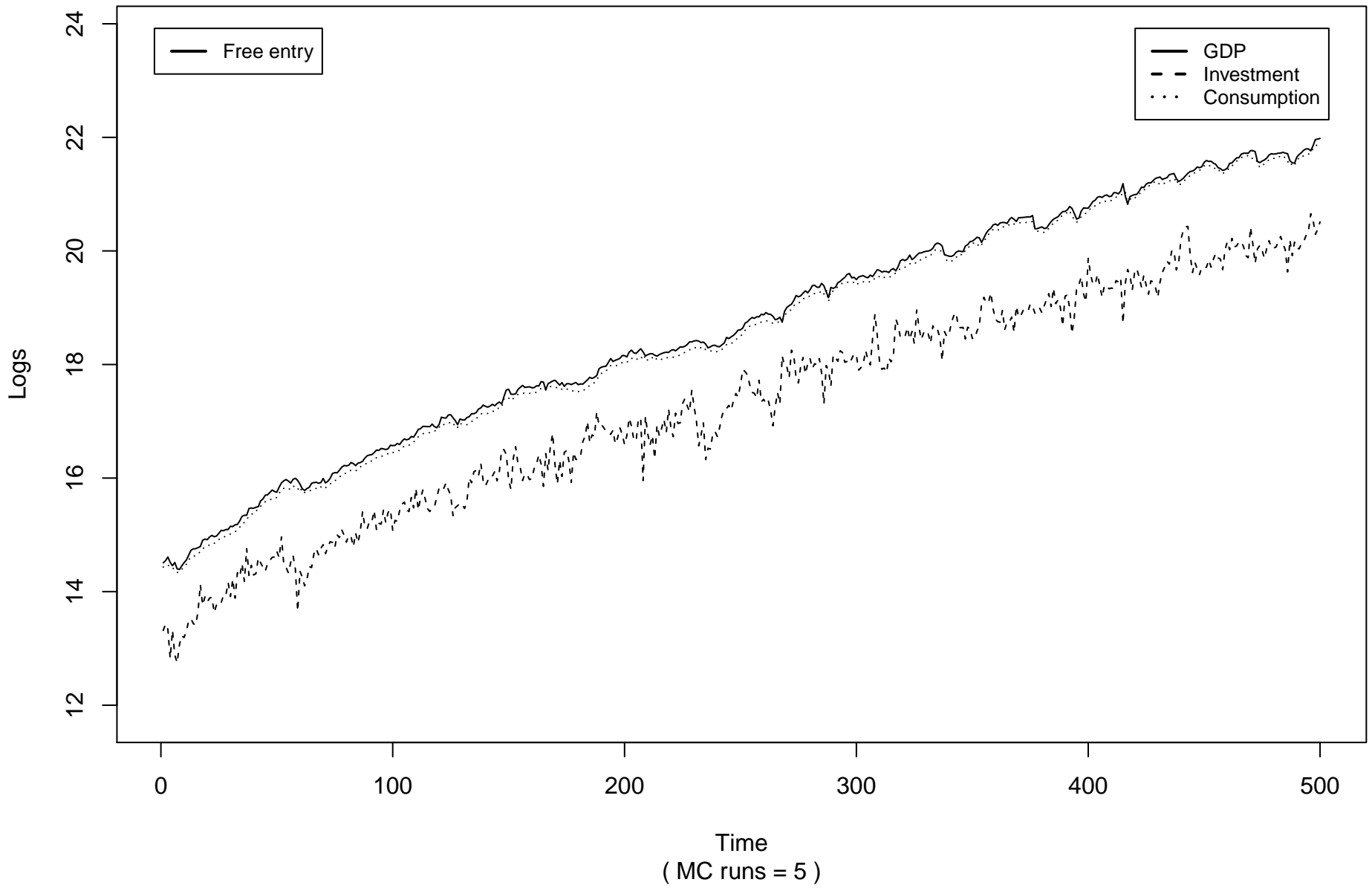
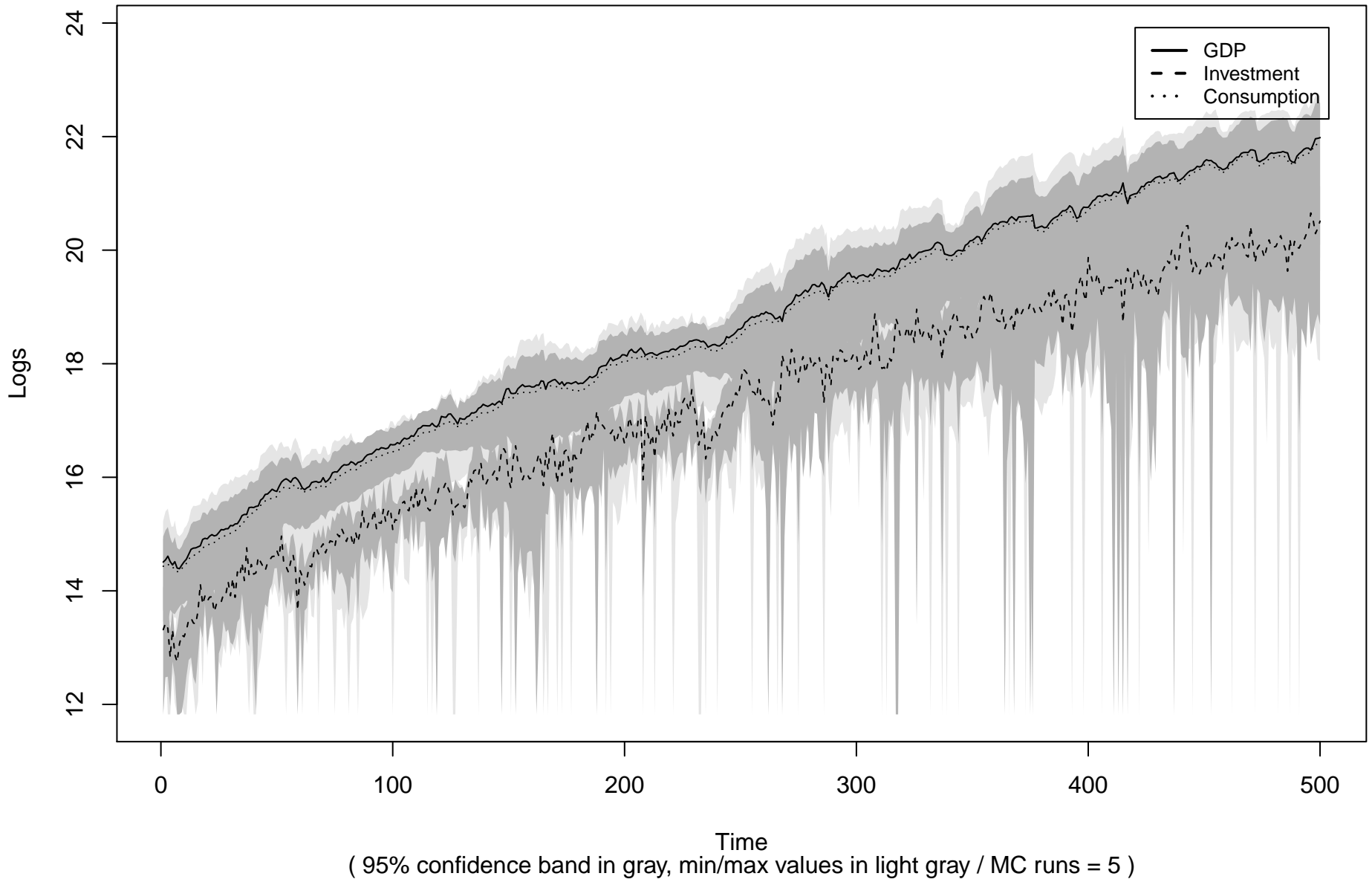


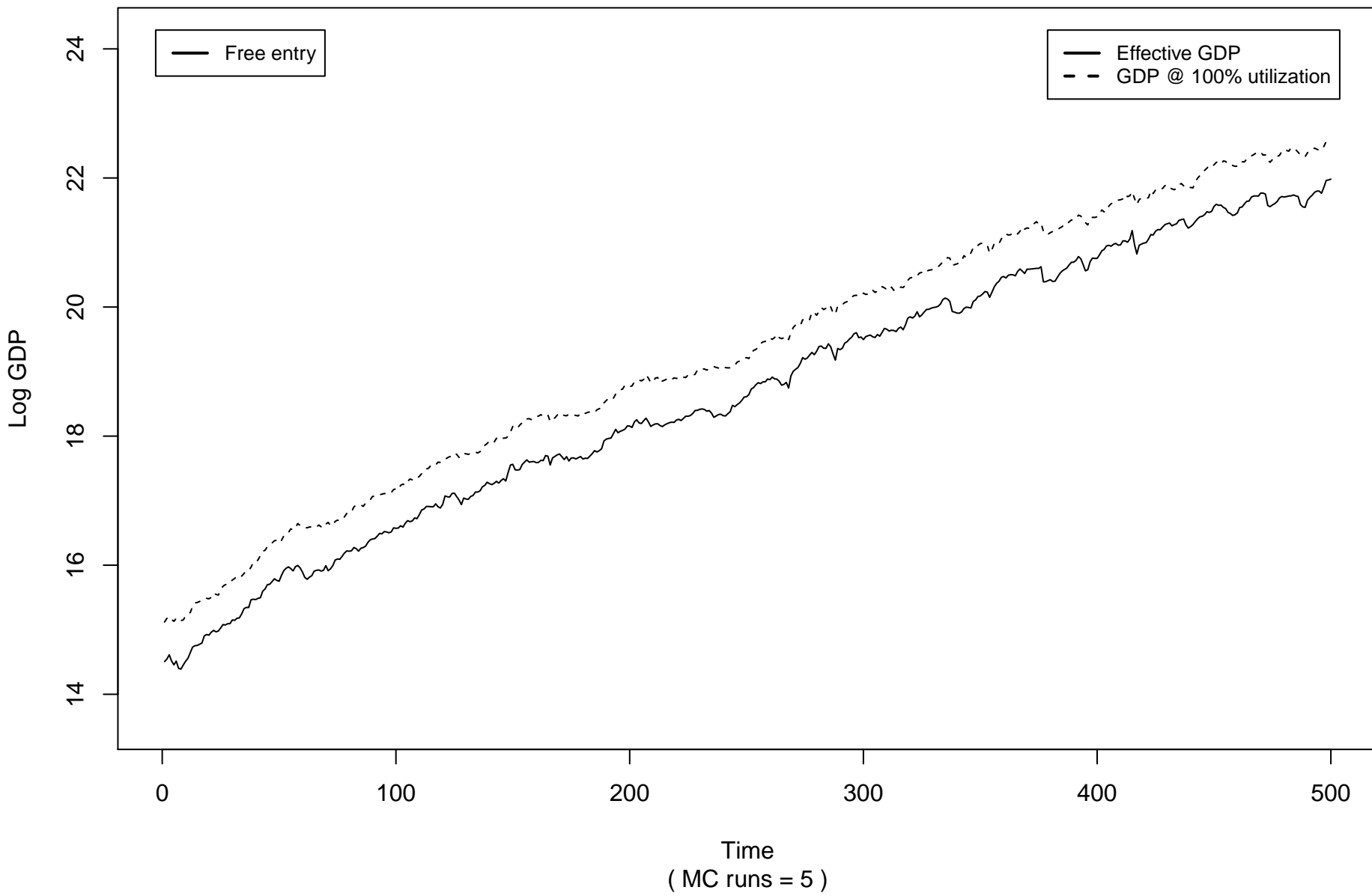
GDP, investment and consumption (all experiments)



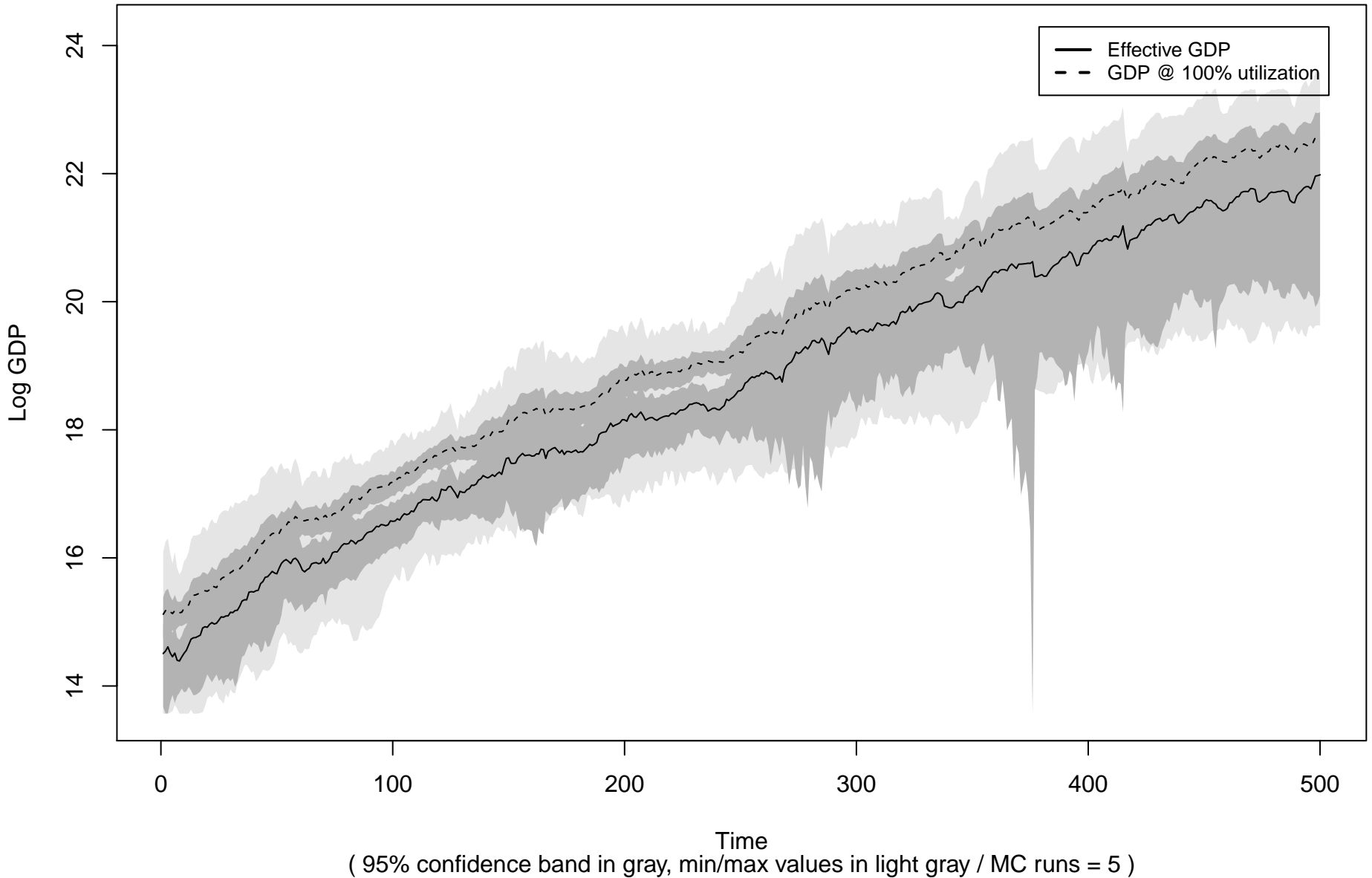
GDP, investment and consumption (Free entry)



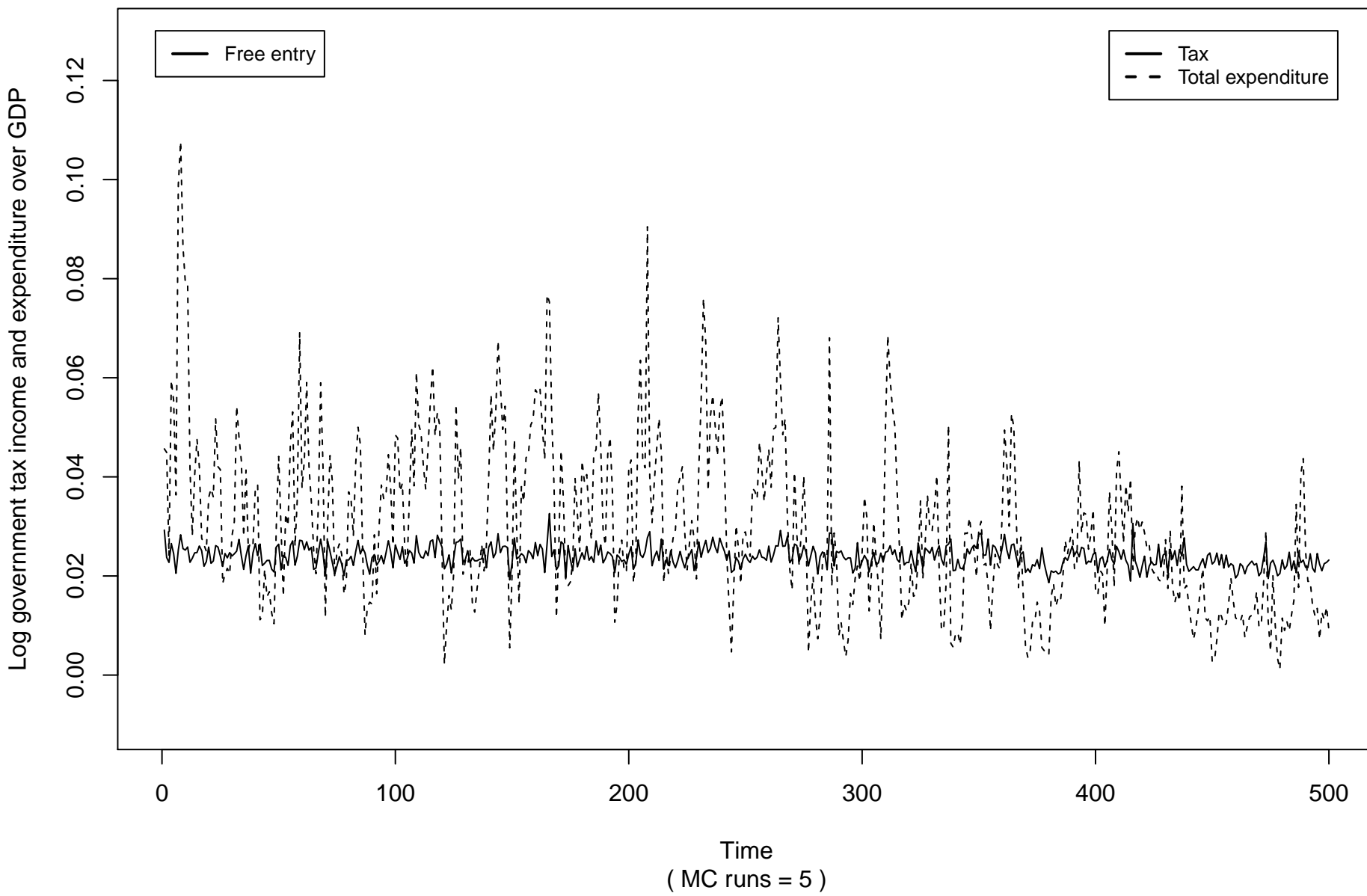
GDP (all experiments)



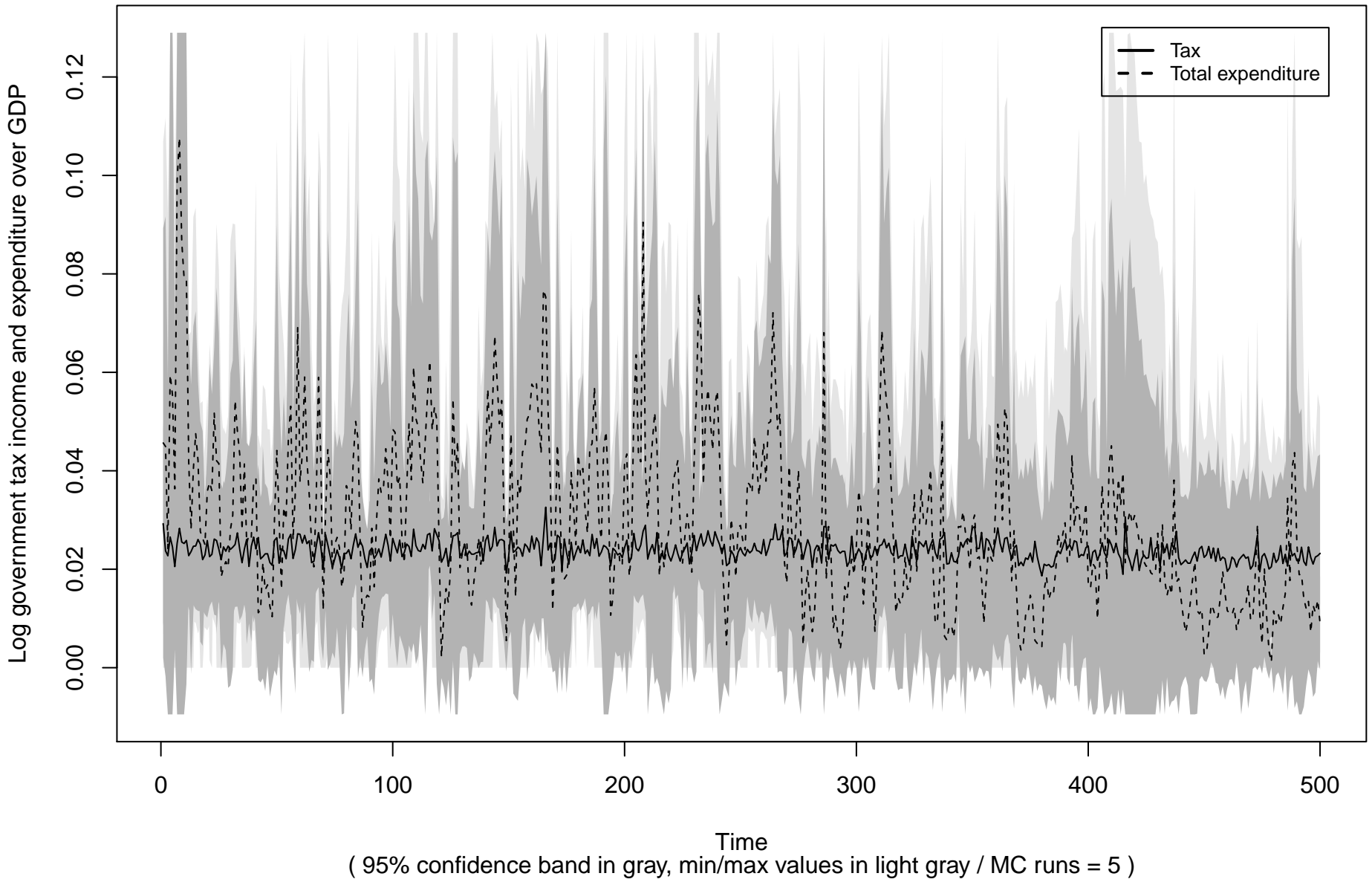
GDP (Free entry)



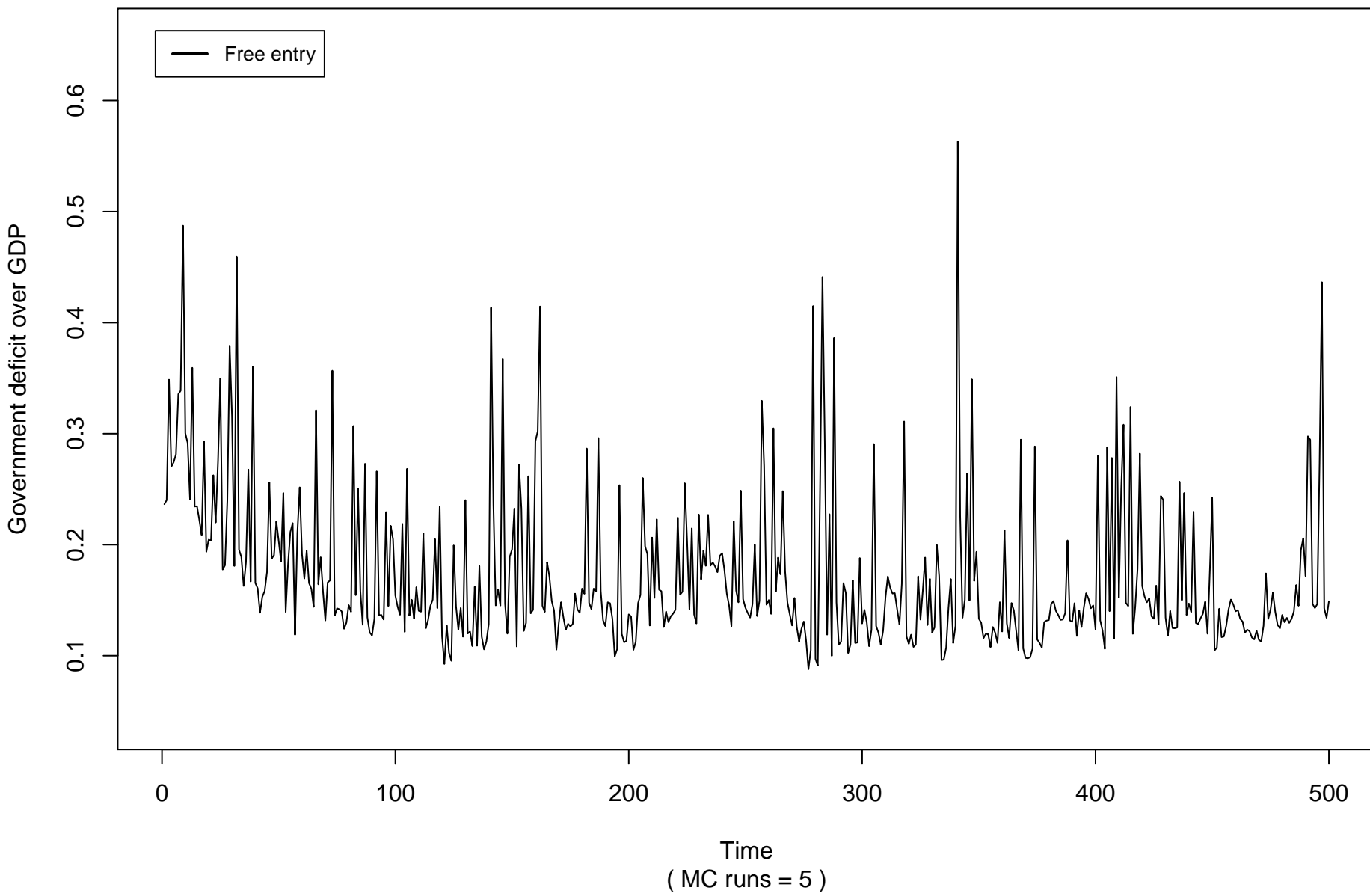
Government income and expenditure on GDP (all experiments)



