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## **Apêndice A**

Gráfico das Simulações de VaR por Simulação de Monte Carlo e Teoria dos Valores Extremos para carteiras constituídas por Modelo de Índice Único e Medida Ômega.

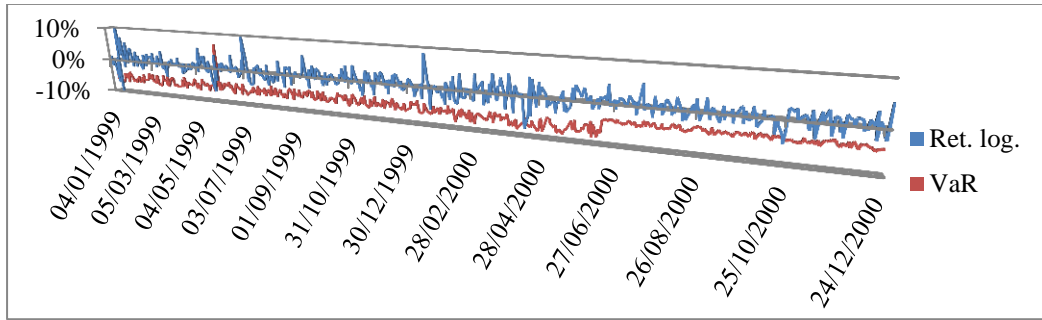


Figura 7 : VaR - Carteira A.M.I.U.T.V.E. -  $p = 0,50\%$

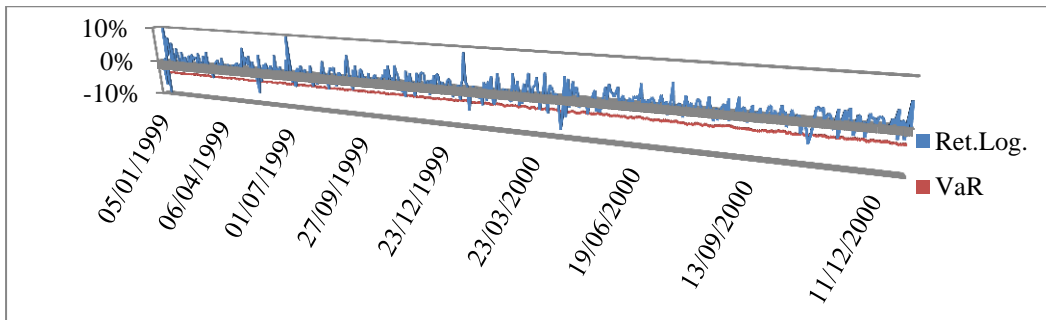


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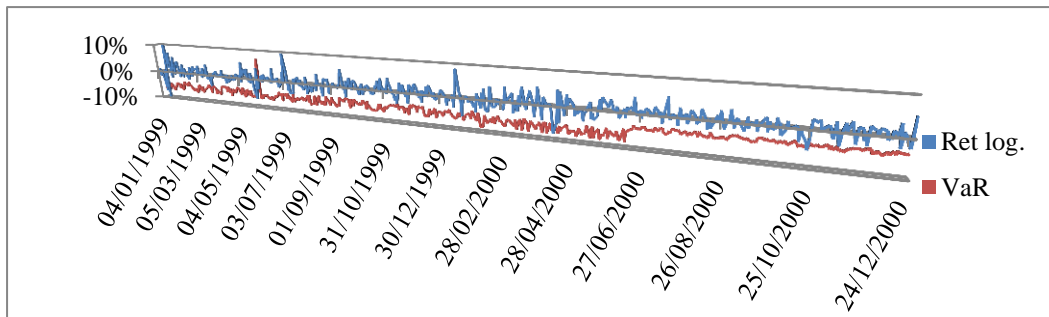


Figura 9 : VaR - Carteira A.M.I.U.T.V.E. -  $p = 0,50\%$

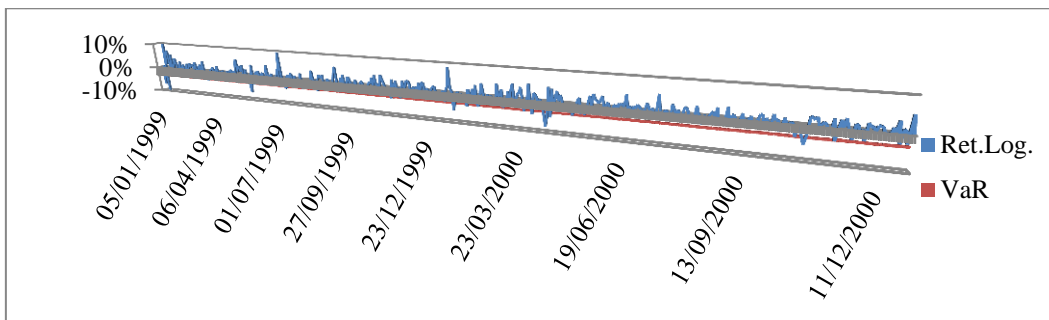


Figura 10 : VaR - Carteira A.M.I.U.S.M.C. -  $p = 1\%$

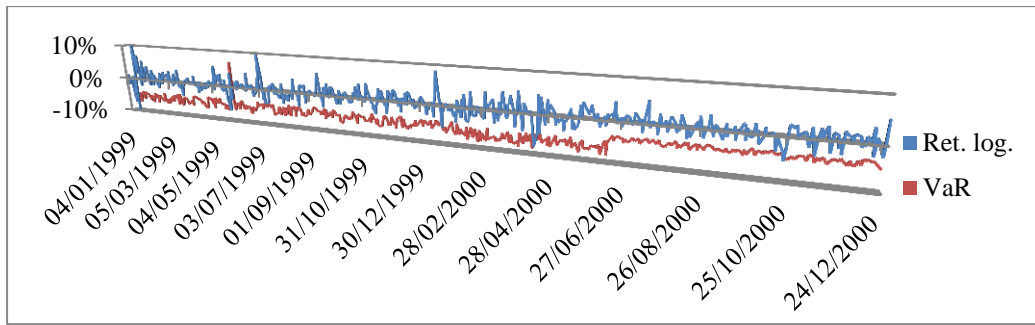


Figura 11 : VaR - Carteira A.M.I.U.T.V.E. -  $p = 2,50\%$

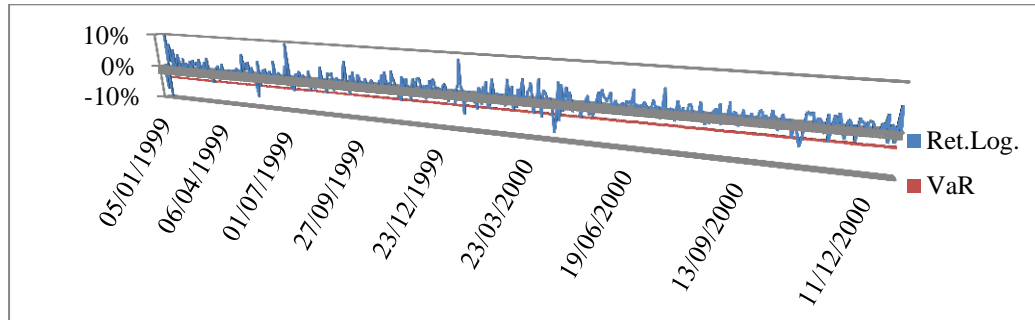


Figura 12 : VaR - Carteira A.M.I.U.S.M.C. -  $p = 2,50\%$

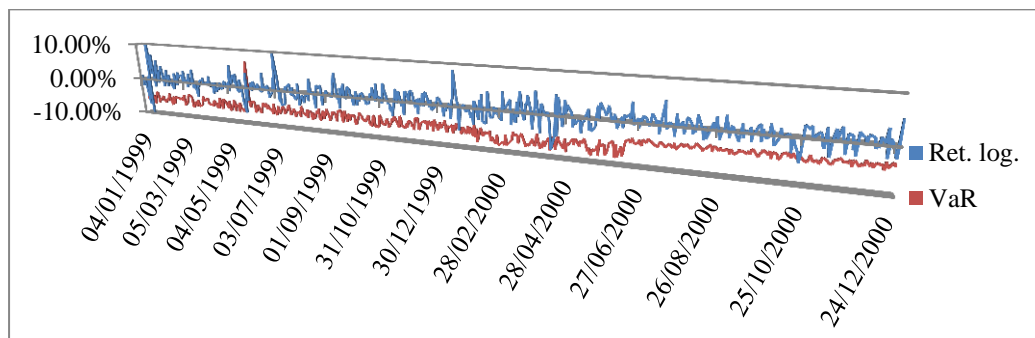


Figura 13 : VaR - Carteira A.M.I.U.T.V.E. -  $p = 5\%$

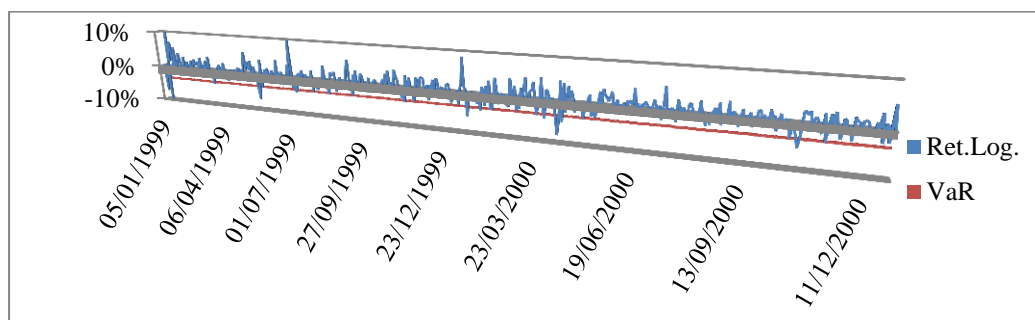


Figura 14 : VaR - Carteira A.M.I.U.S.M.C. -  $p = 5\%$

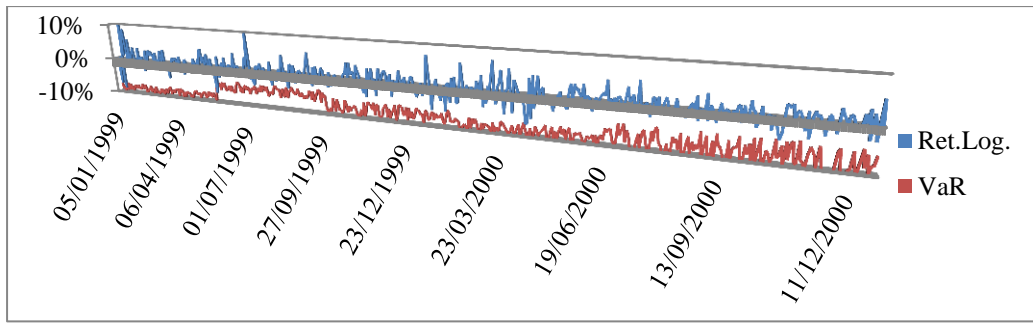


Figura 15: VaR - Carteira A.M.O.L=0%.T.V.E. -  $p = 0,50\%$

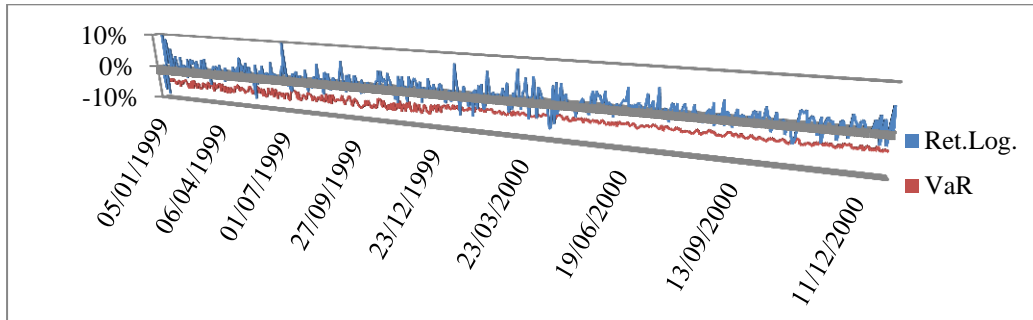


Figura 16: VaR - Carteira A.M.O.L=0%.S.M.C. -  $p = 0,50\%$

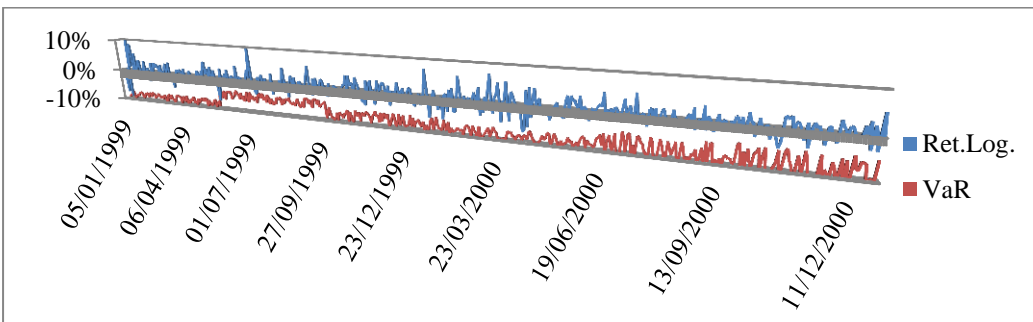


Figura 17: VaR - Carteira A.M.O.L=0%.T.V.E. -  $p = 1\%$

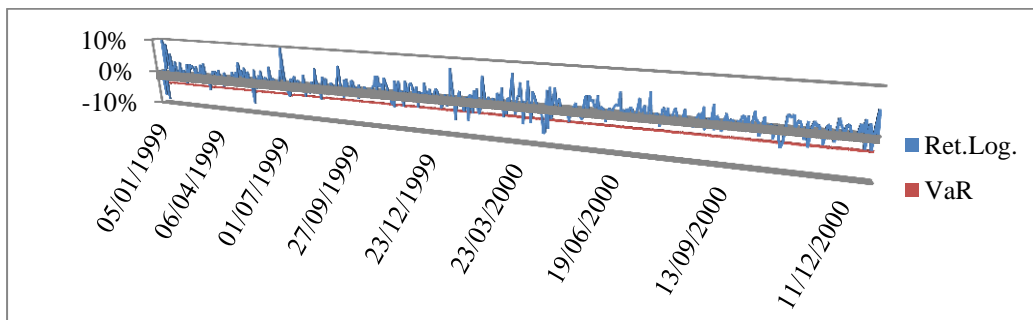


Figura 18: VaR - Carteira A.M.O.L=0%.S.M.C. -  $p = 1\%$

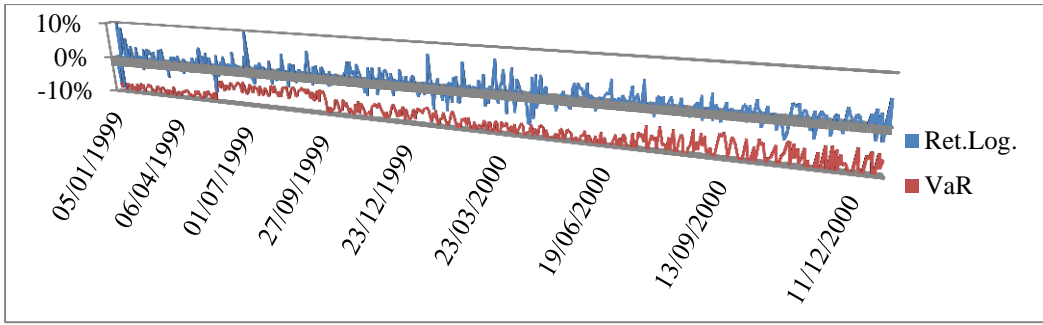


Figura 19: VaR - Carteira A.M.O.L=0%.T.V.E. - p = 2,50%

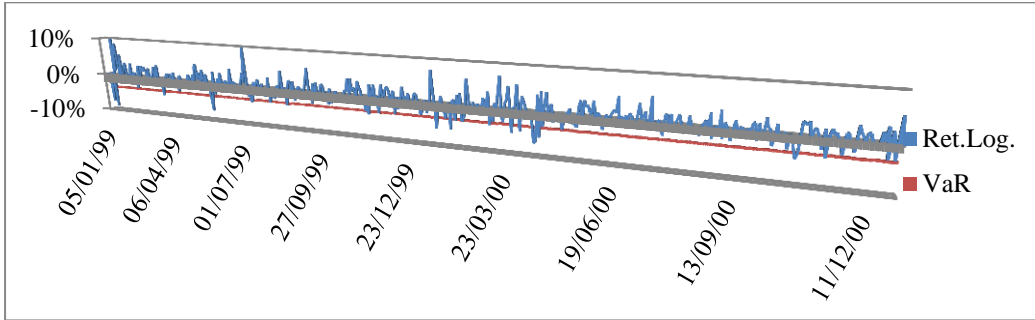


Figura 20: VaR - Carteira A.M.O.L=0%.S.M.C. - p = 2,50%

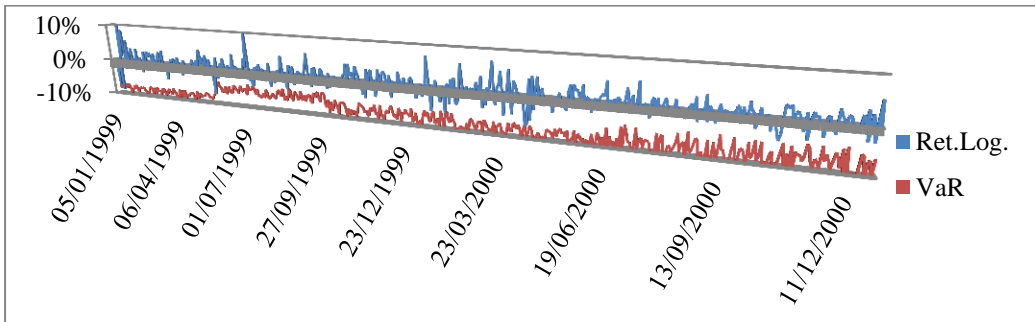


Figura 21: VaR - Carteira A.M.O.L=0%.T.V.E. - p = 5%

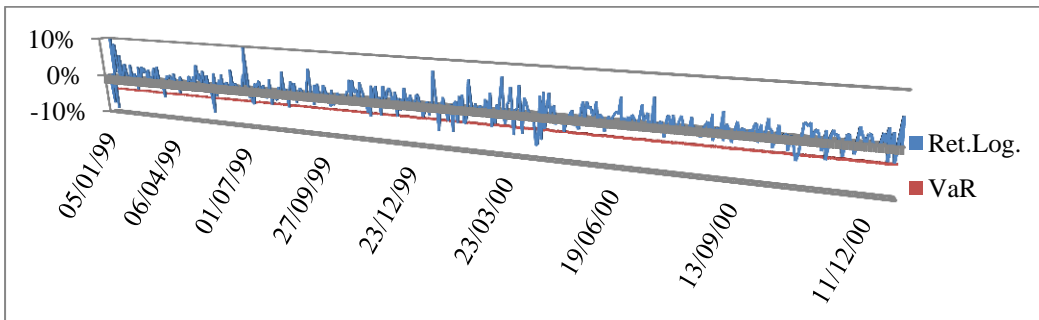


Figura 22: VaR - Carteira A.M.O.L=0%.S.M.C. - p = 5%

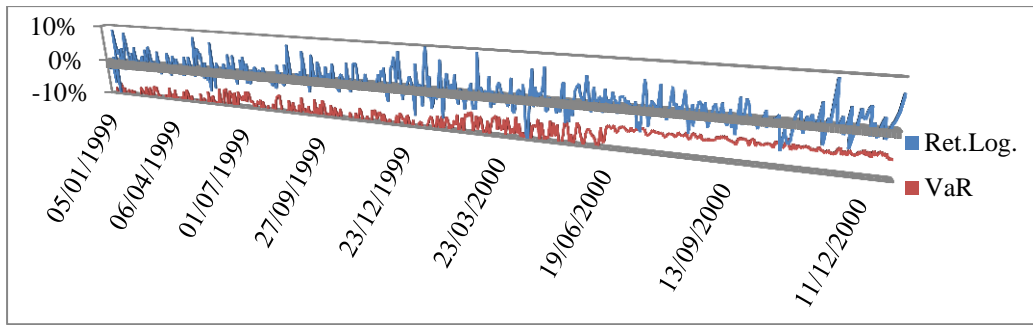


Figura 23: VaR - Carteira A.M.O.L=2,50%.T.V.E. -  $p = 0,50\%$

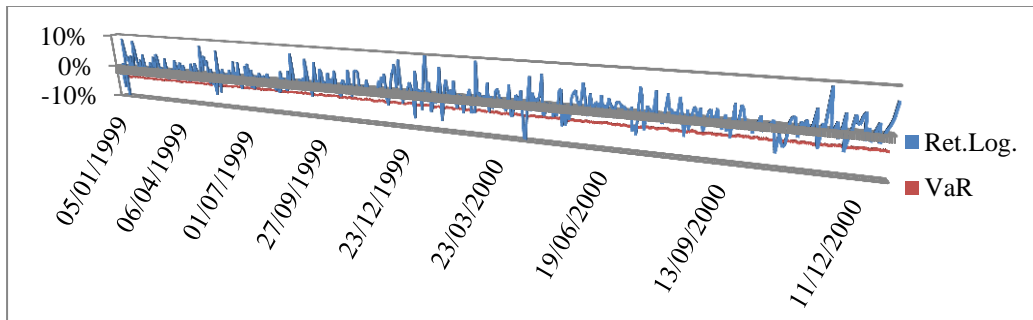


Figura 24: VaR - Carteira A.M.O.L=2,50%.S.M.C. -  $p = 0,50\%$

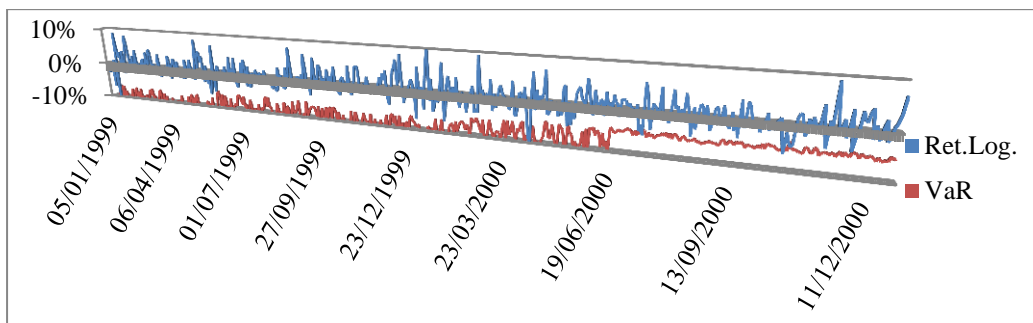


Figura 25: VaR - Carteira A.M.O.L=2,50%.T.V.E. -  $p = 1\%$

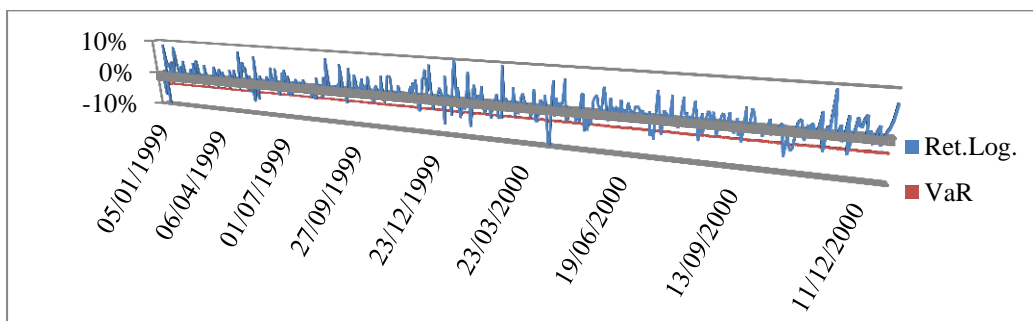


Figura 26: VaR - Carteira A.M.O.L=2,50%.S.M.C. -  $p = 1\%$

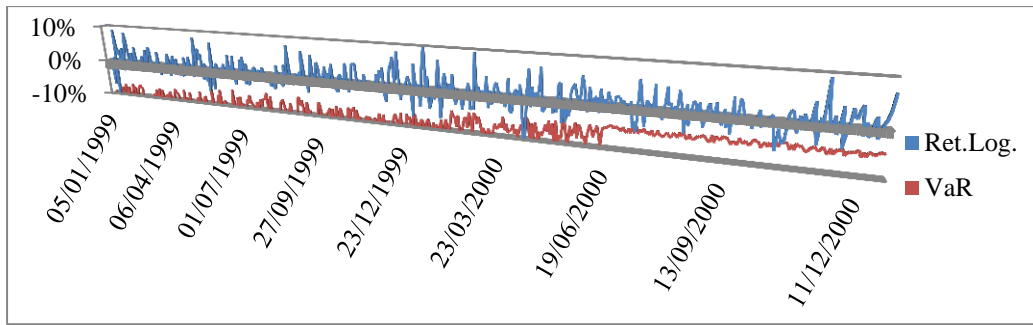


Figura 27: VaR - Carteira A.M.O.L=2,50%.T.V.E. -  $p = 2,50\%$

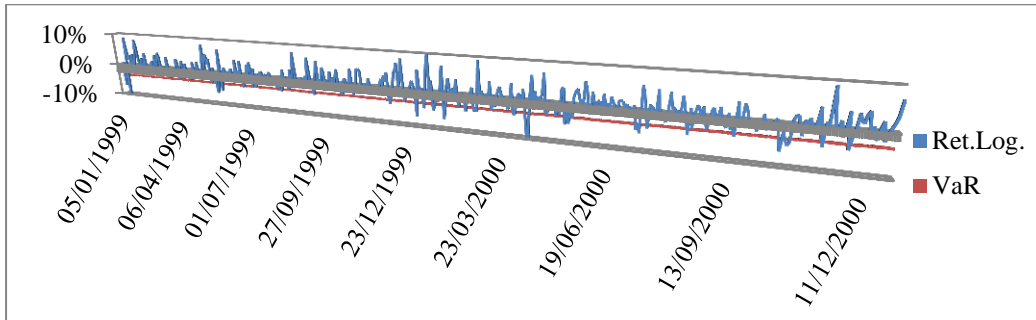


Figura 28: VaR - Carteira A.M.O.L=2,50%.S.M.C. -  $p = 2,50\%$

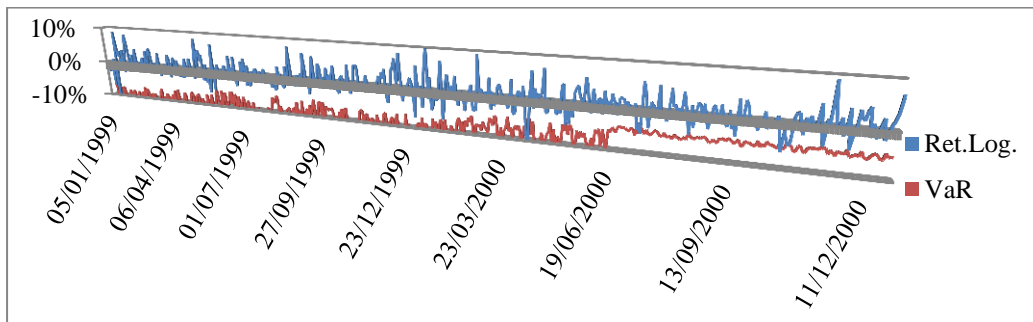


Figura 29 : VaR - Carteira A.M.O.L=2,50%.T.V.E. -  $p = 5\%$

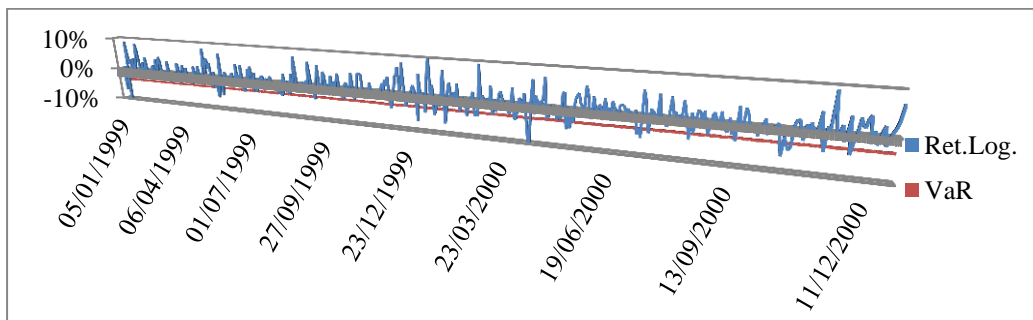


Figura 30: VaR - Carteira A.M.O.L=2,50%.S.M.C. -  $p = 5\%$

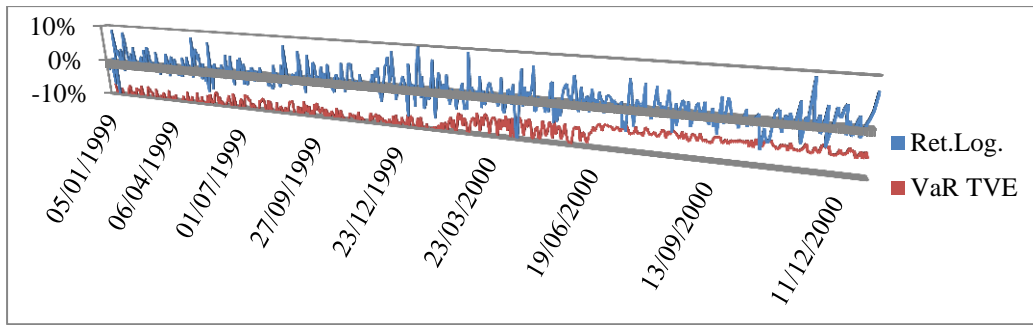


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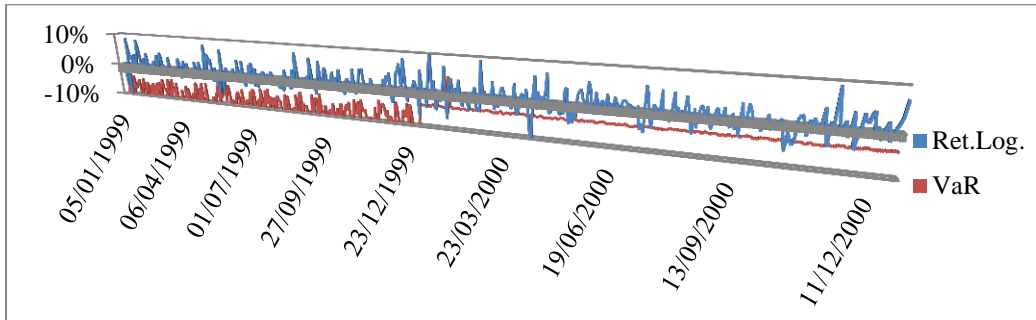


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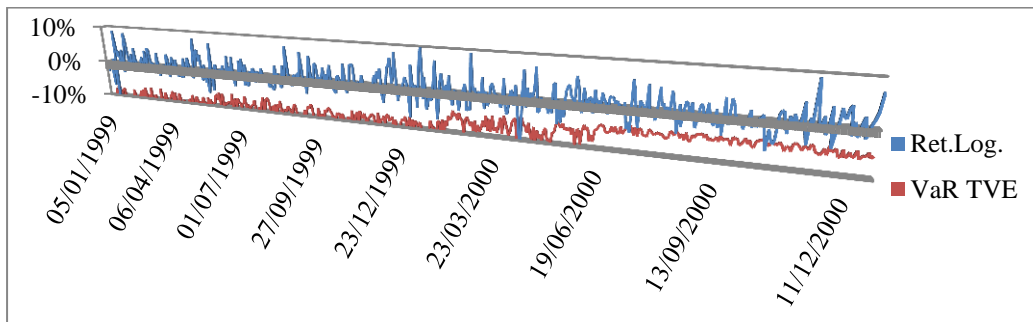


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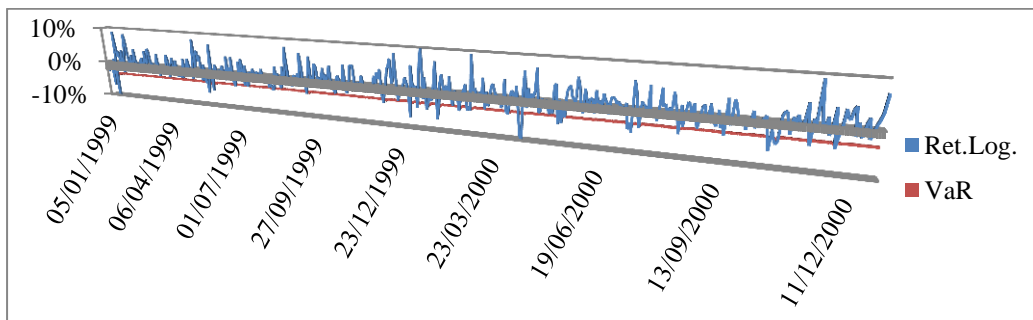


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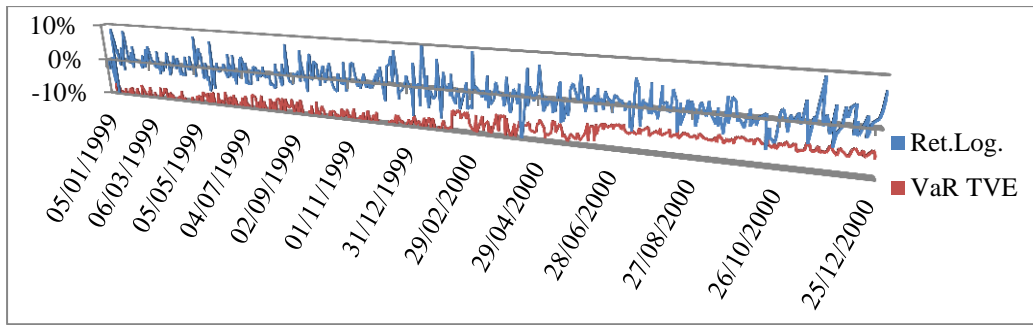


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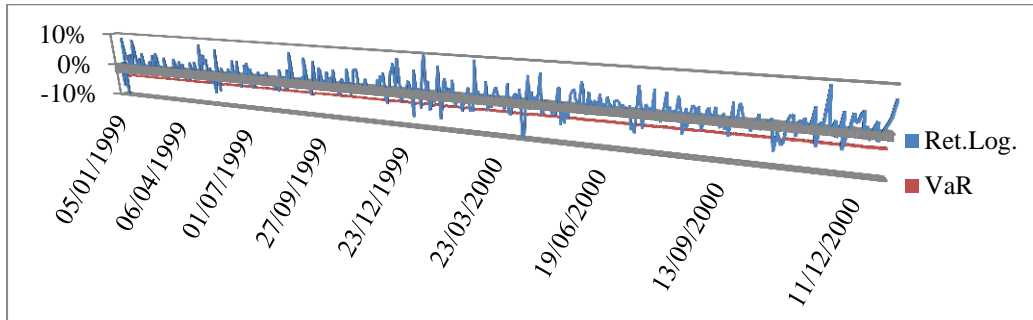


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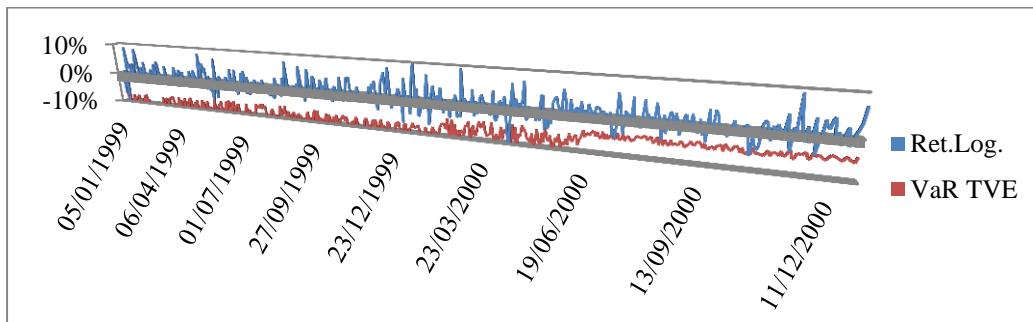


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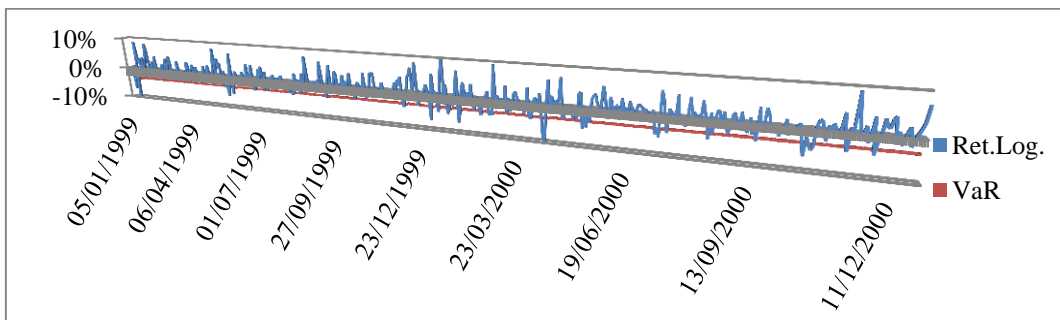


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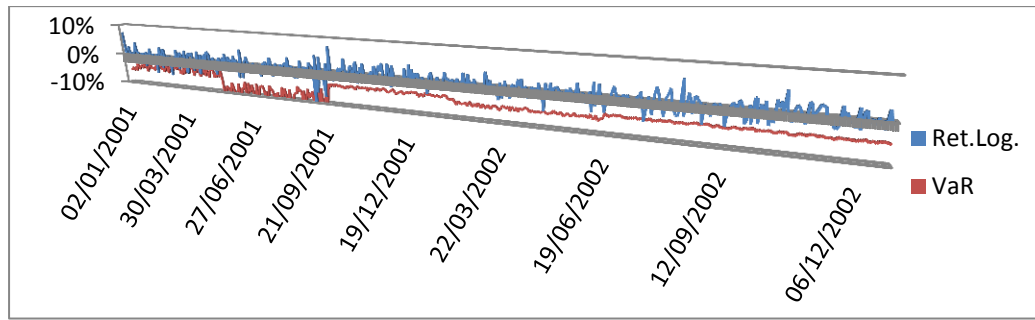


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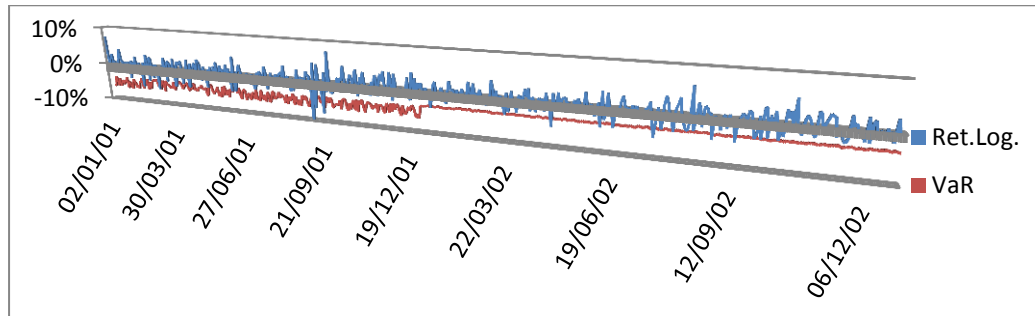


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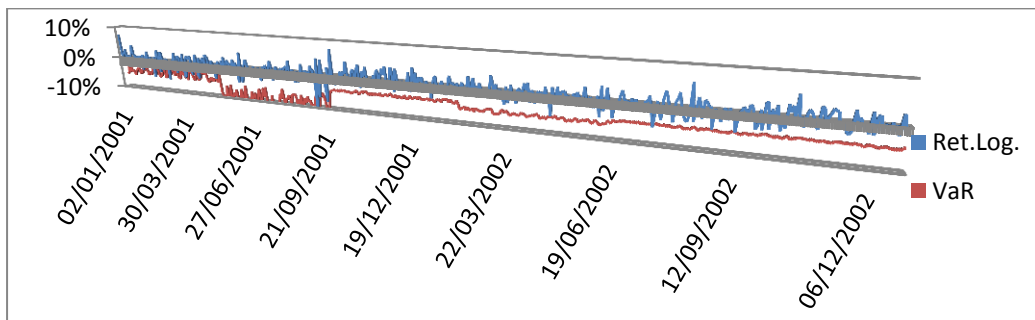


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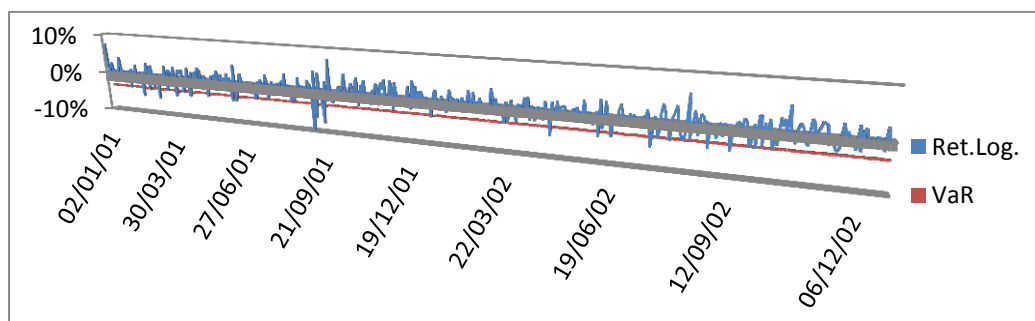


