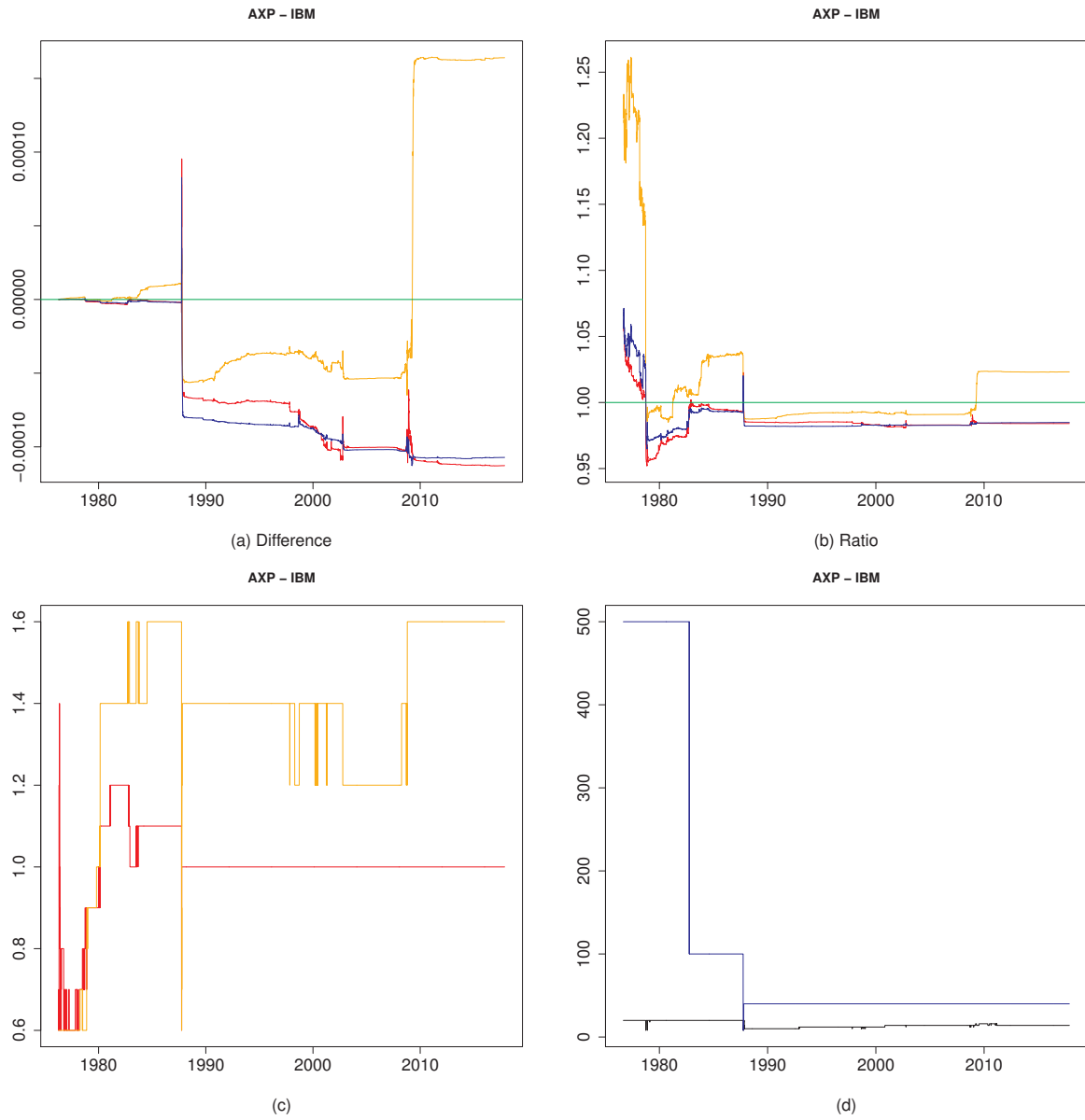
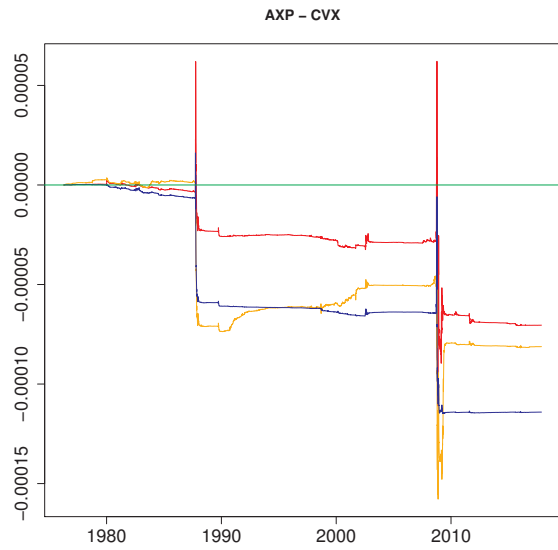
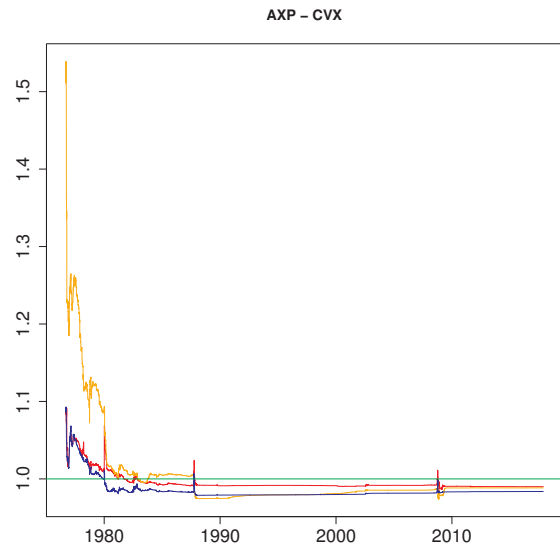


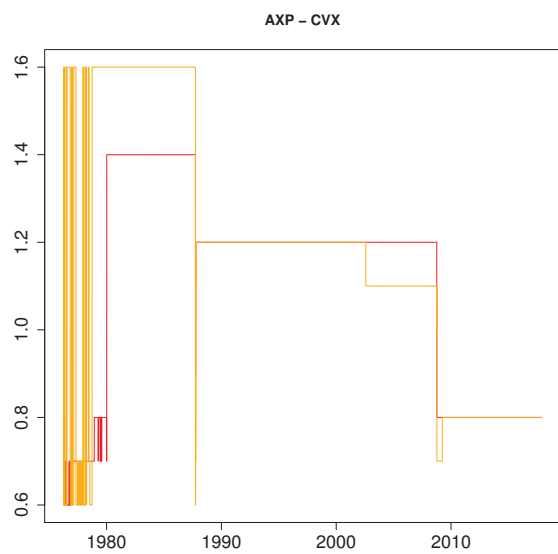
Figure 334: 16-20



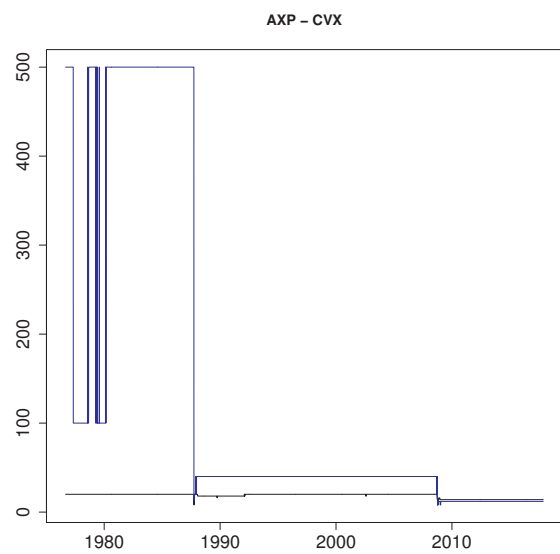
(a) Difference



(b) Ratio



(c)



(d)

Figure 335: 16-21

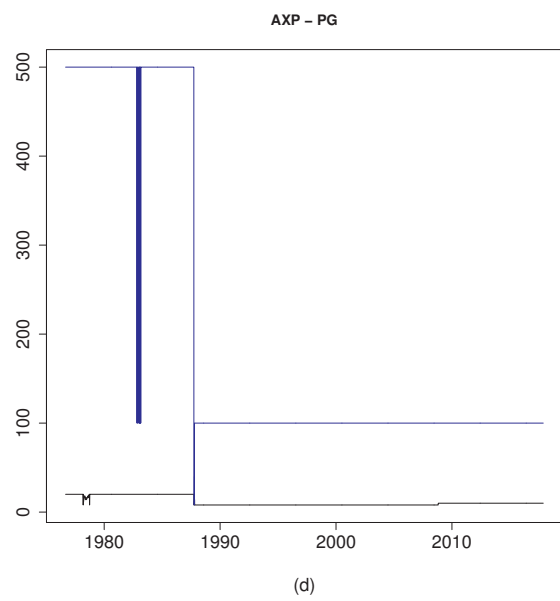
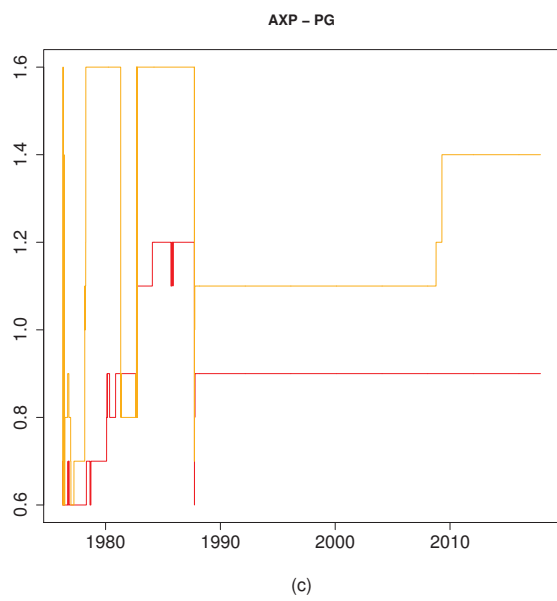
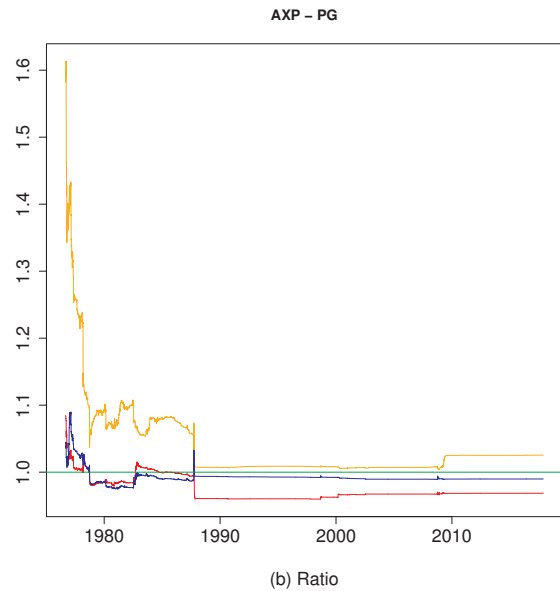
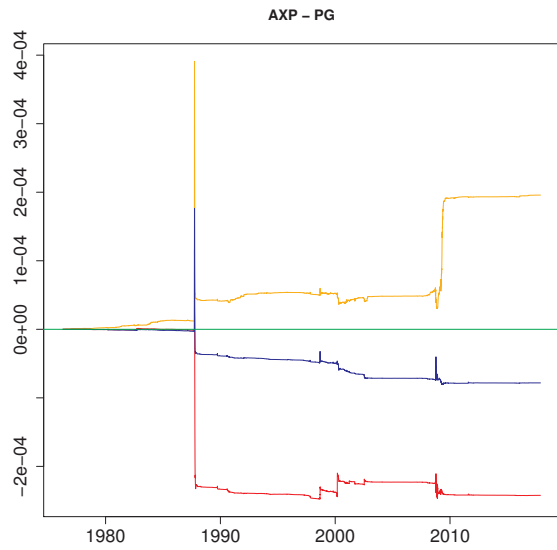


Figure 336: 16-22

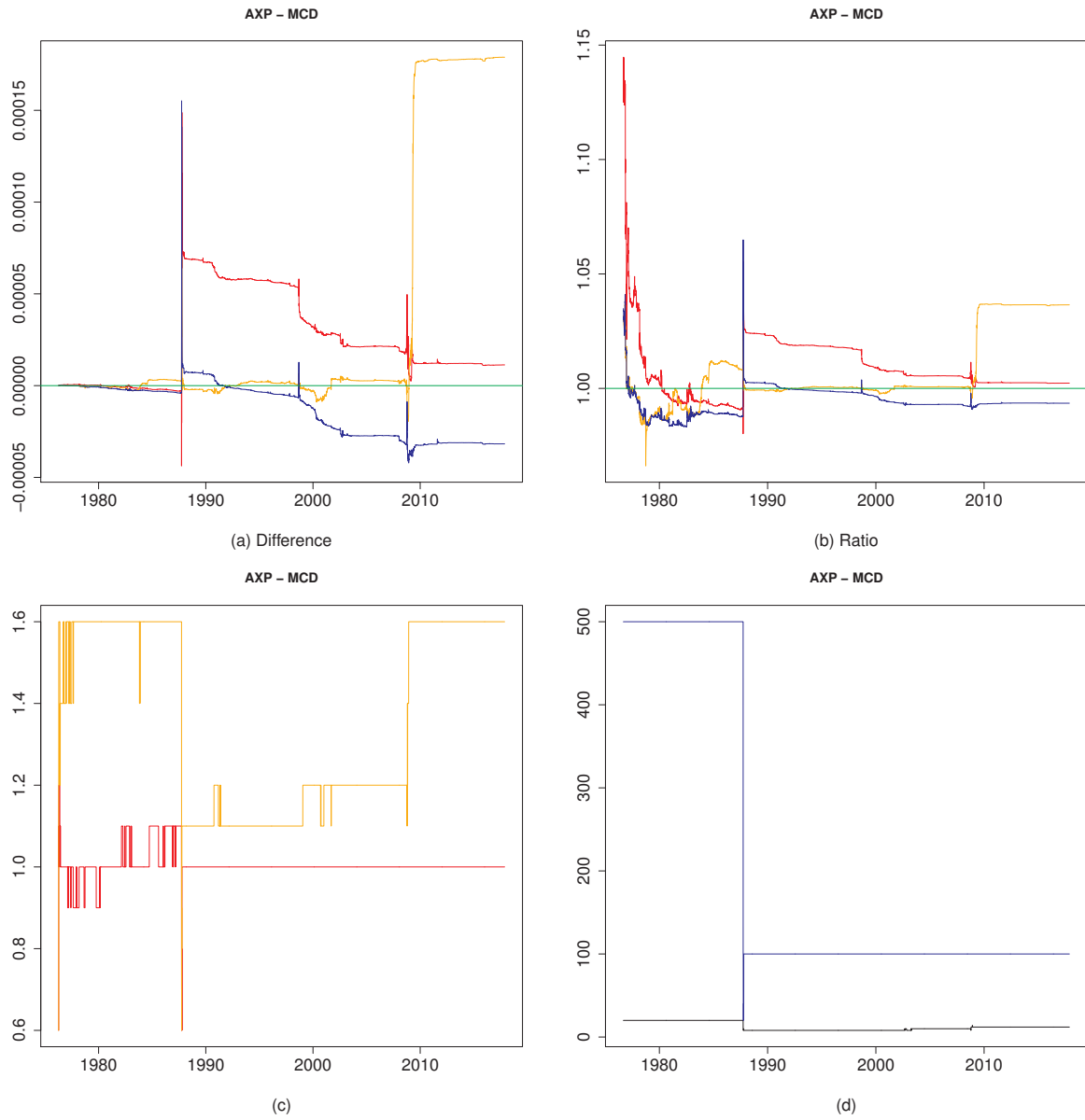


Figure 337: 16-23

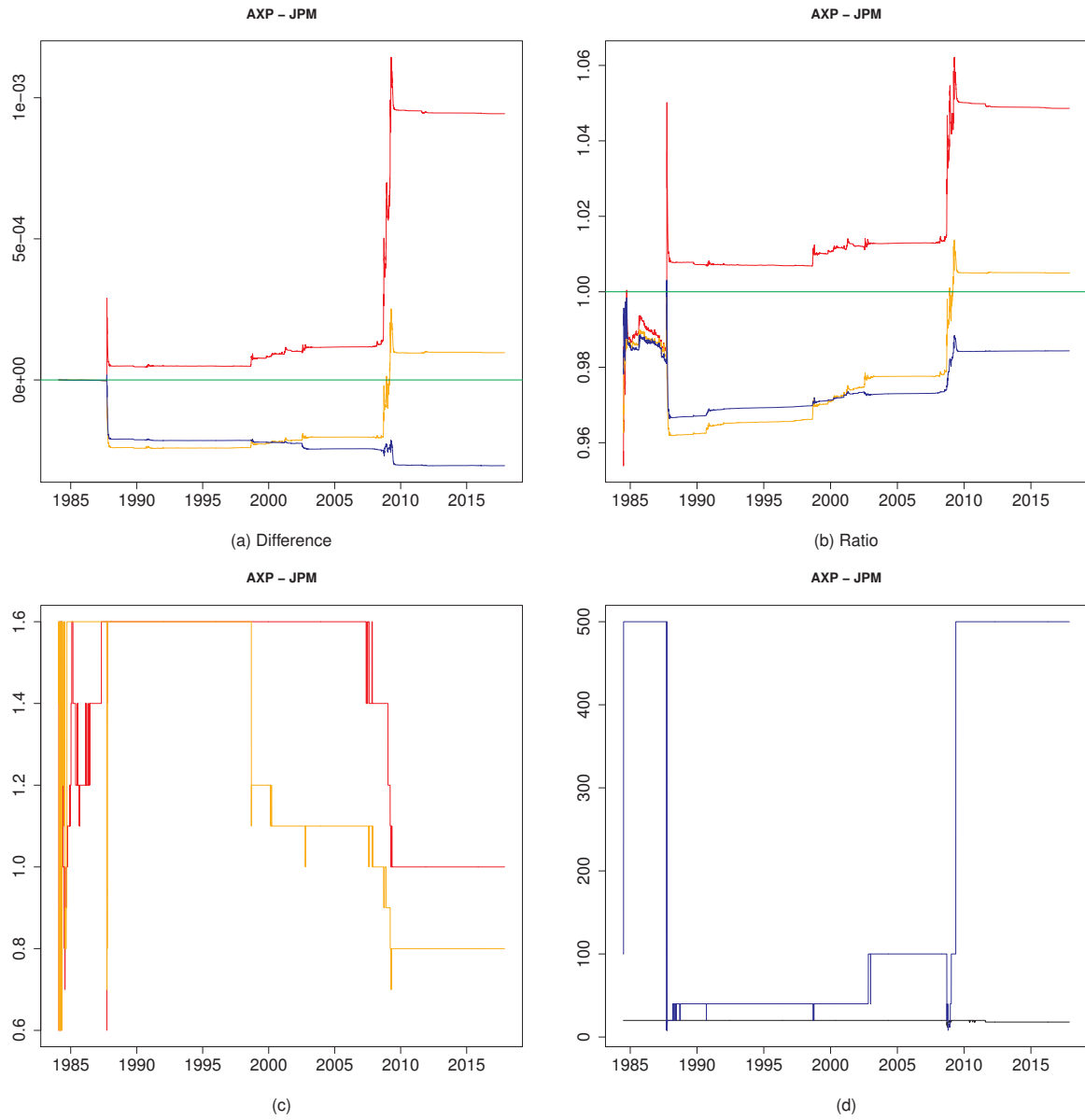


Figure 338: 16-24

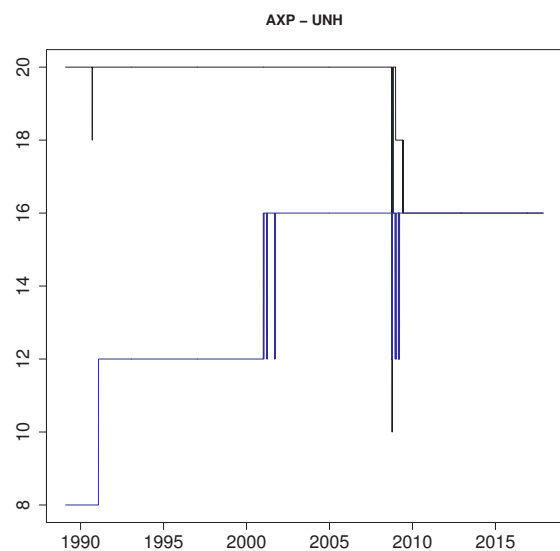
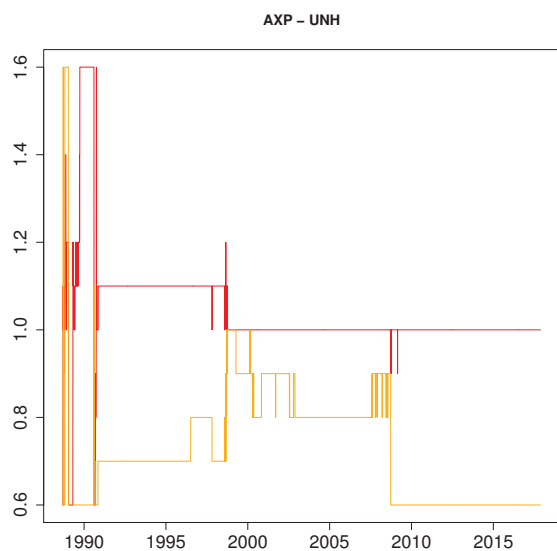
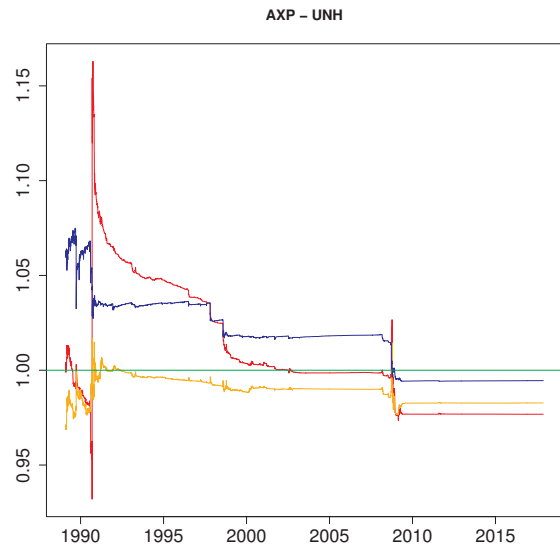
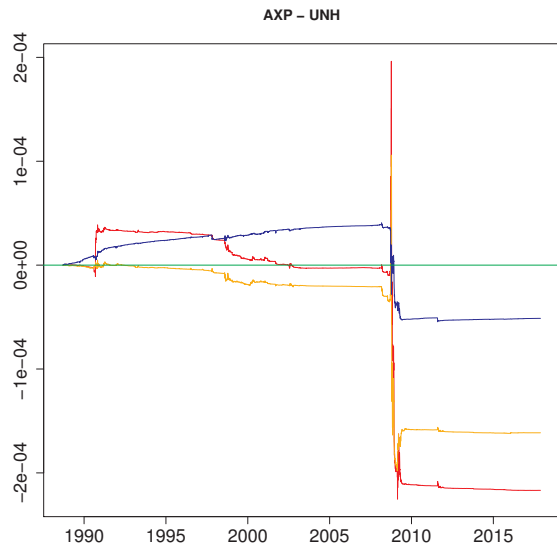


Figure 339: 16-25

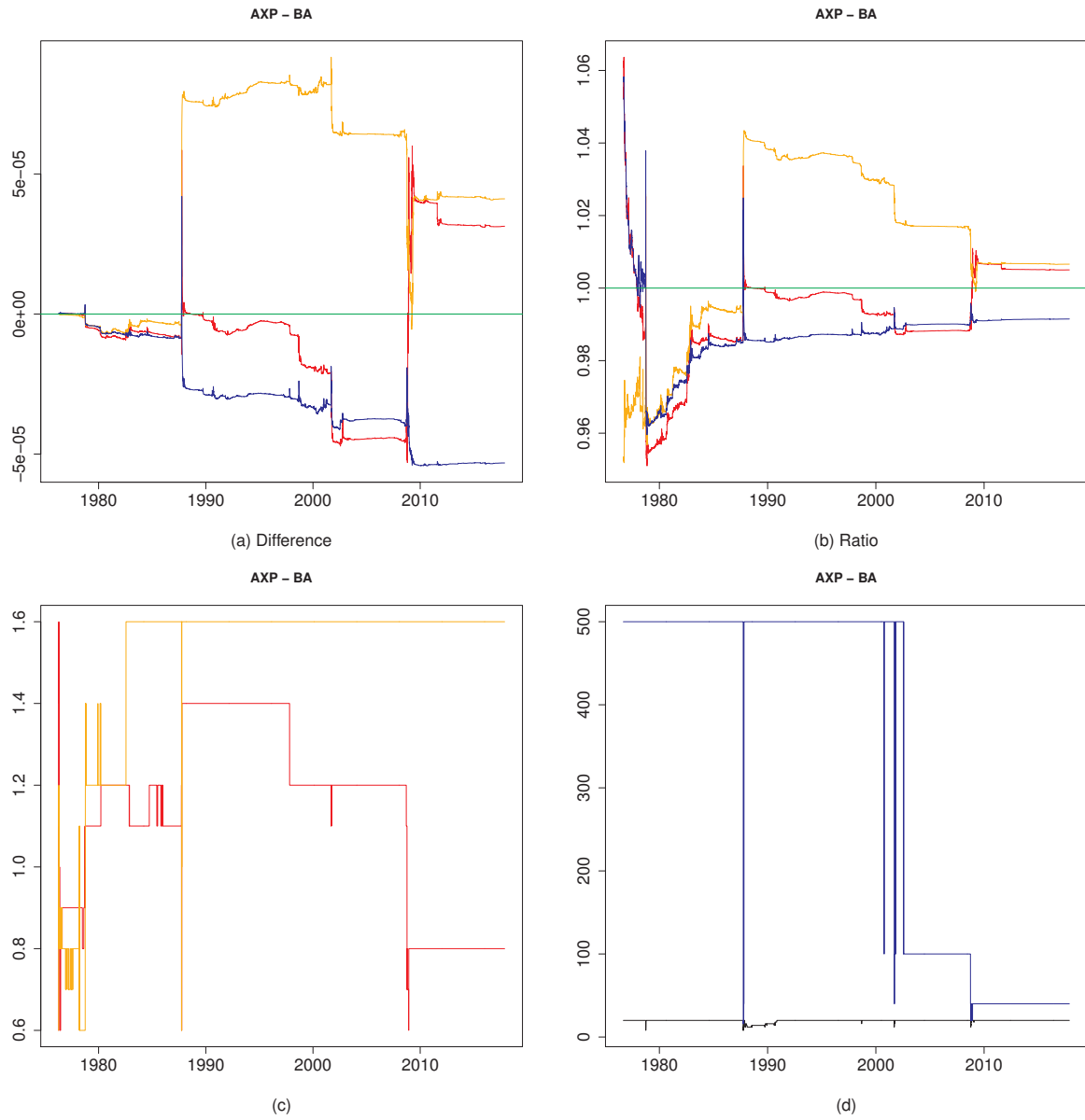
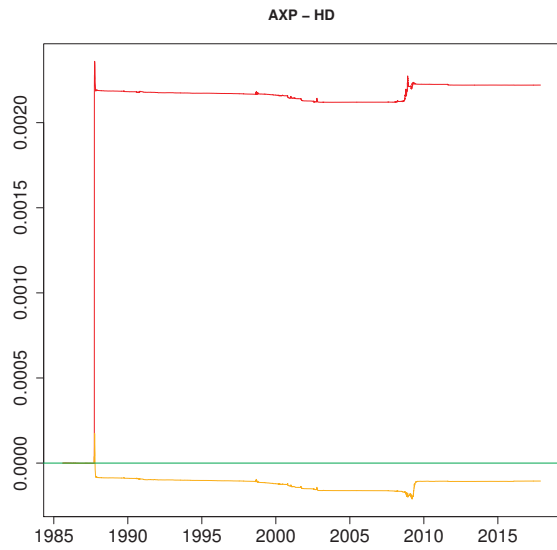
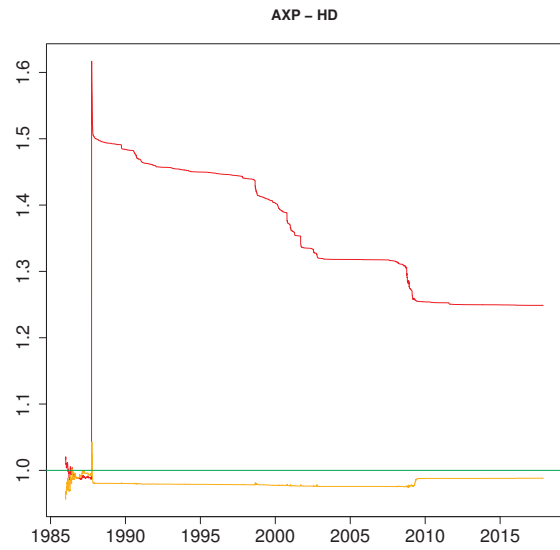


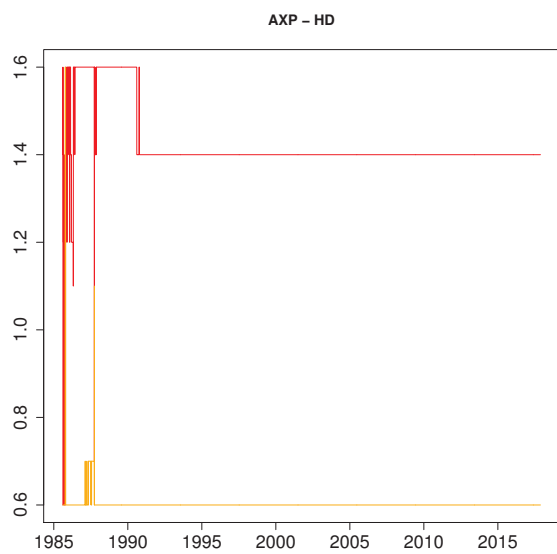
Figure 340: 16-26



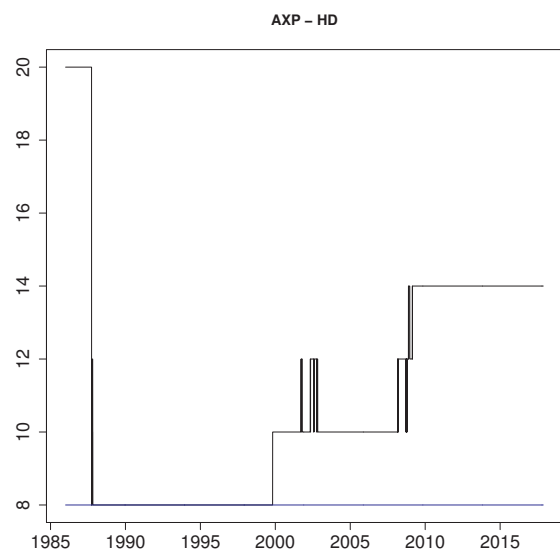
(a) Difference



(b) Ratio

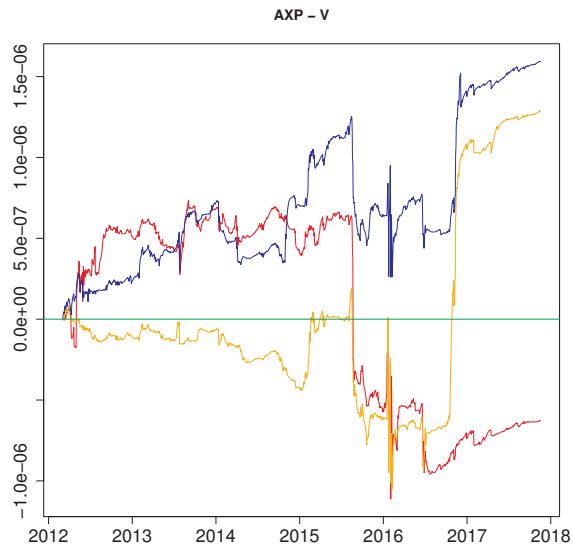


(c)

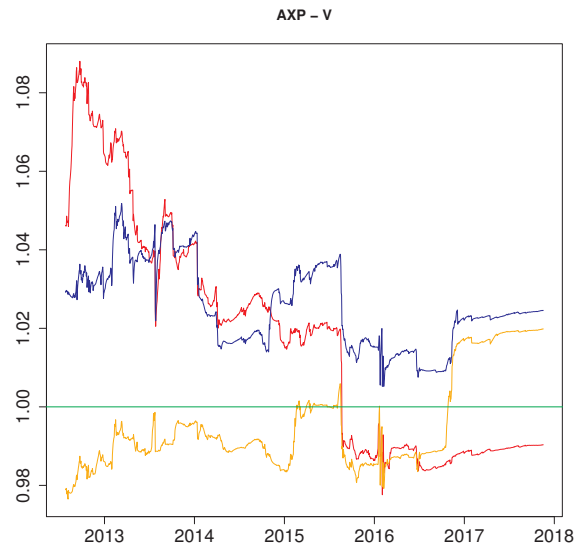


(d)

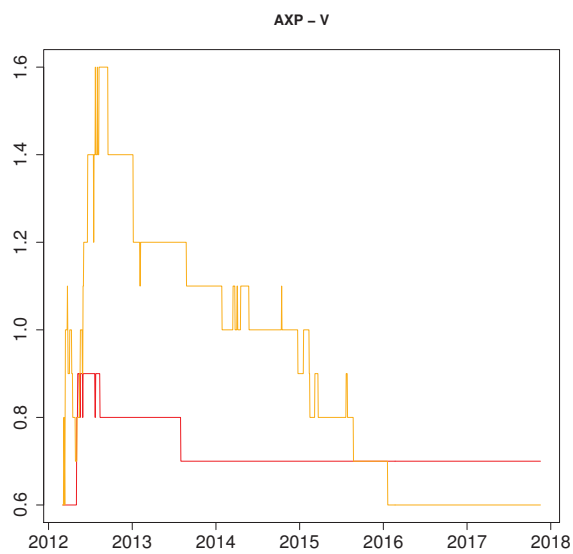
Figure 341: 16-27



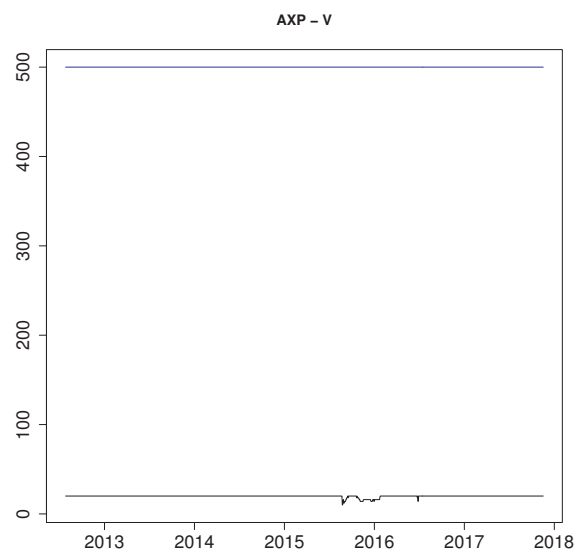
(a) Difference



(b) Ratio



(c)



(d)

Figure 342: 16-28

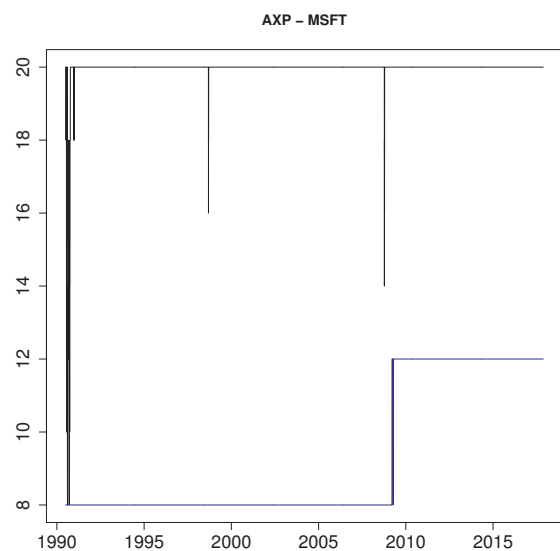
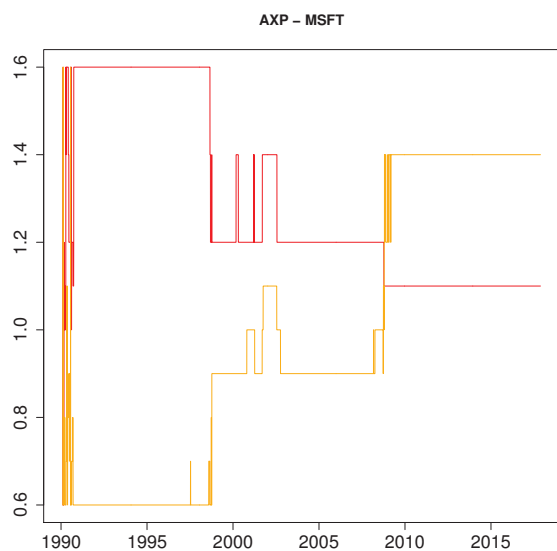
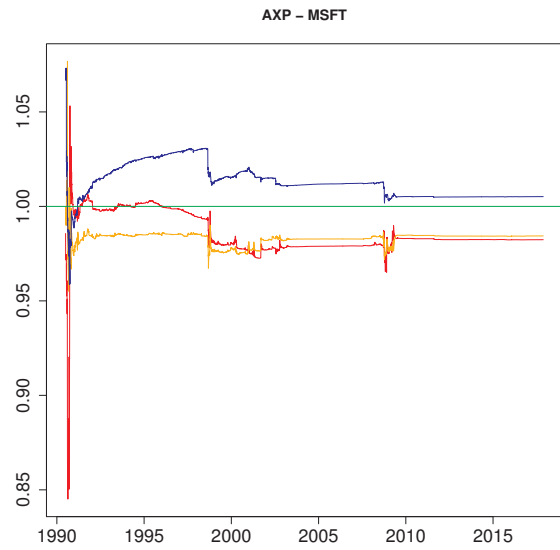
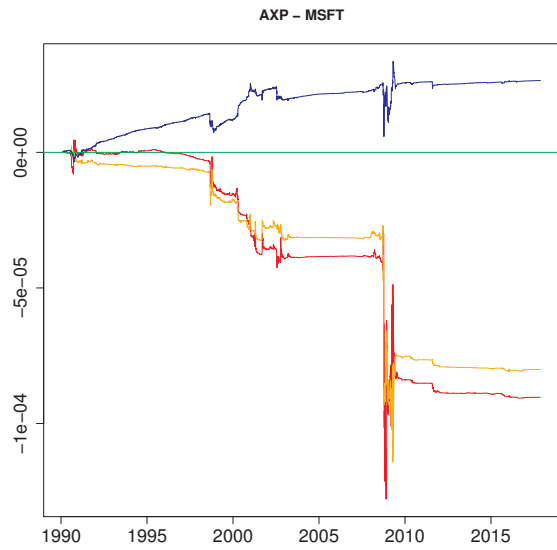