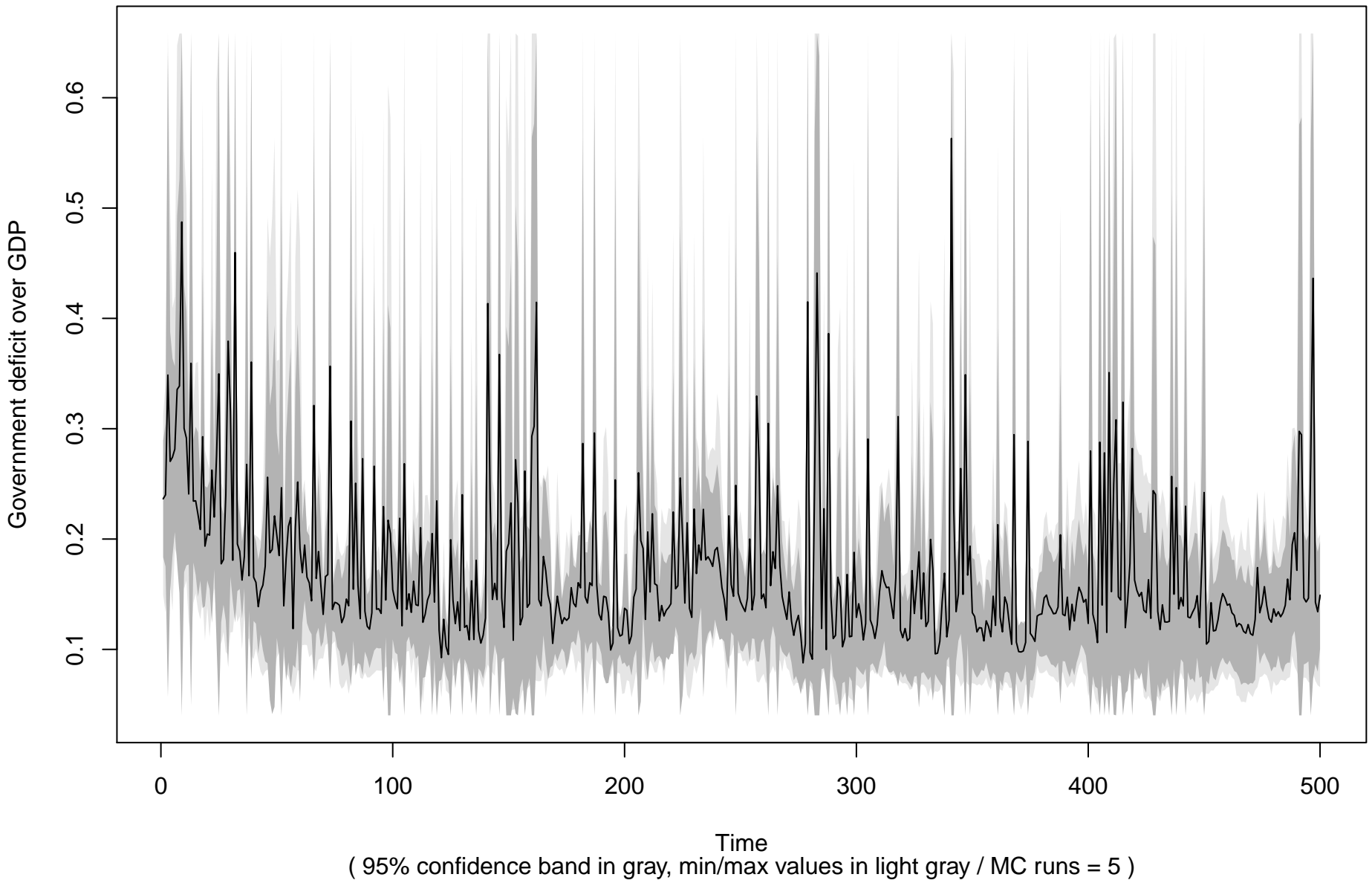
Government income and expenditure on GDP (Free entry)



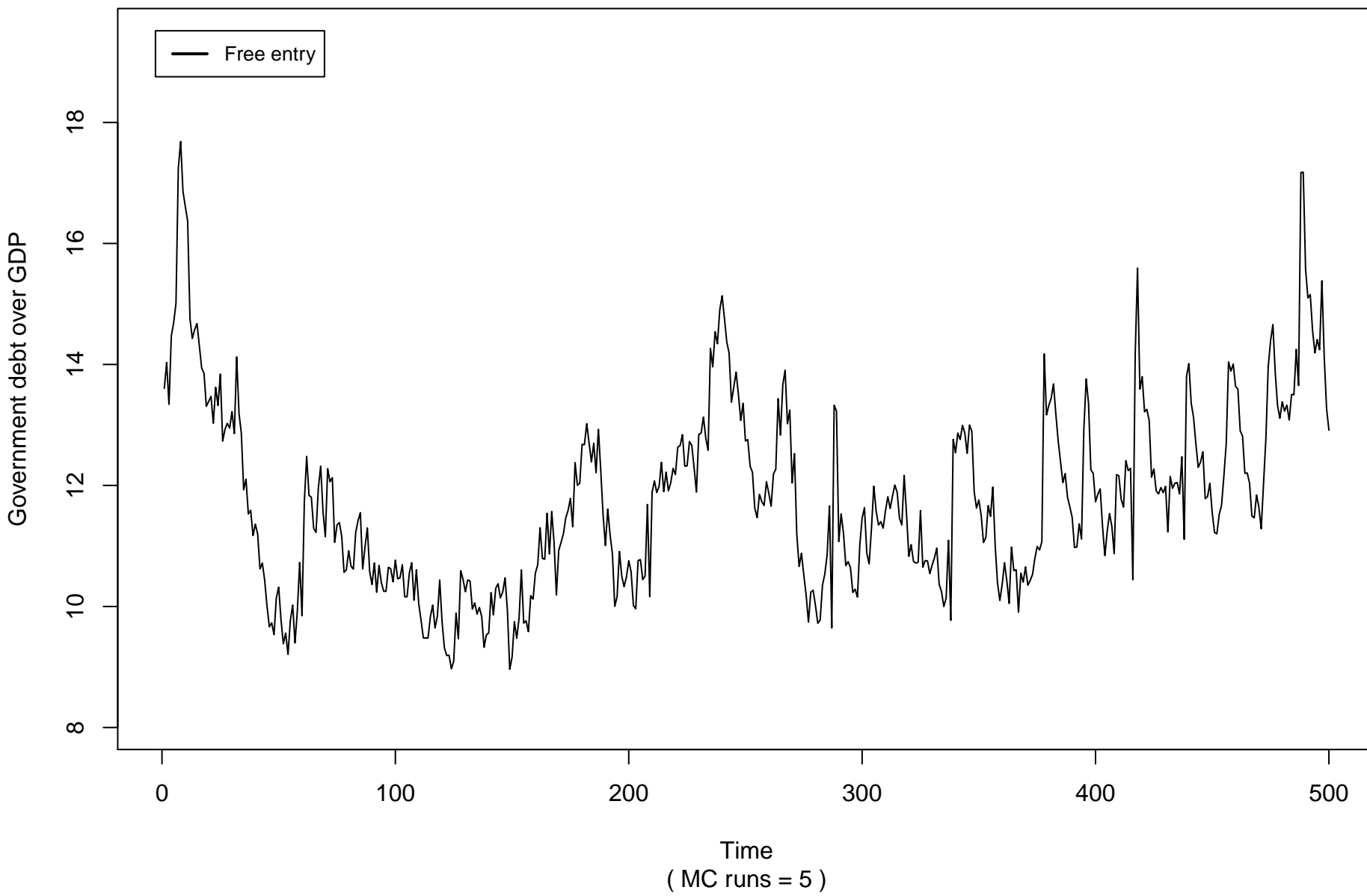
Government deficit on GDP (all experiments)



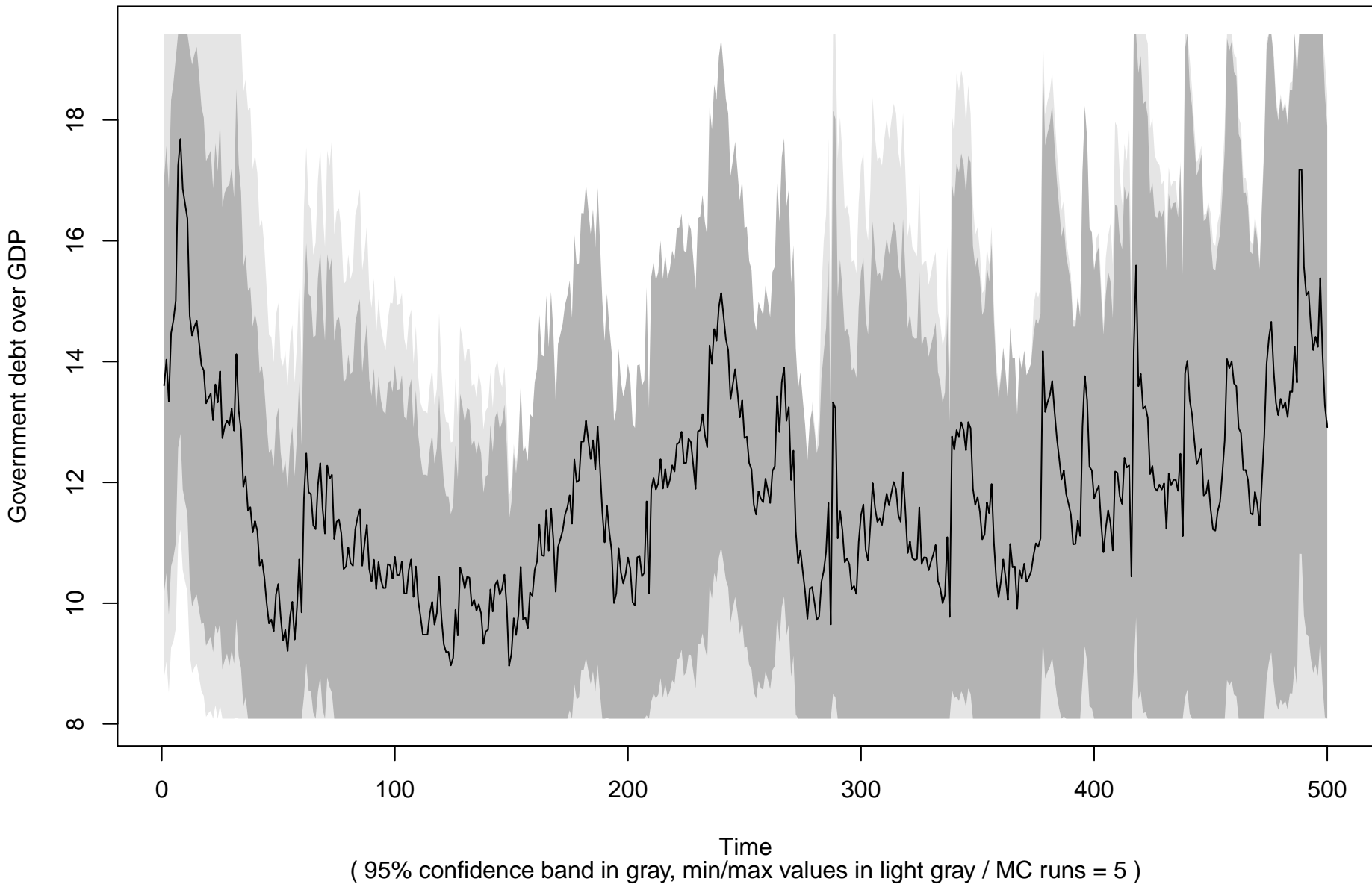
Government deficit on GDP (Free entry)



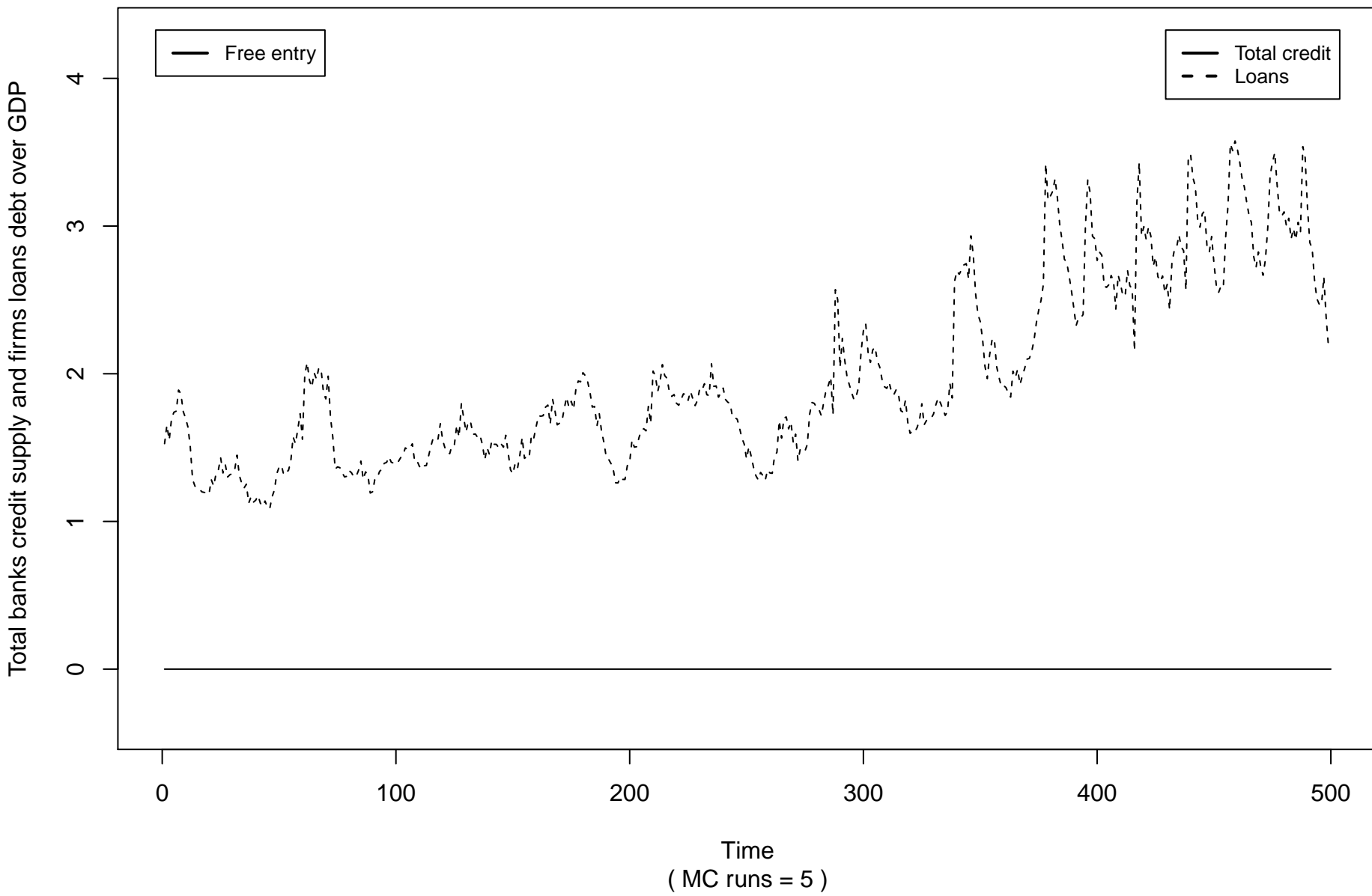
Government debt on GDP (all experiments)



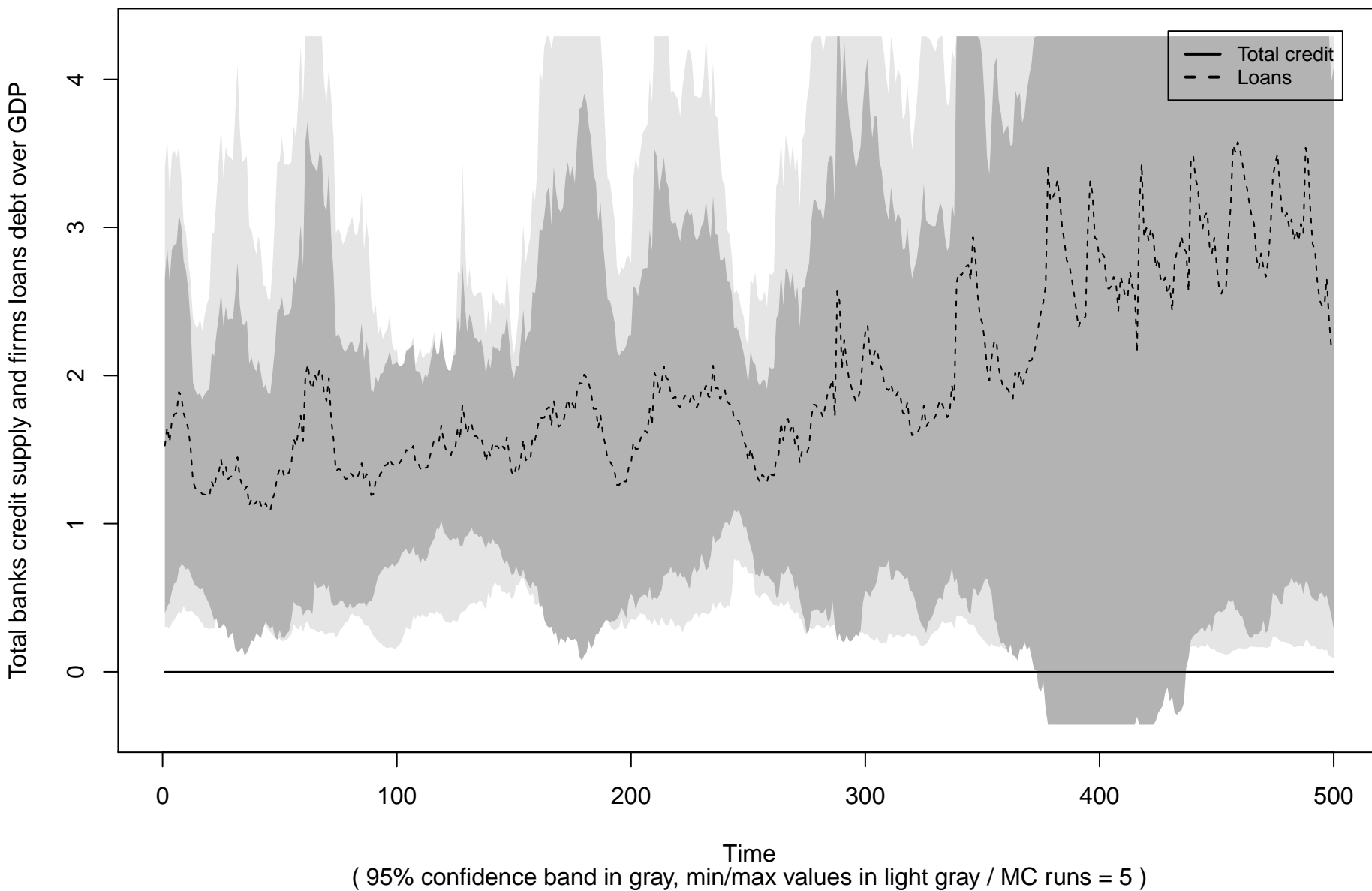
Government debt on GDP (Free entry)



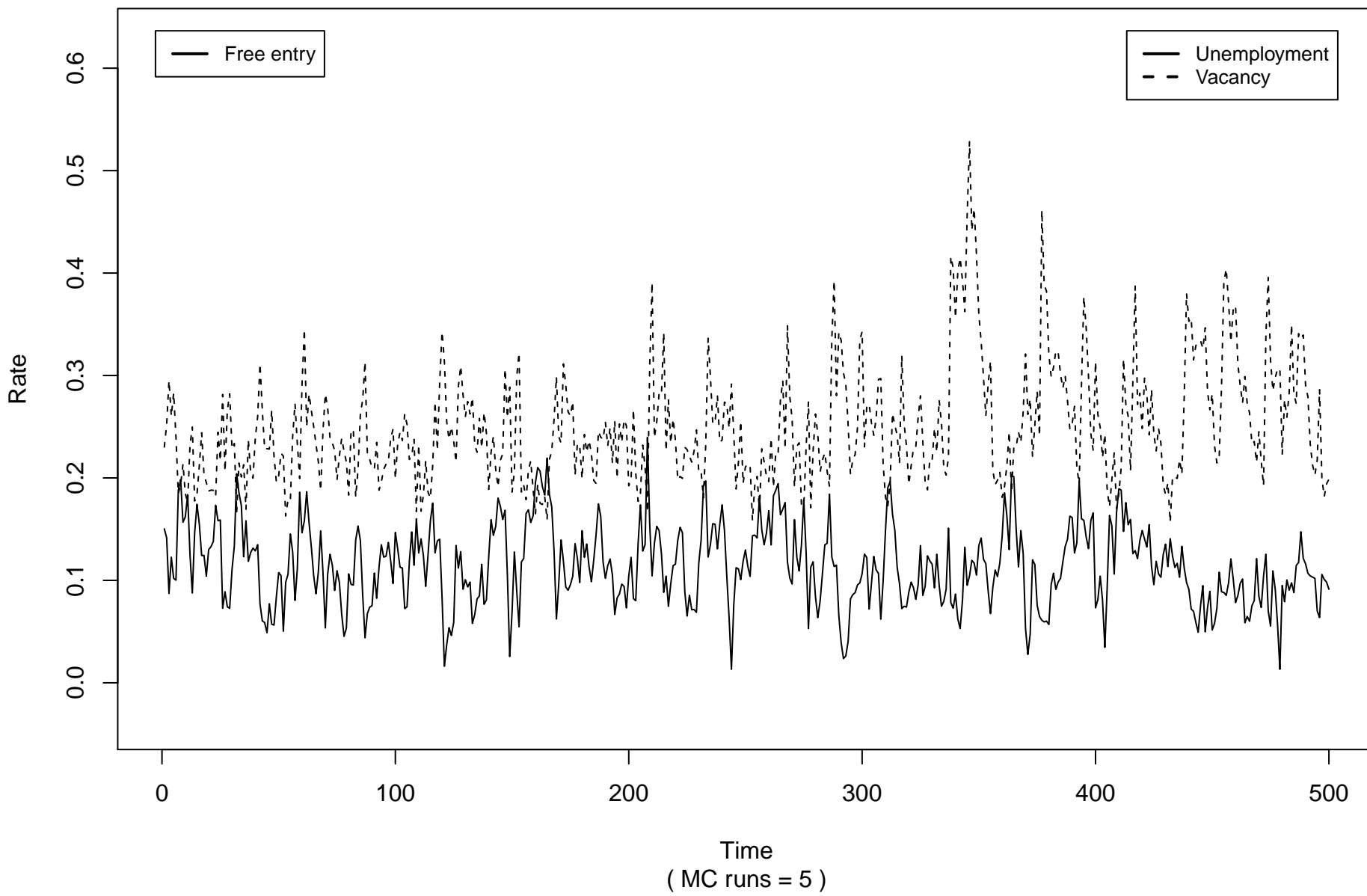
Total credit supply and loans on GDP (all experiments)