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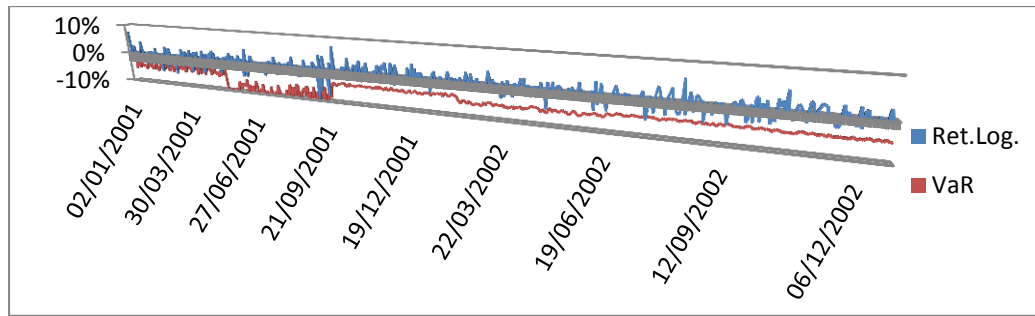


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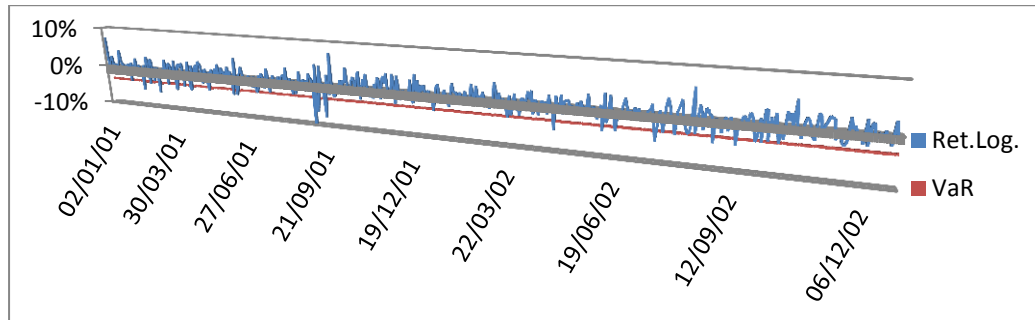


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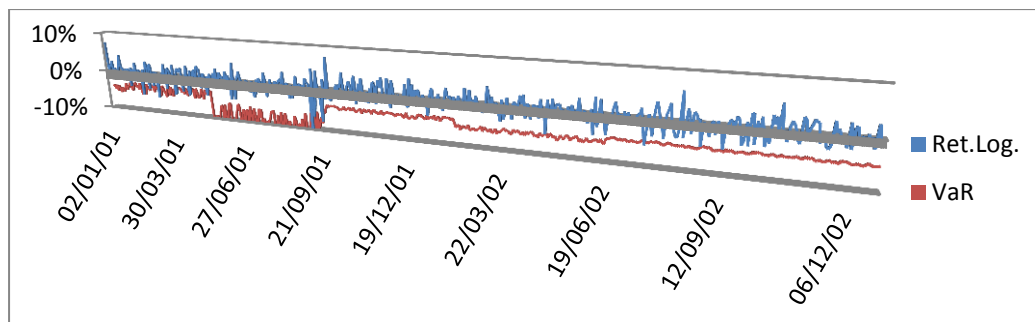


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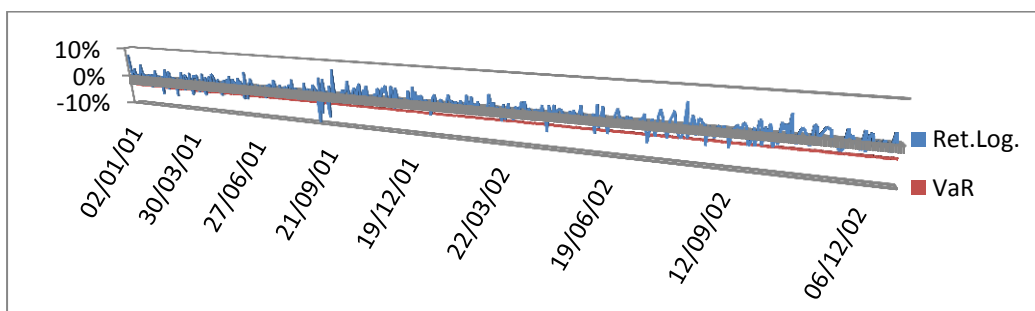


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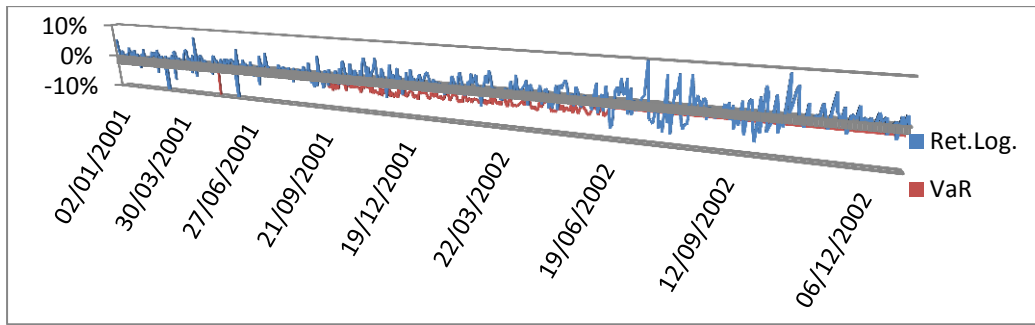


Figura 47: VaR - Carteira B.M.O.L=0%.T.V.E. - p = 0,50%

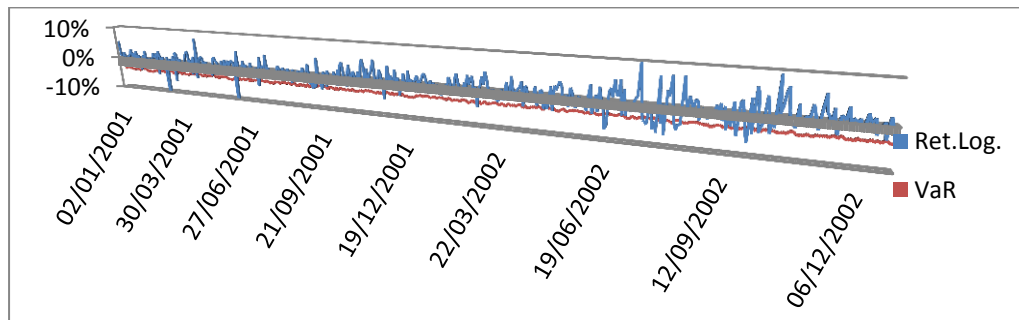


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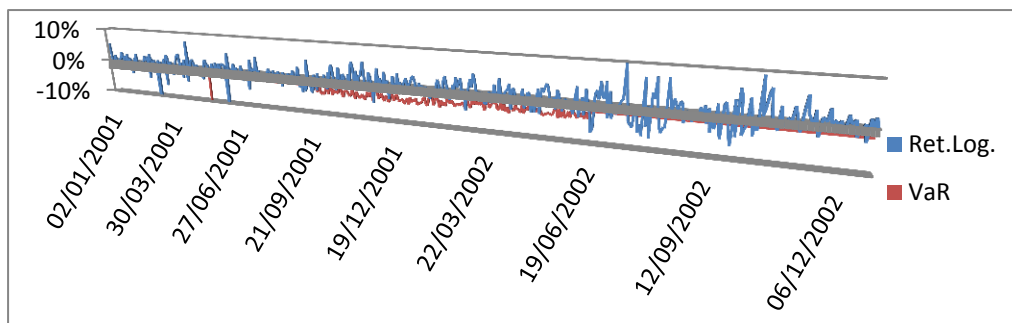


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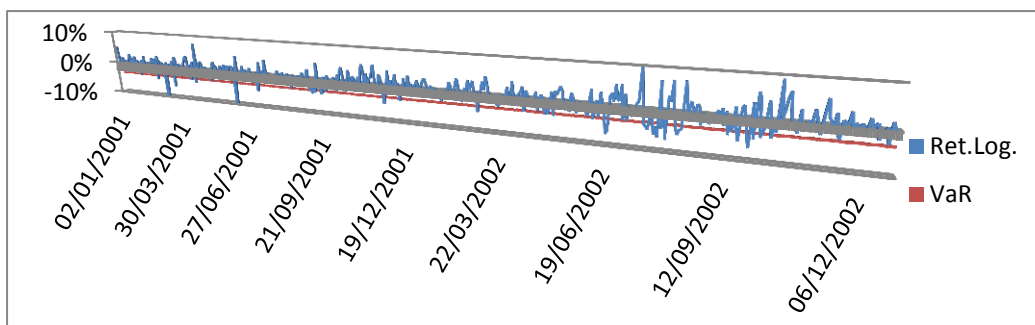


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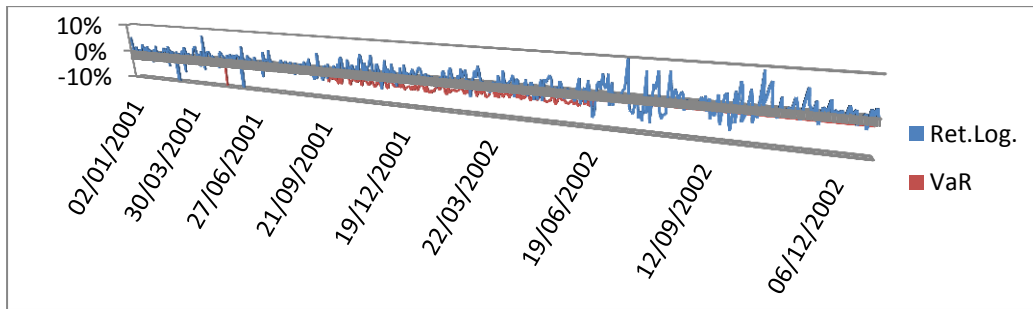


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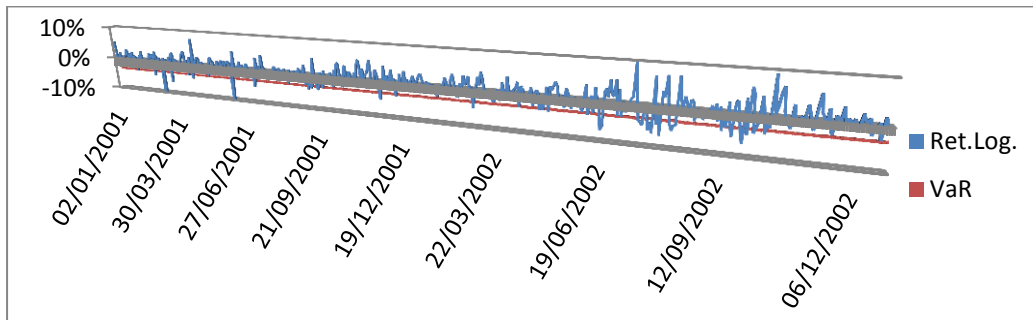