Figure 343: 16-29

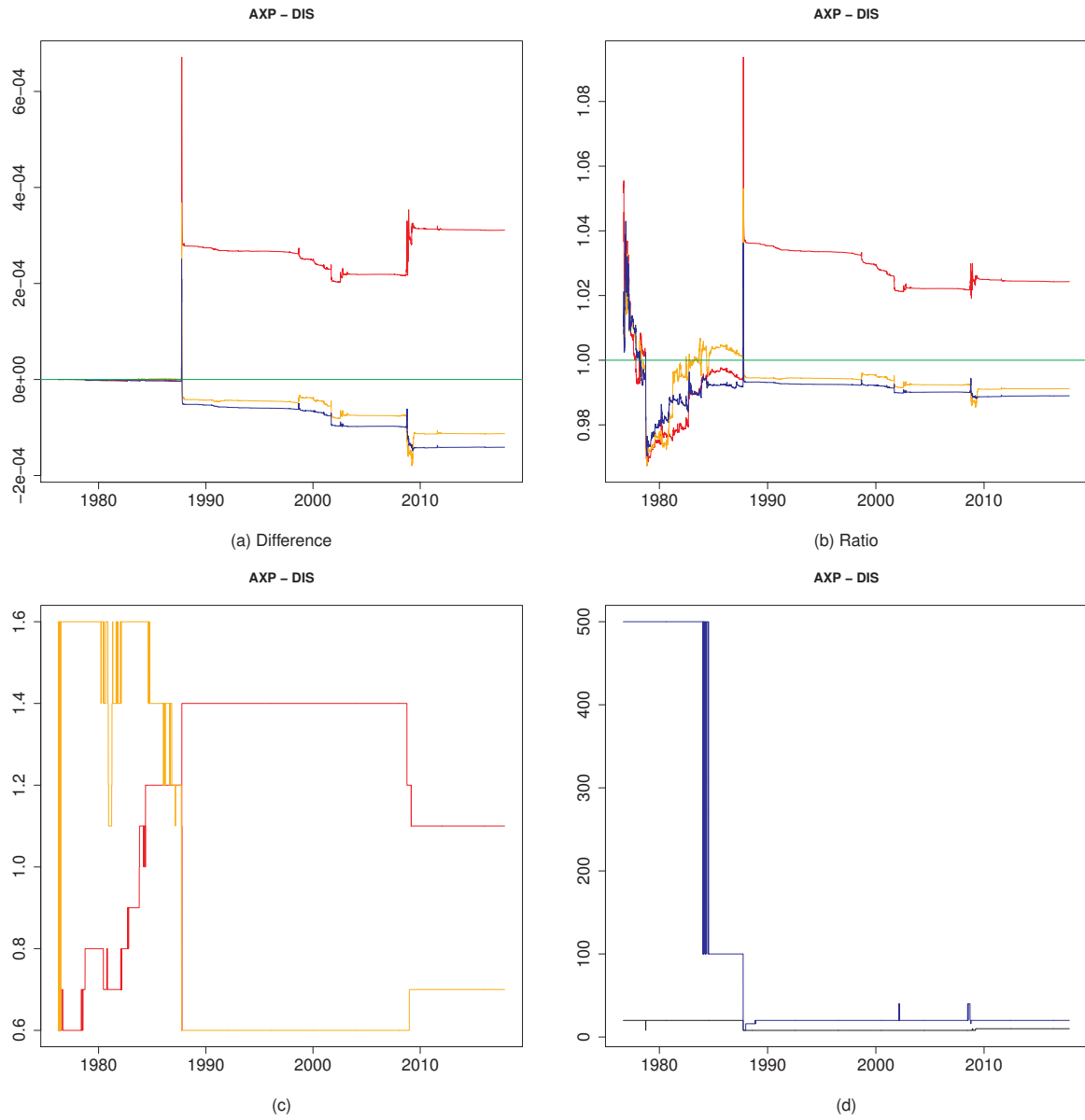


Figure 344: 16-30

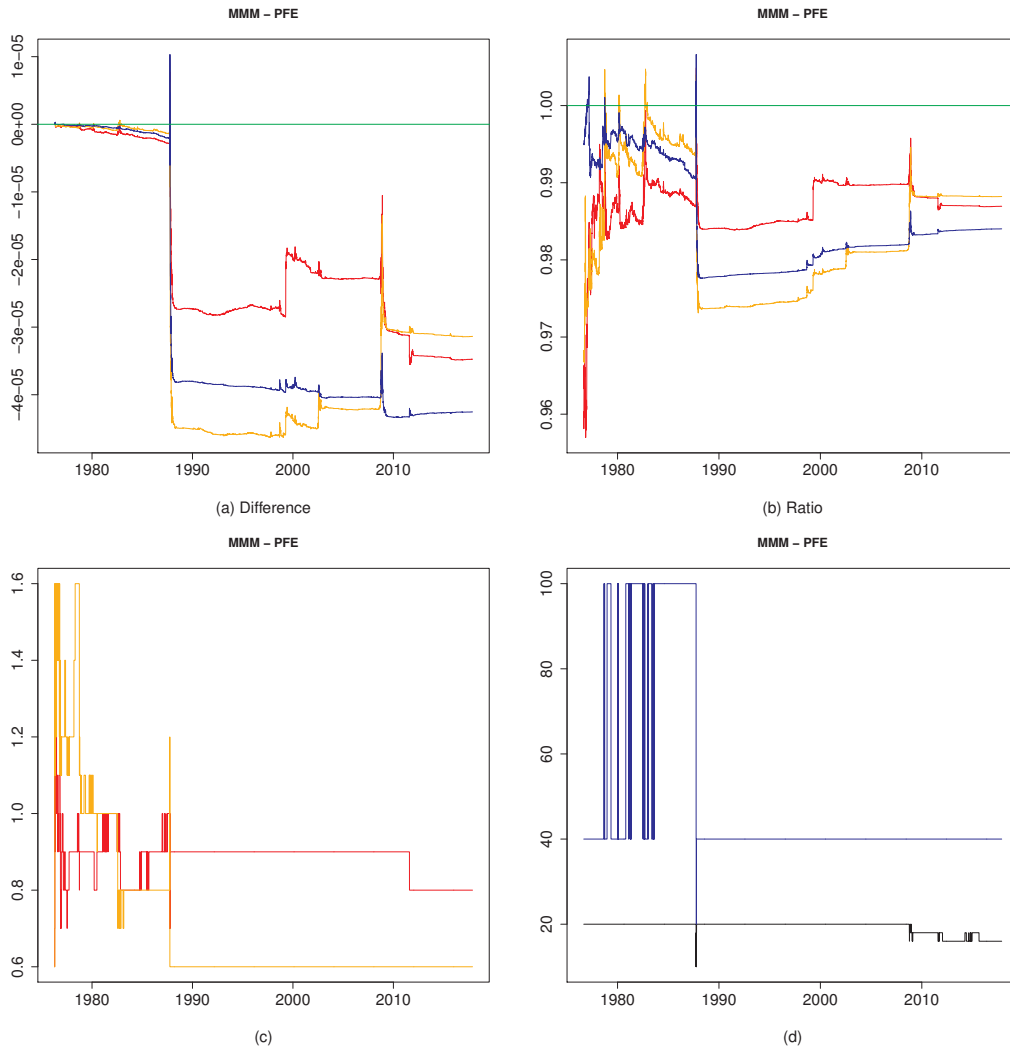


Figure 345: 17-18

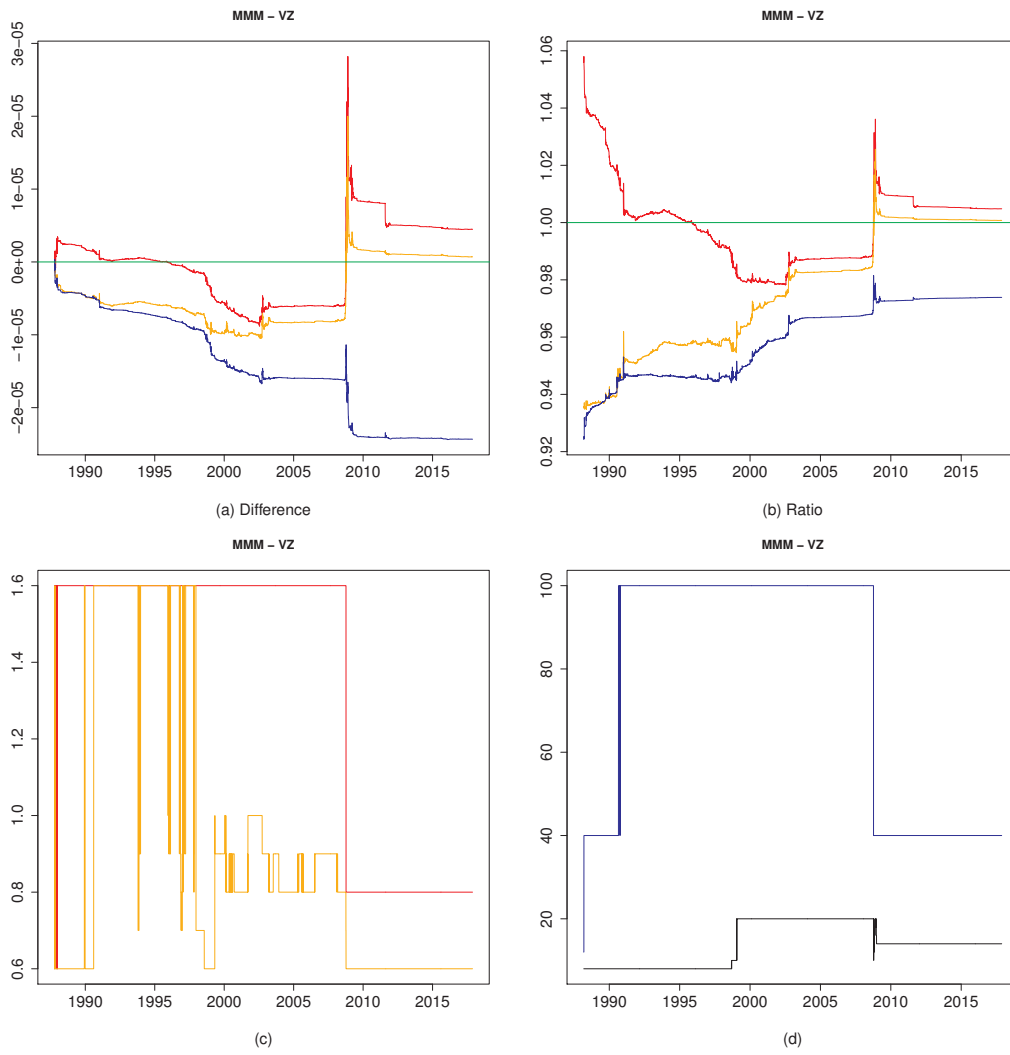


Figure 346: 17-19

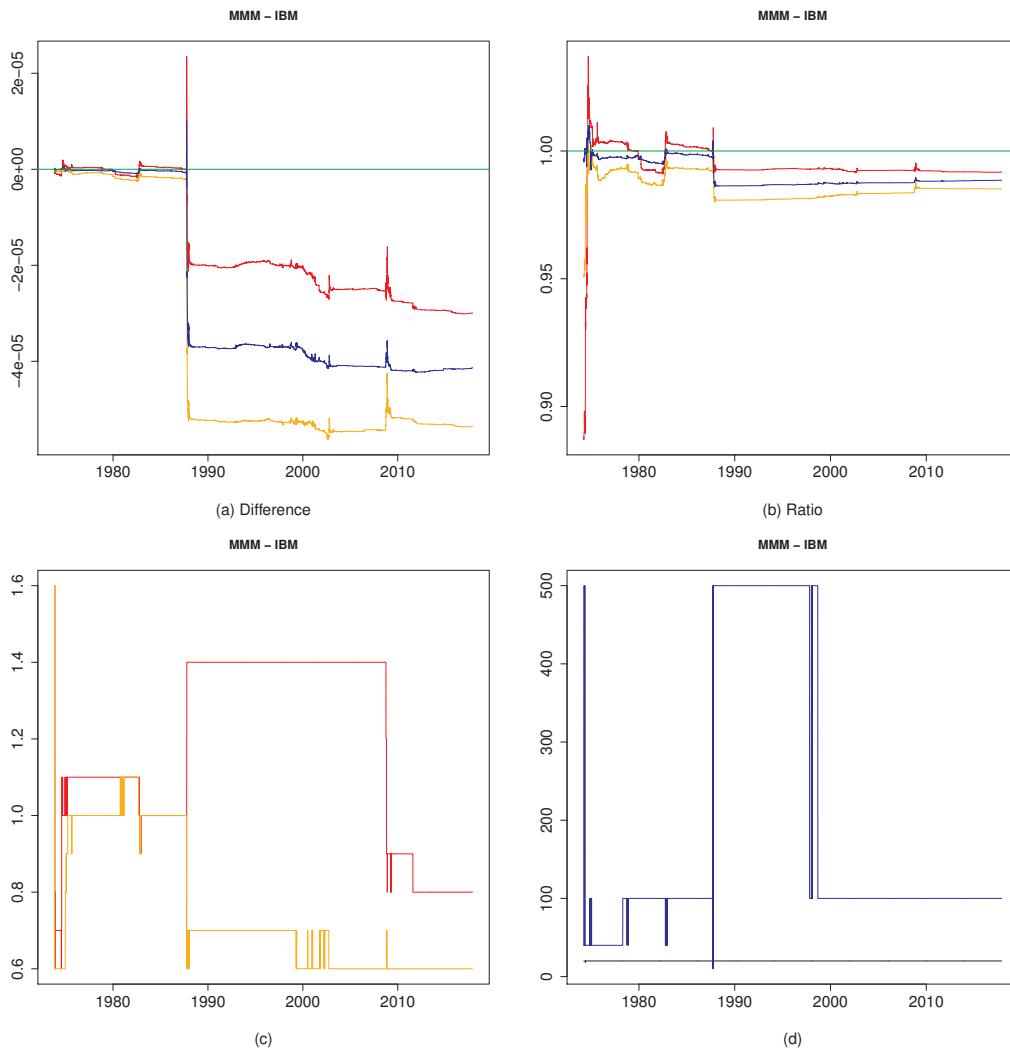


Figure 347: 17-20

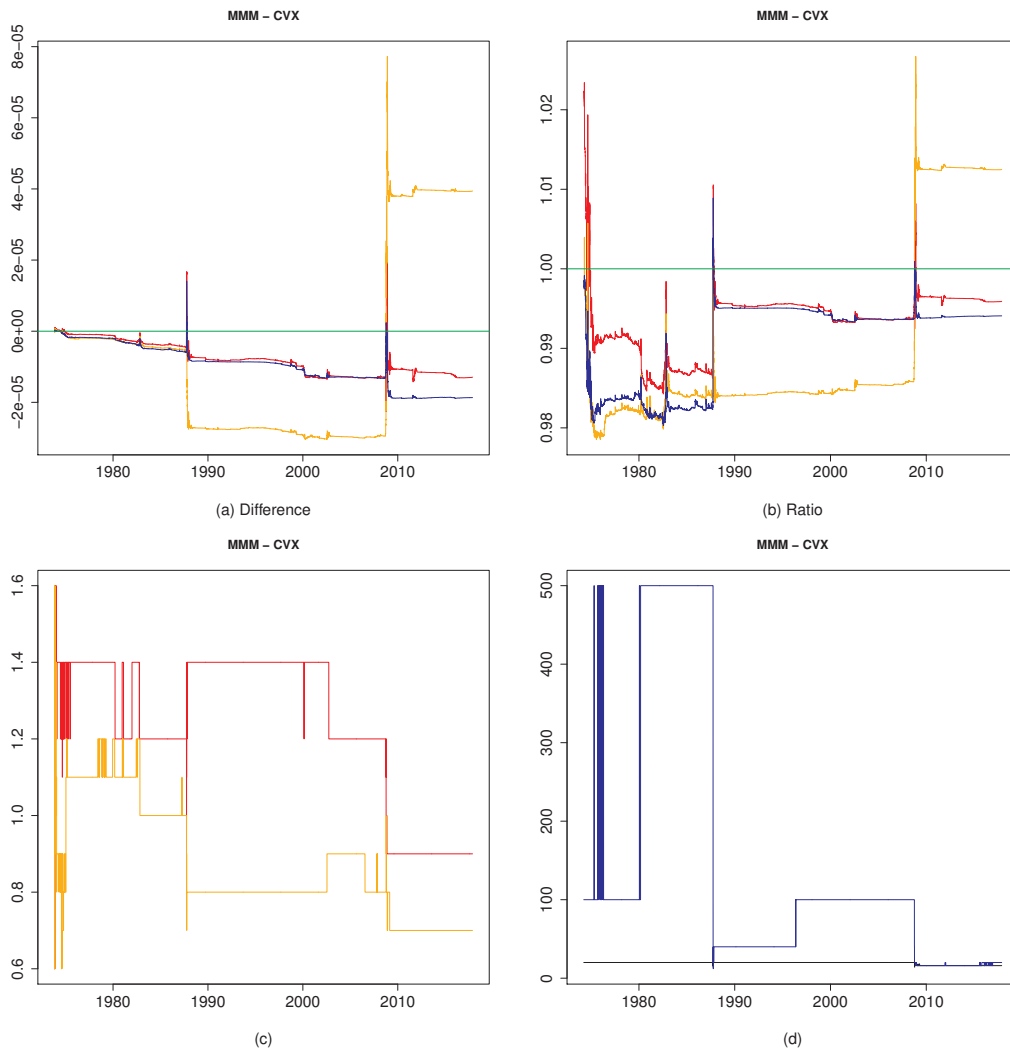


Figure 348: 17-21

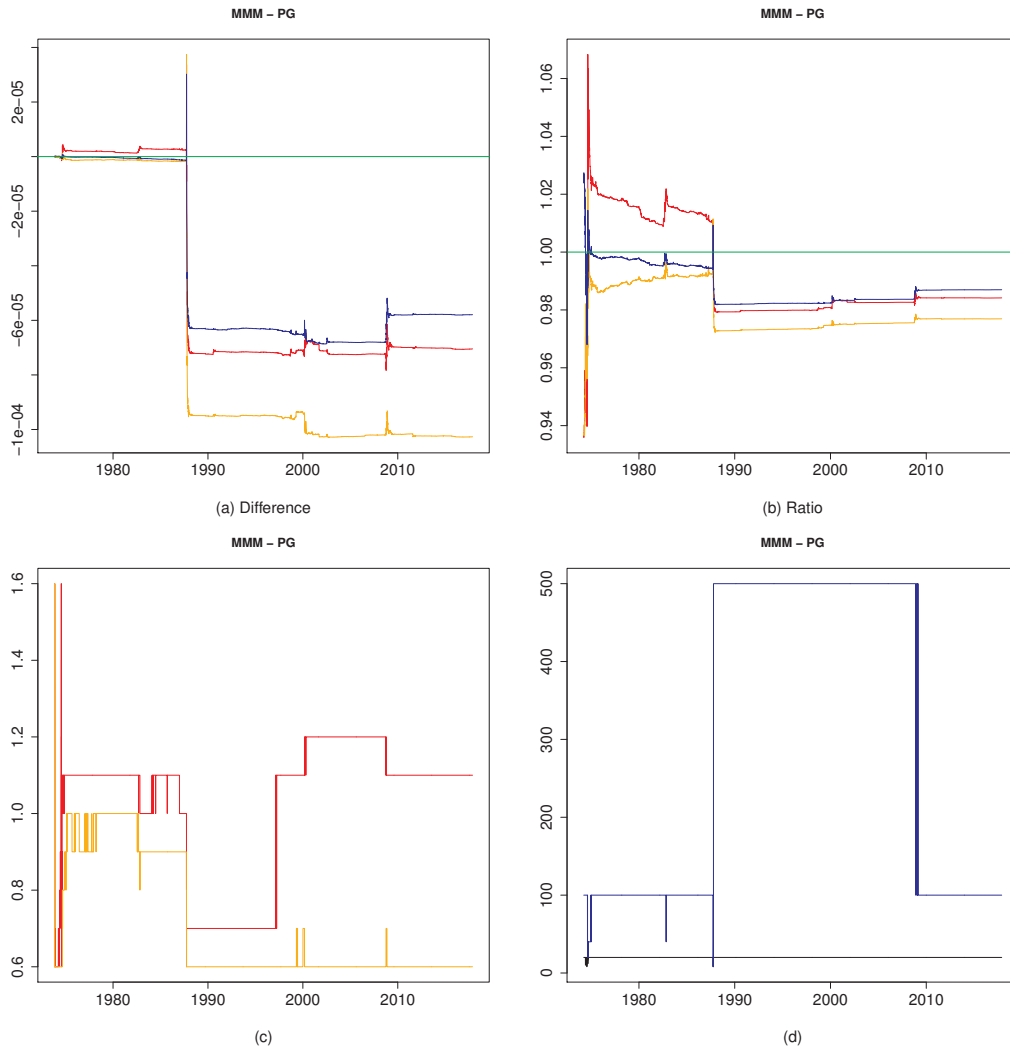


Figure 349: 17-22

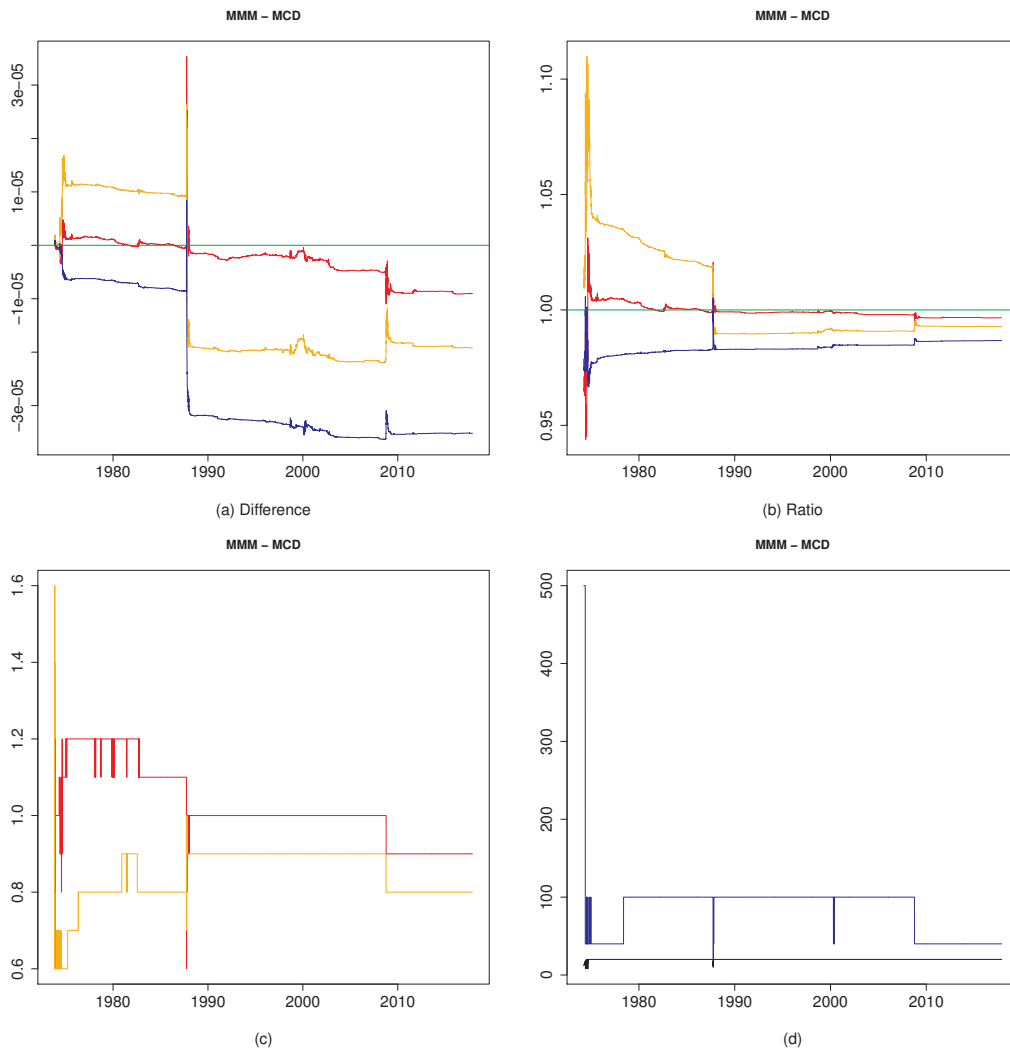


Figure 350: 17-23

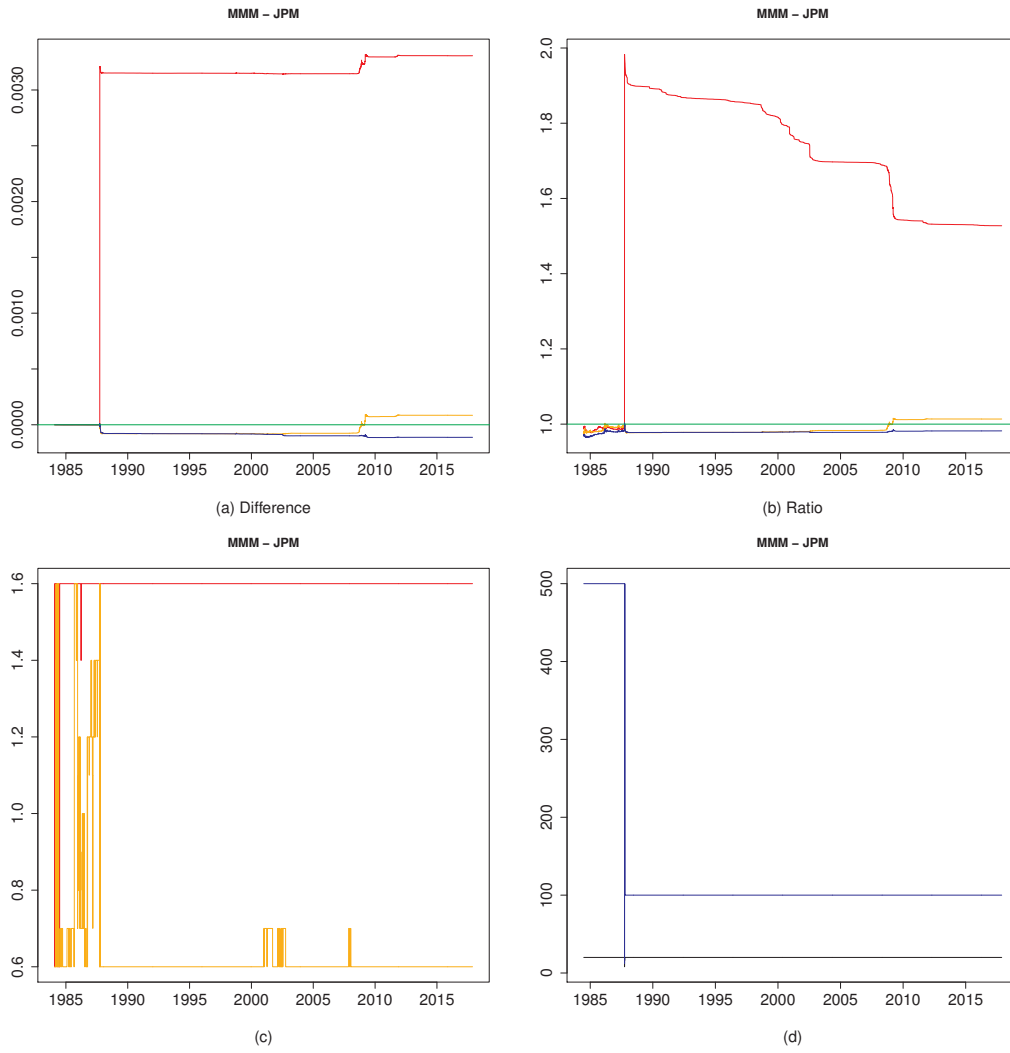


Figure 351: 17-24

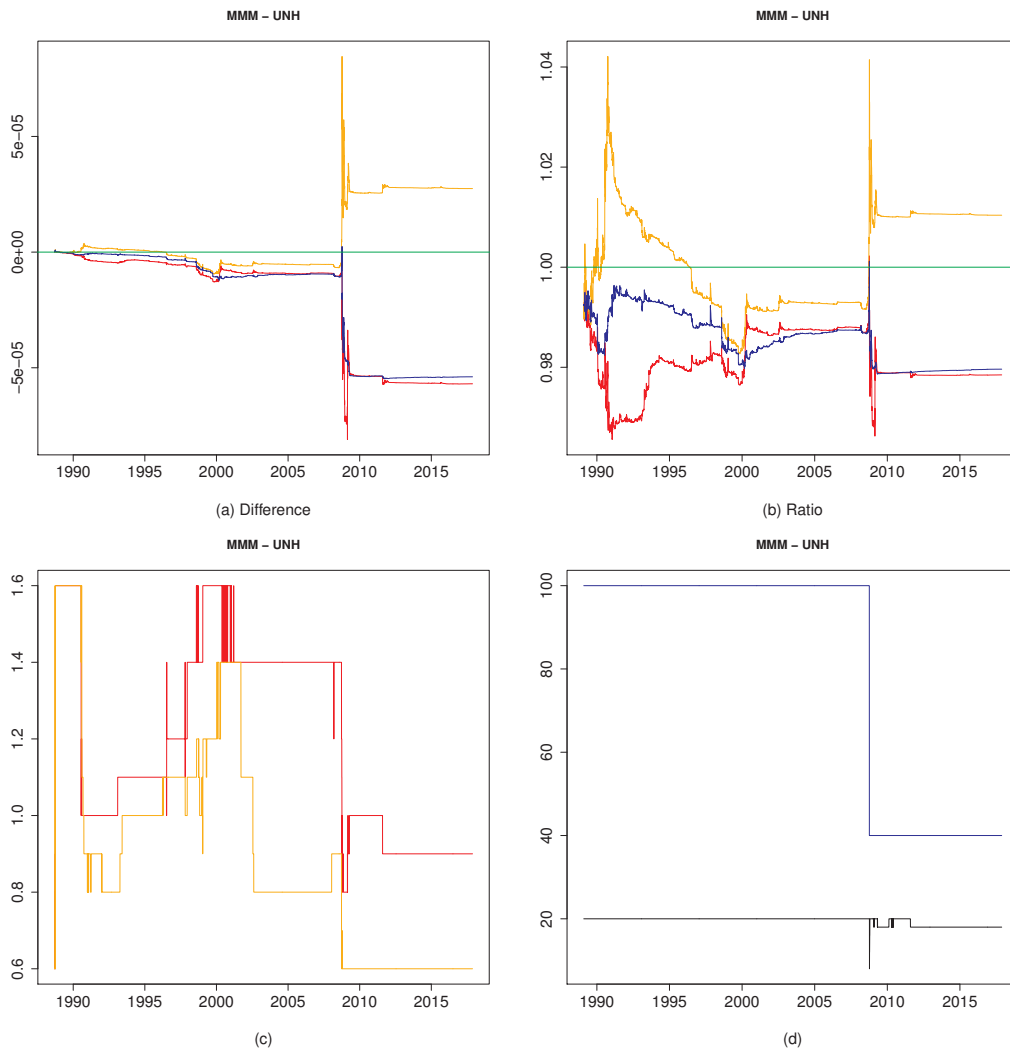


Figure 352: 17-25

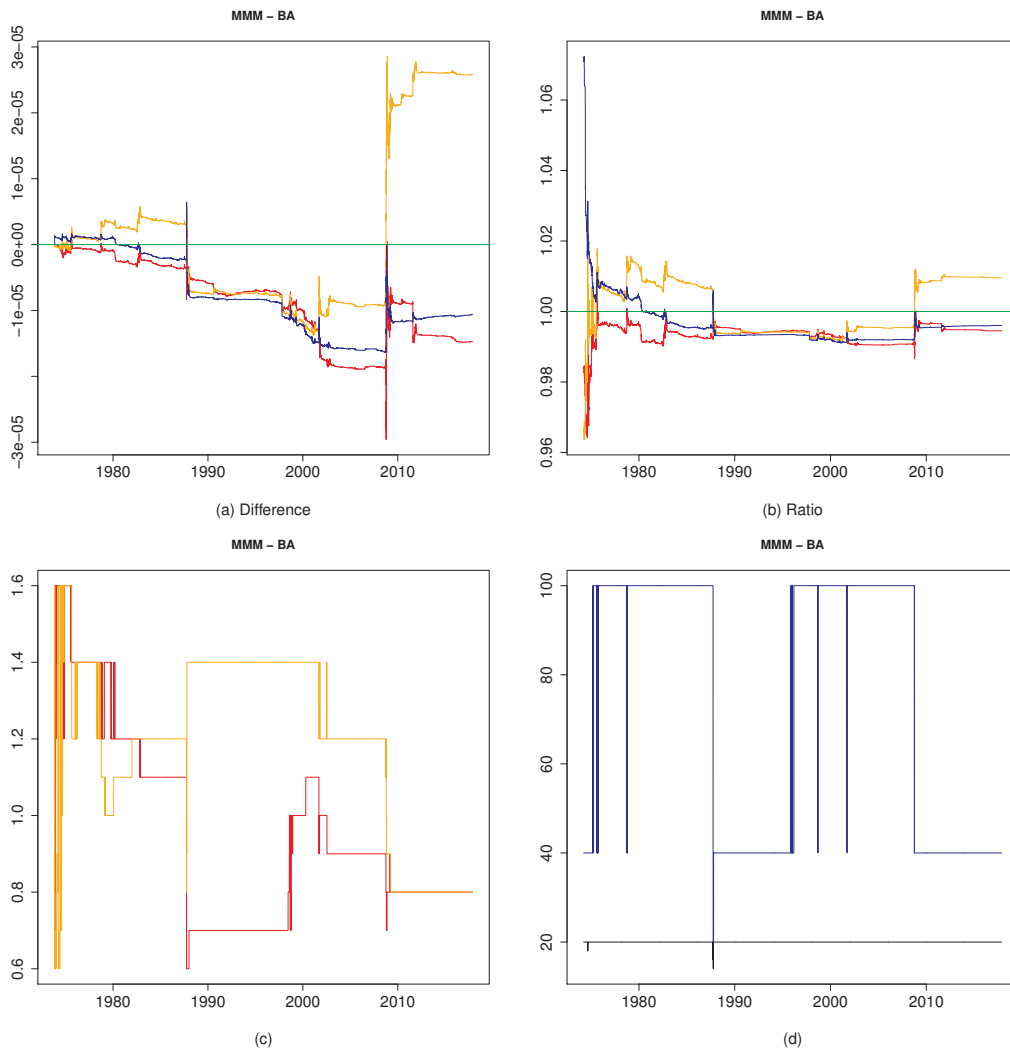


Figure 353: 17-26

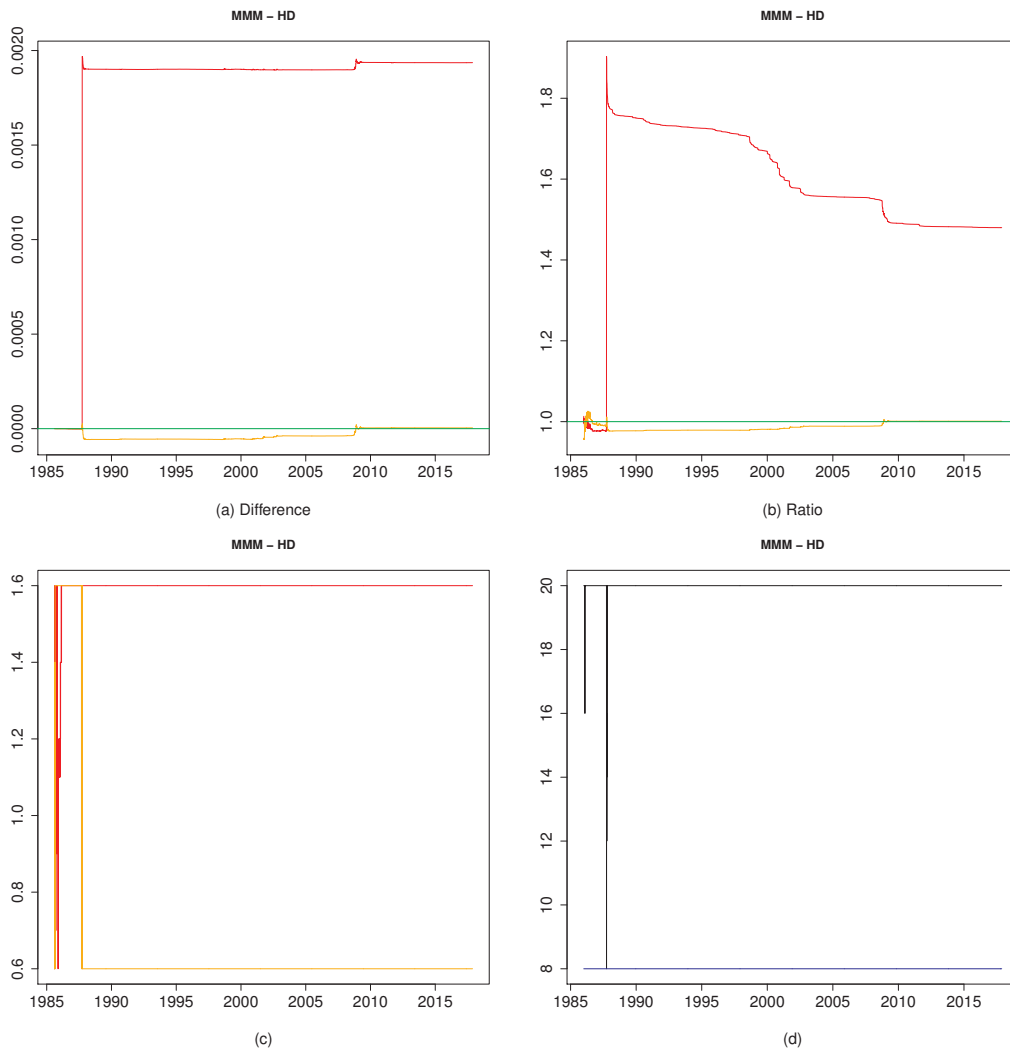


Figure 354: 17-27

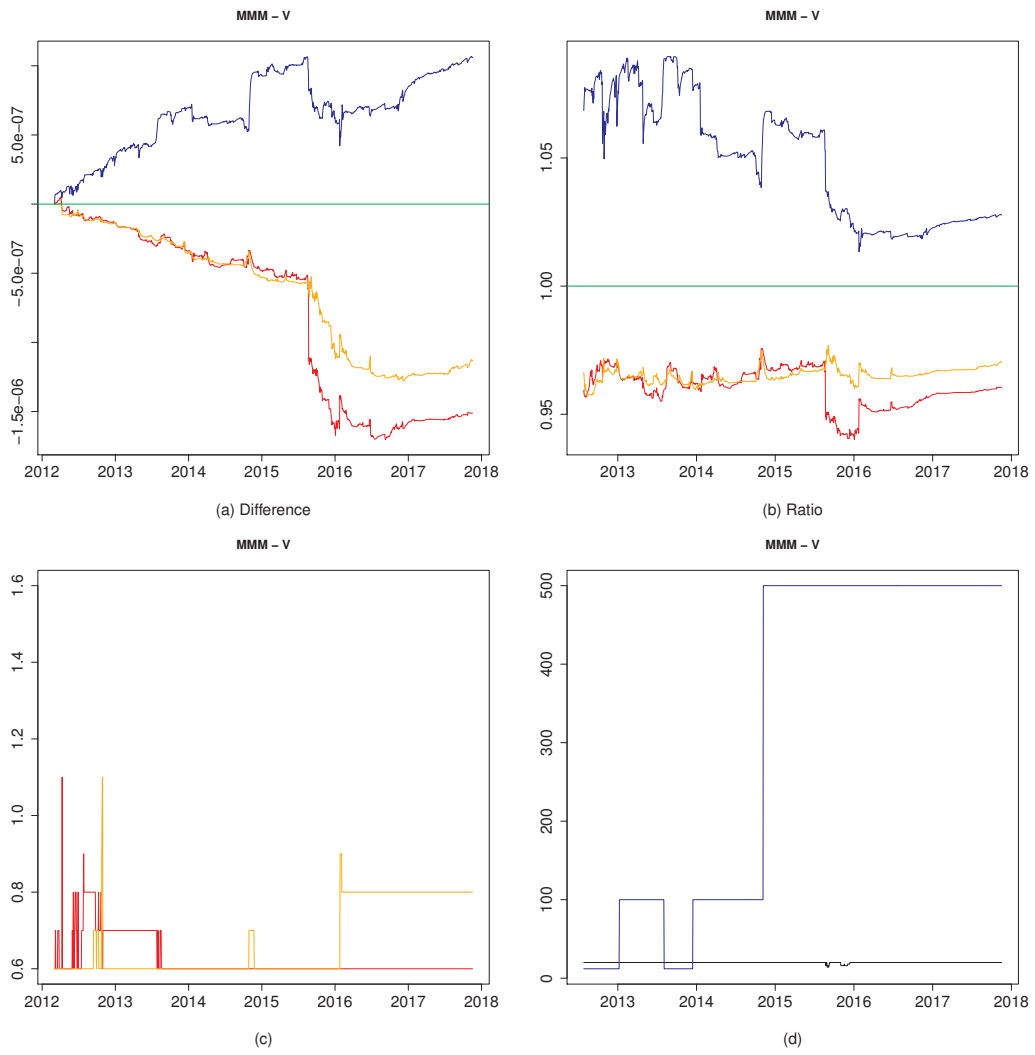


Figure 355: 17-28

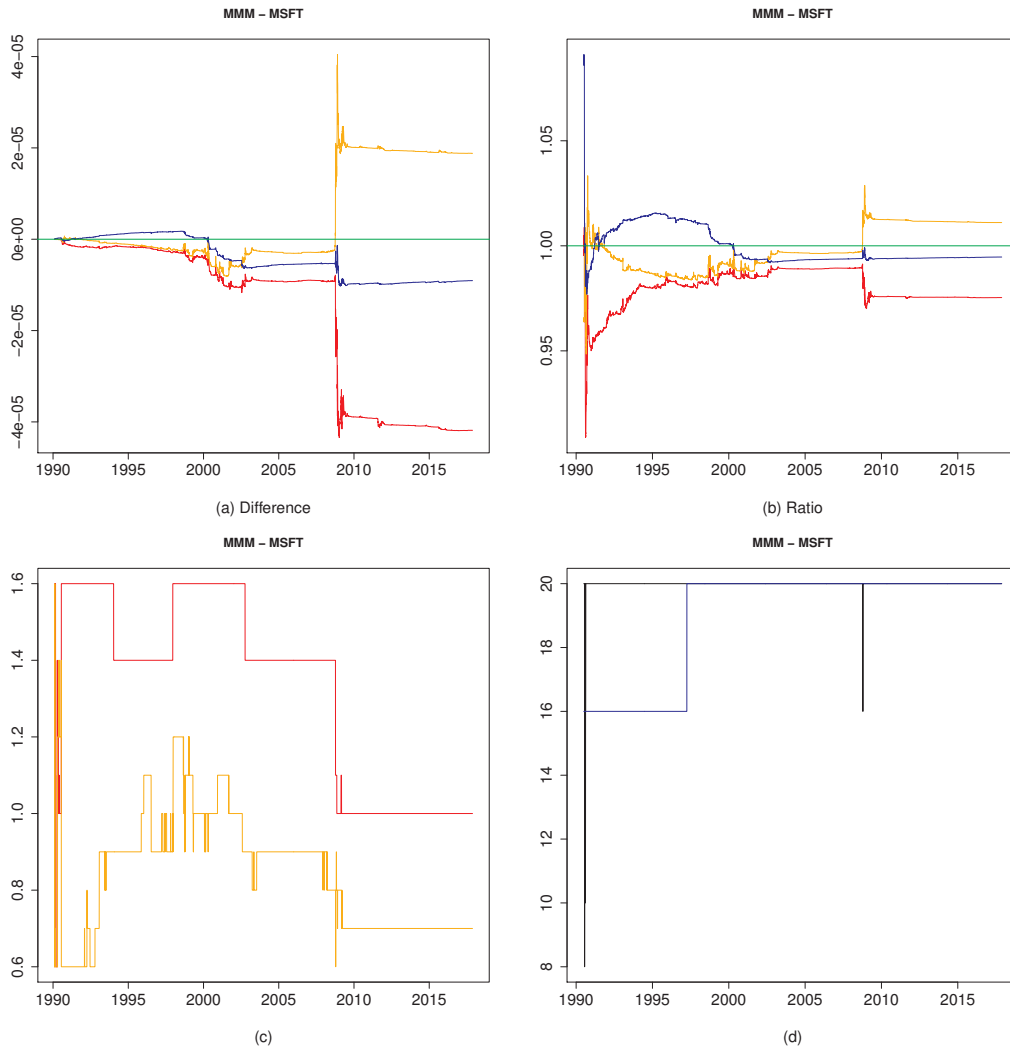


Figure 356: 17-29