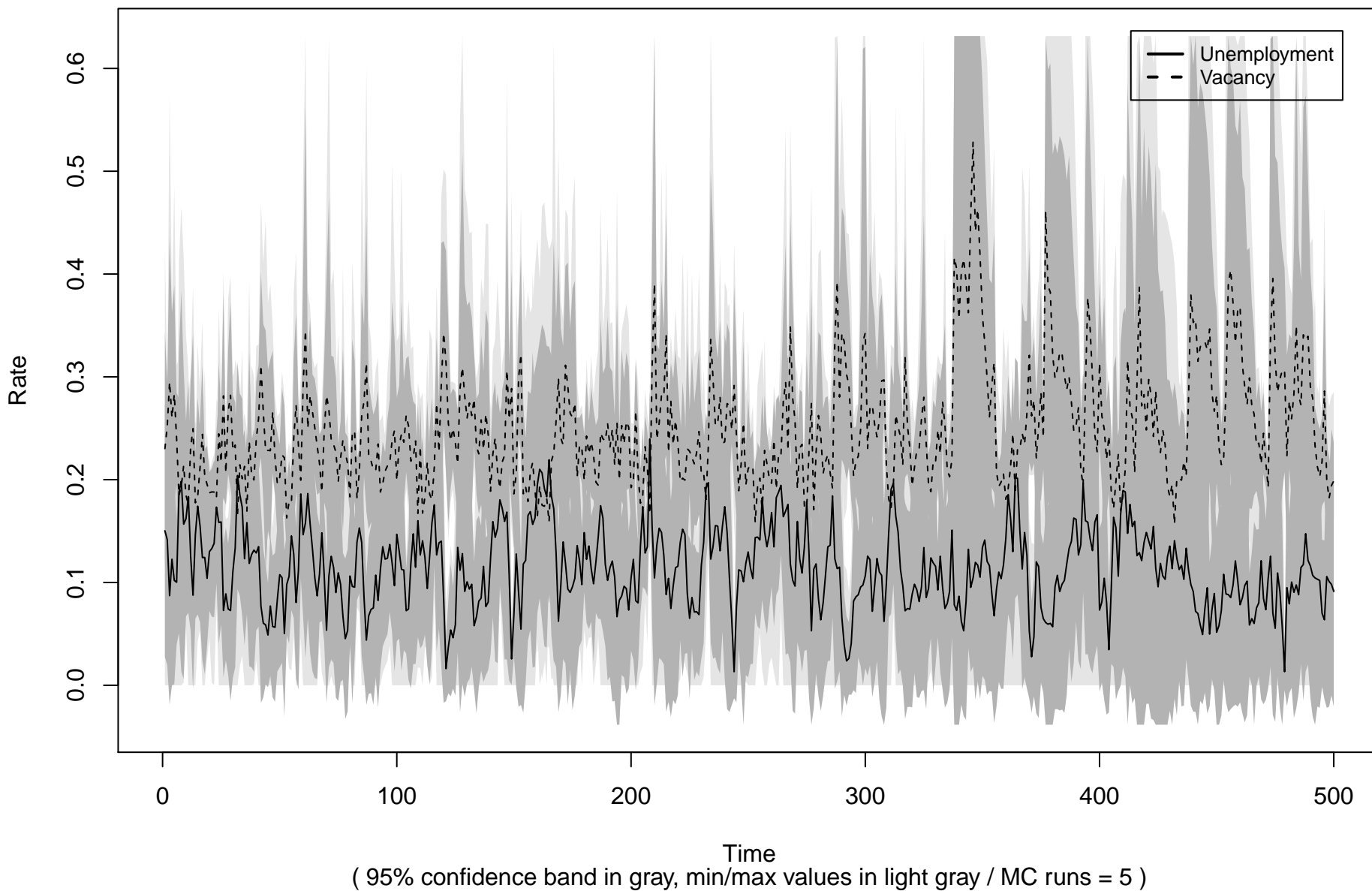
Total credit supply and loans on GDP (Free entry)



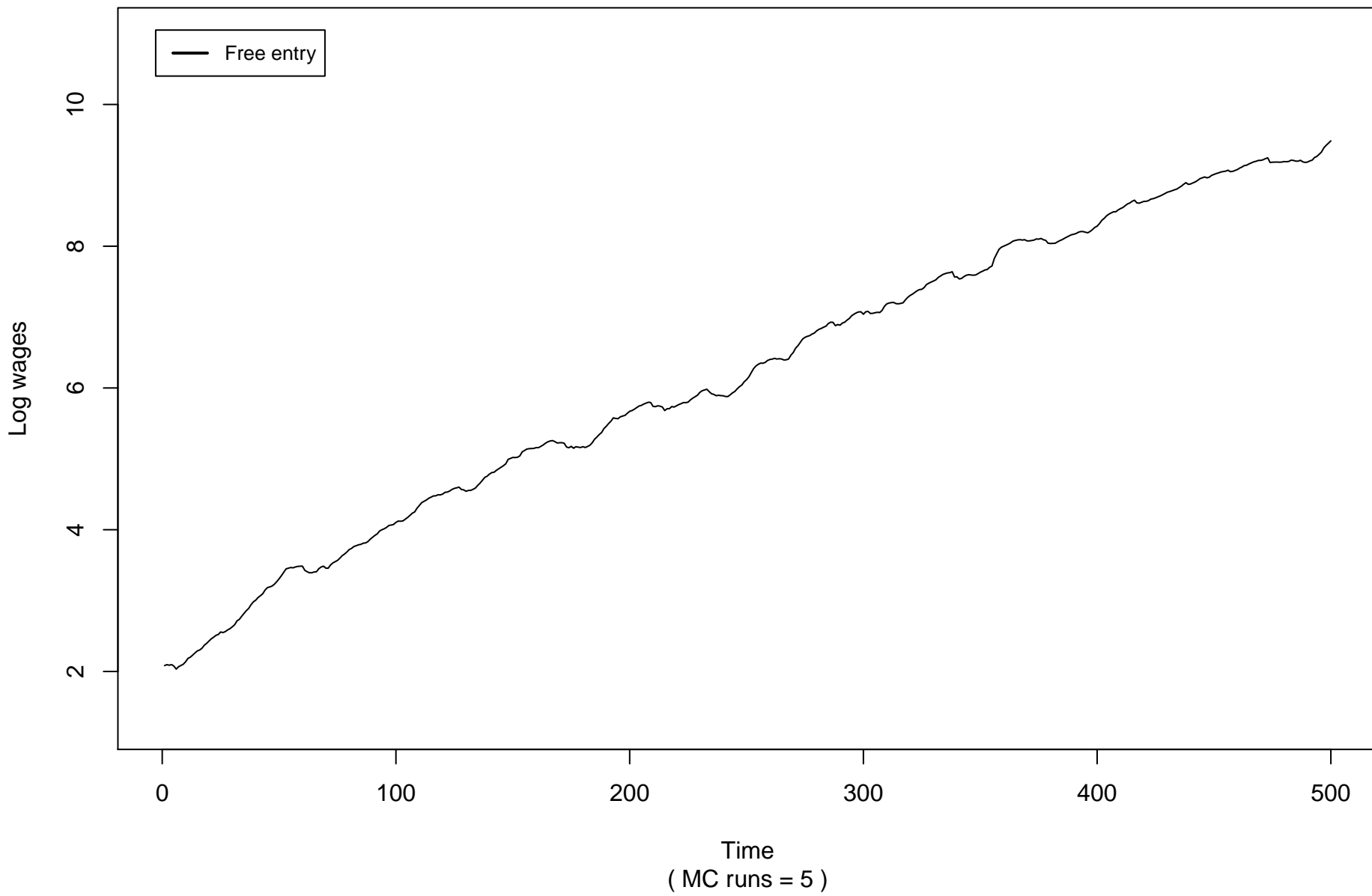
Unemployment and vacancy rates (all experiments)



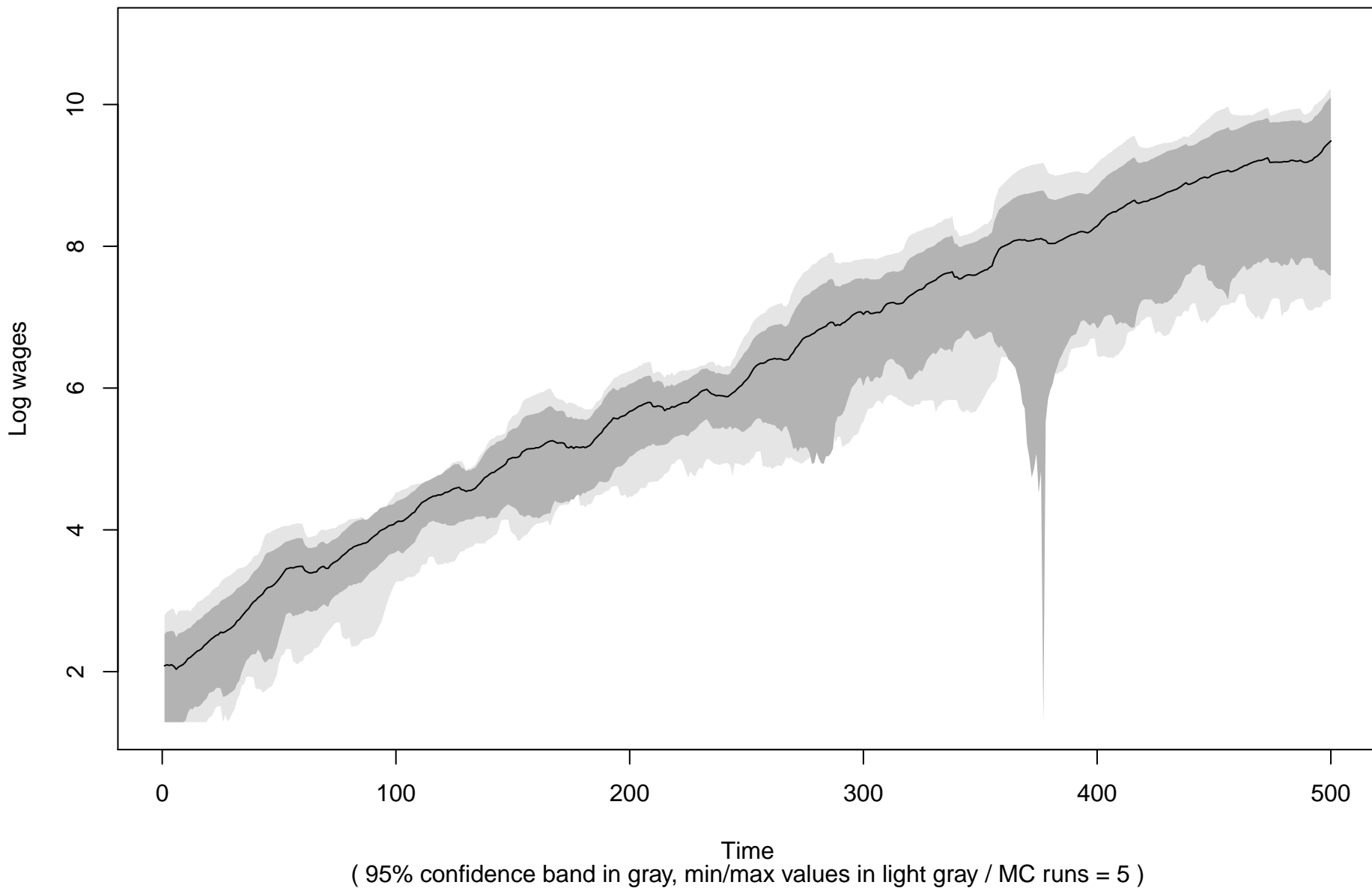
Unemployment and vacancy rates (Free entry)



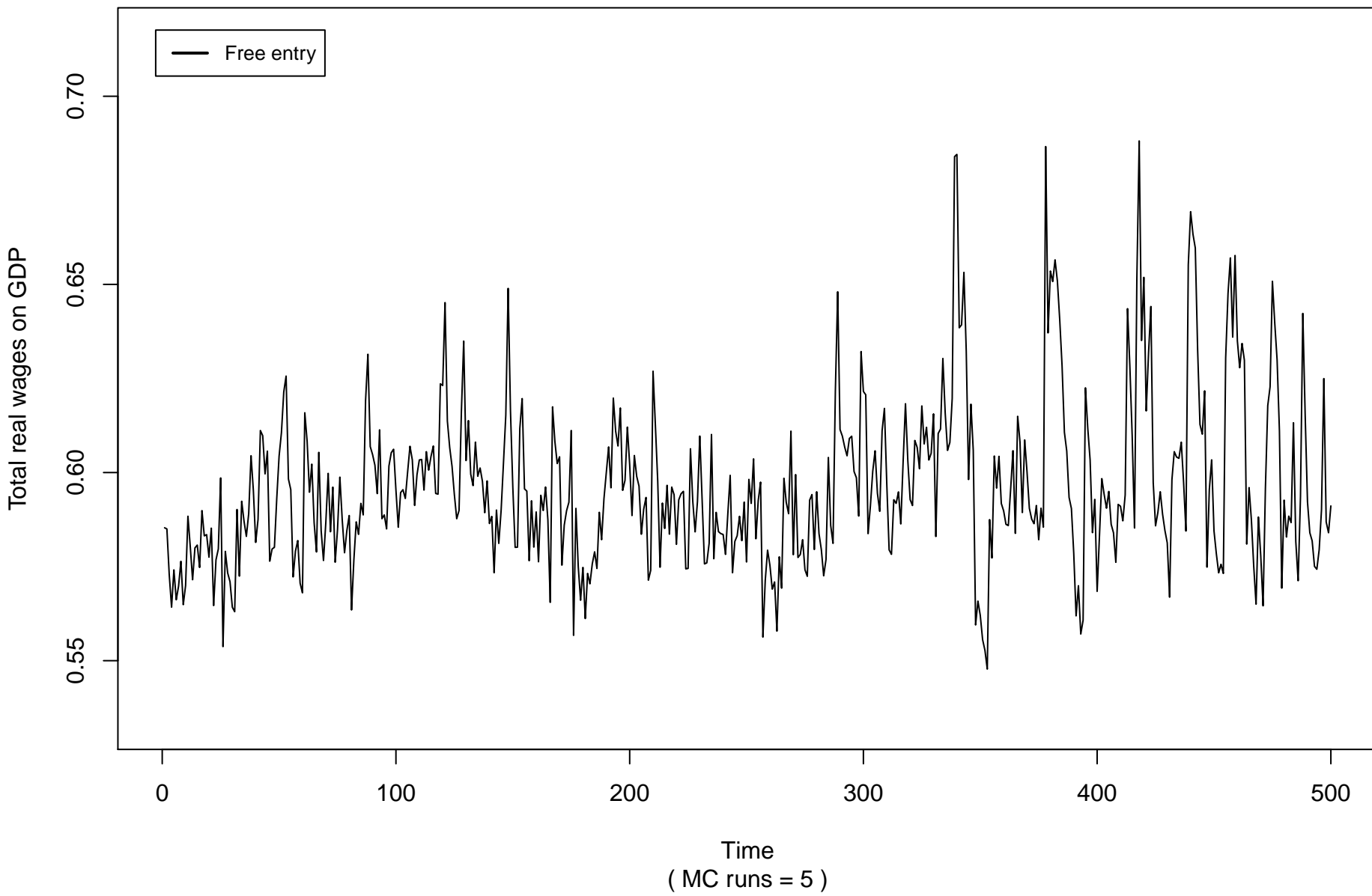
Real wages average (all experiments)



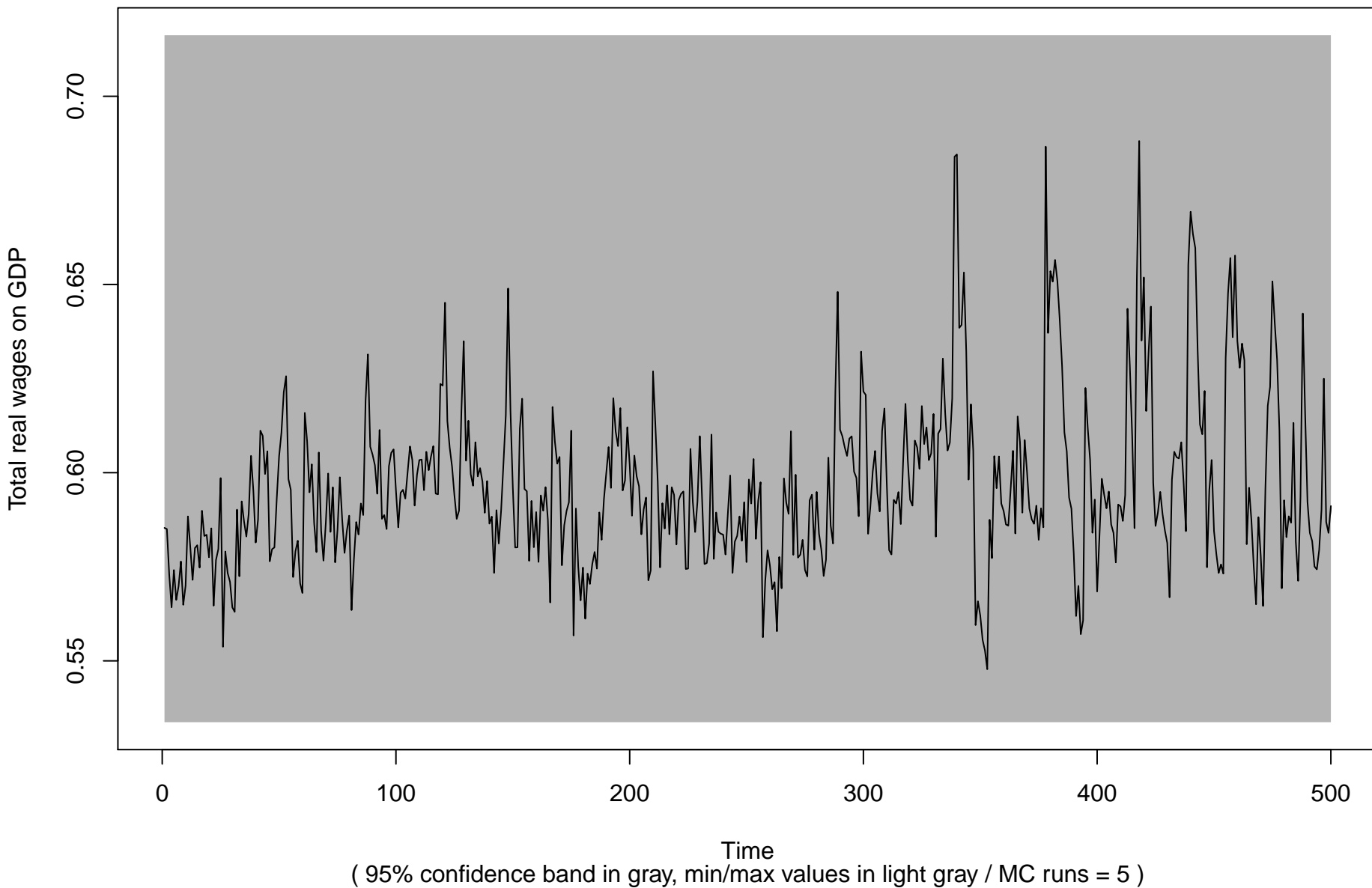
Real wages average (Free entry)



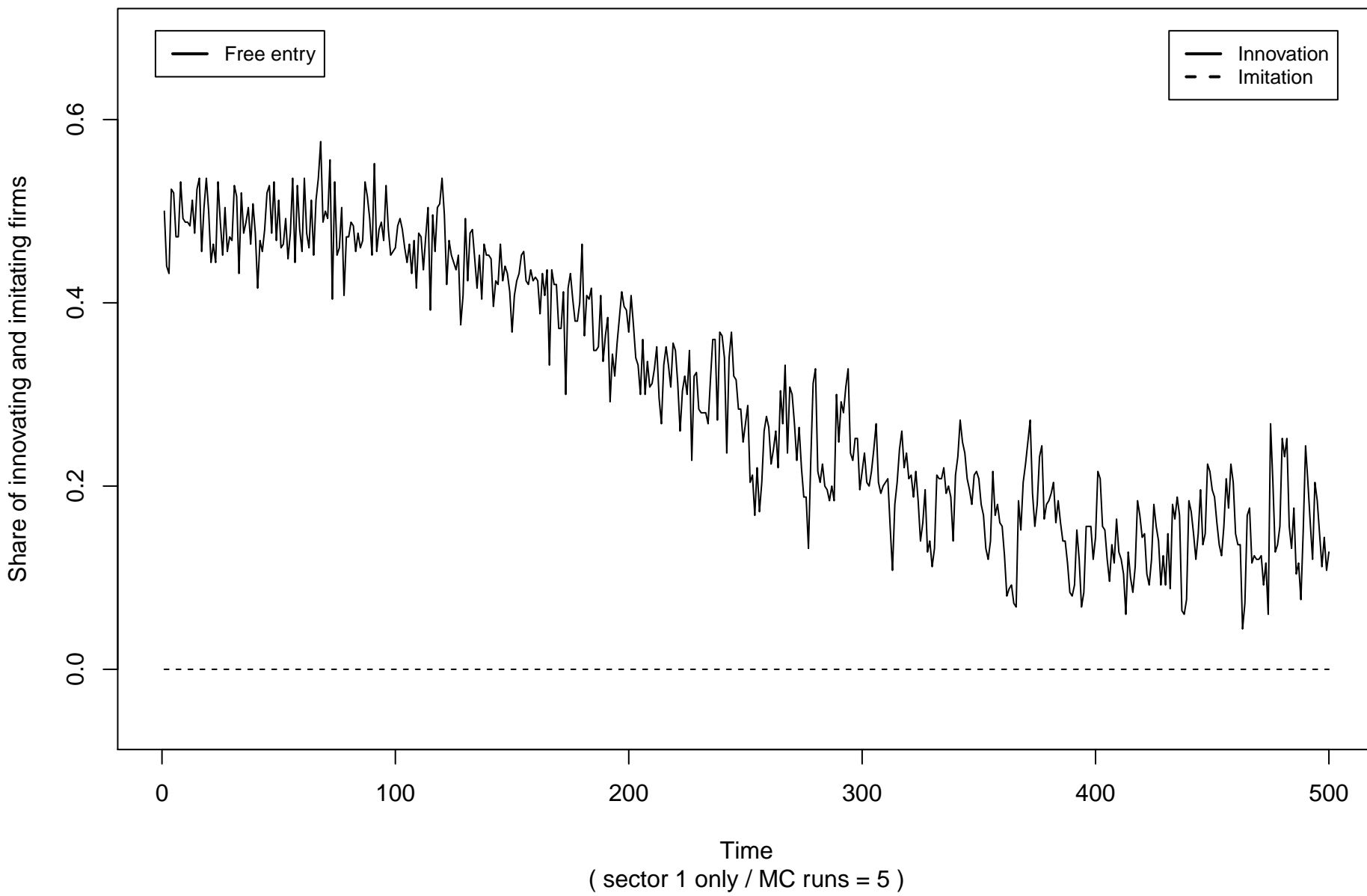
Wage share (all experiments)



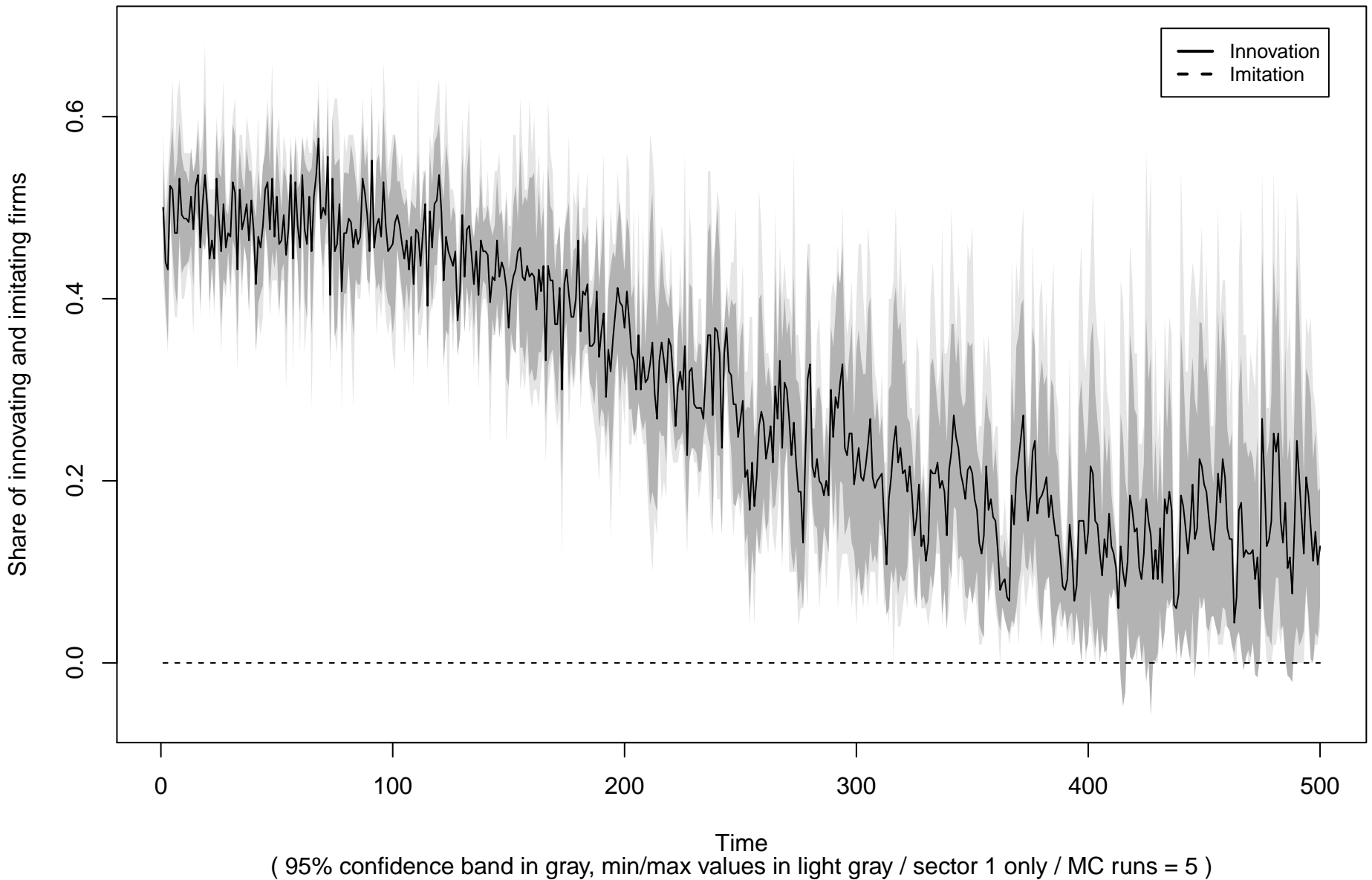
Wage share (Free entry)