Figura 52: VaR - Carteira B.M.O.L=0%.S.M.C. -  $p = 2,50\%$

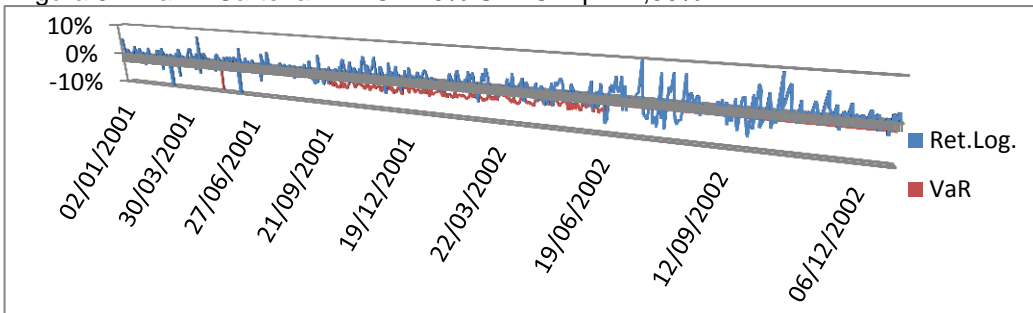


Figura 53: VaR - Carteira B.M.O.L=0%.T.V.E. -  $p = 5\%$

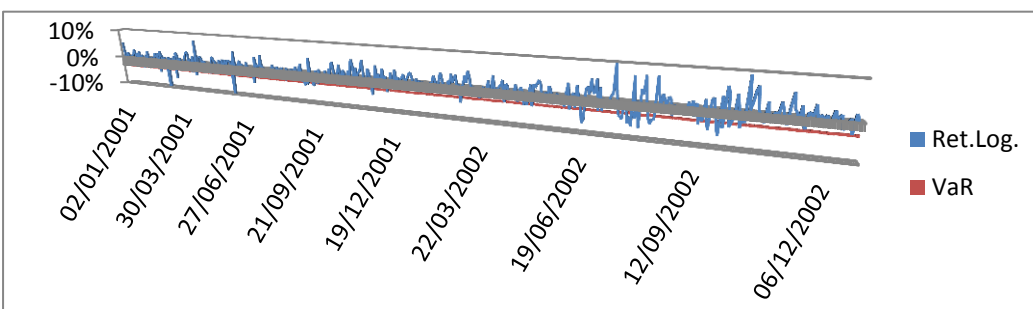


Figura 54: VaR - Carteira B.M.O.L=0%.S.M.C. -  $p = 5\%$

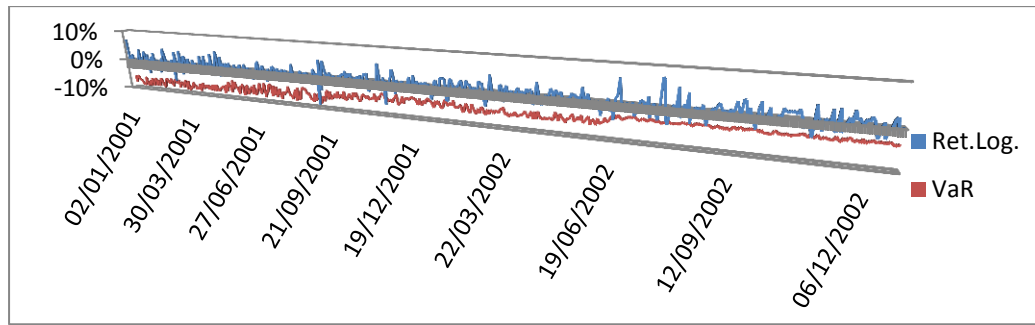


Figura 55: VaR - Carteira B.M.O.L=2,50%.T.V.E. -  $p = 0,50\%$

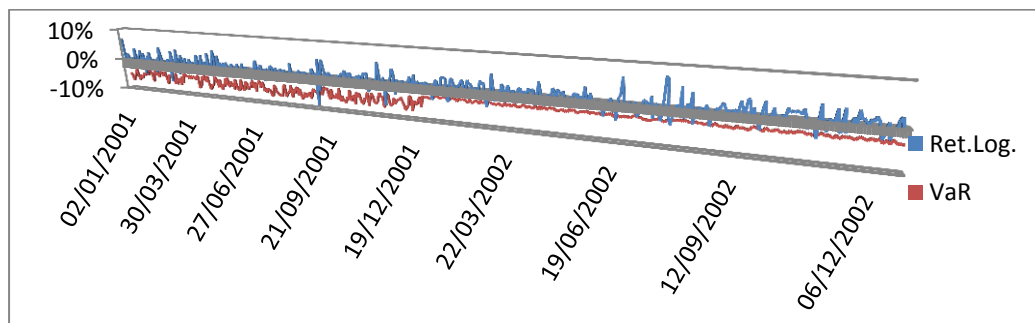


Figura 56: VaR - Carteira B.M.O.L=2,50%.S.M.C. -  $p = 0,50\%$

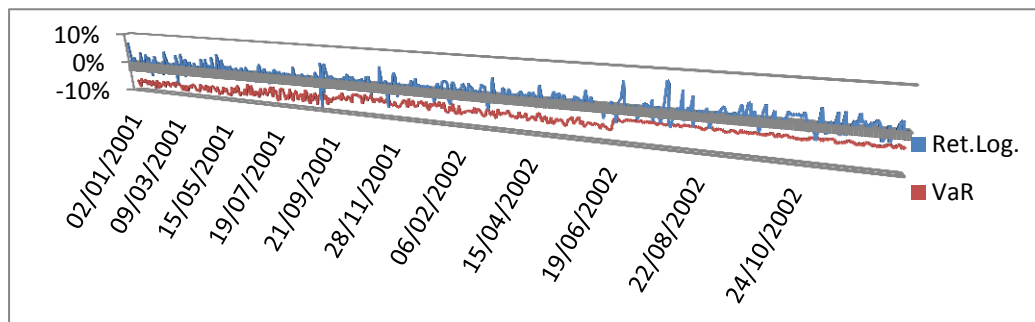


Figura 57: VaR - Carteira B.M.O.L=2,50%.T.V.E. -  $p = 1\%$

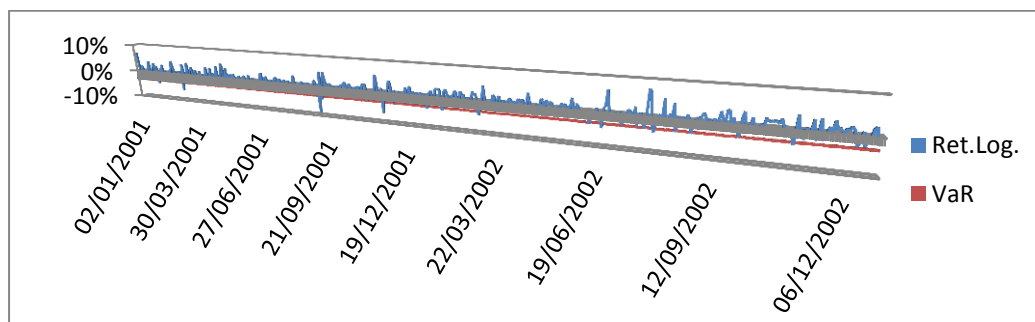


Figura 58: VaR - Carteira B.M.O.L=2,50%.S.M.C. -  $p = 1\%$

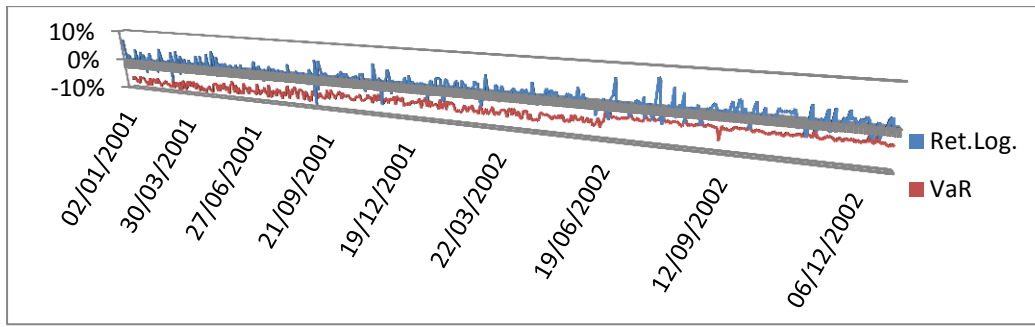


Figura 59: VaR - Carteira B.M.O.L=2,50%.T.V.E. - p = 2,50%

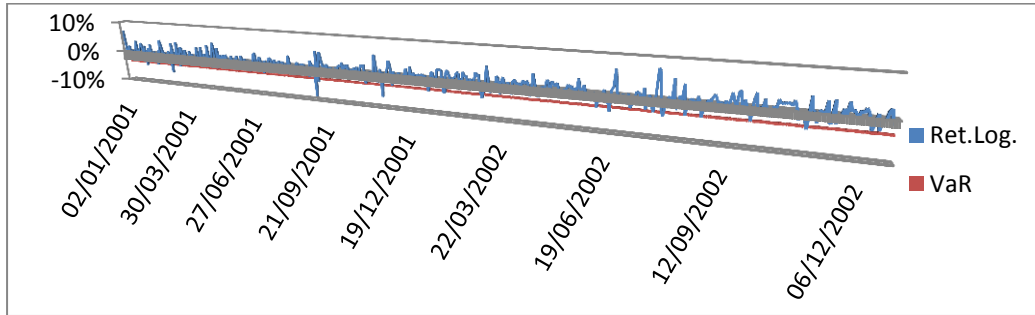


Figura 60: VaR - Carteira B.M.O.L=2,50%.S.M.C. - p = 2,50%

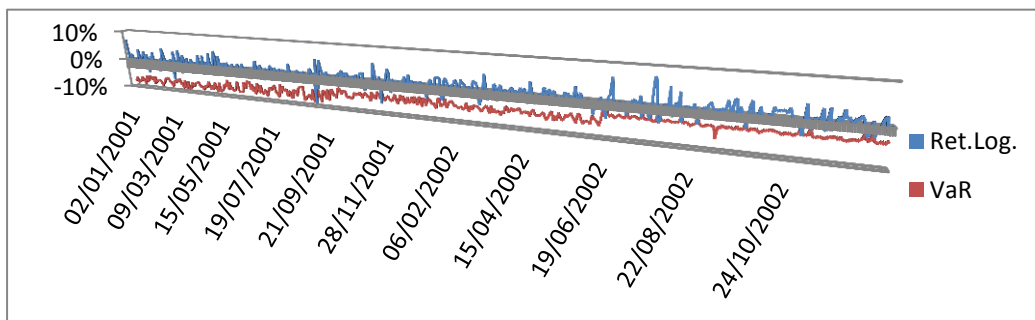


Figura 61: VaR - Carteira B.M.O.L=2,50%.T.V.E. - p = 5%

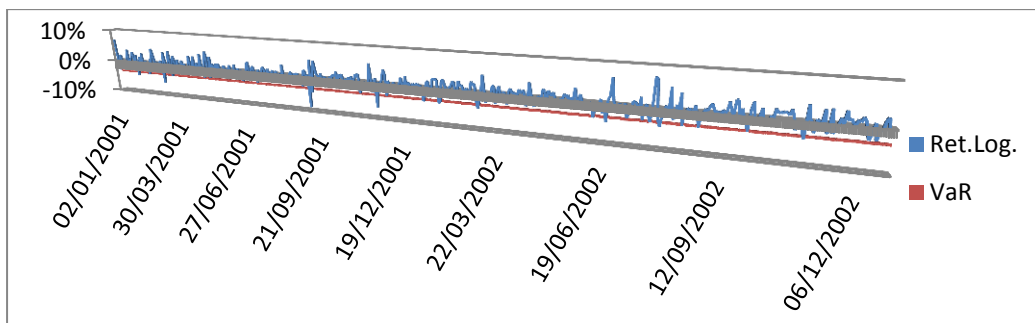


Figura 62: VaR - Carteira B.M.O.L=2,50%.S.M.C. - p = 5%

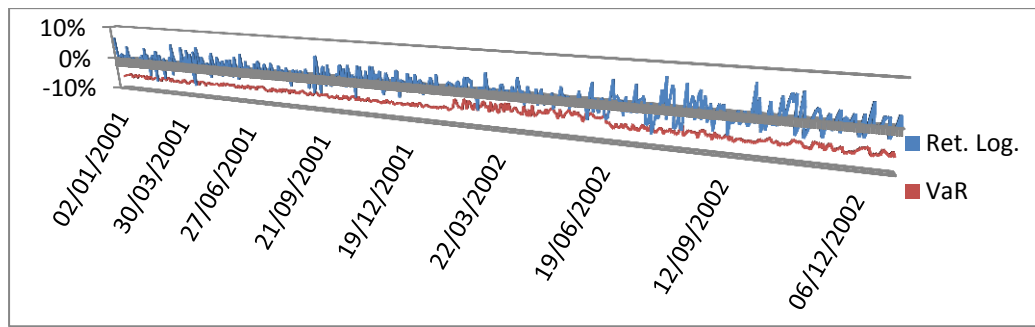


Figura 63: VaR - Carteira B.M.O.L=5%.T.V.E. -  $p = 0,50\%$

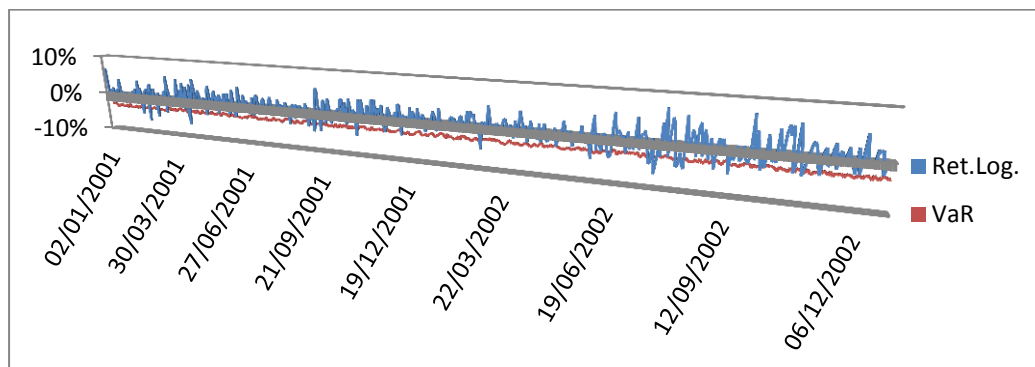


Figura 64: VaR - Carteira B.M.O.L=5%.S.M.C. -  $p = 0,50\%$

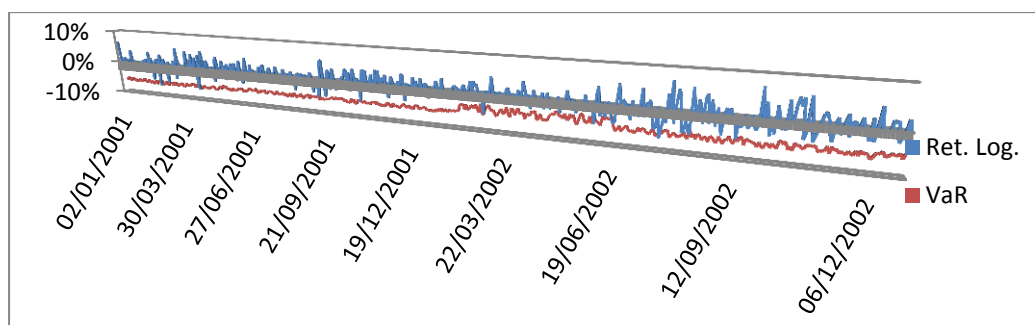


Figura 65: VaR - Carteira B.M.O.L=5%.T.V.E. -  $p = 1\%$

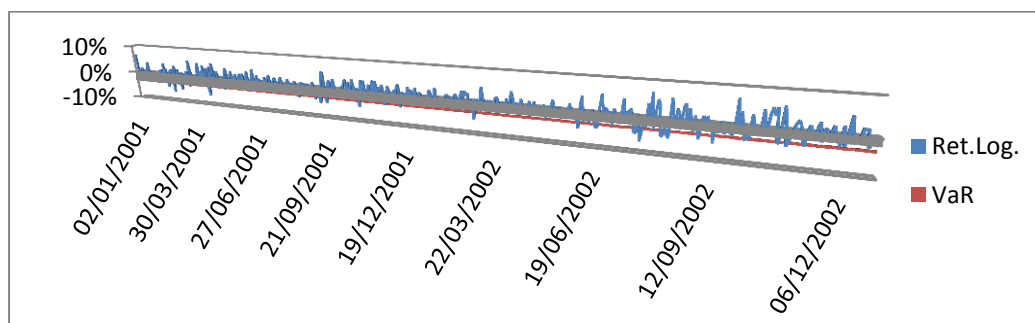


Figura 66: VaR - Carteira B.M.O.L=5%.S.M.C. -  $p = 1\%$



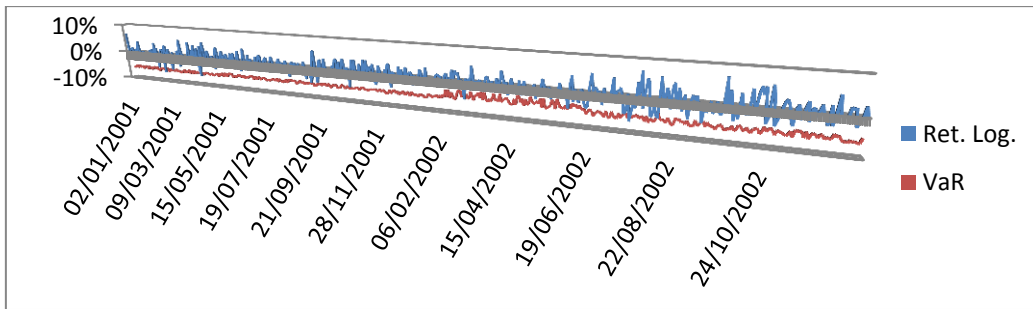


Figura 67: VaR - Carteira B.M.O.L=5%.T.V.E. -  $p = 2,50\%$

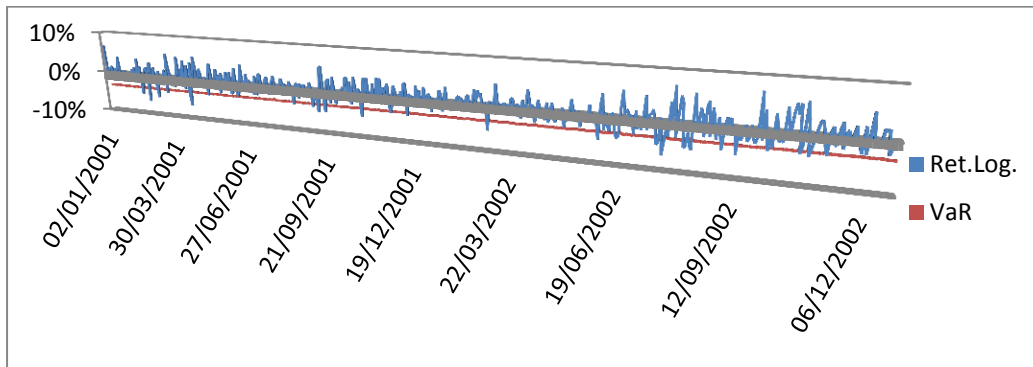


Figura 68: VaR - Carteira B.M.O.L=5%.S.M.C. -  $p = 2,50\%$

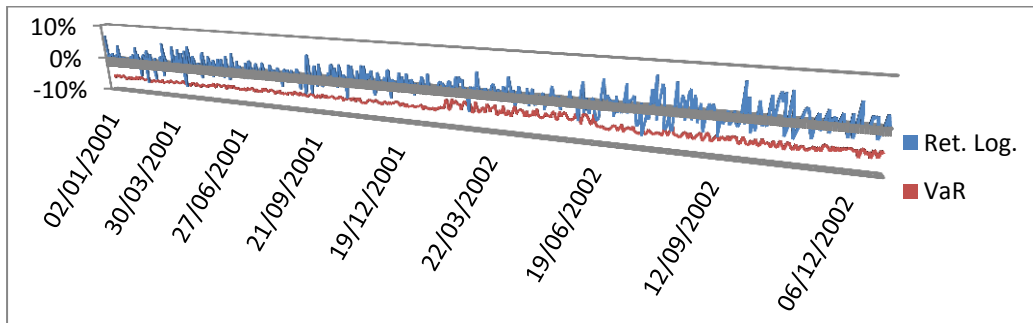


Figura 69: VaR - Carteira B.M.O.L=5%.T.V.E. -  $p = 2,50\%$

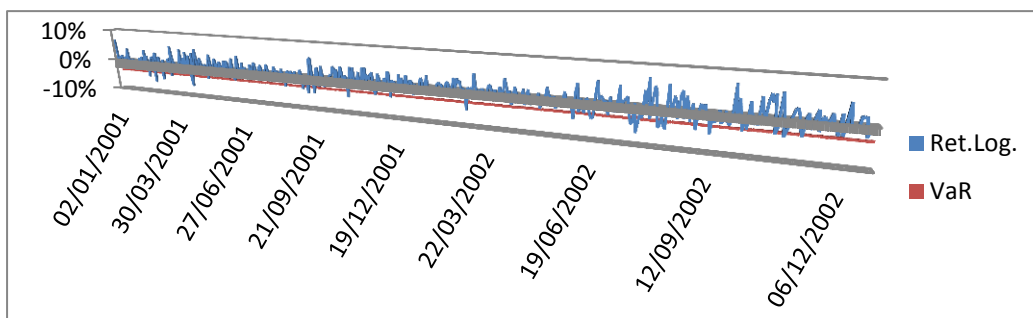


Figura 70: VaR - Carteira B.M.O.L=5%.S.M.C. -  $p = 5\%$

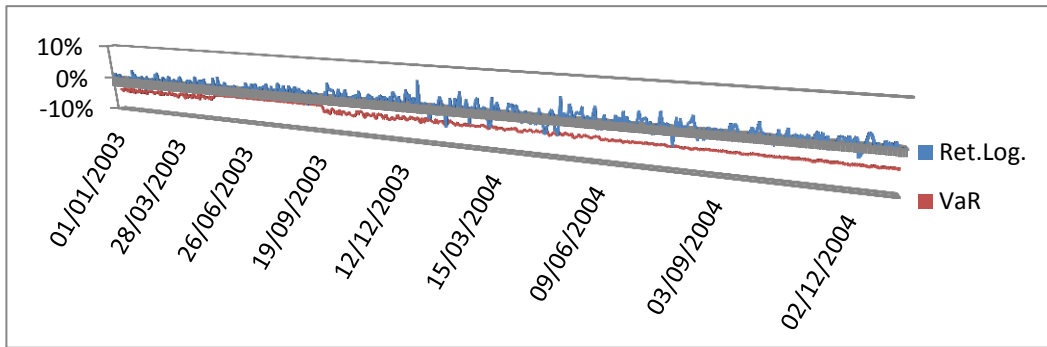


Figura 71: VaR - Carteira C.M.I.U.T.V.E. -  $p = 0,50\%$

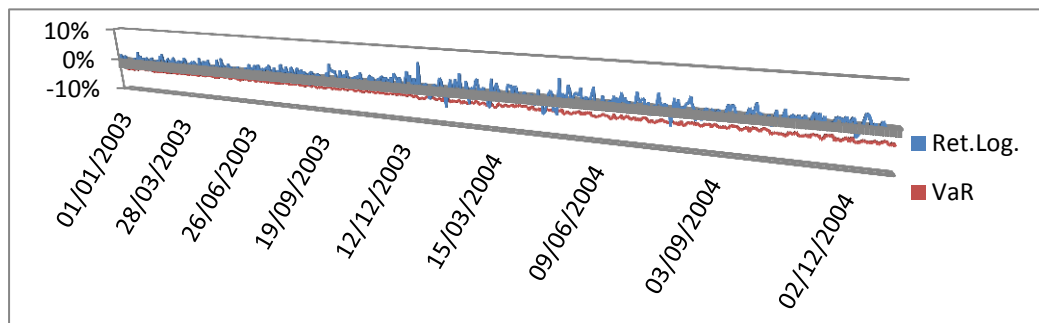


Figura 72: VaR - Carteira C.M.I.U.S.M.C. -  $p = 0,50\%$

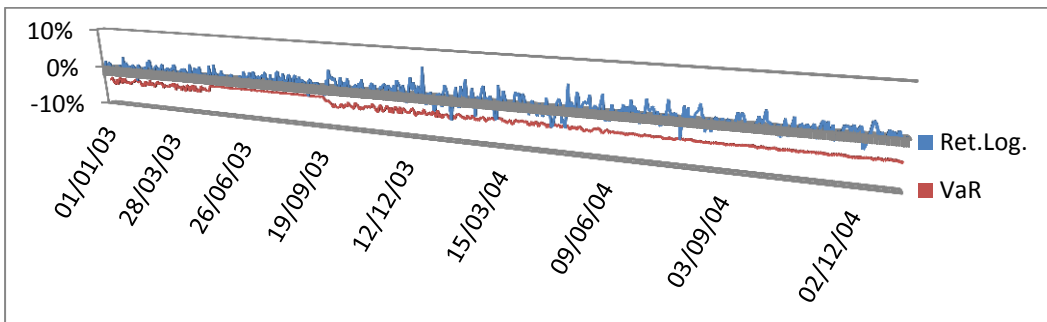


Figura 73: VaR - Carteira C.M.I.U.T.V.E. -  $p = 1\%$

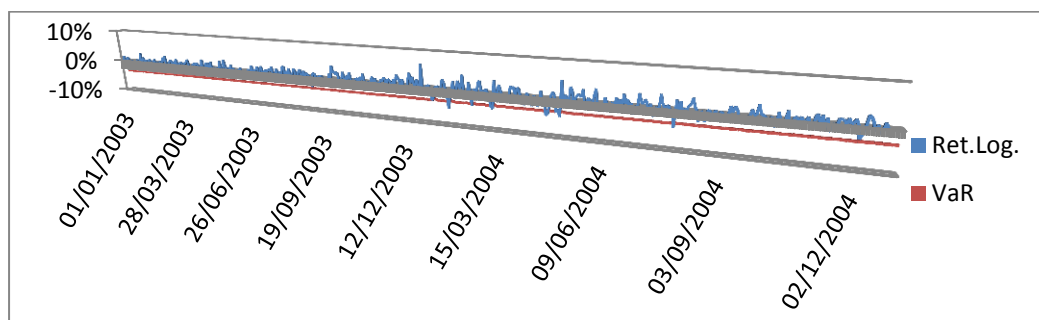


Figura 74: VaR - Carteira C.M.I.U.T.V.E. -  $p = 1\%$

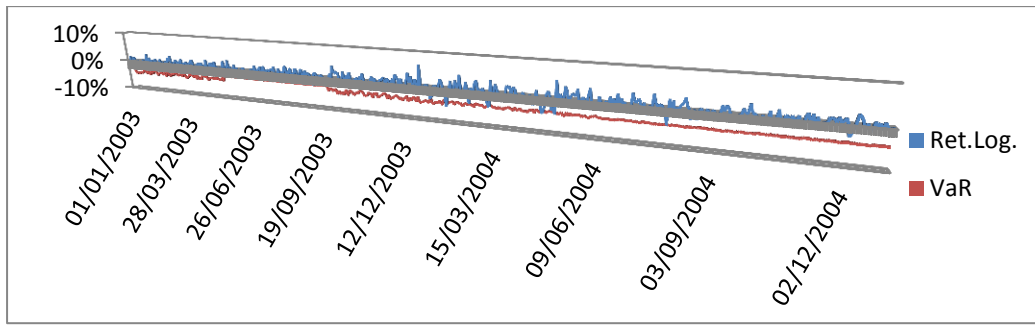


Figura 75: VaR - Carteira C.M.I.U.T.V.E. -  $p = 2,50\%$

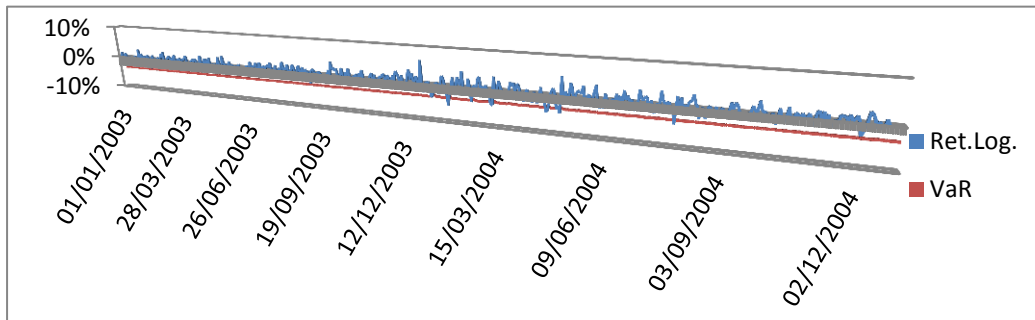


Figura 76: VaR - Carteira C.M.I.U.S.M.C. -  $p = 2,50\%$

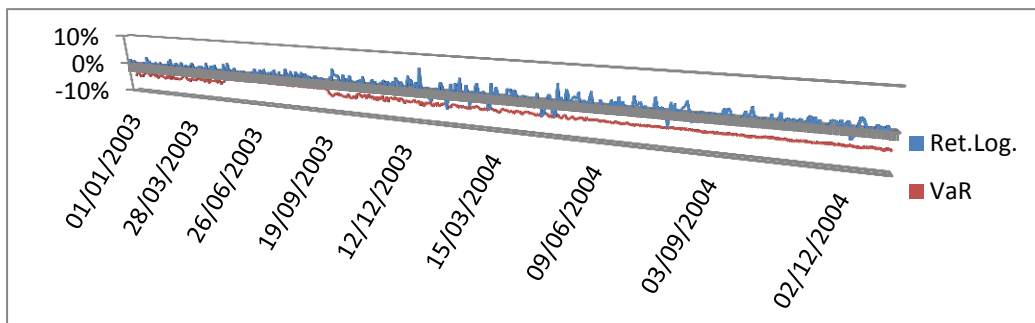


Figura 77: VaR - Carteira C.M.I.U.T.V.E. -  $p = 5\%$

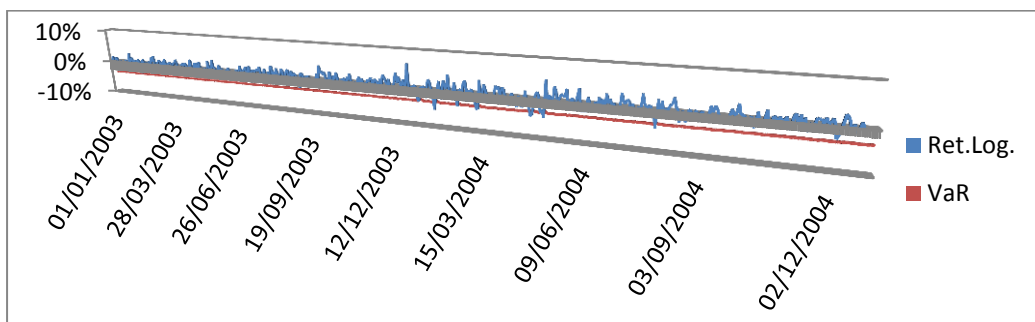


Figura 78: VaR - Carteira C.M.I.U.S.M.C. -  $p = 5\%$

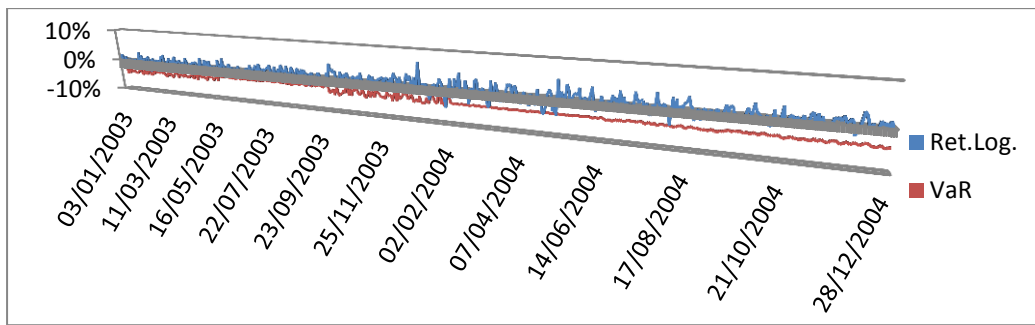


Figura 79: VaR - Carteira C.M.O.L=0%.T.V.E. - p = 0,50%

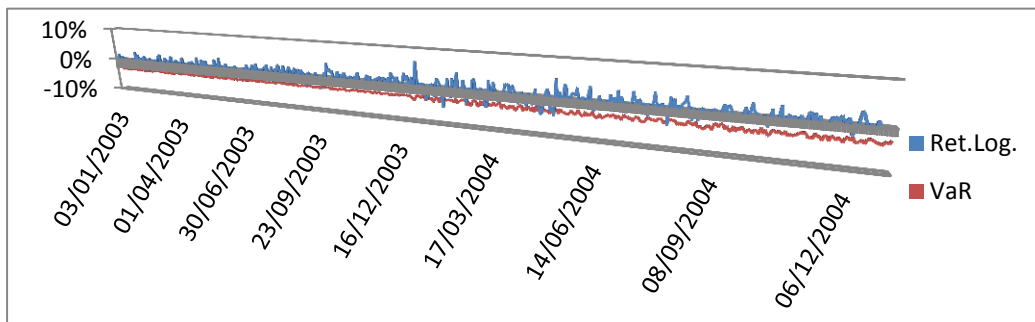


Figura 80: VaR - Carteira C.M.O.L=0%.S.M.C. - p = 0,50%

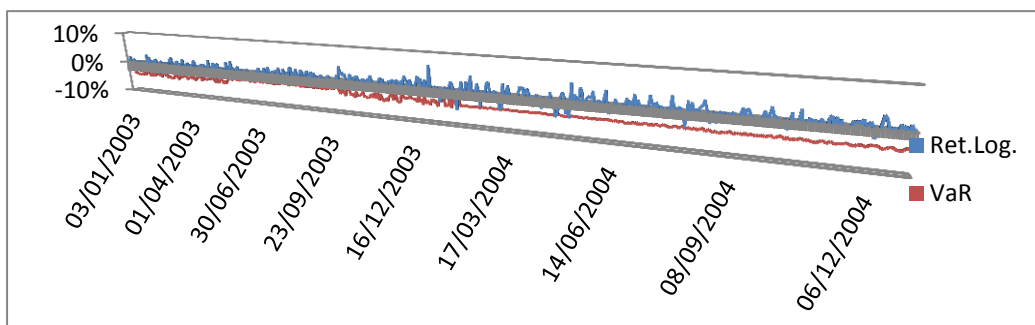


Figura 81: VaR - Carteira C.M.O.L=0%.T.V.E. - p = 1%

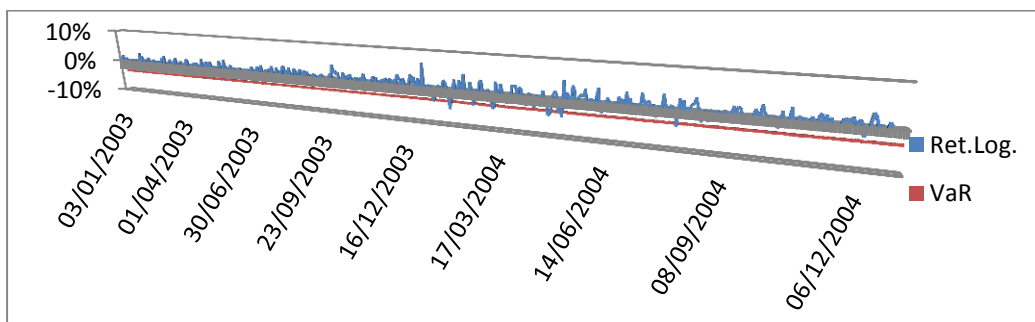


Figura 82: VaR - Carteira C.M.O.L=0%.S.M.C. - p = 1%

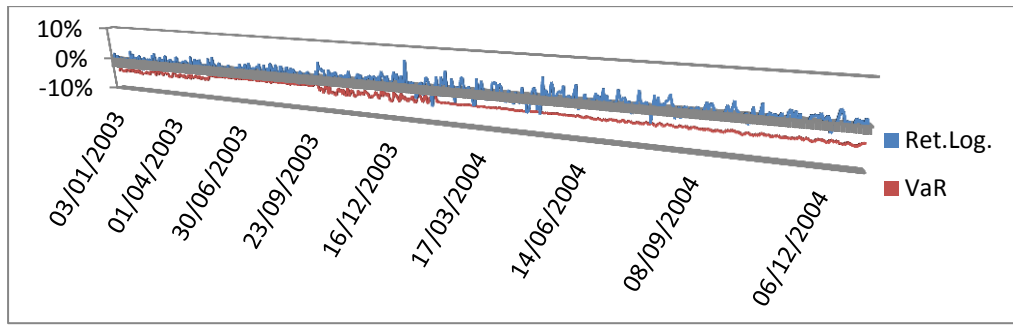


Figura 83: VaR - Carteira C.M.O.L=0%.T.V.E. -  $p = 2,50\%$

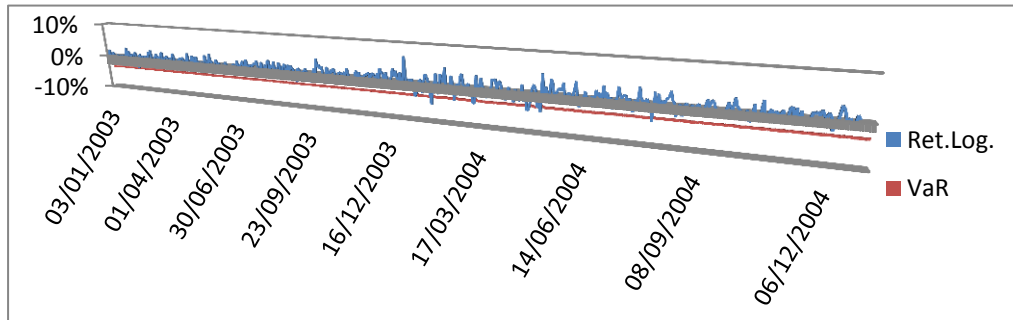


Figura 84: VaR - Carteira C.M.O.L=0%.S.M.C. -  $p = 2,50\%$

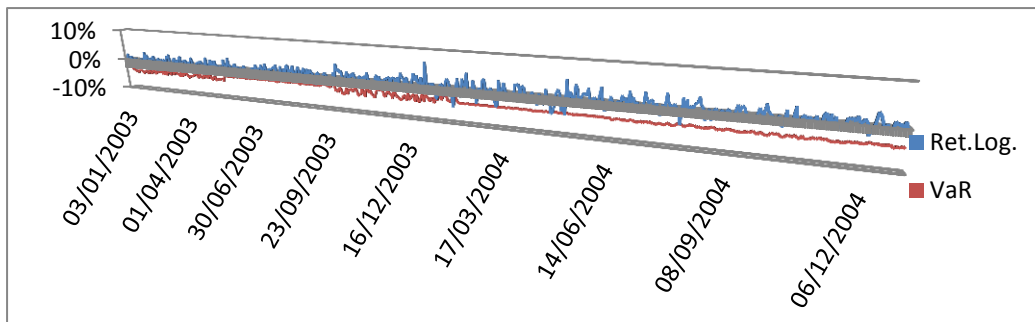


Figura 85: VaR - Carteira C.M.O.L=0%.T.V.E. -  $p = 5\%$

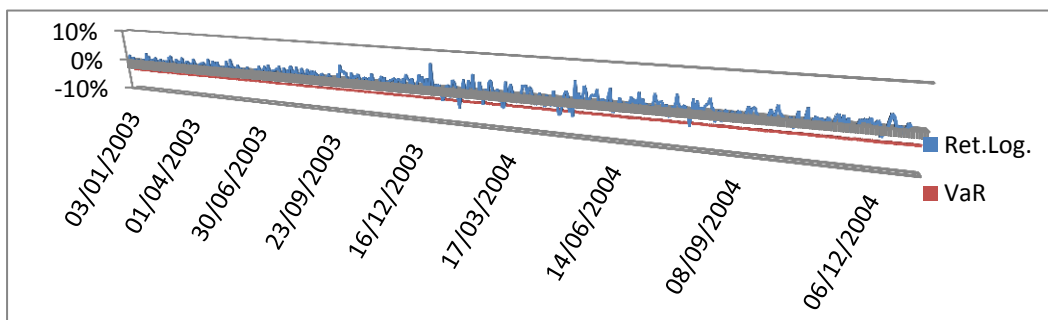


Figura 86: VaR - Carteira C.M.O.L=0%.S.M.C. -  $p = 5\%$

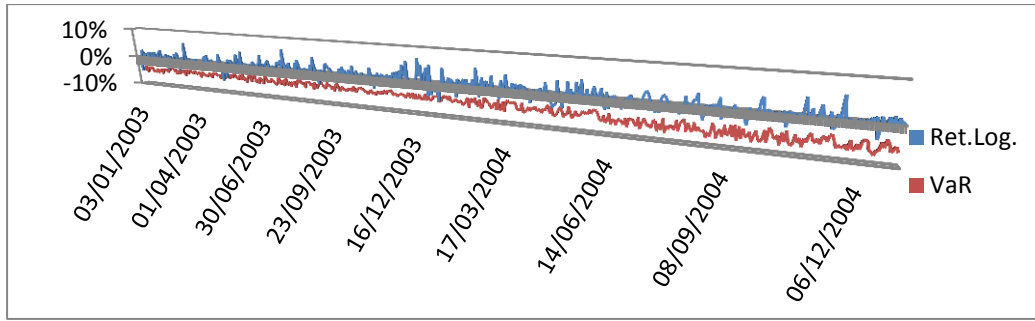


Figura 87: VaR - Carteira C.M.O.L=2,50%.T.V.E. - p = 0,50%

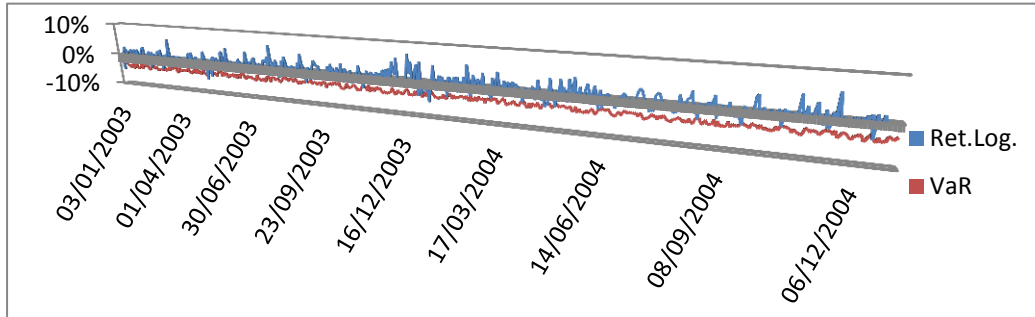


Figura 88: VaR - Carteira C.M.O.L=2,50%.S.M.C. - p = 0,50%

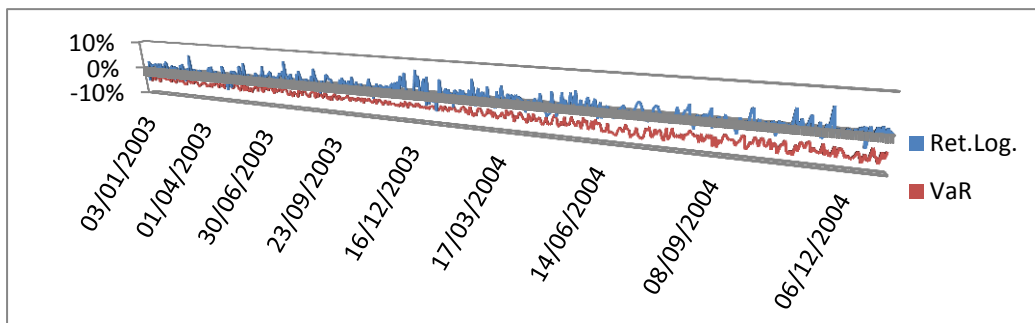


Figura 89: VaR - Carteira C.M.O.L=2,50%.T.V.E. - p = 1%

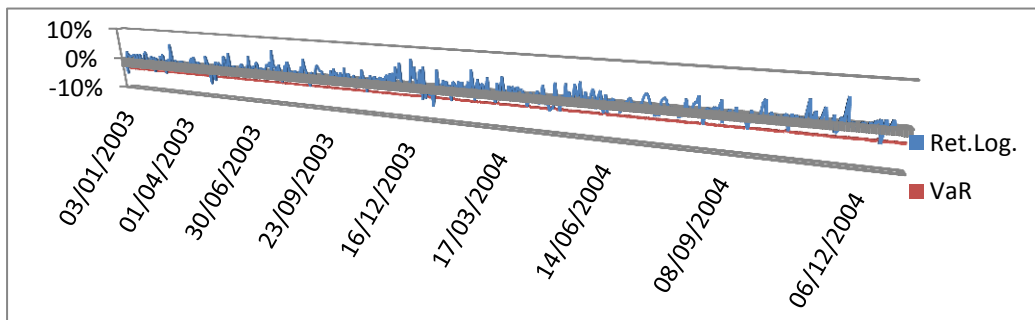


Figura 90: VaR - Carteira C.M.O.L=2,50%.S.M.C. - p = 1%

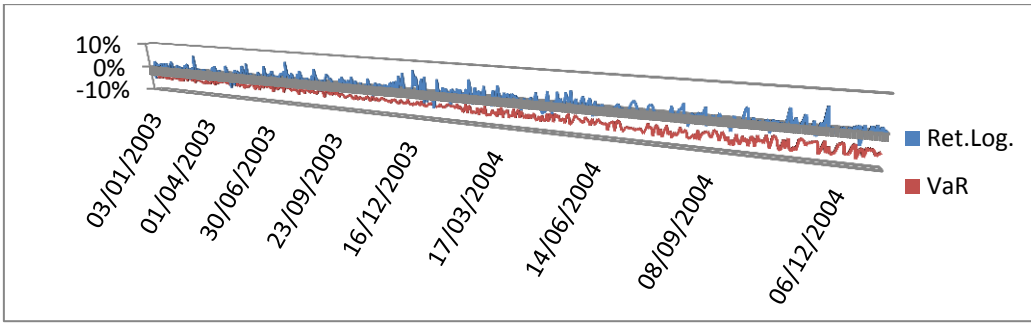


Figura 91: VaR - Carteira C.M.O.L=2,50%.T.V.E. - p = 2,50%

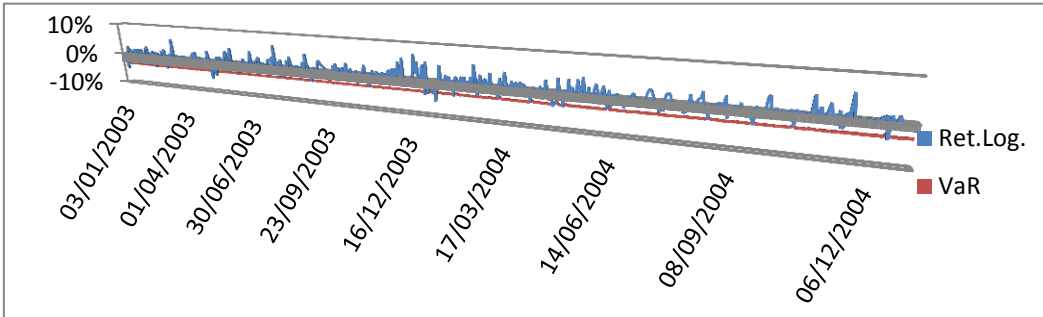


Figura 92: VaR - Carteira C.M.O.L=2,50%.S.M.C. - p = 2,50%

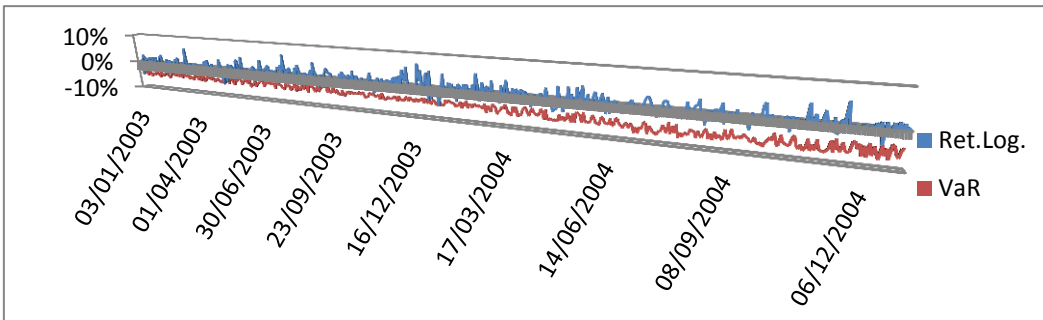


Figura 93: VaR - Carteira C.M.O.L=2,50%.T.V.E. - p = 5%

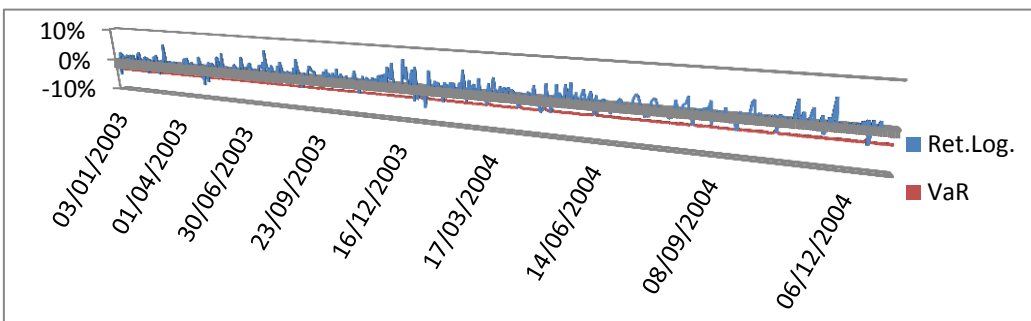


Figura 94: VaR - Carteira C.M.O.L=2,50%.S.M.C. - p = 5%

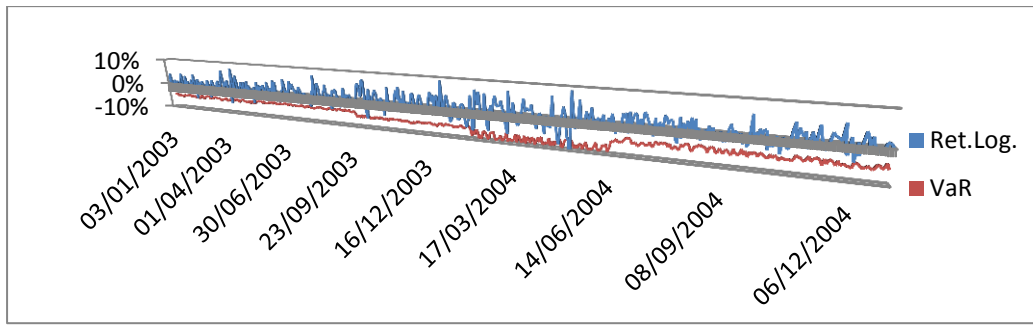


Figura 95: VaR - Carteira C.M.O.L=5%.T.V.E. -  $p = 0,50\%$

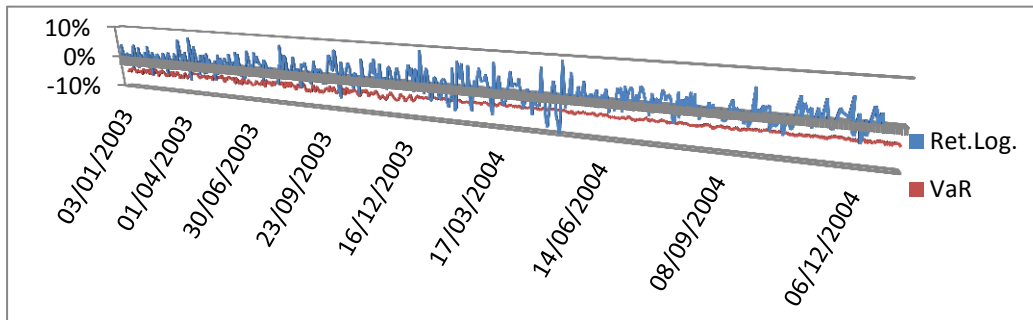


Figura 96: VaR - Carteira C.M.O.L=5%.S.M.C. -  $p = 0,50\%$

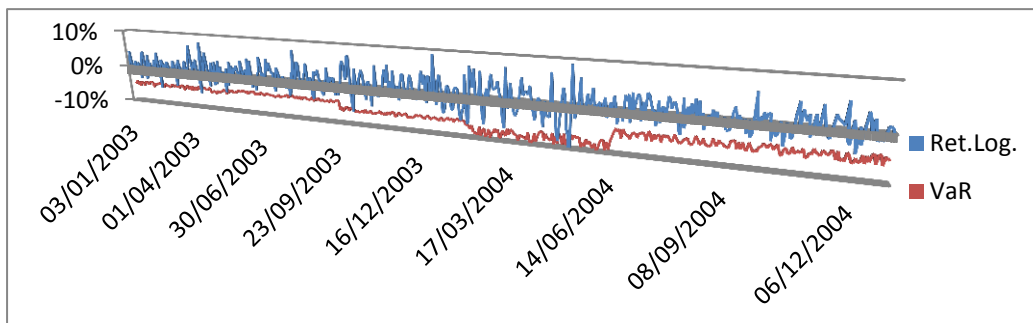


Figura 97: VaR - Carteira C.M.O.L=5%.T.V.E. -  $p = 1\%$

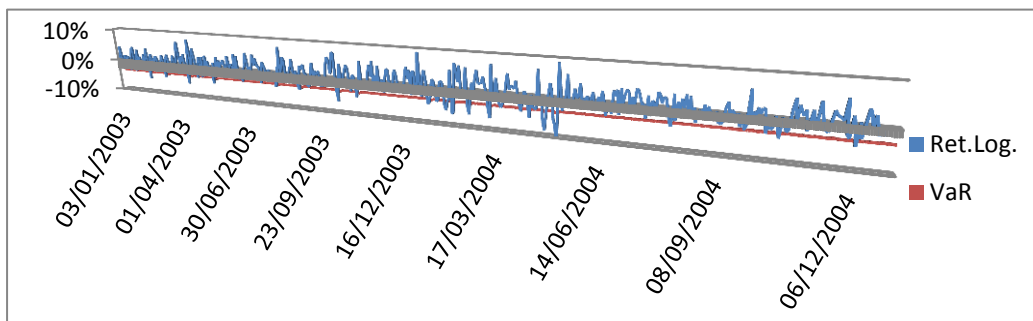


Figura 98: VaR - Carteira C.M.O.L=5%.S.M.C. -  $p = 1\%$



