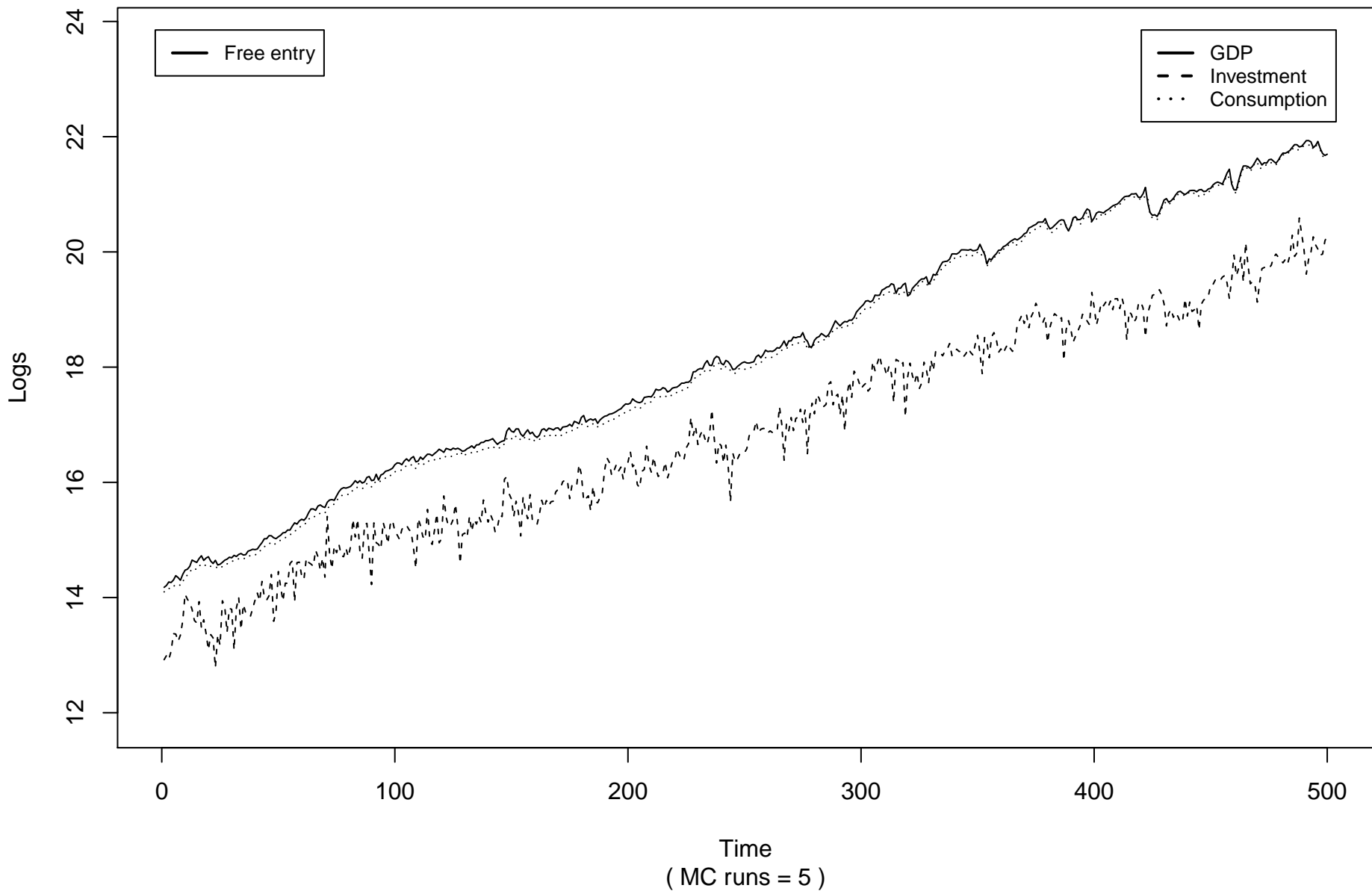
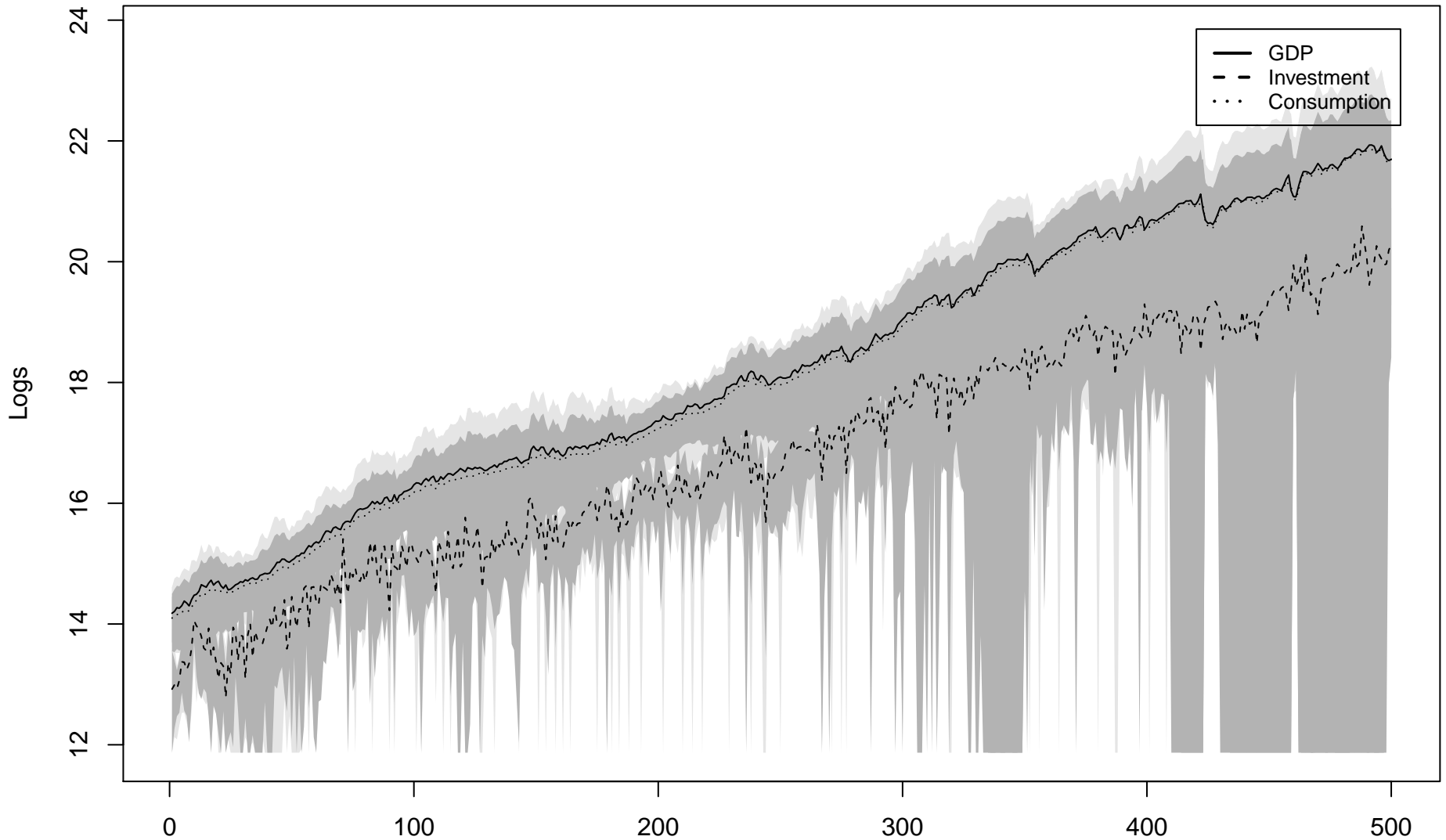