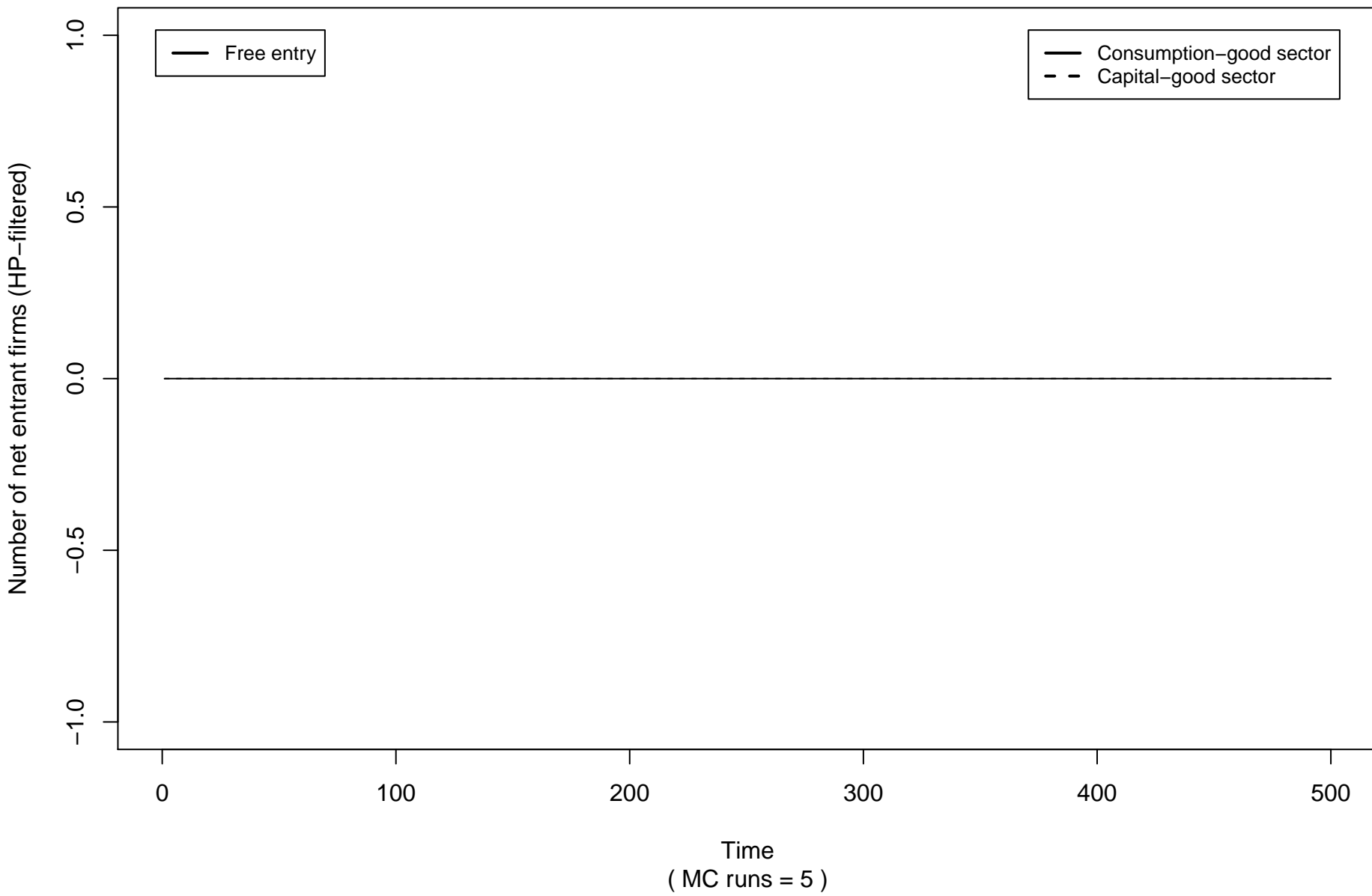
Innovation and imitation (all experiments)



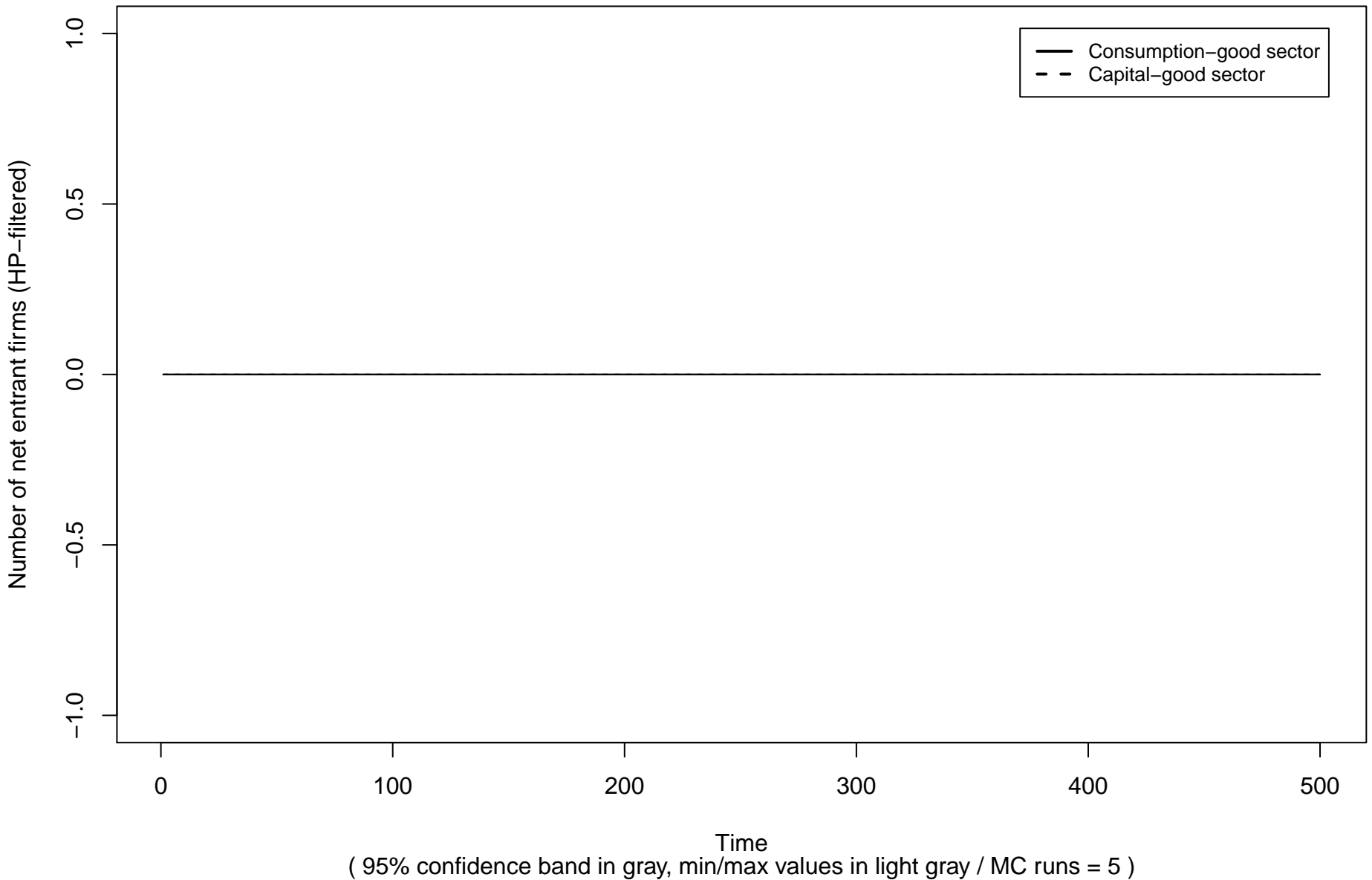
Innovation and imitation (Free entry)



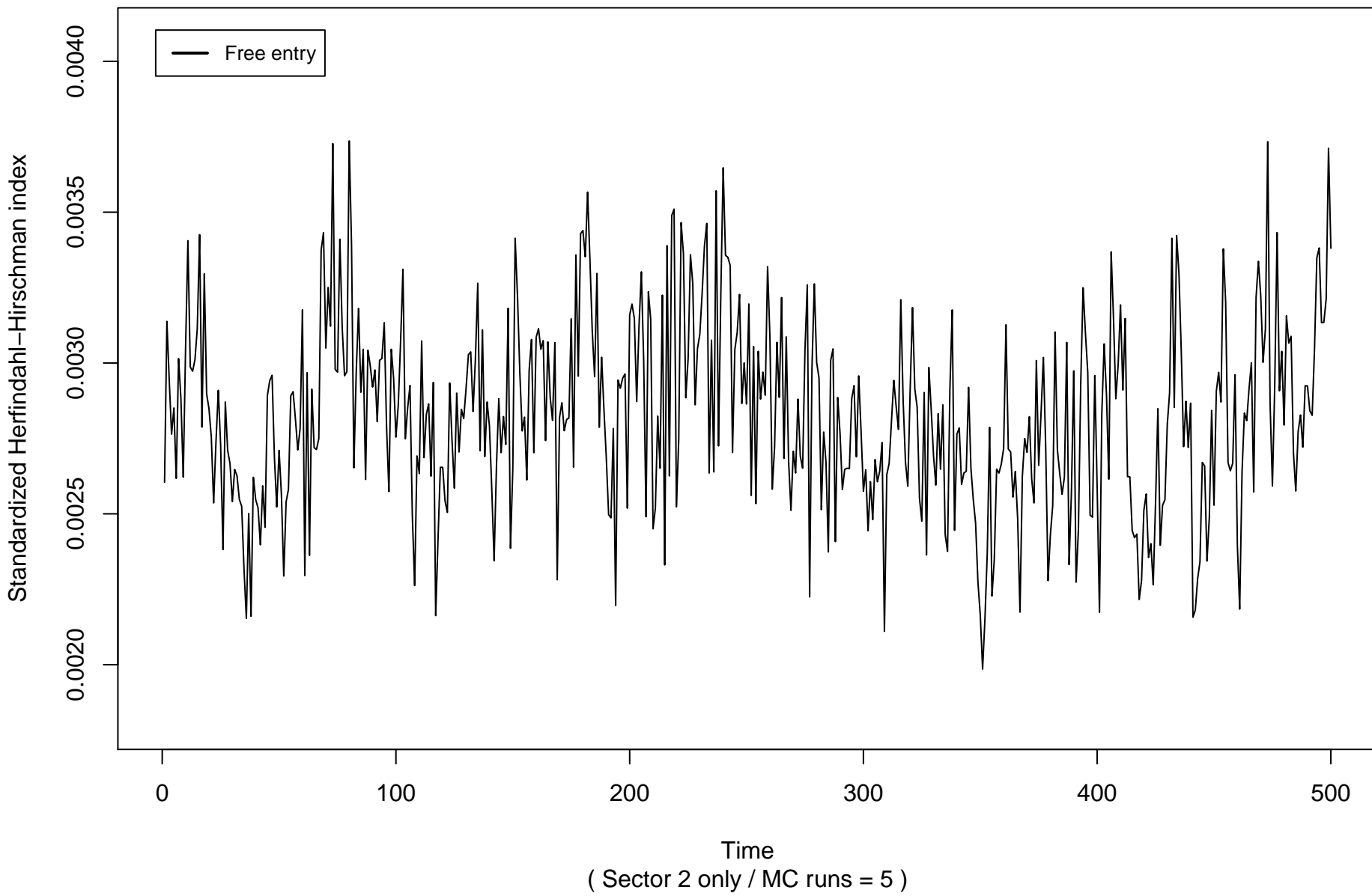
Net entry of firms trend (all experiments)



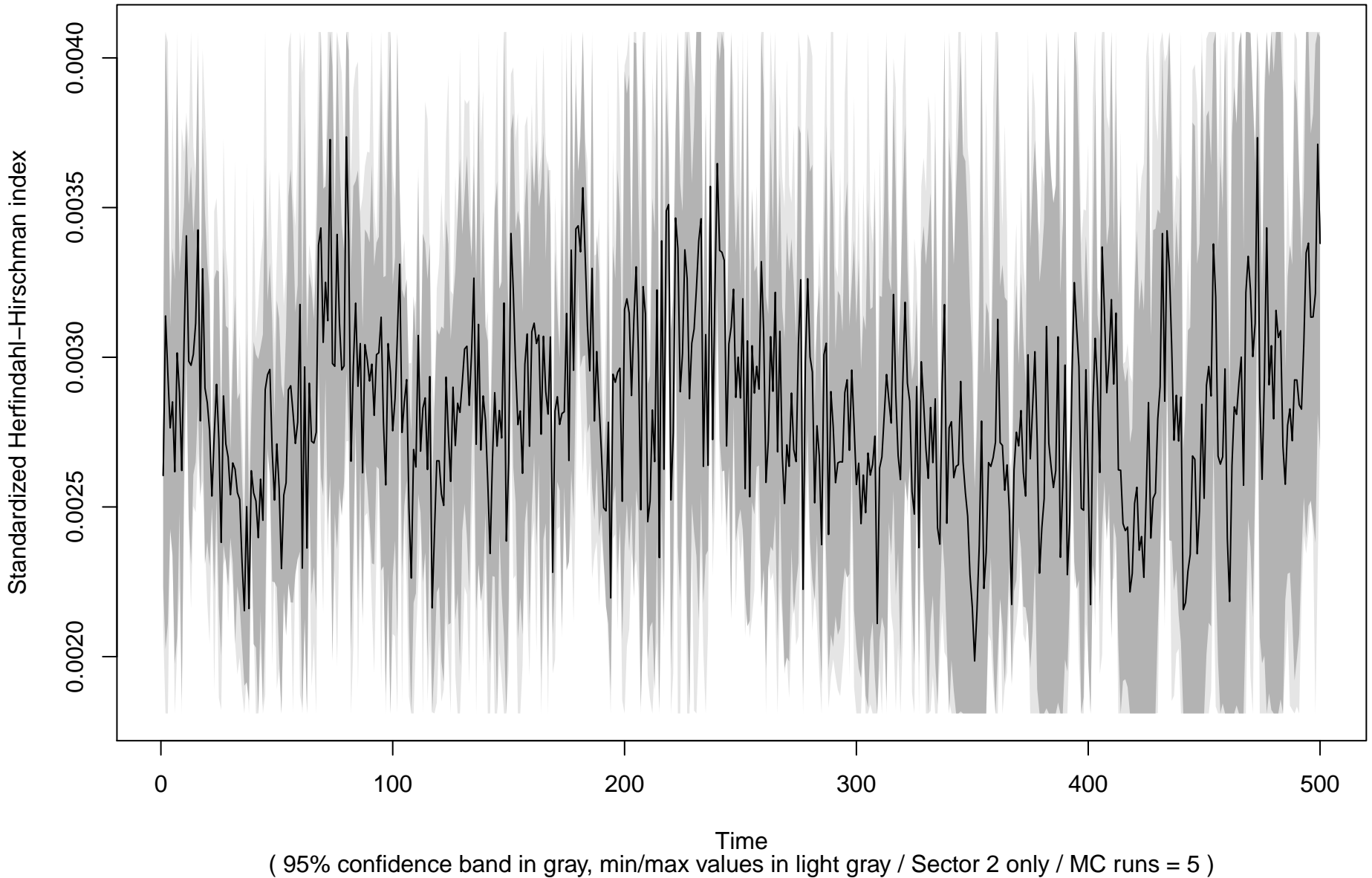
Net entry of firms trend (Free entry)



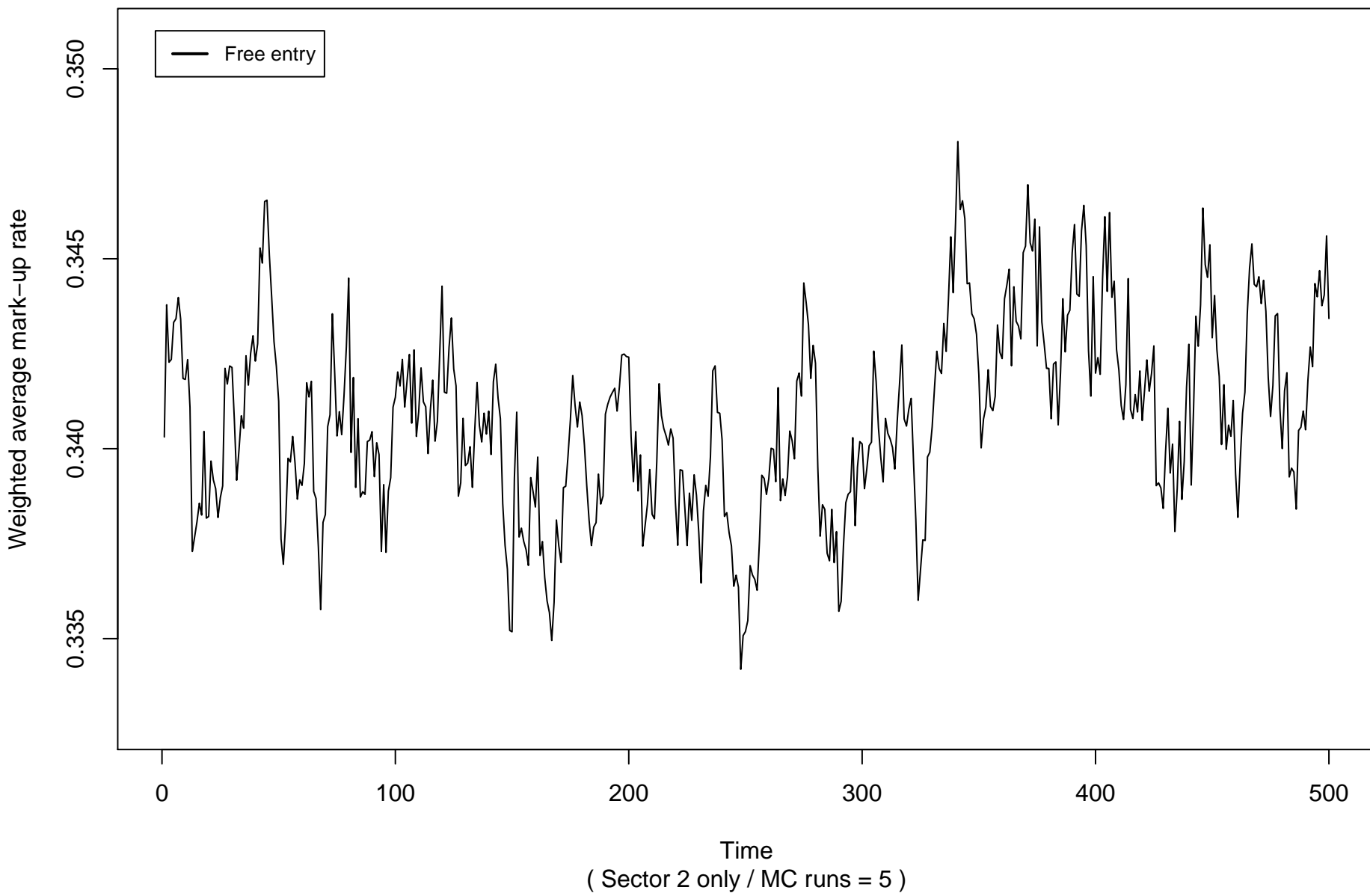
Market concentration (all experiments)



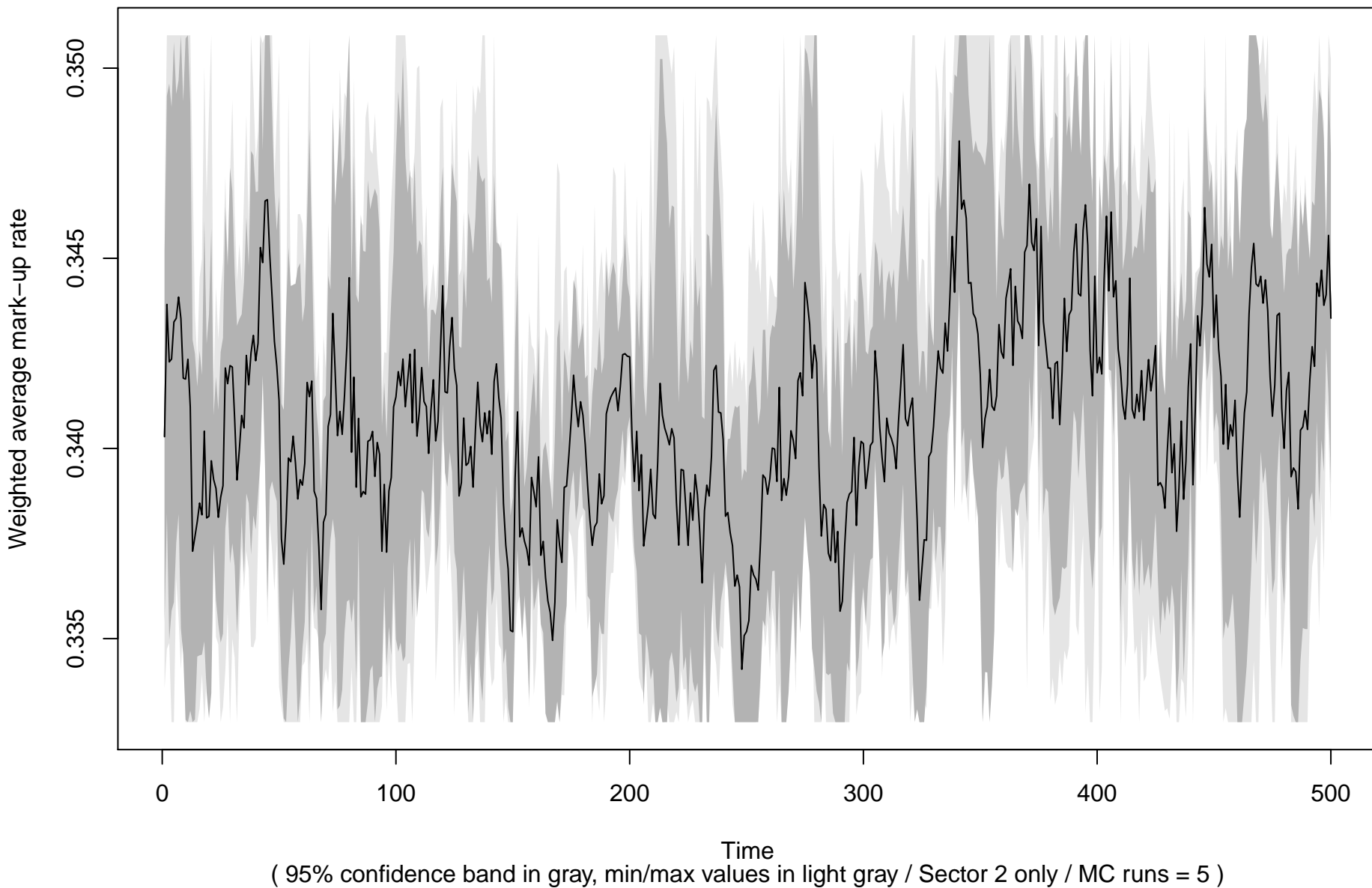
Market concentration (Free entry)



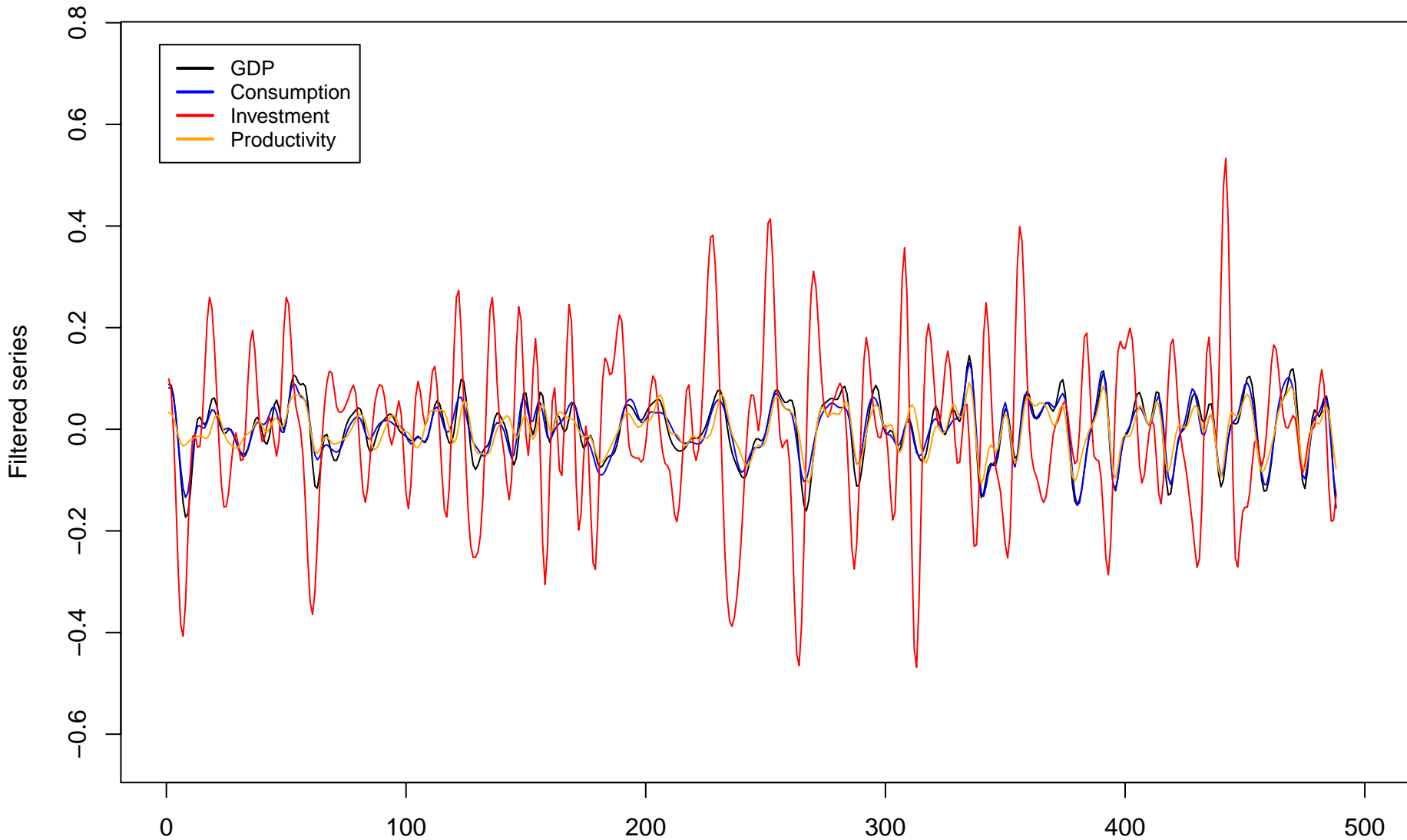
Mark-up average (all experiments)