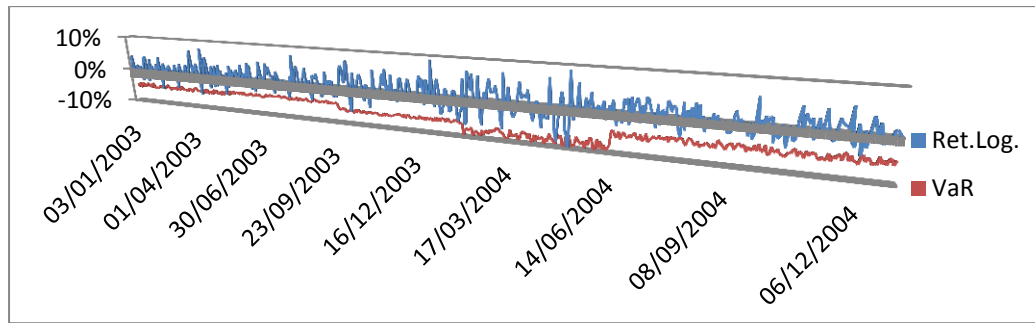


Figura 99: VaR - Carteira C.M.O.L=5%.T.V.E. -  $p = 2,50\%$

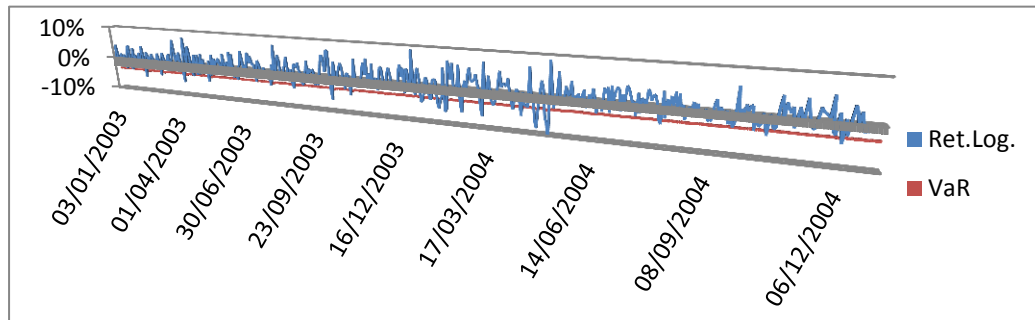


Figura 100: VaR - Carteira C.M.O.L=5%.S.M.C. -  $p = 2,50\%$

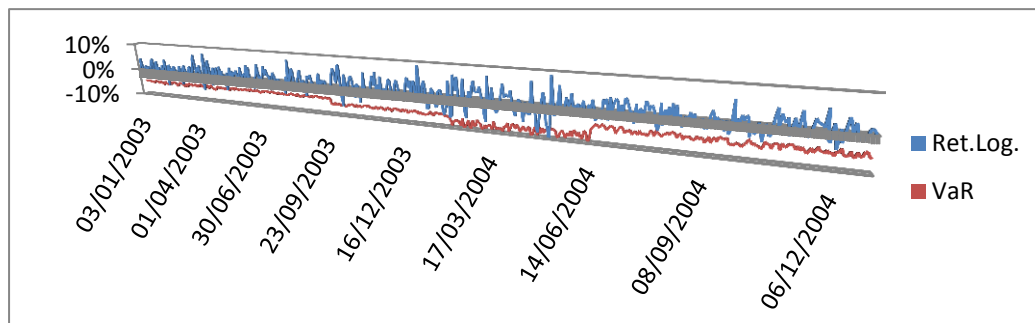


Figura 101: VaR - Carteira C.M.O.L=5%.T.V.E. -  $p = 5\%$

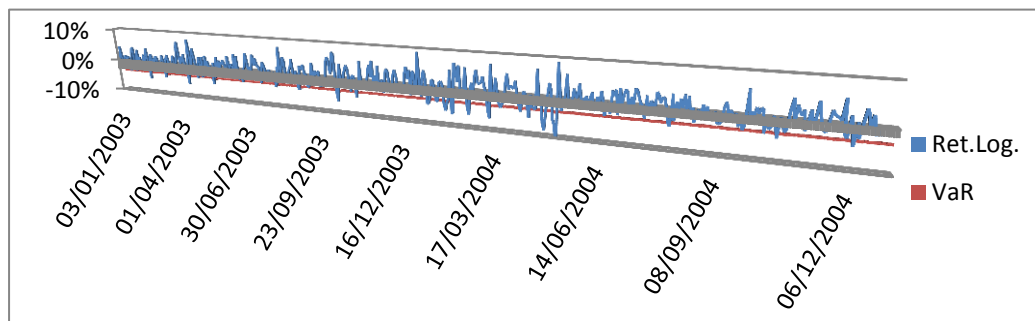


Figura 102: VaR - Carteira C.M.O.L=5%.S.M.C. -  $p = 5\%$

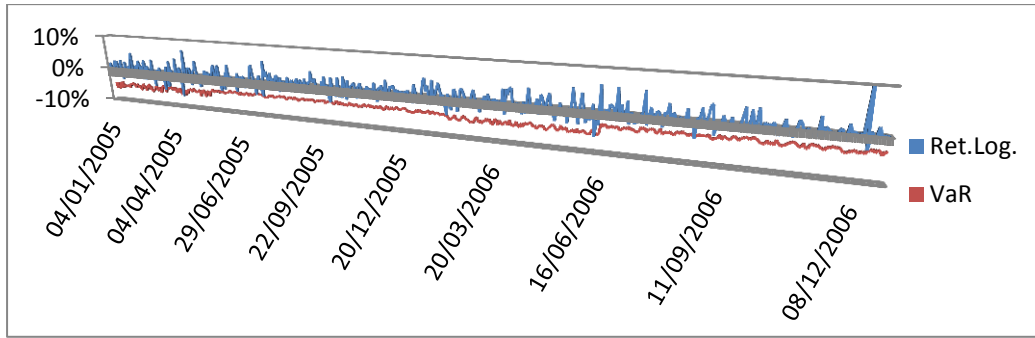


Figura 103: VaR - Carteira D.M.I.U.T.V.E. -  $p = 0,50\%$

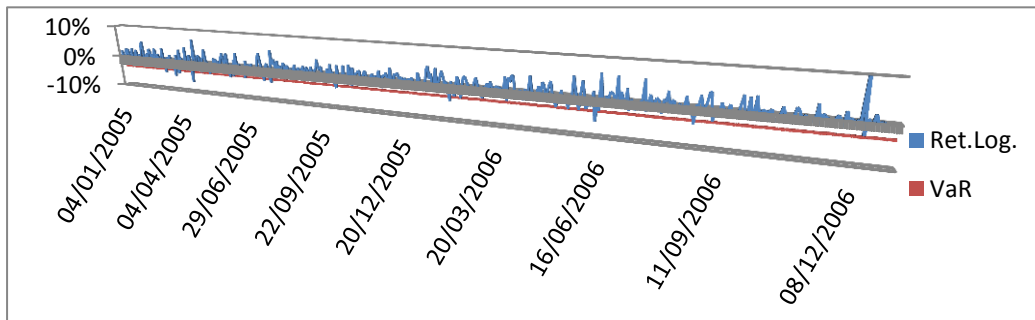


Figura 104: VaR - Carteira D.M.I.U.S.M.C. -  $p = 0,50\%$

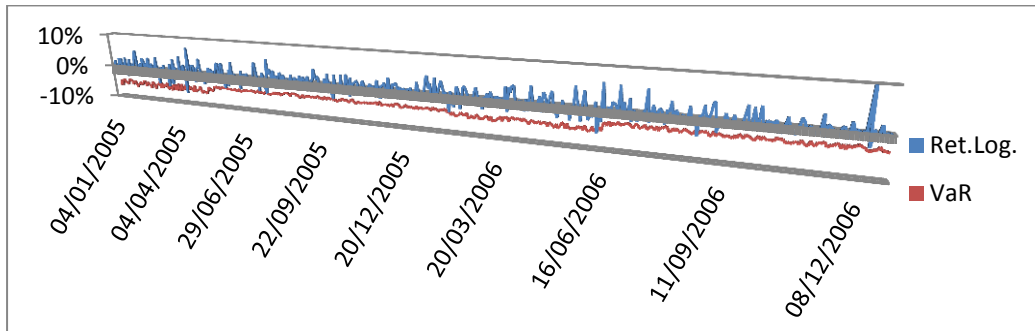


Figura 105: VaR - Carteira D.M.I.U.T.V.E. -  $p = 1\%$

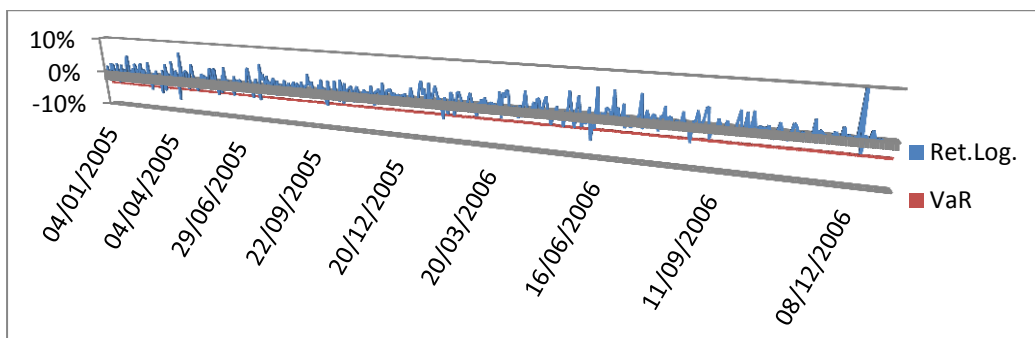


Figura A106: VaR - Carteira D.M.I.U.S.M.C. -  $p = 1\%$

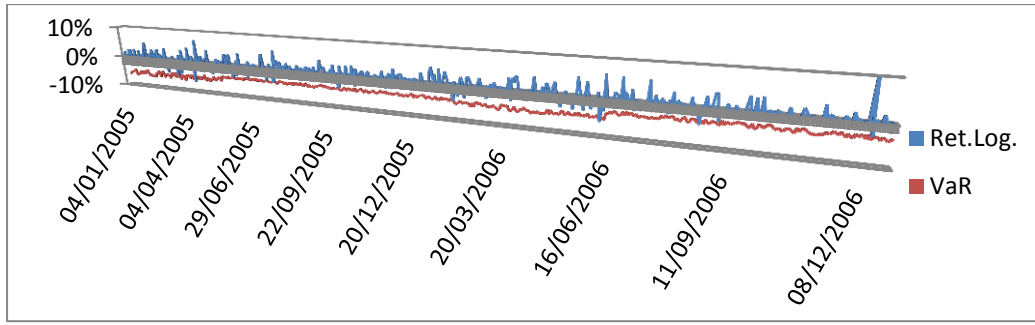


Figura 107: VaR - Carteira D.M.I.U.T.V.E. -  $p = 2,50\%$

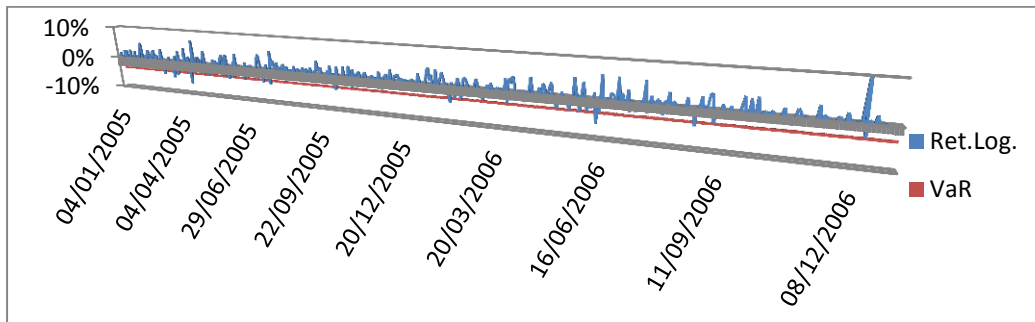


Figura 108: VaR - Carteira D.M.I.U.S.M.C. -  $p = 2,50\%$

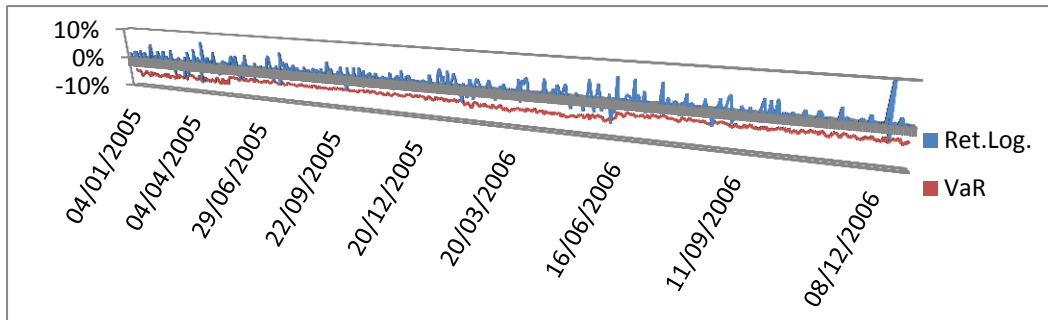


Figura 109: VaR - Carteira D.M.I.U.T.V.E. -  $p = 5\%$

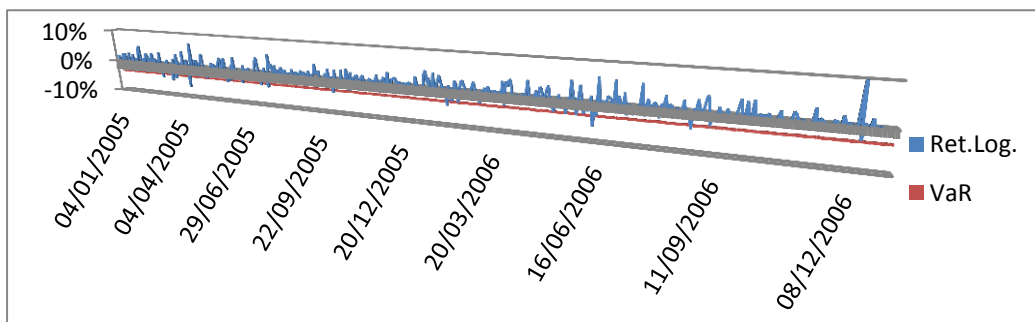


Figura 110: VaR - Carteira D.M.I.U.S.M.C. -  $p = 5\%$

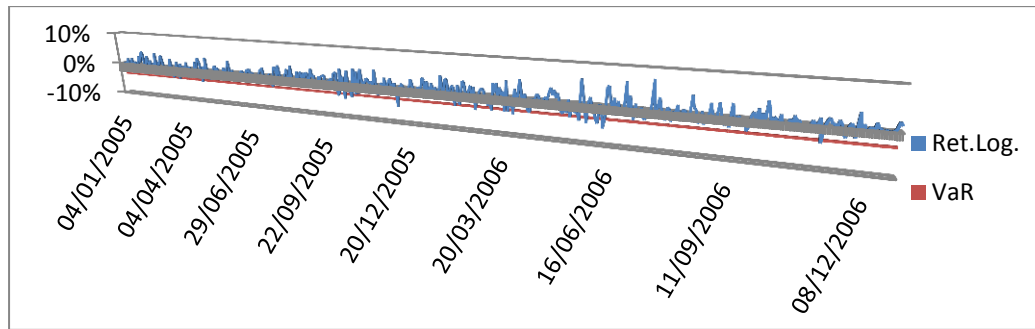


Figura 111: VaR - Carteira D.M.O.L=0%.T.V.E. -  $p = 0,50\%$

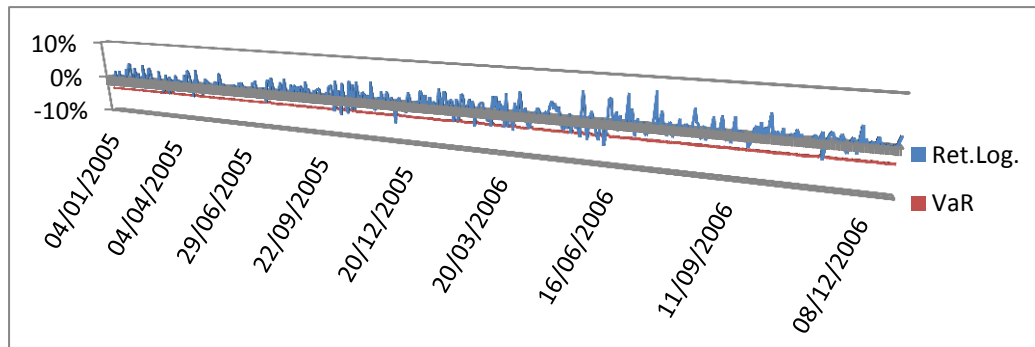


Figura 112: VaR - Carteira D.M.O.L=0%.S.M.C. -  $p = 0,50\%$

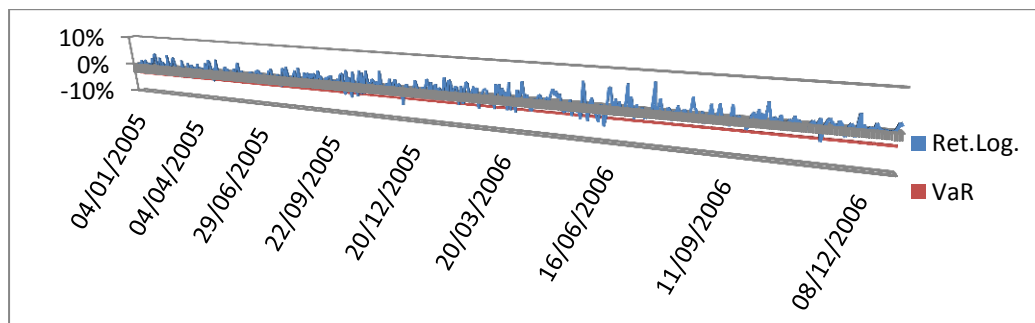


Figura 113: VaR - Carteira D.M.O.L=0%.T.V.E. -  $p = 1\%$

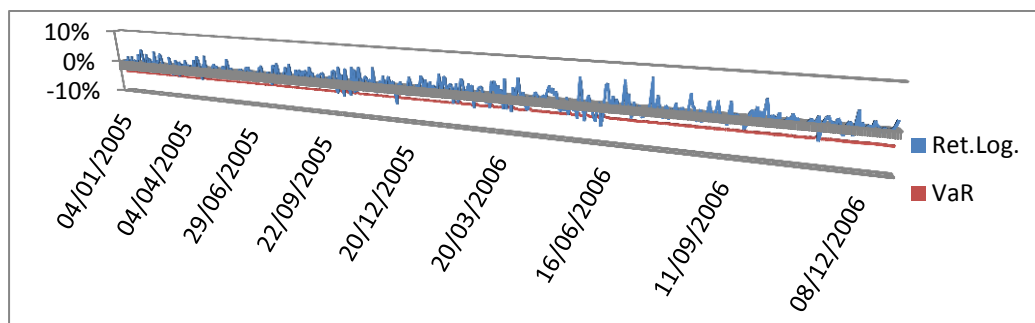


Figura 114: VaR - Carteira D.M.O.L=0%.S.M.C. -  $p = 1\%$

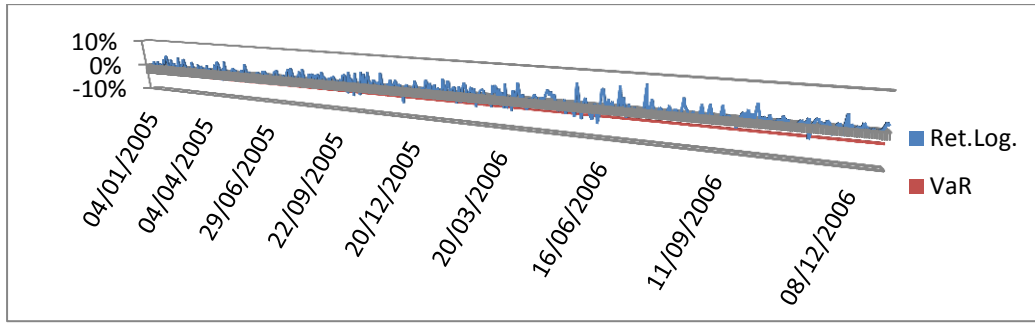


Figura 115: VaR - Carteira D.M.O.L=0%.T.V.E. - p = 2,50%

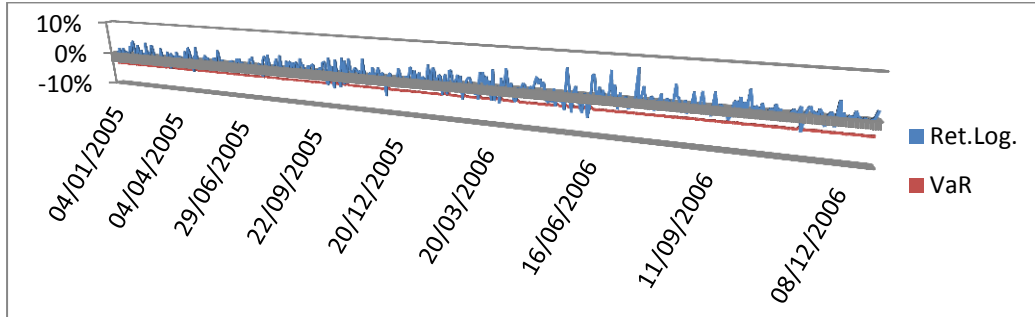


Figura 116: VaR - Carteira D.M.O.L=0%.S.M.C. - p = 2,50%

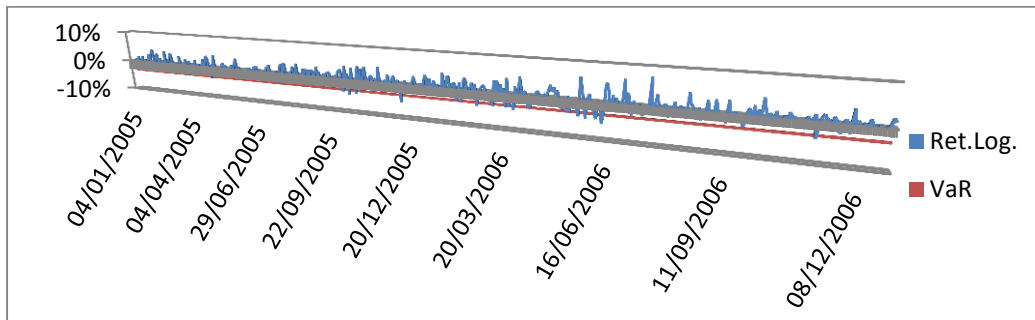


Figura 117: VaR - Carteira D.M.O.L=0%.T.V.E. - p = 5%

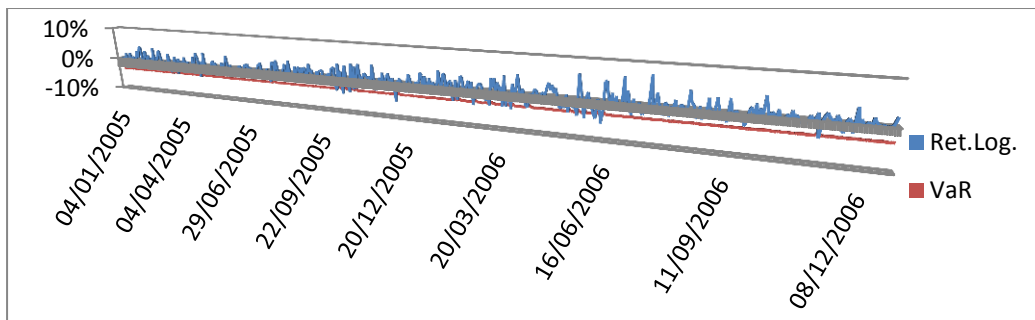


Figura 118: VaR - Carteira D.M.O.L=0%.S.M.C. - p = 5%

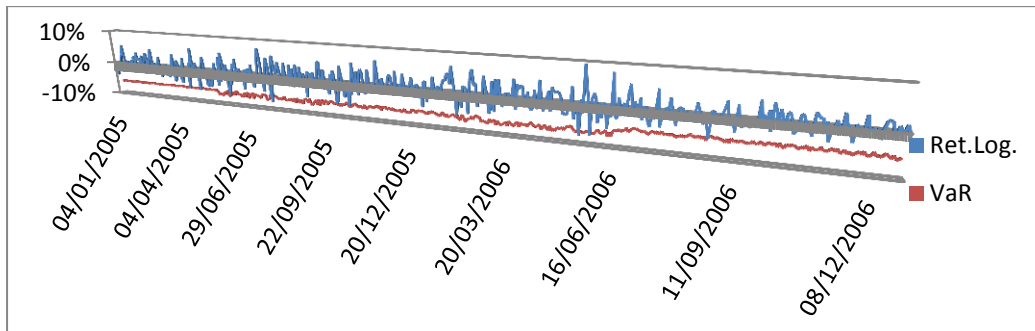


Figura 119: VaR - Carteira D.M.O.L=2,50%.T.V.E. - p = 0,50%

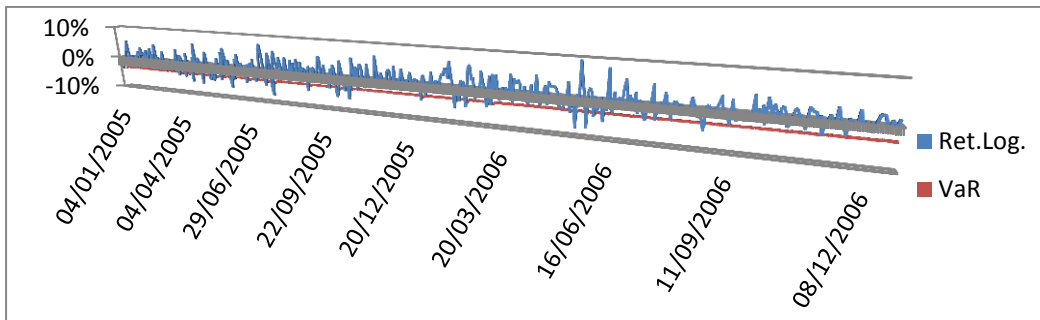


Figura 120: VaR - Carteira D.M.O.L=2,50%.S.M.C. - p = 0,50%

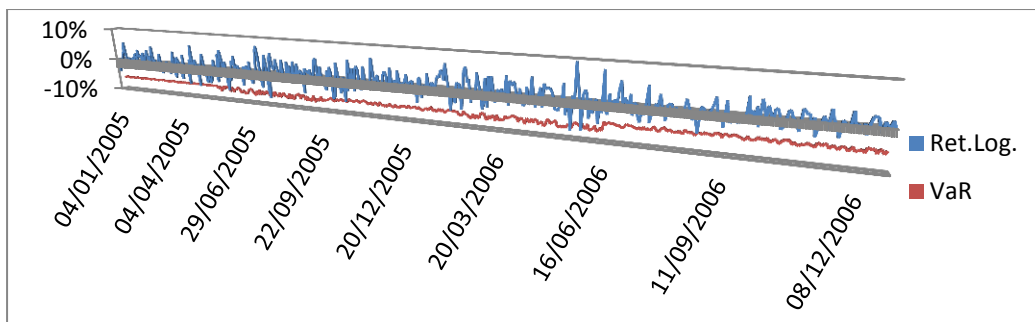


Figura 121: VaR - Carteira D.M.O.L=2,50%.T.V.E. - p = 1%

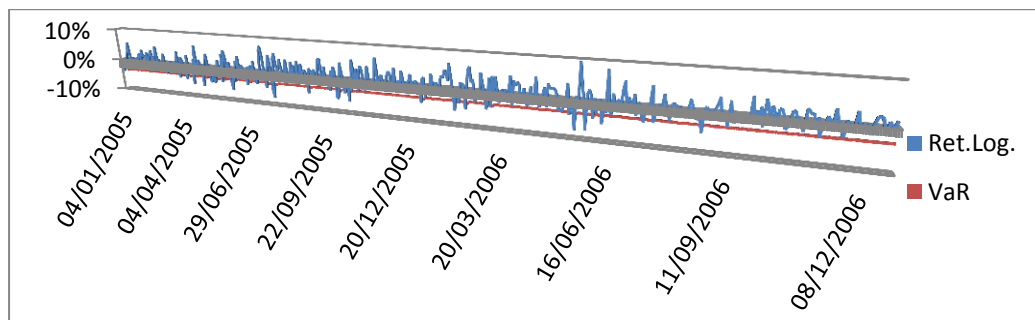


Figura 122: VaR - Carteira D.M.O.L=2,50%.S.M.C. - p = 1%

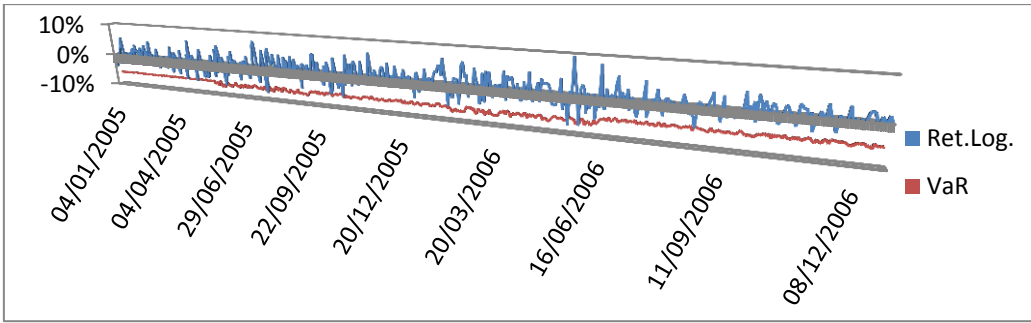


Figura 123: VaR - Carteira D.M.O.L=2,50%.T.V.E. - p = 2,50%

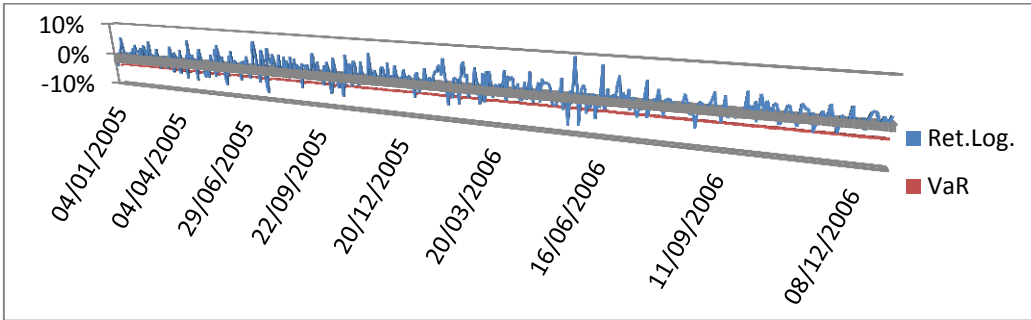


Figura 124: VaR - Carteira D.M.O.L=2,50%.S.M.C. - p = 2,50%

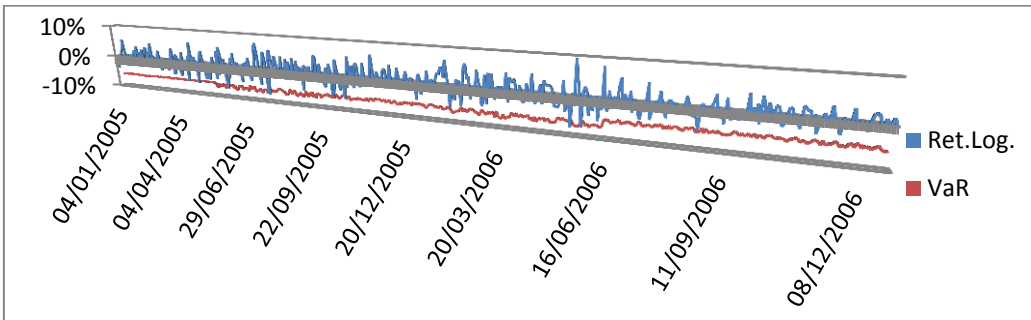


Figura 125: VaR - Carteira D.M.O.L=2,50%.T.V.E. - p = 2,50%

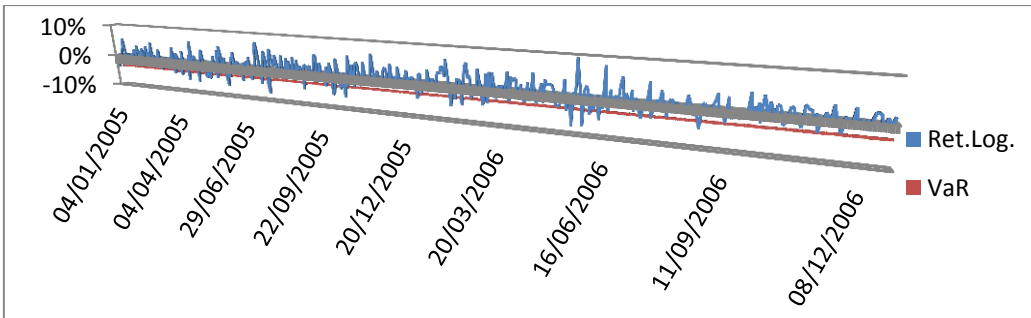


Figura 126: VaR - Carteira D.M.O.L=2,50%.S.M.C. - p = 5%

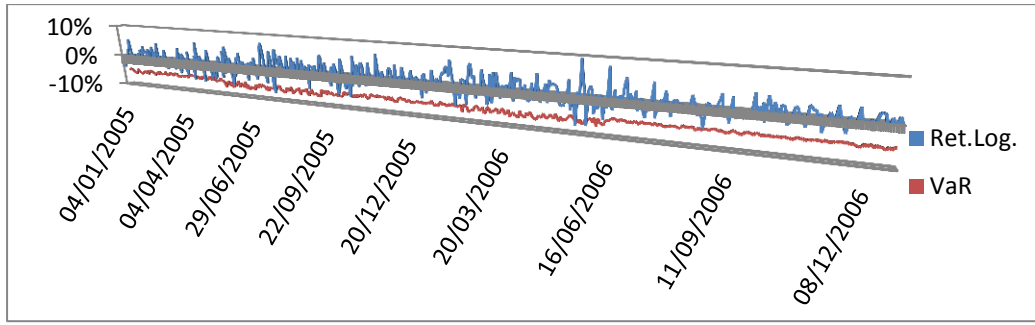


Figura 127: VaR - Carteira D.M.O.L=5%.T.V.E. - p = 0,50%

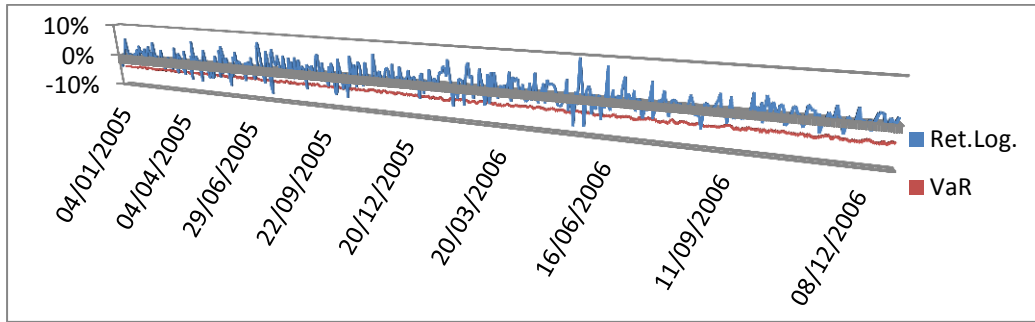


Figura 128: VaR - Carteira D.M.O.L=5%.S.M.C. - p = 0,50%

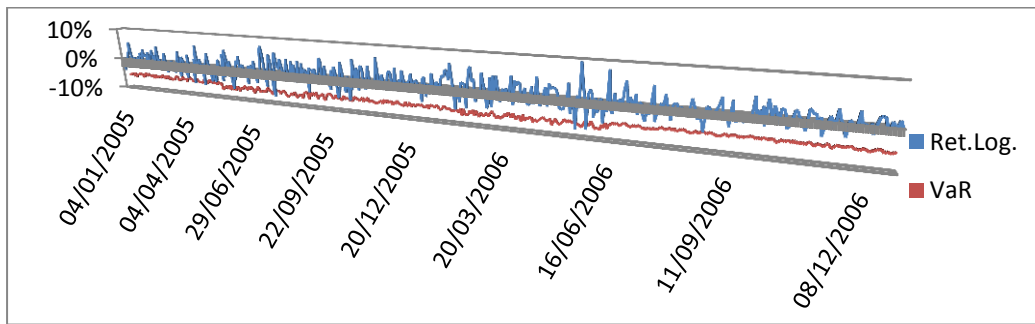


Figura 129: VaR - Carteira D.M.O.L=5%.T.V.E. - p = 1%

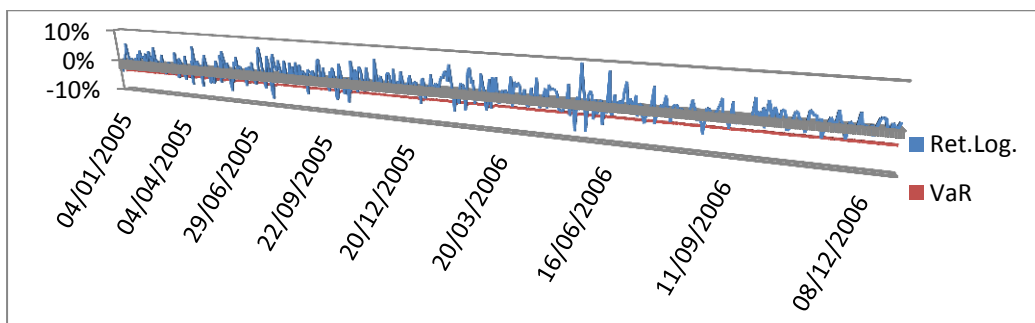


Figura 130: VaR - Carteira D.M.O.L=5%.S.M.C. - p = 1%



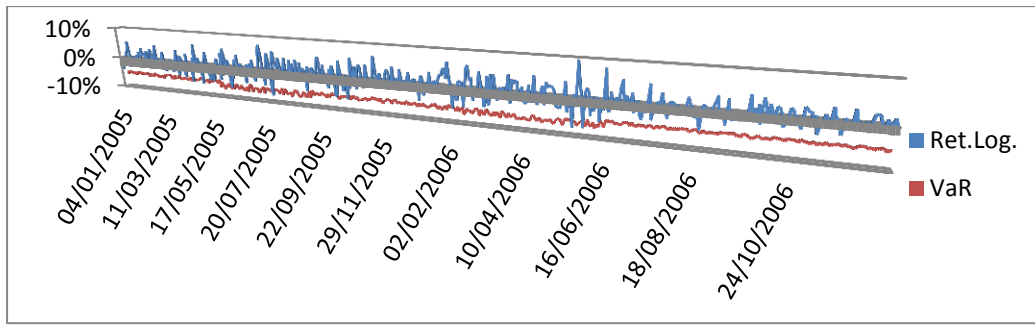


Figura 131: VaR - Carteira D.M.O.L=5%.T.V.E. - p = 2,50%

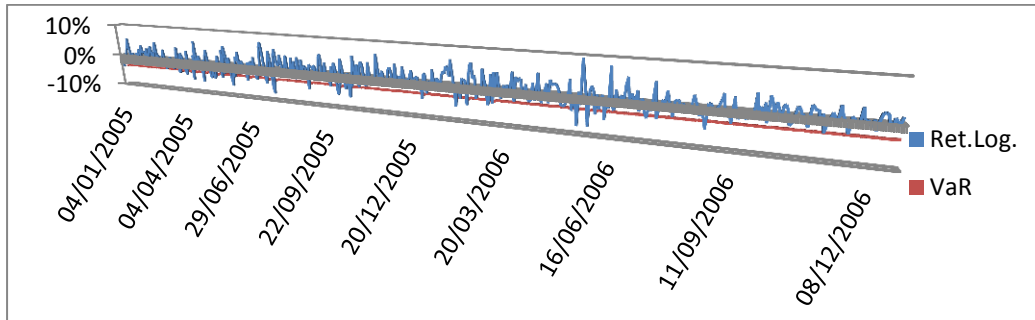


Figura 132: VaR - Carteira D.M.O.L=5%.S.M.C. - p = 2,50%

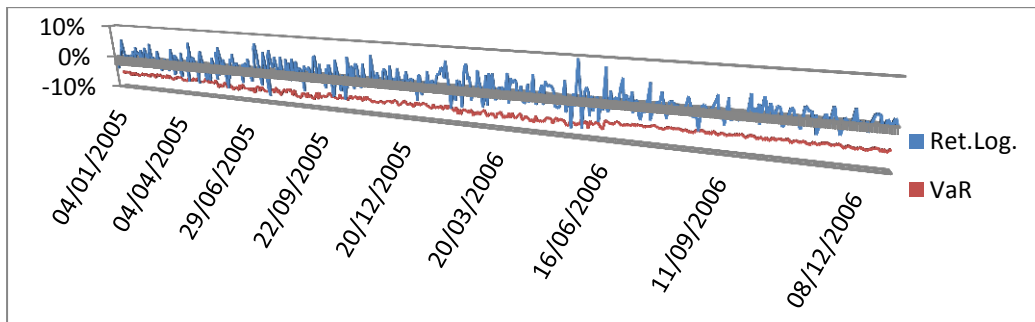


Figura 133: VaR - Carteira D.M.O.L=5%.T.V.E. - p = 5%

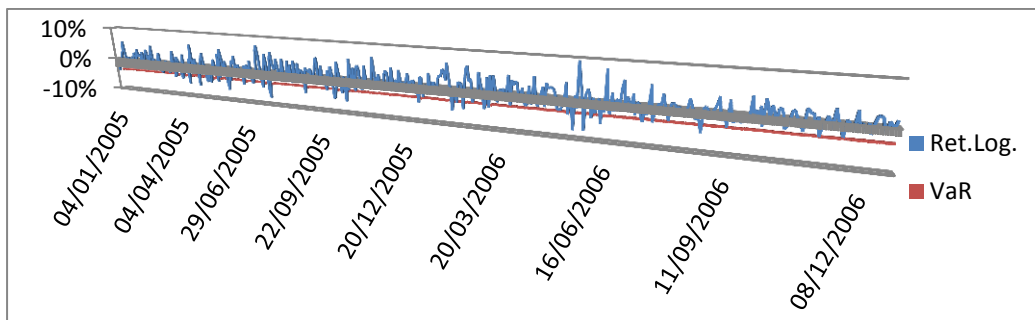


Figura 134: VaR - Carteira D.M.O.L=5%.S.M.C. - p = 5%

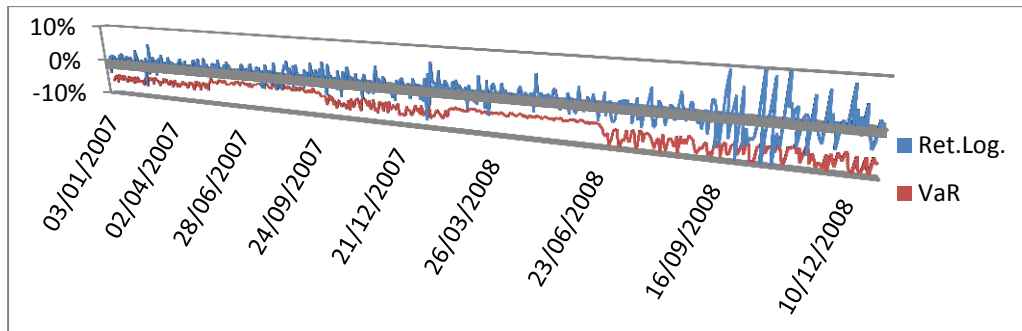


Figura 135: VaR - Carteira E.M.I.U.T.V.E. -  $p = 0,50\%$

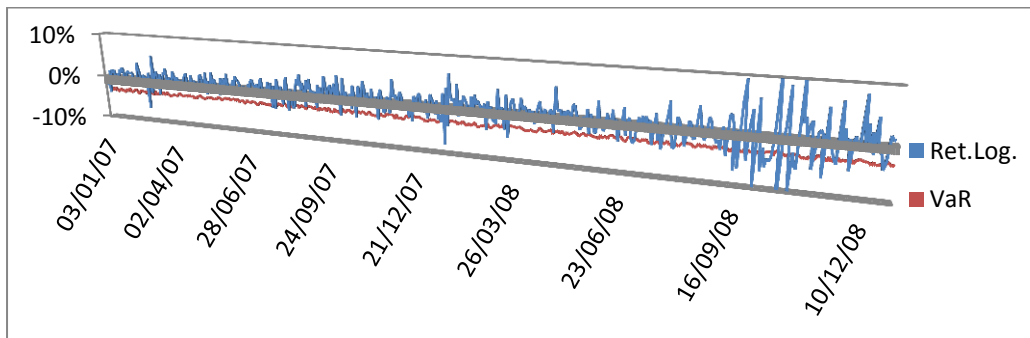


Figura 136: VaR - Carteira E.M.I.U.S.M.C. -  $p = 0,50\%$

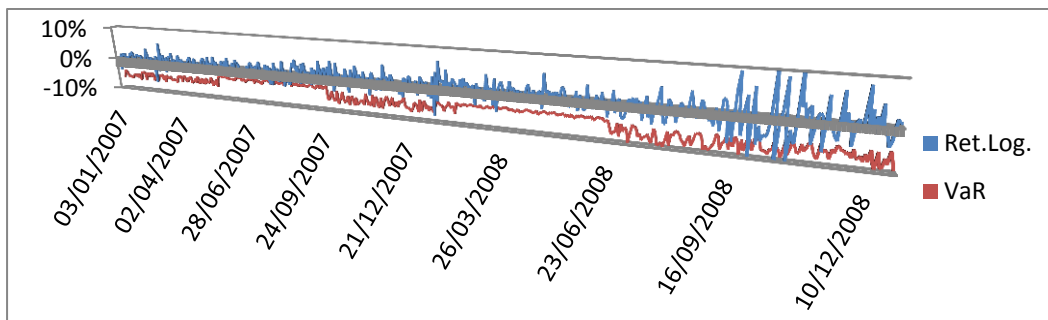


Figura 137: VaR - Carteira E.M.I.U.T.V.E. -  $p = 1\%$

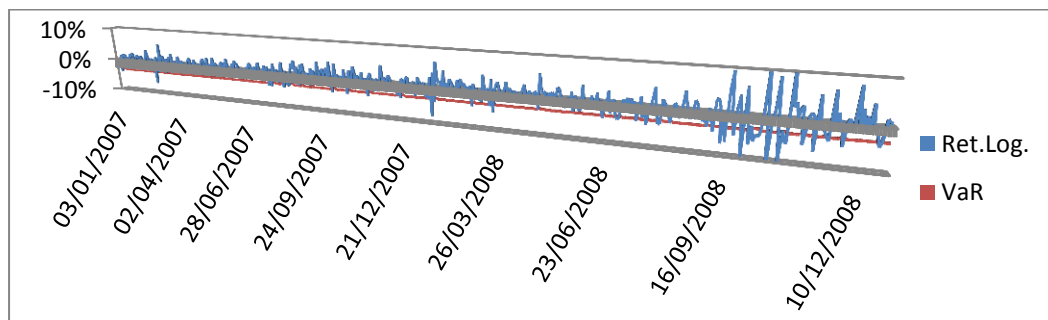


Figura 138: VaR - Carteira E.M.I.U.S.M.C. -  $p = 1\%$

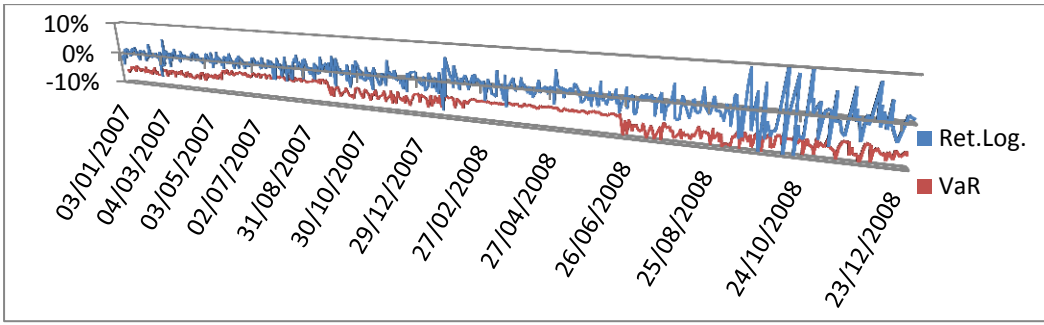


Figura 139: VaR - Carteira E.M.I.U.T.V.E. -  $p = 2,50\%$

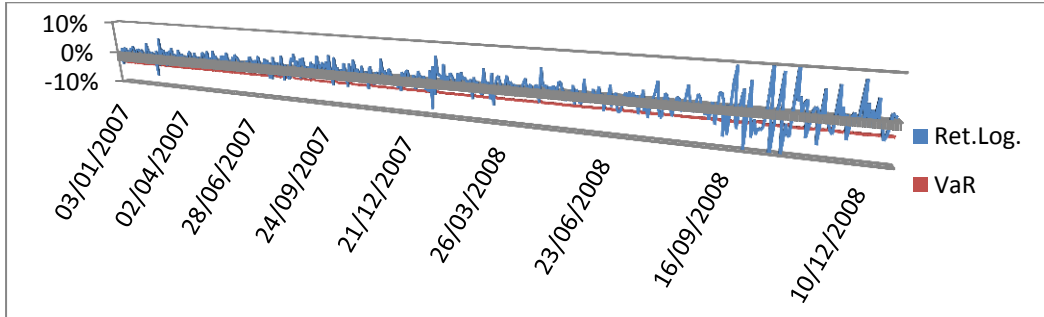


Figura 140: VaR - Carteira E.M.I.U.S.M.C. -  $p = 2,50\%$

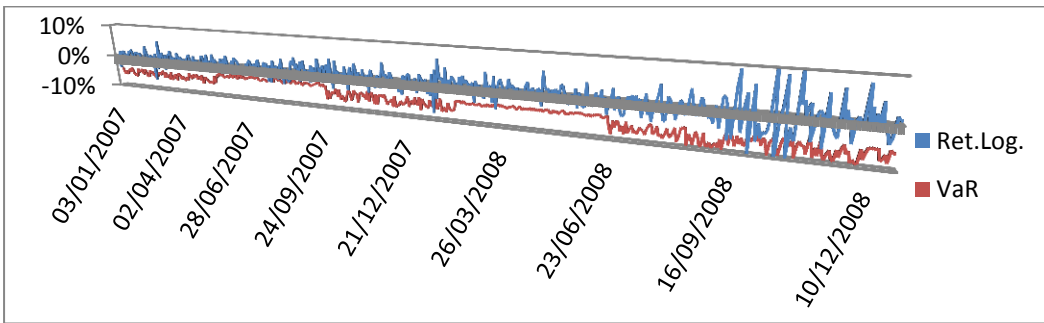


Figura 141: VaR - Carteira E.M.I.U.T.V.E. -  $p = 5\%$

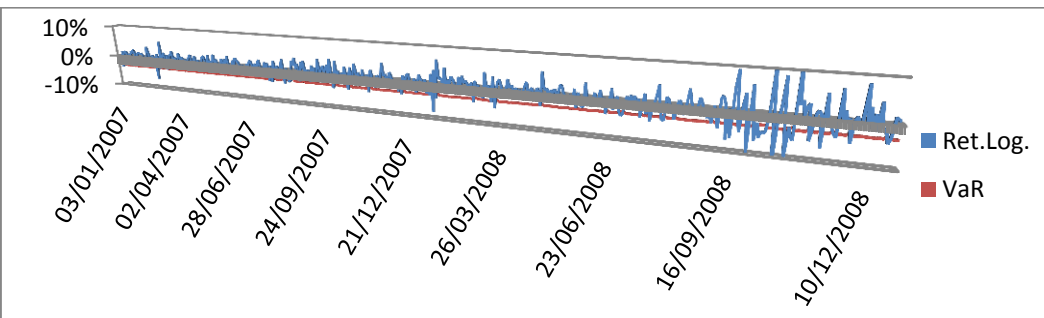


Figura 142: VaR - Carteira E.M.I.U.S.M.C. -  $p = 5\%$

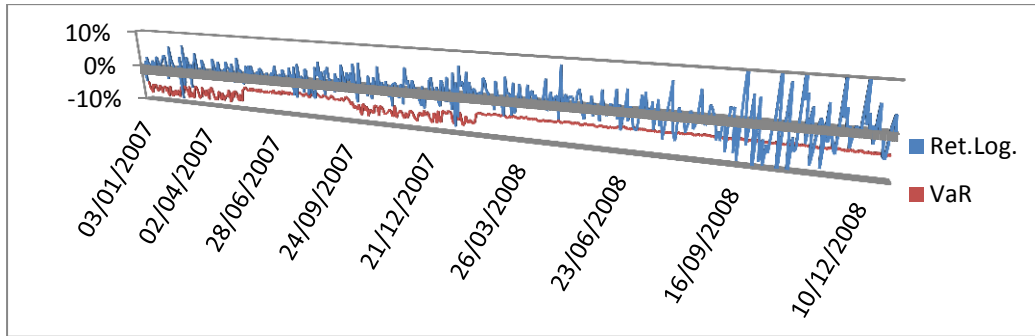


Figura 143: VaR - Carteira E.M.O.L=0%.T.V.E. -  $p = 0,50\%$

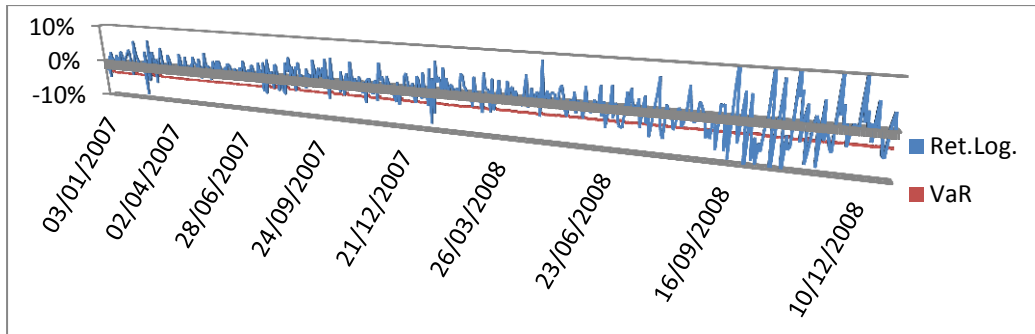


Figura 144: VaR - Carteira E.M.O.L=0%.S.M.C. -  $p = 0,50\%$

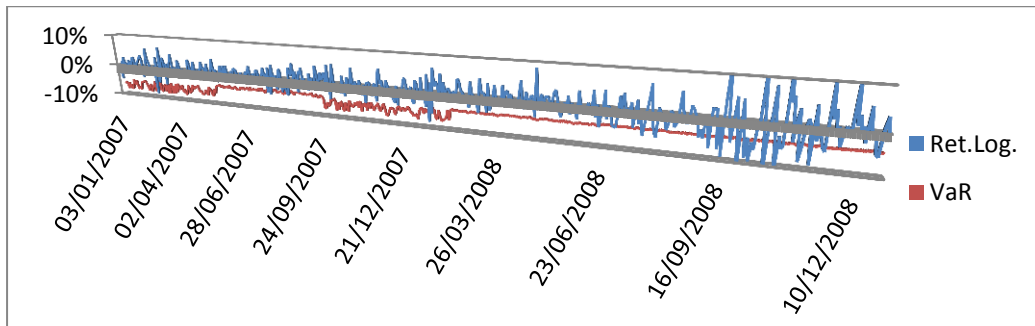