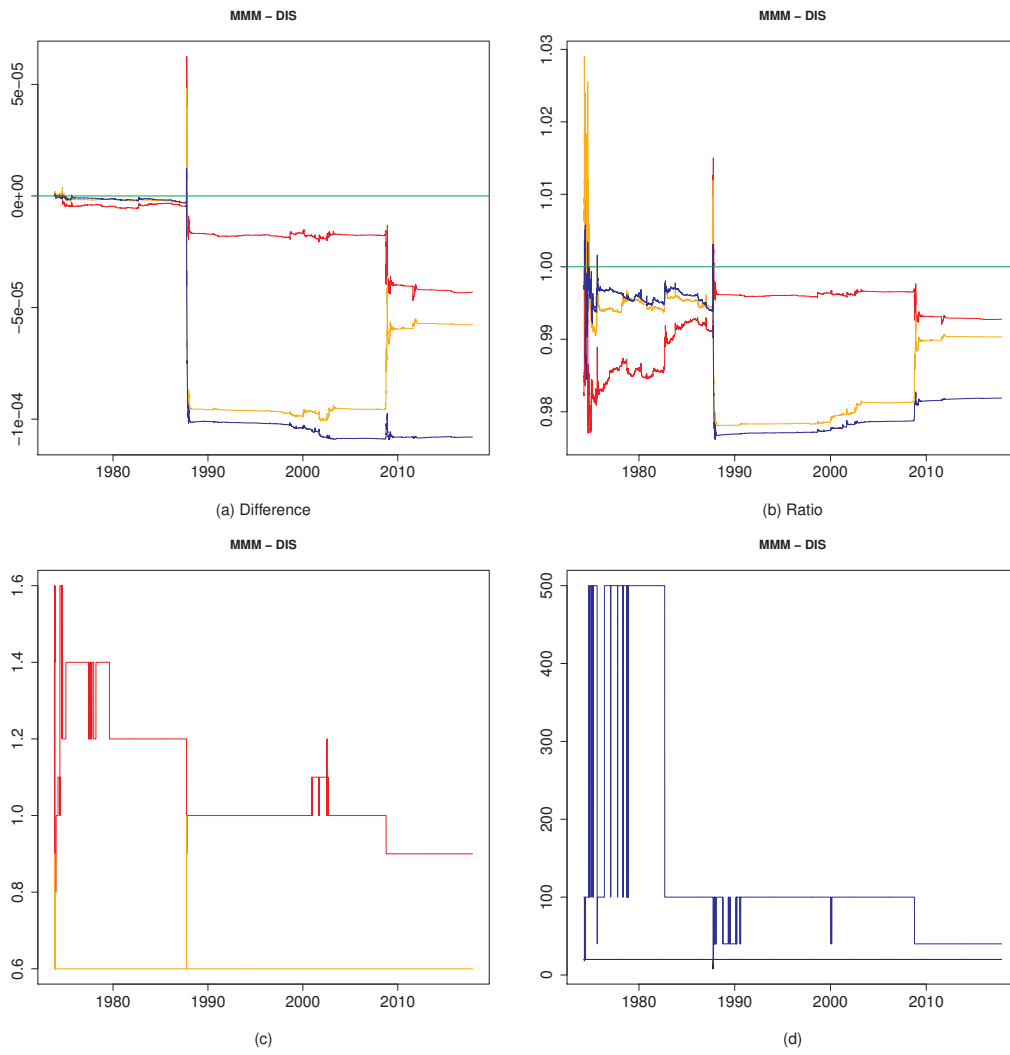


Figure 357: 17-30

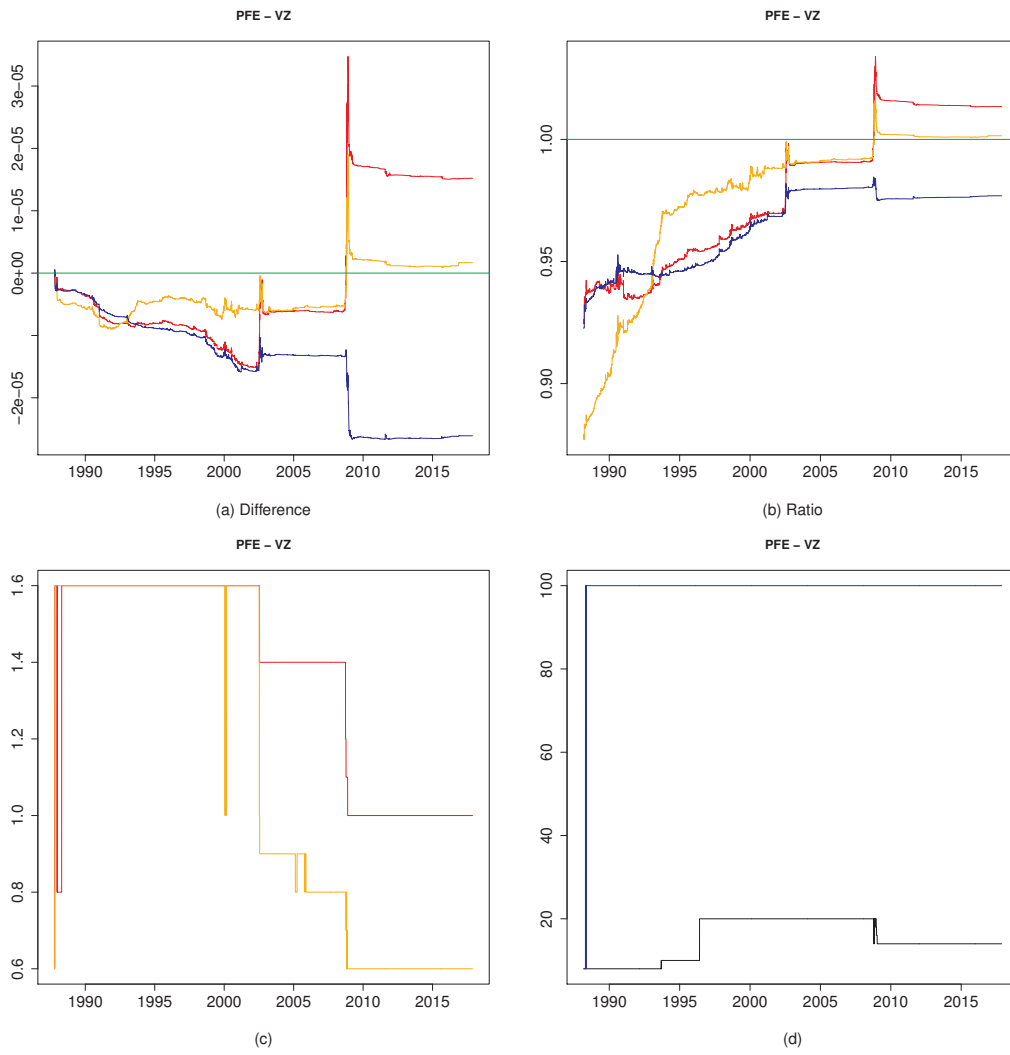


Figure 358: 18-19

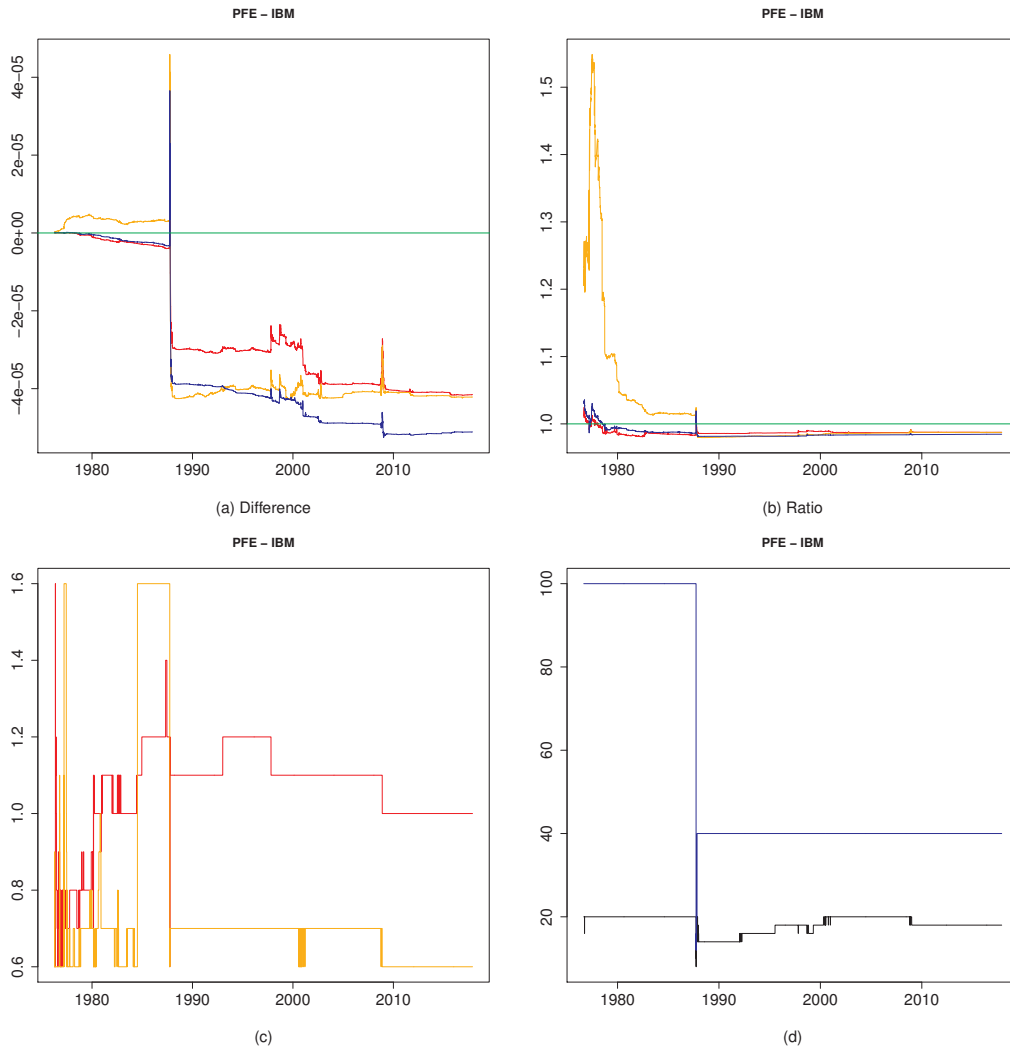


Figure 359: 18-20

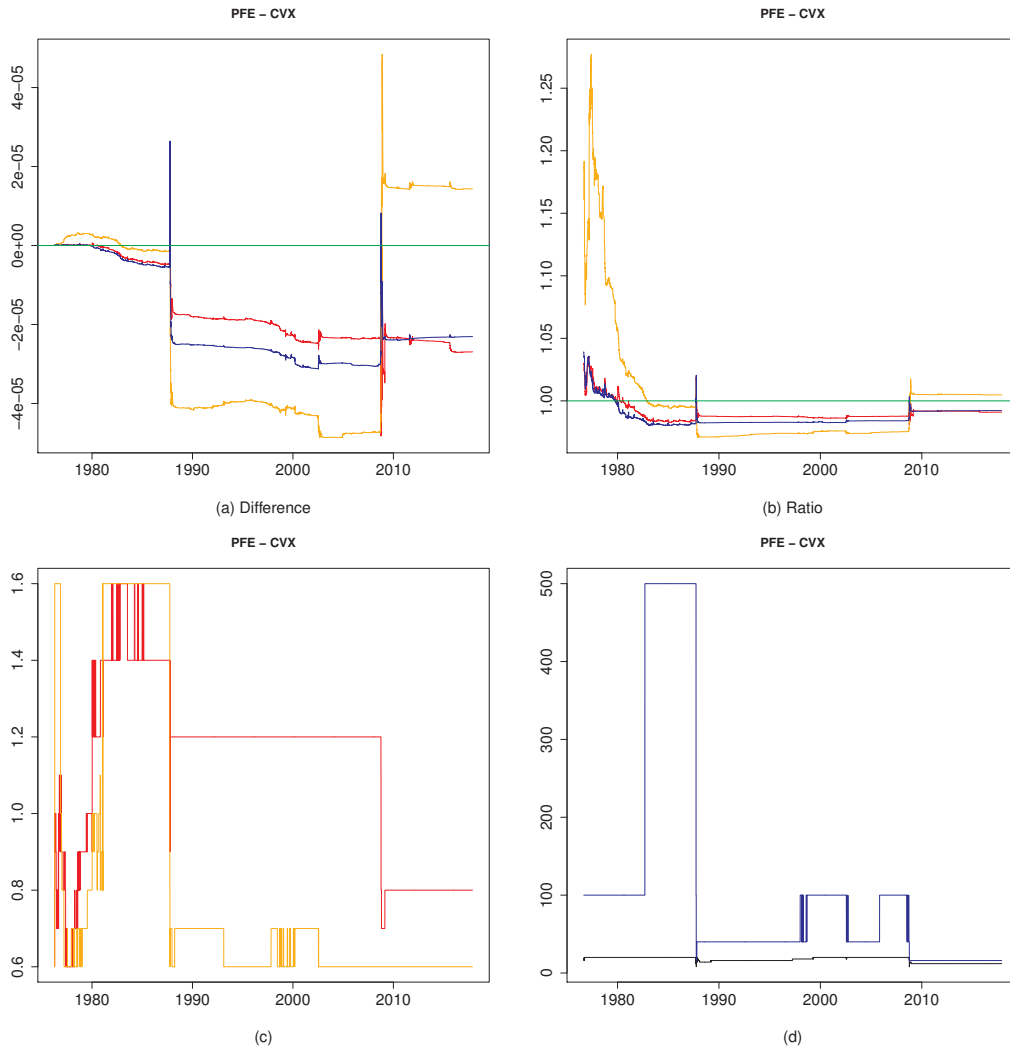


Figure 360: 18-21

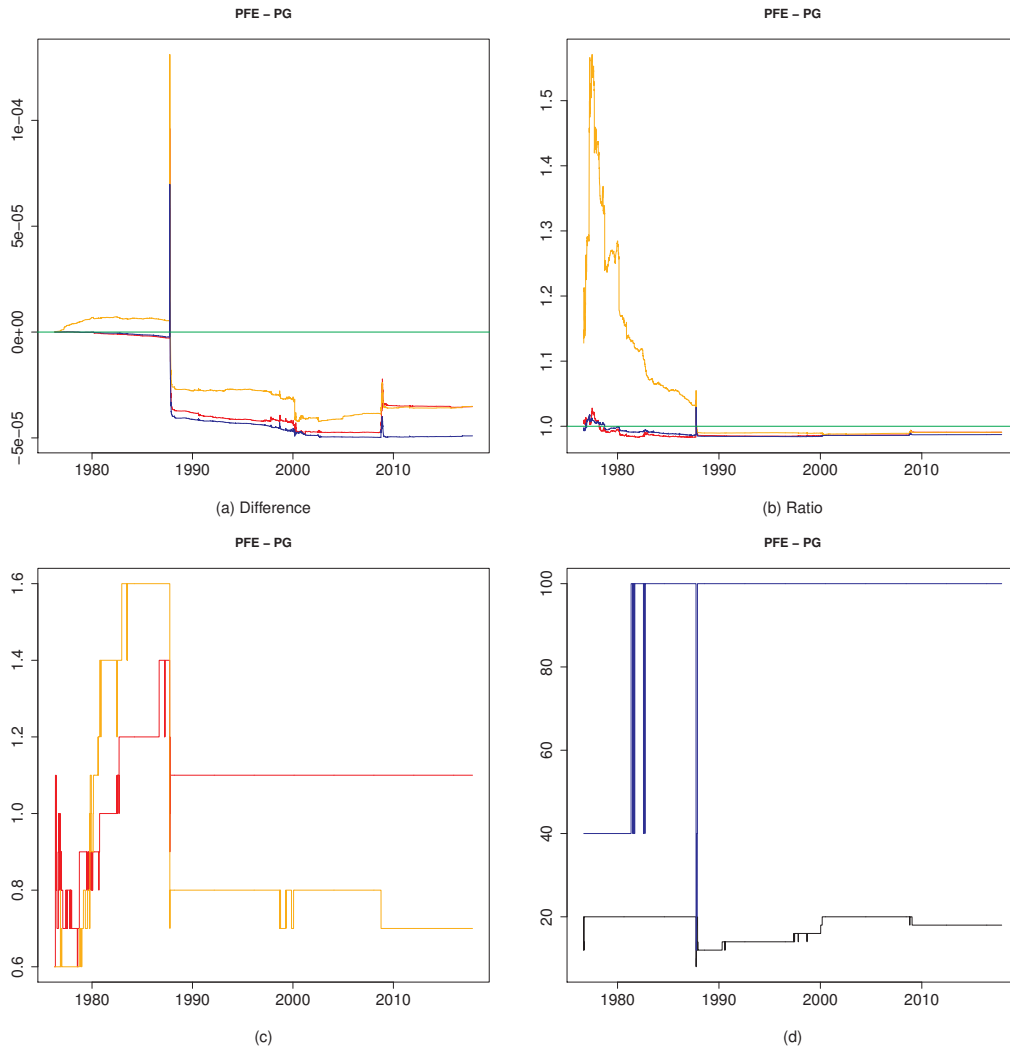


Figure 361: 18-22

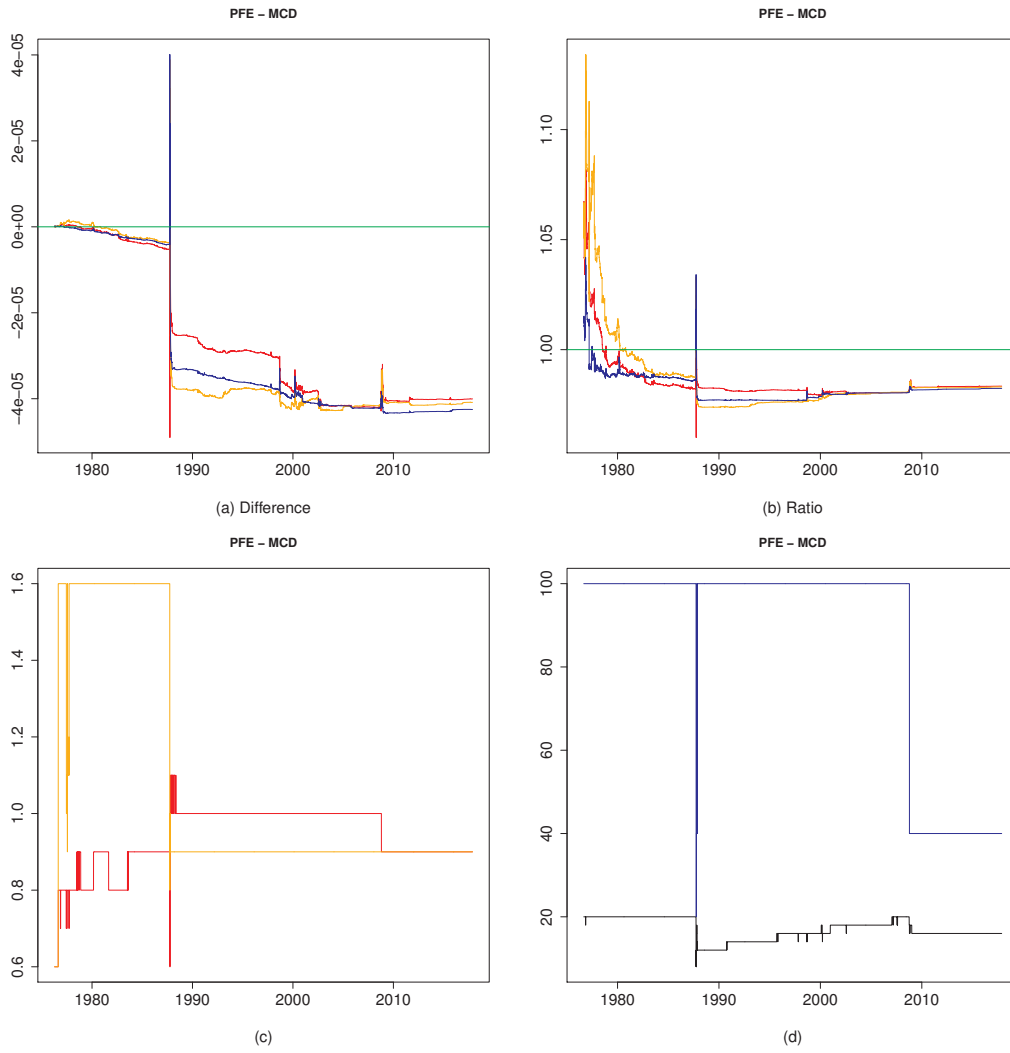


Figure 362: 18-23

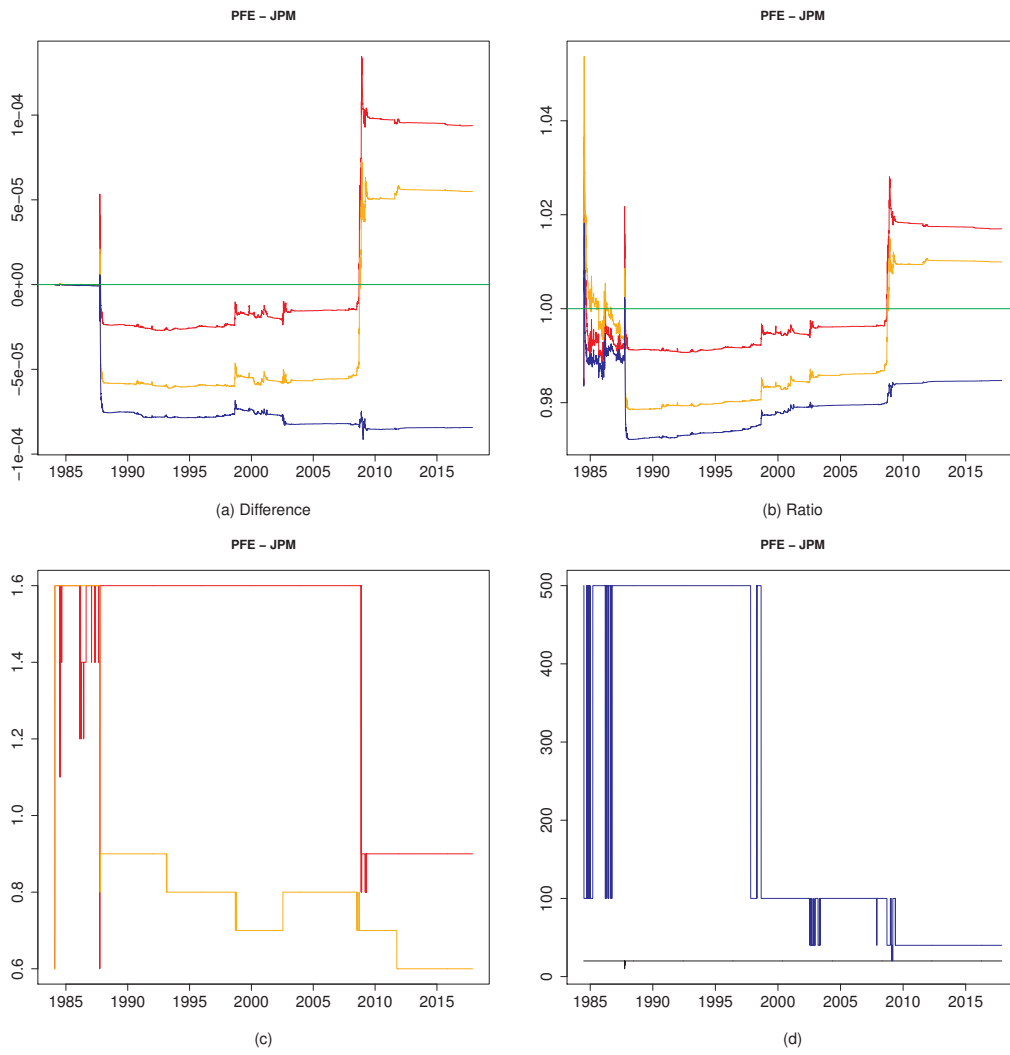


Figure 363: 18-24

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1.19 Pairs from 19-20 to 19-30

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1.20 Pairs from 20-21 to 20-30

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1.21 Pairs from 21-22 to 21-30

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Figure 392
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Figure 394
Figure 395