Mark-up average (Free entry)

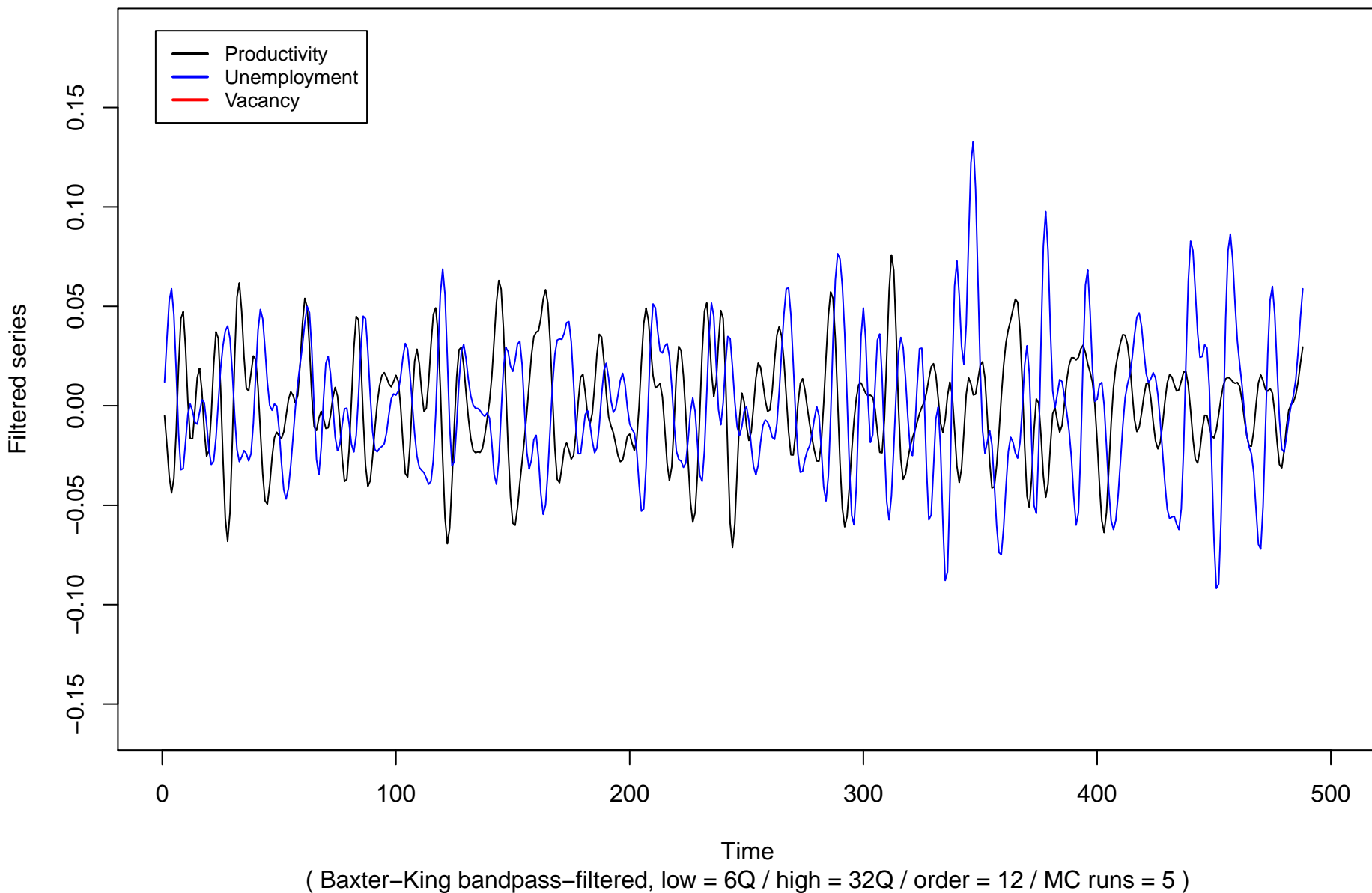


GDP cycles (Free entry)

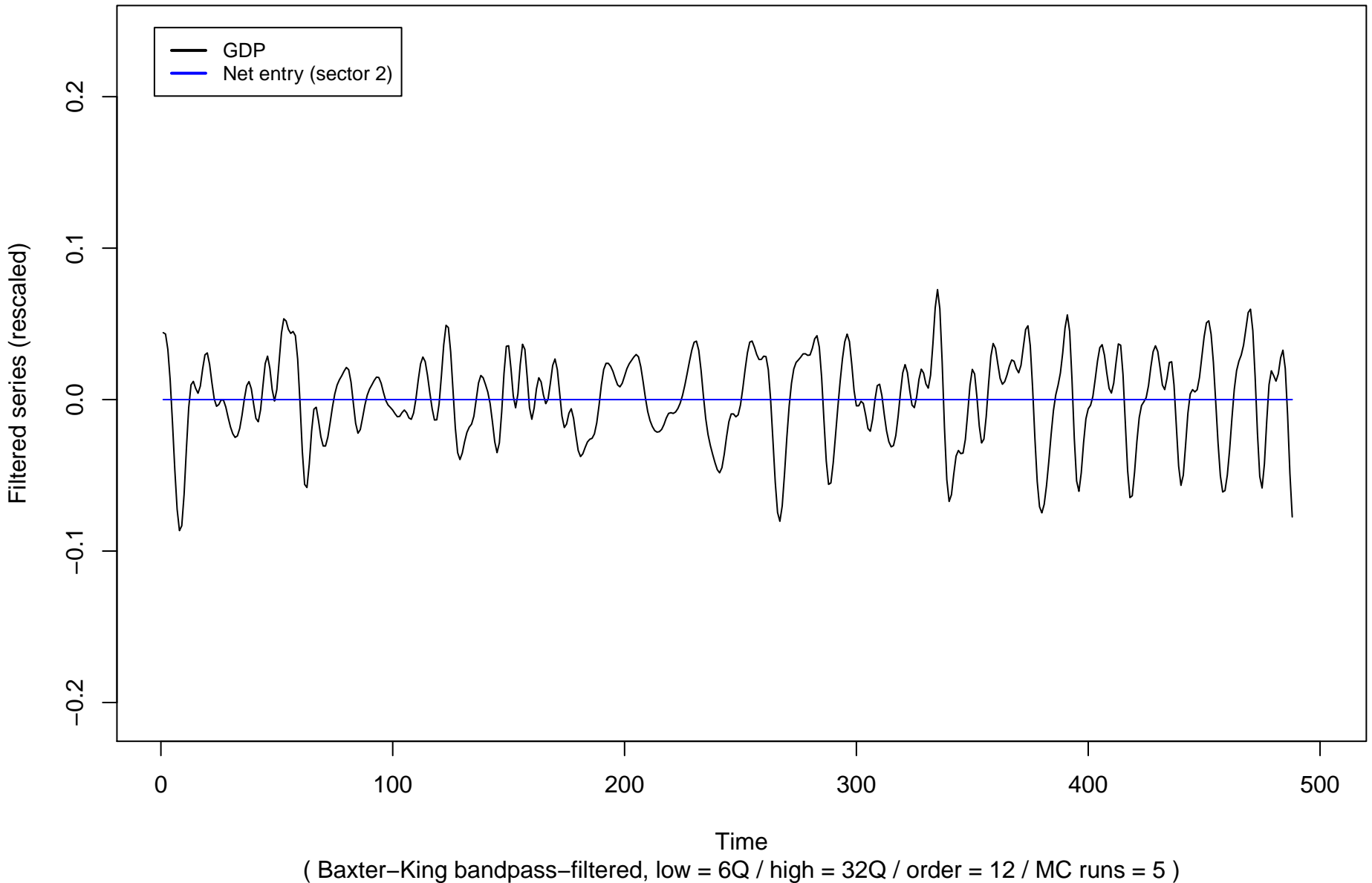


Time
(Baxter-King bandpass-filtered, low = 6Q / high = 32Q / order = 12 / MC runs = 5)

Shimer puzzle (Free entry)



Net entry dynamics and business cycle (Free entry)



Key statistics and unit roots tests for cycles (Free entry)

| | GDP (output) | Consumption | Investment | Product. | Real wage |
|----------------------------|---------------------|--------------------|-------------------|-----------------|------------------|
| avg. growth rate | 0.01147 | 0.01146 | 0.01118 | 0.01132 | 0.0114 |
| (s.e.) | 0.001058 | 0.001095 | 0.001125 | 0.0009199 | 0.001031 |
| ADF test (logs) | -3.102 | -2.826 | -6.755 | -2.773 | -2.962 |
| (s.e.) | 0.1466 | 0.2587 | 0.1215 | 0.2679 | 0.3098 |
| (p-val.) | 0.1401 | 0.2607 | 0.01 | 0.2761 | 0.2369 |
| (s.e.) | 0.03868 | 0.08338 | 0 | 0.09684 | 0.08426 |
| ADF test (bpf) | -5.702 | -5.637 | -6.479 | -6.17 | -5.973 |
| (s.e.) | 0.09376 | 0.1197 | 0.1013 | 0.124 | 0.248 |
| (p-val.) | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| (s.e.) | 0 | 0 | 0 | 0 | 0 |
| s.d. (bpf) | 0.09943 | 0.08344 | 1.453 | 0.07057 | 0.07194 |
| (s.e.) | 0.006526 | 0.006606 | 0.08199 | 0.002824 | 0.007183 |
| relative s.d. (GDP) | 1 | 0.8392 | 14.61 | 0.7097 | 0.7236 |

(bpf: Baxter–King bandpass–filtered series, low = 6Q / high = 32Q / order = 12 / MC runs = 5 / period = 301 – 600)
(ADF test H0: there are unit roots / non–stationary at 5% level)

Correlation structure for GDP (Free entry)

| | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |
|---------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|
| GDP (output) | 0.06421 | 0.3352 | 0.6455 | 0.8992 | 1 | 0.8992 | 0.6455 | 0.3352 | 0.06421 |
| (s.e.) | 0.02415 | 0.01759 | 0.009806 | 0.003048 | 0 | 0.003048 | 0.009806 | 0.01759 | 0.02415 |
| (p-val.) | 0.7097 | 6.572e-05 | 2.709e-07 | 5.746e-10 | NA | 5.746e-10 | 2.709e-07 | 6.572e-05 | 0.7097 |
| Consumption | 0.1087 | 0.361 | 0.6364 | 0.8585 | 0.9499 | 0.8681 | 0.6475 | 0.3634 | 0.09635 |
| (s.e.) | 0.06855 | 0.05199 | 0.03174 | 0.01514 | 0.005923 | 0.00768 | 0.01751 | 0.026 | 0.02938 |
| (p-val.) | 0.2959 | 0.002838 | 3.111e-05 | 4.281e-07 | 6.444e-09 | 2.704e-08 | 2.705e-06 | 0.0002013 | 0.2842 |
| Investment | -0.2602 | -0.3723 | -0.4046 | -0.3041 | -0.08198 | 0.1837 | 0.3858 | 0.4574 | 0.4032 |
| (s.e.) | 0.02618 | 0.02576 | 0.02819 | 0.03512 | 0.04067 | 0.04315 | 0.0452 | 0.04898 | 0.04821 |
| (p-val.) | 0.001168 | 0.000172 | 0.0001623 | 0.001548 | 0.283 | 0.03708 | 0.001244 | 0.0007636 | 0.001289 |
| Net investment | -0.2118 | -0.3176 | -0.3513 | -0.2635 | -0.06418 | 0.1758 | 0.3573 | 0.4188 | 0.3651 |
| (s.e.) | 0.0211 | 0.02067 | 0.02696 | 0.03488 | 0.04025 | 0.04555 | 0.05234 | 0.05837 | 0.05819 |
| (p-val.) | 0.001675 | 0.0001634 | 0.0002741 | 0.003124 | 0.4341 | 0.05168 | 0.003049 | 0.002193 | 0.004024 |
| Change in inventories | -0.2742 | -0.1918 | 0.01439 | 0.2626 | 0.4335 | 0.4363 | 0.2984 | 0.1101 | -0.02895 |
| (s.e.) | 0.04856 | 0.04132 | 0.02136 | 0.008812 | 0.02451 | 0.05059 | 0.07159 | 0.07531 | 0.05456 |
| (p-val.) | 0.008074 | 0.02693 | 0.9828 | 1.602e-05 | 6.716e-05 | 0.001072 | 0.01901 | 0.1923 | 0.375 |
| Unemployment rate | 0.2213 | 0.2649 | 0.2316 | 0.1191 | -0.03002 | -0.1512 | -0.1975 | -0.1691 | -0.1051 |
| (s.e.) | 0.07048 | 0.05091 | 0.03281 | 0.02939 | 0.04507 | 0.06562 | 0.08726 | 0.1044 | 0.1104 |
| (p-val.) | 0.05228 | 0.01106 | 0.004939 | 0.1271 | 0.408 | 0.02313 | 0.002733 | 0.0008678 | 0.01634 |
| Productivity | 0.1398 | 0.3582 | 0.599 | 0.7974 | 0.8834 | 0.8142 | 0.617 | 0.3558 | 0.104 |
| (s.e.) | 0.07322 | 0.05984 | 0.03358 | 0.01315 | 0.01996 | 0.0255 | 0.04091 | 0.06116 | 0.07262 |
| (p-val.) | 0.2096 | 0.004833 | 5.114e-05 | 3.383e-07 | 1.137e-06 | 4.332e-06 | 9.726e-05 | 0.005371 | 0.137 |
| Mark-up (sector 2) | 0.1046 | 0.02382 | -0.06767 | -0.1467 | -0.1931 | -0.1962 | -0.1651 | -0.1155 | -0.06342 |
| (s.e.) | 0.08368 | 0.07101 | 0.06761 | 0.06554 | 0.0576 | 0.05 | 0.05805 | 0.07802 | 0.09666 |
| (p-val.) | 0.21 | 0.311 | 0.04829 | 0.02633 | 0.05993 | 0.04044 | 0.1084 | 0.09017 | 0.07749 |
| Total firm debt | 0.03306 | -0.07465 | -0.1761 | -0.2453 | -0.2682 | -0.2484 | -0.2076 | -0.1657 | -0.1324 |
| (s.e.) | 0.05253 | 0.06401 | 0.06693 | 0.057 | 0.03534 | 0.02214 | 0.05065 | 0.08021 | 0.09739 |
| (p-val.) | 0.166 | 0.1321 | 0.1121 | 0.02205 | 0.00299 | 0.0008023 | 0.03271 | 0.127 | 0.08012 |
| Liquidity-to-sales ratio | 0.07786 | -0.1477 | -0.3985 | -0.6138 | -0.7333 | -0.7227 | -0.6018 | -0.4202 | -0.2342 |
| (s.e.) | 0.08006 | 0.05242 | 0.03039 | 0.0212 | 0.01407 | 0.01882 | 0.03528 | 0.0451 | 0.04478 |
| (p-val.) | 0.06062 | 0.133 | 0.0002345 | 7.392e-06 | 6.44e-07 | 2.194e-06 | 6.084e-05 | 0.0008279 | 0.01312 |
| Bankruptcy rate | 0.4375 | 0.4709 | 0.4002 | 0.2352 | 0.03332 | -0.1308 | -0.2142 | -0.224 | -0.199 |
| (s.e.) | 0.07086 | 0.08793 | 0.1001 | 0.09626 | 0.07143 | 0.03538 | 0.02094 | 0.03267 | 0.03264 |
| (p-val.) | 0.003629 | 0.005645 | 0.01649 | 0.00741 | 0.101 | 0.1122 | 0.001523 | 0.005816 | 0.01092 |

(non-rate/ratio series are Baxter-King bandpass-filtered, low = 6Q / high = 32Q / order = 12 / MC runs = 5 / period = 301 – 600)

(test H0: lag coefficient is not significant at 5% level)

Correlation structure for GDP (Free entry)

| | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |
|--------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|
| GDP (output) | 0.06421 | 0.3352 | 0.6455 | 0.8992 | 1 | 0.8992 | 0.6455 | 0.3352 | 0.06421 |
| (s.e.) | 0.02415 | 0.01759 | 0.009806 | 0.003048 | 0 | 0.003048 | 0.009806 | 0.01759 | 0.02415 |
| (p-val.) | 0.7097 | 6.572e-05 | 2.709e-07 | 5.746e-10 | NA | 5.746e-10 | 2.709e-07 | 6.572e-05 | 0.7097 |
| Consumption | 0.1087 | 0.361 | 0.6364 | 0.8585 | 0.9499 | 0.8681 | 0.6475 | 0.3634 | 0.09635 |
| (s.e.) | 0.06855 | 0.05199 | 0.03174 | 0.01514 | 0.005923 | 0.00768 | 0.01751 | 0.026 | 0.02938 |
| (p-val.) | 0.2959 | 0.002838 | 3.111e-05 | 4.281e-07 | 6.444e-09 | 2.704e-08 | 2.705e-06 | 0.0002013 | 0.2842 |
| Investment | -0.2602 | -0.3723 | -0.4046 | -0.3041 | -0.08198 | 0.1837 | 0.3858 | 0.4574 | 0.4032 |
| (s.e.) | 0.02618 | 0.02576 | 0.02819 | 0.03512 | 0.04067 | 0.04315 | 0.0452 | 0.04898 | 0.04821 |
| (p-val.) | 0.001168 | 0.000172 | 0.0001623 | 0.001548 | 0.283 | 0.03708 | 0.001244 | 0.0007636 | 0.001289 |
| Productivity | 0.1398 | 0.3582 | 0.599 | 0.7974 | 0.8834 | 0.8142 | 0.617 | 0.3558 | 0.104 |
| (s.e.) | 0.07322 | 0.05984 | 0.03358 | 0.01315 | 0.01996 | 0.0255 | 0.04091 | 0.06116 | 0.07262 |
| (p-val.) | 0.2096 | 0.004833 | 5.114e-05 | 3.383e-07 | 1.137e-06 | 4.332e-06 | 9.726e-05 | 0.005371 | 0.137 |
| Net entry | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN |
| (s.e.) | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| (p-val.) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Entry | -0.1579 | 0.02406 | 0.2589 | 0.4797 | 0.6121 | 0.6081 | 0.4897 | 0.3164 | 0.1567 |
| (s.e.) | 0.08953 | 0.08435 | 0.07513 | 0.06556 | 0.0575 | 0.05031 | 0.04603 | 0.04485 | 0.04711 |
| (p-val.) | 0.08974 | 0.0491 | 0.03795 | 0.00183 | 0.000379 | 0.0002328 | 0.0004405 | 0.003103 | 0.08954 |
| Wage | 0.3737 | 0.5528 | 0.6941 | 0.7543 | 0.7103 | 0.5676 | 0.3735 | 0.1747 | 0.003869 |
| (s.e.) | 0.0447 | 0.03614 | 0.0353 | 0.04496 | 0.05831 | 0.07115 | 0.07822 | 0.07951 | 0.07554 |
| (p-val.) | 0.001389 | 9.853e-05 | 3.206e-05 | 5.757e-05 | 0.0002078 | 0.001187 | 0.009949 | 0.1268 | 0.1274 |
| Unemployment rate | 0.2213 | 0.2649 | 0.2316 | 0.1191 | -0.03002 | -0.1512 | -0.1975 | -0.1691 | -0.1051 |
| (s.e.) | 0.07048 | 0.05091 | 0.03281 | 0.02939 | 0.04507 | 0.06562 | 0.08726 | 0.1044 | 0.1104 |
| (p-val.) | 0.05228 | 0.01106 | 0.004939 | 0.1271 | 0.408 | 0.02313 | 0.002733 | 0.0008678 | 0.01634 |
| Vacancy rate | 0.09988 | -0.1122 | -0.355 | -0.5447 | -0.6122 | -0.5382 | -0.3763 | -0.2012 | -0.07114 |
| (s.e.) | 0.1067 | 0.1027 | 0.1004 | 0.105 | 0.1103 | 0.1029 | 0.08093 | 0.06099 | 0.0724 |
| (p-val.) | 0.04813 | 0.03668 | 0.02595 | 0.005729 | 0.004251 | 0.005618 | 0.01078 | 0.04984 | 0.4709 |

(non-rate/ratio series are Baxter–King bandpass-filtered, low = 6Q / high = 32Q / order = 12 / MC runs = 5 / period = 301 – 600)
 (test H0: lag coefficient is not significant at 5% level)

Stationarity, i.i.d. and ergodicity tests (Free entry)

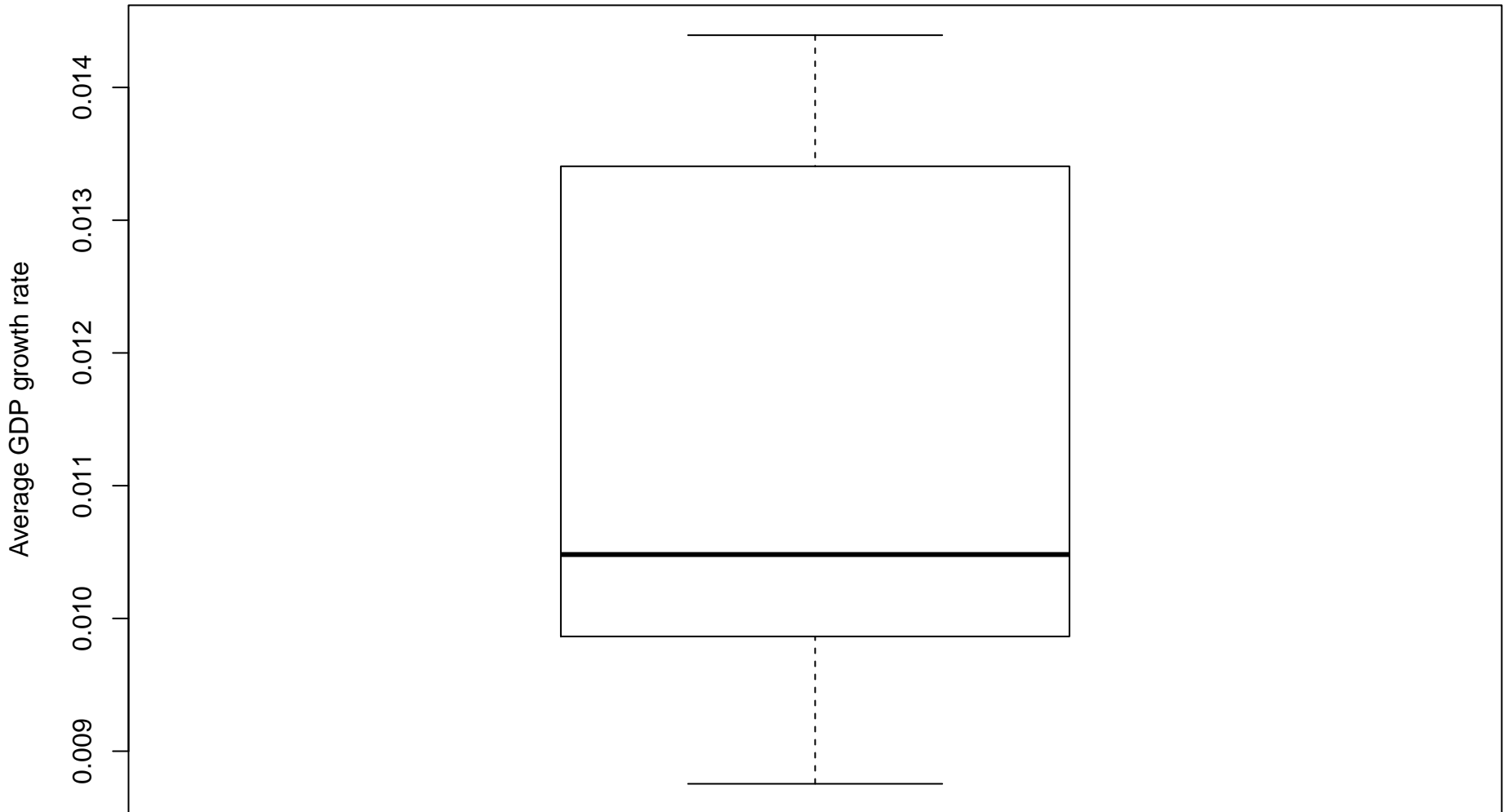
| | avg.ADF | rej.ADF | avg.PP | rej.PP | avg.KPSS | rej.KPSS | avg.BDS | rej.BDS | avg.KS | rej.KS | AD | V |
|--------|---------|---------|--------|--------|----------|----------|---------|---------|--------|--------|------|---|
| dGDP | 0.01 | 1.00 | 0.01 | 1.00 | 0.10 | 0.00 | 0.08 | 0.60 | 0.32 | 0.30 | 0.05 | C |
| dA | 0.01 | 1.00 | 0.01 | 1.00 | 0.10 | 0.00 | 0.02 | 0.80 | 0.12 | 0.70 | 0.00 | C |
| dw | 0.01 | 1.00 | 0.01 | 1.00 | 0.10 | 0.00 | 0.02 | 1.00 | 0.12 | 0.70 | 0.00 | C |
| V | 0.03 | 0.80 | 0.01 | 1.00 | 0.06 | 0.40 | 0.03 | 0.80 | 0.09 | 0.80 | 0.00 | C |
| U | 0.02 | 0.80 | 0.01 | 1.00 | 0.05 | 0.60 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | C |
| mu2avg | 0.03 | 0.80 | 0.01 | 1.00 | 0.03 | 0.80 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | C |
| HH1 | 0.01 | 1.00 | 0.01 | 1.00 | 0.10 | 0.00 | 0.00 | 1.00 | 0.11 | 0.60 | 0.00 | C |
| HH2 | 0.01 | 1.00 | 0.01 | 1.00 | 0.03 | 0.80 | 0.00 | 1.00 | 0.01 | 0.80 | 0.00 | C |