Figura 145: VaR - Carteira E.M.O.L=0%.T.V.E. -  $p = 1\%$

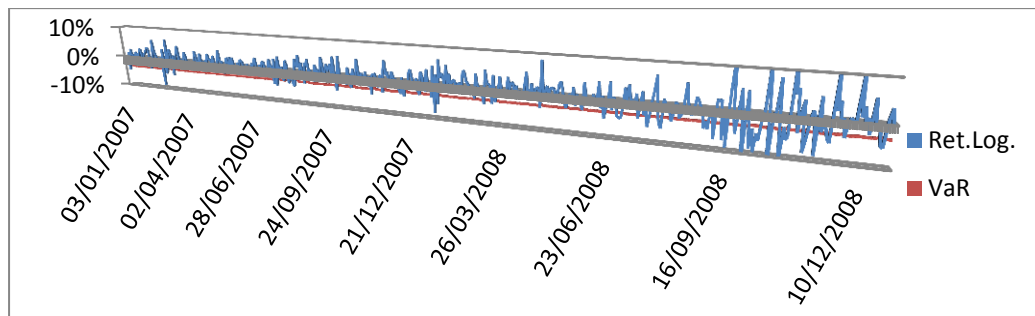


Figura 146: VaR - Carteira E.M.O.L=0%.S.M.C. -  $p = 1\%$

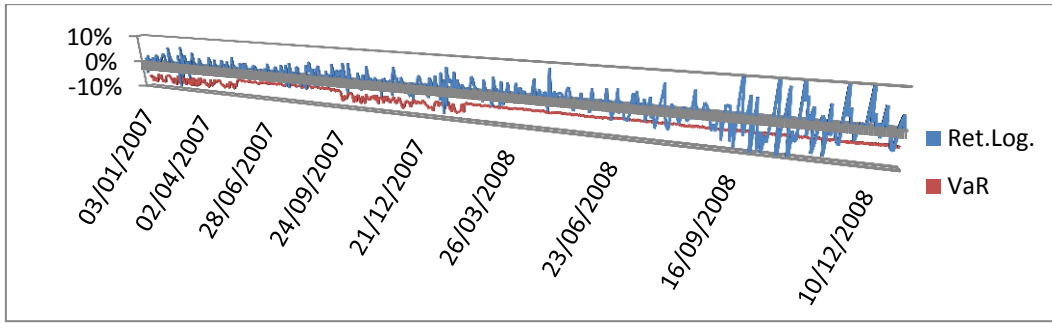


Figura 147: VaR - Carteira E.M.O.L=0%.T.V.E. - p = 2,50%

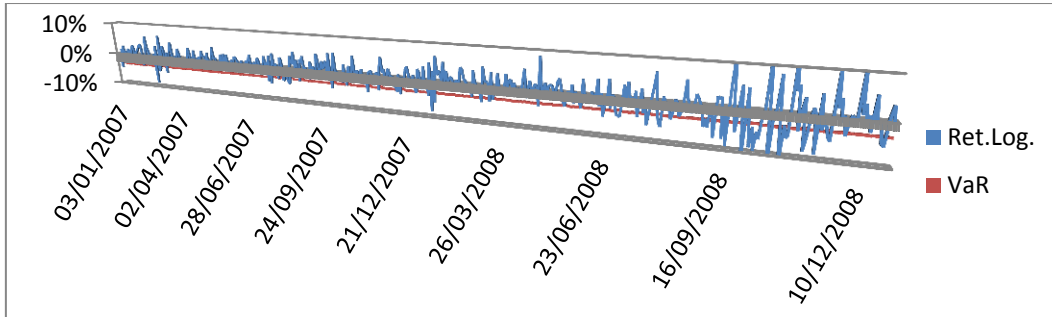


Figura148: VaR - Carteira E.M.O.L=0%.S.M.C. - p = 2,50%

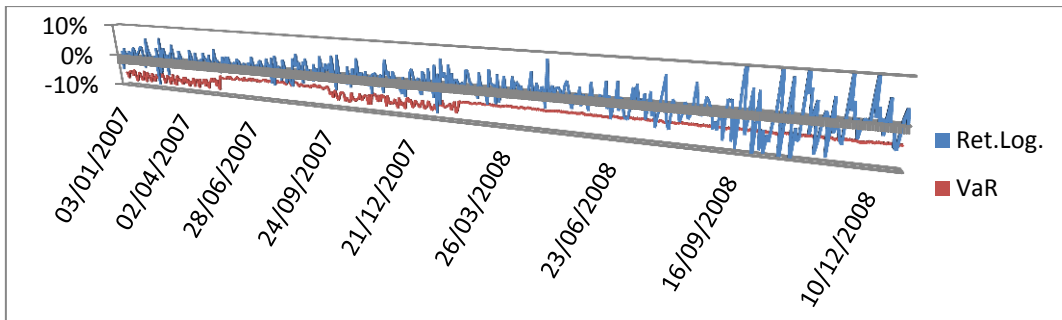


Figura 149: VaR - Carteira E.M.O.L=0%.T.V.E. - p = 5%

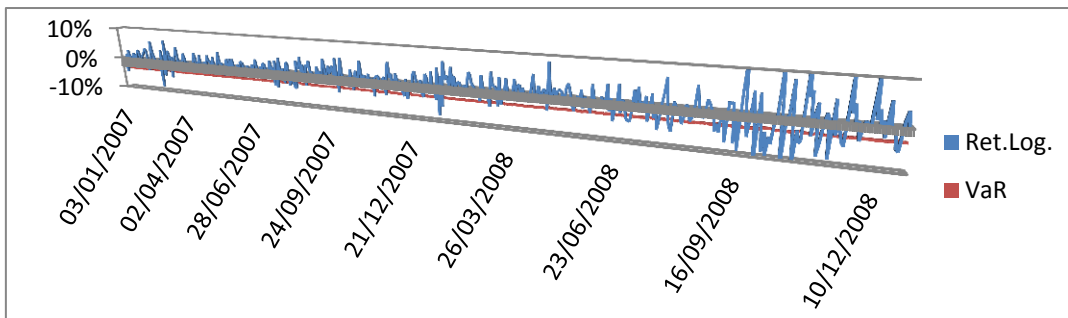


Figura 150: VaR - Carteira E.M.O.L=0%.S.M.C. - p = 5%

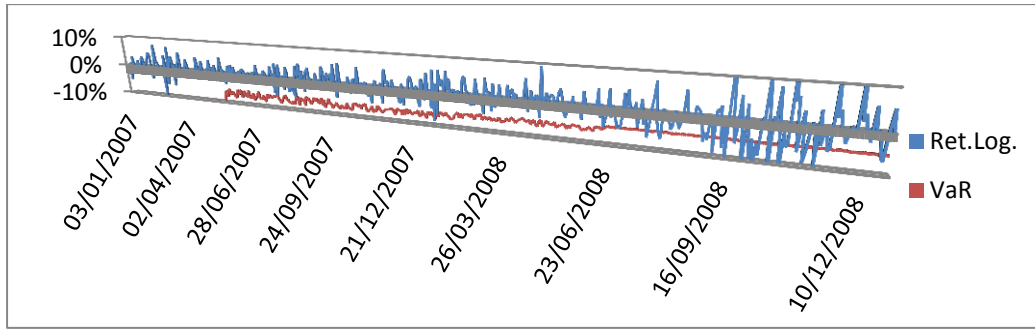


Figura 151: VaR - Carteira E.M.O.L=2,50%.T.V.E. - p = 0,50%

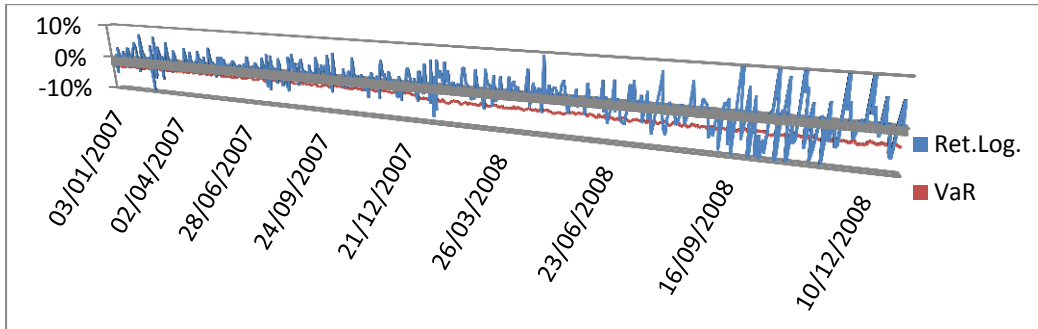


Figura 152: VaR - Carteira E.M.O.L=2,50%.S.M.C. - p = 0,50%

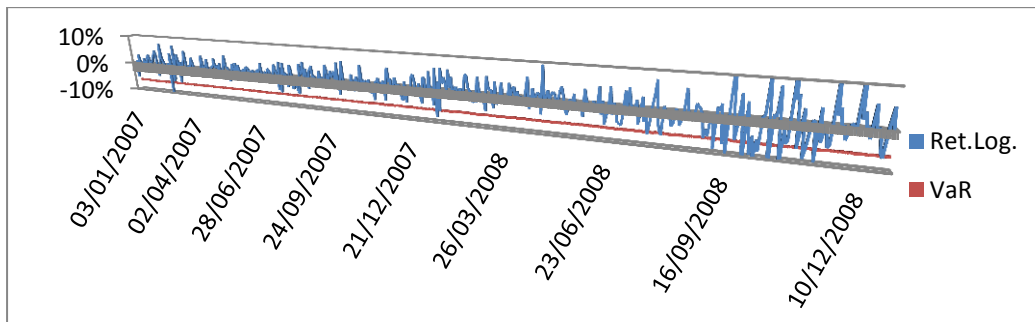


Figura 153: VaR - Carteira E.M.O.L=2,50%.T.V.E. - p = 1%

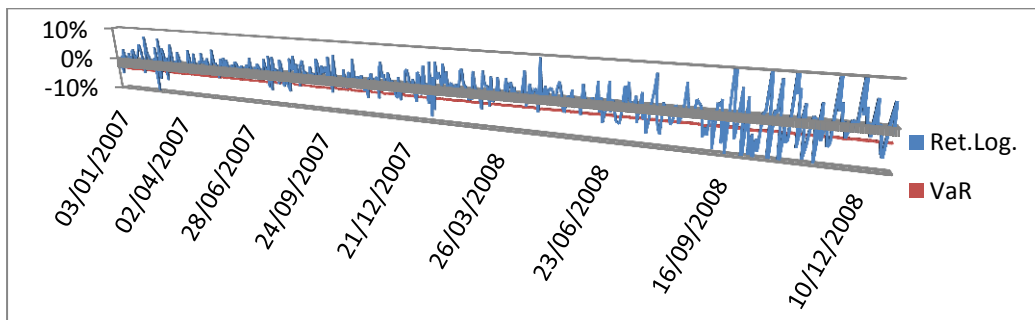


Figura 154: VaR - Carteira E.M.O.L=2,50%.S.M.C. - p = 1%

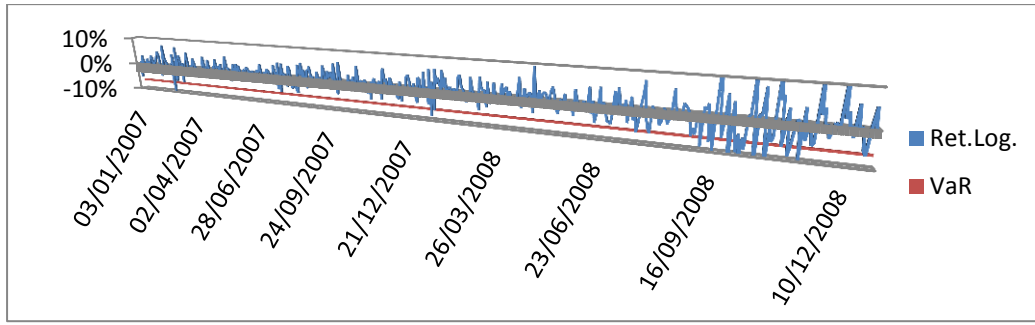


Figura 155: VaR - Carteira E.M.O.L=2,50%.T.V.E. - p = 2,50%

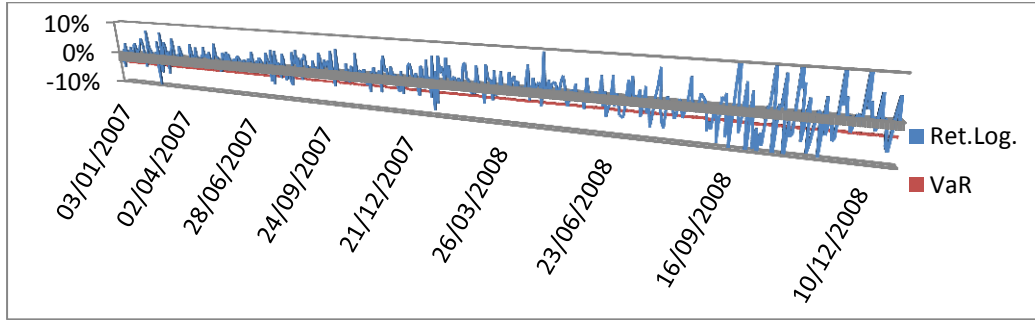


Figura 156: VaR - Carteira E.M.O.L=2,50%.S.M.C. - p = 2,50%

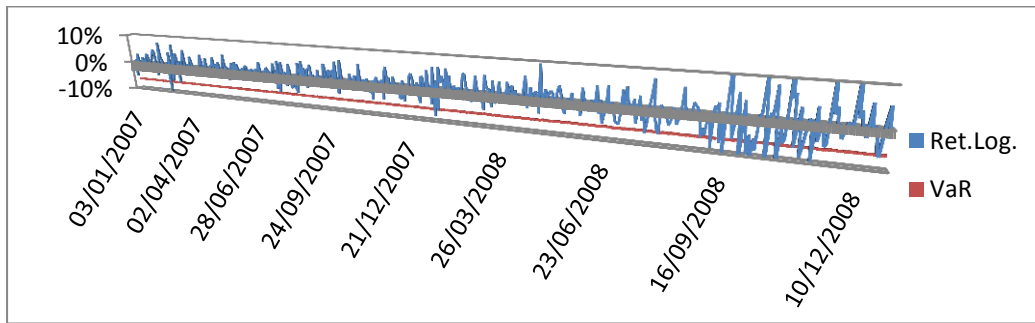


Figura 157: VaR - Carteira E.M.O.L=2,50%.T.V.E. - p = 5%

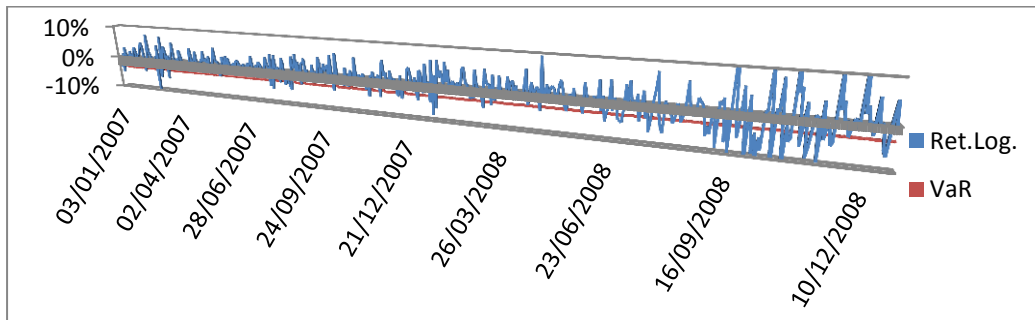


Figura158: VaR - Carteira E.M.O.L=2,50%.S.M.C. - p = 5%

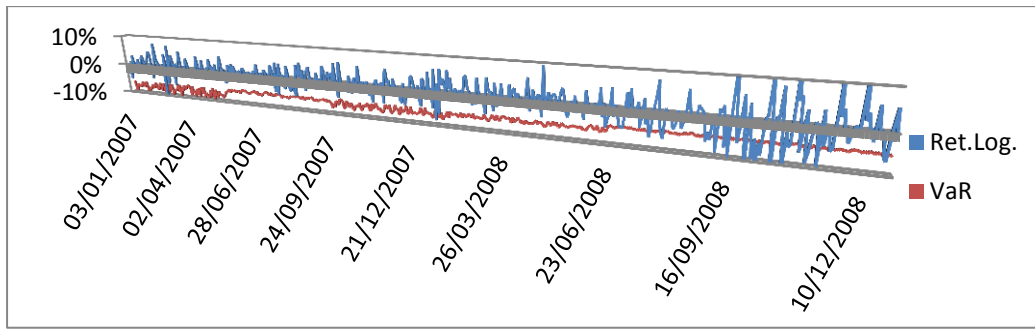


Figura 159: VaR - Carteira E.M.O.L=5%.T.V.E. -  $p = 0,50\%$

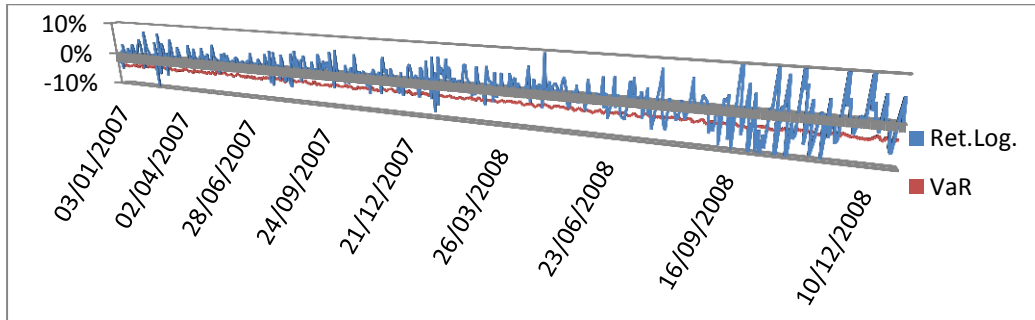


Figura 160: VaR - Carteira E.M.O.L=5%.S.M.C. -  $p = 0,50\%$

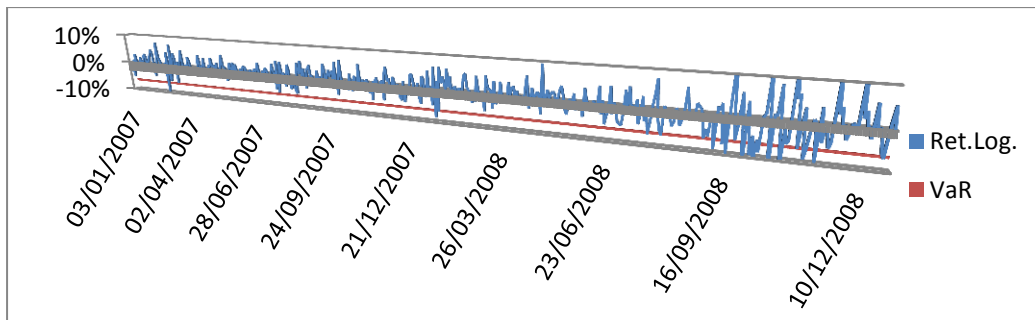


Figura 161: VaR - Carteira E.M.O.L=5%.T.V.E. -  $p = 1\%$

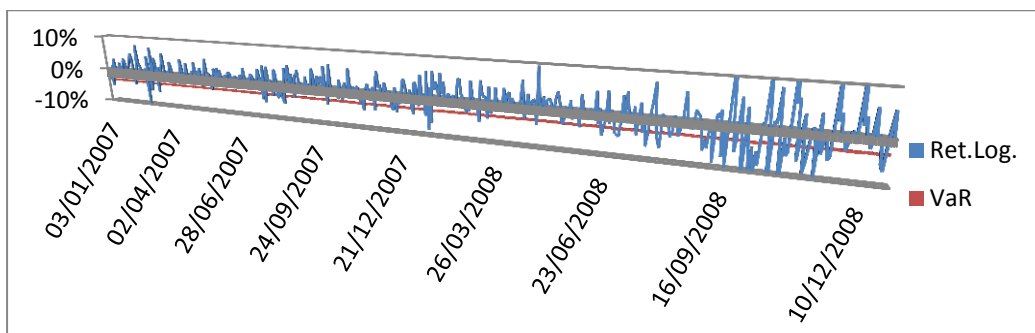


Figura 162: VaR - Carteira E.M.O.L=5%.S.M.C. -  $p = 1\%$



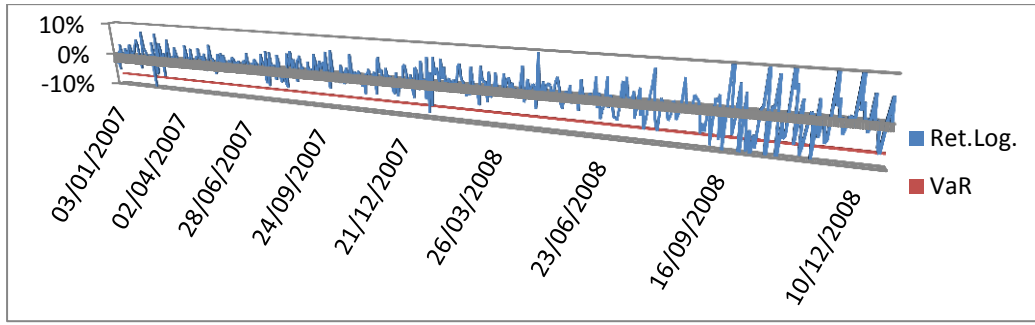


Figura 163: VaR - Carteira E.M.O.L=5%.T.V.E. - p = 2,50%

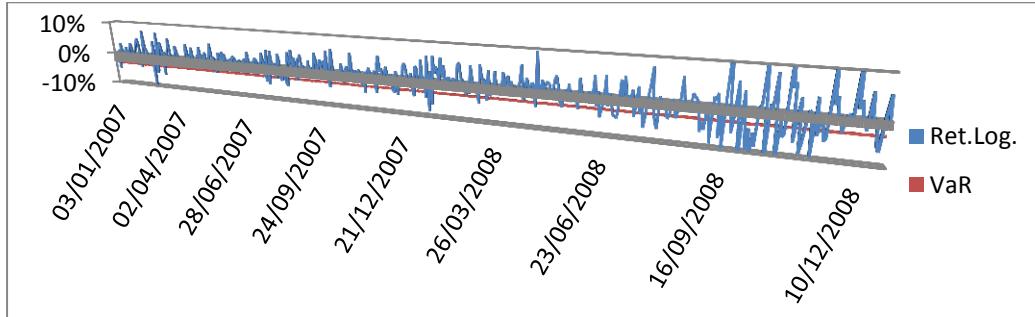


Figura 164: VaR - Carteira E.M.O.L=5%.S.M.C. - p = 2,50%



Figura 165: VaR - Carteira E.M.O.L=5%.T.V.E. - p = 5%

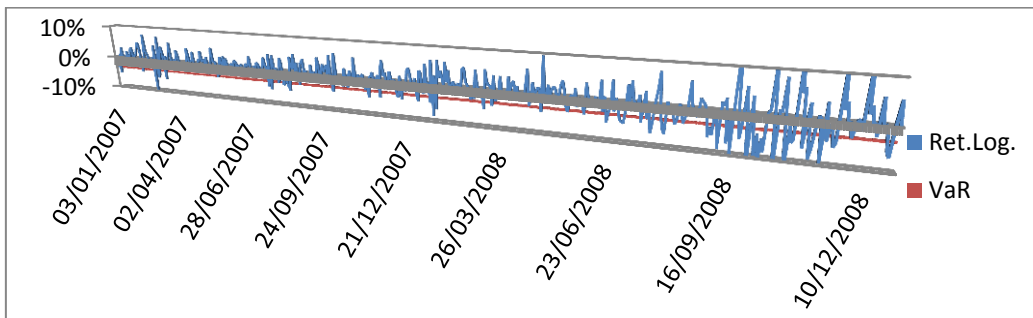


Figura 166: VaR - Carteira E.M.O.L=5%.S.M.C. - p = 5%

## **Apêndice B**

Cálculo dos parâmetros do Hill – plot das carteiras de investimento calculadas por Medida Ômega e Modelo de Índice Único.

Obs: Os dados aqui mostrados se referem a uma probabilidade  $p = 2,50\%$ , mas não variam significativamente se usadas probabilidades de  $p = 0,50\%$ ,  $p = 1\%$  ou  $p = 5\%$ .

## CARTEIRA A.M.I.U.

Para o período de 90 dias:

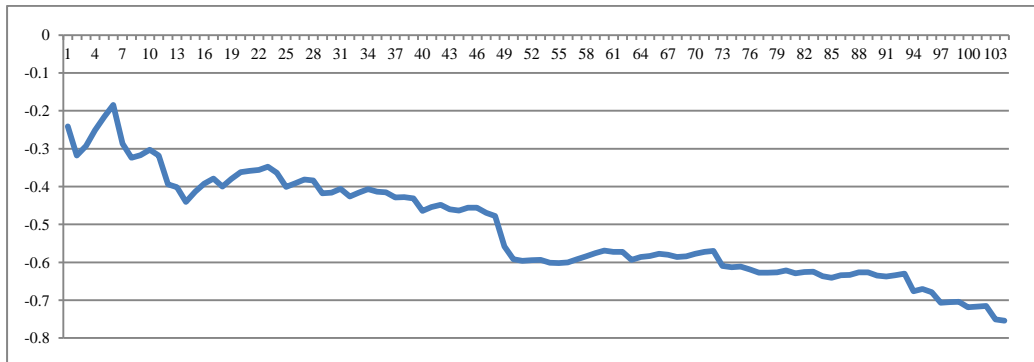


Figura 167: Hill – plot da Carteira A.M.I.U. ( $K_h = -18,43\%$  ;  $q = 6$ ).

Para o período de 180 dias:

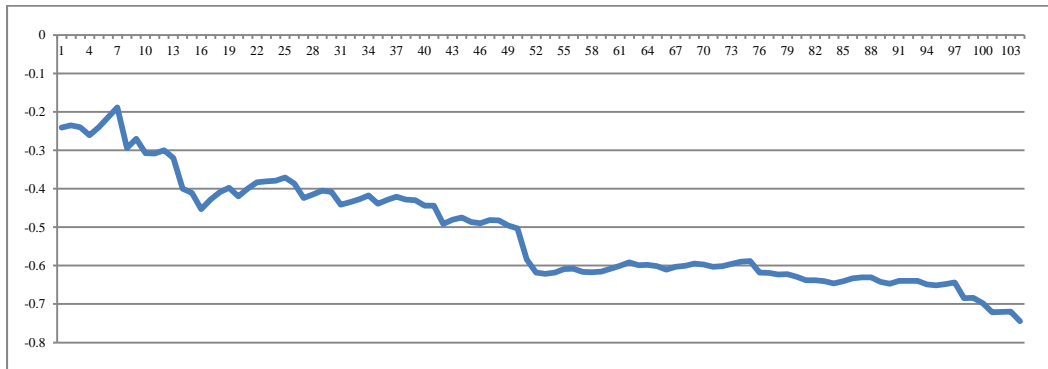


Figura 168: Hill – plot da Carteira A.M.I.U. ( $K_h = -18,86\%$  ;  $q = 7$ ).

Para o período de 270 dias:

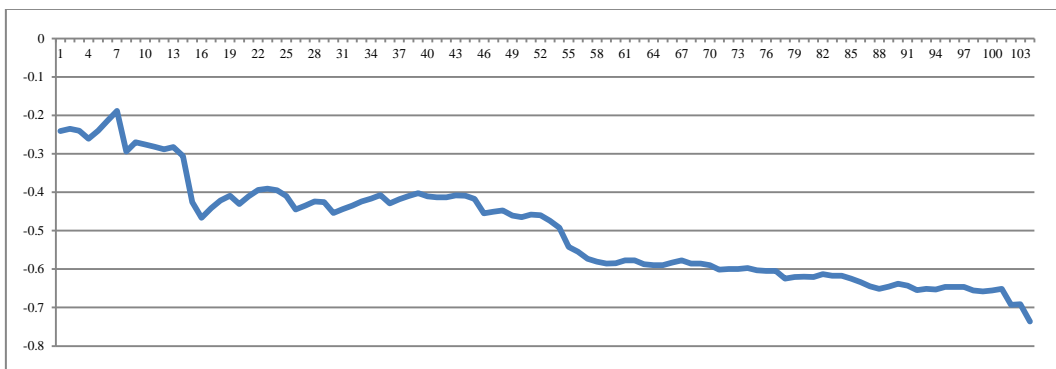


Figura 169: Hill – plot da Carteira A.M.I.U. ( $K_h = -18,86\%$  ;  $q = 7$ ).

Para o período de 360 dias

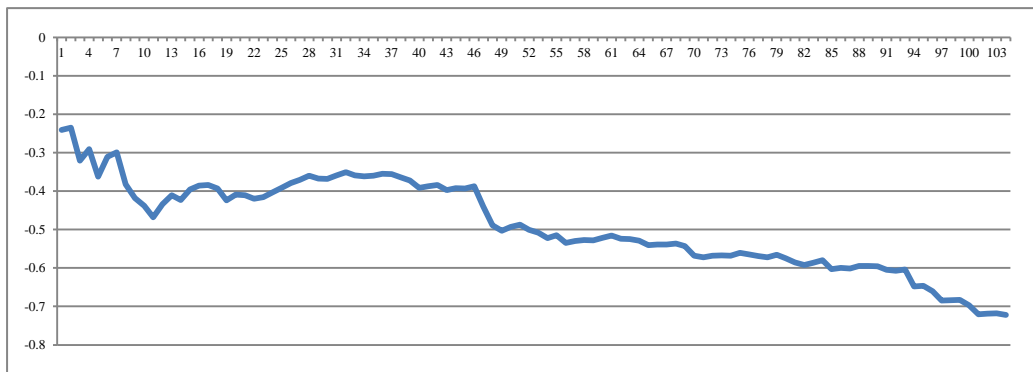


Figura 170: Hill – plot da Carteira A.M.I.U. ( $K_h = -23,52\%$  ;  $q = 2$ ).

Para o período de 450 dias:

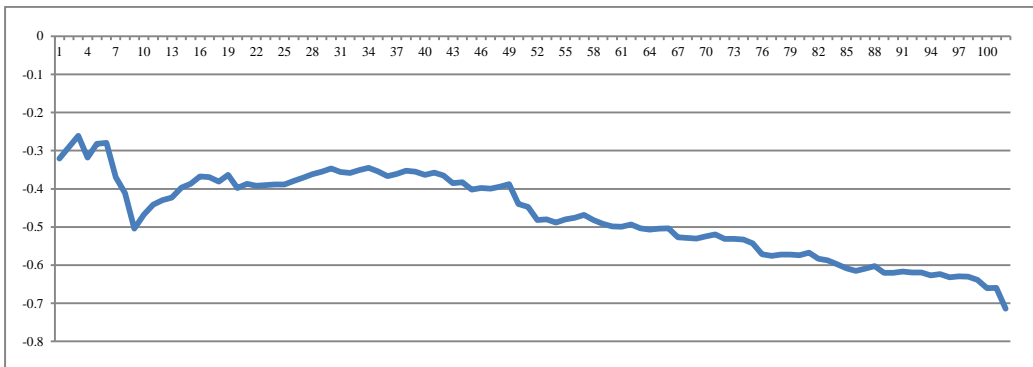


Figura 171: Hill – plot da Carteira A.M.I.U. ( $K_h = -26,11\%$  ;  $q = 3$ ).

**CARTEIRA A.M.O.L. = 0%**

Período de 90 dias:

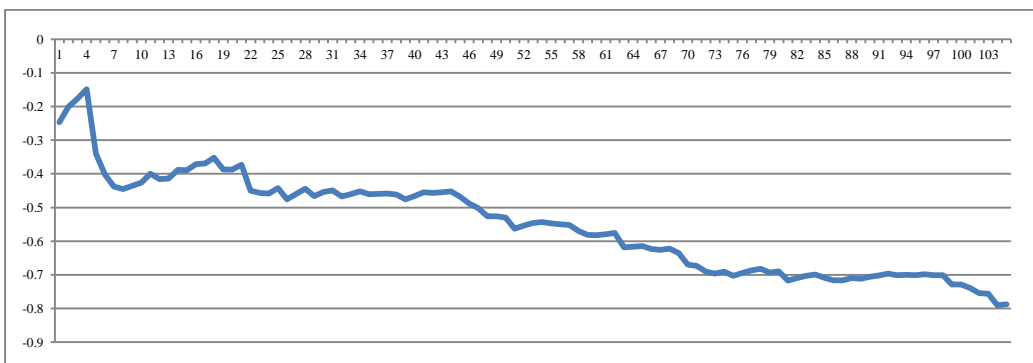


Figura 172: Hill – plot da Carteira A.M.O.L.=0% ( $K_h = -14,87\%$  ;  $q = 5$ ).

Para o período de 180 dias:

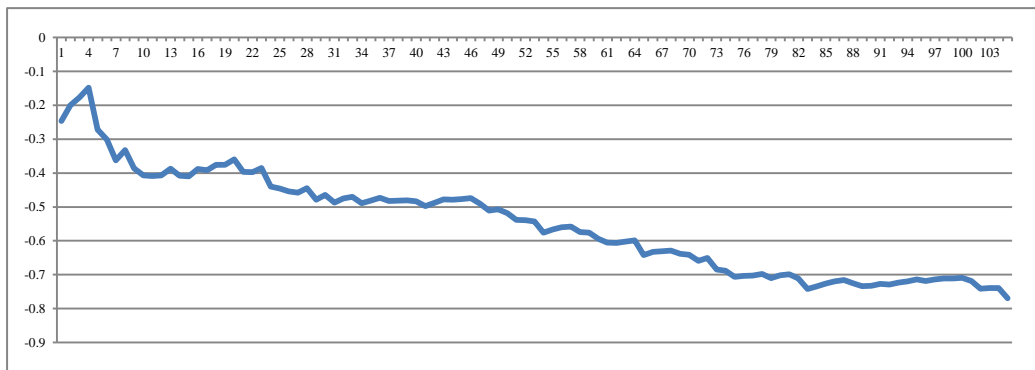


Figura 173: Hill – plot da Carteira A.M.O.L=0% ( $K_h = -14,87\%$  ;  $q = 5$ ).

Para o período de 270 dias:

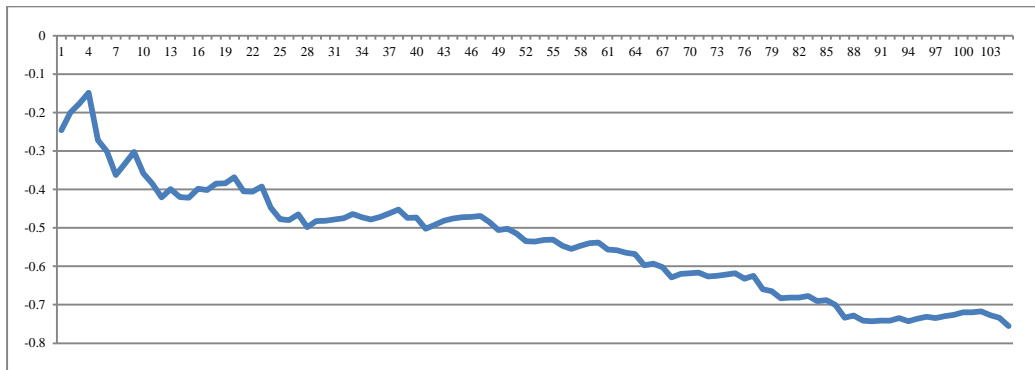


Figura 174: Hill – plot da Carteira A.M.O.L=0% ( $K_h = -14,87\%$  ;  $q = 4$ ).

Para o período de 360 dias:

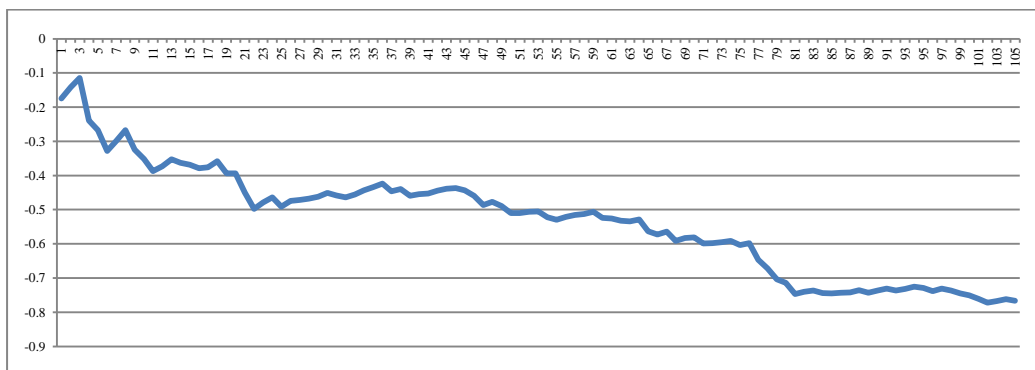


Figura 175: Hill – plot da Carteira A.M.O.L=0% ( $K_h = -11,42\%$  ;  $q = 2$ ).

Para o período de 450 dias:

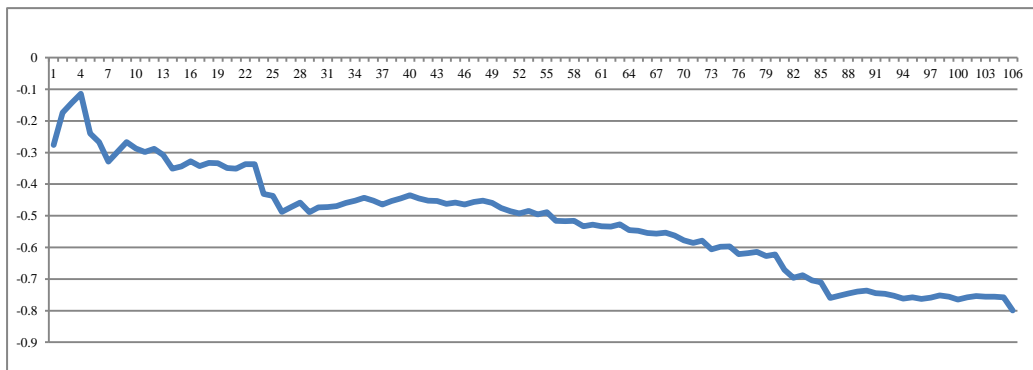


Figura 176: Hill – plot da Carteira A.M.O.L=0% ( $K_h = -11,42\%$  ;  $q = 4$ ).

### CARTEIRA A.M.O.L. = 2,5%

Período de 90 dias:

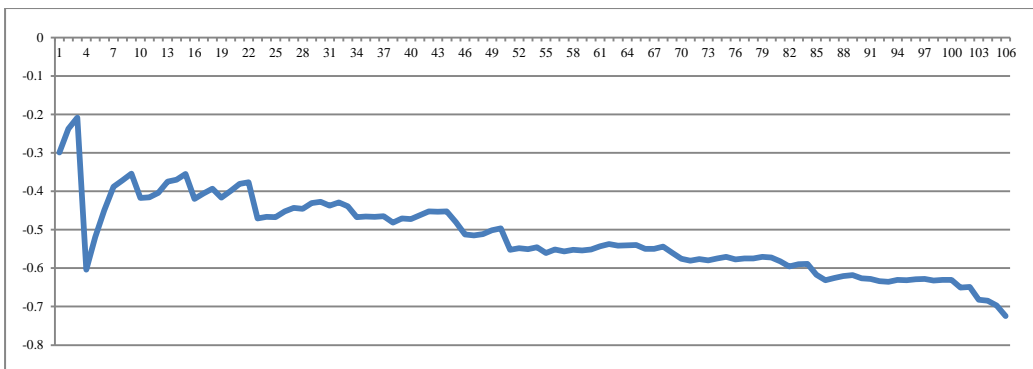


Figura 177: Hill – plot da Carteira A.M.O.L=2,5% ( $K_h = -20,84\%$  ;  $q = 3$ ).

Para o período de 180 dias:

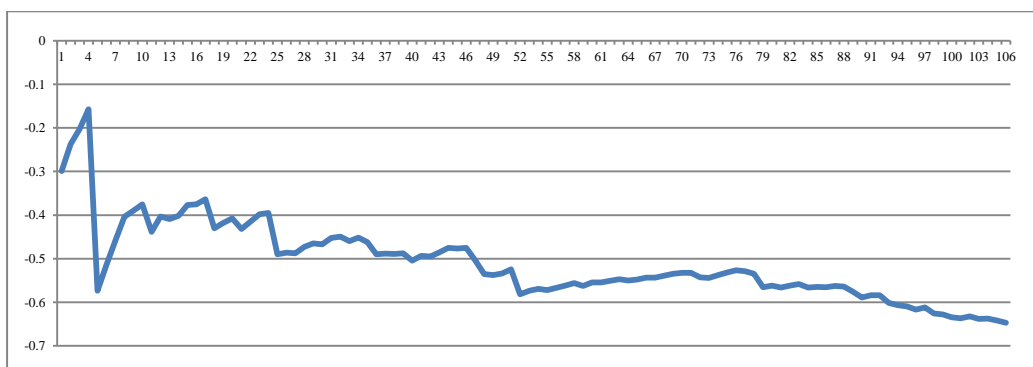


Figura 178: Hill – plot da Carteira A.M.O.L=2,5% ( $K_h = -15,76\%$  ;  $q = 4$ ).

Para o período de 270 dias:

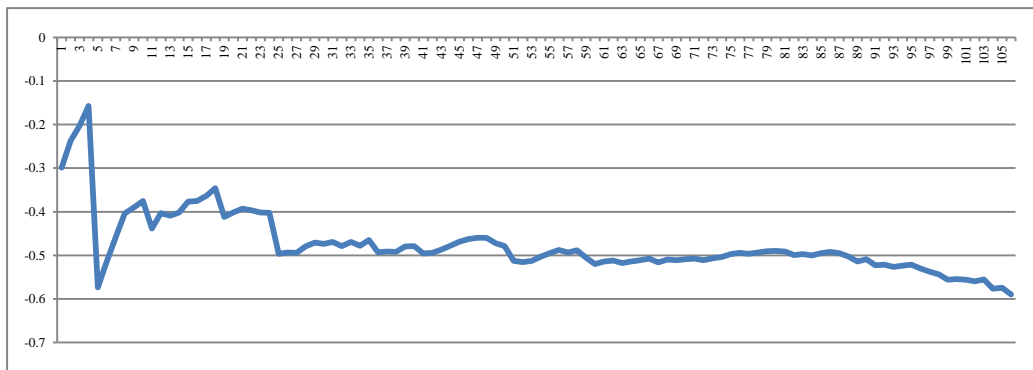


Figura 179: Hill – plot da Carteira A.M.O.L=2,5% ( $K_h = -15,76\%$  ;  $q = 4$ ).

Para o período de 360 dias:

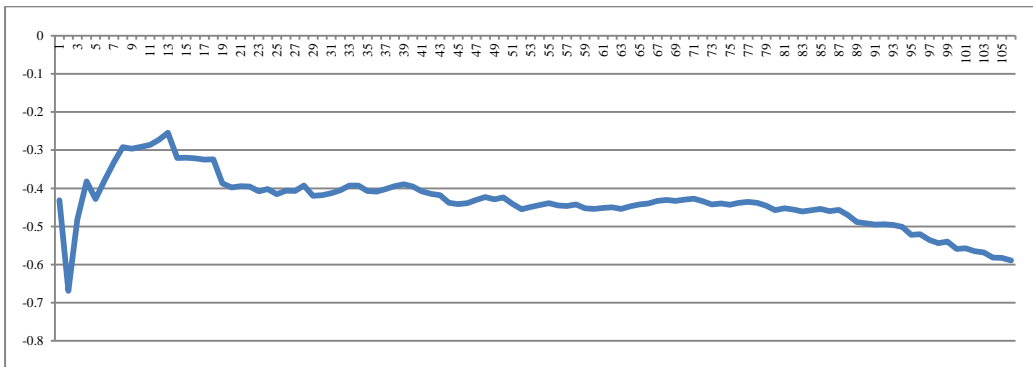


Figura 180: Hill – plot da Carteira A.M.O.L=2,5% ( $K_h = -25,42\%$  ;  $q = 13$ ).