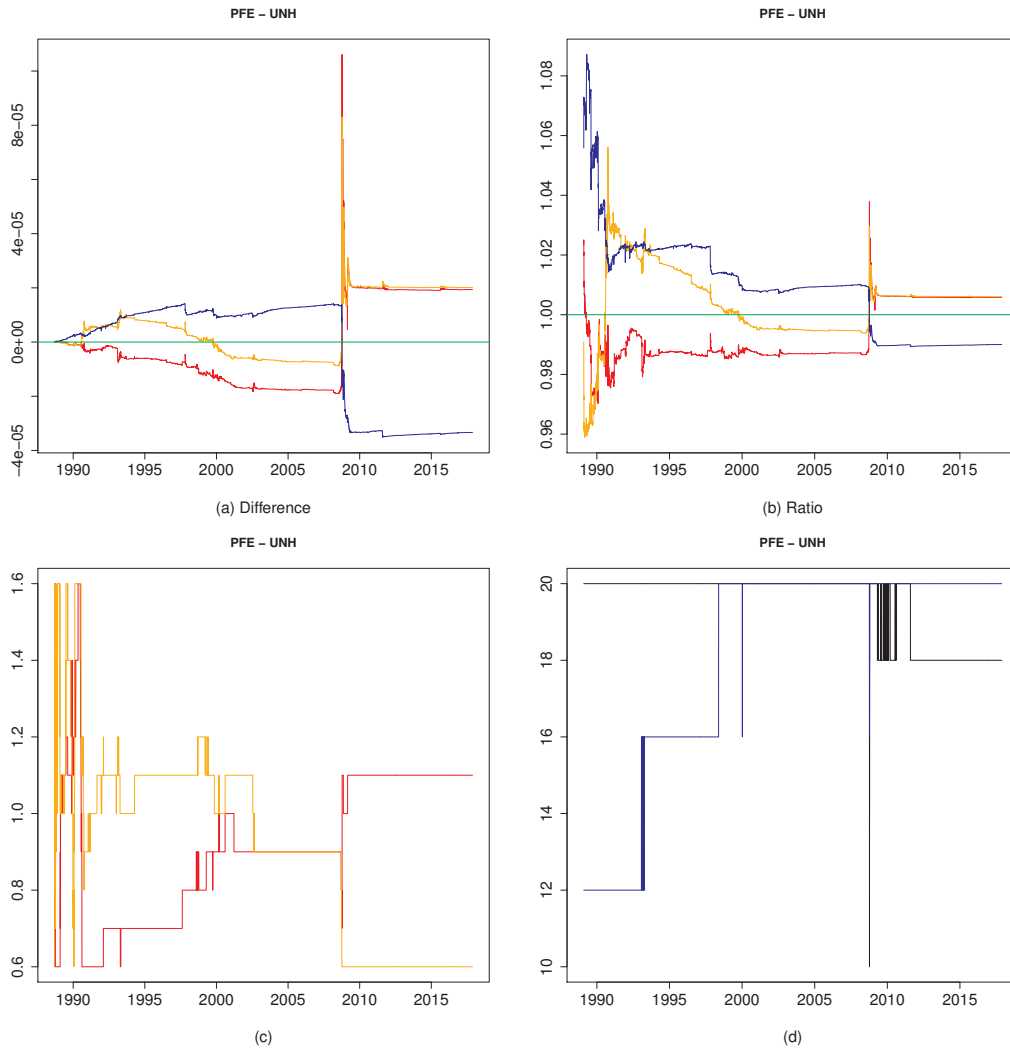


Figure 364: 18-25

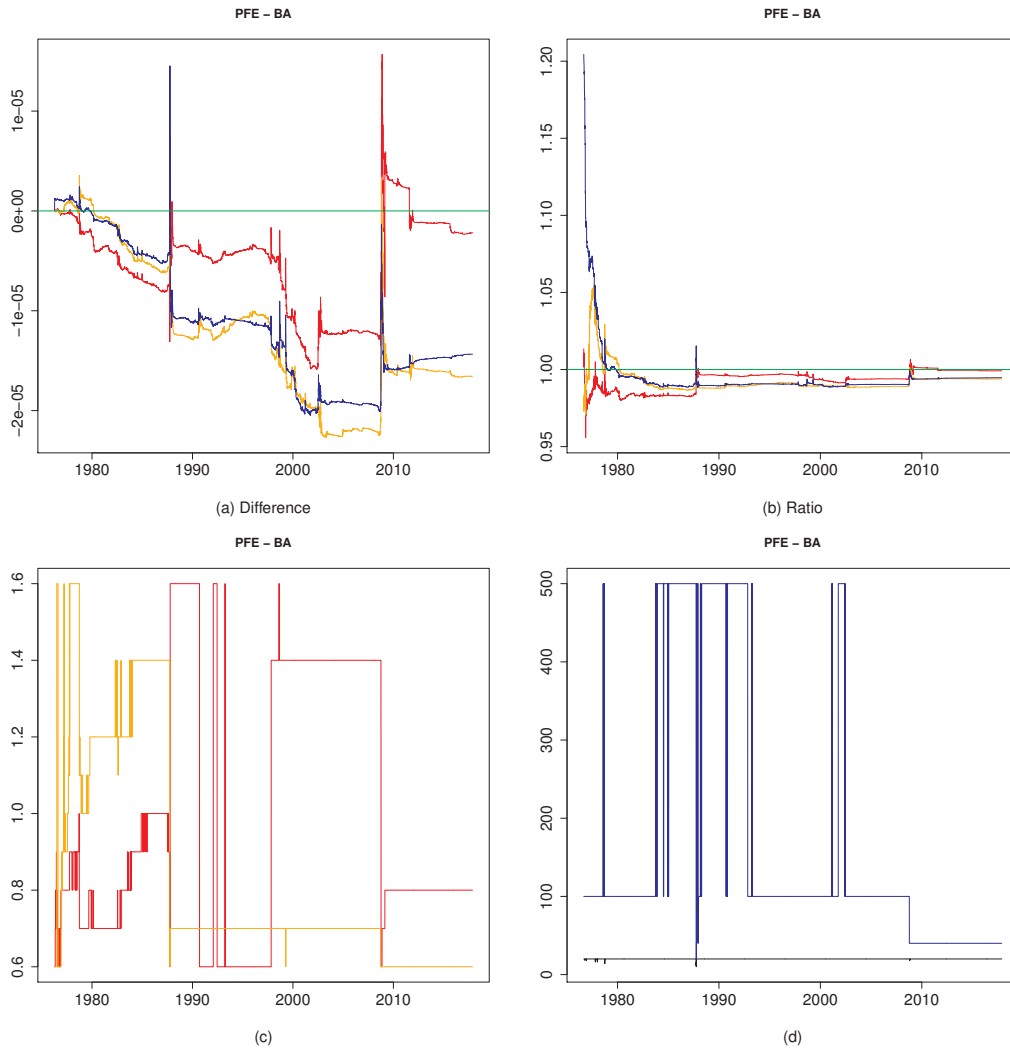


Figure 365: 18-26

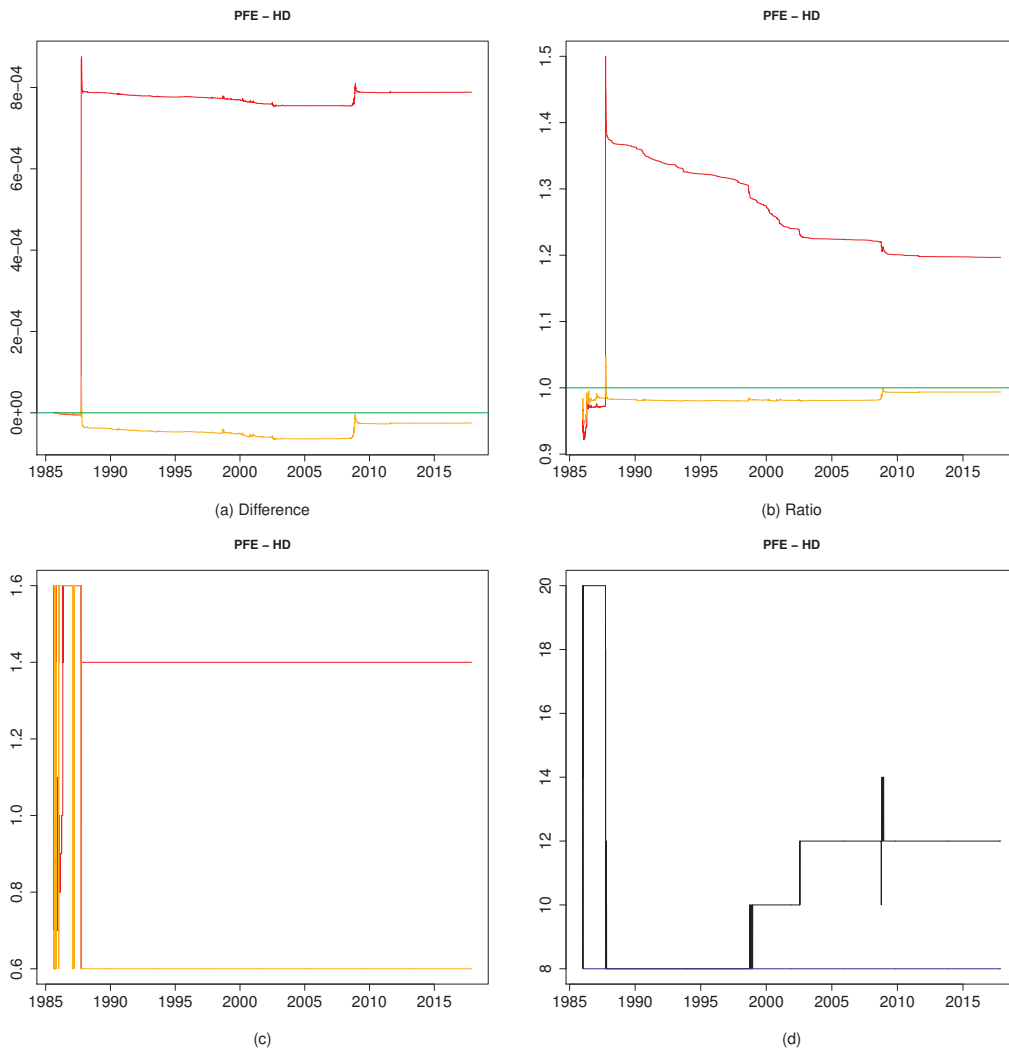


Figure 366: 18-27

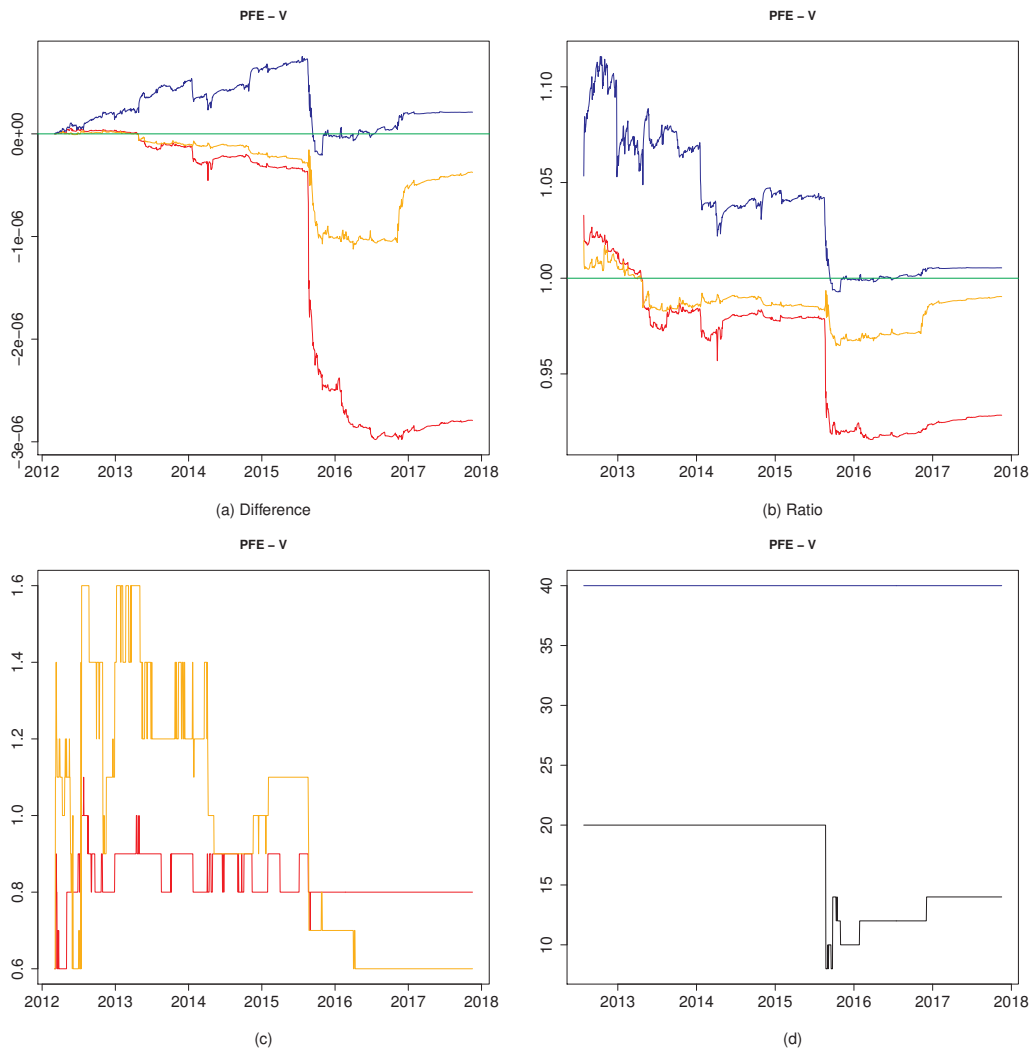


Figure 367: 18-28

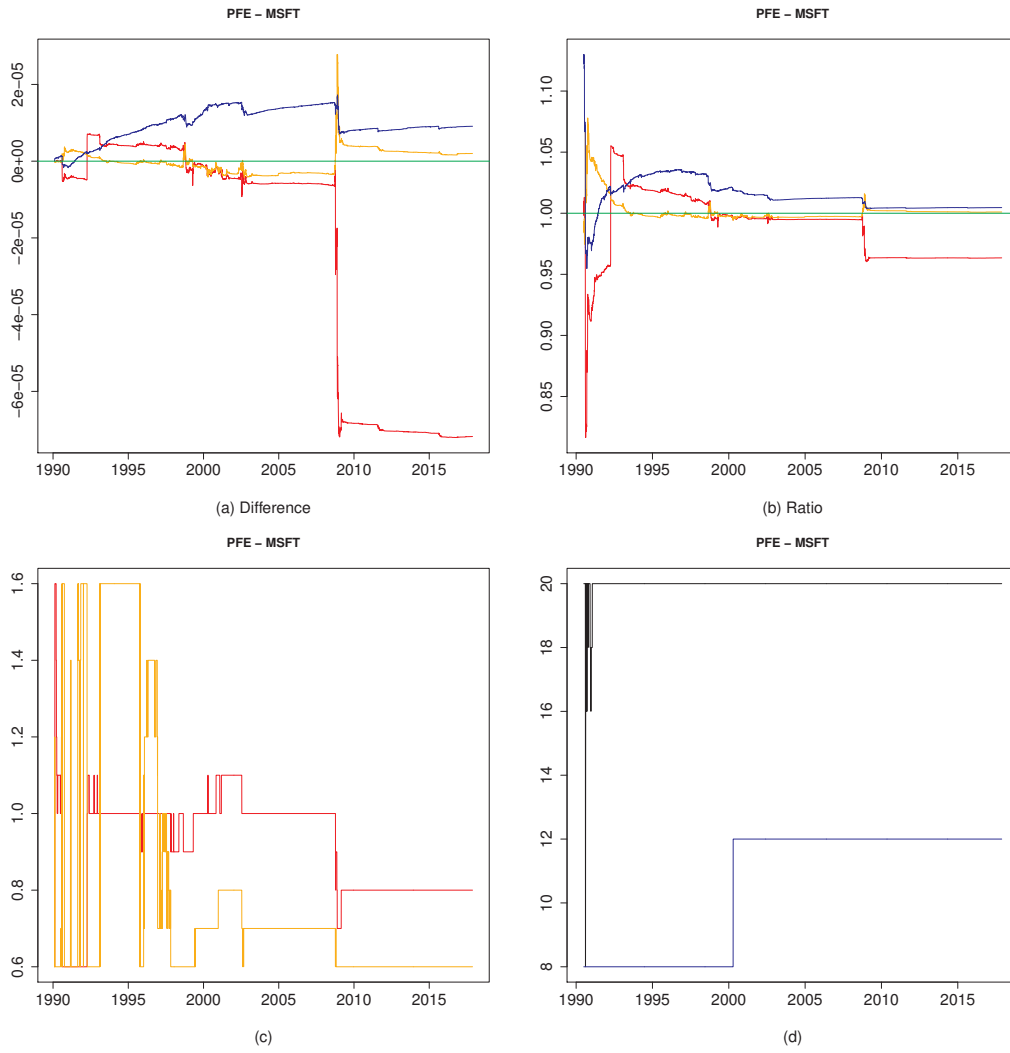


Figure 368: 18-29

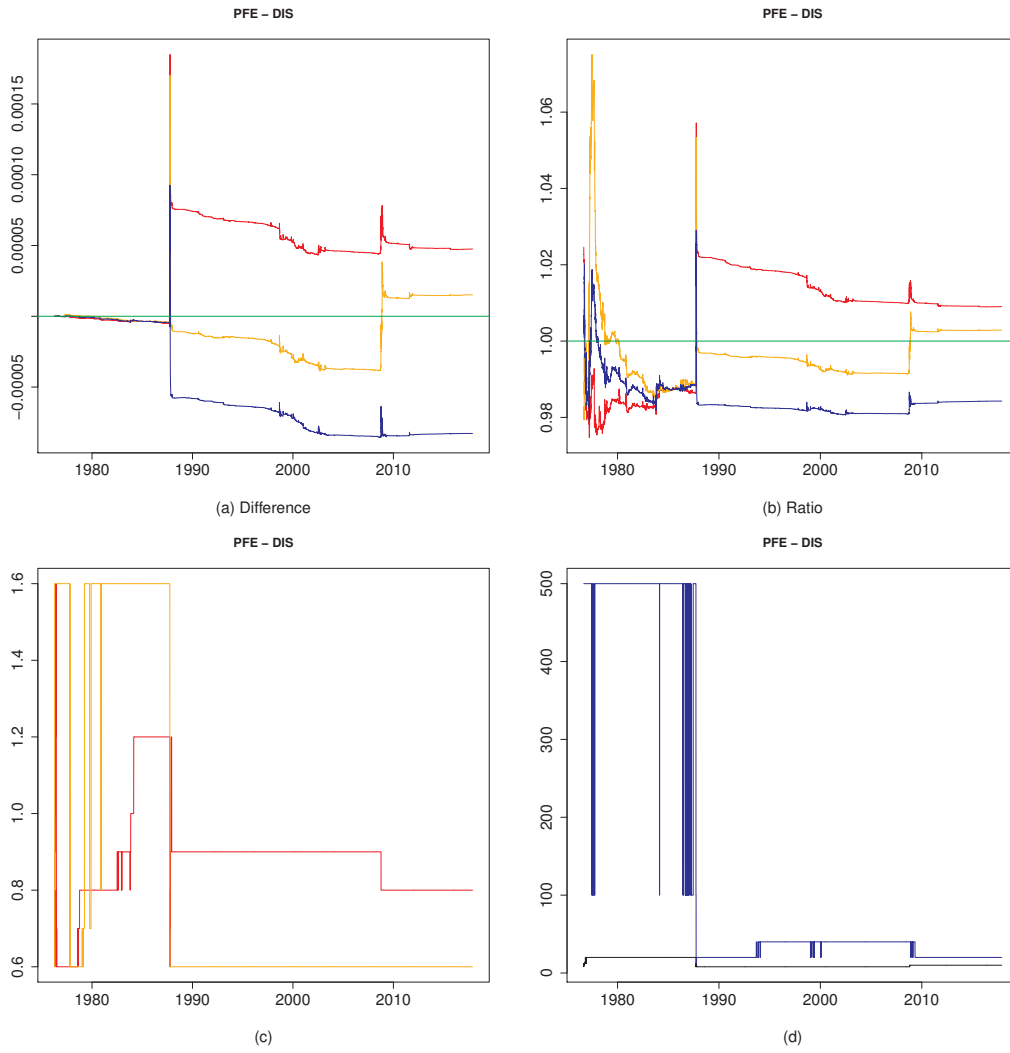


Figure 369: 18-30

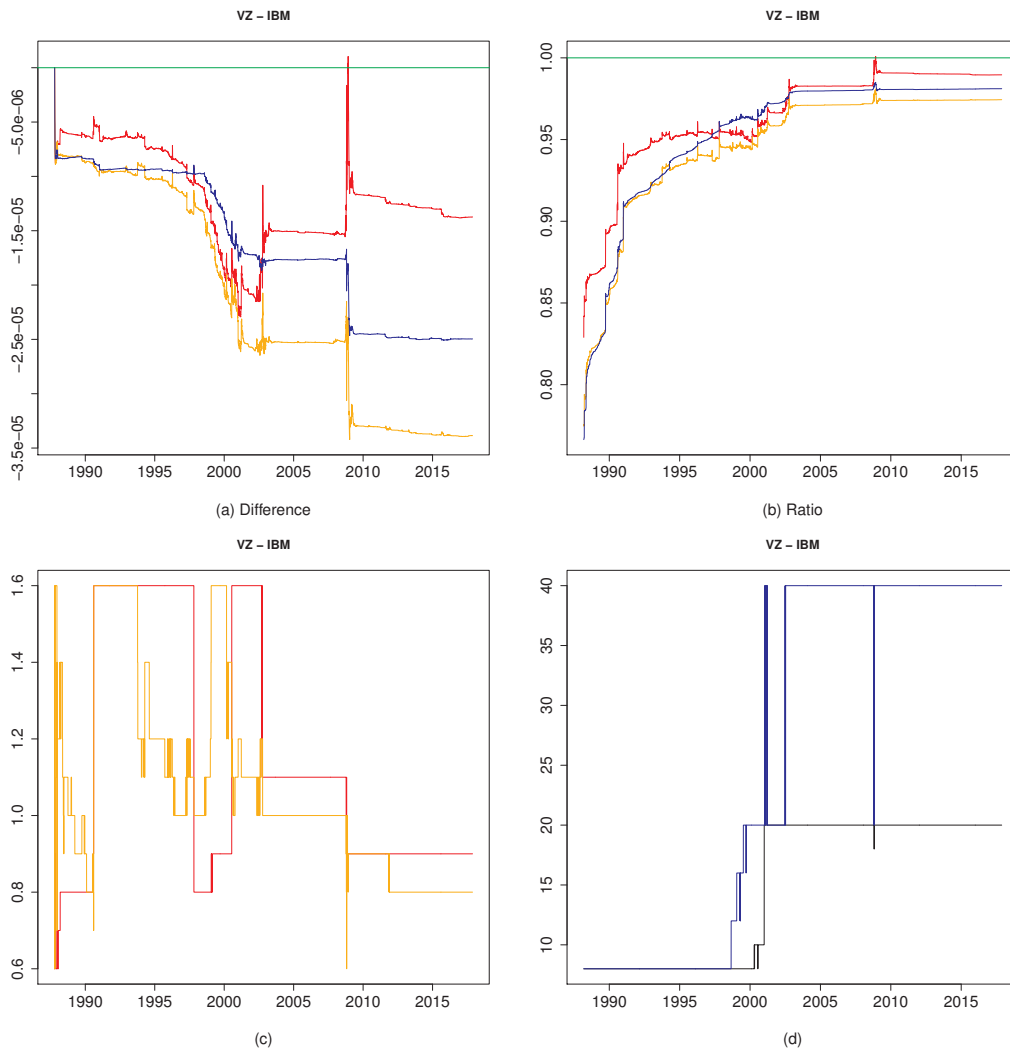


Figure 370: 19-20

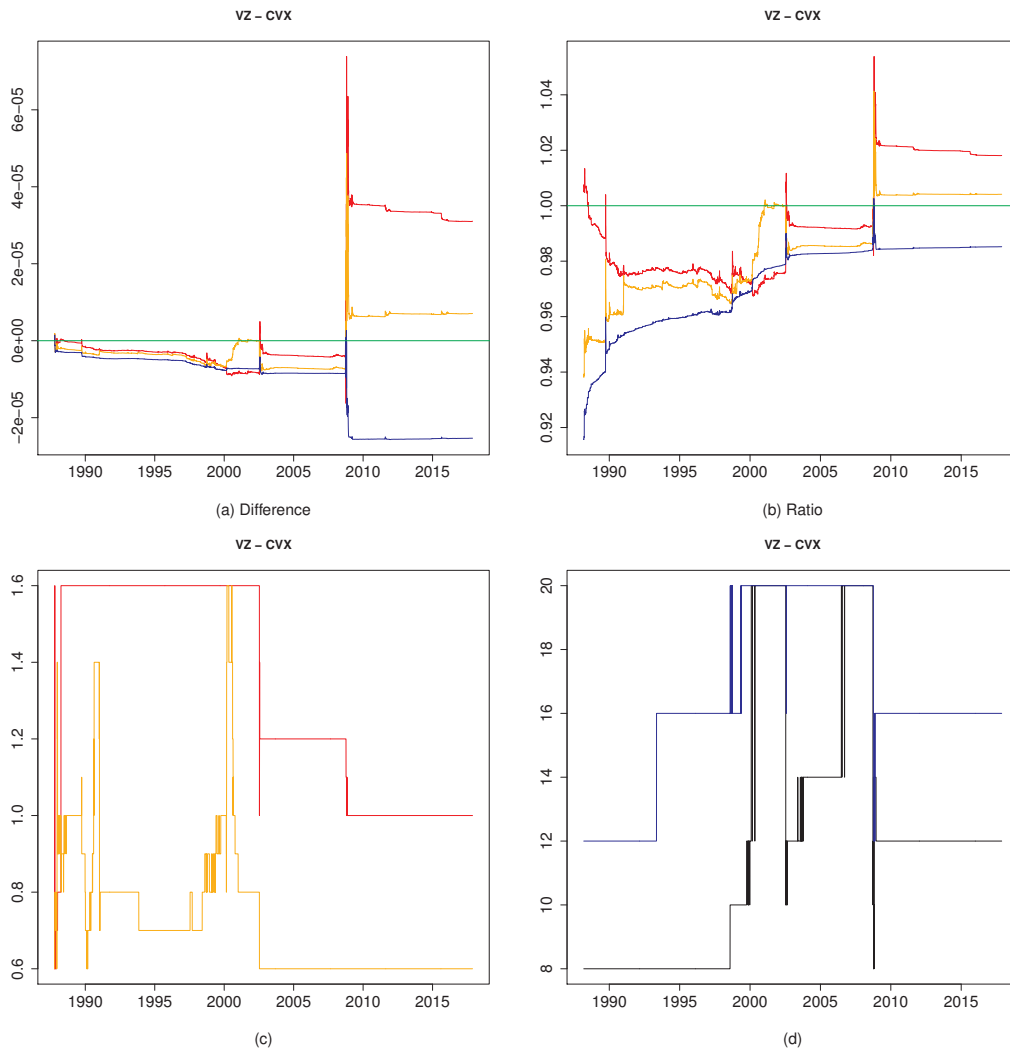


Figure 371: 19-21

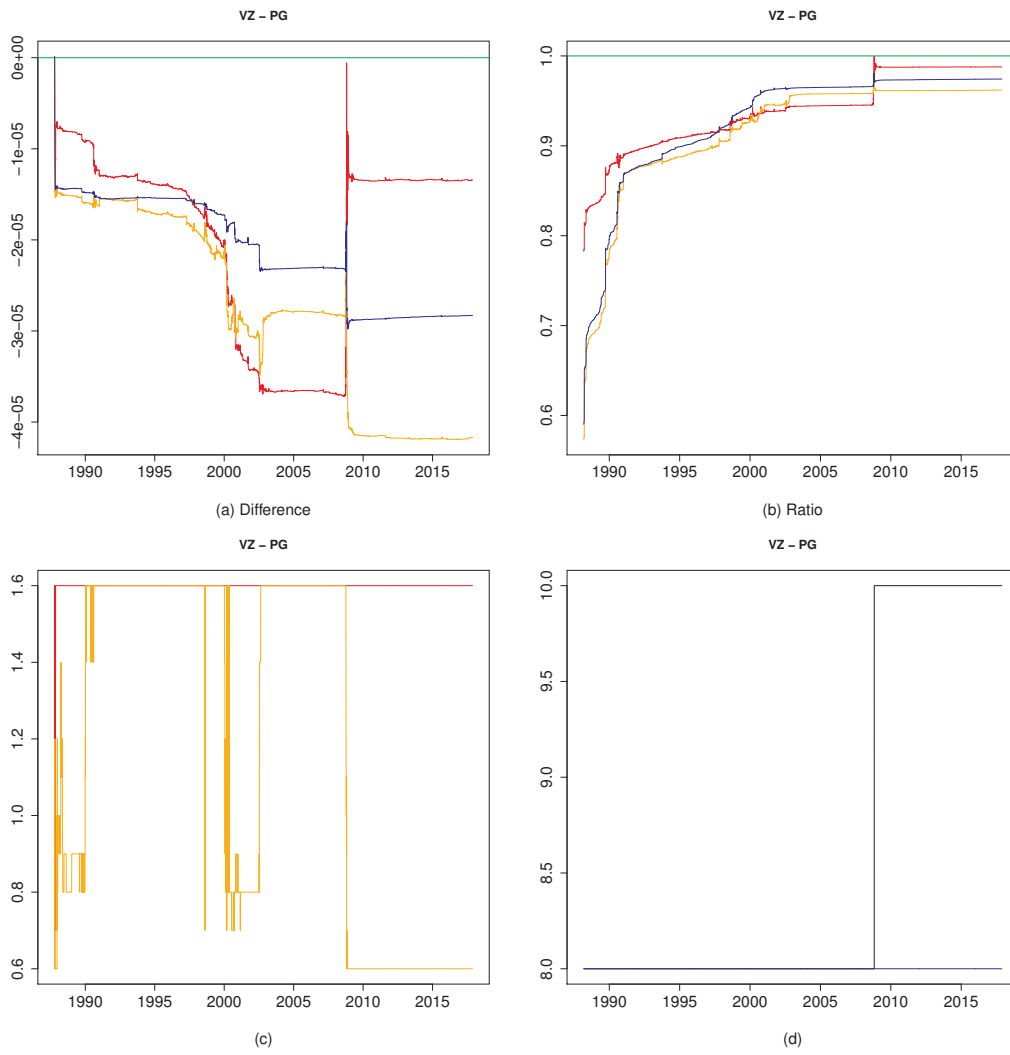


Figure 372: 19-22

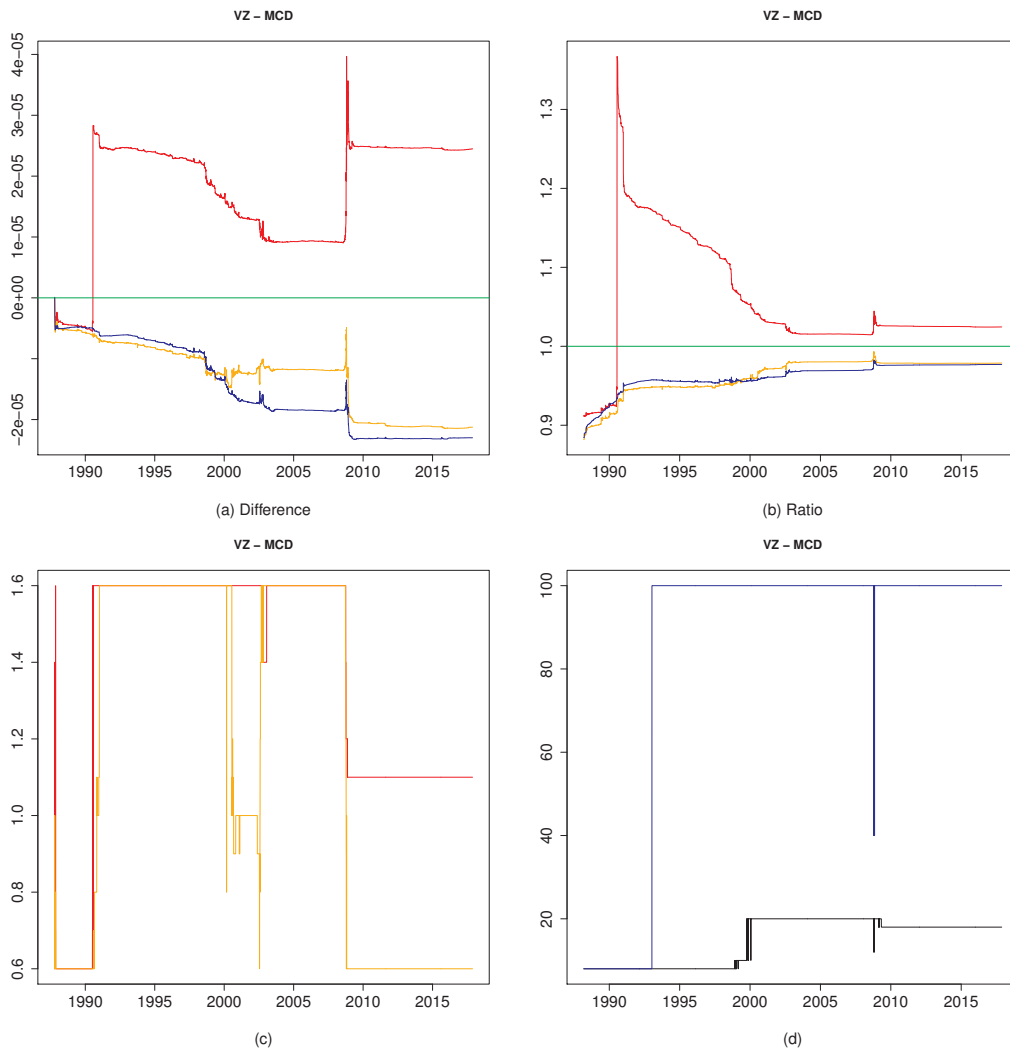


Figure 373: 19-23

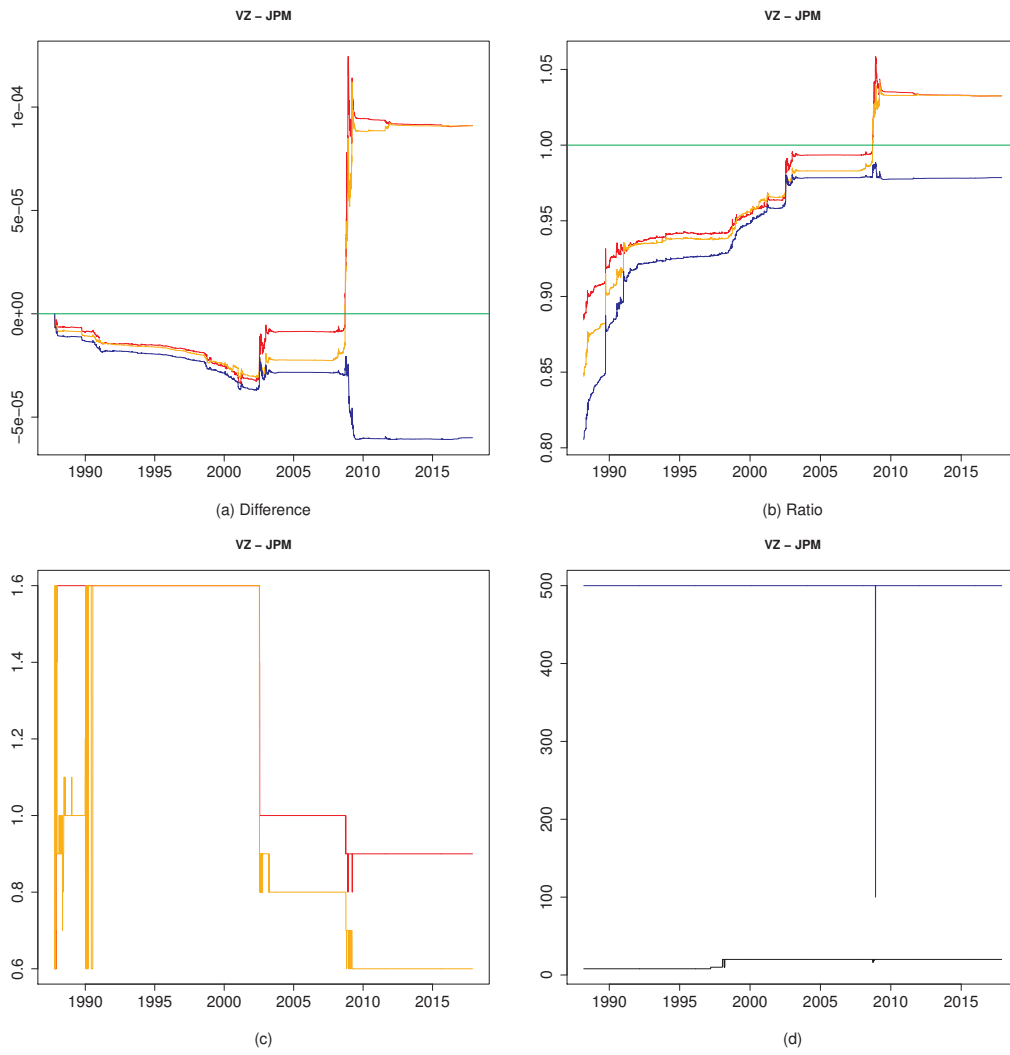


Figure 374: 19-24

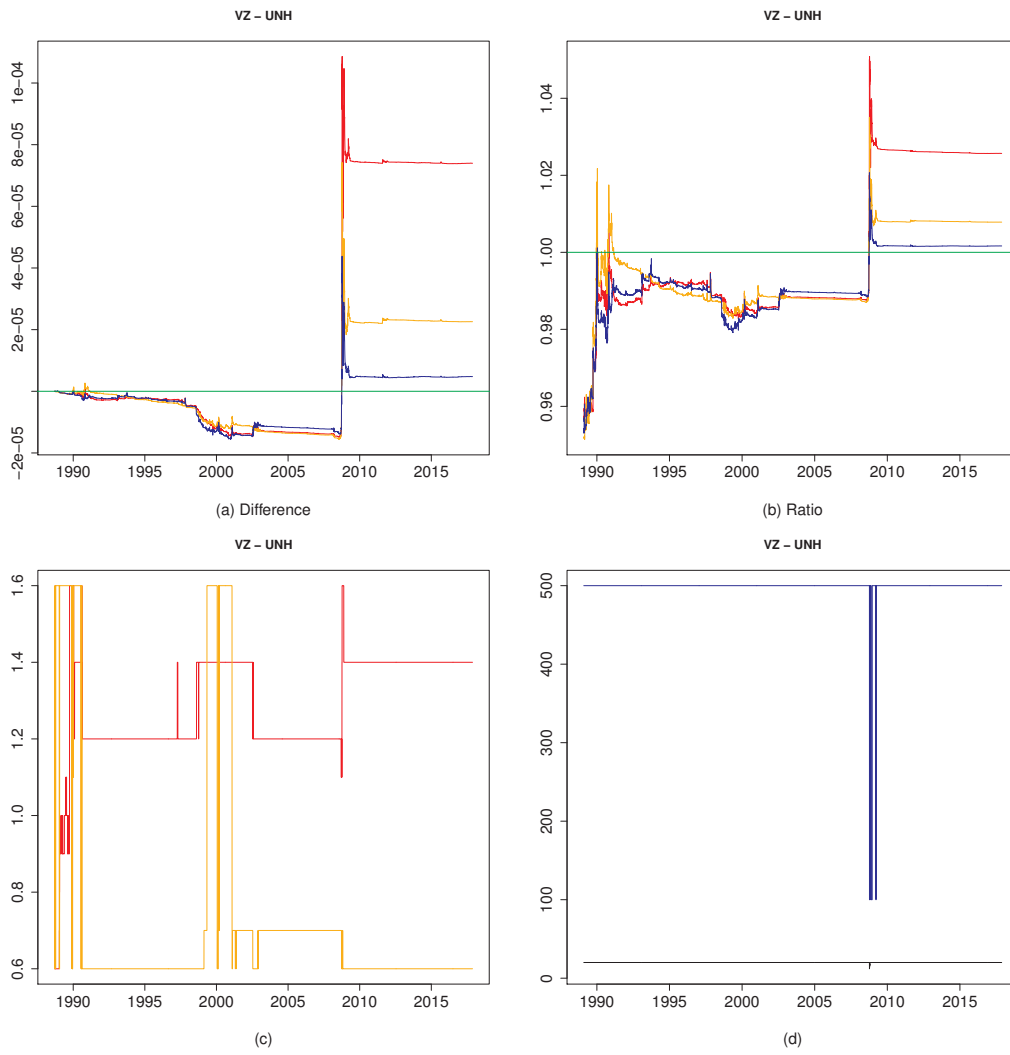


Figure 375: 19-25

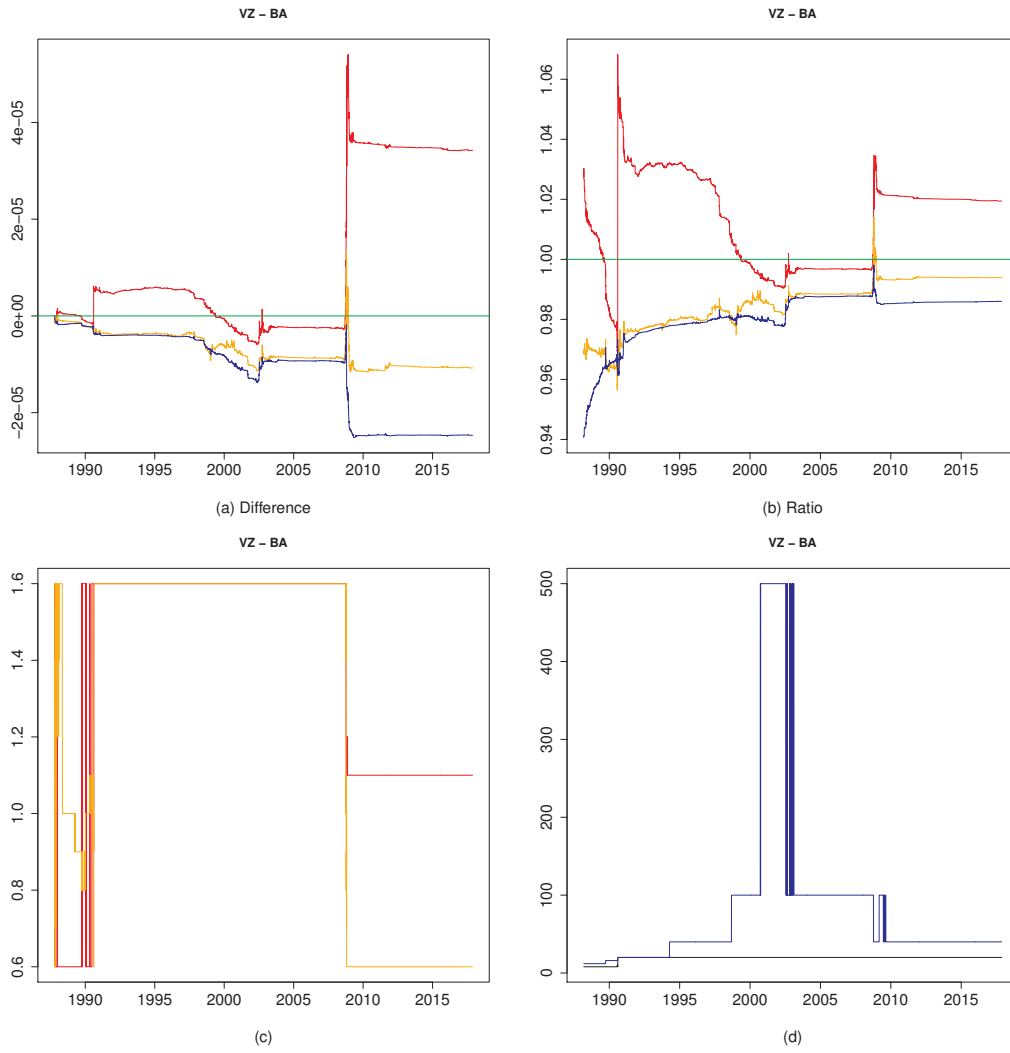


Figure 376: 19-26

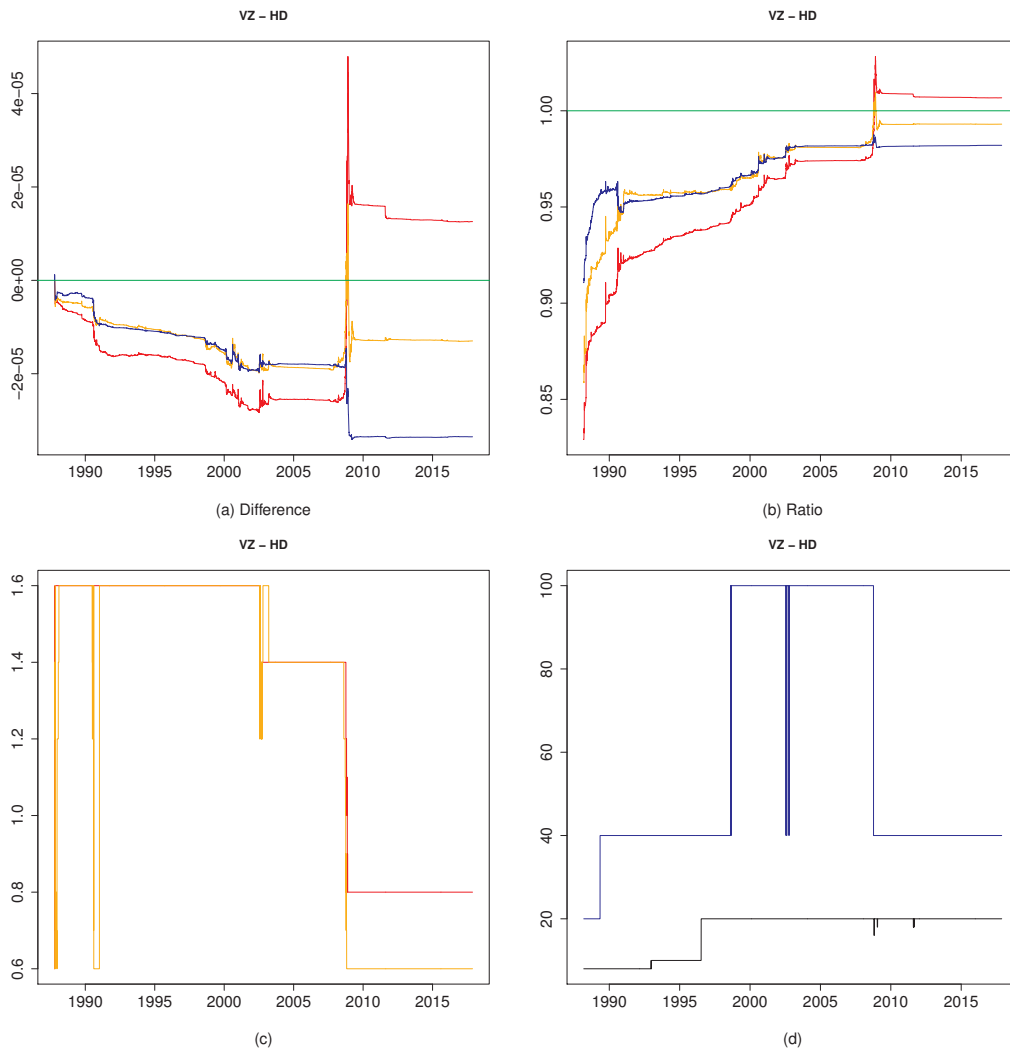


Figure 377: 19-27

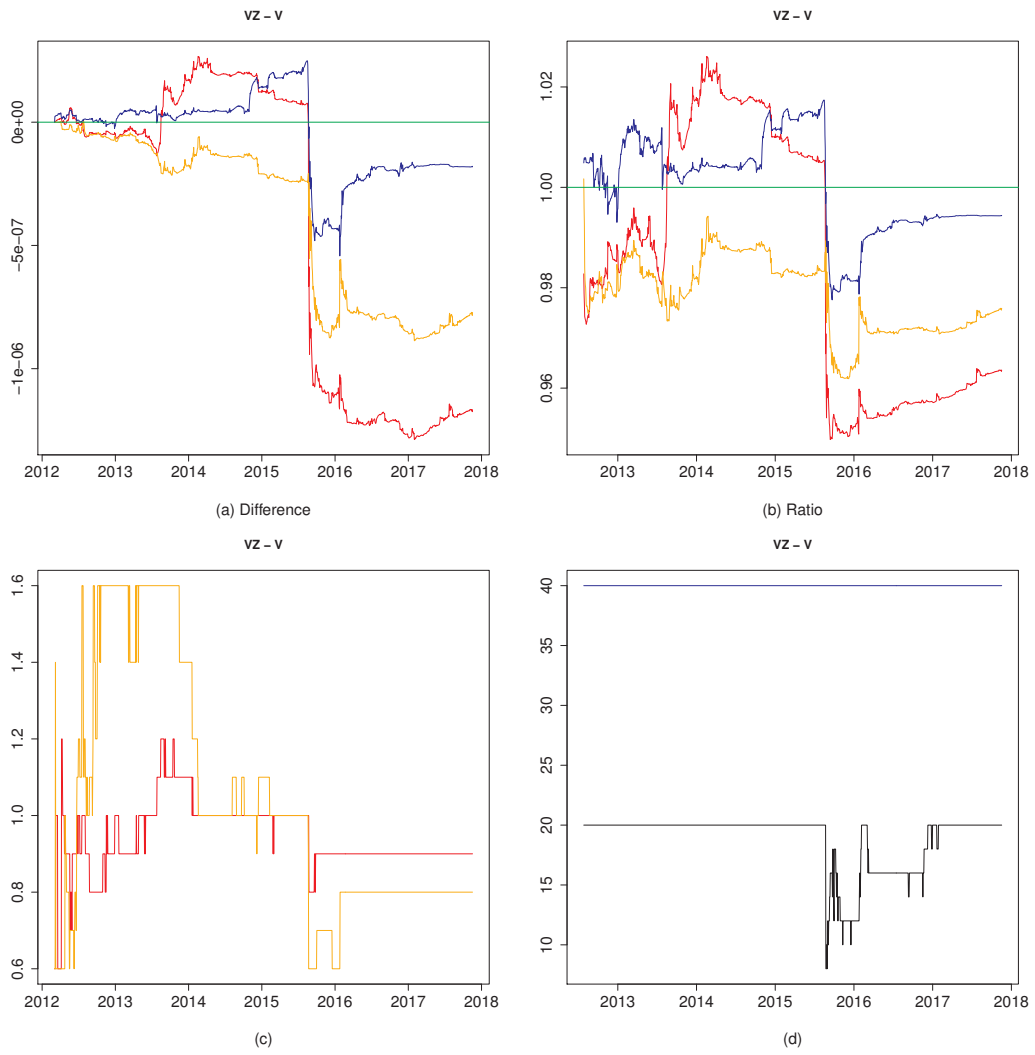


Figure 378: 19-28

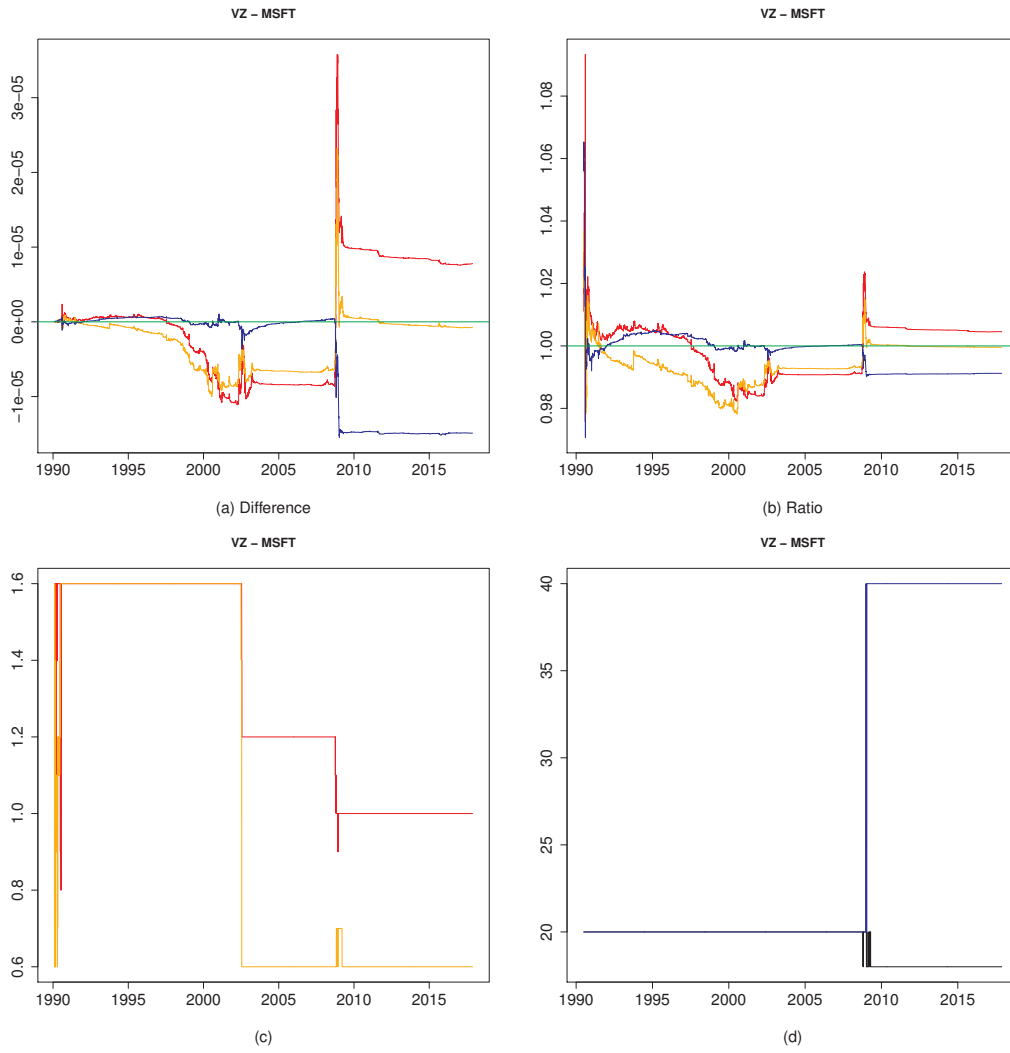


Figure 379: 19-29

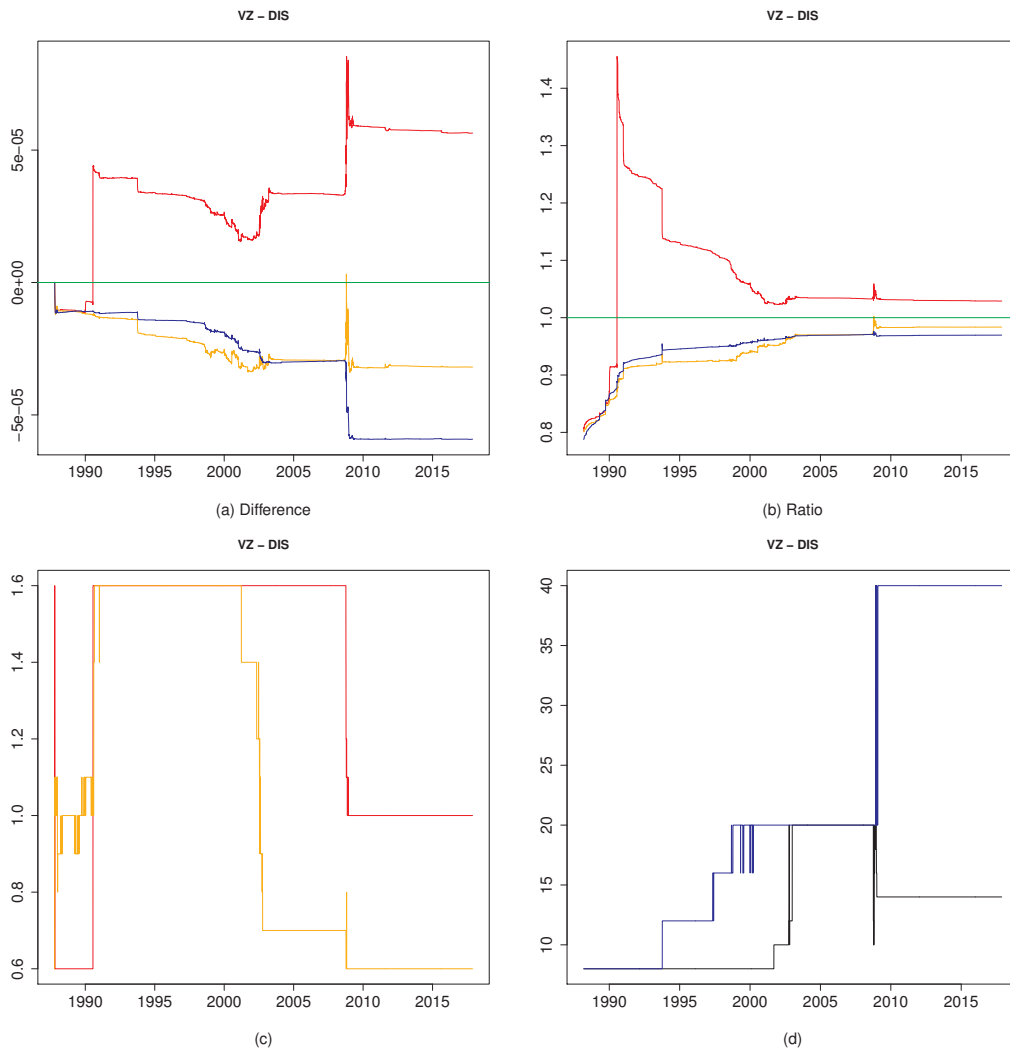


Figure 380: 19-30

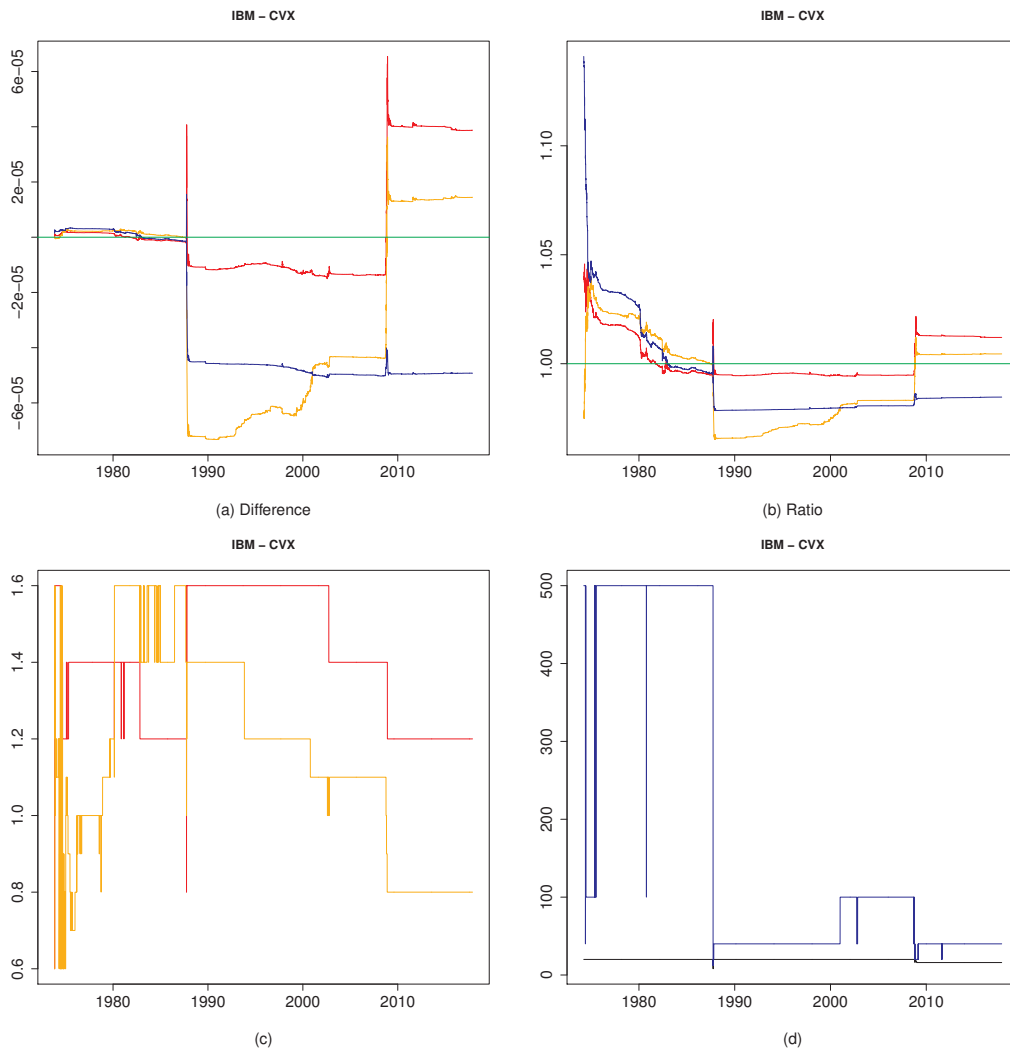


Figure 381: 20-21

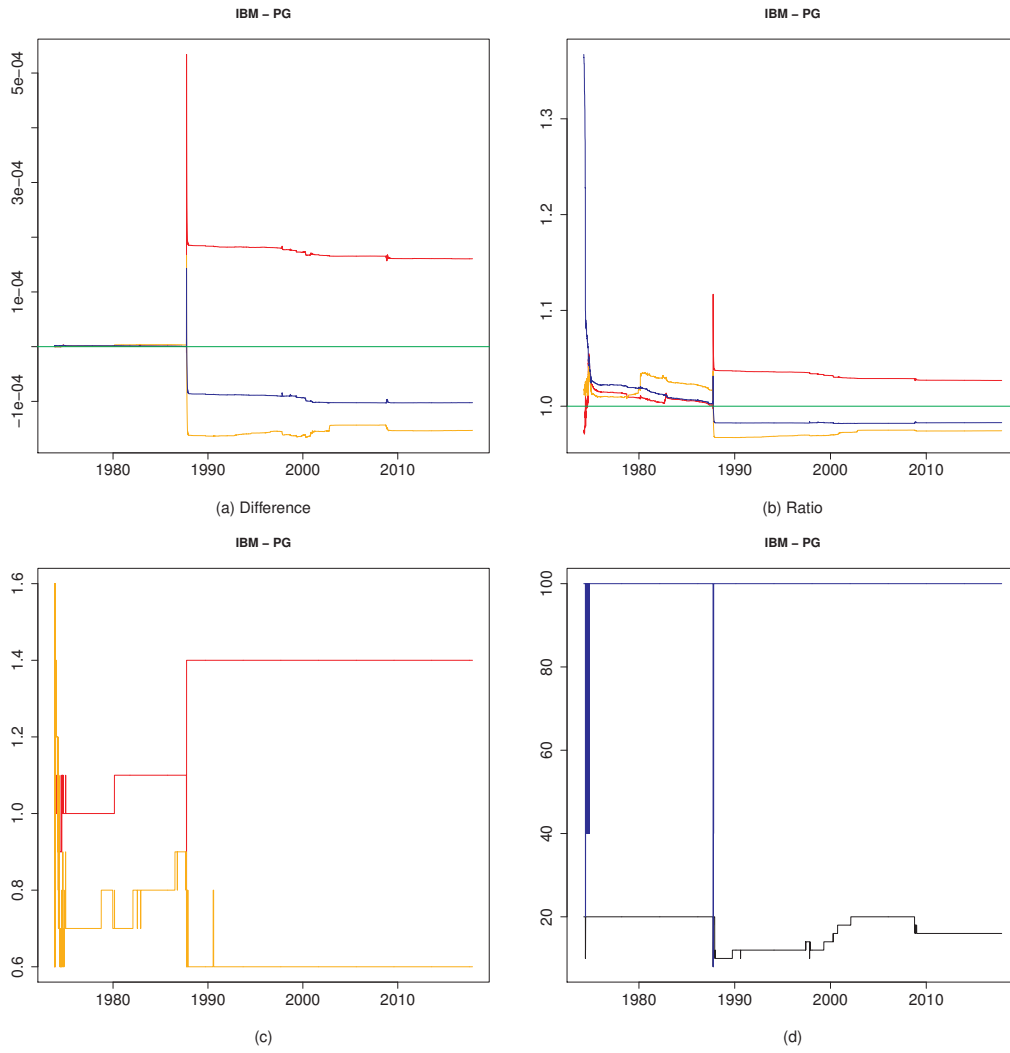


Figure 382: 20-22