# GDP, investment and consumption ( all experiments )

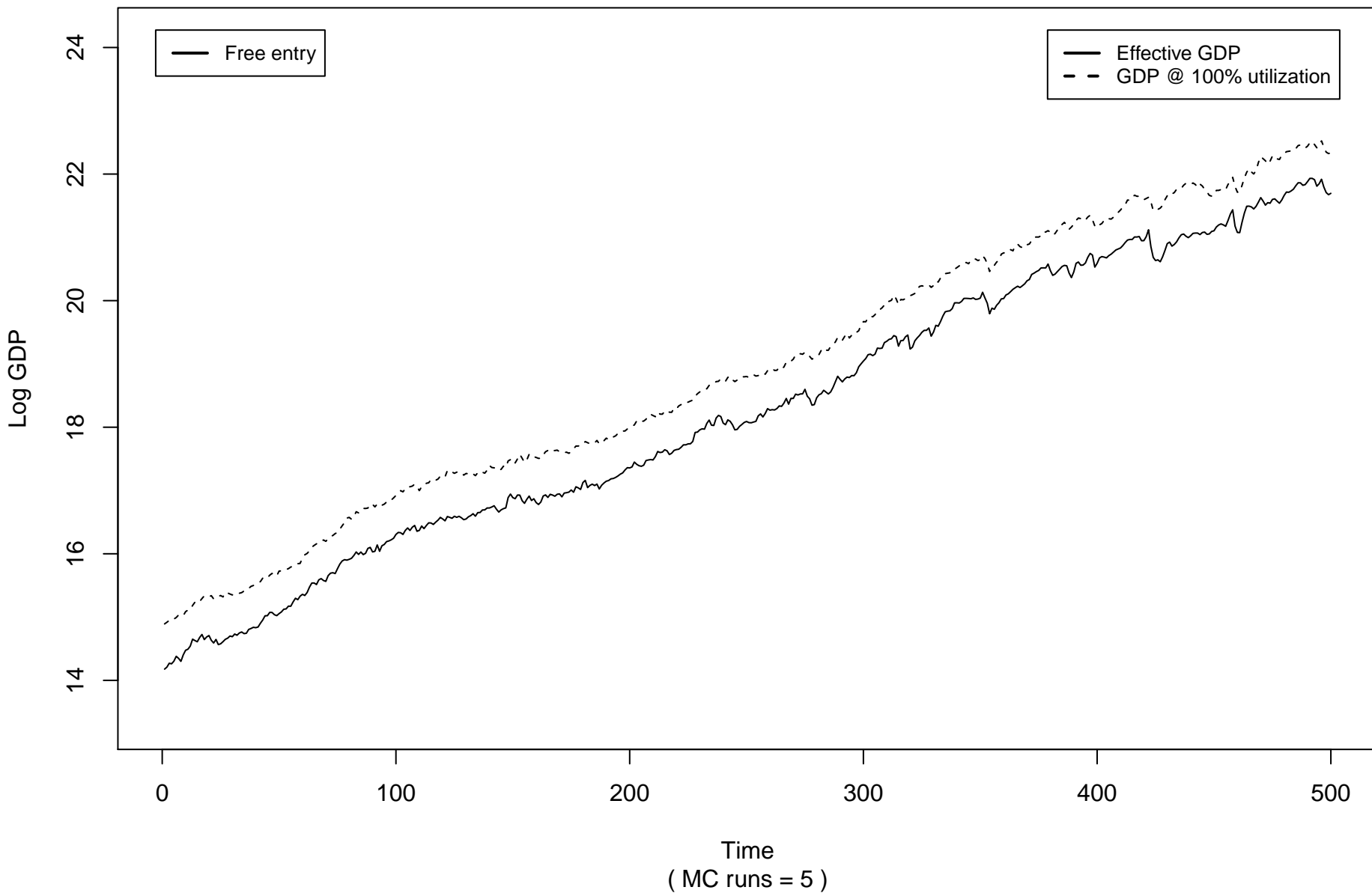