Para o período de 450 dias:

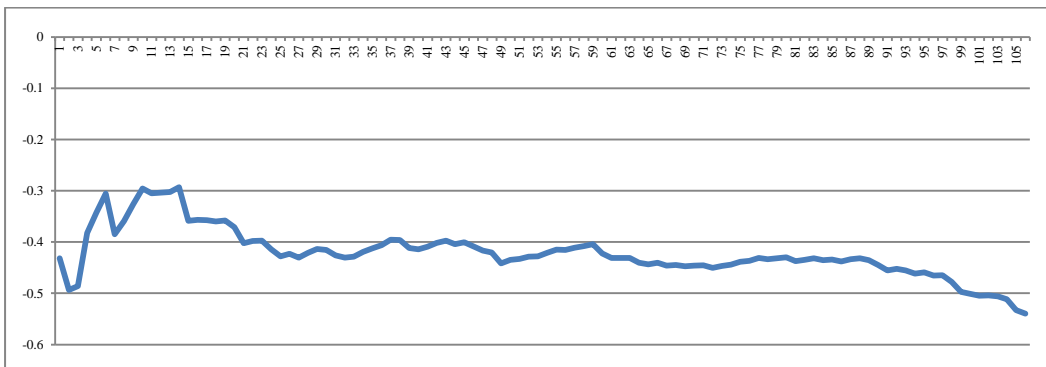


Figura 181: Hill – plot da Carteira A.M.O.L=2,5% ( $K_h = -29,34\%$  ;  $q = 14$ ).

## CARTEIRA A.M.O.L. = 5%

Período de 90 dias:

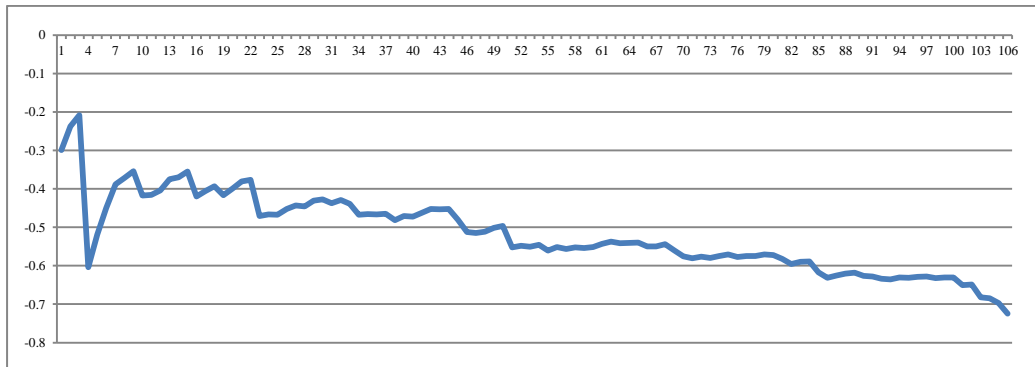


Figura 182: Hill – plot da Carteira A.M.O.L=5% ( $K_h = -20,84\%$  ;  $q = 3$ ).

Para o período de 180 dias:

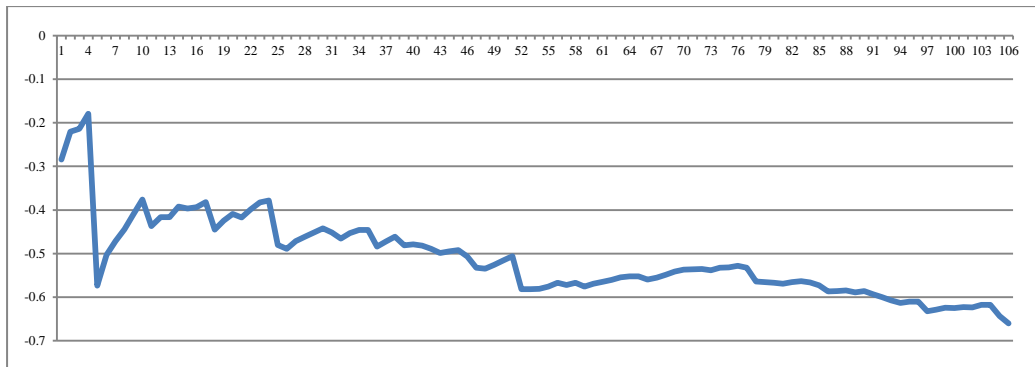


Figura 183: Hill – plot da Carteira A.M.O.L=5% ( $K_h = -17,92\%$  ;  $q = 4$ ).

Para o período de 270 dias:

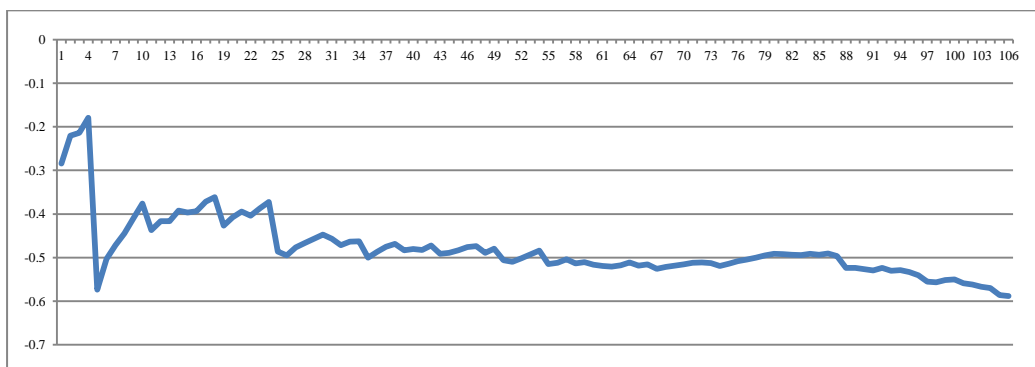


Figura 184: Hill – plot da Carteira A.M.O.L=5% ( $K_h = -17,92\%$  ;  $q = 4$ ).



Para o período de 360 dias:

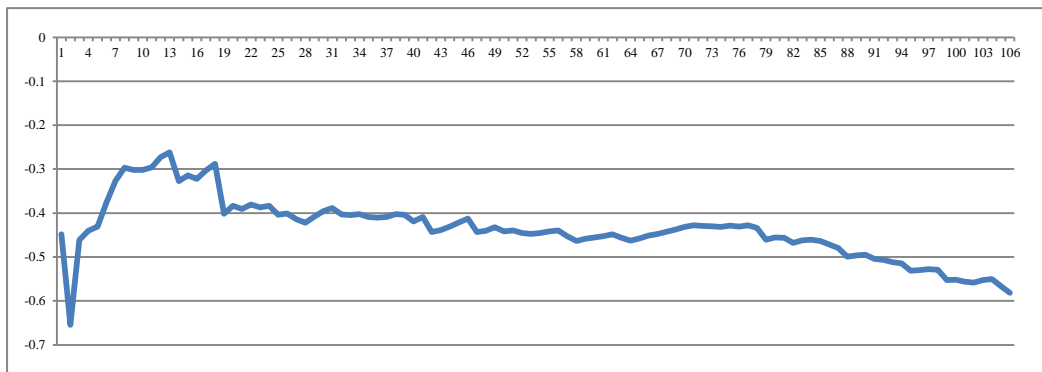


Figura 185: Hill – plot da Carteira A.M.O.L=5% ( $K_h = -26,20\%$  ;  $q = 13$ ).

Para o período de 450 dias:

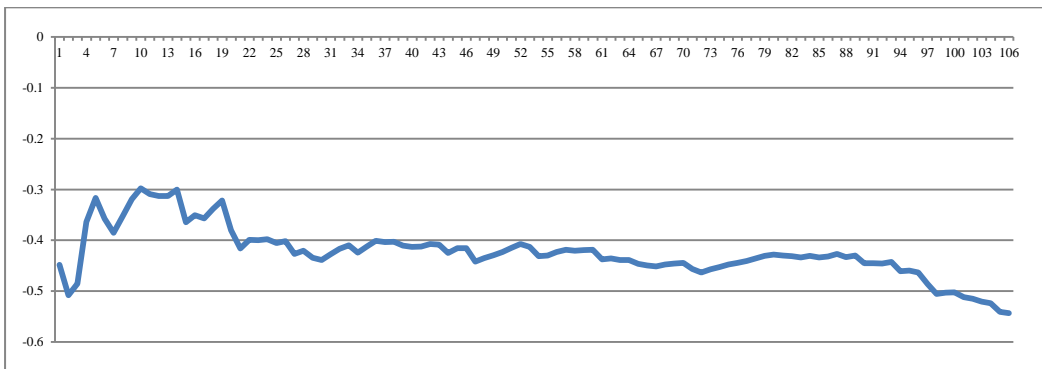


Figura 186: Hill – plot da Carteira A.M.O.L=5% ( $K_h = -29,79\%$  ;  $q = 10$ ).

### CARTEIRA B.M.I.U.

Para o período de 90 dias:

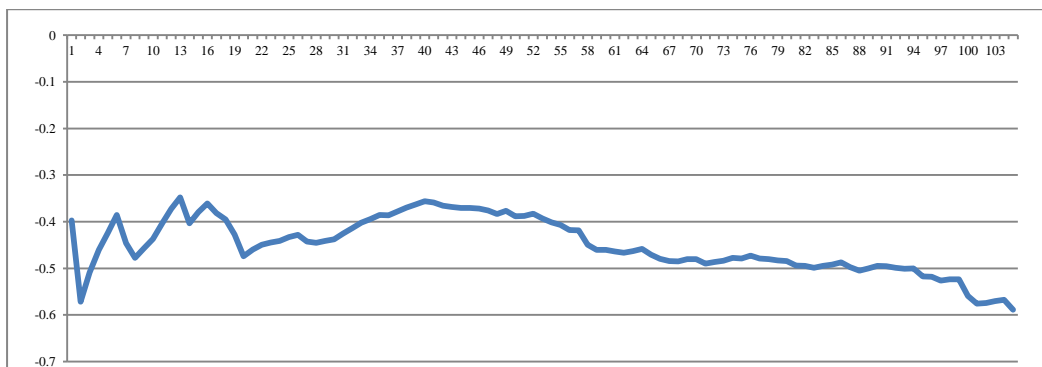


Figura 187: Hill – plot da Carteira B.M.I.U. ( $K_h = -34,77\%$  ;  $q = 12$ ).

Para o período de 180 dias:

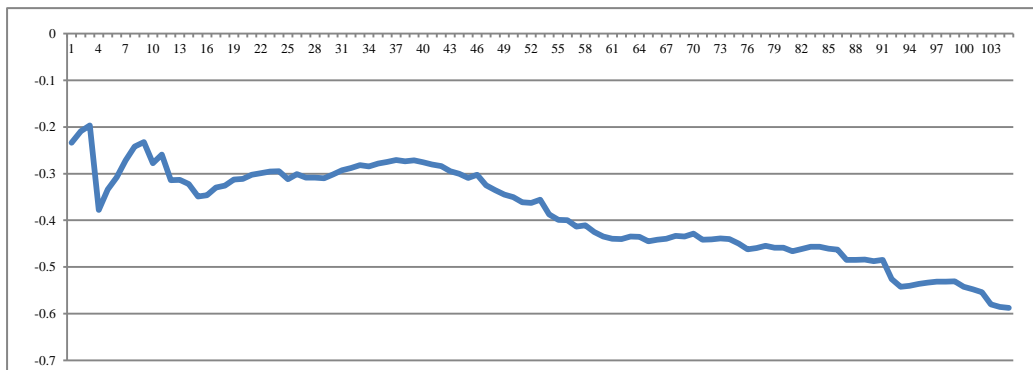


Figura 188: Hill – plot da Carteira A.M.O.L=0% ( $K_h = -34,77\%$  ;  $q = 13$ ).

Para o período de 270 dias:

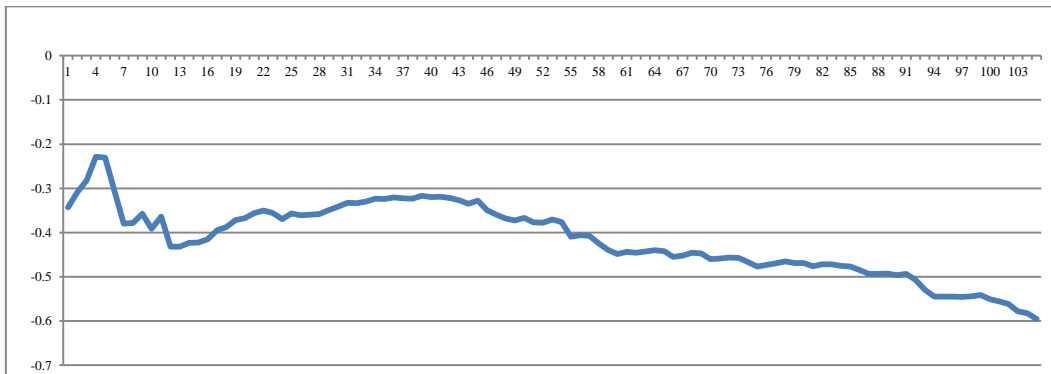


Figura 189: Hill – plot da Carteira B.M.I.U. ( $K_h = -22,87\%$  ;  $q = 4$ ).

Para o período de 360 dias

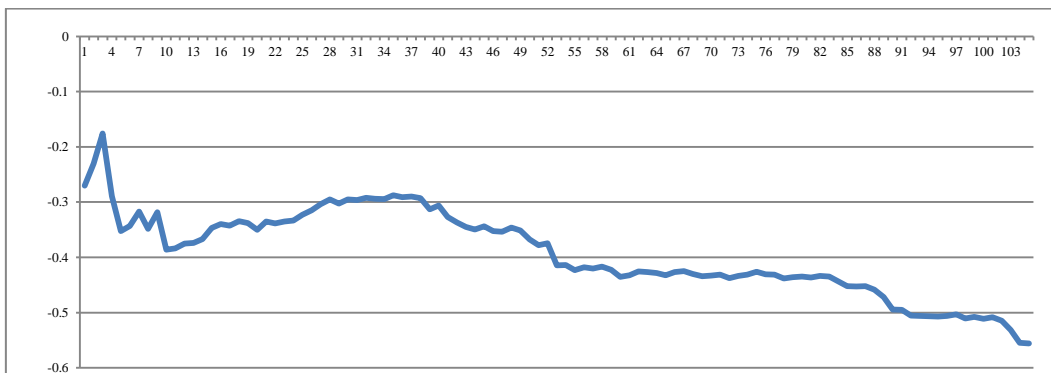


Figura 190: Hill – plot da Carteira B.M.I.U. ( $K_h = -22,87\%$  ;  $q = 4$ ).

Para o período de 450 dias:

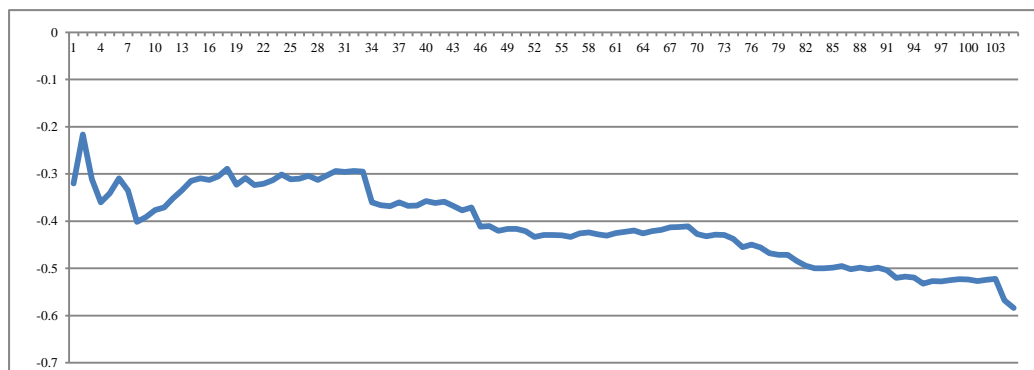


Figura 191: Hill – plot da Carteira B.M.I.U. ( $K_h = -21,65\%$  ;  $q = 3$ ).

### CARTEIRA B.M.O.L. = 0%

Período de 90 dias:

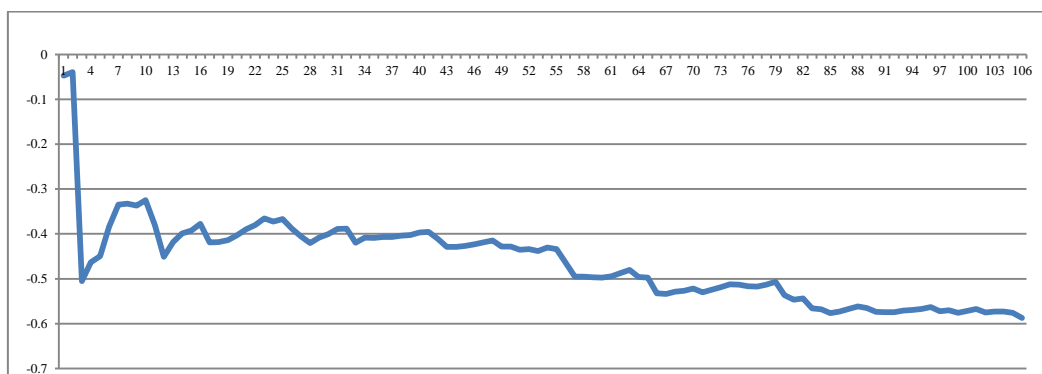


Figura 192: Hill – plot da Carteira B.M.O.L.=0% ( $K_h = -3,87\%$  ;  $q = 2$ ).

Para o período de 180 dias:

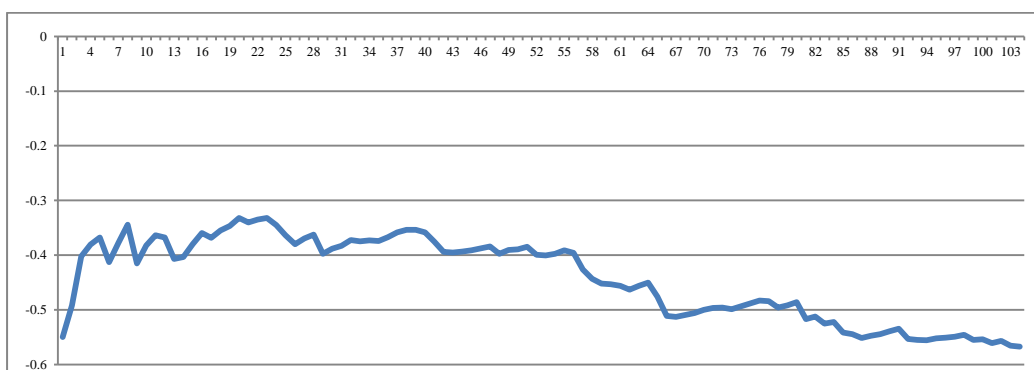


Figura 193: Hill – plot da Carteira B.M.O.L.=0% ( $K_h = -33,20\%$  ;  $q = 23$ ).

Para o período de 270 dias:

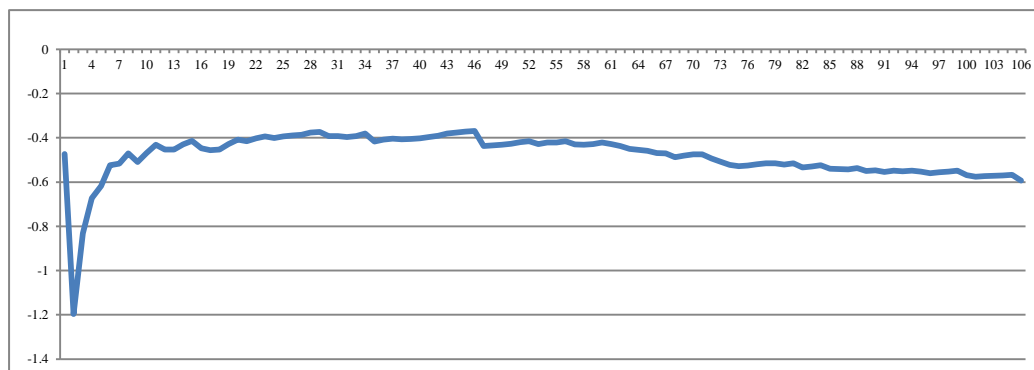


Figura 194: Hill – plot da Carteira B.M.O.L.=0% ( $K_h = -37,28\%$  ;  $q = 45$ ).

Para o período de 360 dias:

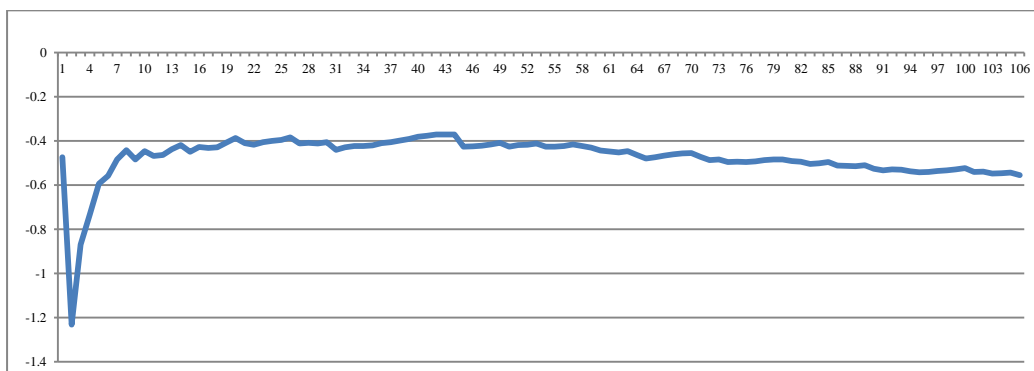


Figura 195: Hill – plot da Carteira B.M.O.L.=0% ( $K_h = -37,09\%$  ;  $q = 44$ ).

Para o período de 450 dias:

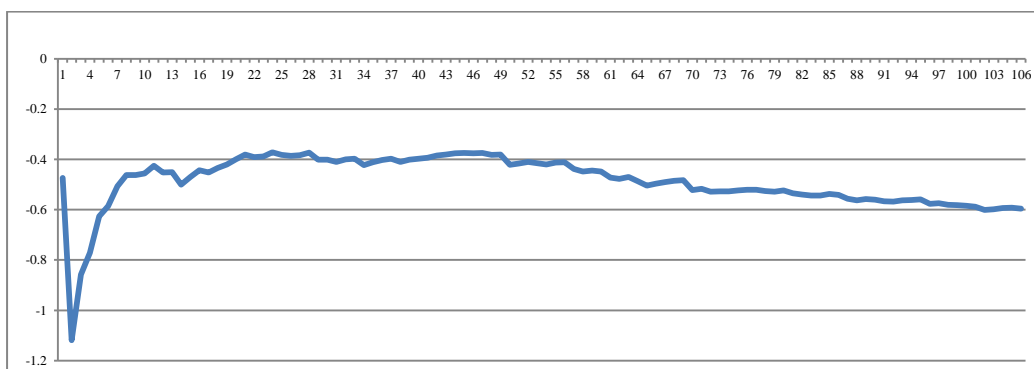


Figura 196: Hill – plot da Carteira B.M.O.L.=0% ( $K_h = -37,47\%$  ;  $q = 47$ ).

## CARTEIRA B.M.O.L. = 2,5%

Período de 90 dias:

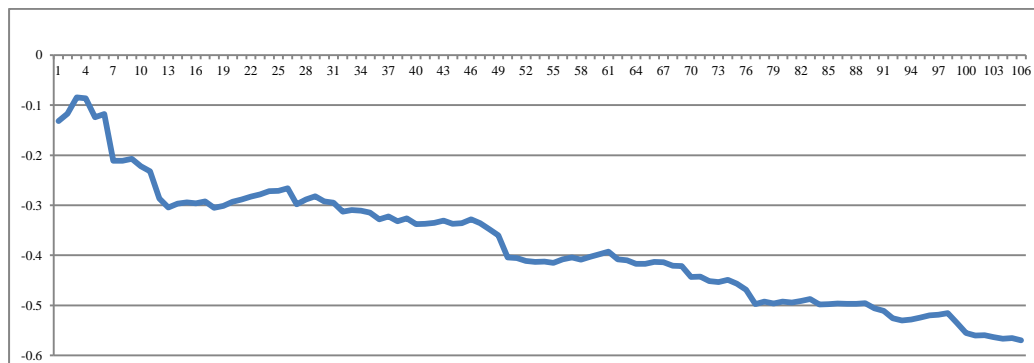


Figura 197: Hill – plot da Carteira B.M.O.L.=2,5% ( $K_h = -8,44\%$  ;  $q = 3$ ).

Para o período de 180 dias:

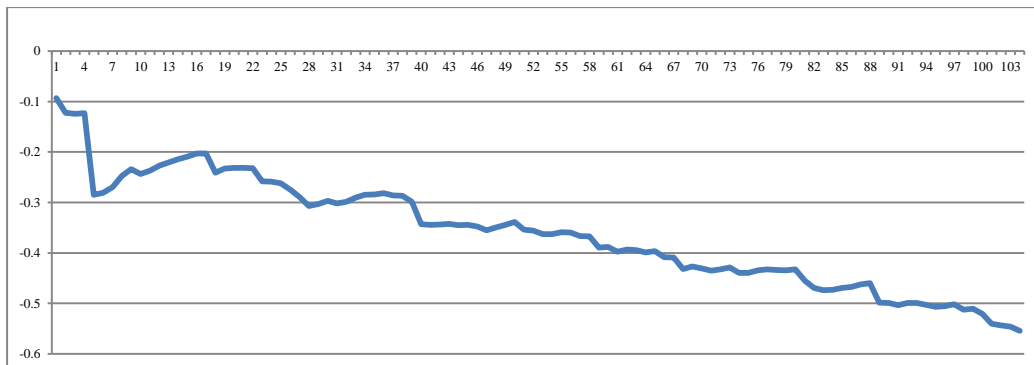


Figura 198: Hill – plot da Carteira B.M.O.L.=2,5% ( $K_h = -9,33\%$  ;  $q = 1$ ).

Para o período de 270 dias:

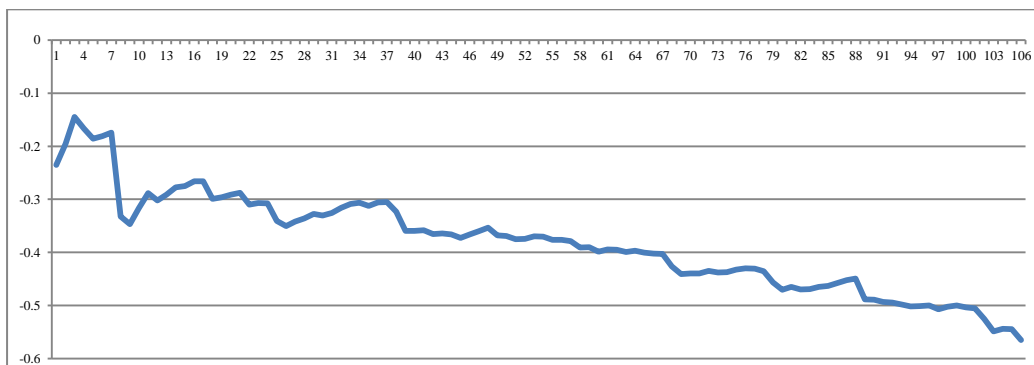


Figura 199: Hill – plot da Carteira B.M.O.L.=2,5% ( $K_h = -14,49\%$  ;  $q = 3$ ).

Para o período de 360 dias:

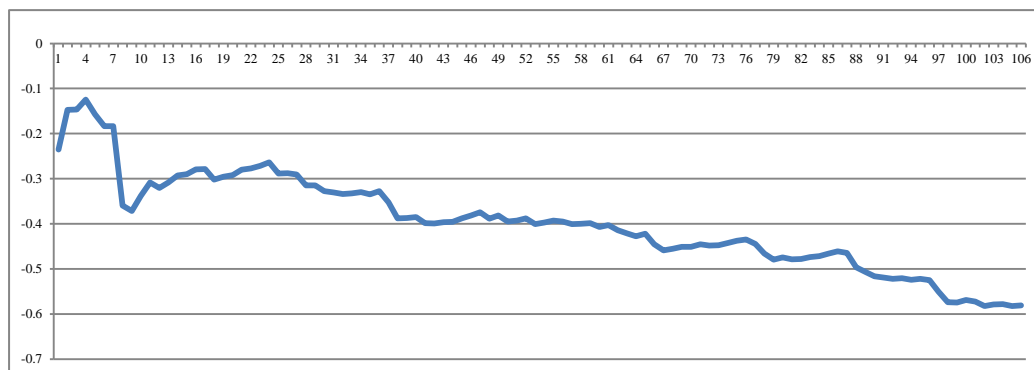


Figura 200: Hill – plot da Carteira B.M.O.L.=2,5% ( $K_h = -12,44\%$  ;  $q = 4$ ).

Para o período de 450 dias:

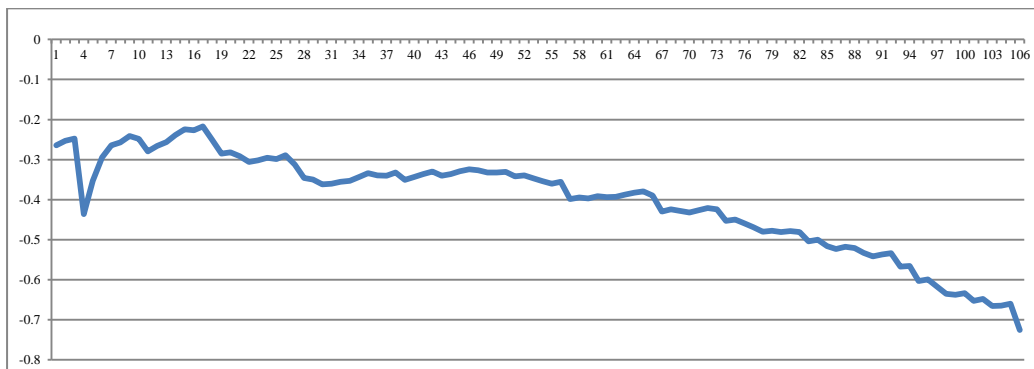


Figura 201: Hill – plot da Carteira B.M.O.L.=2,5% ( $K_h = -21,72\%$  ;  $q = 17$ ).

### CARTEIRA B.M.O.L. = 5%

Período de 90 dias:

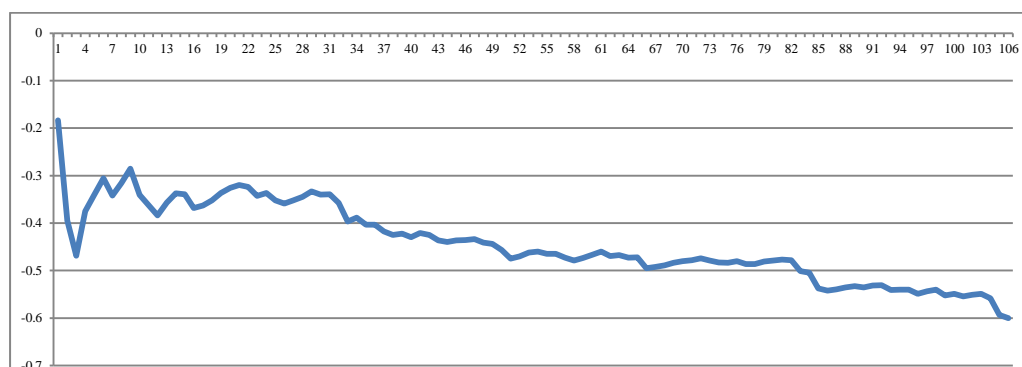


Figura 202: Hill – plot da Carteira B.M.O.L.=5% ( $K_h = -18,33\%$  ;  $q = 1$ ).

Para o período de 180 dias:

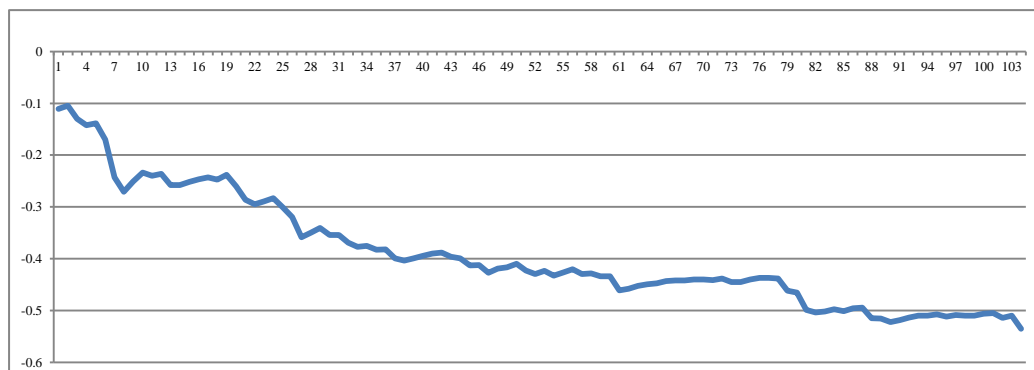


Figura 203: Hill – plot da Carteira B.M.O.L.=5% ( $K_h = -10,46\%$  ;  $q = 2$ ).

Para o período de 270 dias:

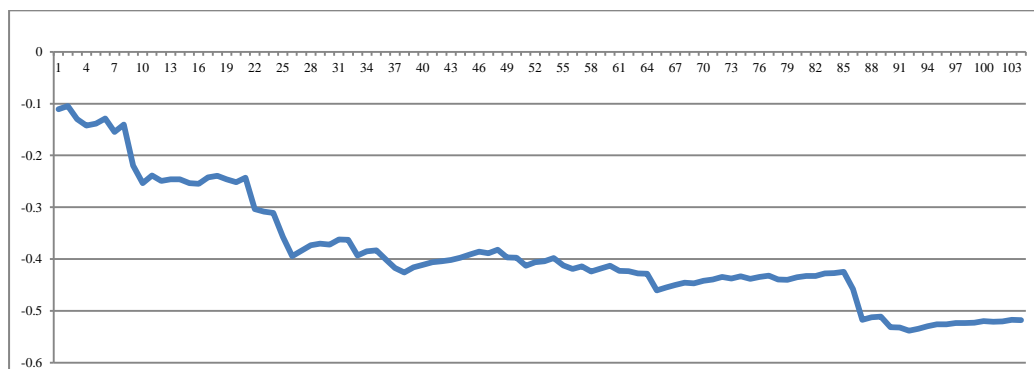


Figura 204: Hill – plot da Carteira B.M.O.L.=5% ( $K_h = -10,46\%$  ;  $q = 2$ ).

Para o período de 360 dias:

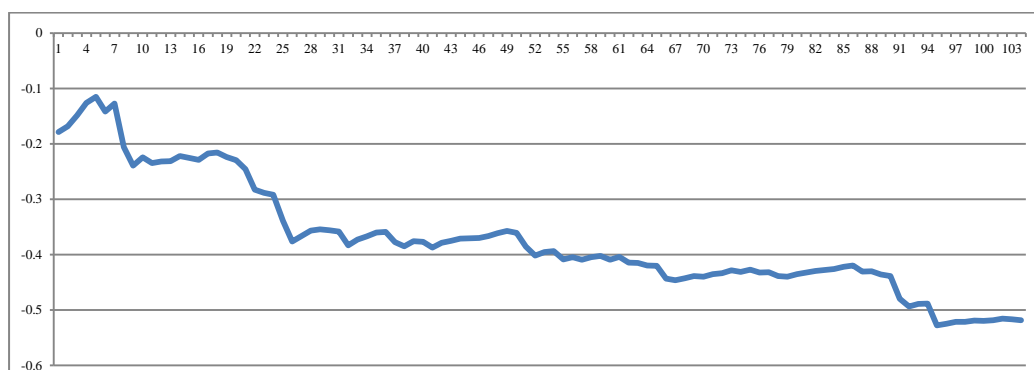


Figura 205: Hill – plot da Carteira B.M.O.L.=5% ( $K_h = -16,82\%$  ;  $q = 2$ ).

Para o período de 450 dias:

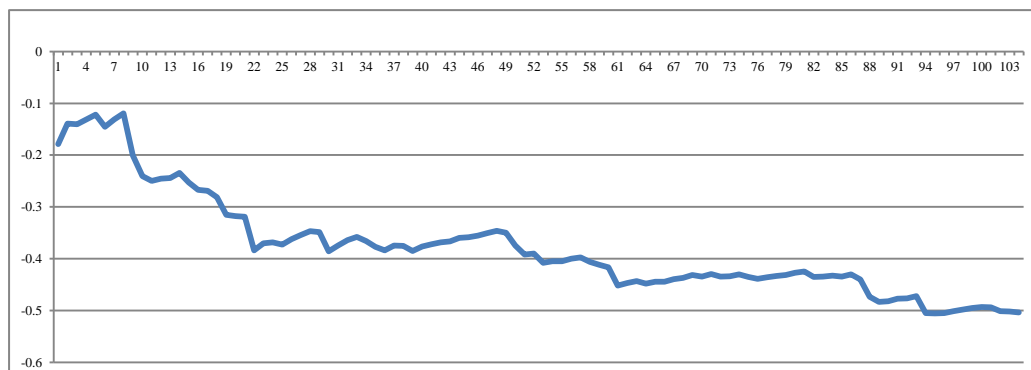


Figura 206: Hill – plot da Carteira B.M.O.L.=5% ( $K_h = -12,19\%$  ;  $q = 5$ ).

### CARTEIRA C.M.I.U.

Para o período de 90 dias:

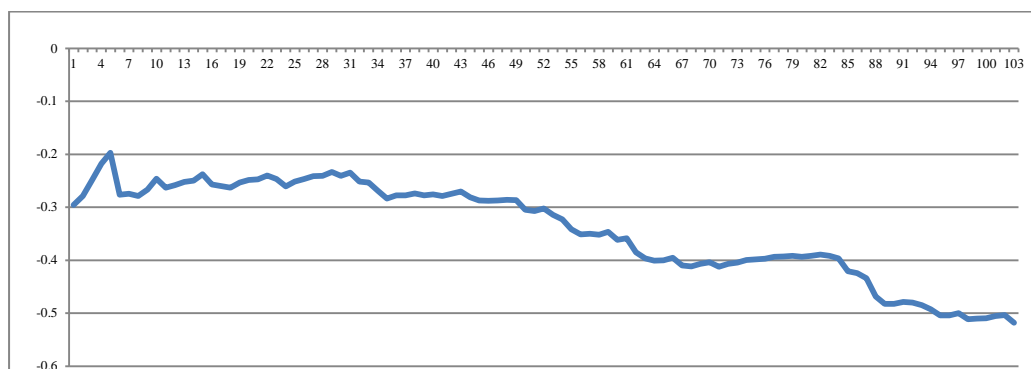


Figura 207: Hill – plot da Carteira C.M.I.U. ( $K_h = -19,73\%$  ;  $q = 5$ ).

Para o período de 180 dias:

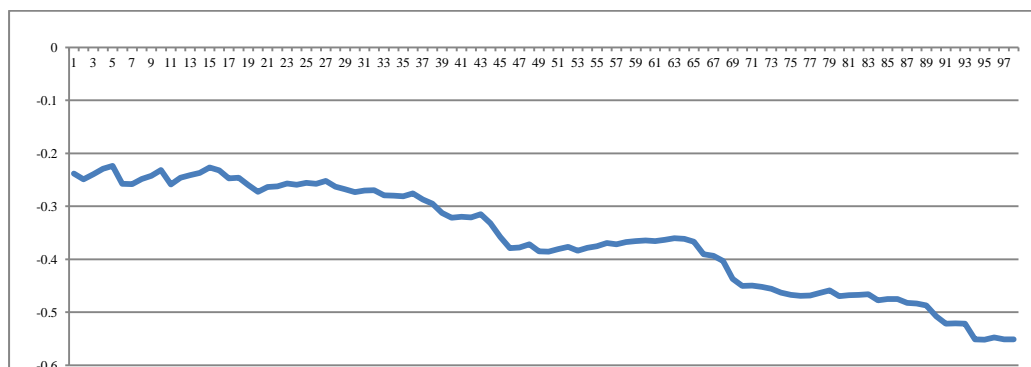


Figura 208: Hill – plot da Carteira C.M.O.L.=0% ( $K_h = -22,38\%$  ;  $q = 5$ ).