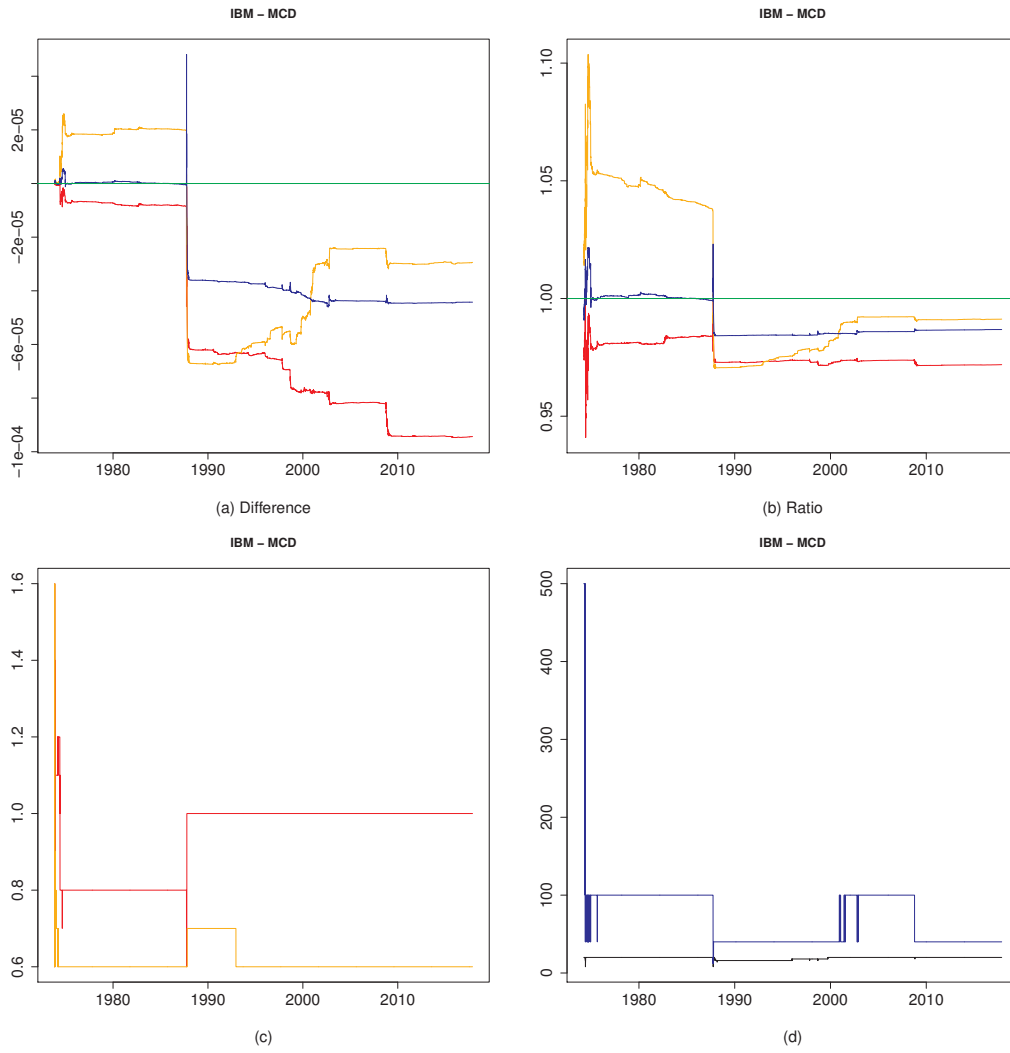


Figure 383: 20-23

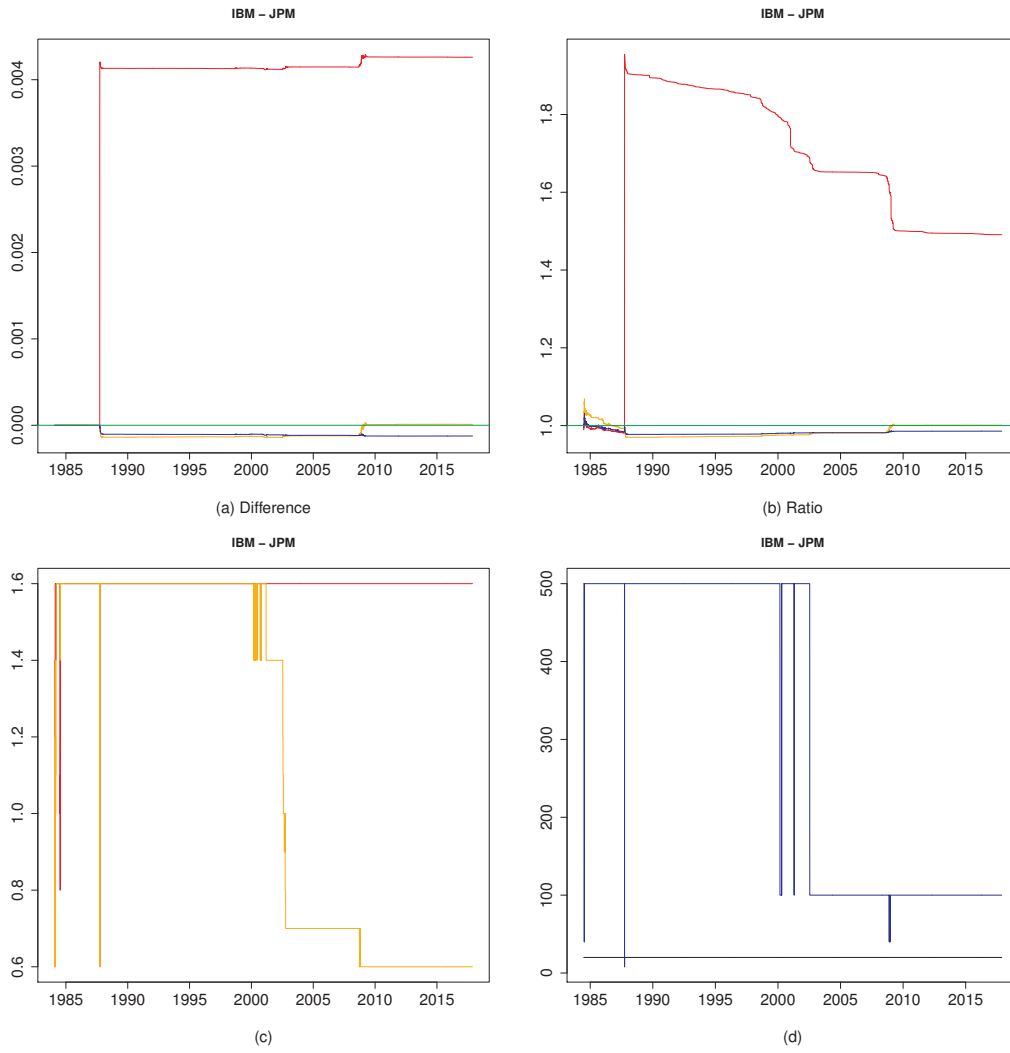


Figure 384: 20-24

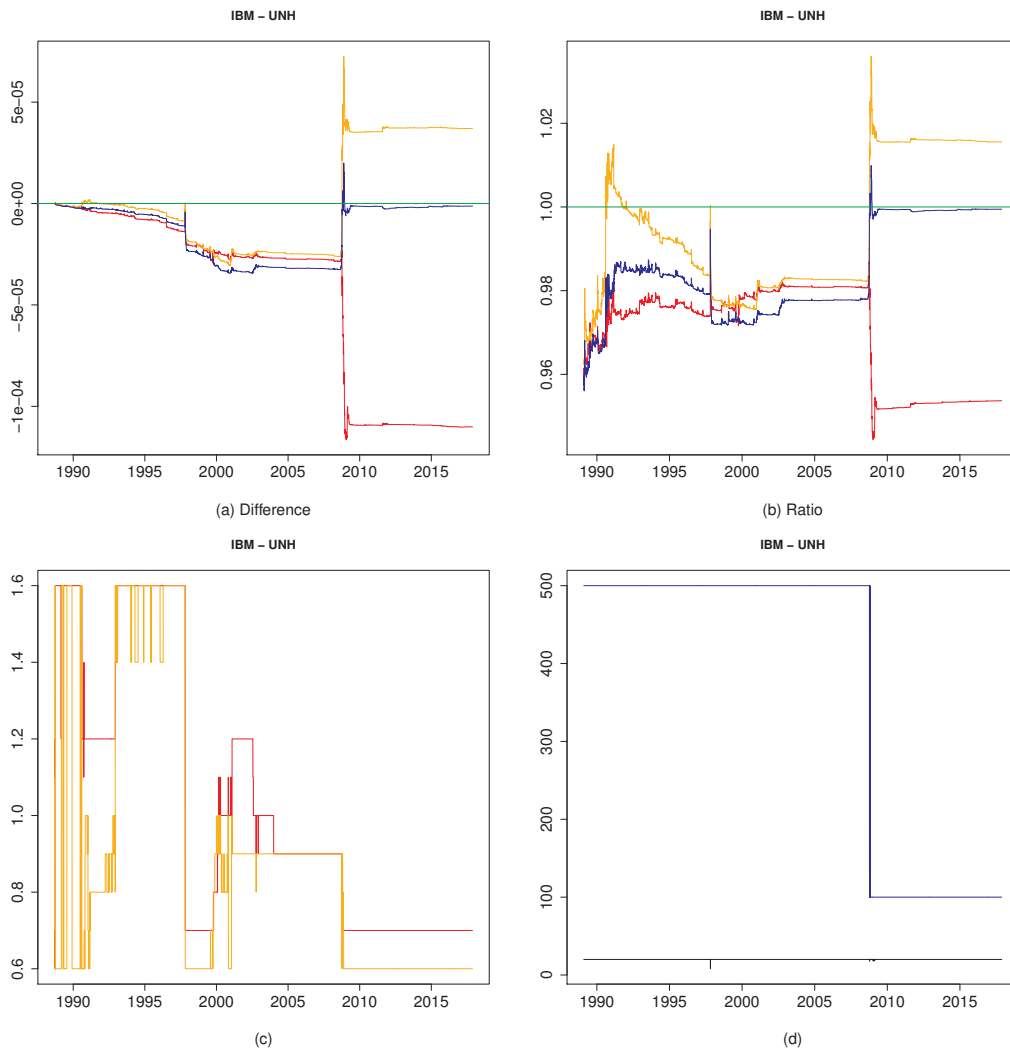


Figure 385: 20-25

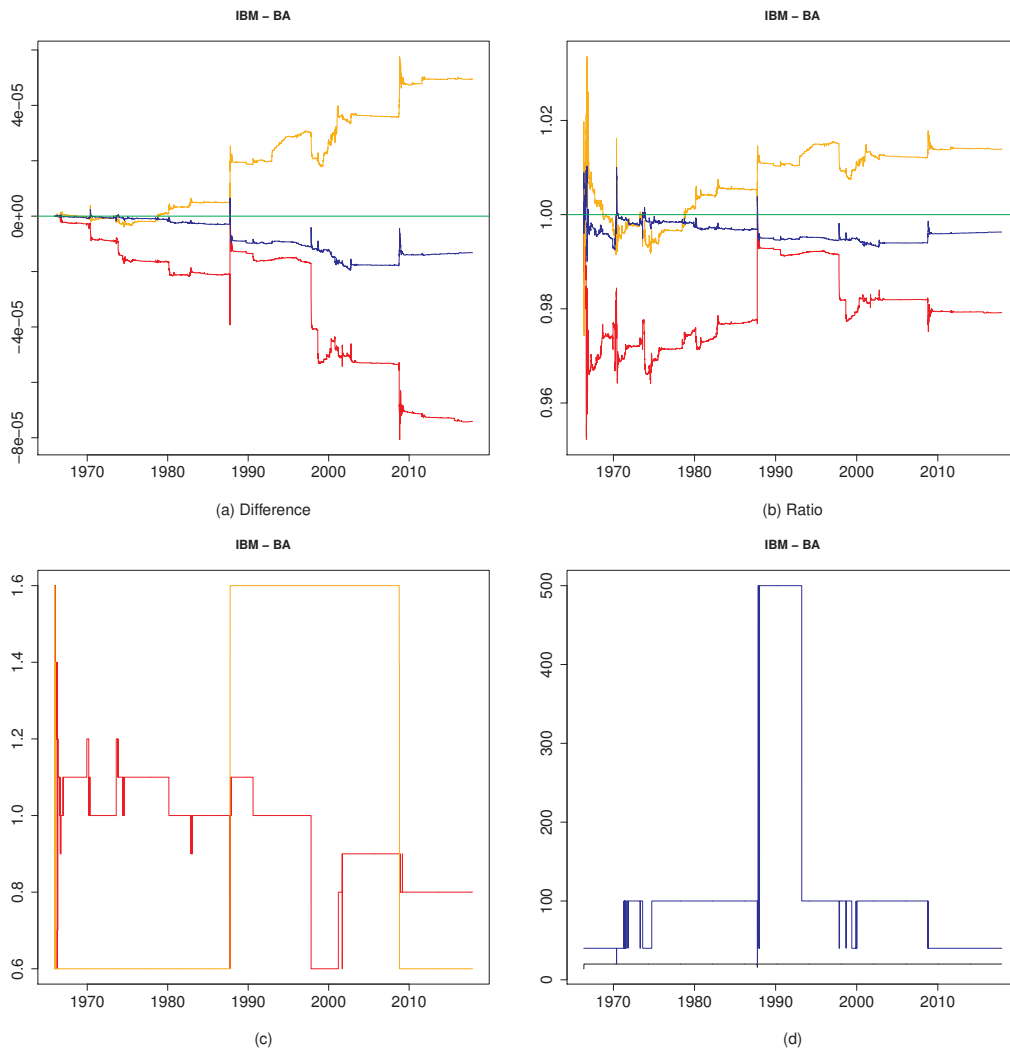


Figure 386: 20-26

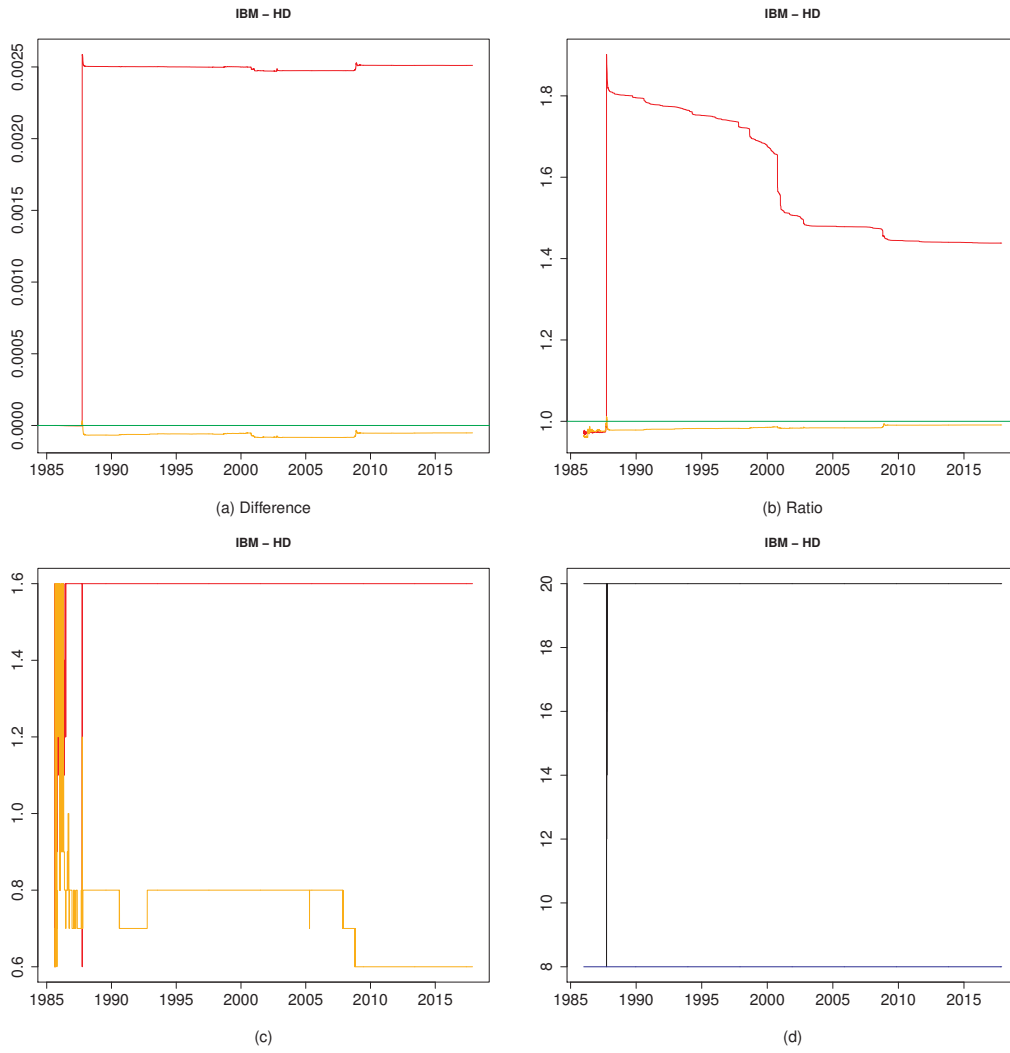


Figure 387: 20-27

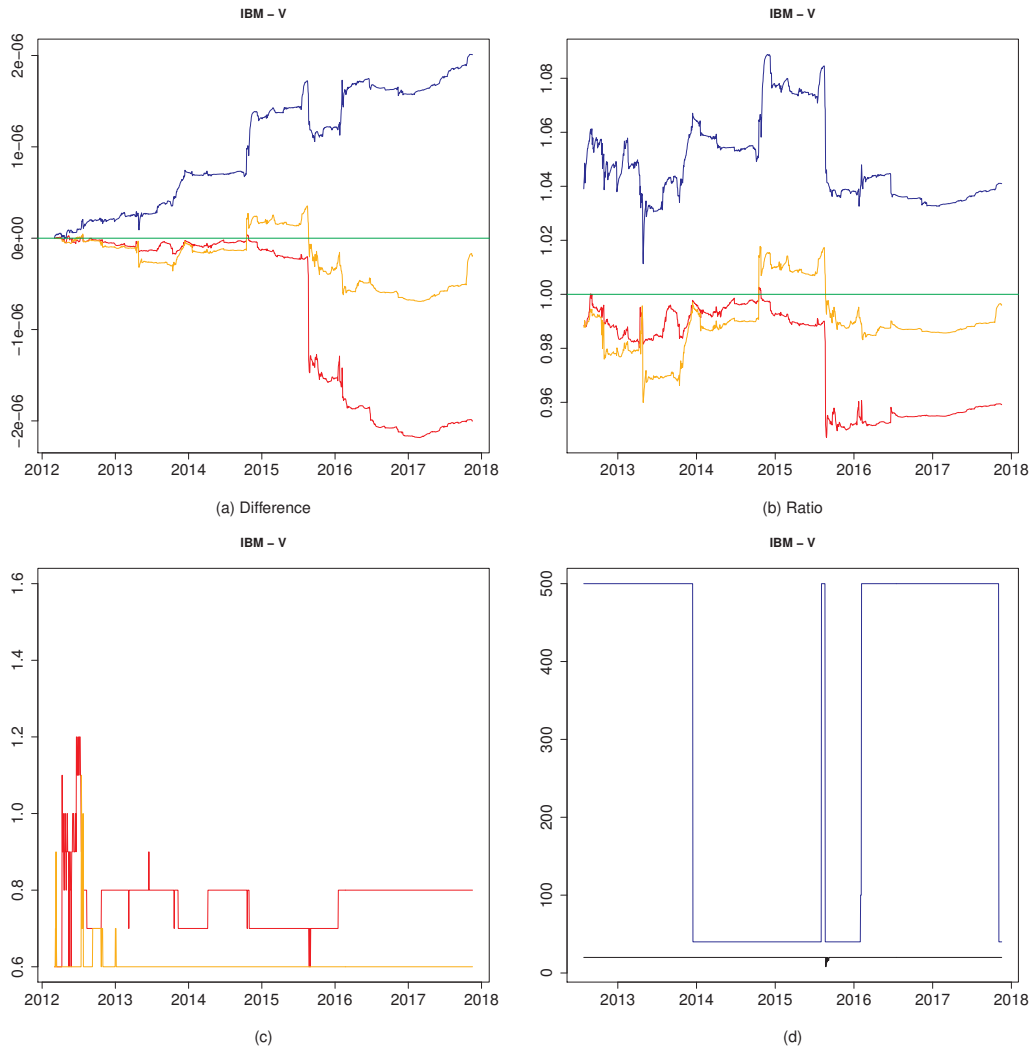


Figure 388: 20-28

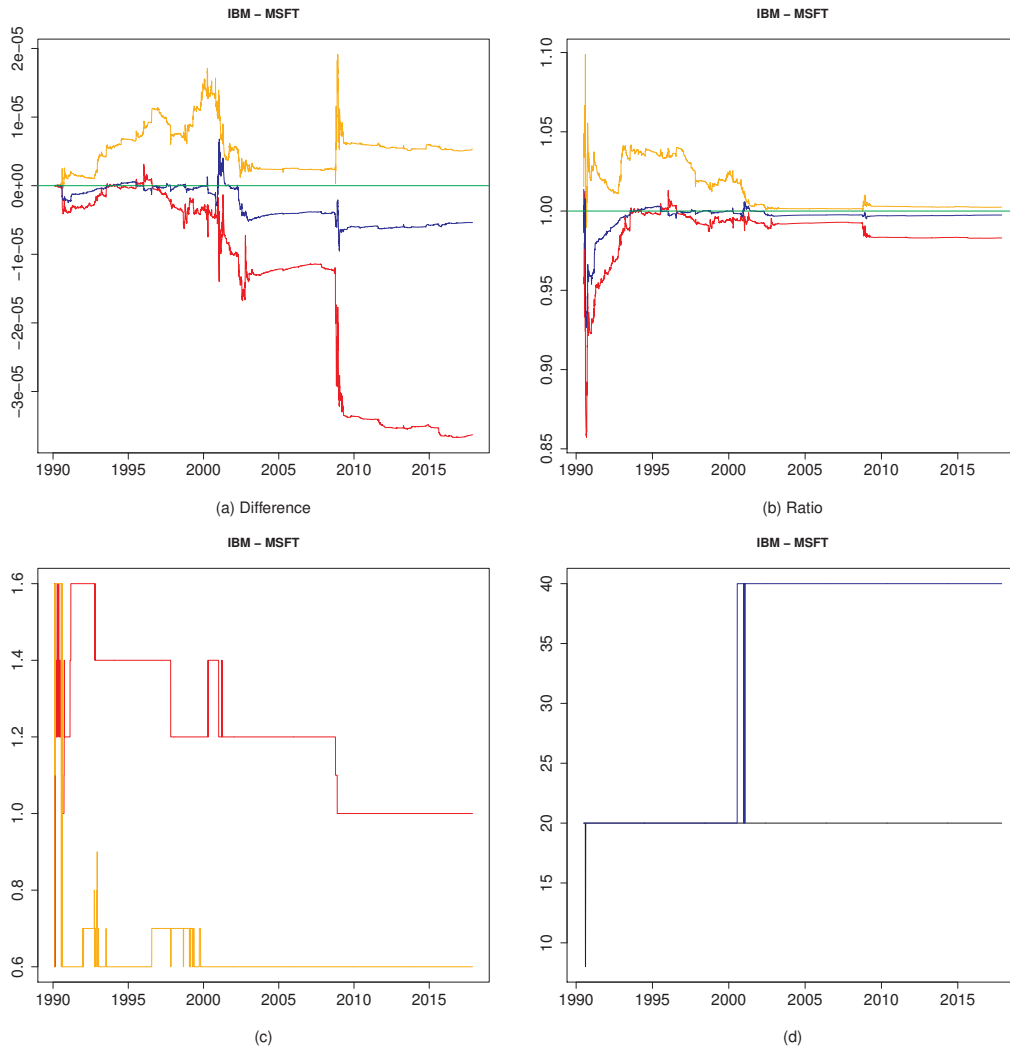


Figure 389: 20-29

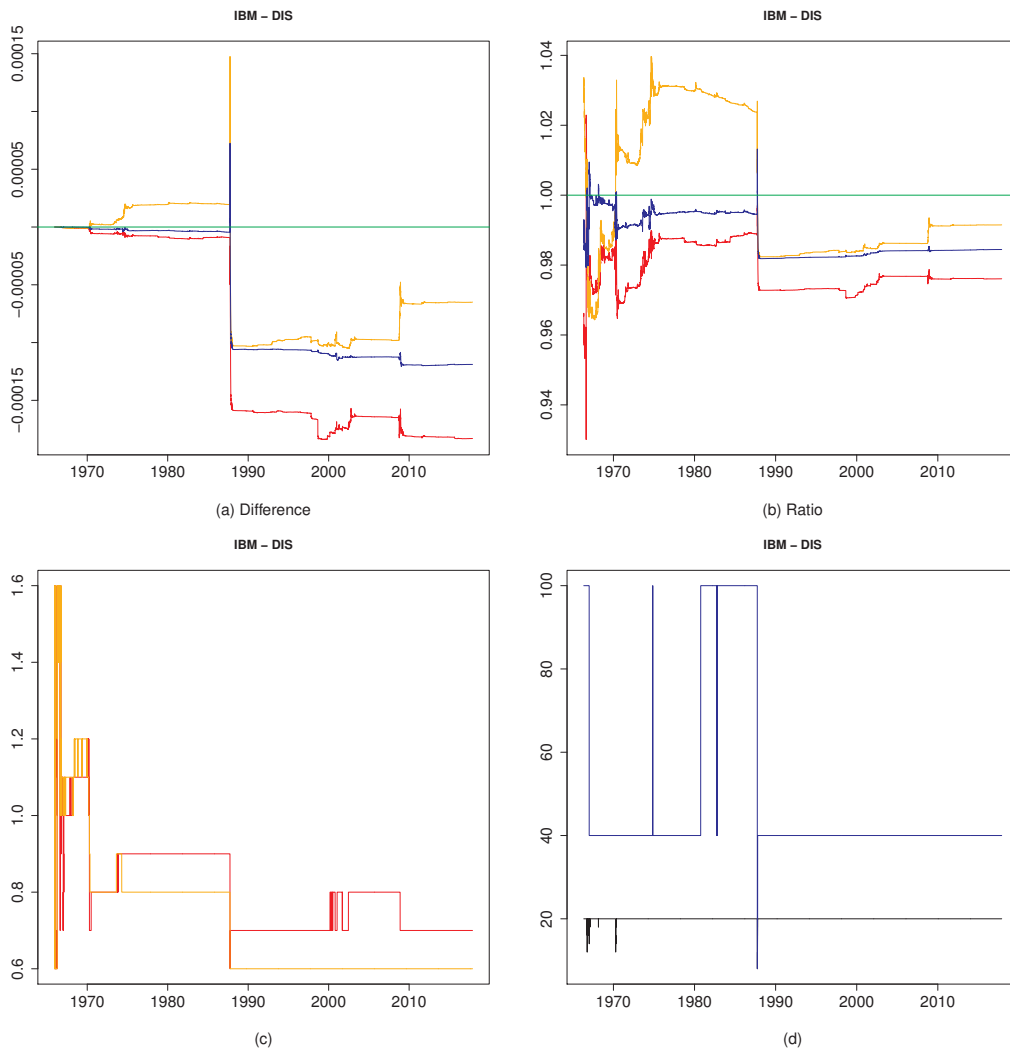


Figure 390: 20-30

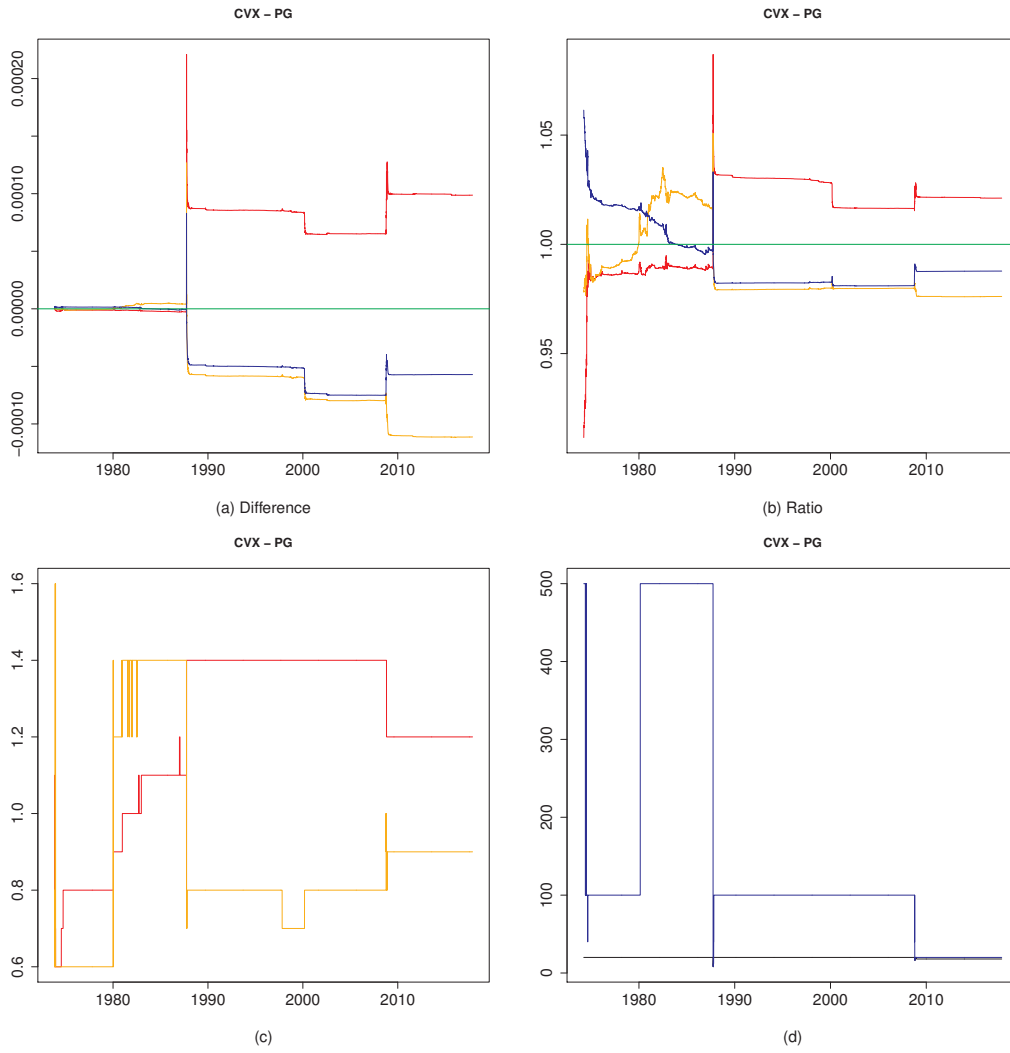


Figure 391: 21-22

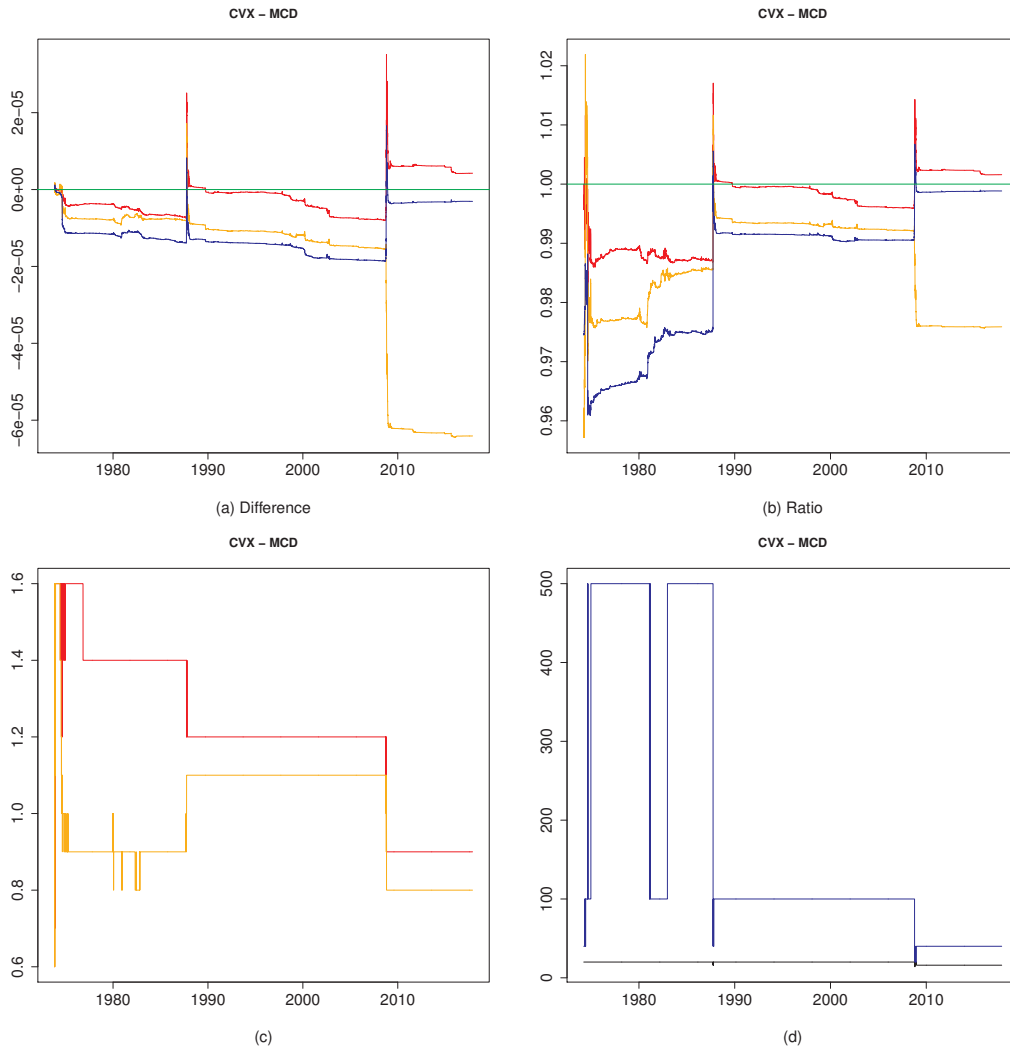


Figure 392: 21-23

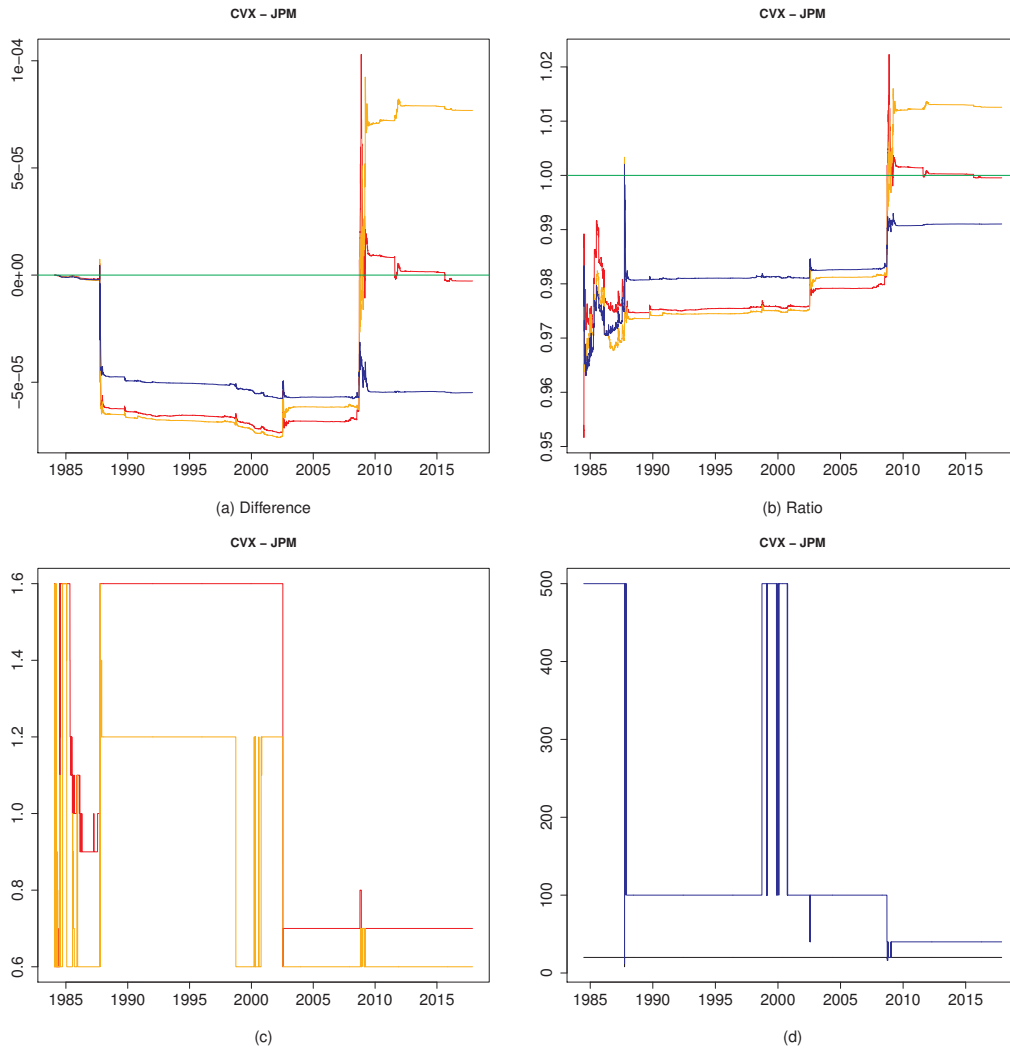


Figure 393: 21-24

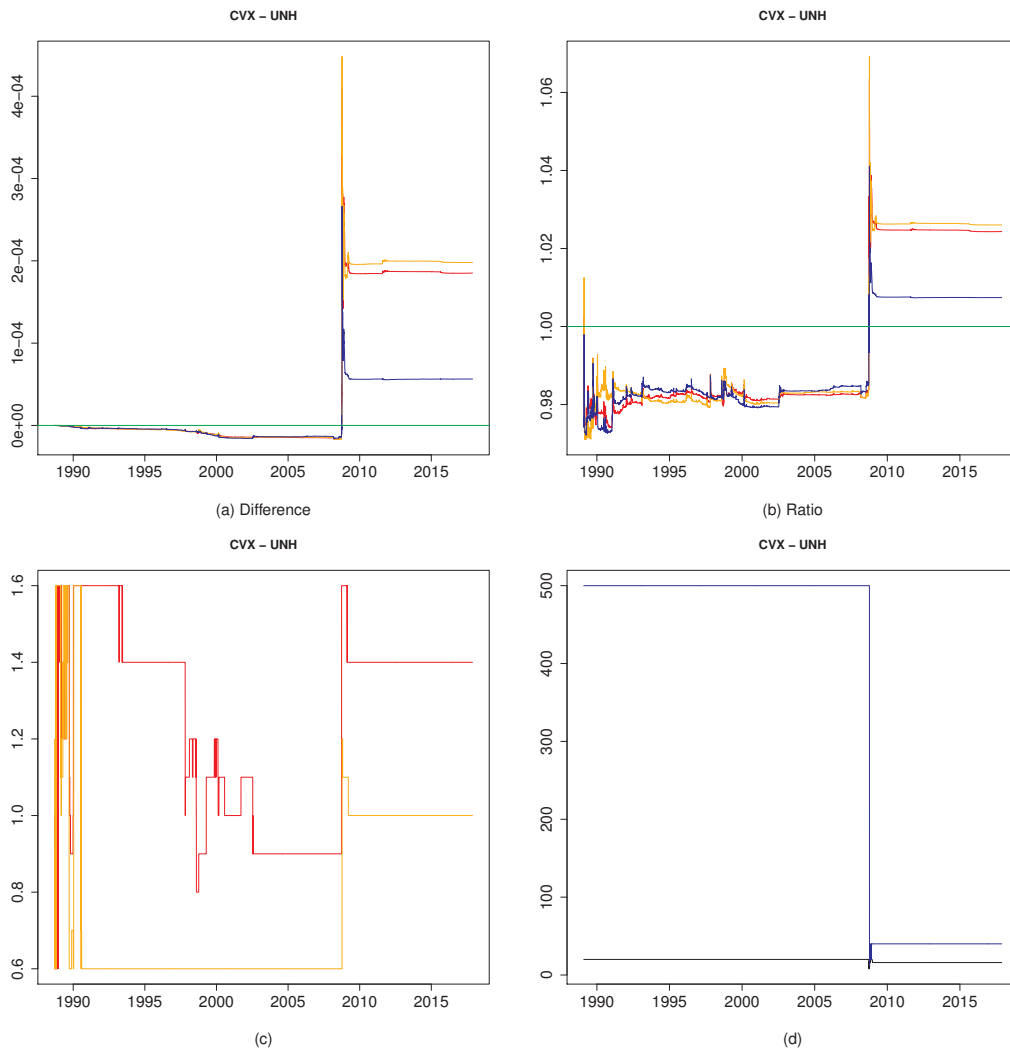


Figure 394: 21-25

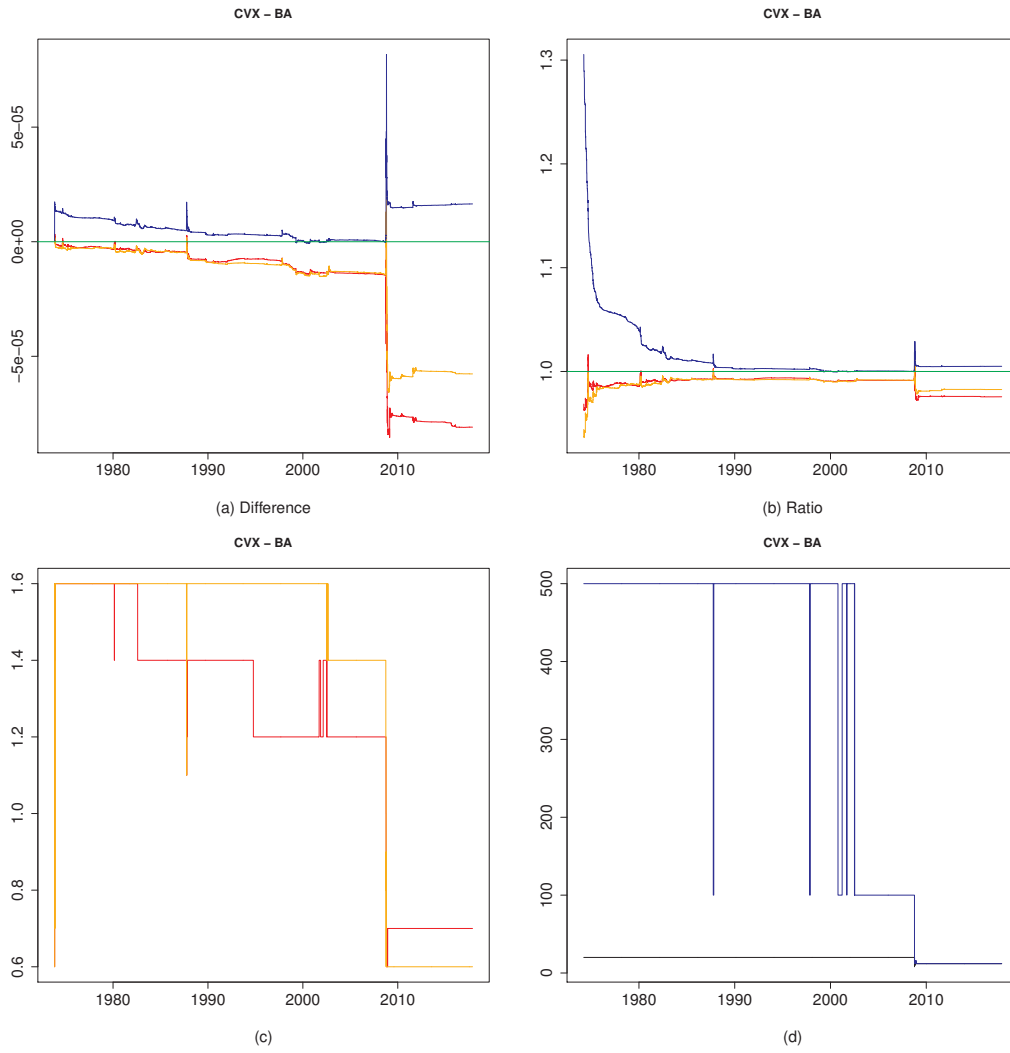


Figure 395: 21-26

Figure 396
Figure 397
Figure 398
Figure 399

1.22 Pairs from 22-23 to 22-30

Figure 400
Figure 401
Figure 402
Figure 403
Figure 404
Figure 405
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Figure 407

1.23 Pairs from 23-24 to 23-30

Figure 408
Figure 409
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Figure 411
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Figure 414