(average p-values for testing H0 and rate of rejection of H0 / MC runs = 5 / period = 301 – 600)

(ADF/PP H0: non-stationary, KPSS H0: stationary, BDS H0: i.i.d., KS/AD/WW H0: ergodic)

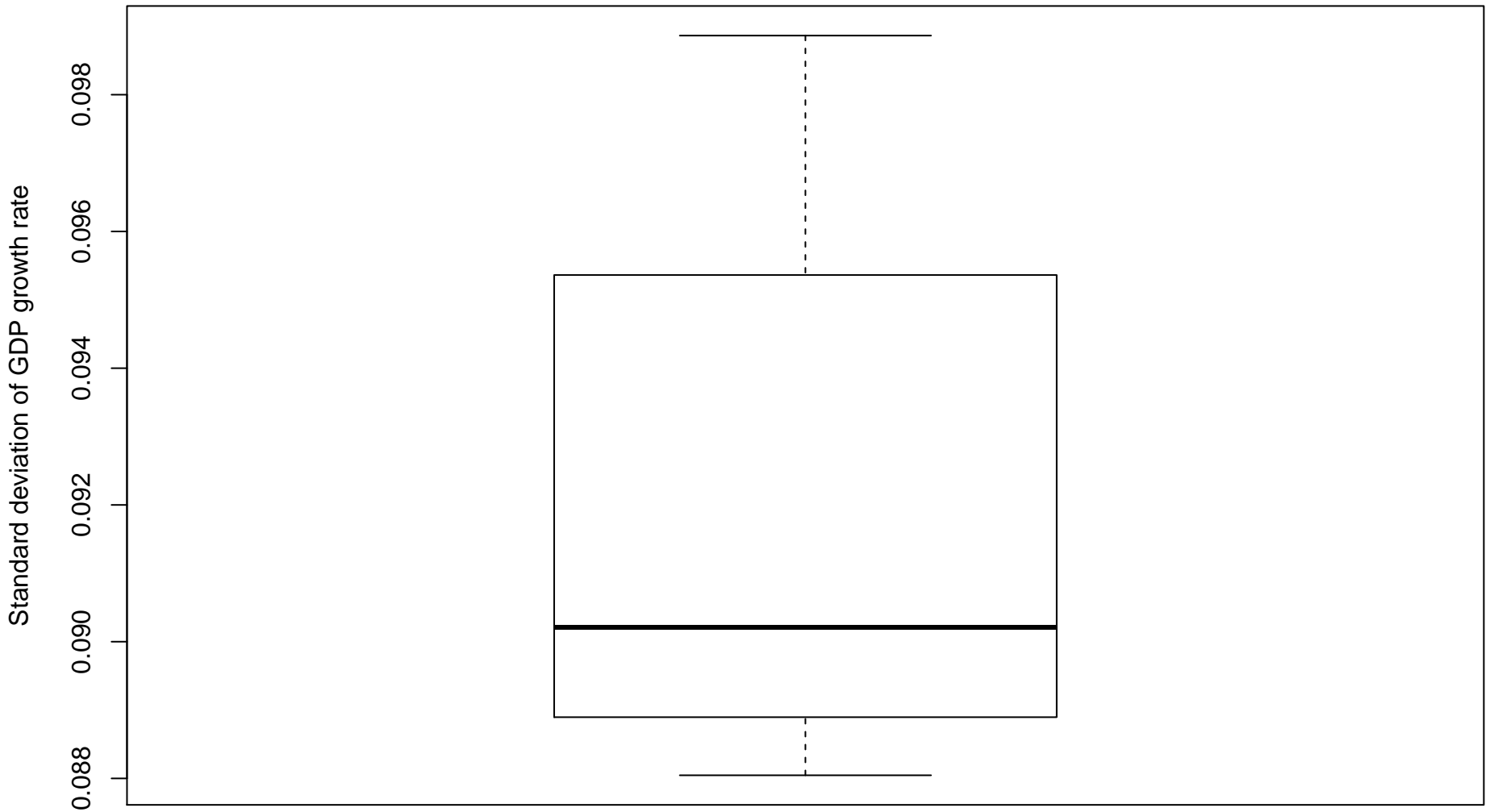
(significance = 0.05)

GDP growth



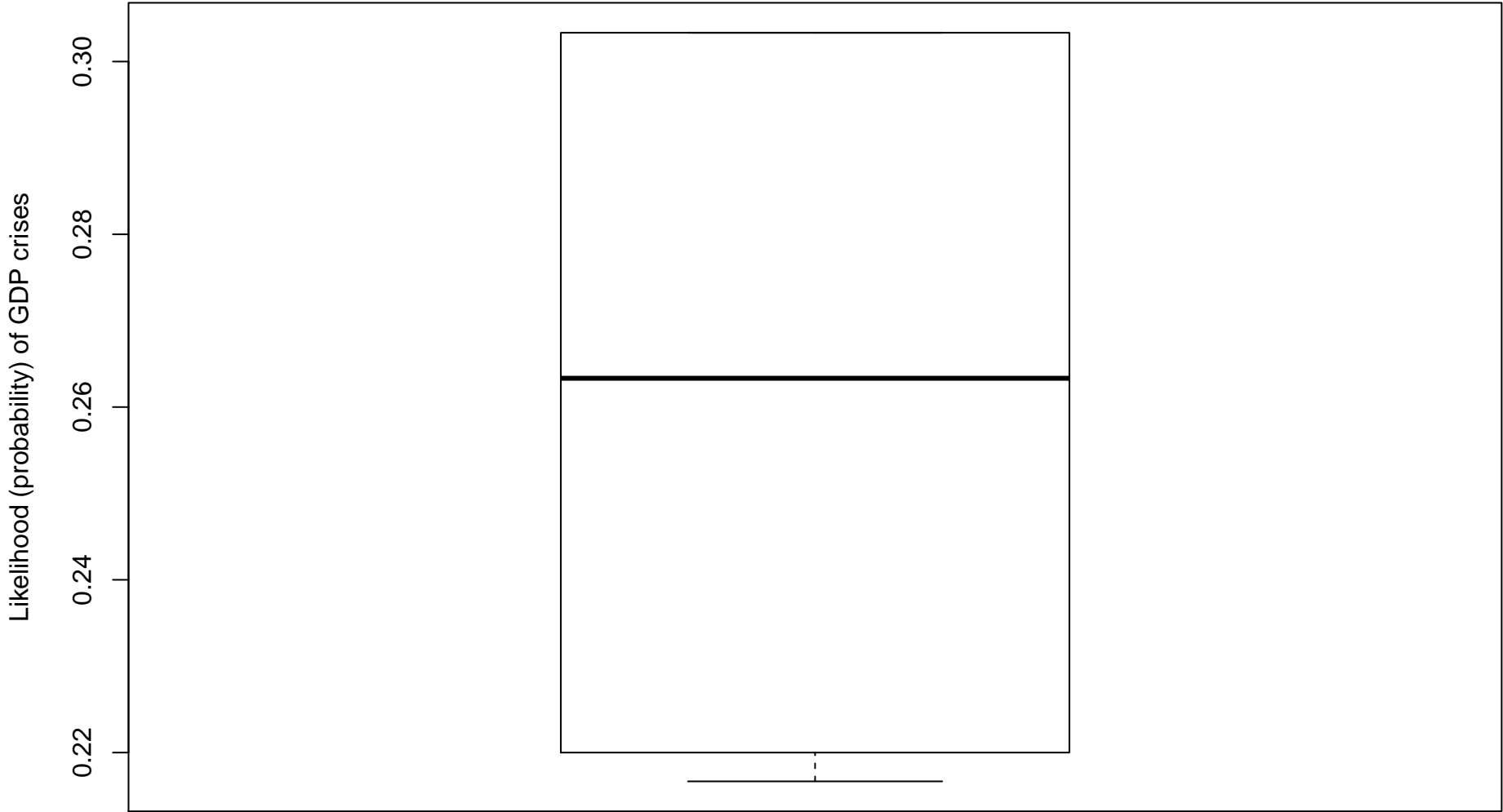
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600)

Volatility of GDP growth



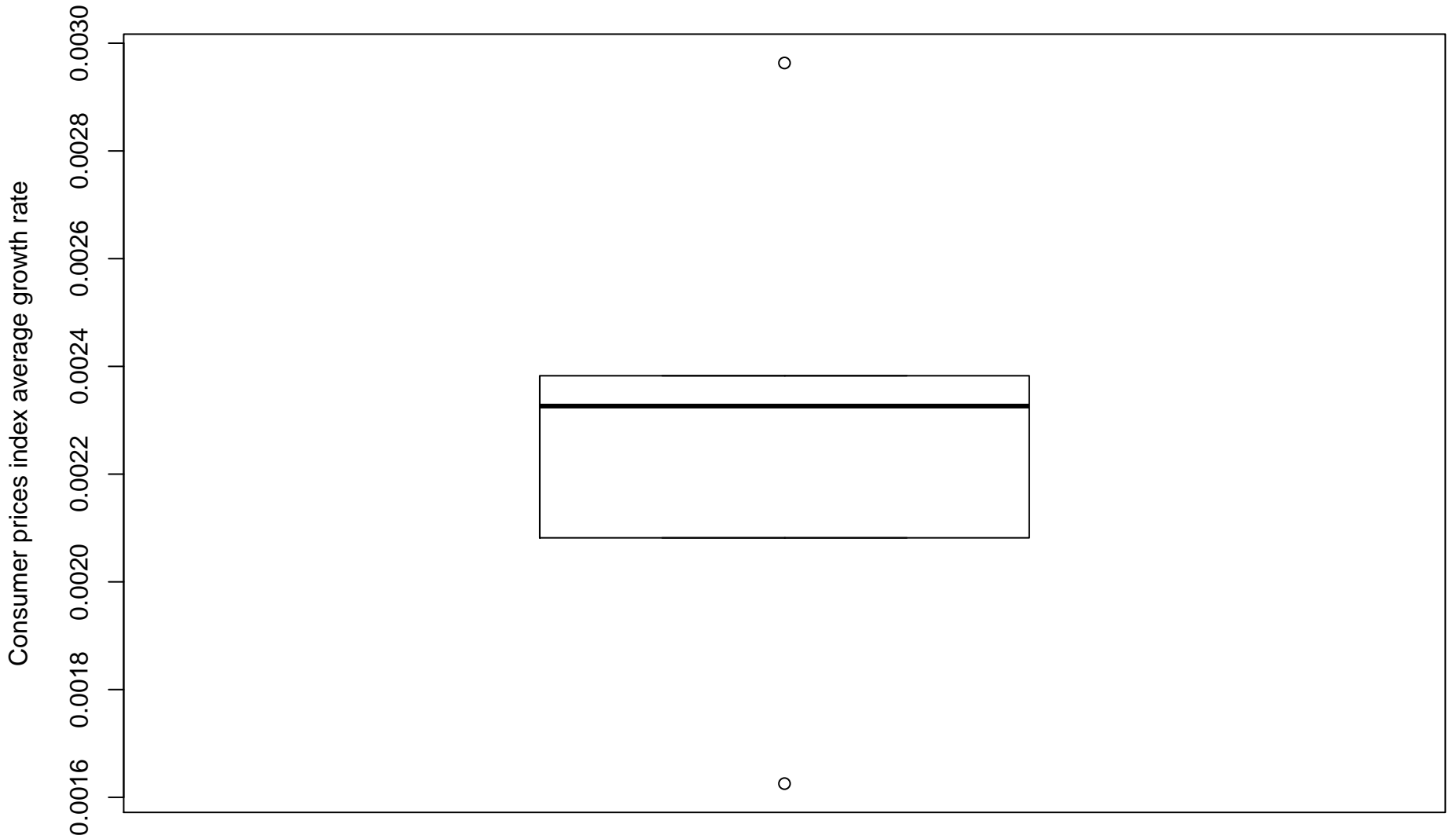
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600)

Likelihood of GDP crises



(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600)

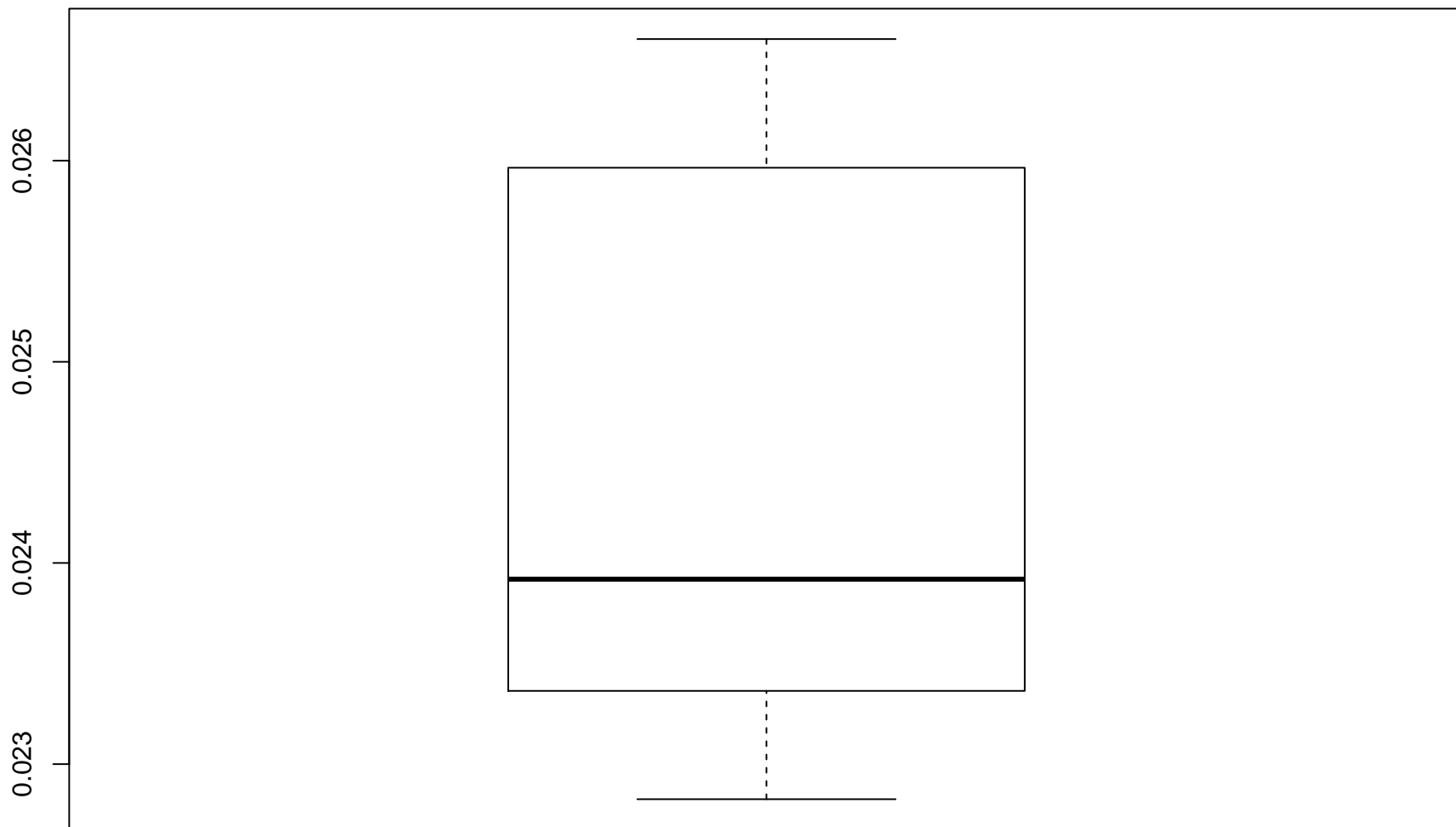
Inflation



(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600)

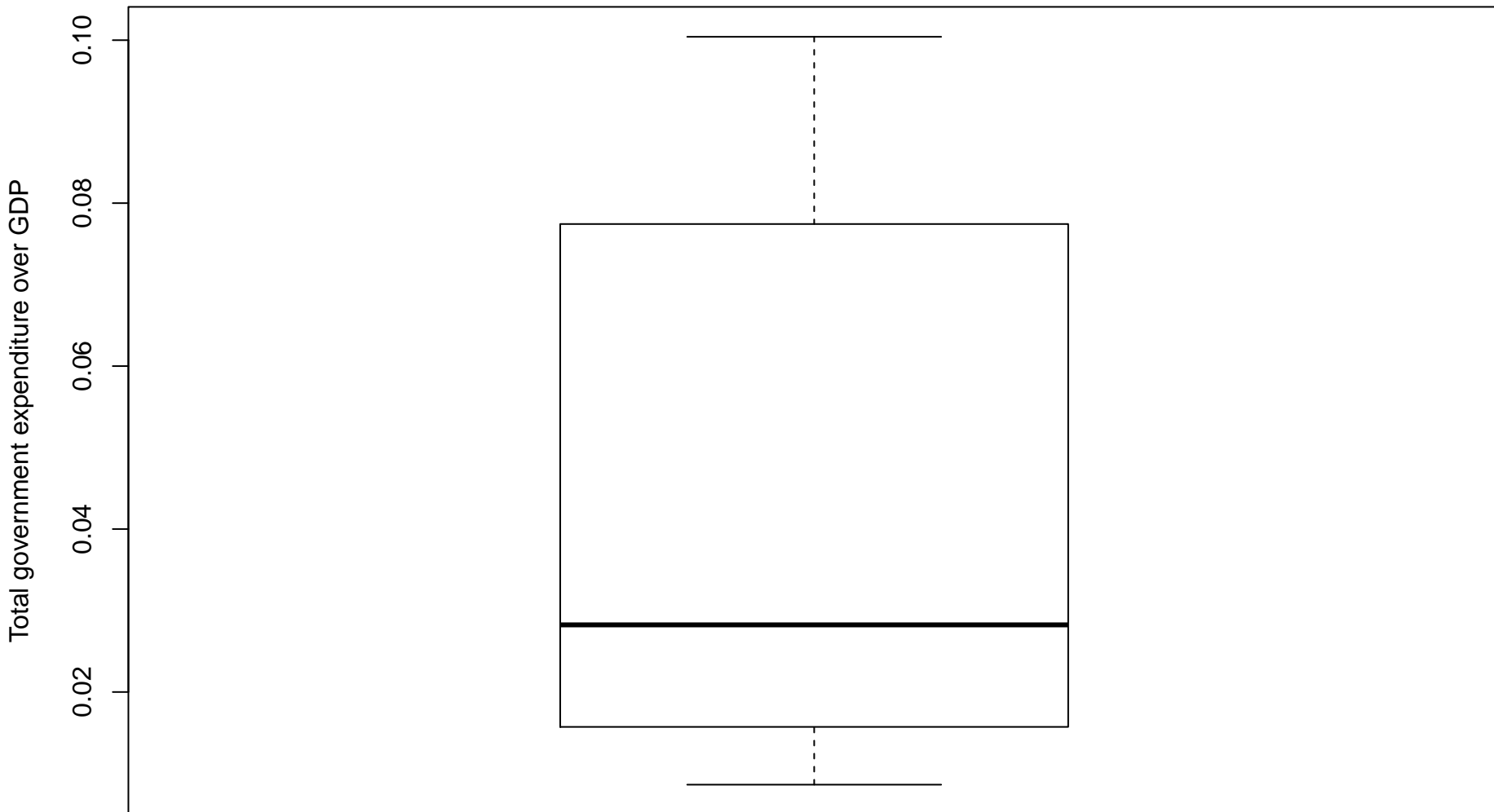
Government tax income over GDP

Tax



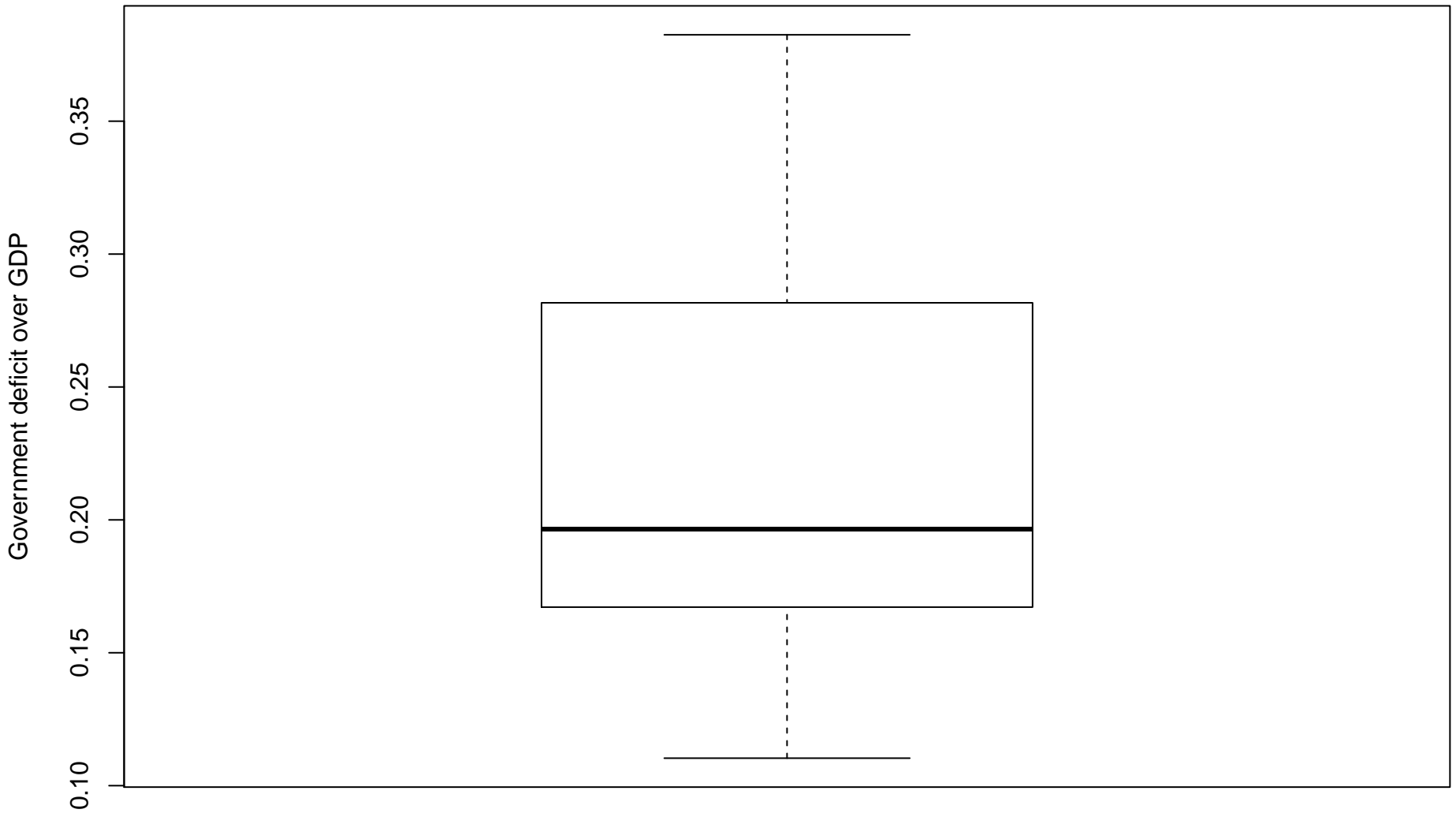
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600)