Para o período de 270 dias:

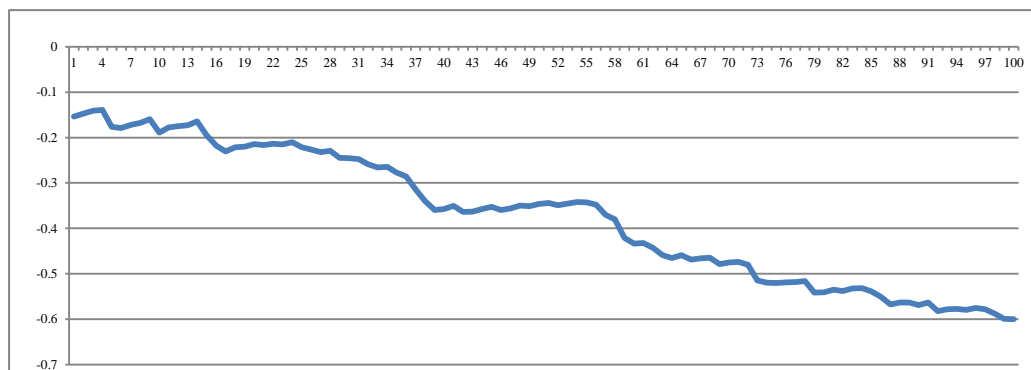


Figura 209: Hill – plot da Carteira C.M.O.L.=0% ( $K_h = -13,91\%$  ;  $q = 4$ ).

Para o período de 360 dias

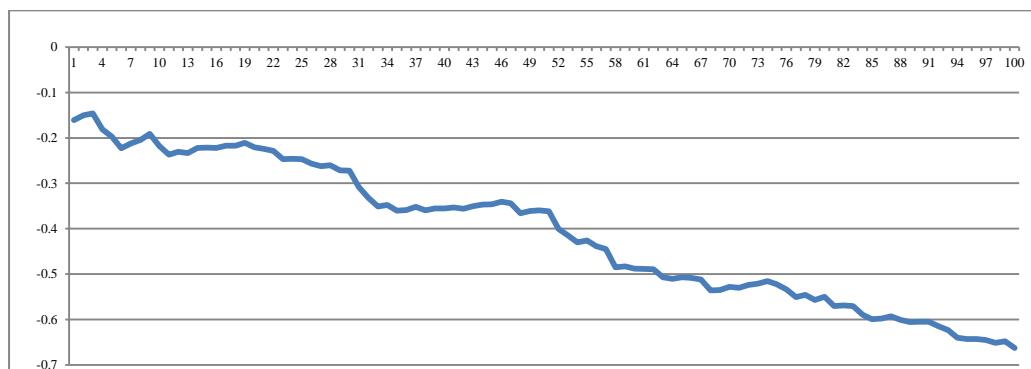


Figura 210: Hill – plot da Carteira C.M.O.L.=0% ( $K_h = -14,59\%$  ;  $q = 3$ ).

Para o período de 450 dias:

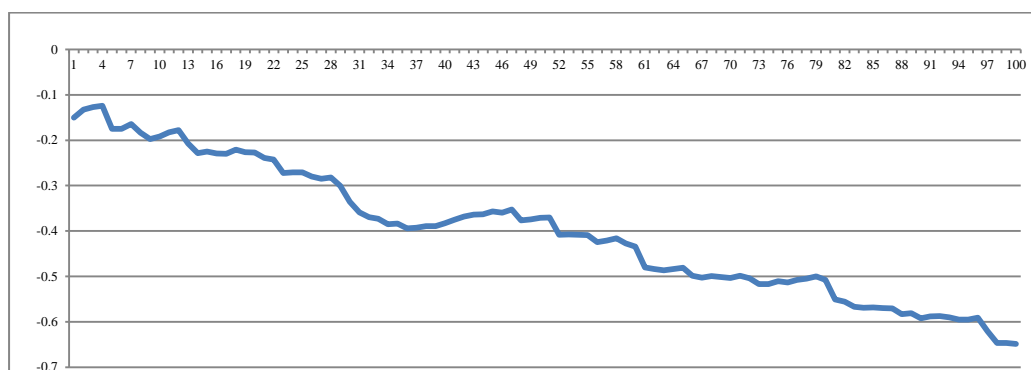


Figura 211: Hill – plot da Carteira C.M.O.L.=0% ( $K_h = -12,40\%$  ;  $q = 4$ ).

## CARTEIRA C.M.O.L. = 0%

Período de 90 dias:

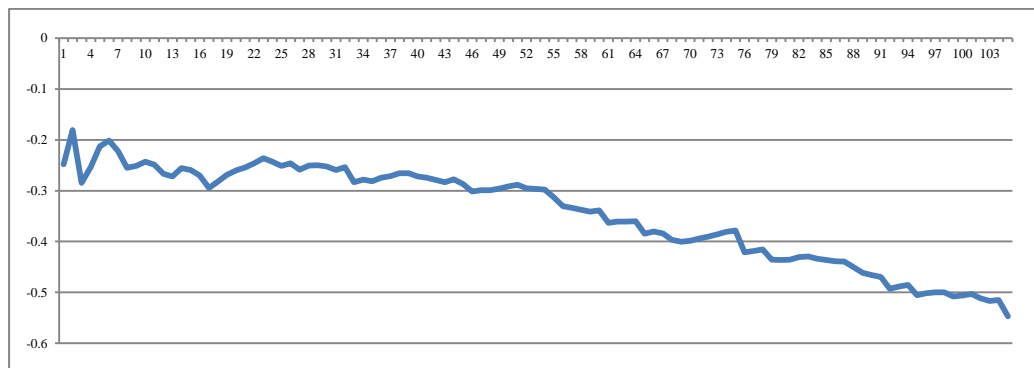


Figura 212: Hill – plot da Carteira C.M.O.L.=1% ( $K_h = -18,06\%$  ;  $q = 2$ ).

Para o período de 180 dias:

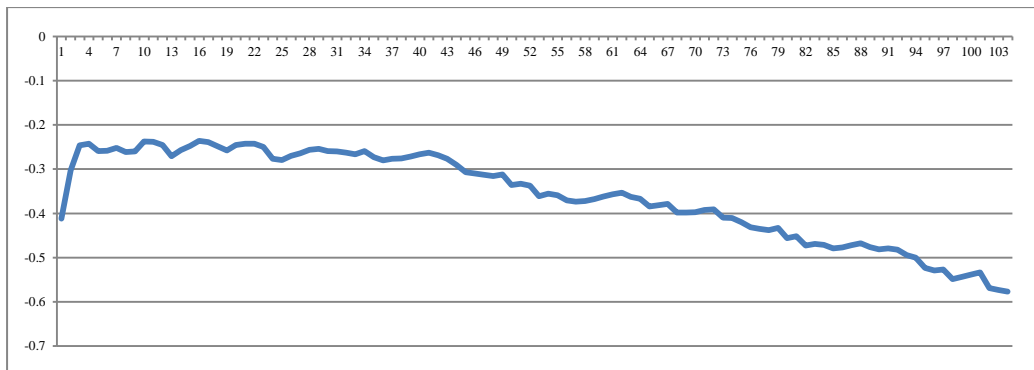


Figura 213: Hill – plot da Carteira C.M.O.L.=1% ( $K_h = -23,61\%$  ;  $q = 16$ ).

Para o período de 270 dias:

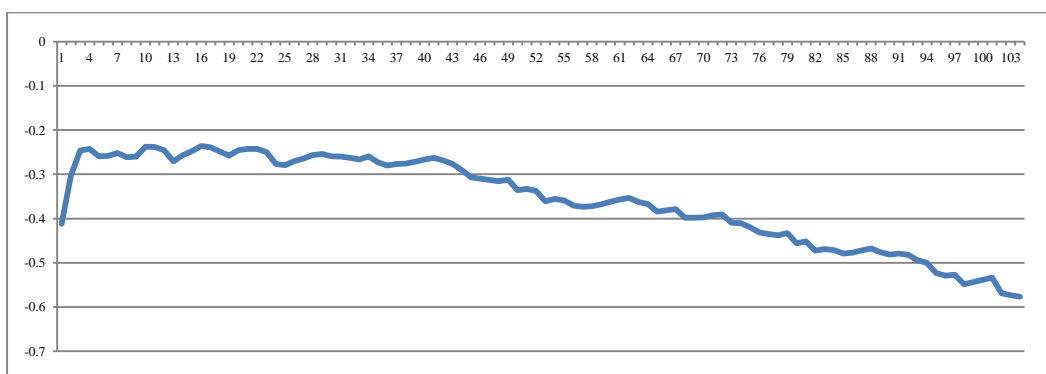


Figura 214: Hill – plot da Carteira C.M.O.L.=1% ( $K_h = -26,29\%$  ;  $q = 16$ ).

Para o período de 360 dias:

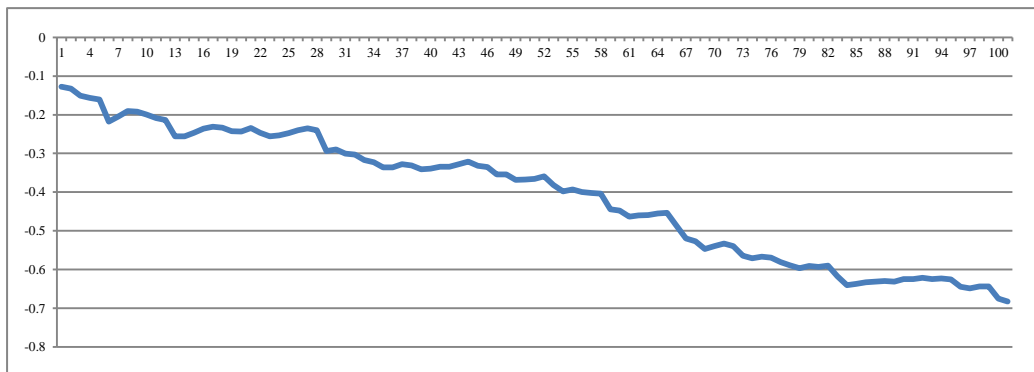


Figura 215: Hill – plot da Carteira C.M.O.L.=1% ( $K_h = -12,78\%$  ;  $q = 1$ ).

Para o período de 450 dias:

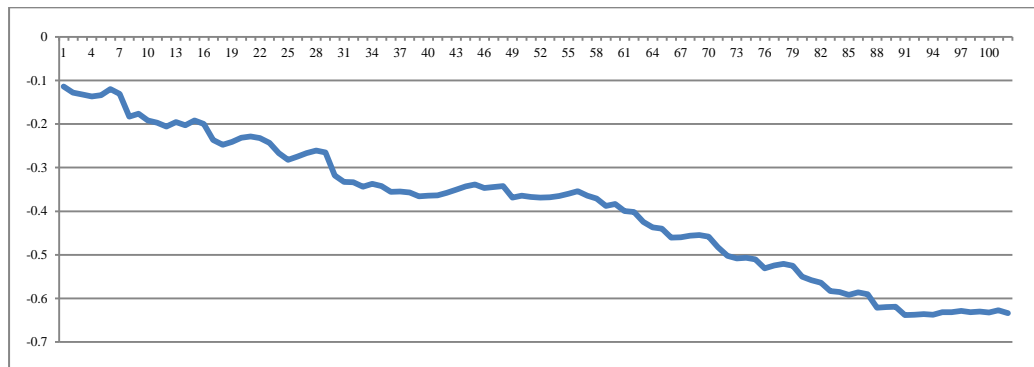


Figura 216: Hill – plot da Carteira C.M.O.L.=1% ( $K_h = -11,43\%$  ;  $q = 1$ ).

### CARTEIRA C.M.O.L. = 2,5%

Período de 90 dias:

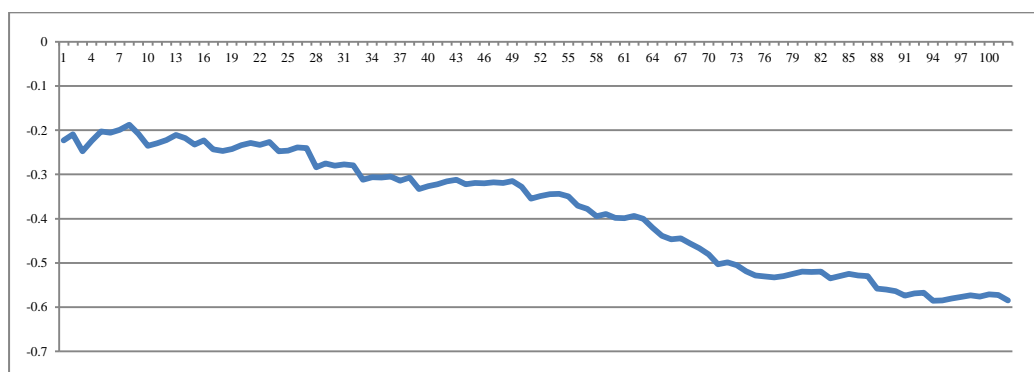


Figura 217: Hill – plot da Carteira C.M.O.L.=2,5% ( $K_h = 22,35\%$  ;  $q = 4$ ).

Para o período de 180 dias:

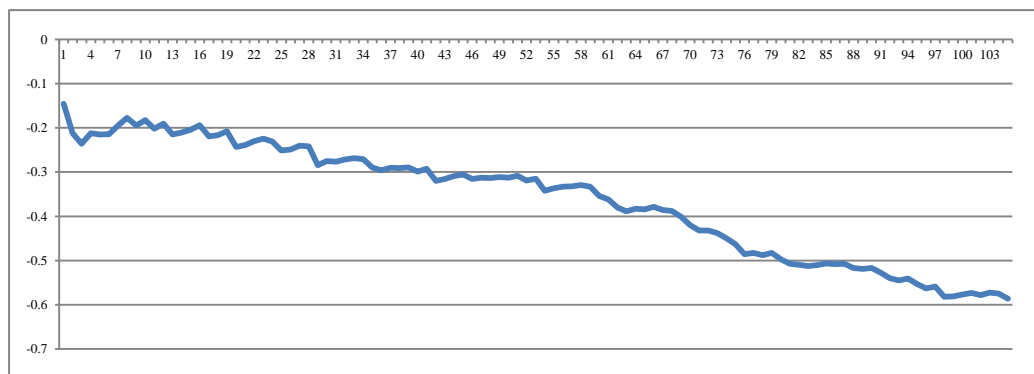


Figura 218: Hill – plot da Carteira C.M.O.L.=2,5% ( $K_h = 14,54\%$  ;  $q = 1$ ).

Para o período de 270 dias:

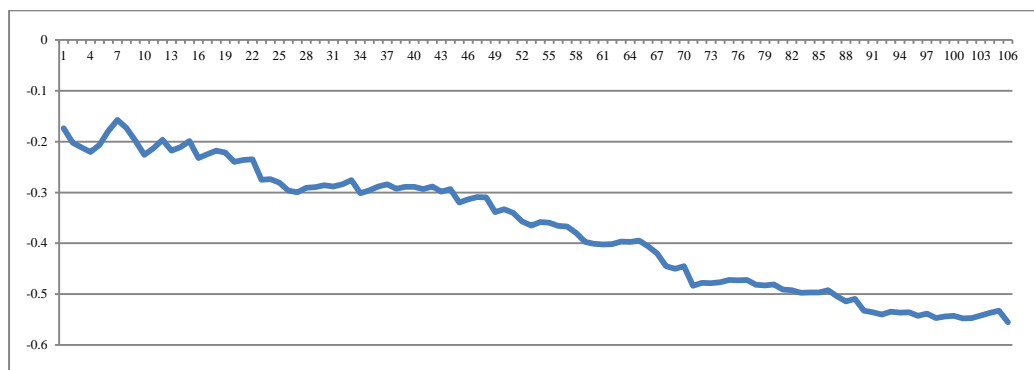


Figura 219: Hill – plot da Carteira C.M.O.L.=2,5% ( $K_h = 15,75\%$  ;  $q = 7$ ).

Para o período de 360 dias:

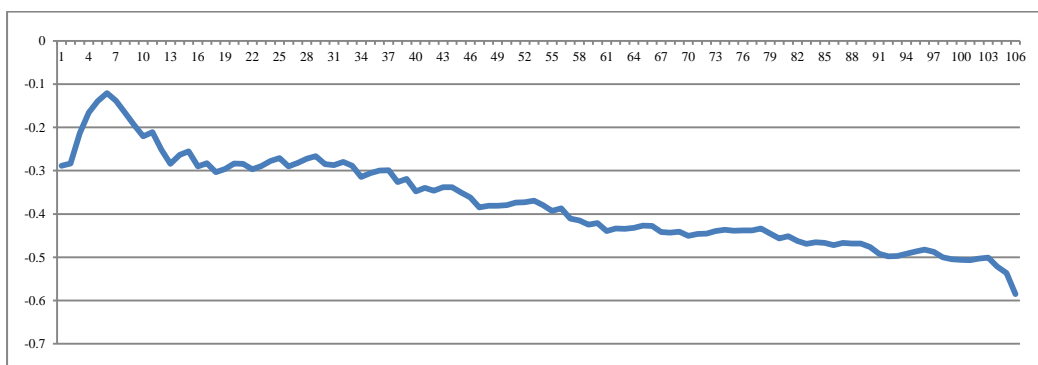


Figura 220: Hill – plot da Carteira C.M.O.L.=2,5% ( $K_h = -12,05\%$  ;  $q = 6$ ).

Para o período de 450 dias:

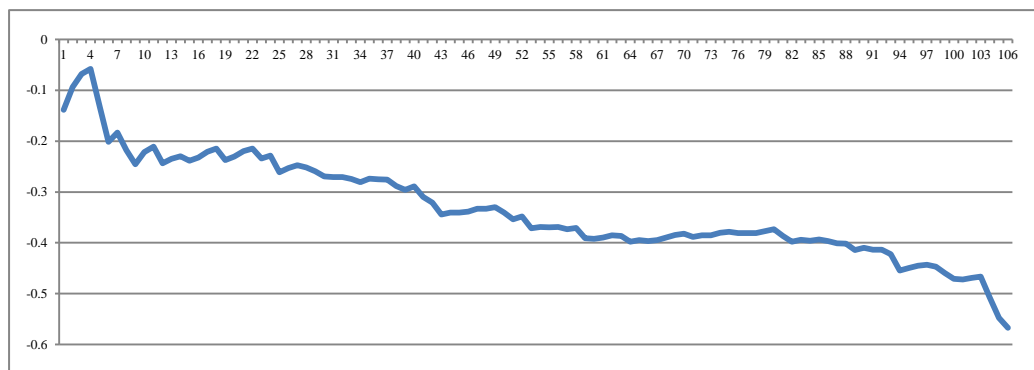


Figura 221: Hill – plot da Carteira C.M.O.L.=2,5% ( $K_h = -6,82\%$  ;  $q = 3$ ).

### CARTEIRA C.M.O.L.=5%

Período de 90 dias:

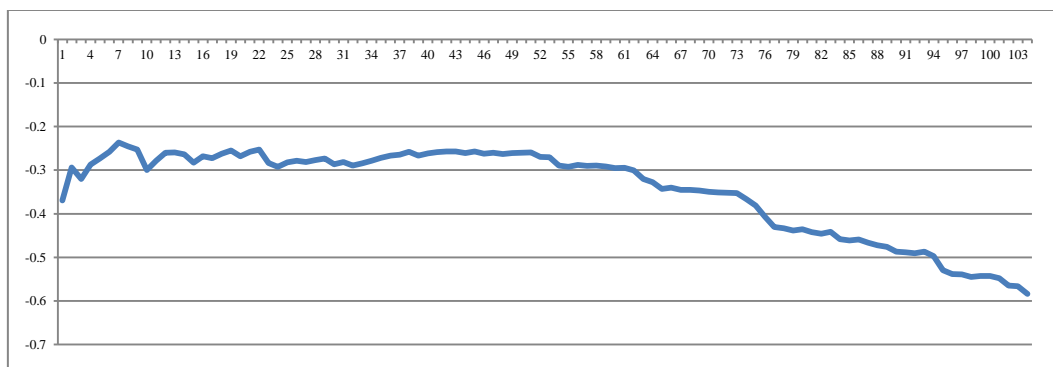


Figura 222: Hill – plot da Carteira C.M.O.L.=5% ( $K_h = -23,65\%$  ;  $q = 7$ ).

Para o período de 180 dias:

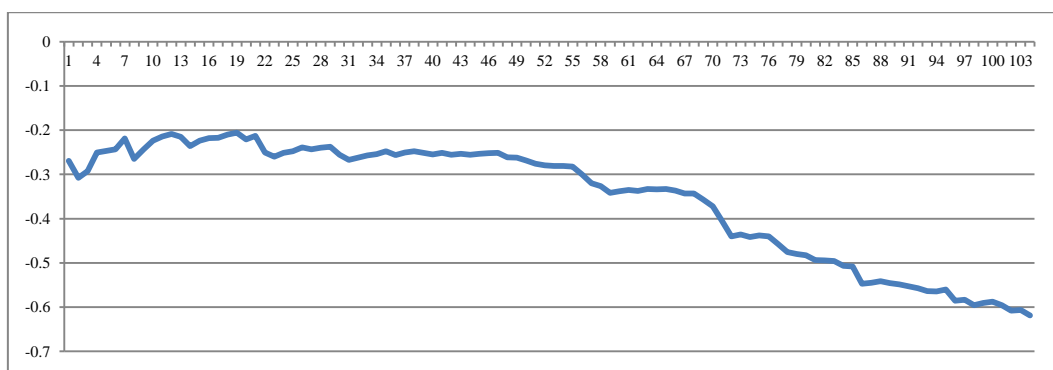


Figura 223: Hill – plot da Carteira C.M.O.L.=5% ( $K_h = -20,57\%$  ;  $q = 21$ ).

Para o período de 270 dias:

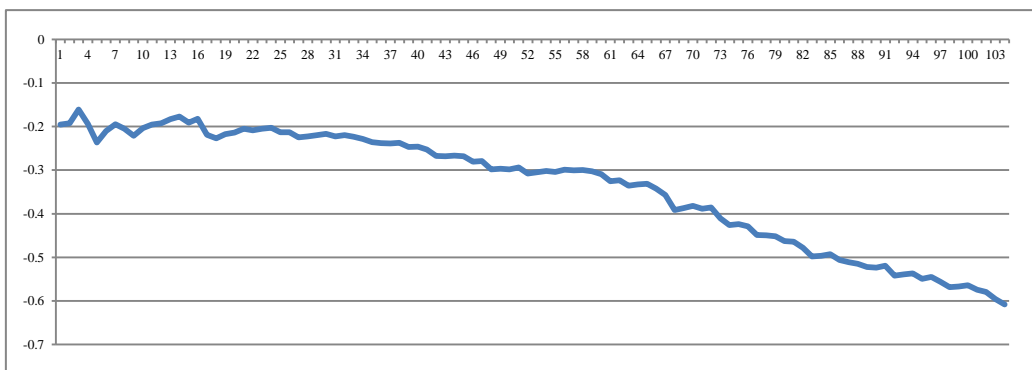


Figura 224: Hill – plot da Carteira C.M.O.L.=5% ( $K_h = -13,50\%$  ;  $q = 2$ ).

Para o período de 360 dias:

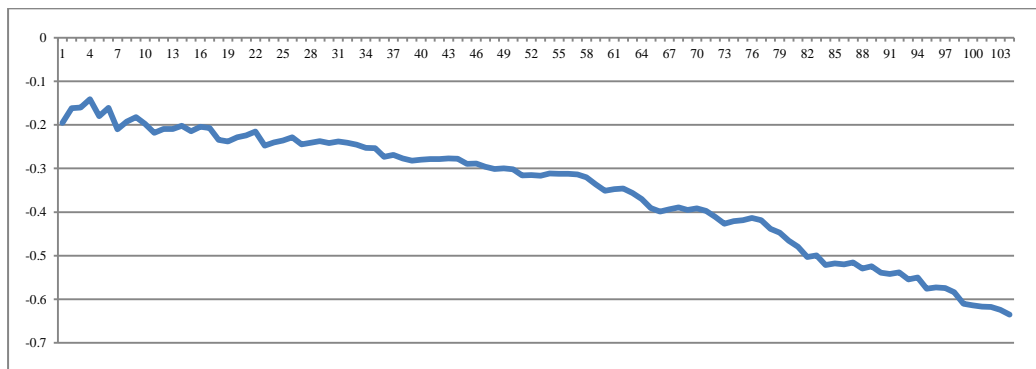


Figura 225: Hill – plot da Carteira C.M.O.L.=5% ( $K_h = -13,50\%$  ;  $q = 2$ ).

Para o período de 450 dias:

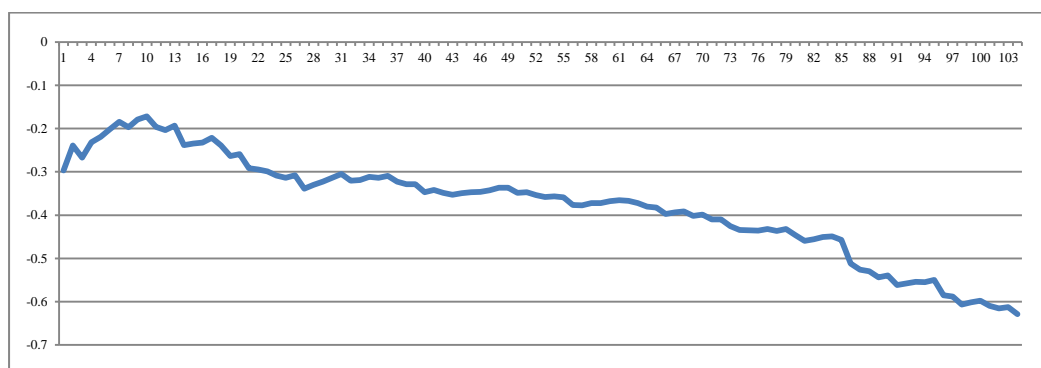


Figura 226: Hill – plot da Carteira C.M.O.L.=5% ( $K_h = -17,15\%$  ;  $q = 12$ ).

## CARTEIRA D.M.I.U.

Para o período de 90 dias:

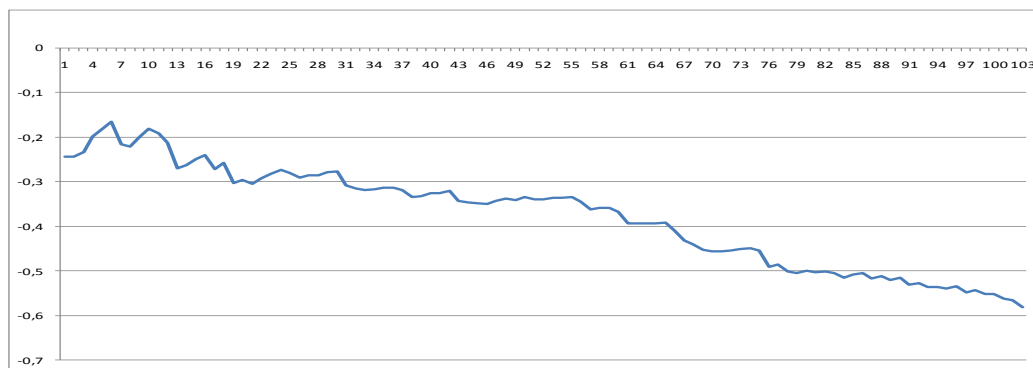


Figura 227: Hill – plot da Carteira D.M.I.U. ( $K_h = -19,73\%$  ;  $q = 5$ ).

Para o período de 180 dias:

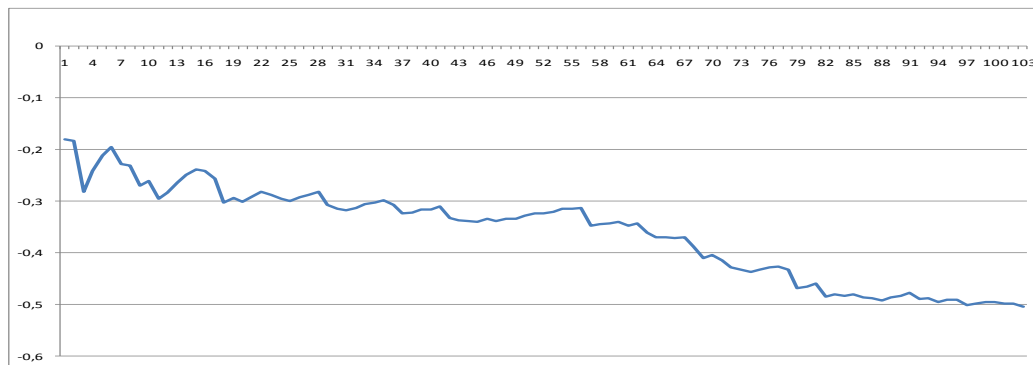


Figura 228: Hill – plot da Carteira D.M.I.U. ( $K_h = -18,01\%$  ;  $q = 2$ ).

Para o período de 270 dias:

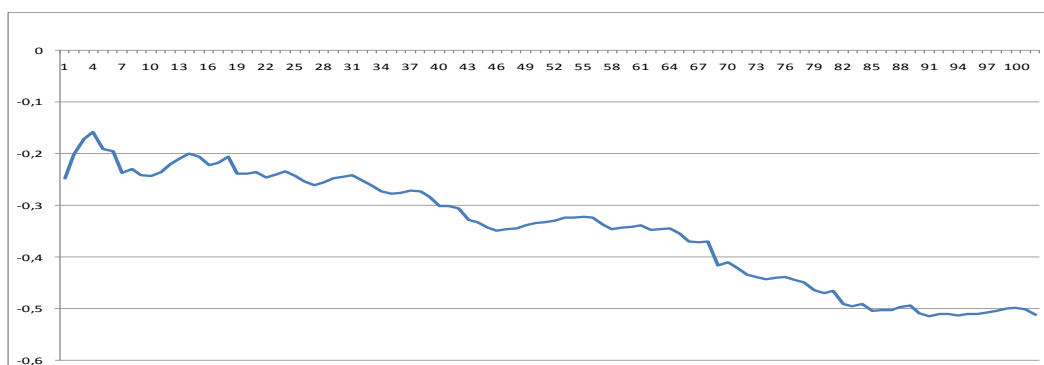


Figura 229: Hill – plot da Carteira D.M.I.U. ( $K_h = -15,76\%$  ;  $q = 4$ ).

Para o período de 360 dias

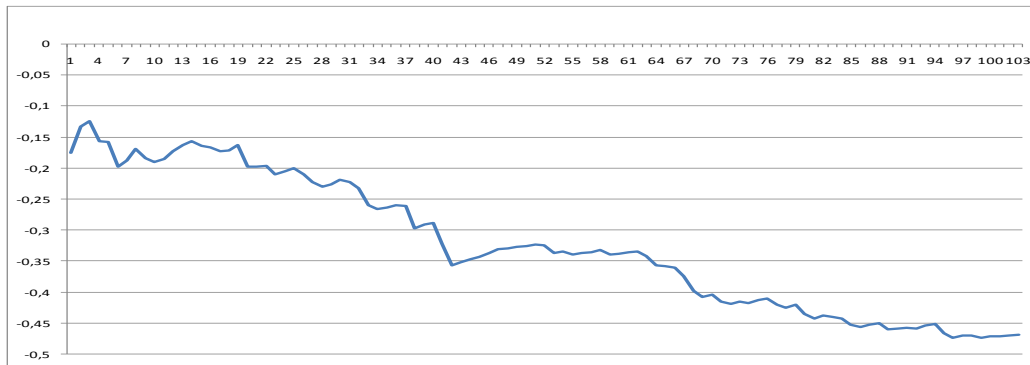


Figura 230: Hill – plot da Carteira D.M.I.U. ( $K_h = -12,45\%$  ;  $q = 3$ ).

Para o período de 450 dias:

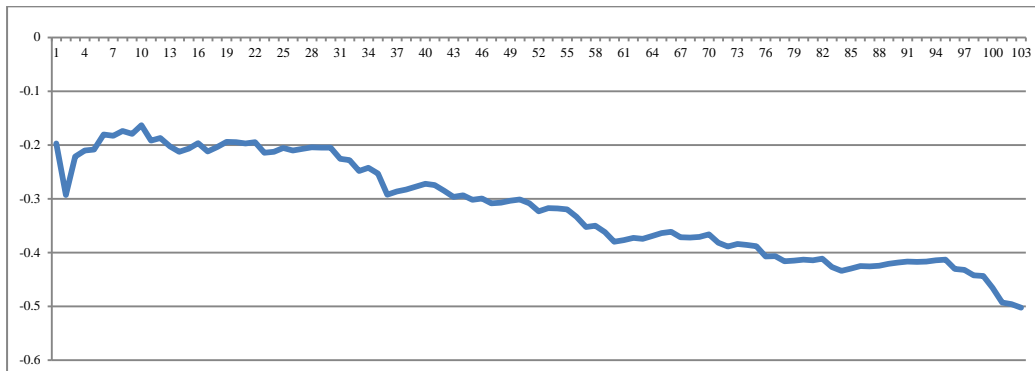


Figura 231: Hill – plot da Carteira D.M.I.U. ( $K_h = -16,35\%$  ;  $q = 10$ ).

CARTEIRA D.M.O.L. = 0%

Período de 90 dias:

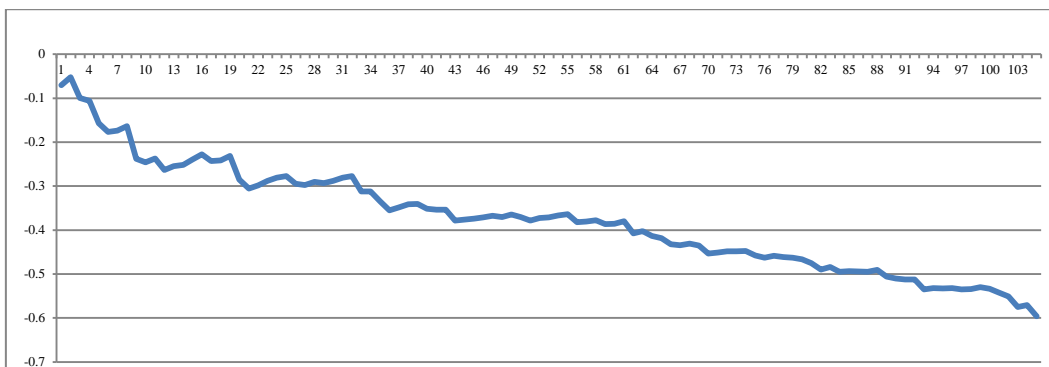


Figura 232: Hill – plot da Carteira D.M.O.L.=0% ( $K_h = -16,57\%$  ;  $q = 6$ ).



Para o período de 180 dias:

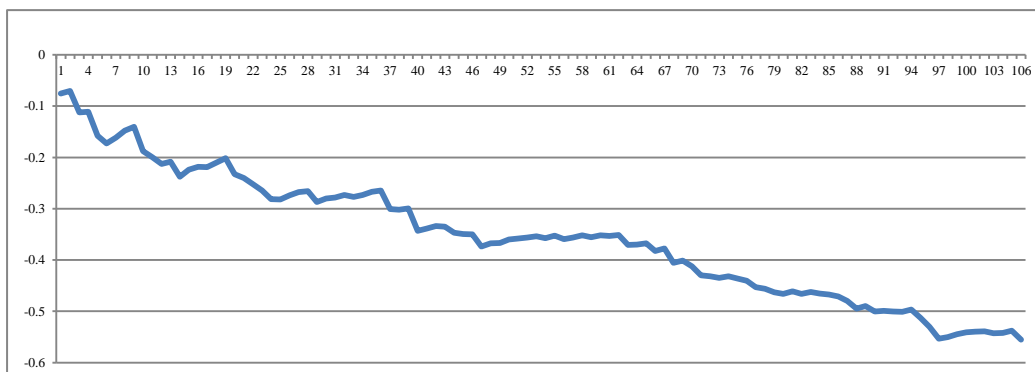


Figura 233: Hill – plot da Carteira D.M.O.L.=0% ( $K_h = -18,57\%$  ;  $q = 2$ ).

Para o período de 270 dias:

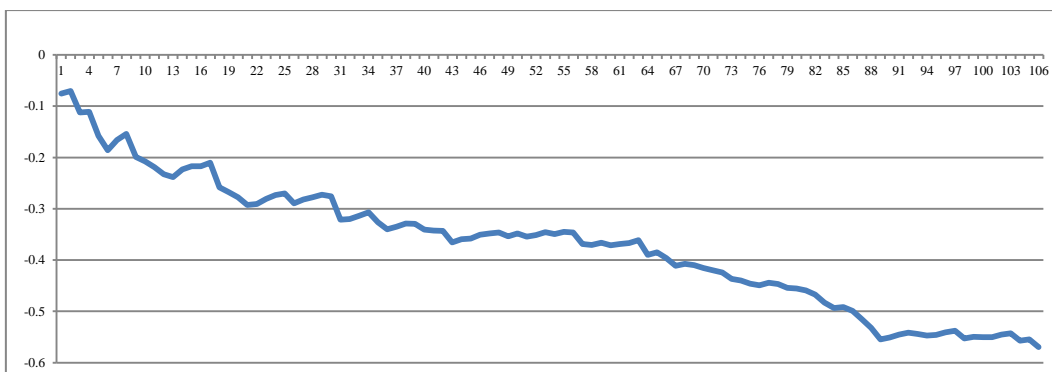


Figura 234: Hill – plot da Carteira D.M.O.L.=0% ( $K_h = -15,76\%$  ;  $q = 4$ ).

Para o período de 360 dias:

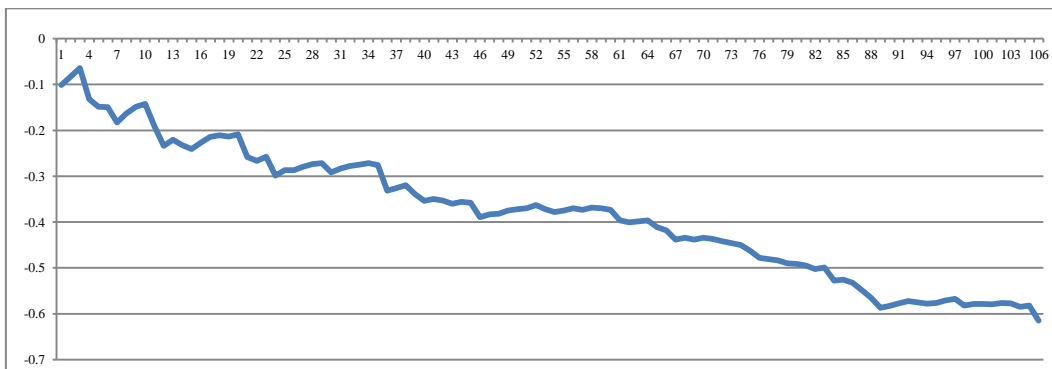


Figura 235: Hill – plot da Carteira D.M.O.L.=0% ( $K_h = -12,45\%$  ;  $q = 3$ ).

Para o período de 450 dias:

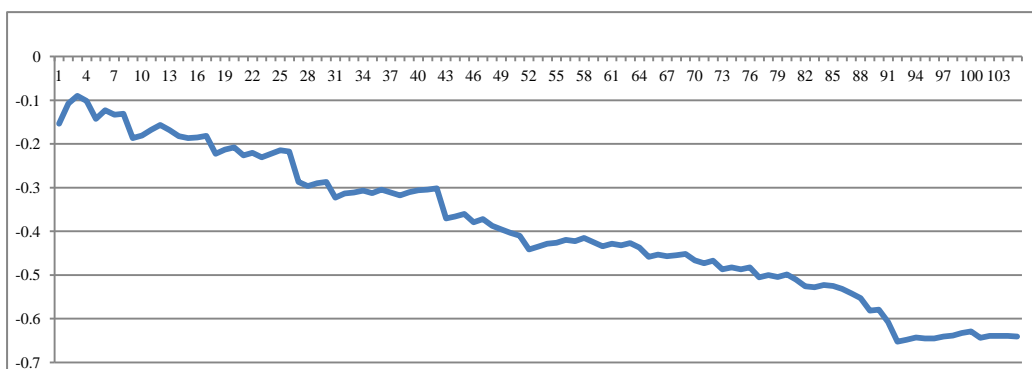


Figura 236: Hill – plot da Carteira D.M.O.L.=0% ( $K_h = -16,35\%$  ;  $q = 10$ ).

CARTEIRA D.M.O.L. = 2,5%

Período de 90 dias:

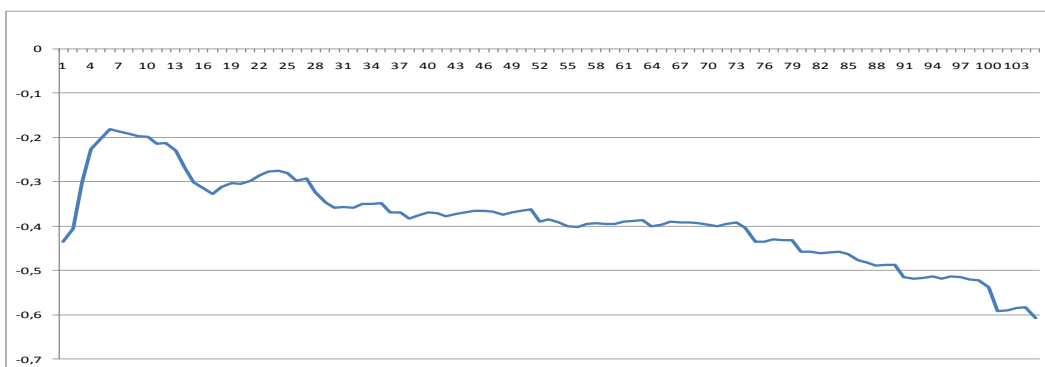


Figura 237: Hill – plot da Carteira D.M.O.L.=2,5%% ( $K_h = -18,16\%$  ;  $q = 6$ ).