1.24 Pairs from 24-25 to 24-30

Figure 415
Figure 416
Figure 417
Figure 418
Figure 419
Figure 420

1.25 Pairs from 25-26 to 25-30

Figure 421
Figure 422
Figure 423
Figure 424

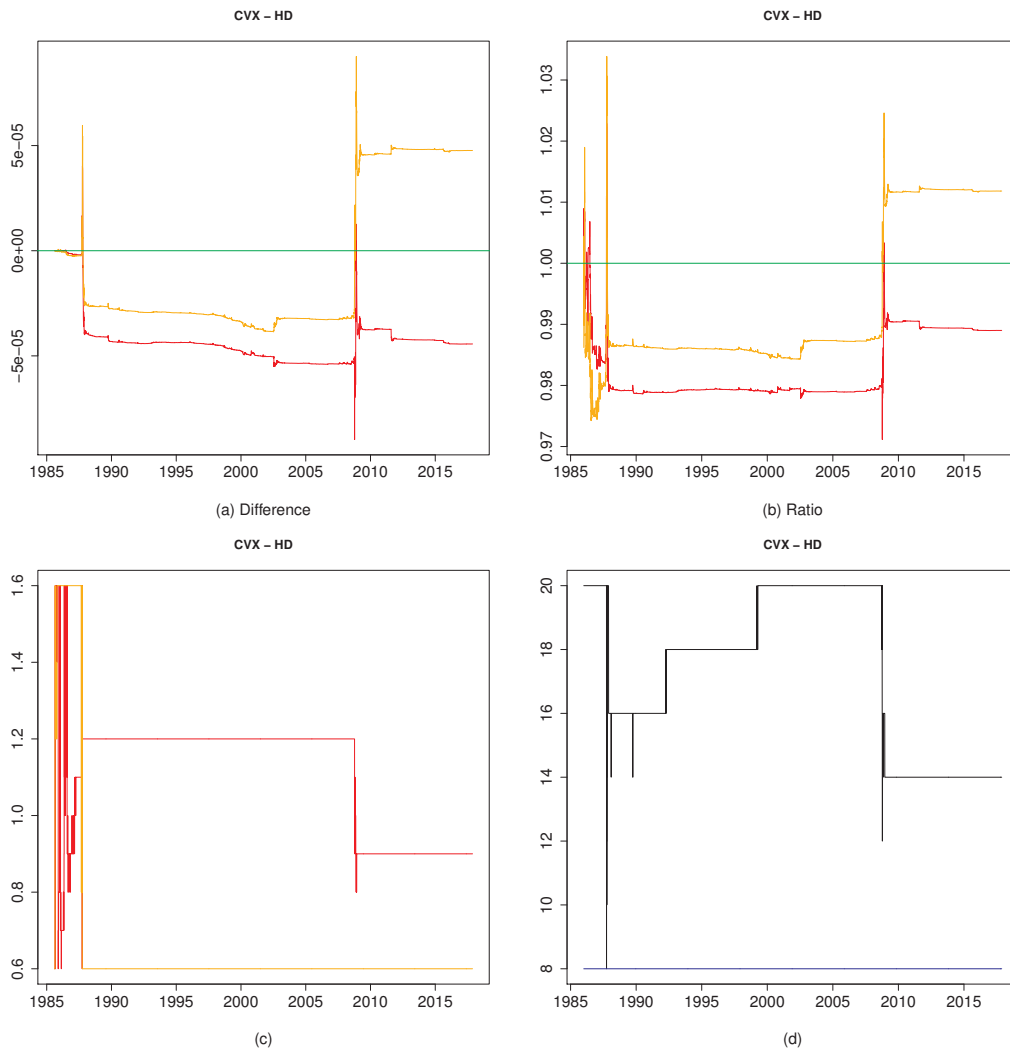


Figure 396: 21-27

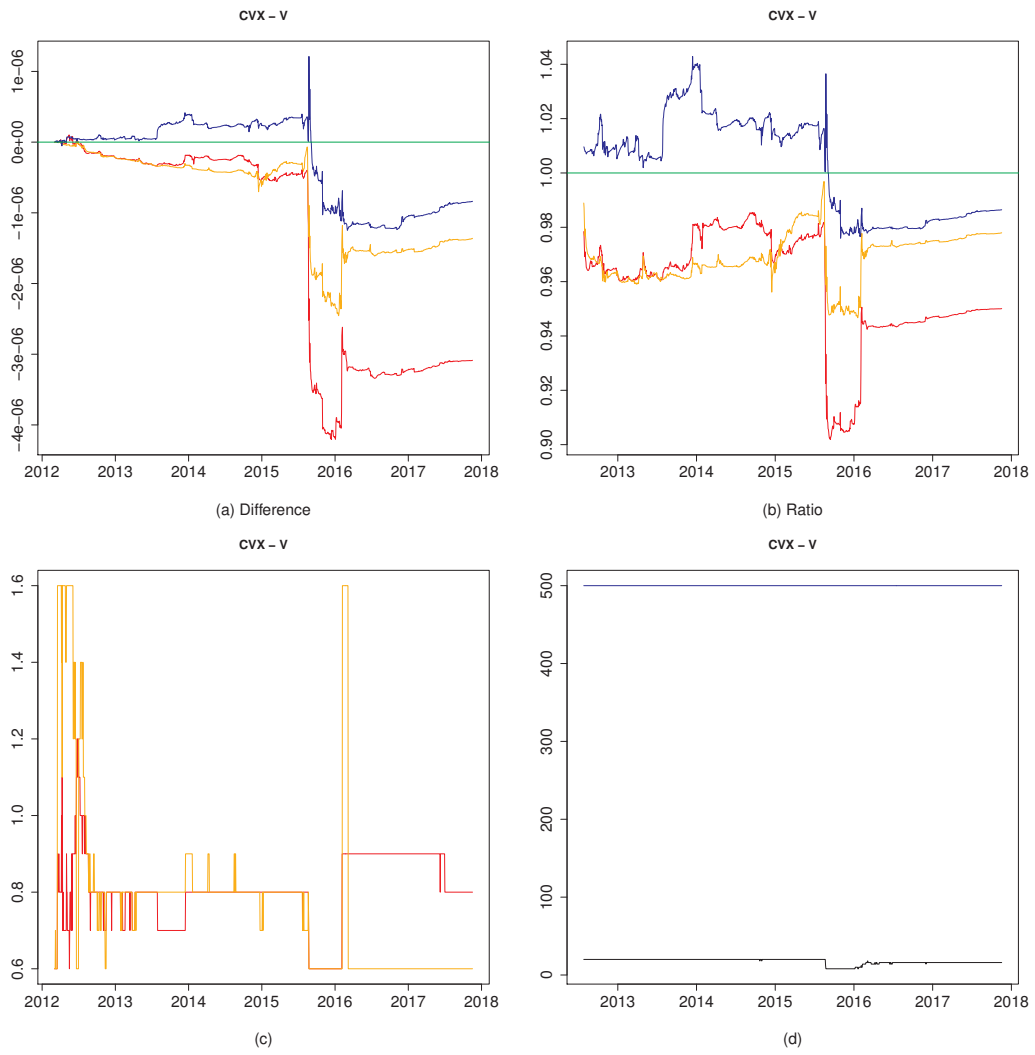


Figure 397: 21-28

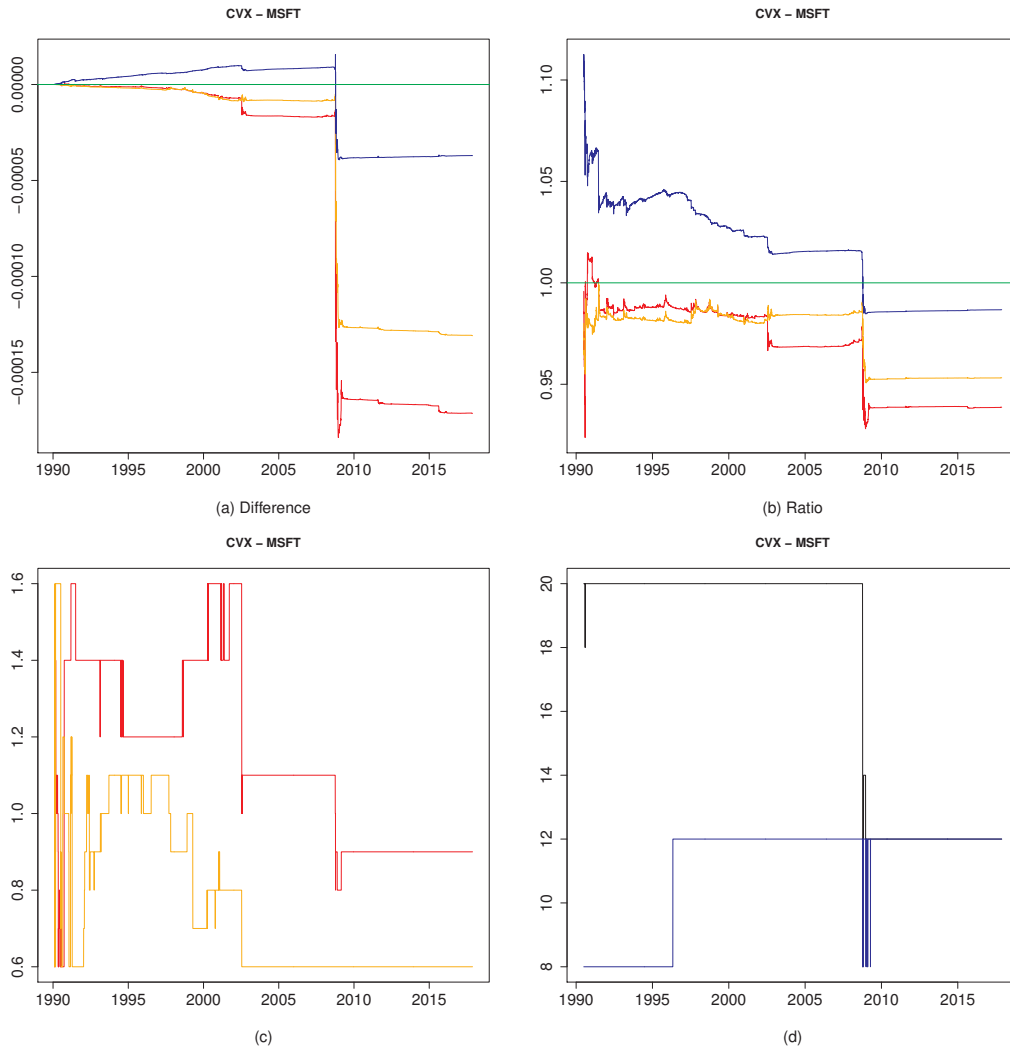


Figure 398: 21-29

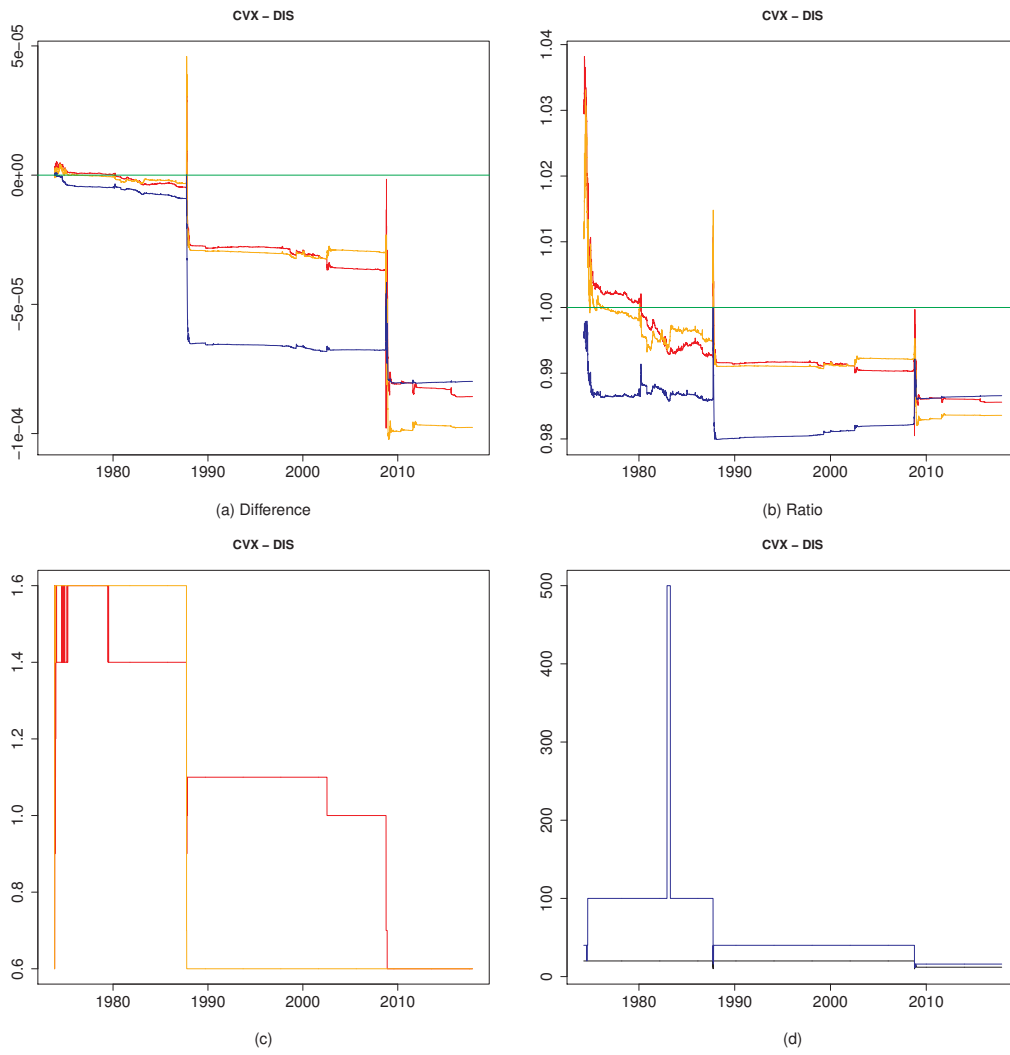


Figure 399: 21-30

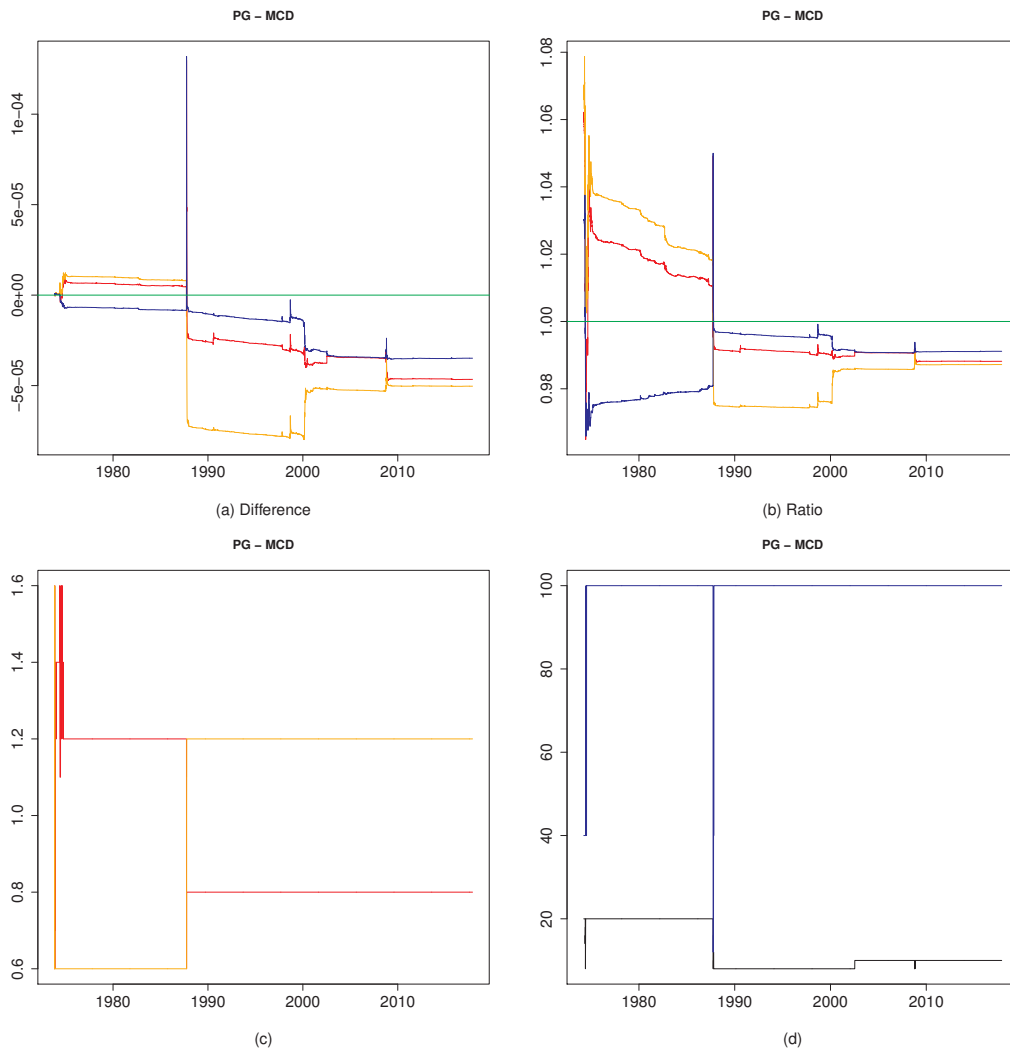


Figure 400: 22-23

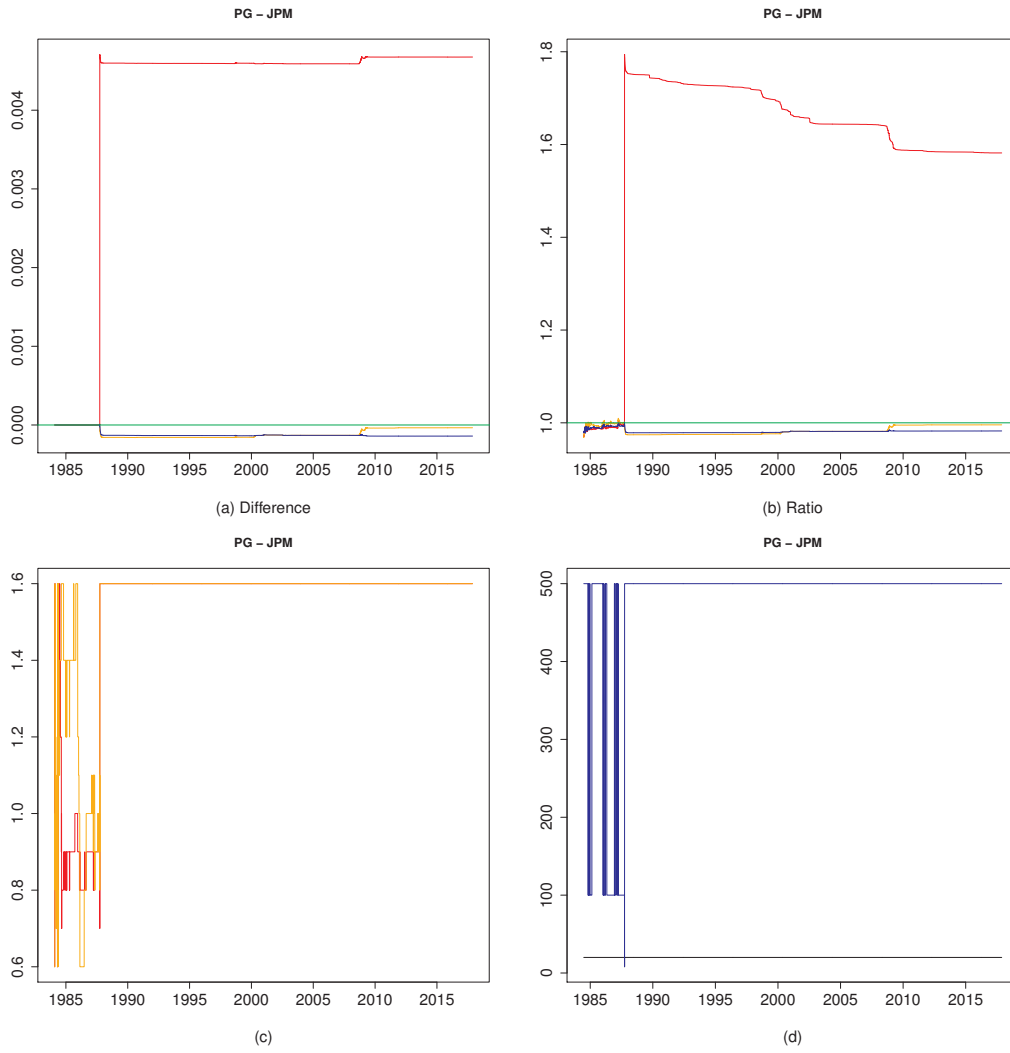


Figure 401: 22-24

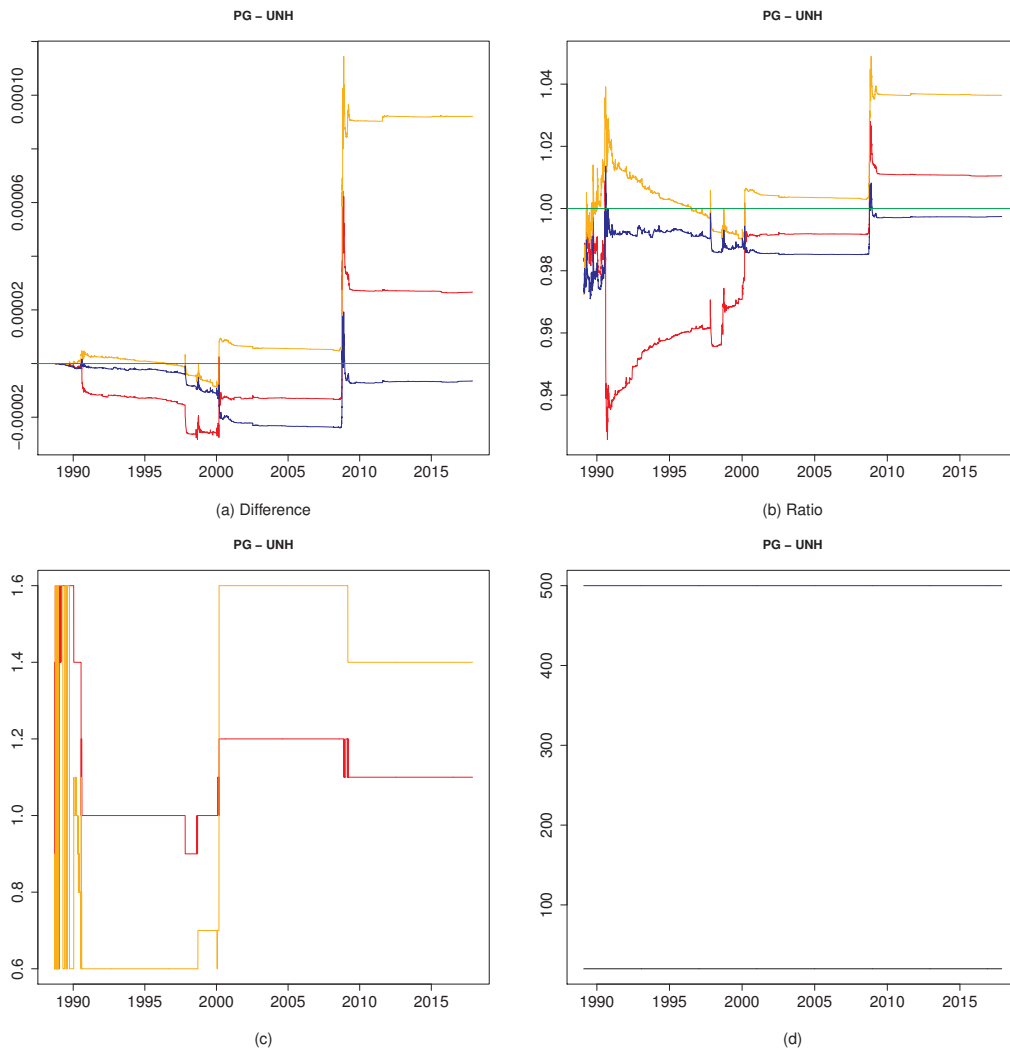


Figure 402: 22-25

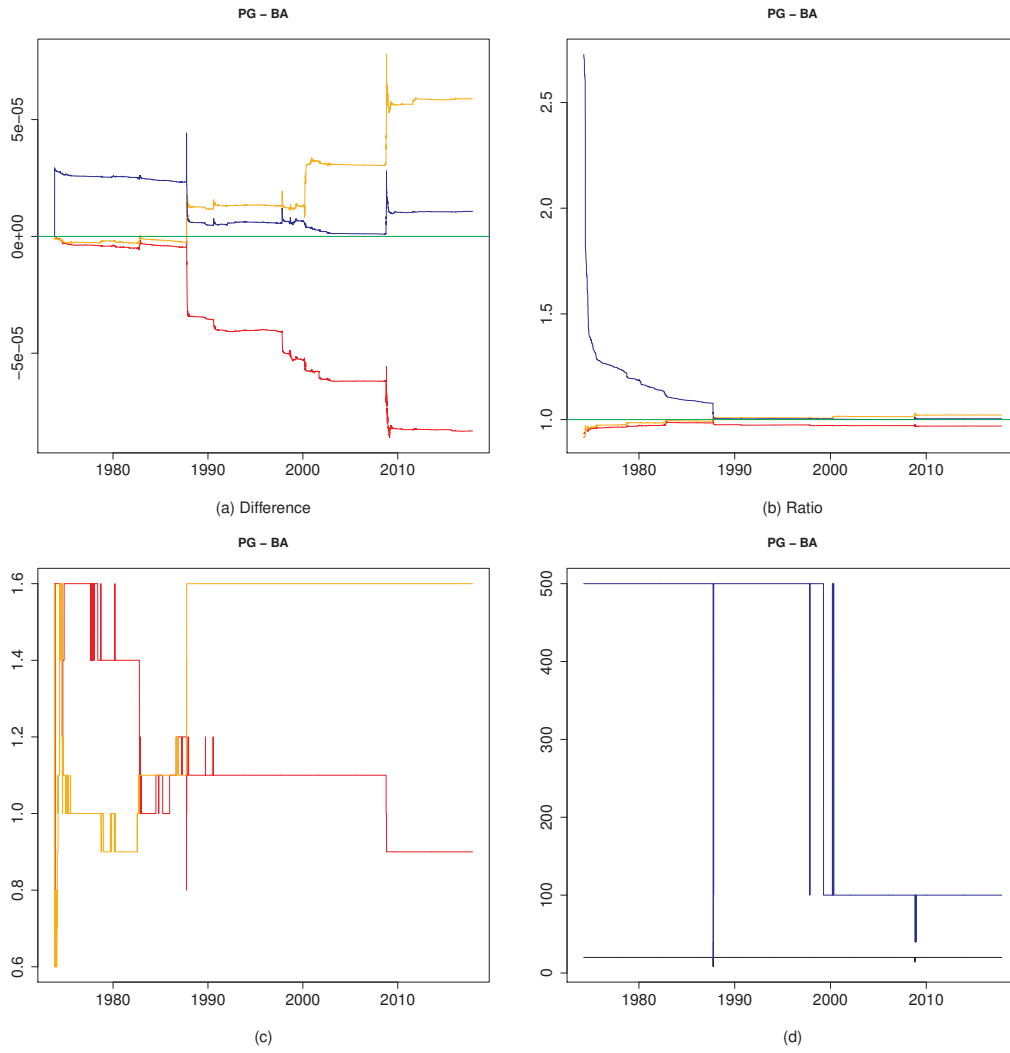


Figure 403: 22-26

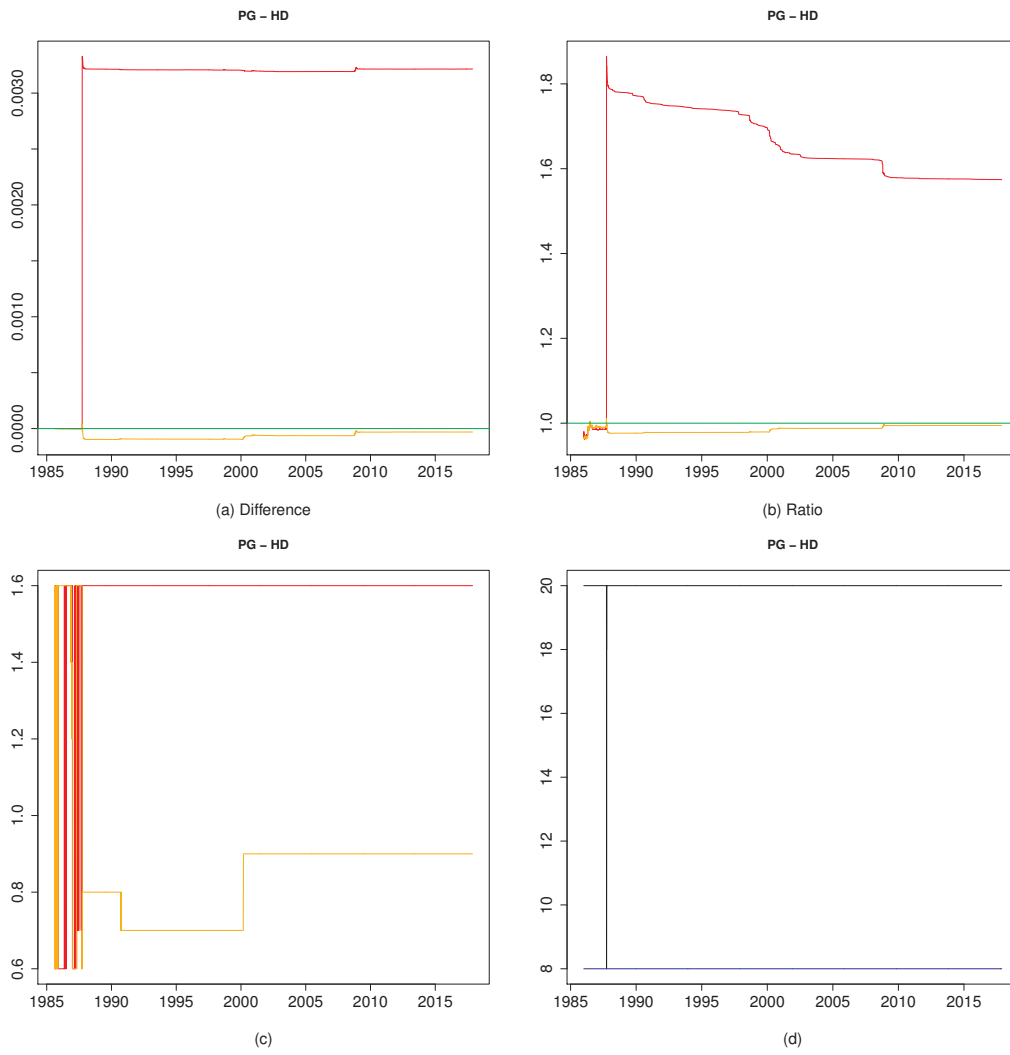


Figure 404: 22-27

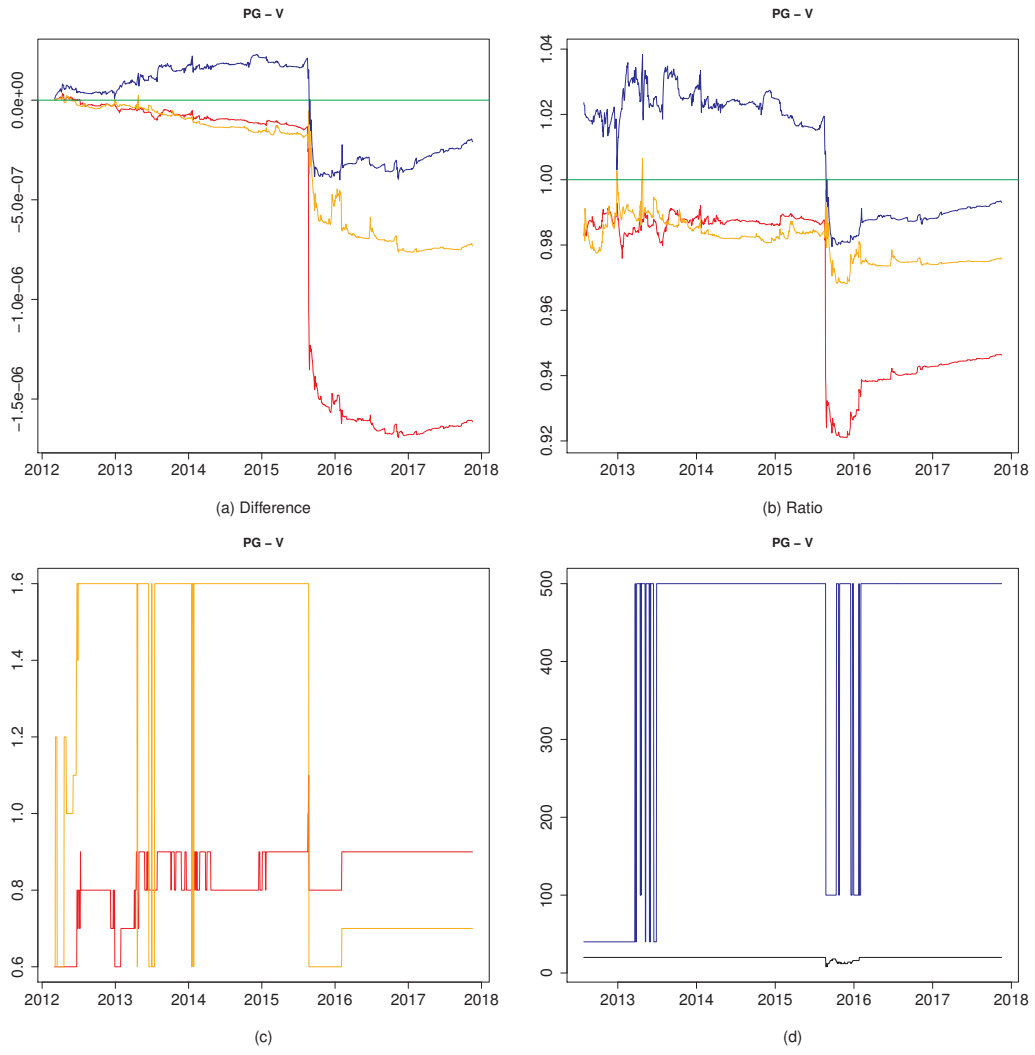


Figure 405: 22-28

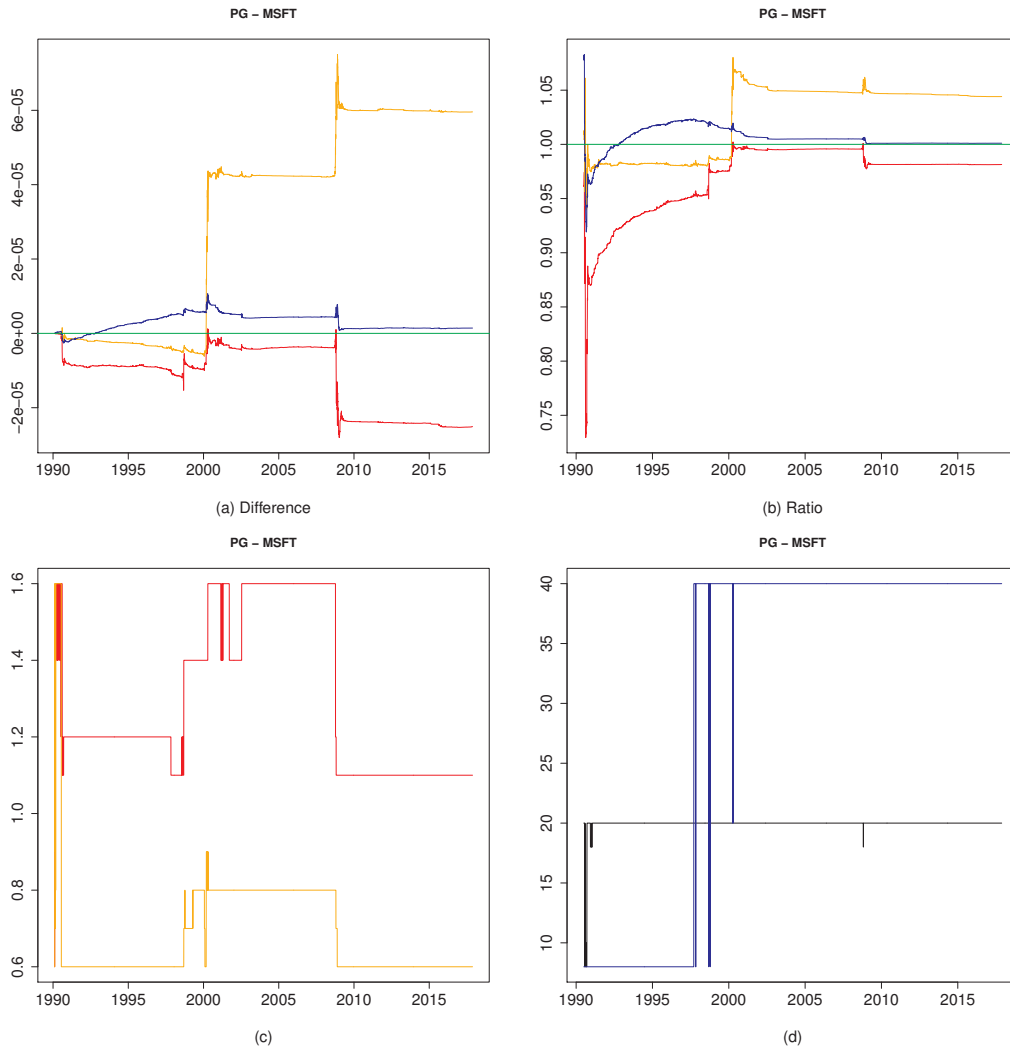


Figure 406: 22-29

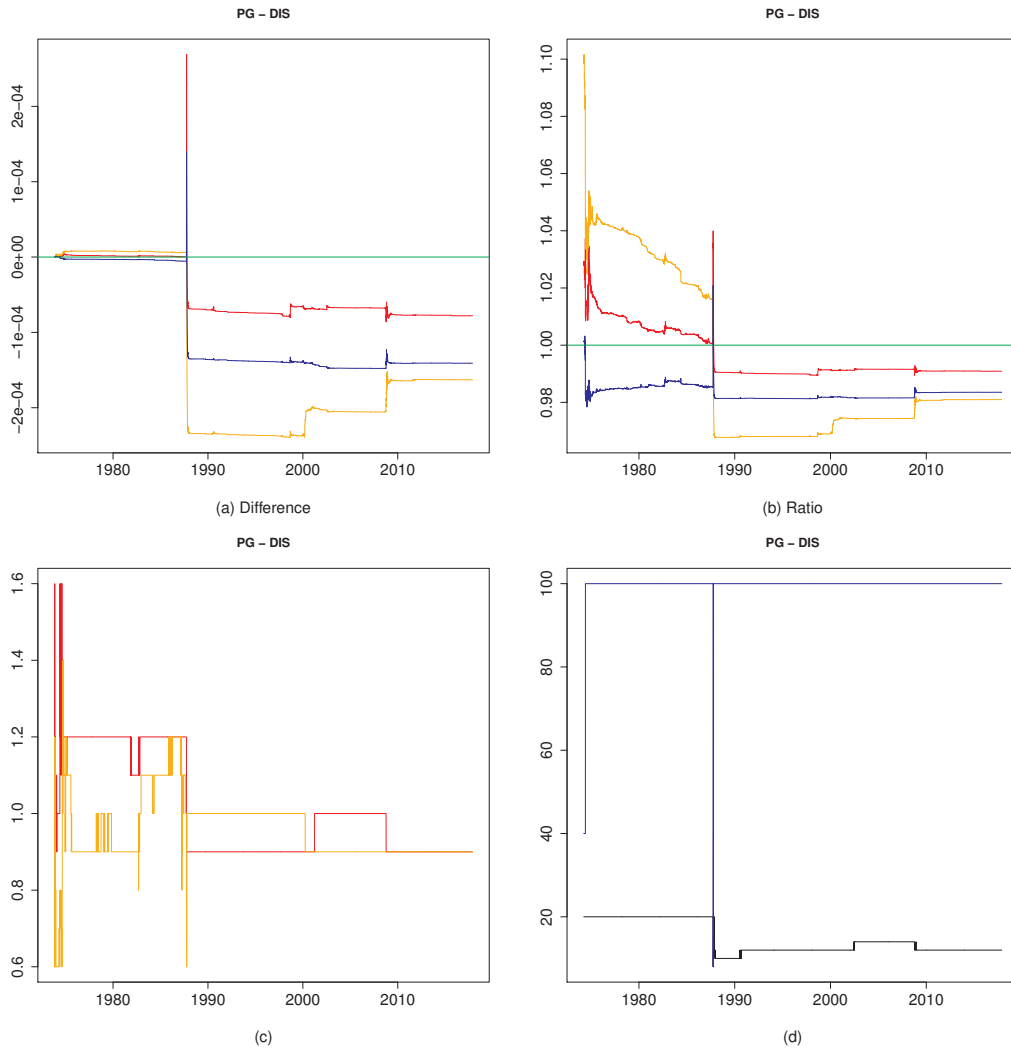


Figure 407: 22-30

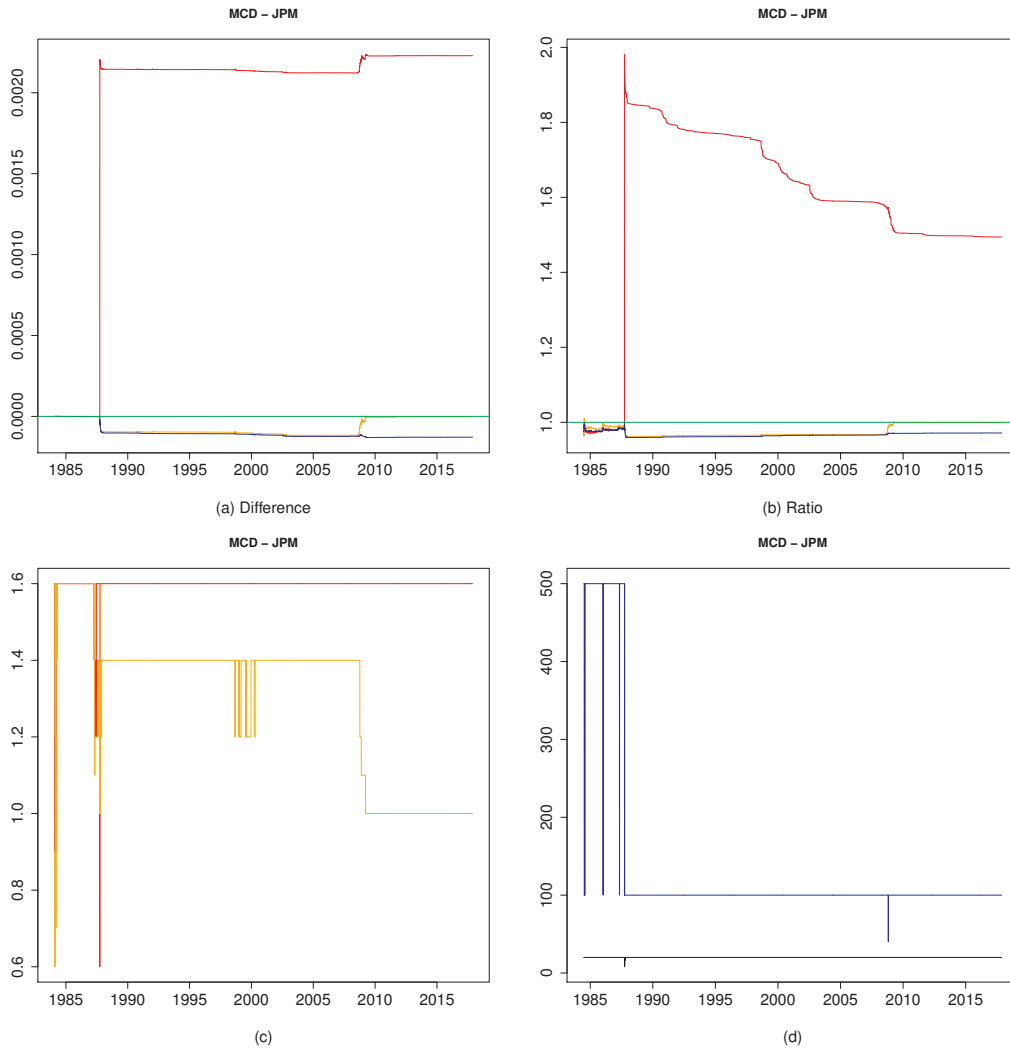