Government total expenditure



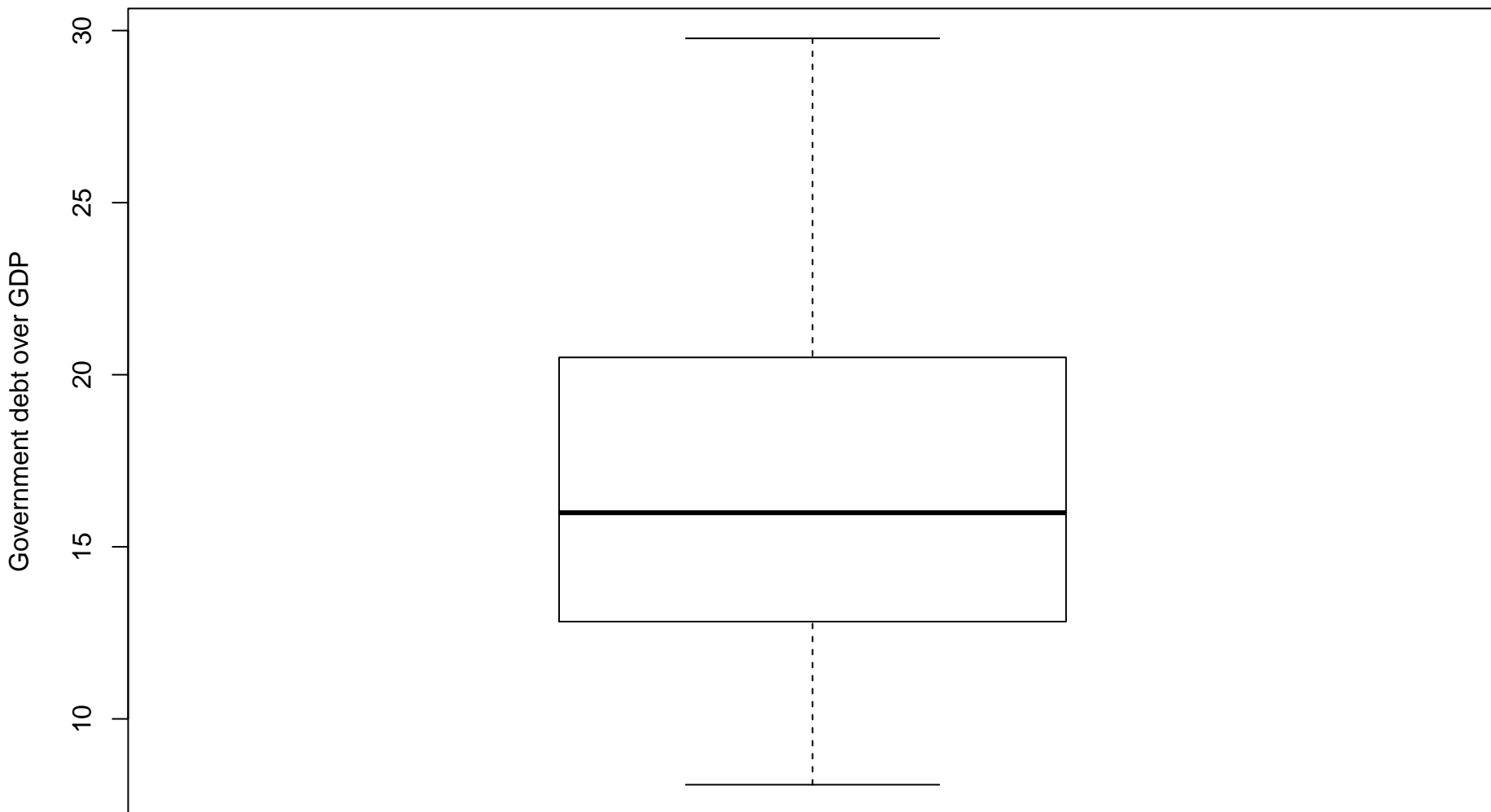
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600)

Government deficit



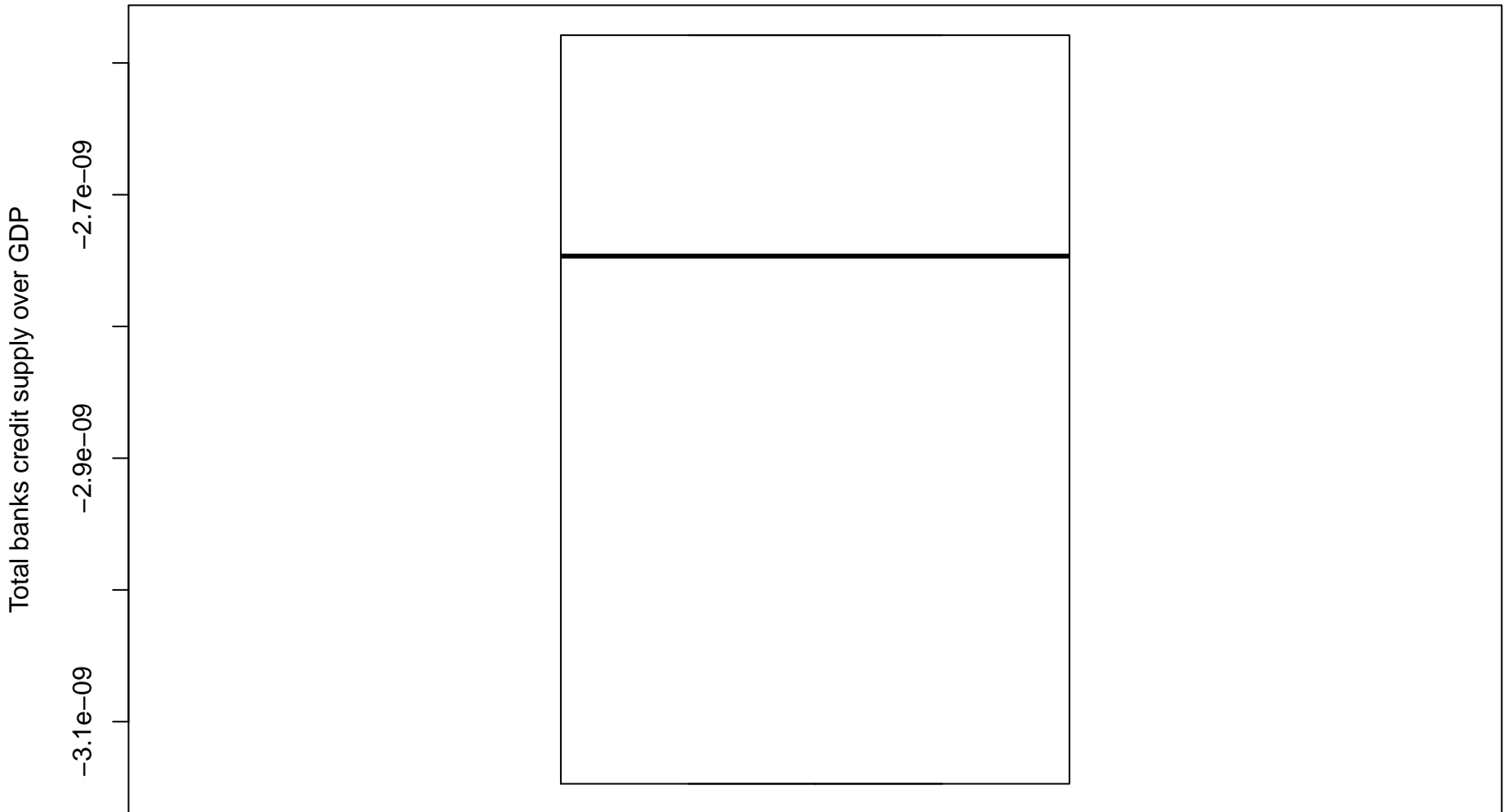
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600)

Government debt



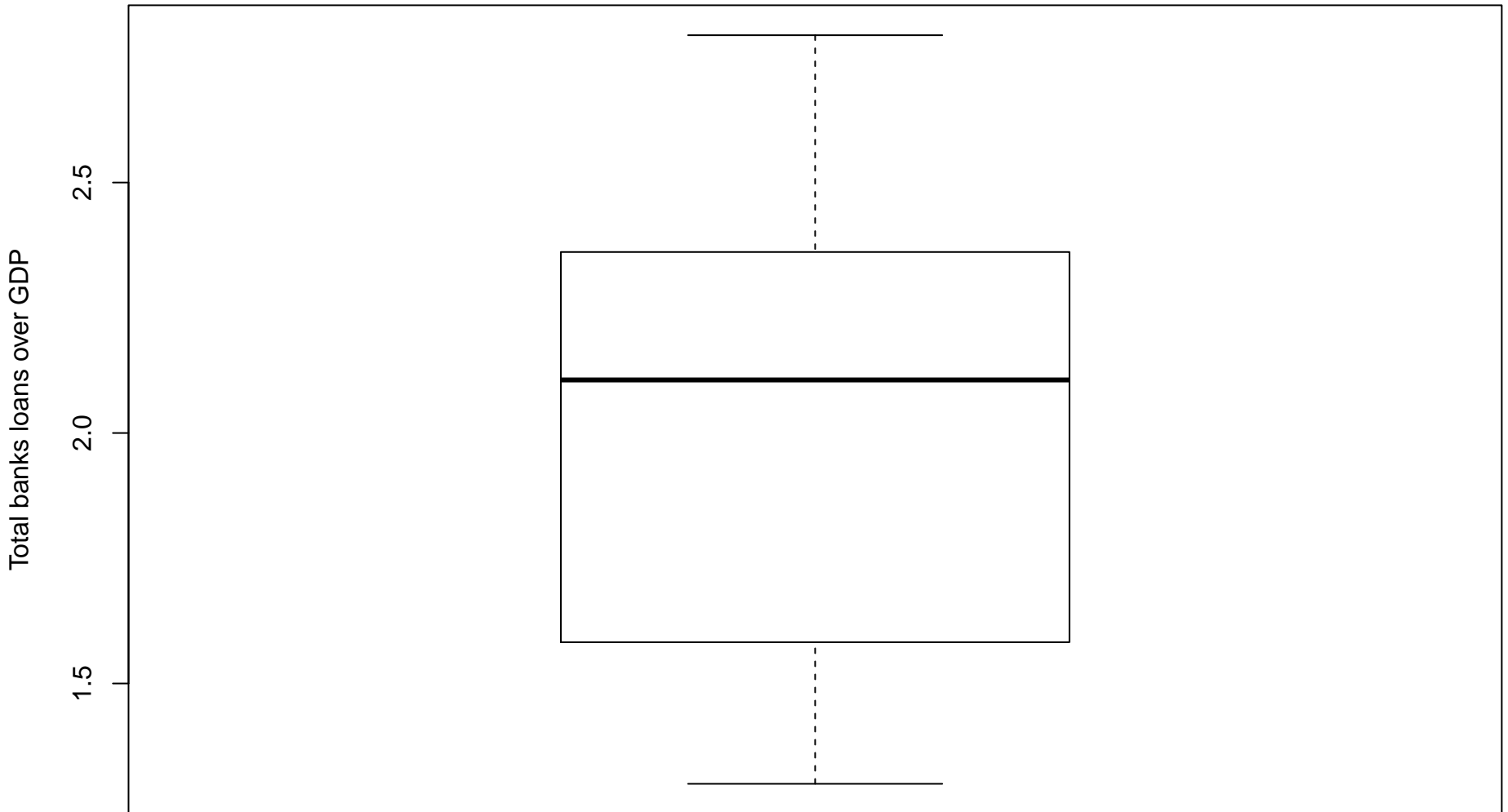
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600)

Credit supply



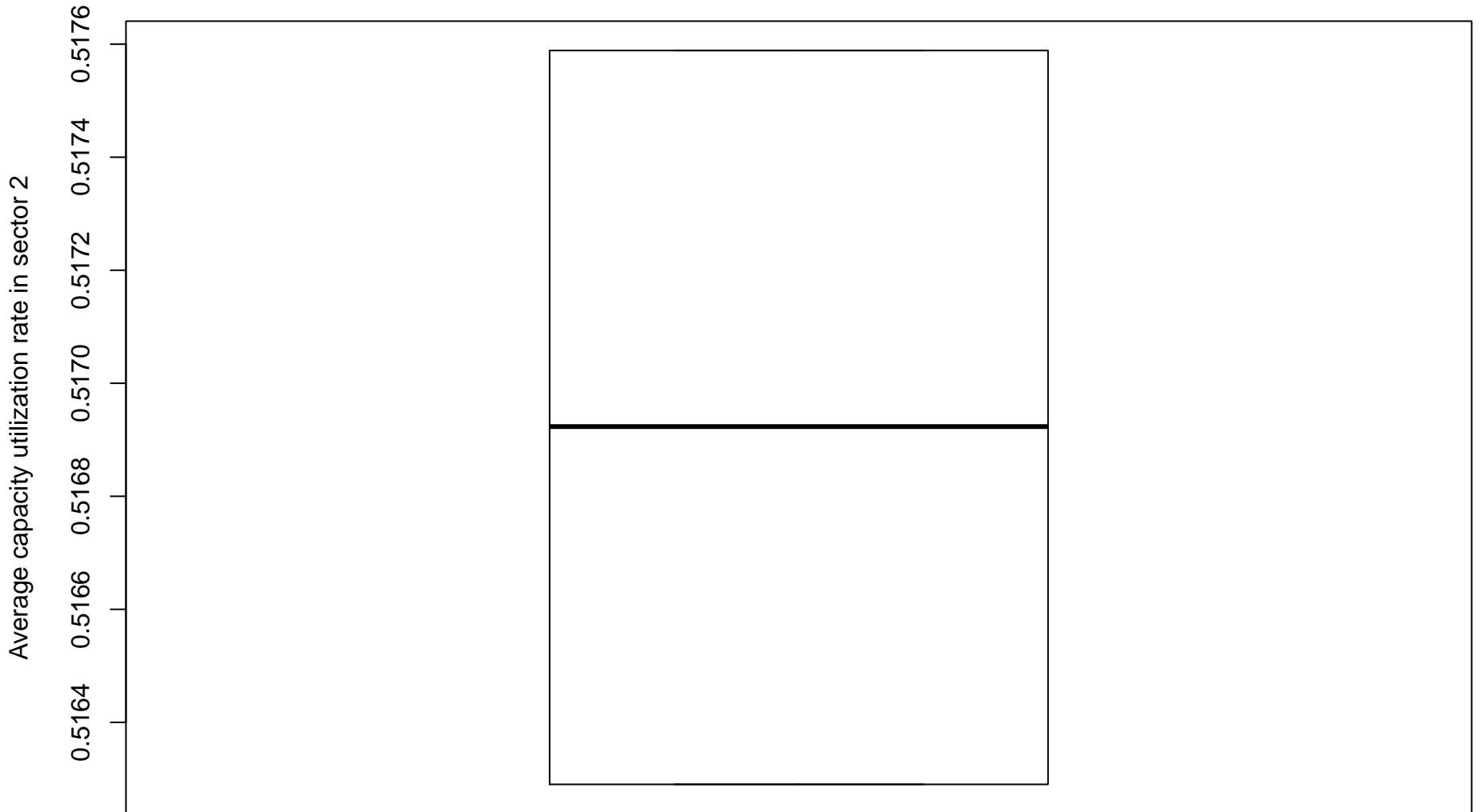
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600)

Loans



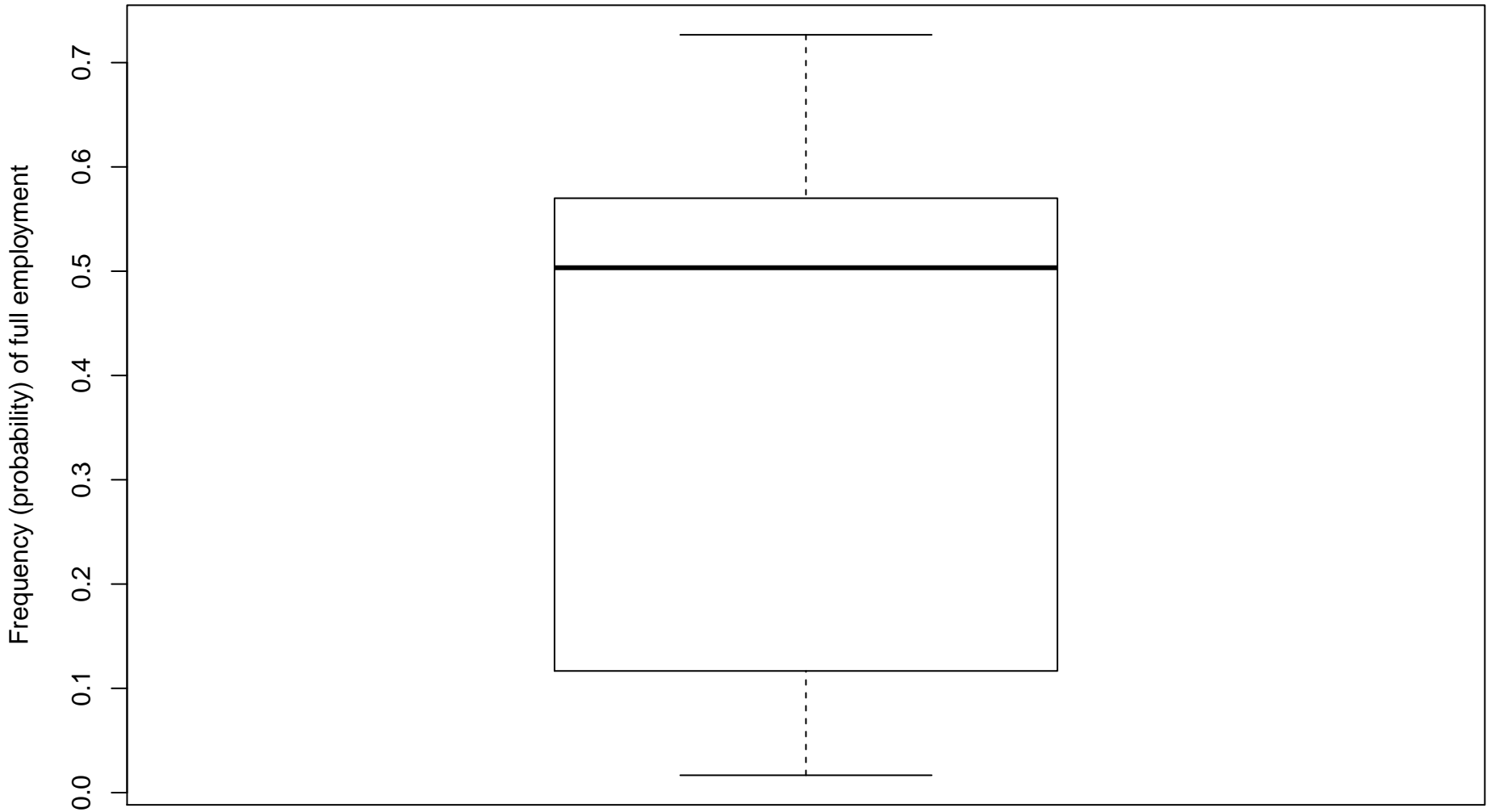
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600)

Capacity utilization



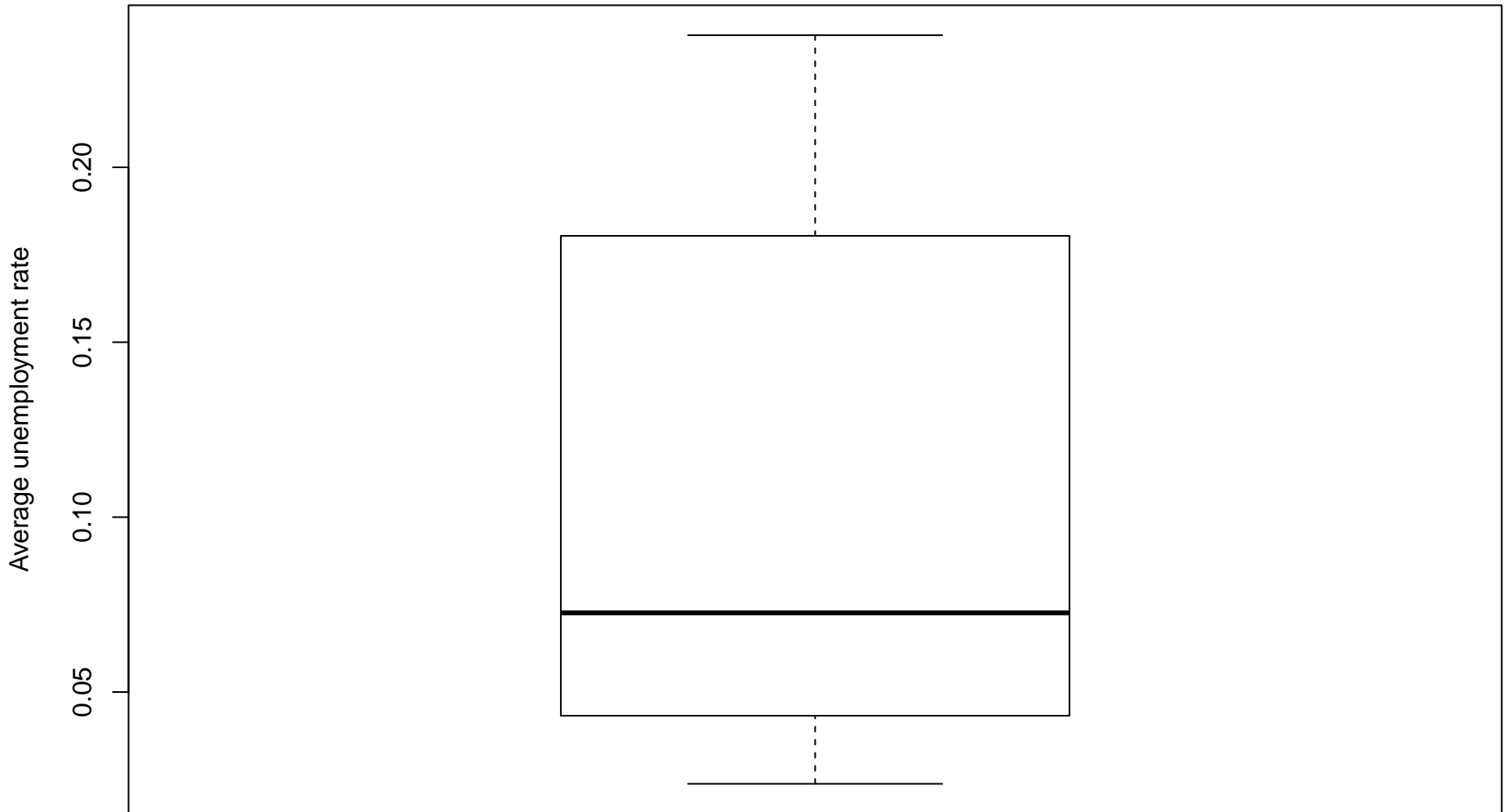
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600)

Full employment frequency



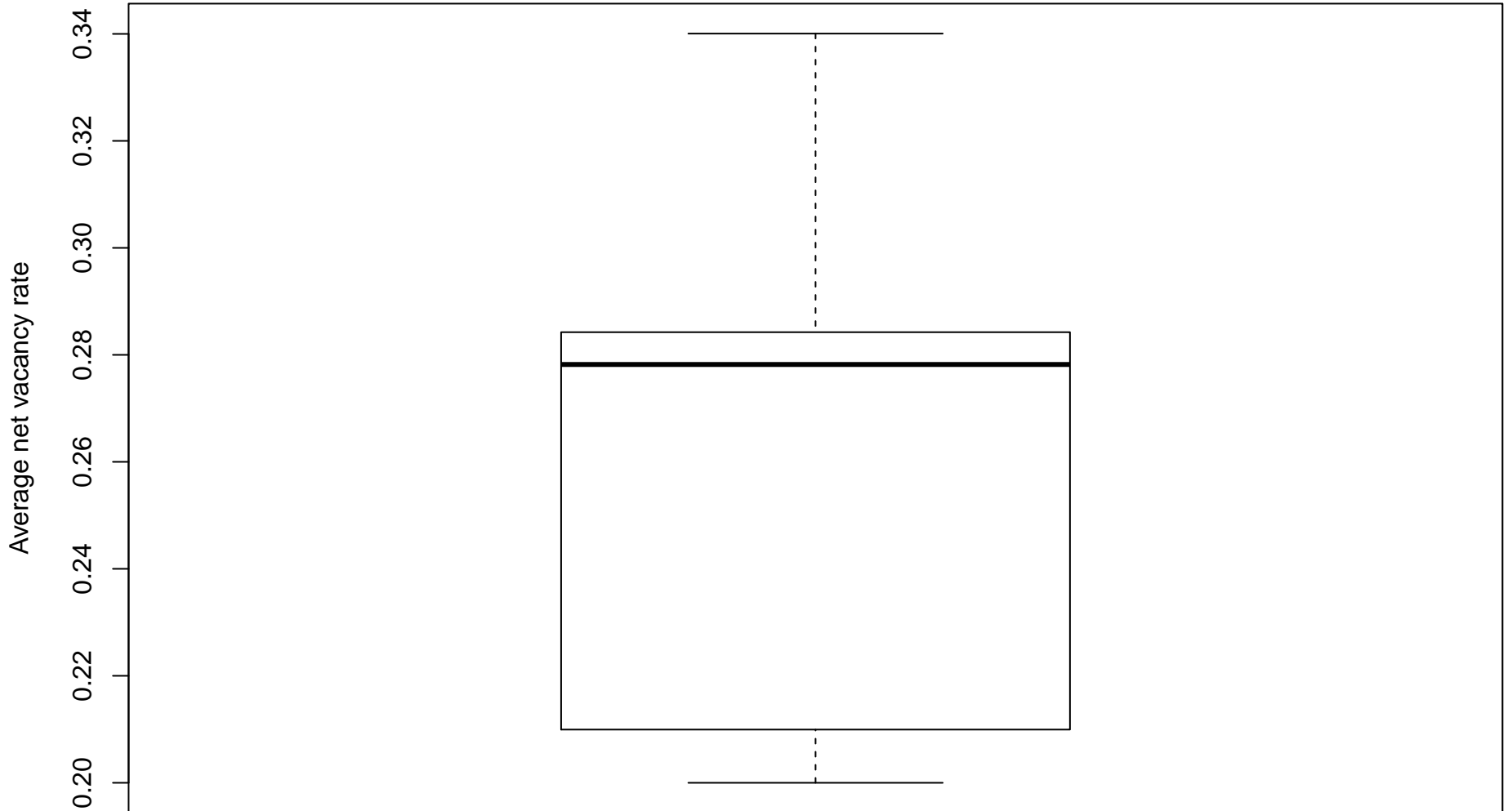
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600)