Para o período de 180 dias:

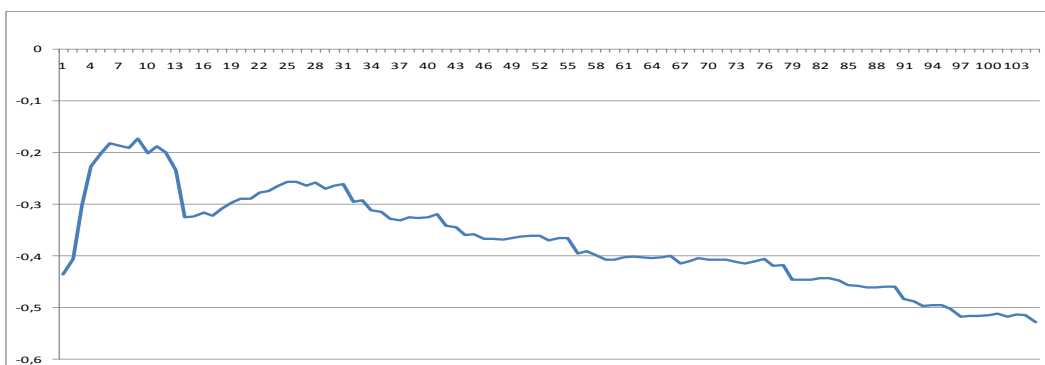


Figura 238: Hill – plot da Carteira D.M.O.L.=2,5%% ( $K_h = -17,28\%$  ;  $q = 9$ ).

Para o período de 270 dias:

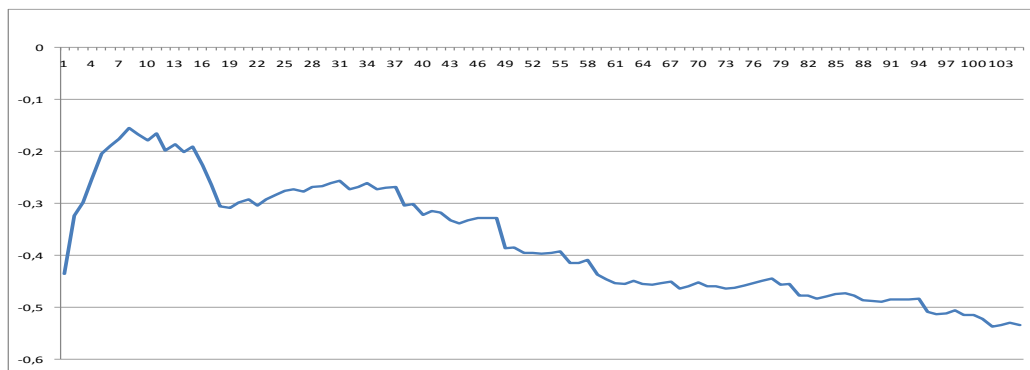


Figura 239: Hill – plot da Carteira D.M.O.L.=2,5%% (Kh = -15,50%; q = 8).

Para o período de 360 dias:

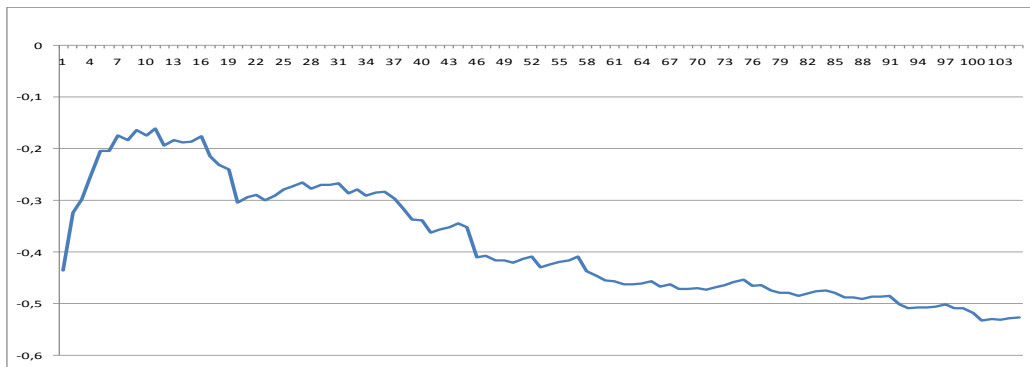


Figura 240: Hill – plot da Carteira D.M.O.L.=2,5%% (Kh = -16,18%; q = 11).

Para o período de 450 dias:

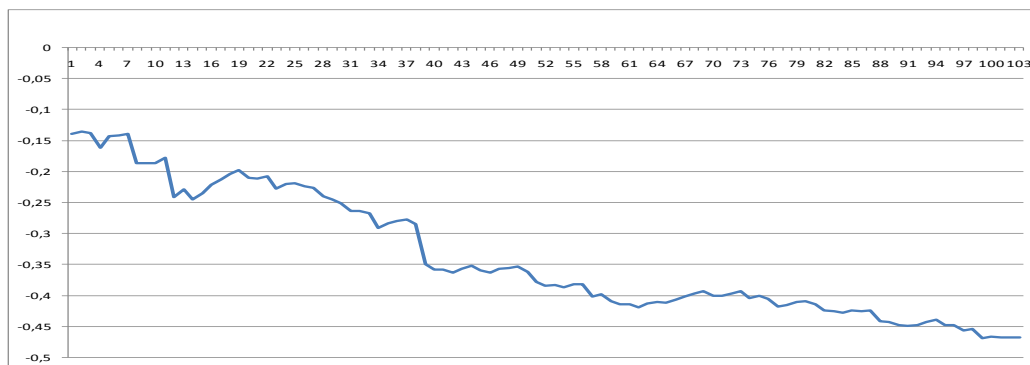


Figura 241: Hill – plot da Carteira D.M.O.L.=2,5%% (Kh = -13,59%; q = 2).

CARTEIRA D.M.O.L. = 5%

Período de 90 dias:

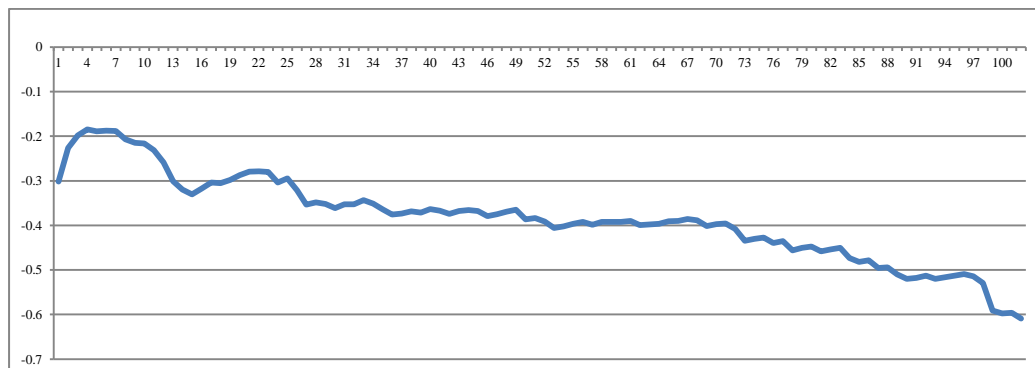


Figura 242: Hill – plot da Carteira D.M.O.L.=5% ( $K_h = -18,75\%$ ;  $q = 8$ ).

Para o período de 180 dias:

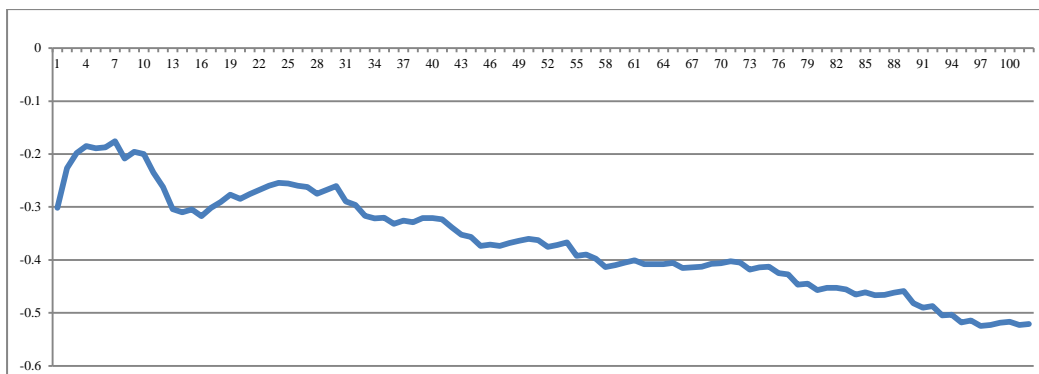


Figura 243: Hill – plot da Carteira D.M.O.L.=5% ( $K_h = -17,59\%$ ;  $q = 9$ ).

Para o período de 270 dias:

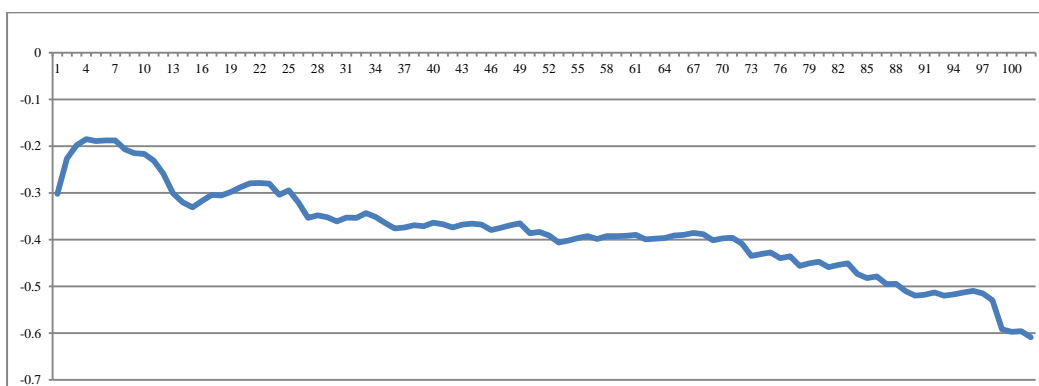


Figura 244: Hill – plot da Carteira D.M.O.L.=5% ( $K_h = -16,03\%$ ;  $q = 8$ ).

Para o período de 360 dias:

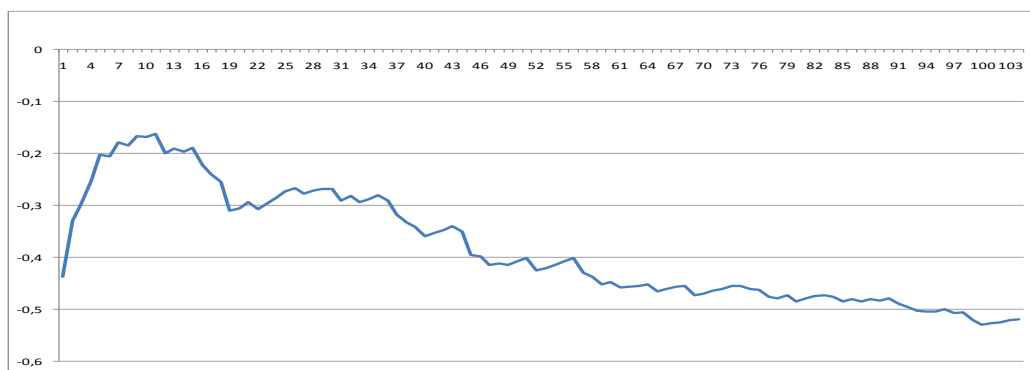


Figura 245: Hill – plot da Carteira D.M.O.L.=5% ( $K_h = -16,93\%$ ;  $q = 10$ ).

Para o período de 450 dias:

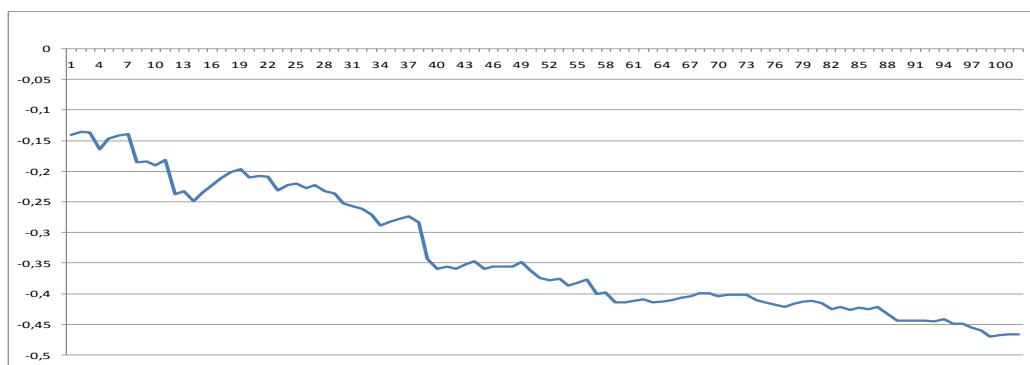


Figura 246: Hill – plot da Carteira D.M.O.L.=5% ( $K_h = -13,23\%$ ;  $q = 2$ ).

### CARTEIRA E.M.I.U.

Para o período de 90 dias:

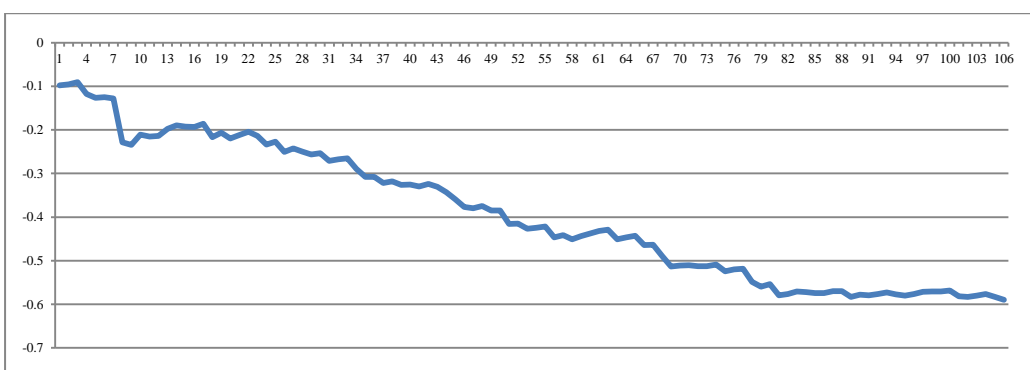


Figura 247: Hill – plot da Carteira E.M.I.U. ( $K_h = -9,03\%$ ;  $q = 3$ ).

Para o período de 180 dias:

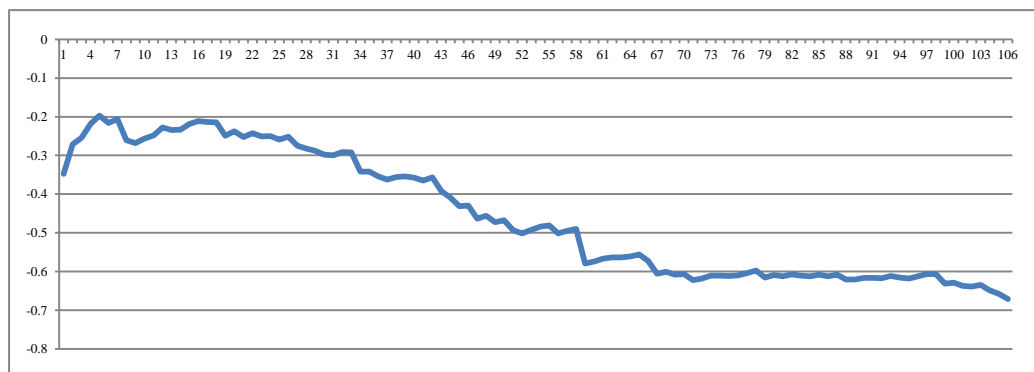


Figura 248: Hill – plot da Carteira E.M.I.U. ( $K_h = -19,72\%$ ;  $q = 5$ ).

Para o período de 270 dias:

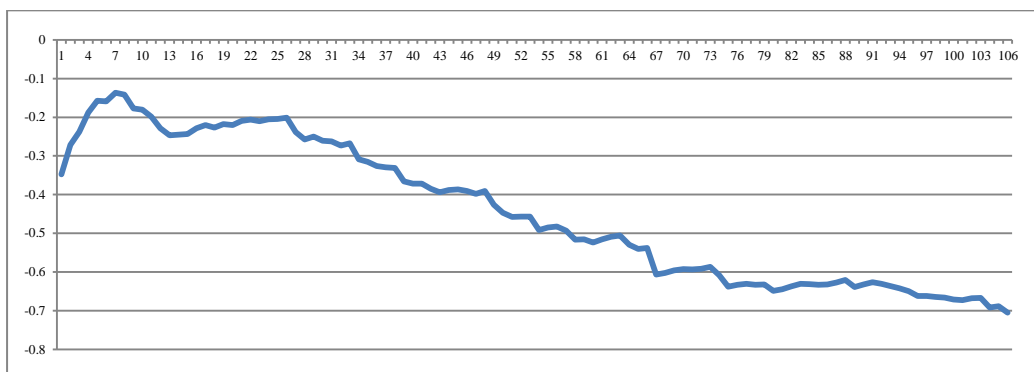


Figura 249: Hill – plot da Carteira E.M.I.U. ( $K_h = -13,66\%$ ;  $q = 7$ ).

Para o período de 360 dias

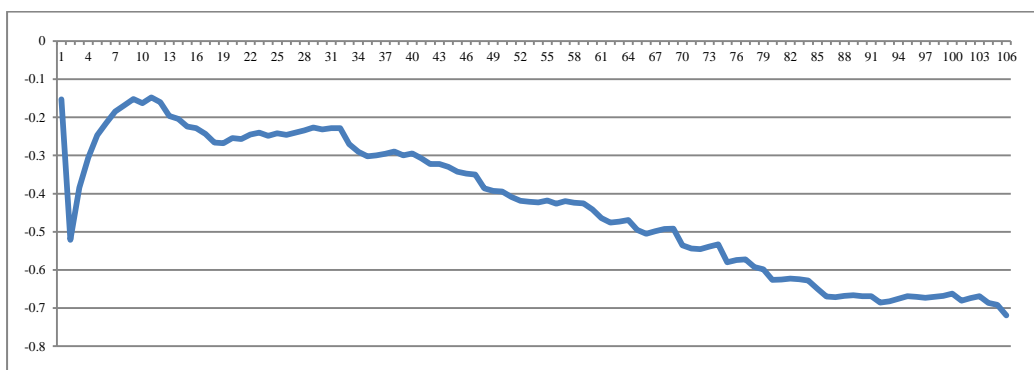


Figura 250: Hill – plot da Carteira E.M.I.U. ( $K_h = -14,81\%$ ;  $q = 11$ ).

Para o período de 450 dias:

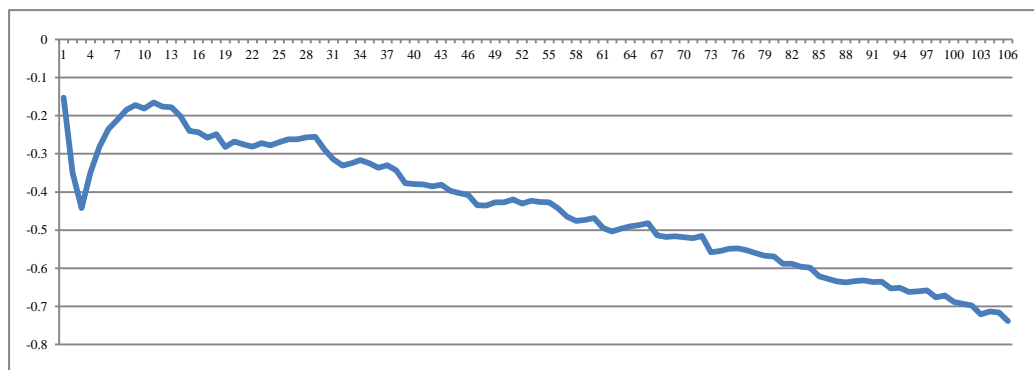


Figura 251: Hill – plot da Carteira E.M.I.U. ( $K_h = -15,27\%$ ;  $q = 1$ ).

CARTEIRA E.M.O.L. = 0%

Período de 90 dias:

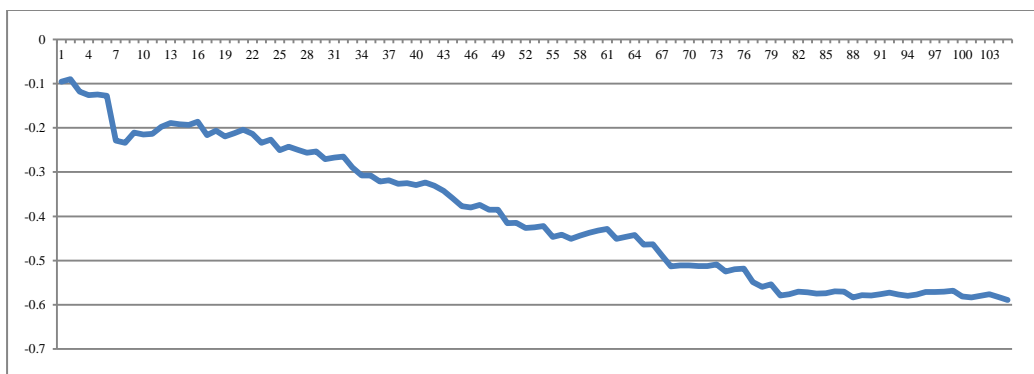


Figura 252: Hill – plot da Carteira E.M.O.L. = 0% ( $K_h = -9,03\%$ ;  $q = 3$ )

Para o período de 180 dias:

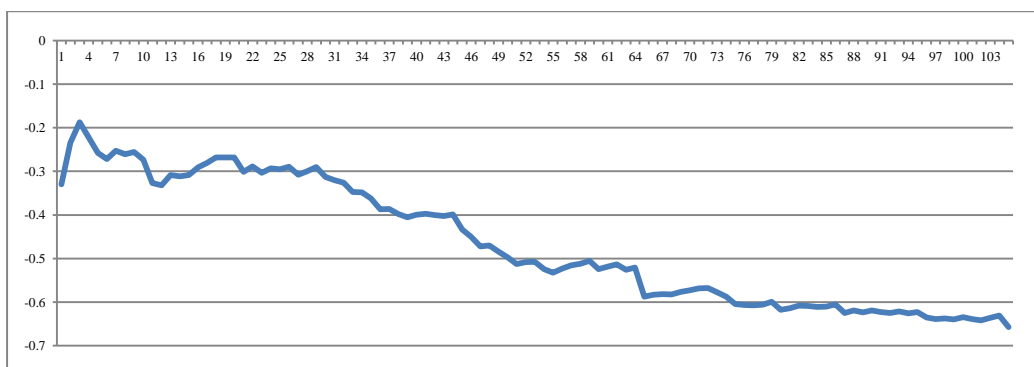


Figura 253: Hill – plot da Carteira E.M.O.L. = 0% ( $K_h = -18,73\%$ ;  $q = 4$ )

Para o período de 270 dias:

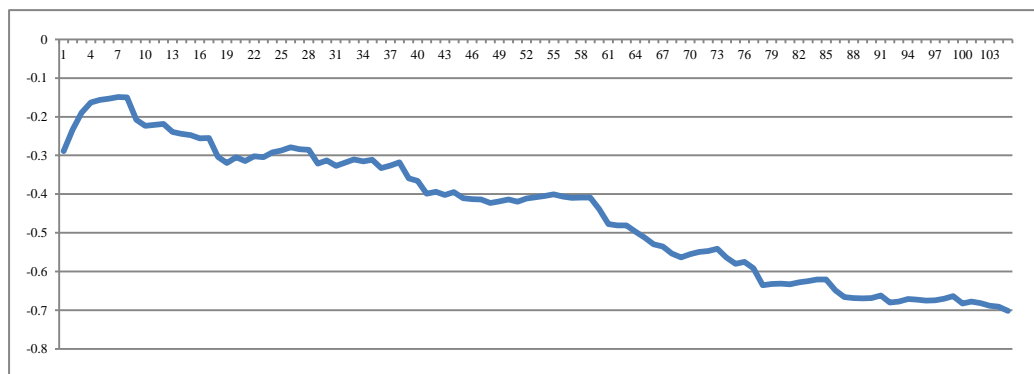


Figura 254: Hill – plot da Carteira E.M.O.L. = 0% ( $K_h = -15,0\%$ ;  $q = 9$ )

Para o período de 360 dias:

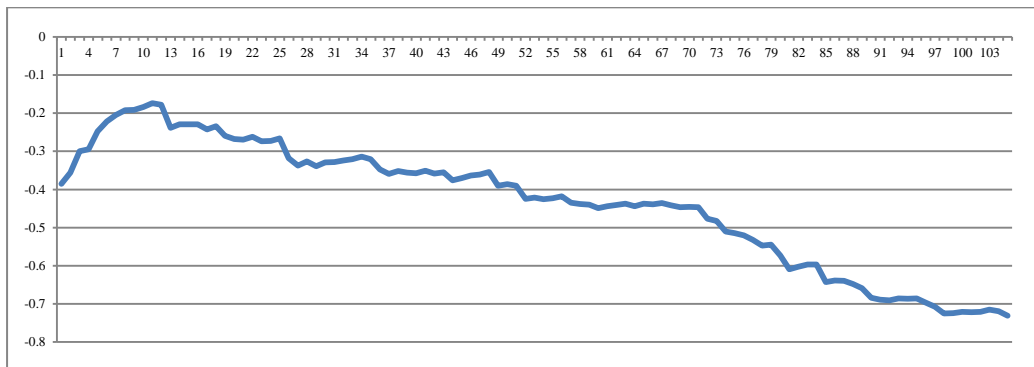


Figura 255: Hill – plot da Carteira E.M.O.L. = 0% ( $K_h = -17,42\%$ ;  $q = 10$ )

Para o período de 450 dias:

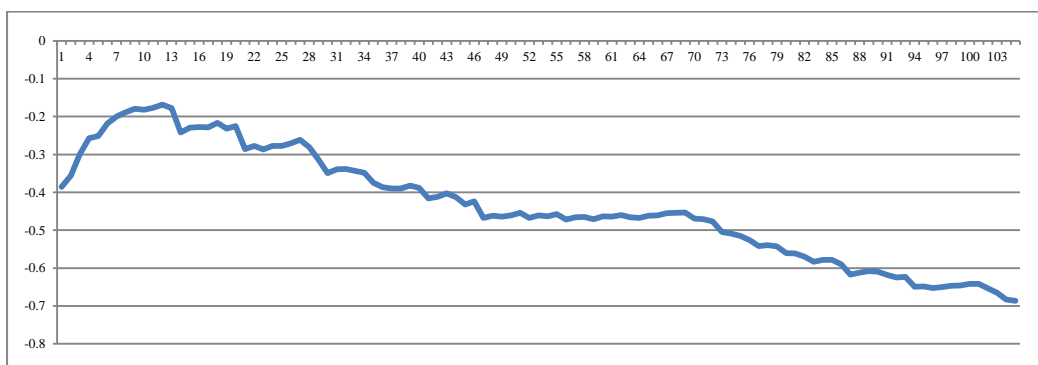


Figura 256: Hill – plot da Carteira E.M.O.L. = 0% ( $K_h = -16,87\%$ ;  $q = 12$ )



## CARTEIRA E.M.O.L. = 2,5%

Período de 90 dias:

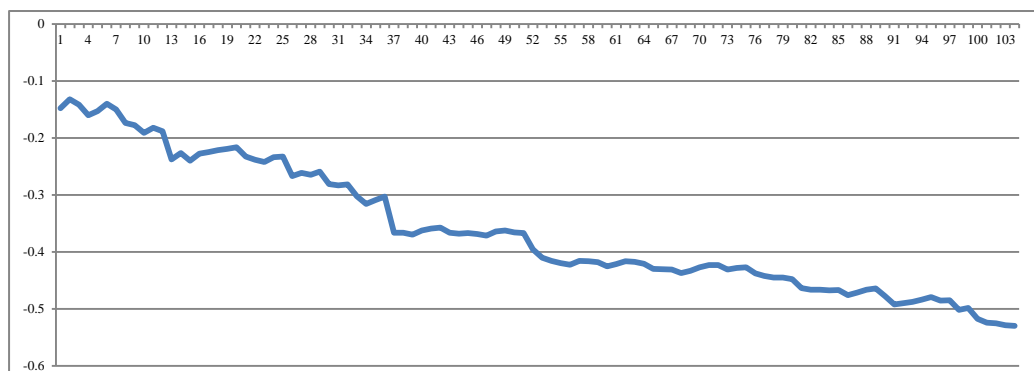


Figura 257: Hill – plot da Carteira E.M.O.L. = 2,5%% (Kh = -2,12; q = 2)

Para o período de 180 dias:

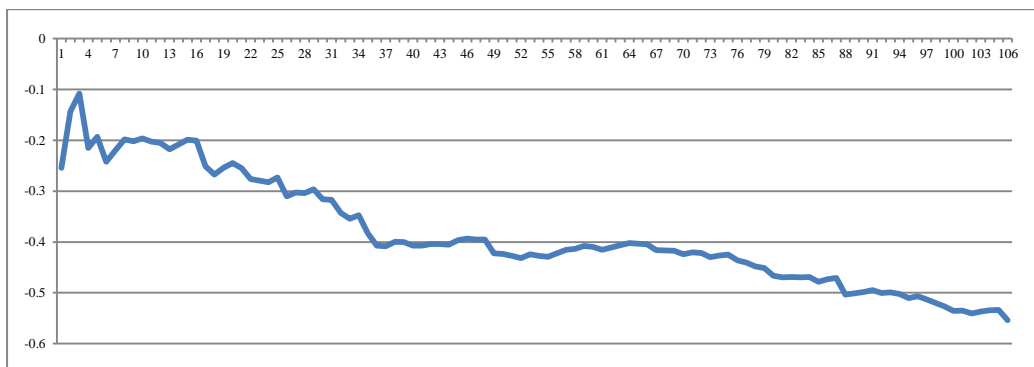


Figura 258: Hill – plot da Carteira E.M.O.L. = 2,5%% (Kh = -10,87%; q = 3)

Para o período de 270 dias:

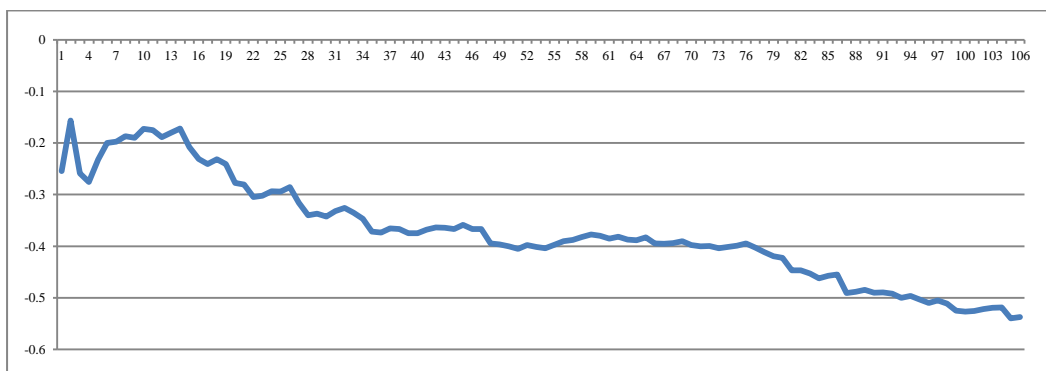


Figura 259: Hill – plot da Carteira E.M.O.L. = 2,5%% (Kh = -15,65%; q = 2)

Para o período de 360 dias:

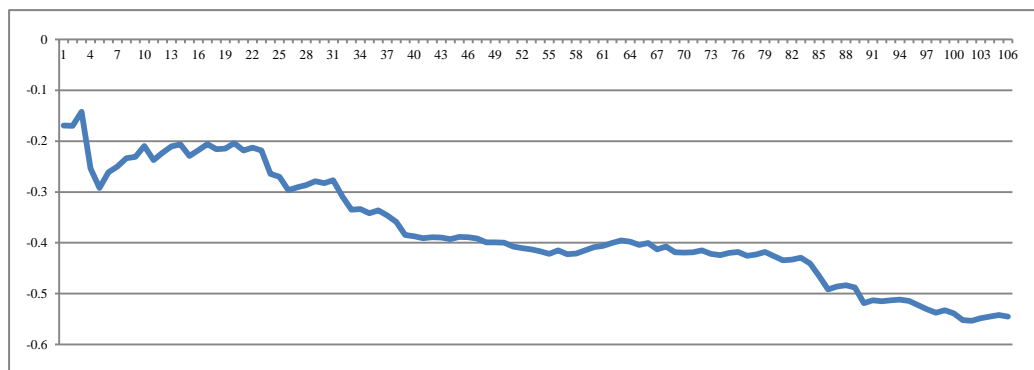


Figura 260: Hill – plot da Carteira E.M.O.L. = 2,5%% (Kh = -14,24% ; q = 3)

Para o período de 450 dias:

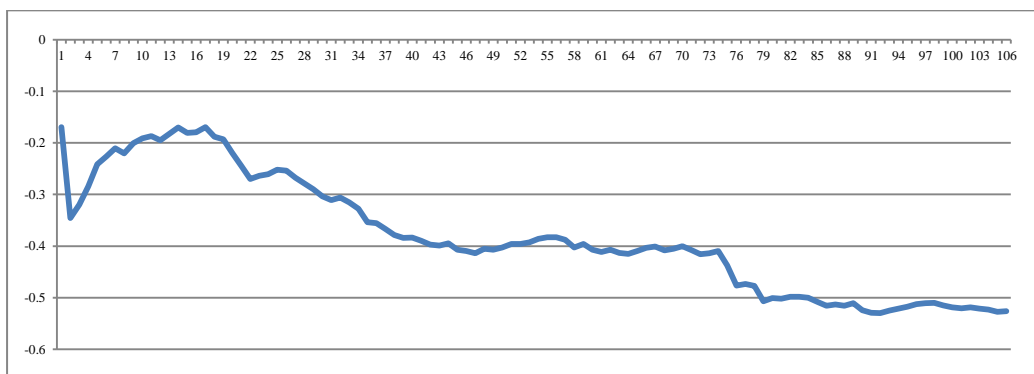


Figura 261: Hill – plot da Carteira E.M.O.L. = 2,5% (Kh = -16,94% ; q = 17)

CARTEIRA E.M.O.L. = 5%

Período de 90 dias:

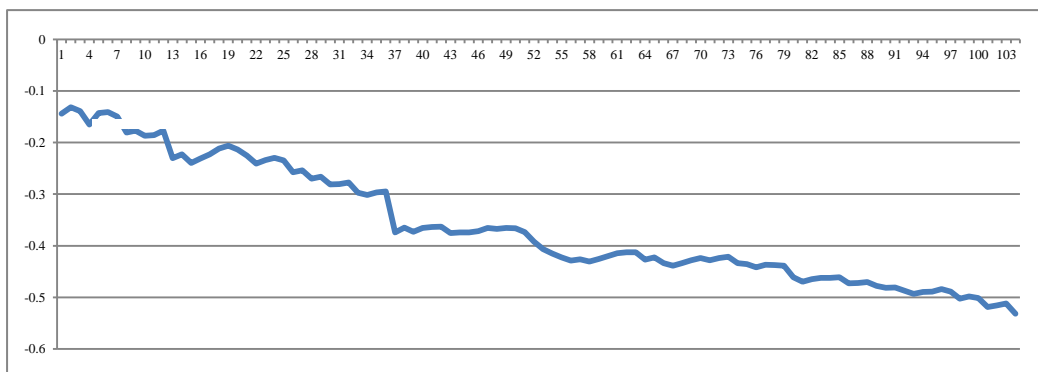


Figura 262: Hill – plot da Carteira E.M.O.L. = 5% (Kh = -13,20% ; q = 2)

Para o período de 180 dias:

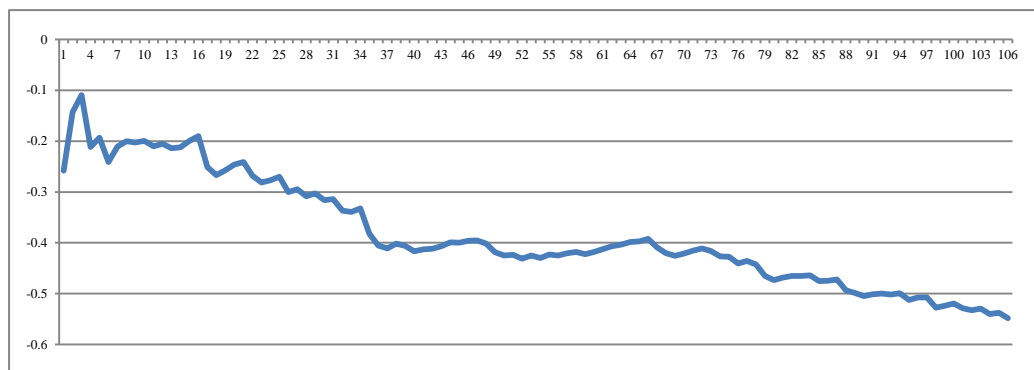


Figura 263: Hill – plot da Carteira E.M.O.L. = 5% ( $K_h = -14,29\%$  ;  $q = 2$ )

Para o período de 270 dias:

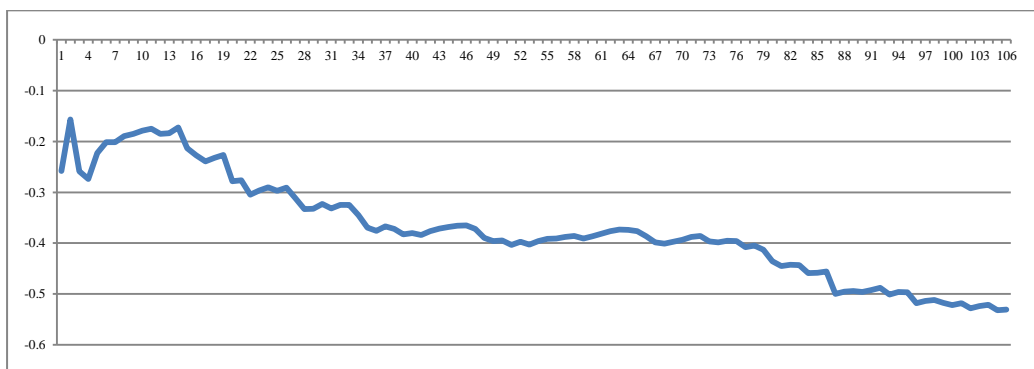


Figura 264: Hill – plot da Carteira E.M.O.L. = 5% ( $K_h = -15,71\%$  ;  $q = 2$ )

Para o período de 360 dias:

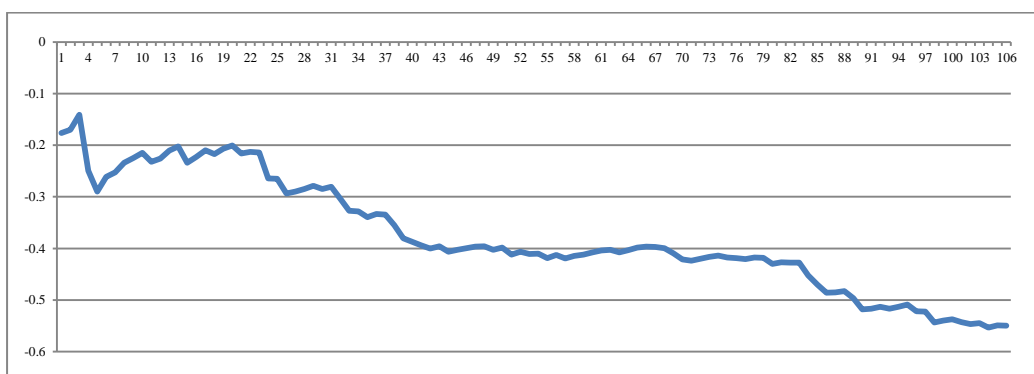


Figura 265: Hill – plot da Carteira E.M.O.L. = 5% ( $K_h = -14,13\%$  ;  $q = 3$ )

Para o período de 450 dias:

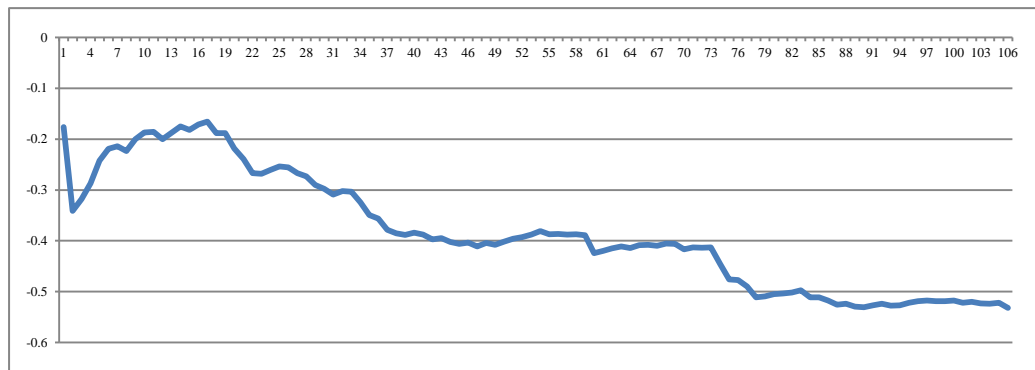


Figura 266: Hill – plot da Carteira E.M.O.L. = 5% ( $K_h = -17,14\%$  ;  $q = 16$ )