Figure 408: 23-24

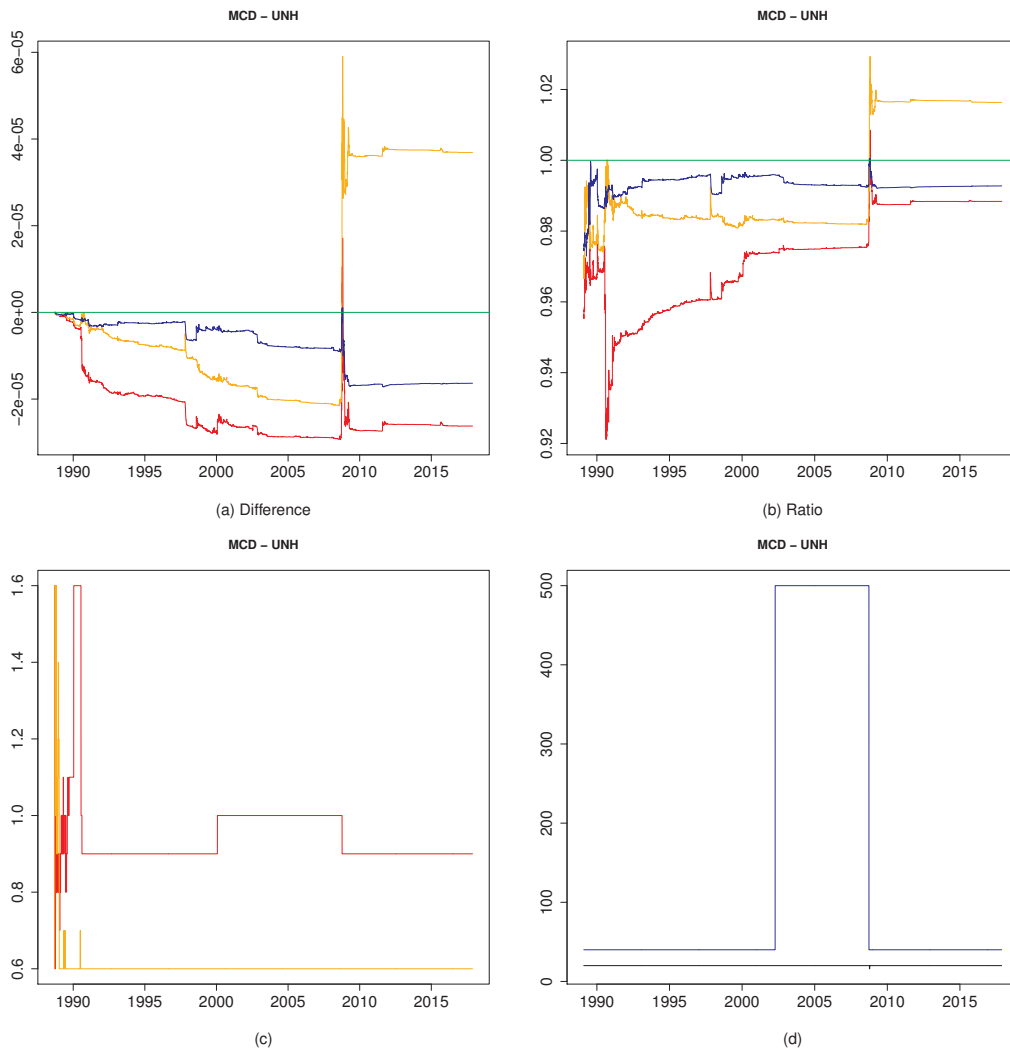


Figure 409: 23-25

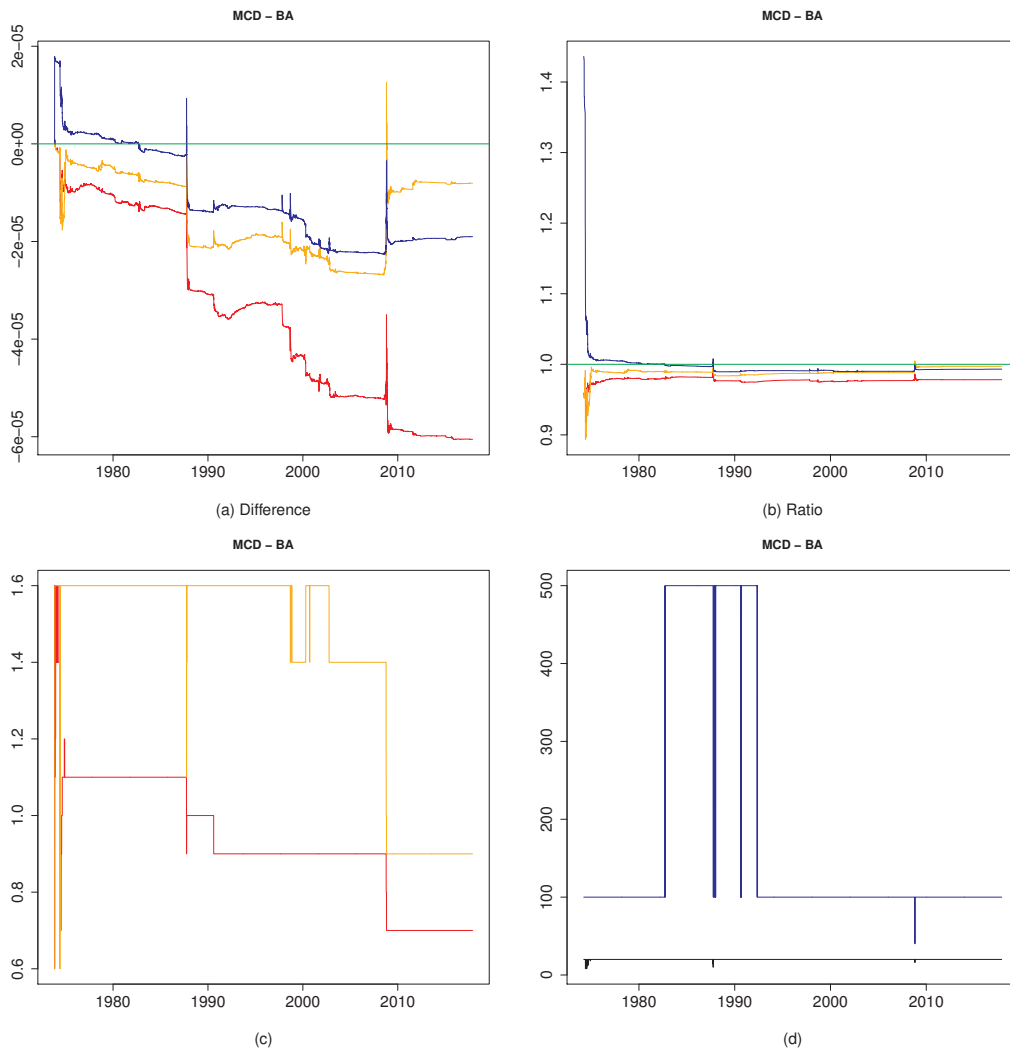


Figure 410: 23-26

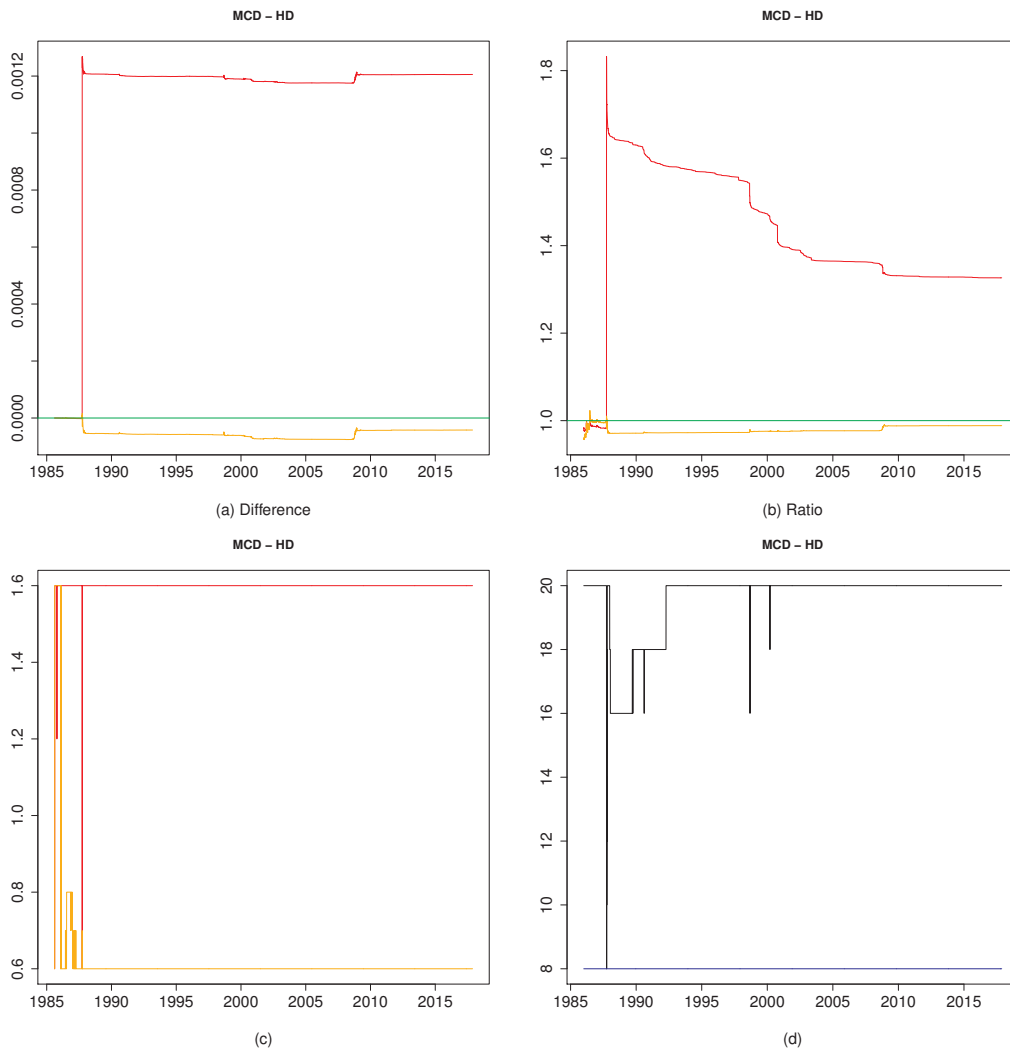


Figure 411: 23-27

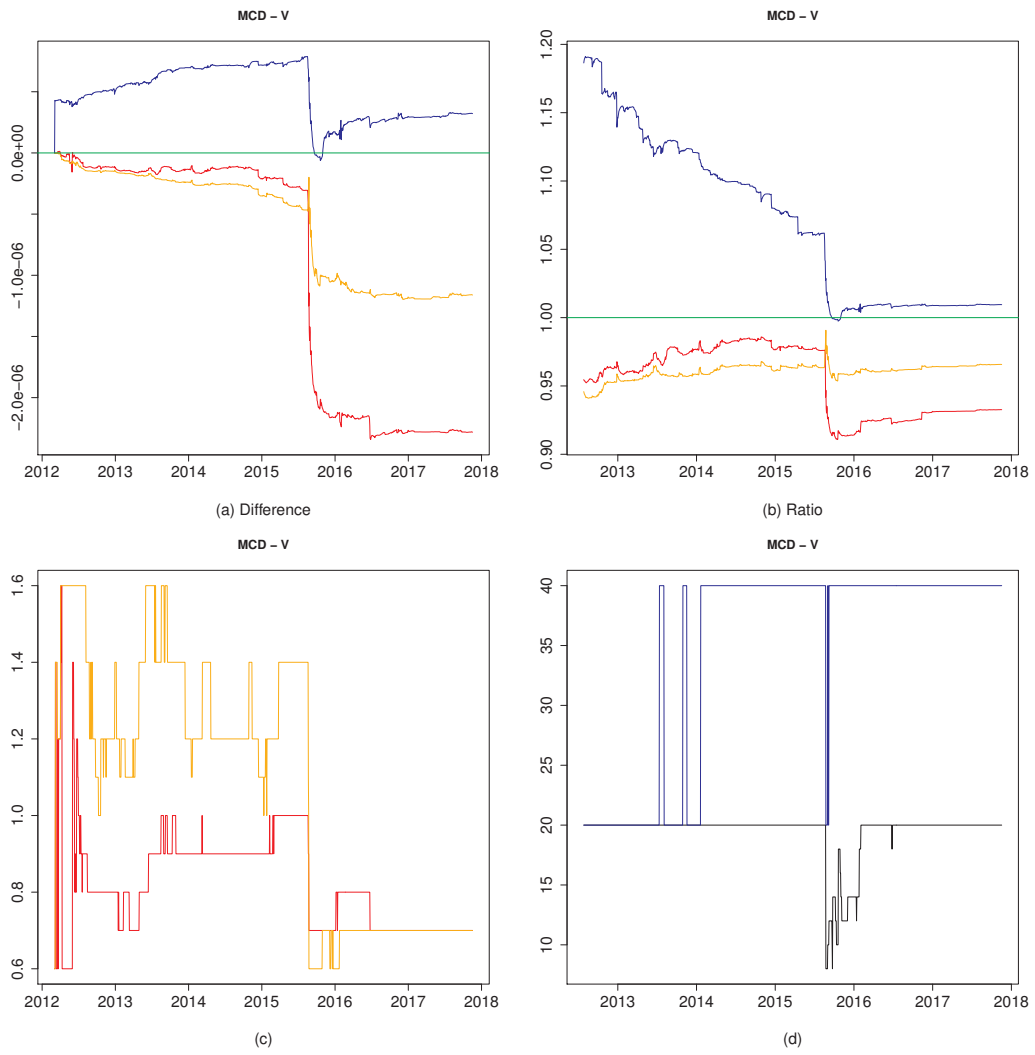


Figure 412: 23-28

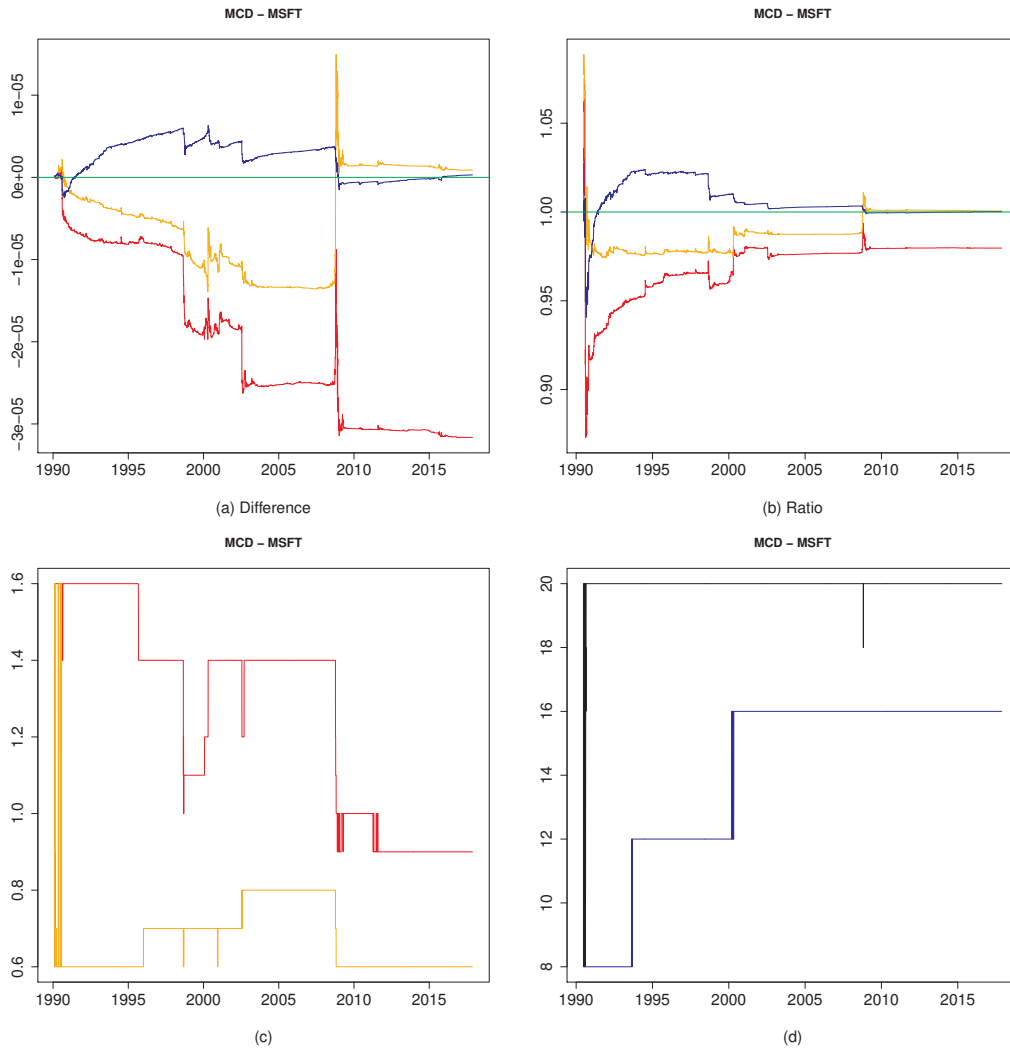


Figure 413: 23-29

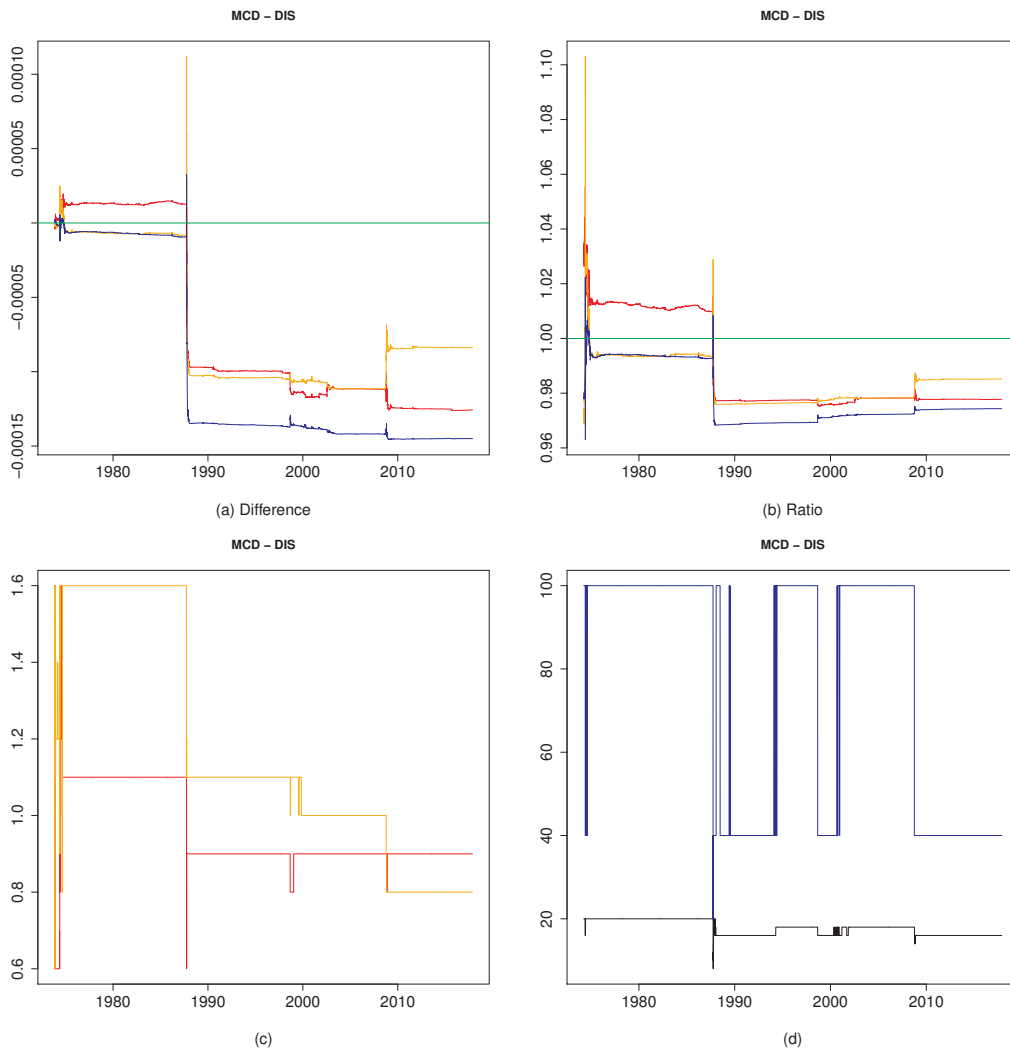


Figure 414: 23-30

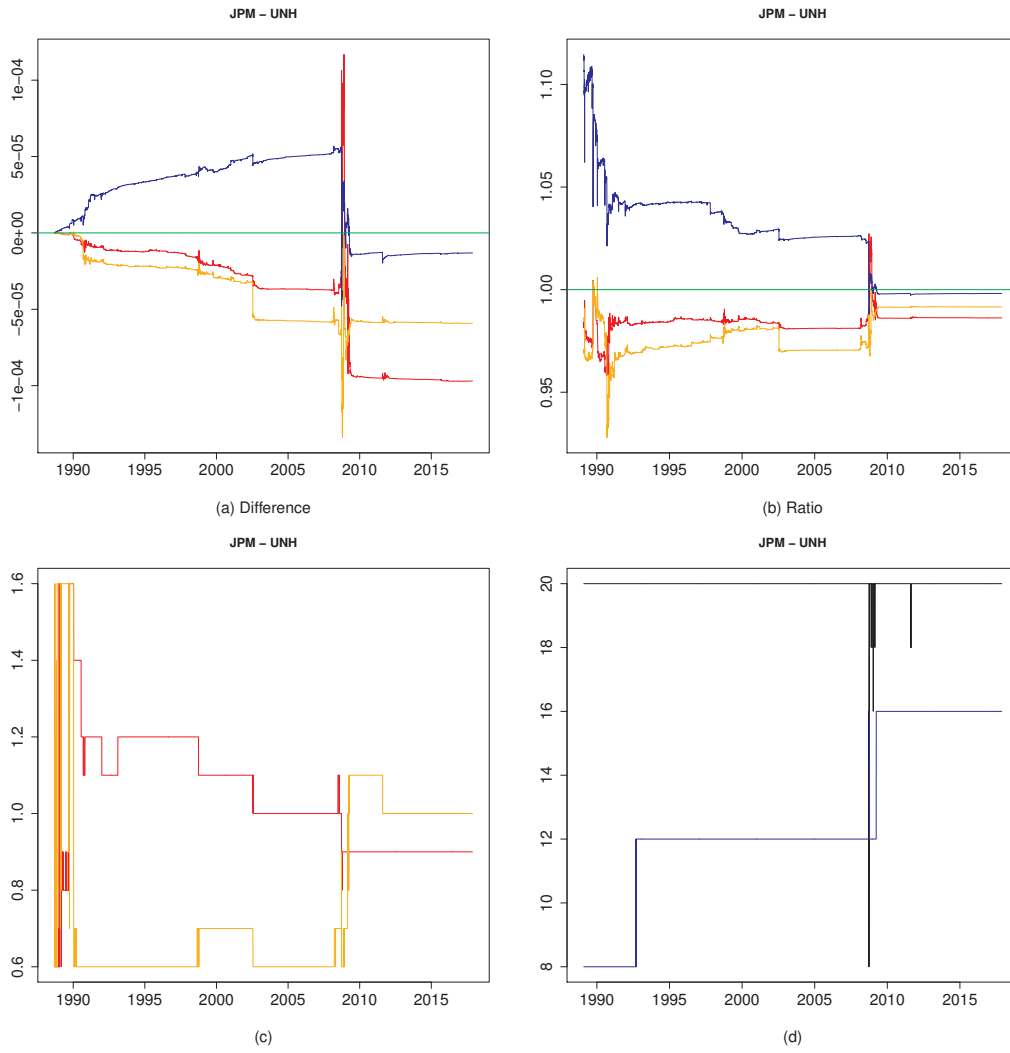


Figure 415: 24-25

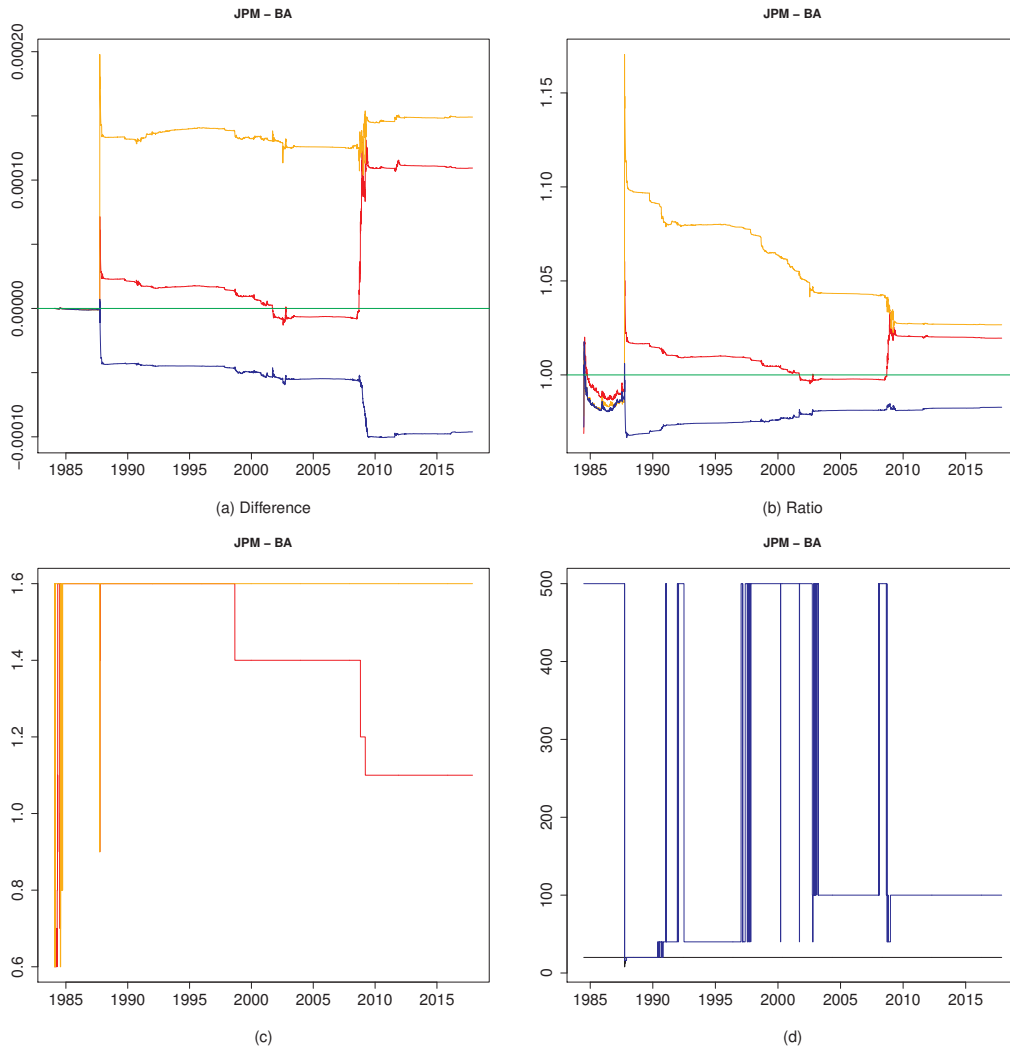


Figure 416: 24-26

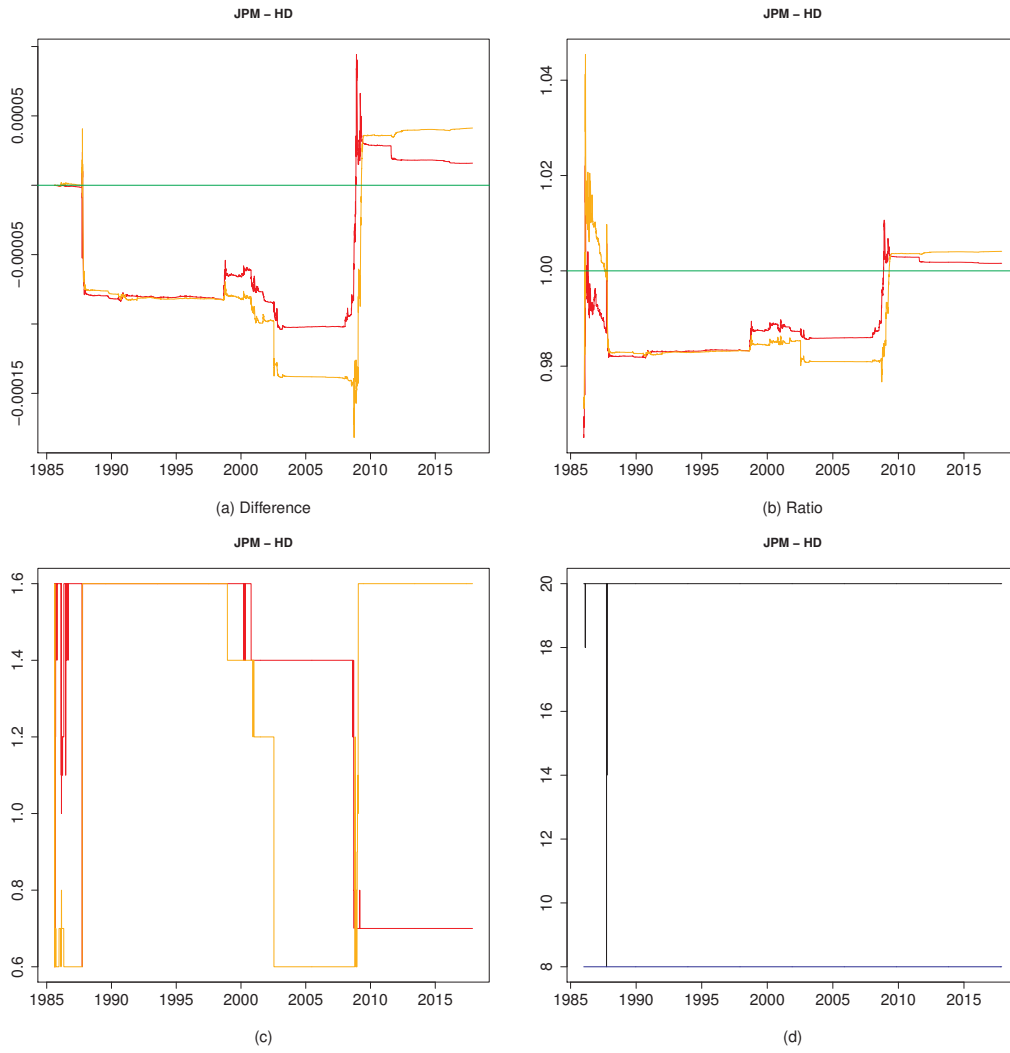


Figure 417: 24-27

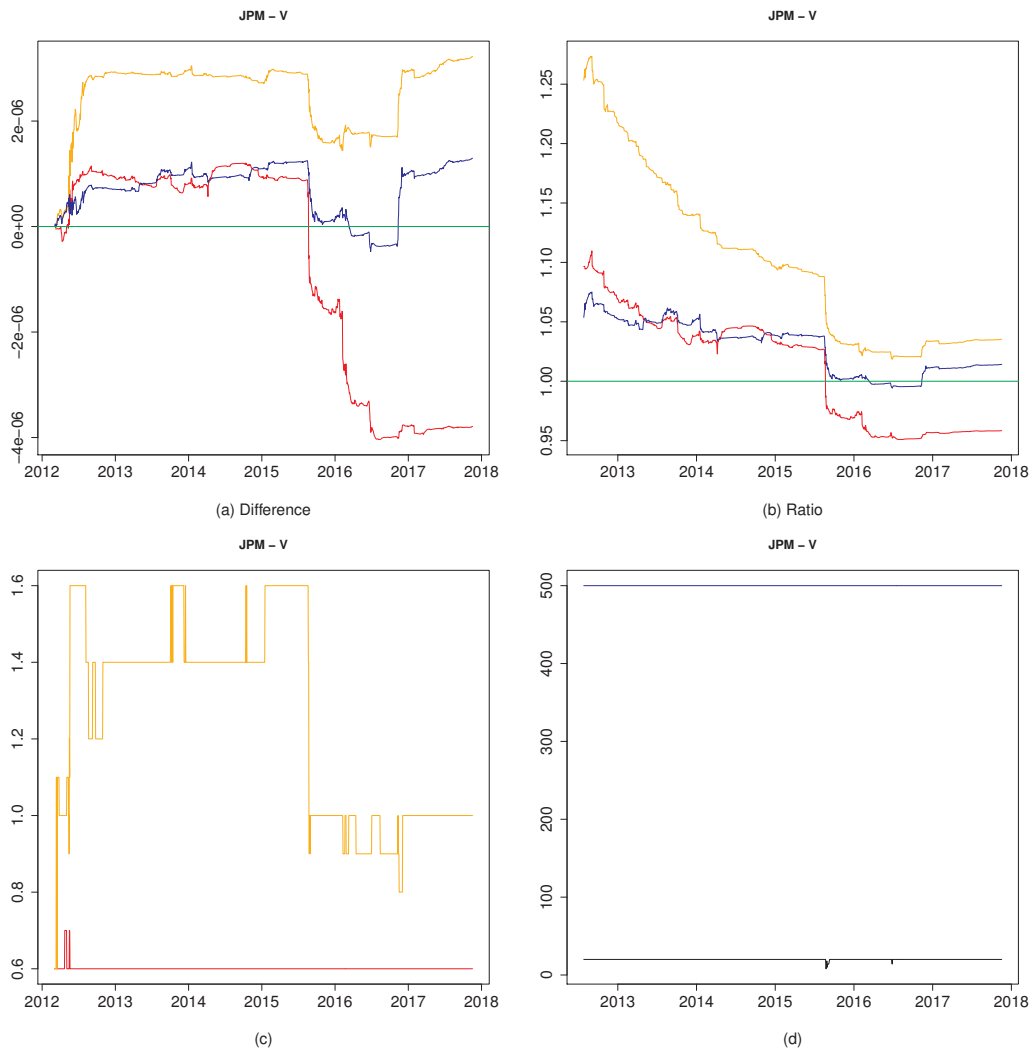


Figure 418: 24-28

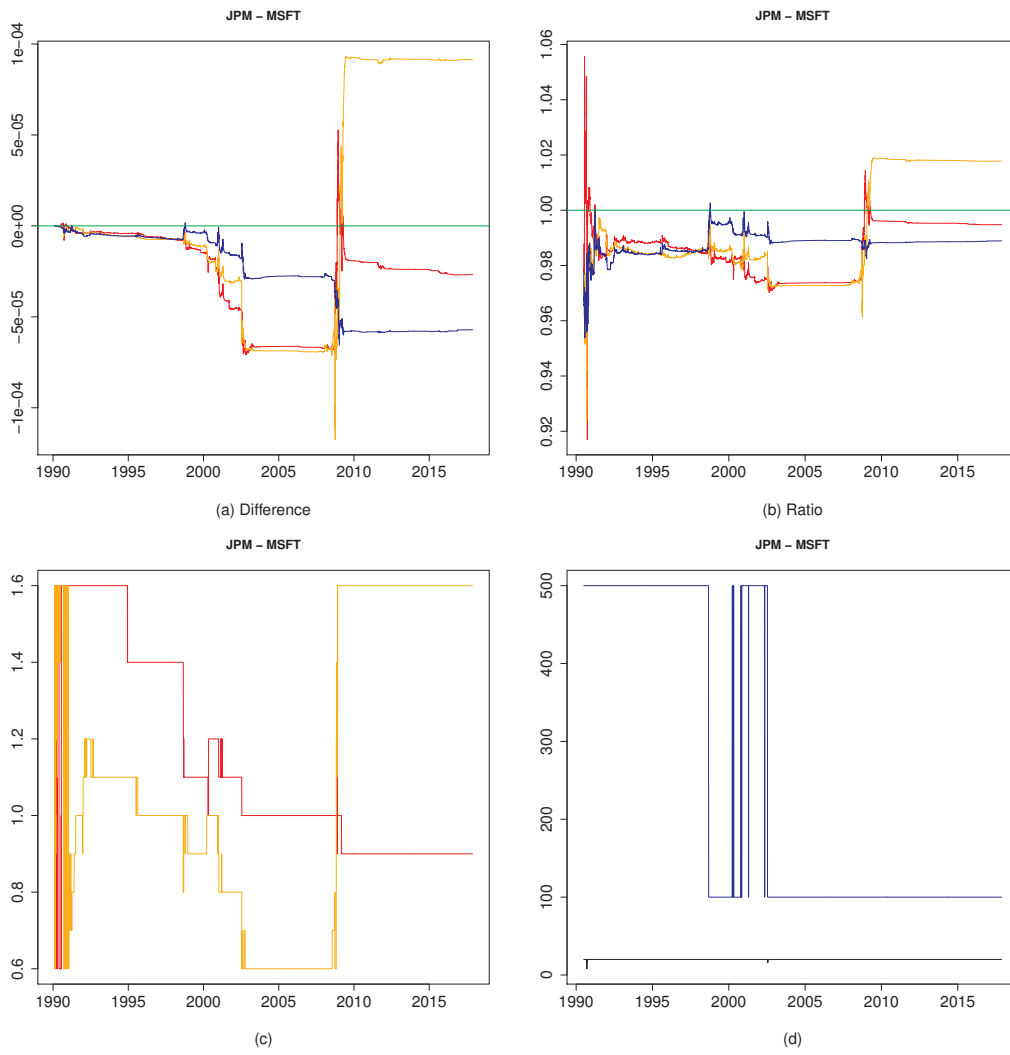


Figure 419: 24-29

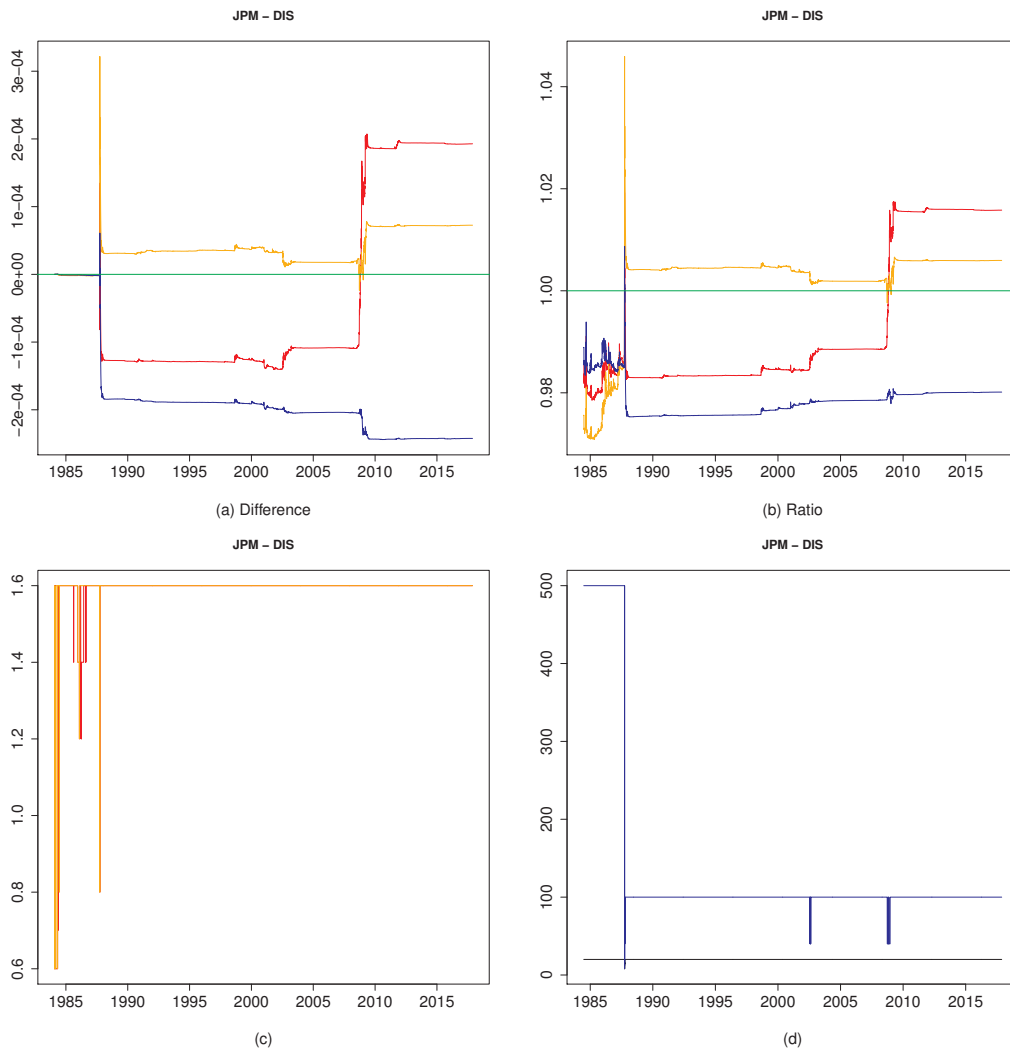


Figure 420: 24-30

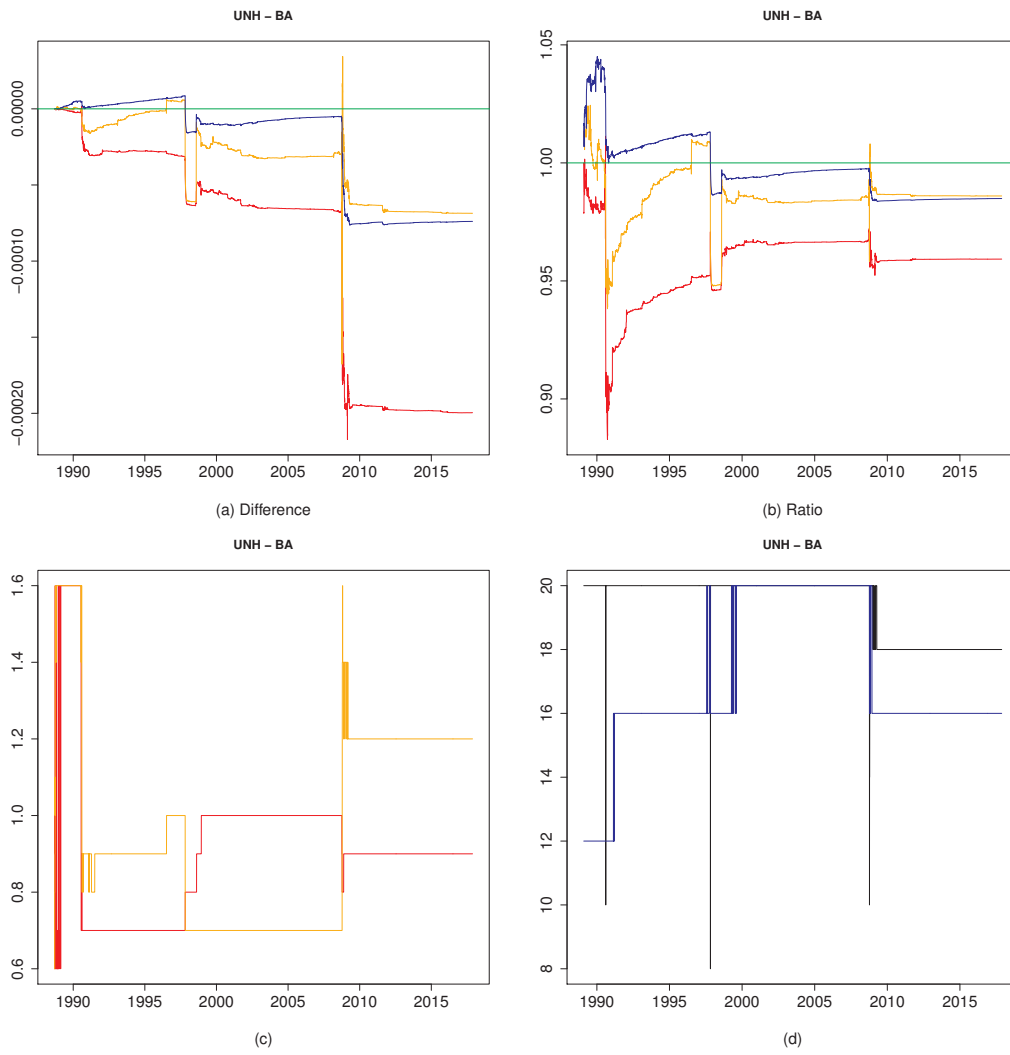


Figure 421: 25-26

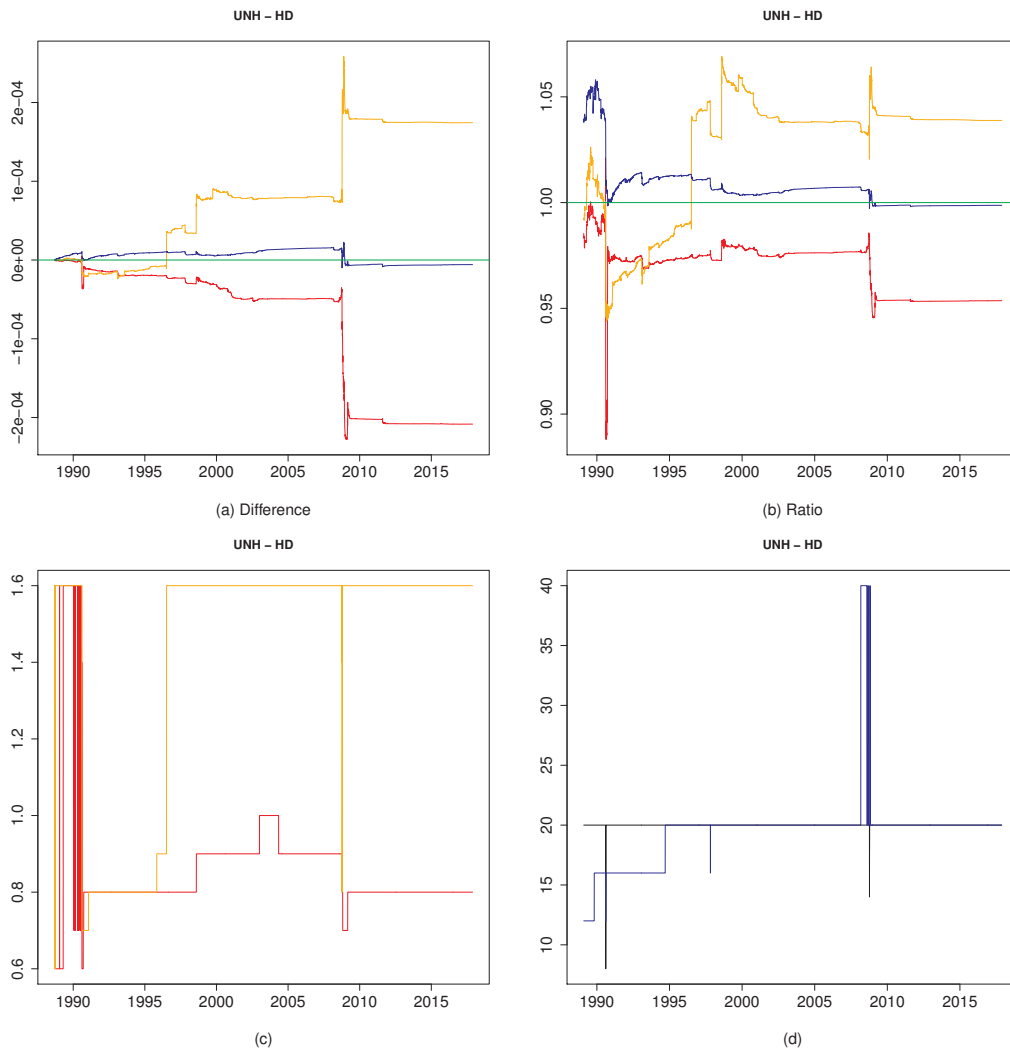


Figure 422: 25-27

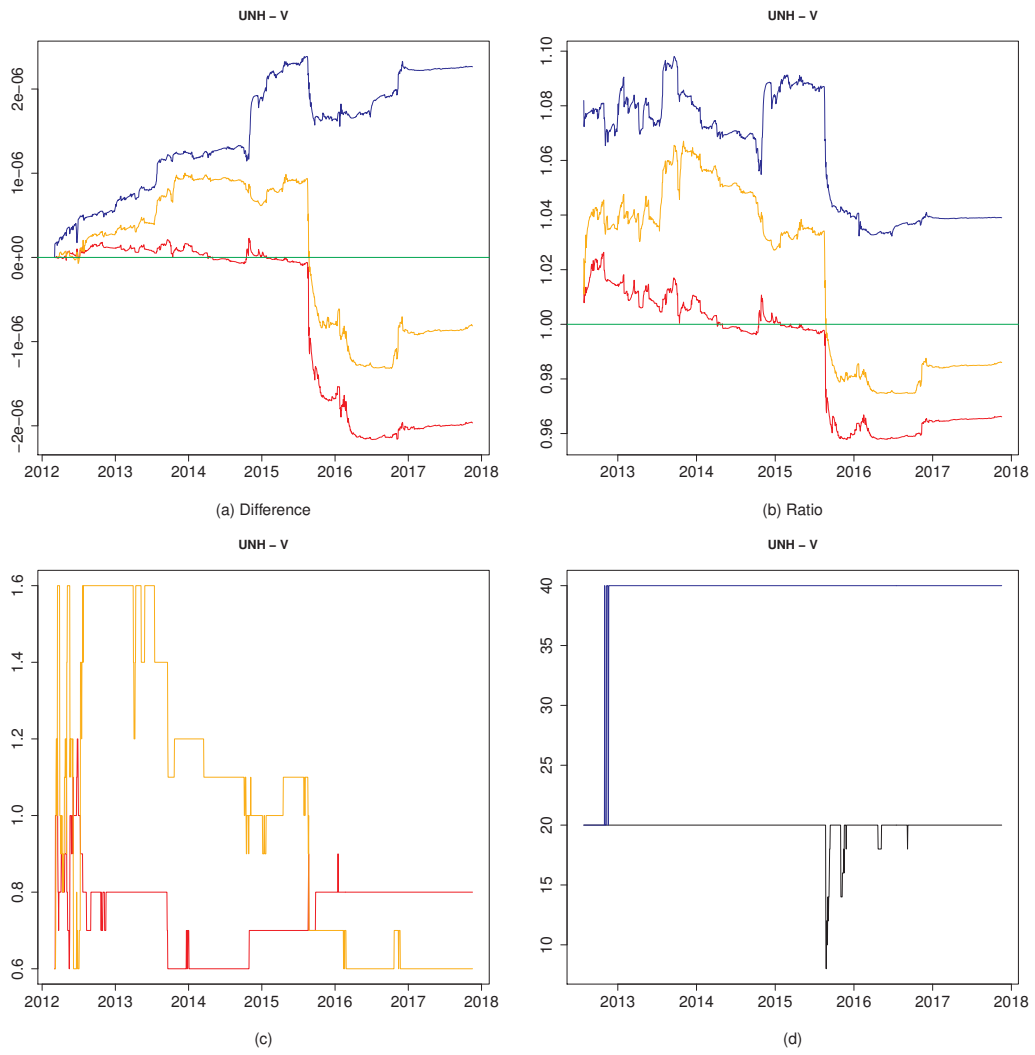


Figure 423: 25-28