Unemployment



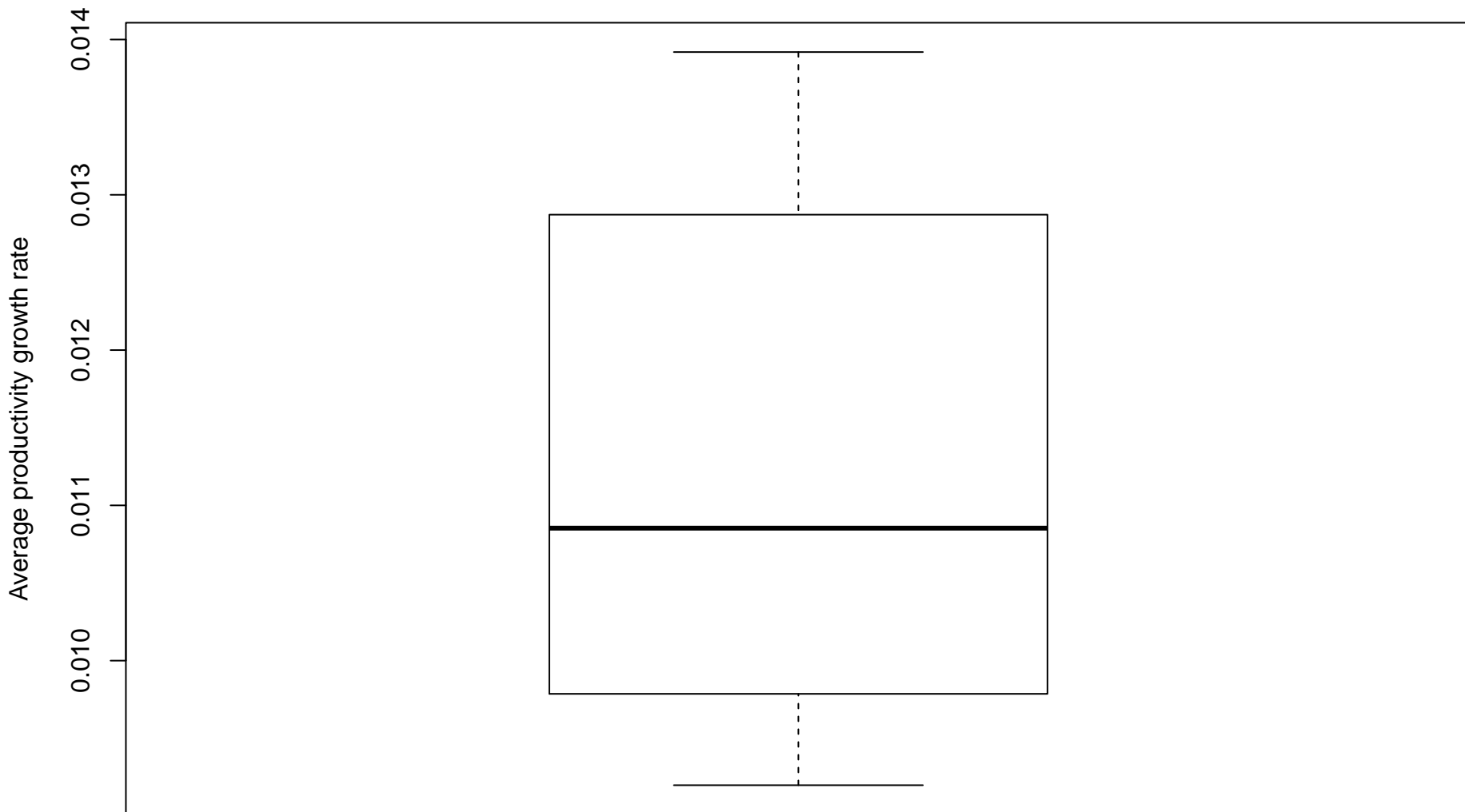
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600)

Vacancy



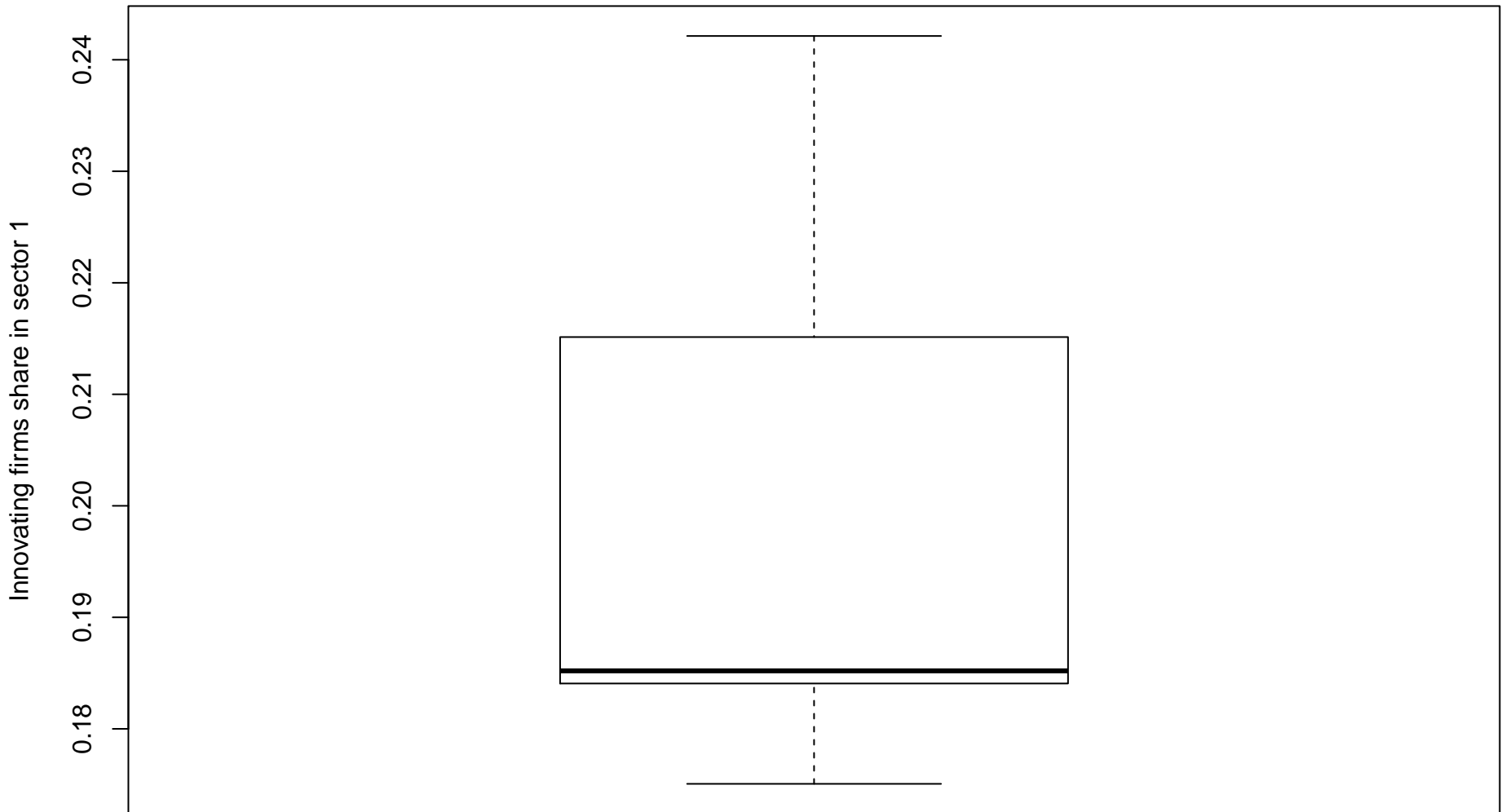
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600)

Productivity growth



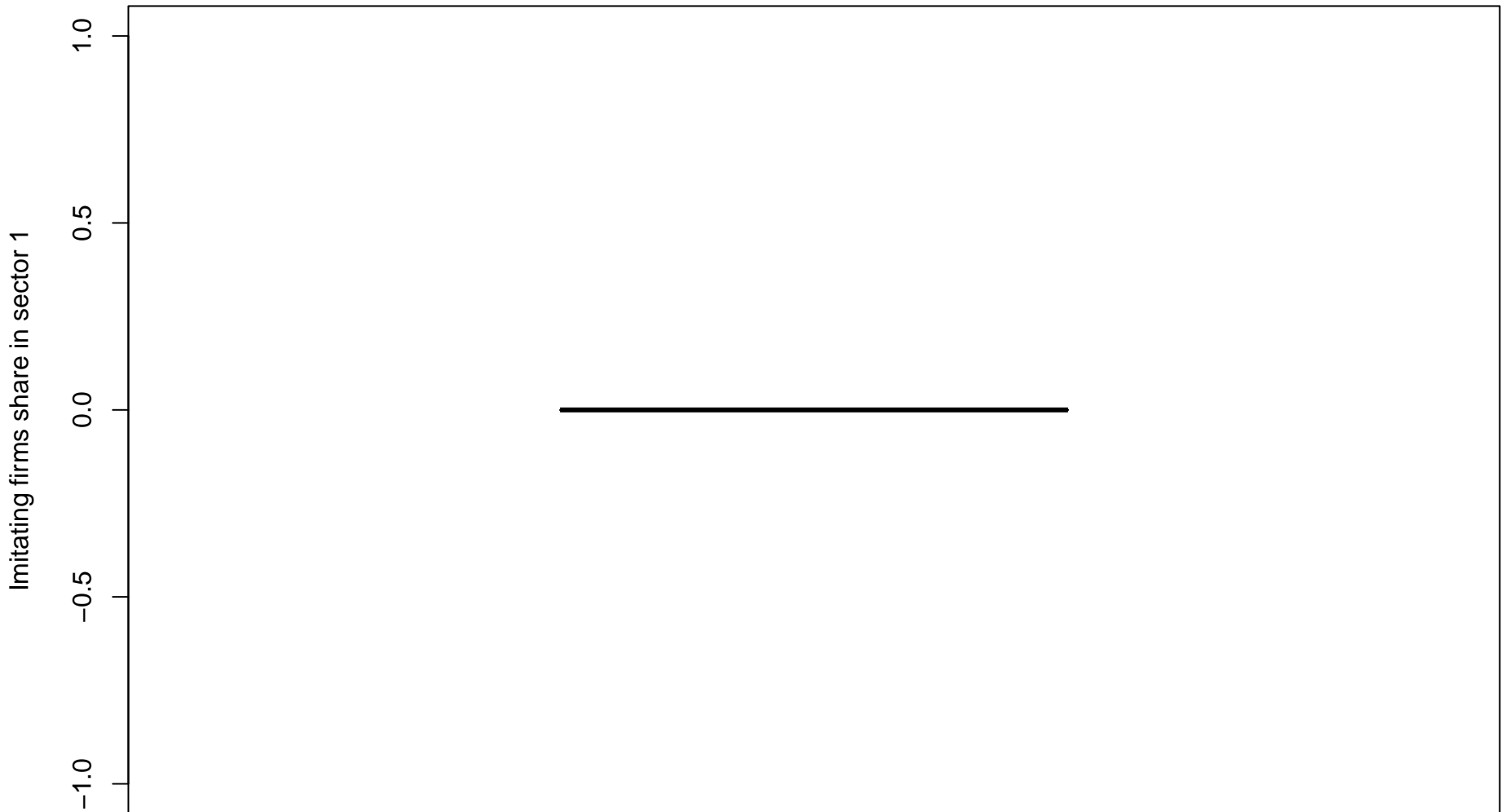
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600)

Innovation



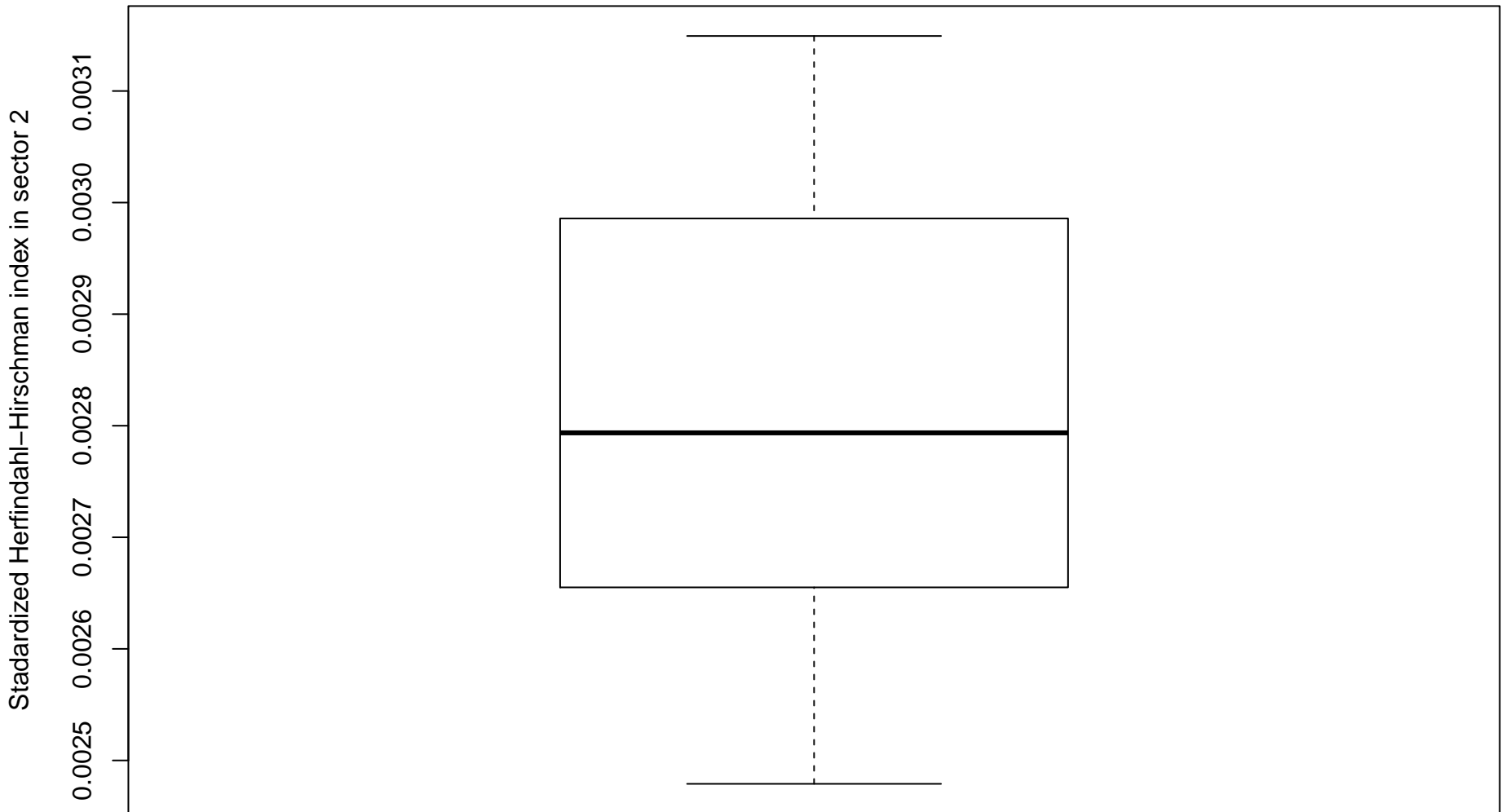
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600)

Imitation



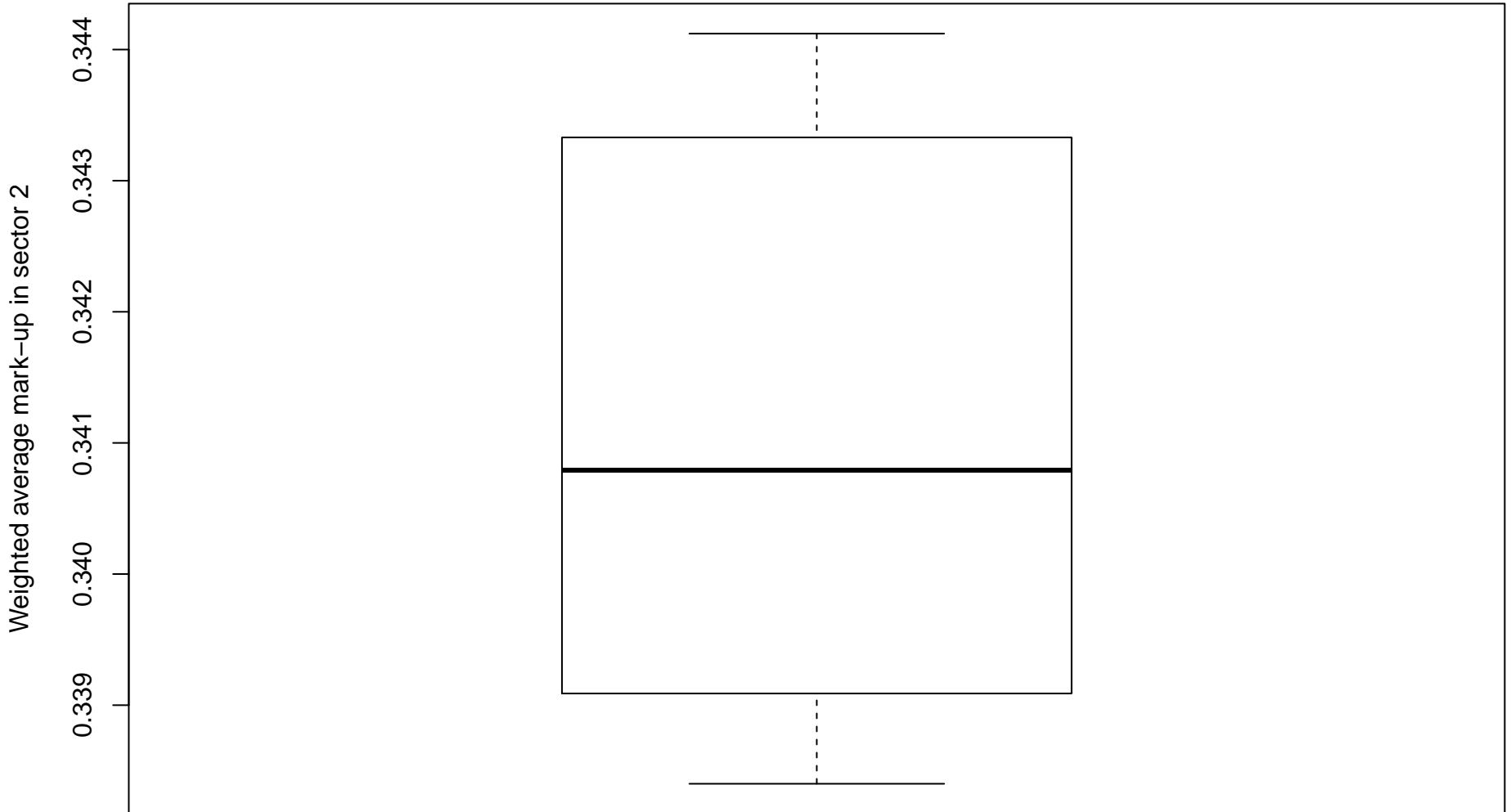
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600)

Market concentration



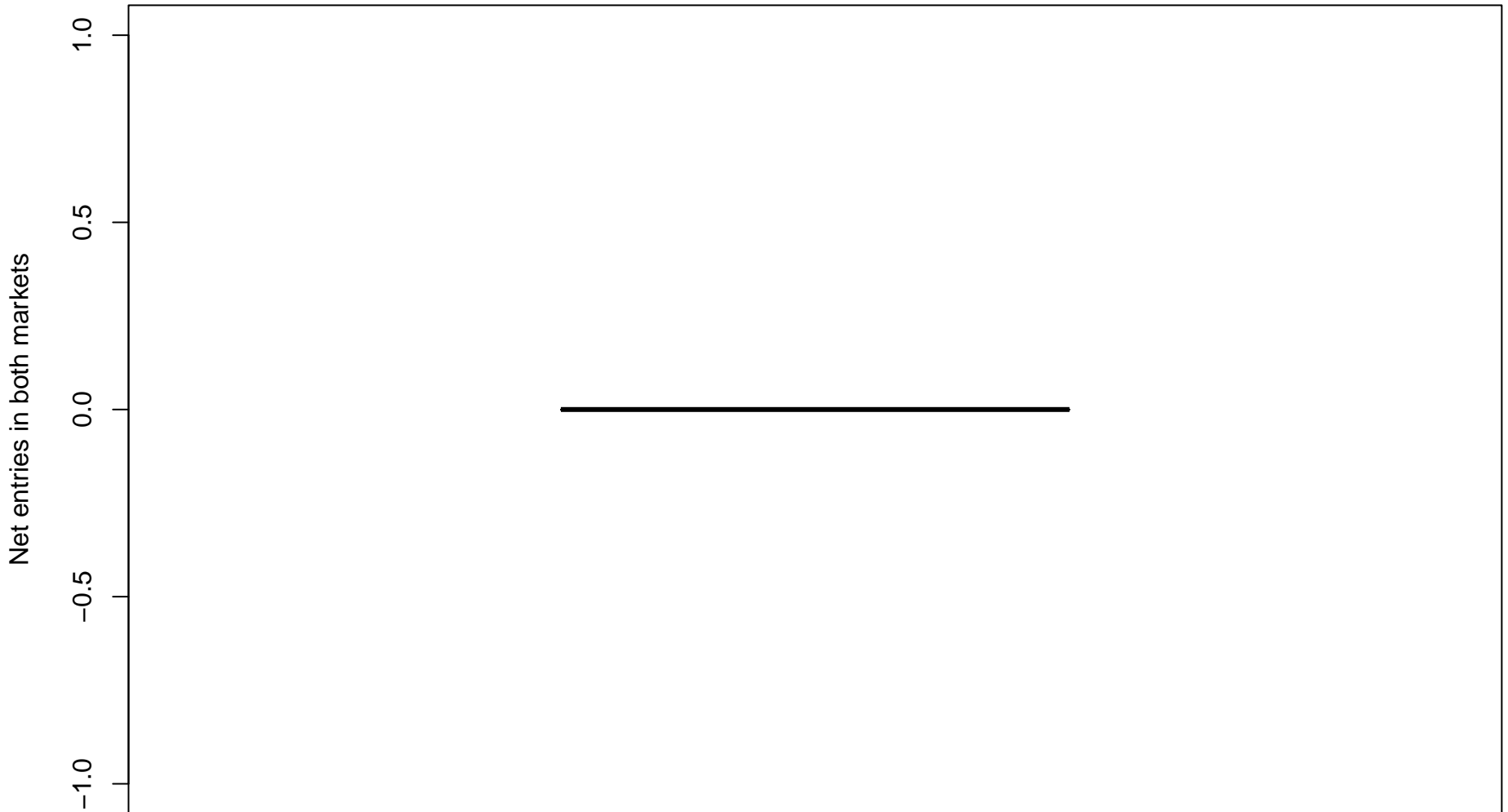
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600)

Mark-ups



(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600)

Net entry of firms



(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600)

Monte Carlo descriptive statistics (all experiments)

| | Avg[1] | SD[1] | Min[1] | Max[1] |
|-------------------------------------|---------------|--------------|---------------|---------------|
| GDP growth | 0.01138 | 0.002407 | 0.008754 | 0.01439 |
| Volatility of GDP growth | 0.09228 | 0.004651 | 0.08805 | 0.09886 |
| Likelihood of GDP crises | 0.2613 | 0.04253 | 0.2167 | 0.3033 |
| Inflation | 0.002276 | 0.0004866 | 0.001625 | 0.002963 |
| Tax | 0.02454 | 0.001658 | 0.02283 | 0.0266 |
| Government total expenditure | 0.04609 | 0.04055 | 0.008629 | 0.1004 |
| Government deficit | 0.2276 | 0.1064 | 0.1103 | 0.3825 |
| Government debt | 17.44 | 8.252 | 8.087 | 29.77 |
| Credit supply | -3.895e-09 | 3.284e-09 | -9.646e-09 | -1.356e-09 |
| Loans | 2.029 | 0.5985 | 1.3 | 2.794 |
| Capacity utilization | 0.5171 | 0.006496 | 0.5081 | 0.5264 |
| Full employment frequency | 0.3867 | 0.3052 | 0.01667 | 0.7267 |
| Unemployment | 0.1116 | 0.09296 | 0.02376 | 0.2378 |
| Vacancy | 0.2625 | 0.05788 | 0.2 | 0.3401 |
| Productivity growth | 0.01133 | 0.002015 | 0.009198 | 0.01392 |
| Innovation | 0.2003 | 0.02783 | 0.1751 | 0.2421 |
| Imitation | 0 | 0 | 0 | 0 |
| Market concentration | 0.002813 | 0.0002645 | 0.002479 | 0.003149 |
| Mark-ups | 0.3411 | 0.002526 | 0.3384 | 0.3441 |
| Net entry of firms | 0 | 0 | 0 | 0 |

Experiments: [1] Free entry

(numbers in brackets indicate the experiment number / MC runs = 5 / period = 301 – 600)