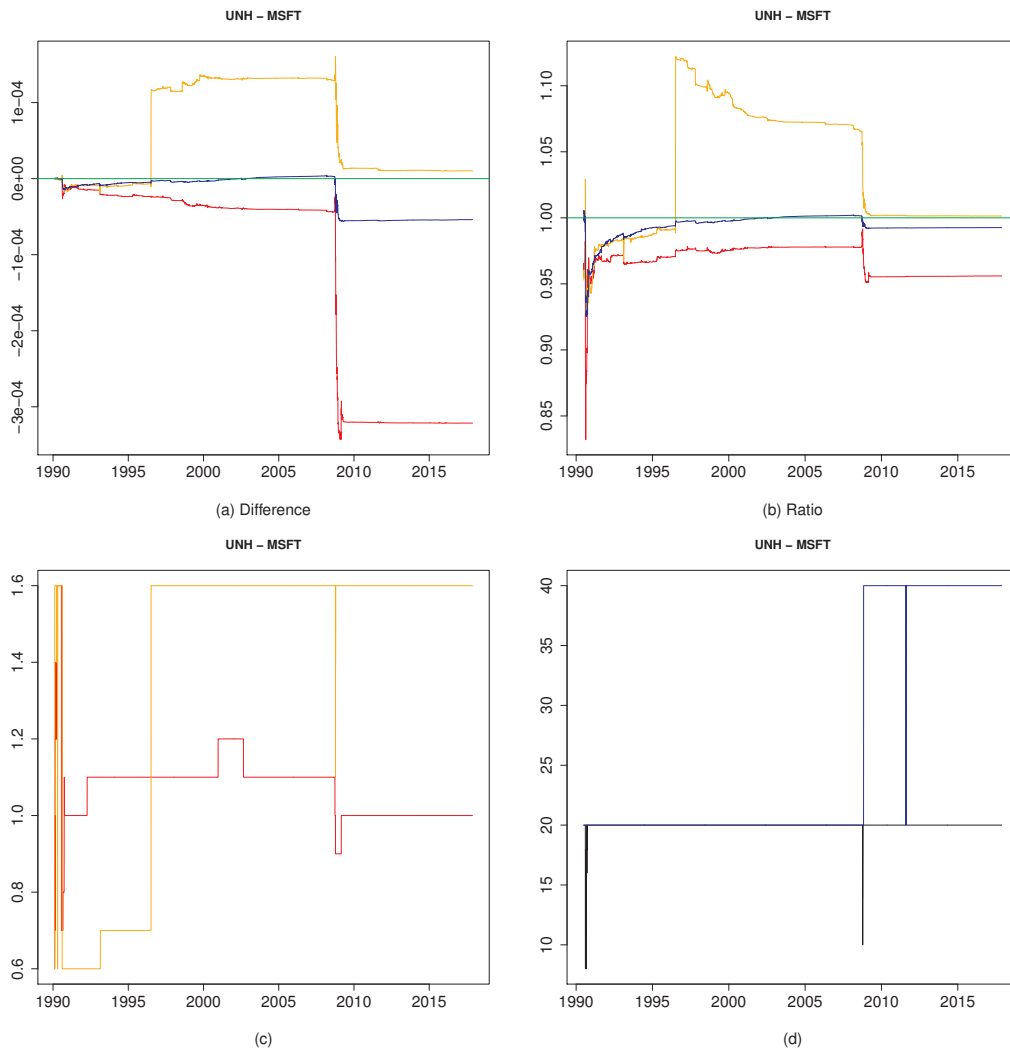


Figure 424: 25-29

Figure 425

1.26 Pairs from 26-27 to 26-30

Figure 426

Figure 427

Figure 428

Figure 429

1.27 Pairs from 27-28 to 27-30

Figure 430

Figure 431

Figure 432

1.28 Pairs from 28-29 to 28-30

Figure 433

Figure 434

1.29 Pair 29-30

Figure 435

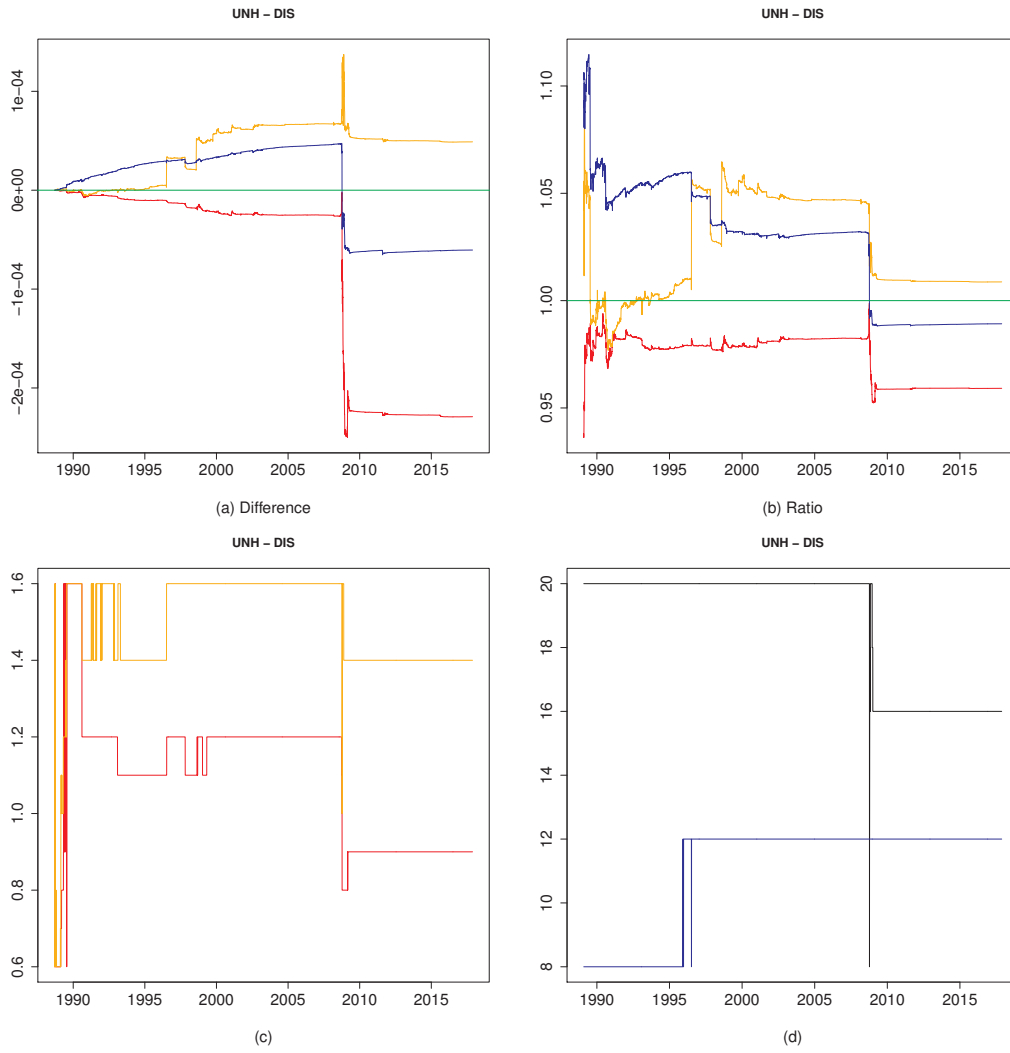


Figure 425: 25-30

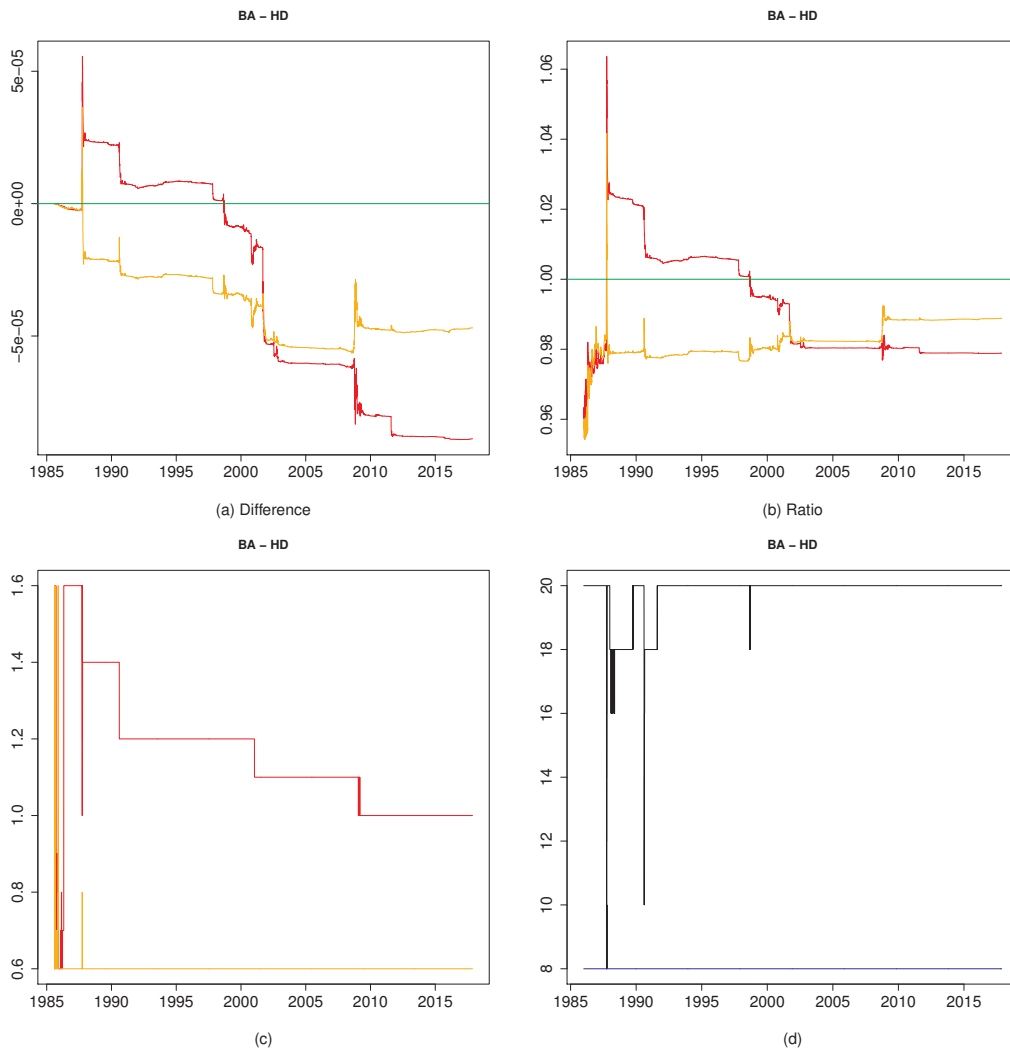


Figure 426: 26-27

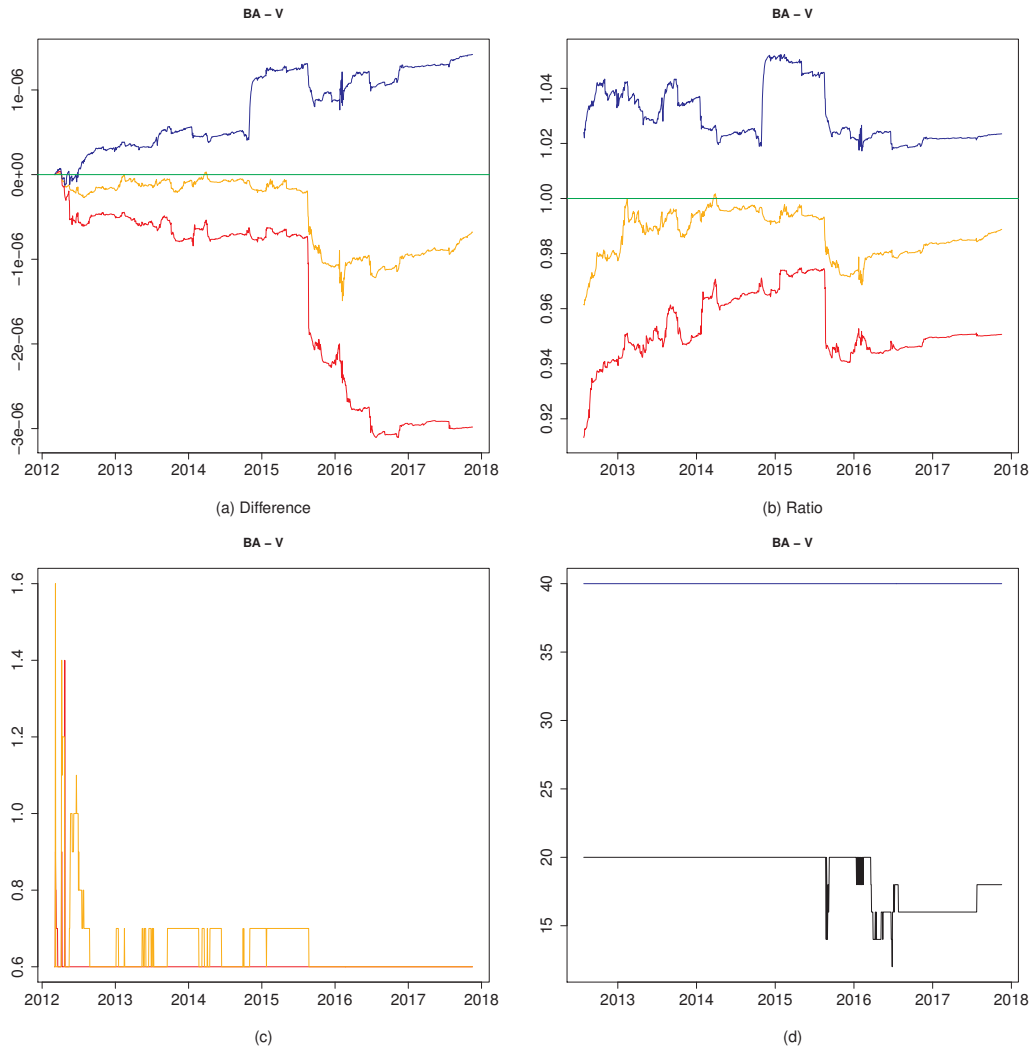


Figure 427: 26-28

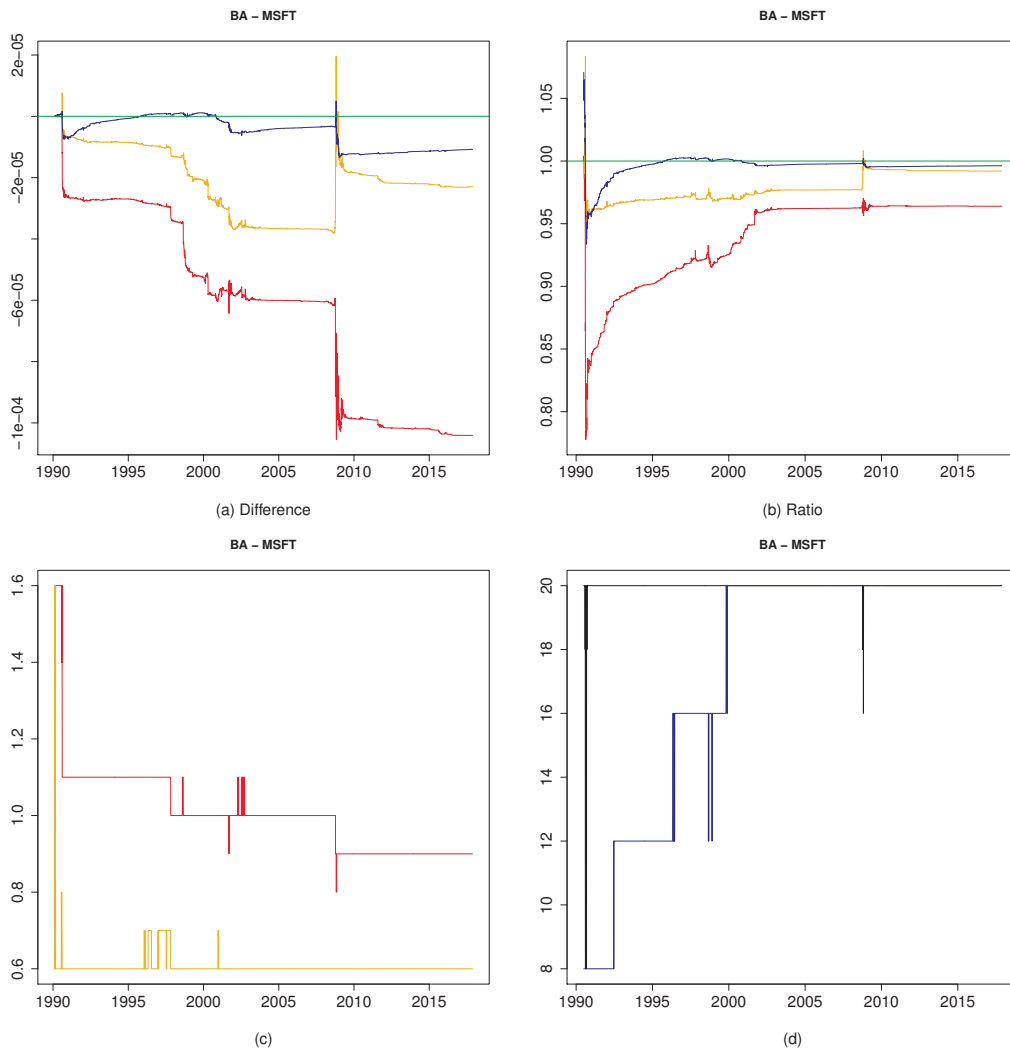


Figure 428: 26-29

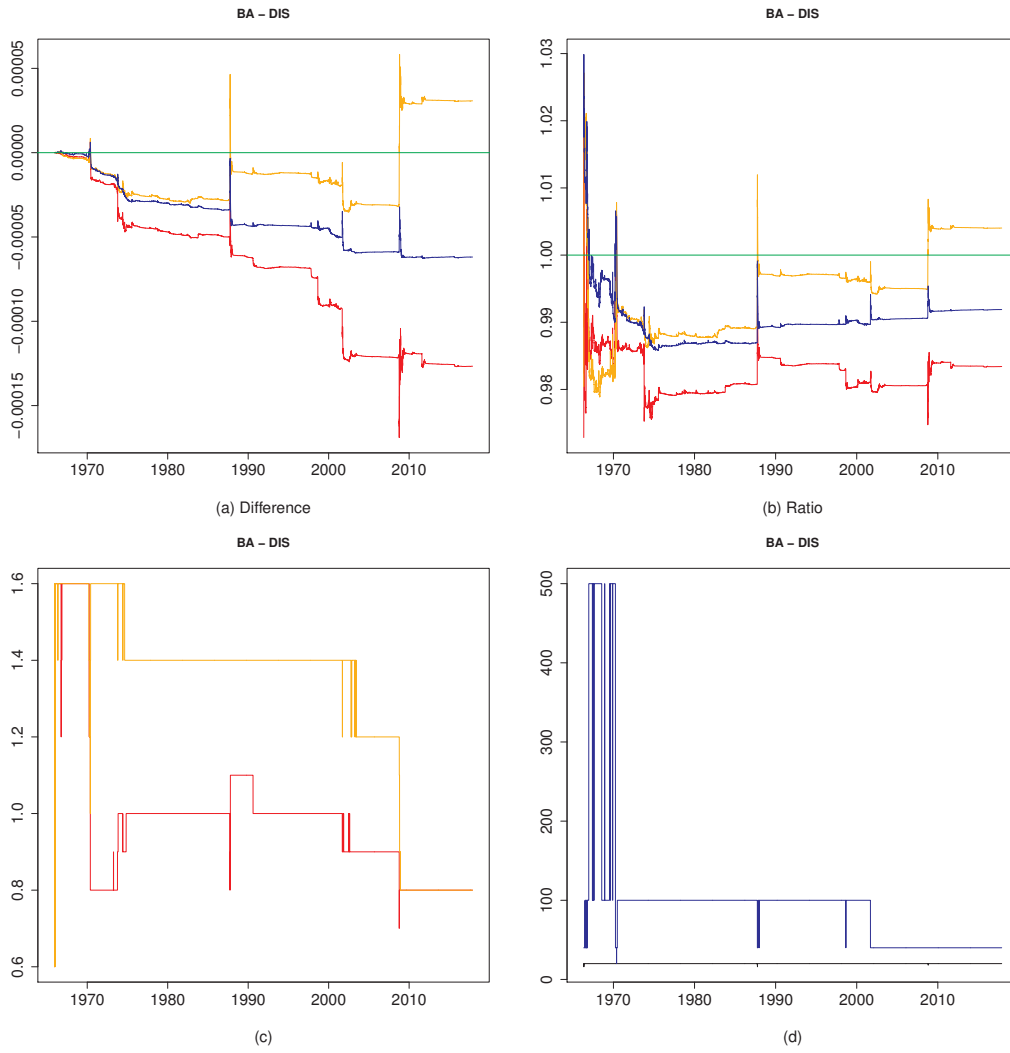


Figure 429: 26-30

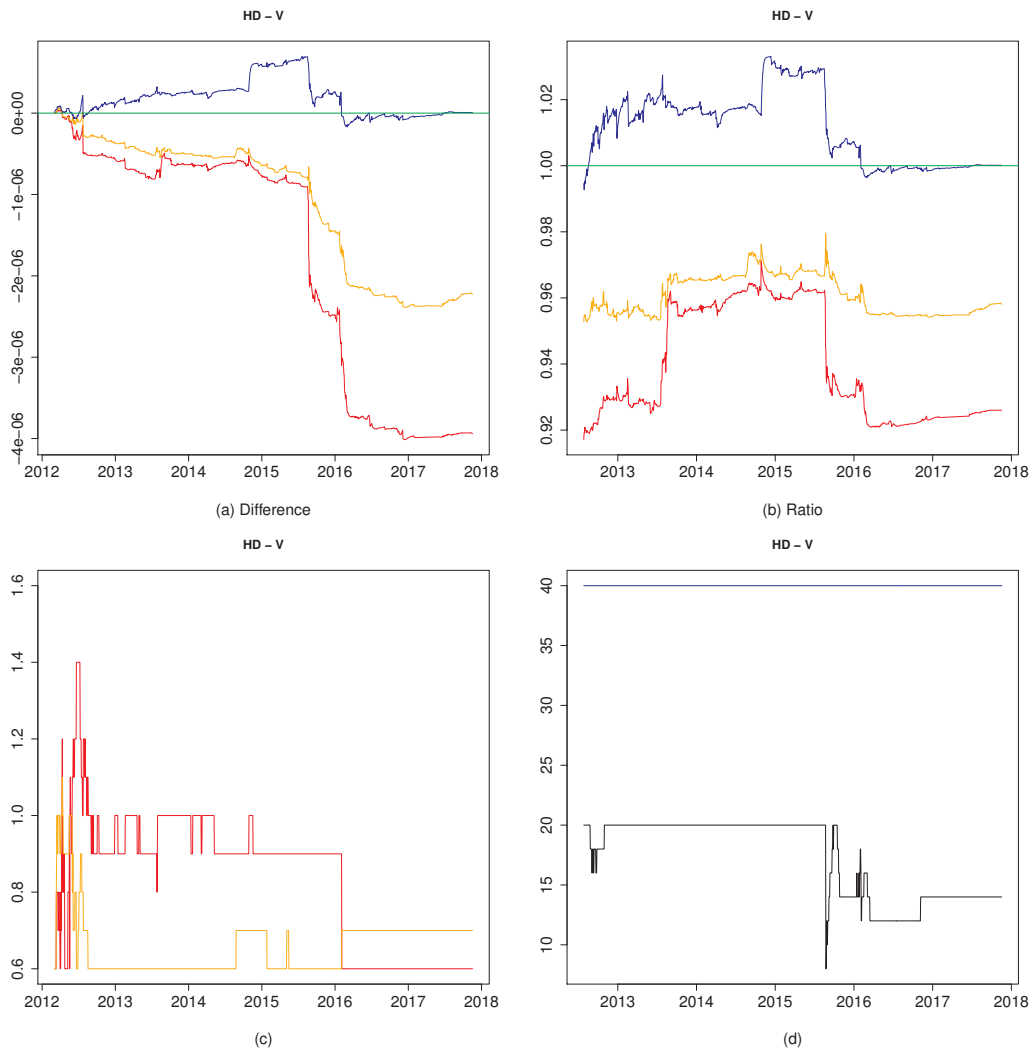


Figure 430: 27-28

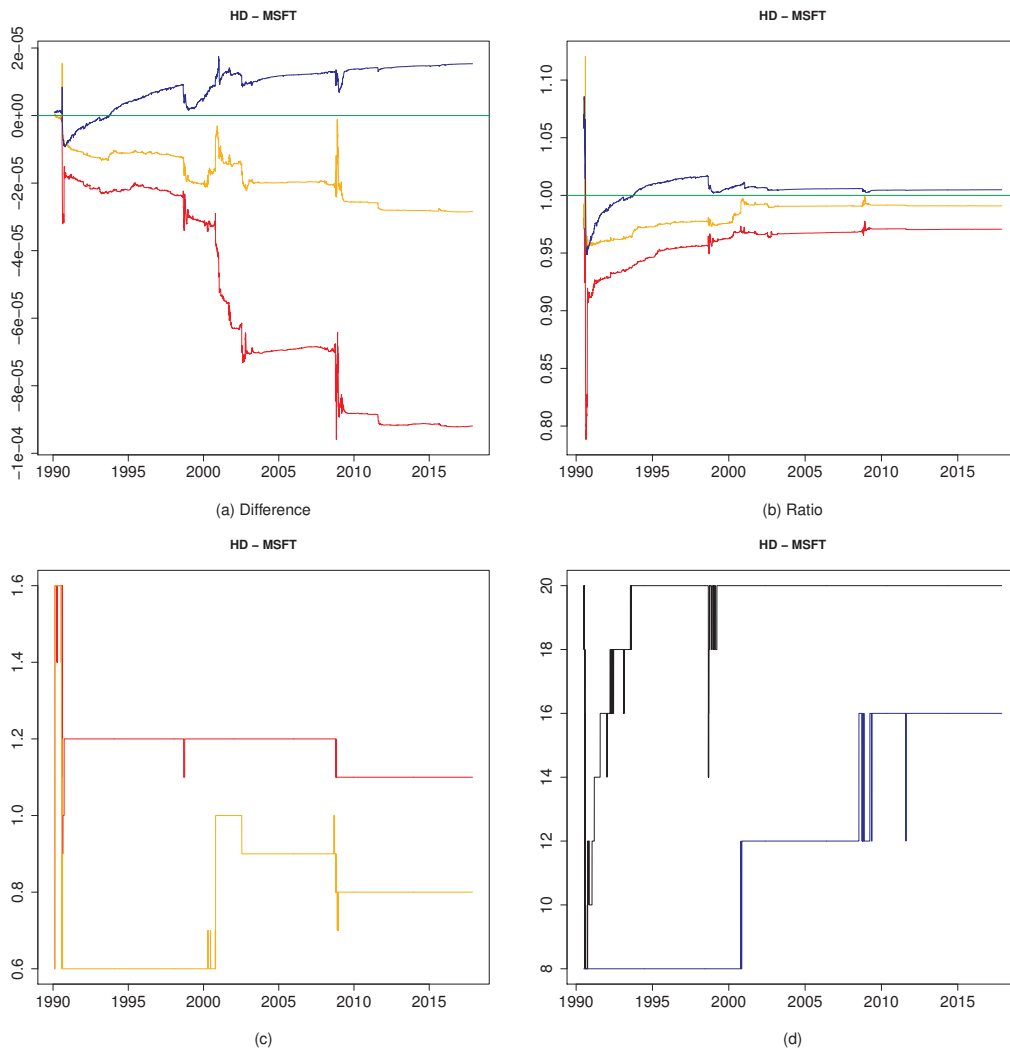


Figure 431: 27-29

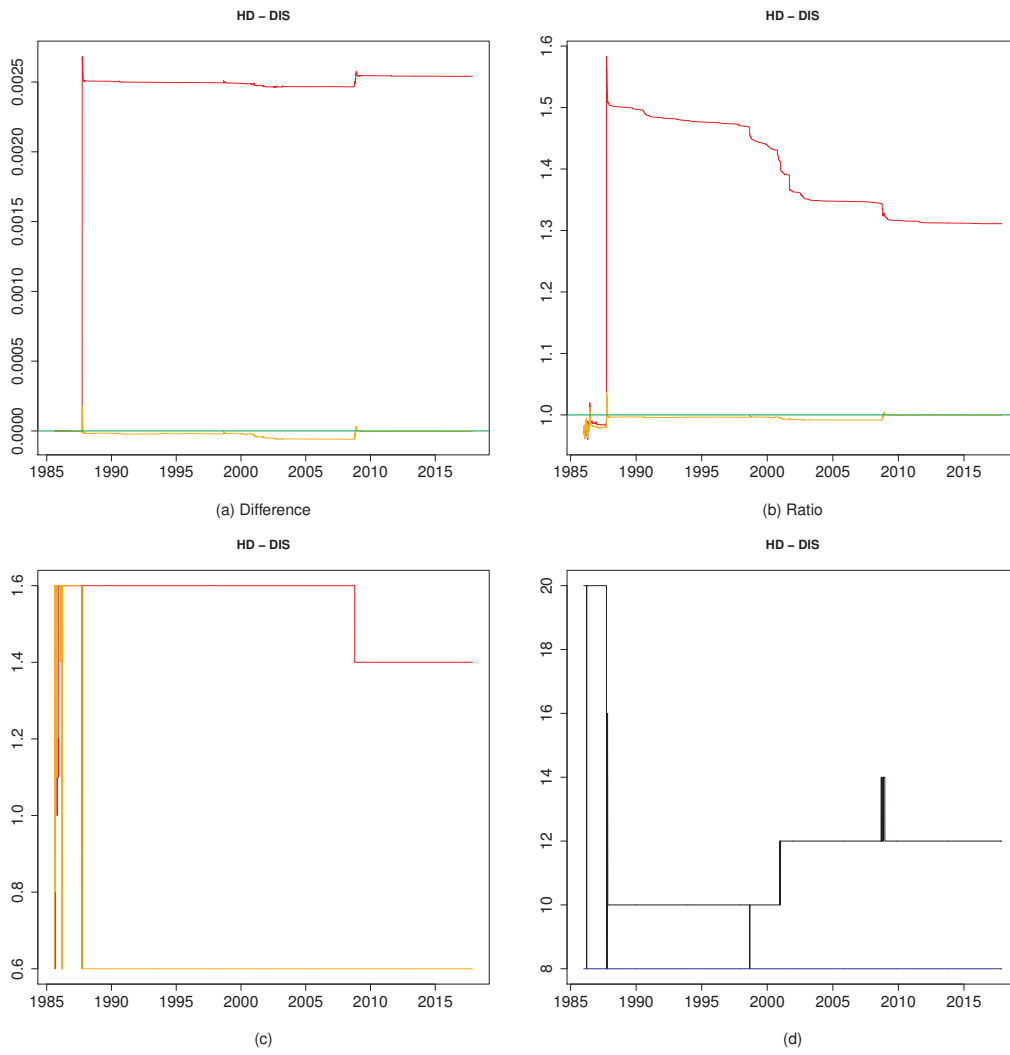


Figure 432: 27-30

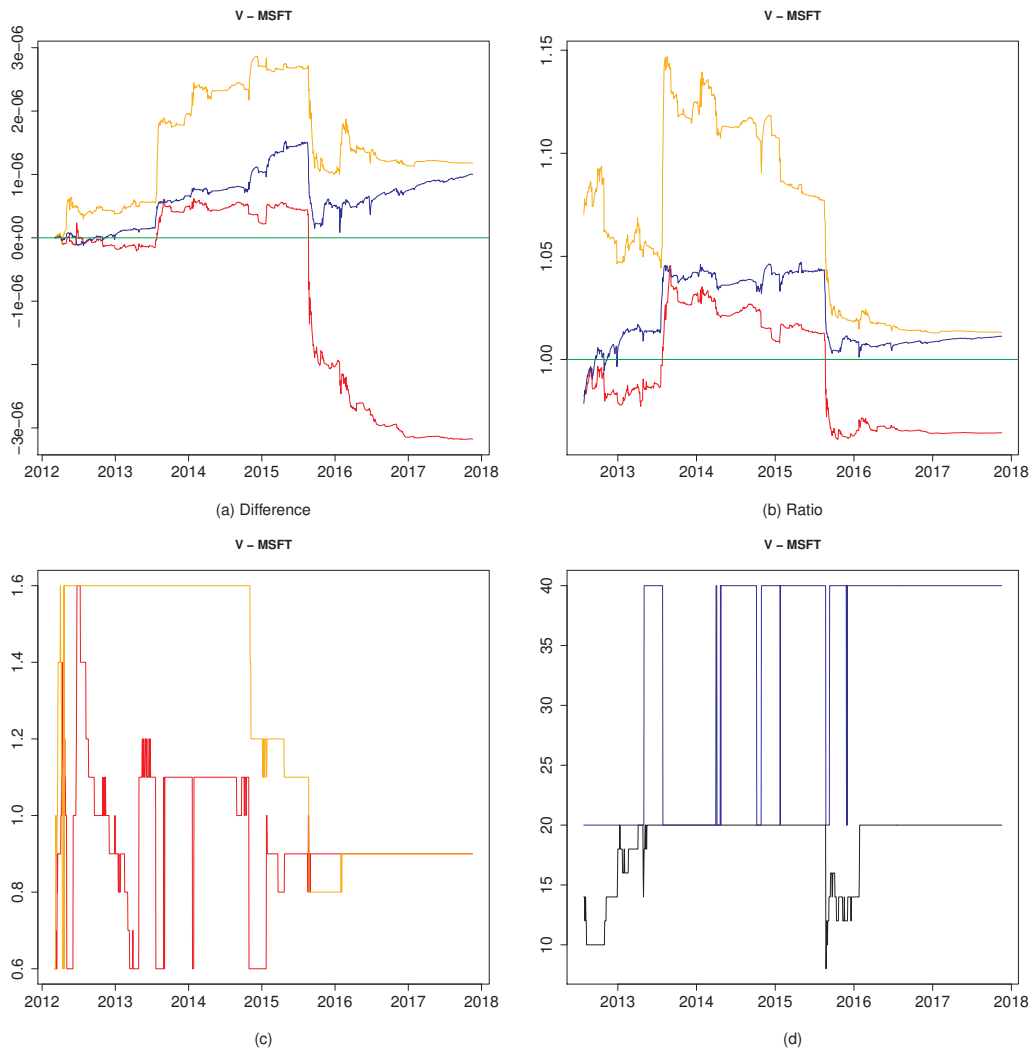


Figure 433: 28-29

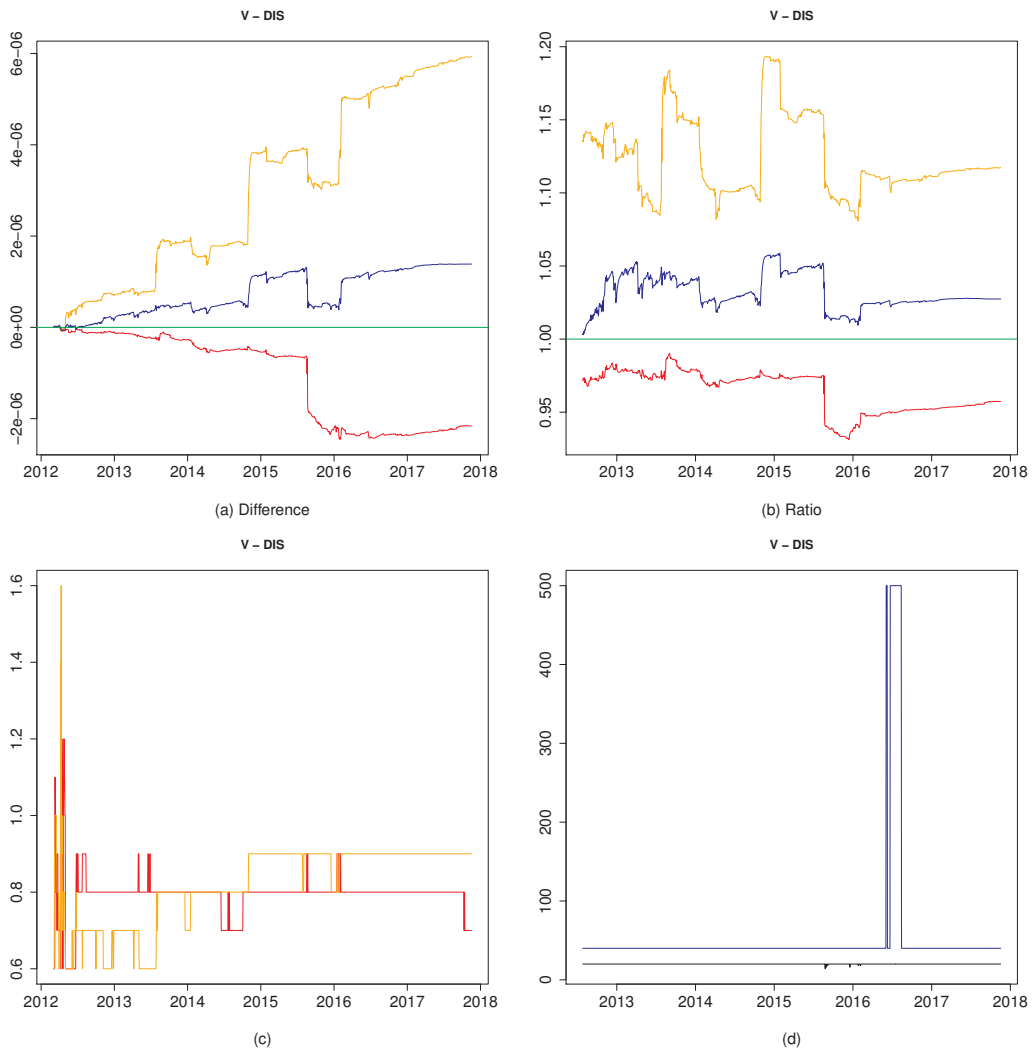


Figure 434: 28-30

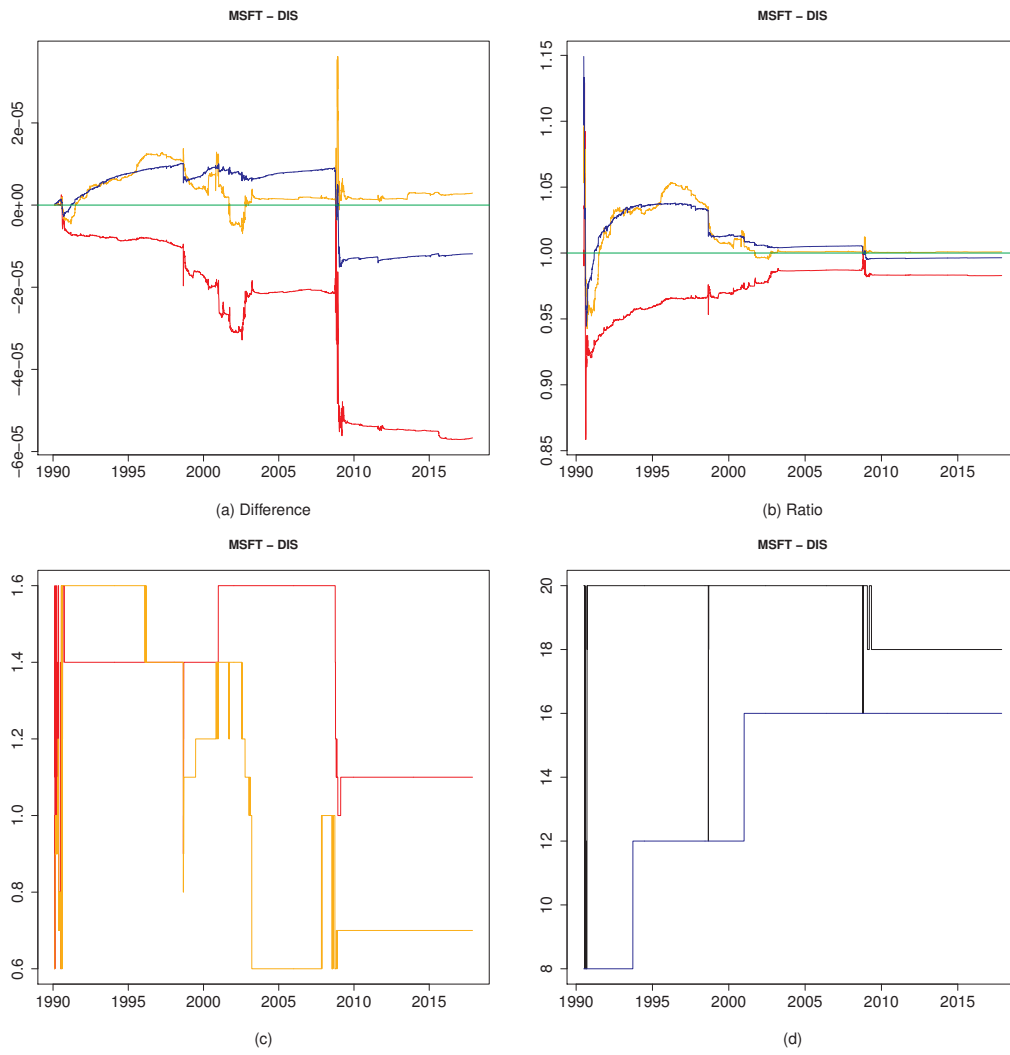


Figure 435: 29-30