# GDP, investment and consumption ( Free entry )

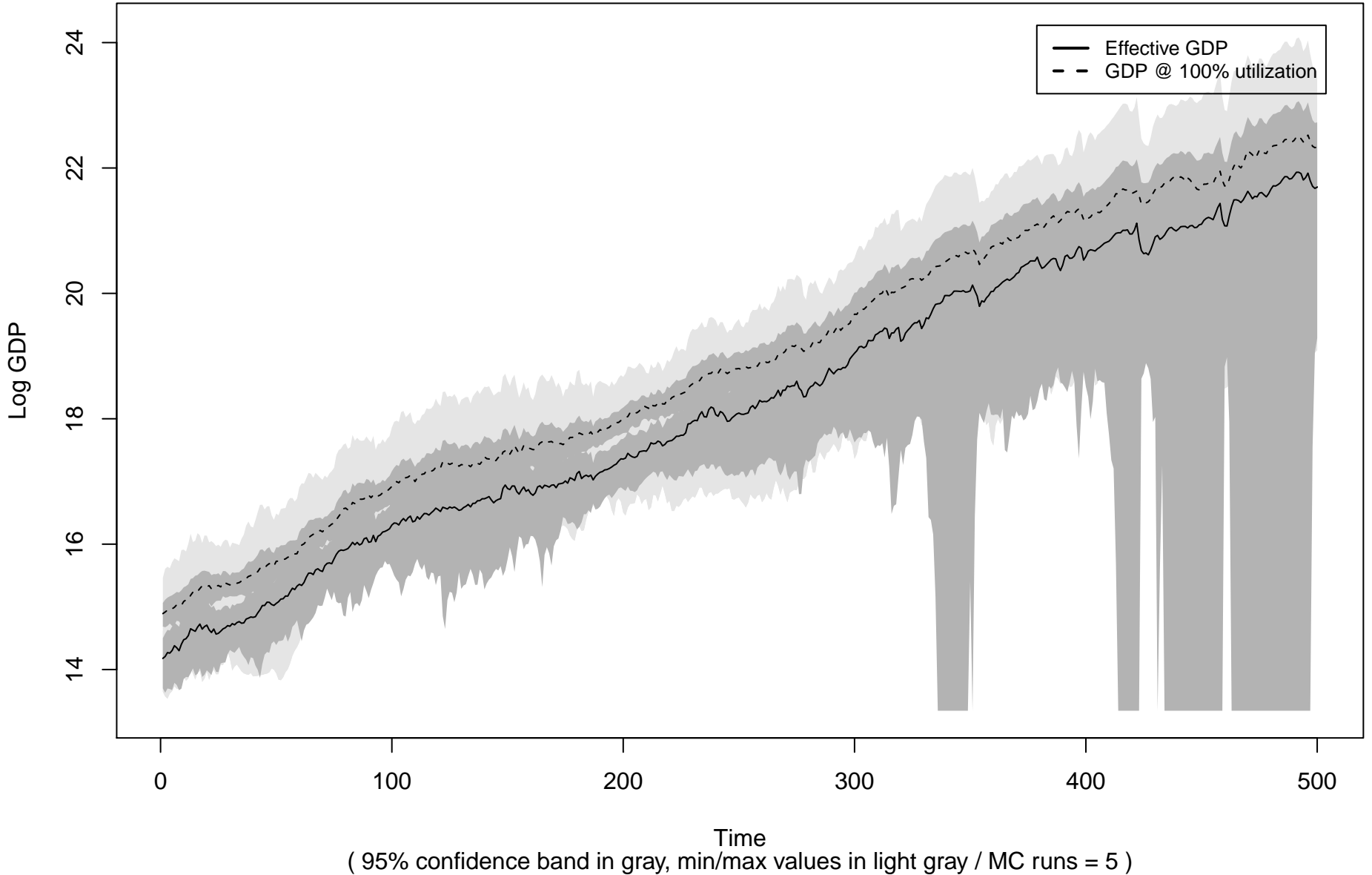


Time  
( 95% confidence band in gray, min/max values in light gray / MC runs = 5 )

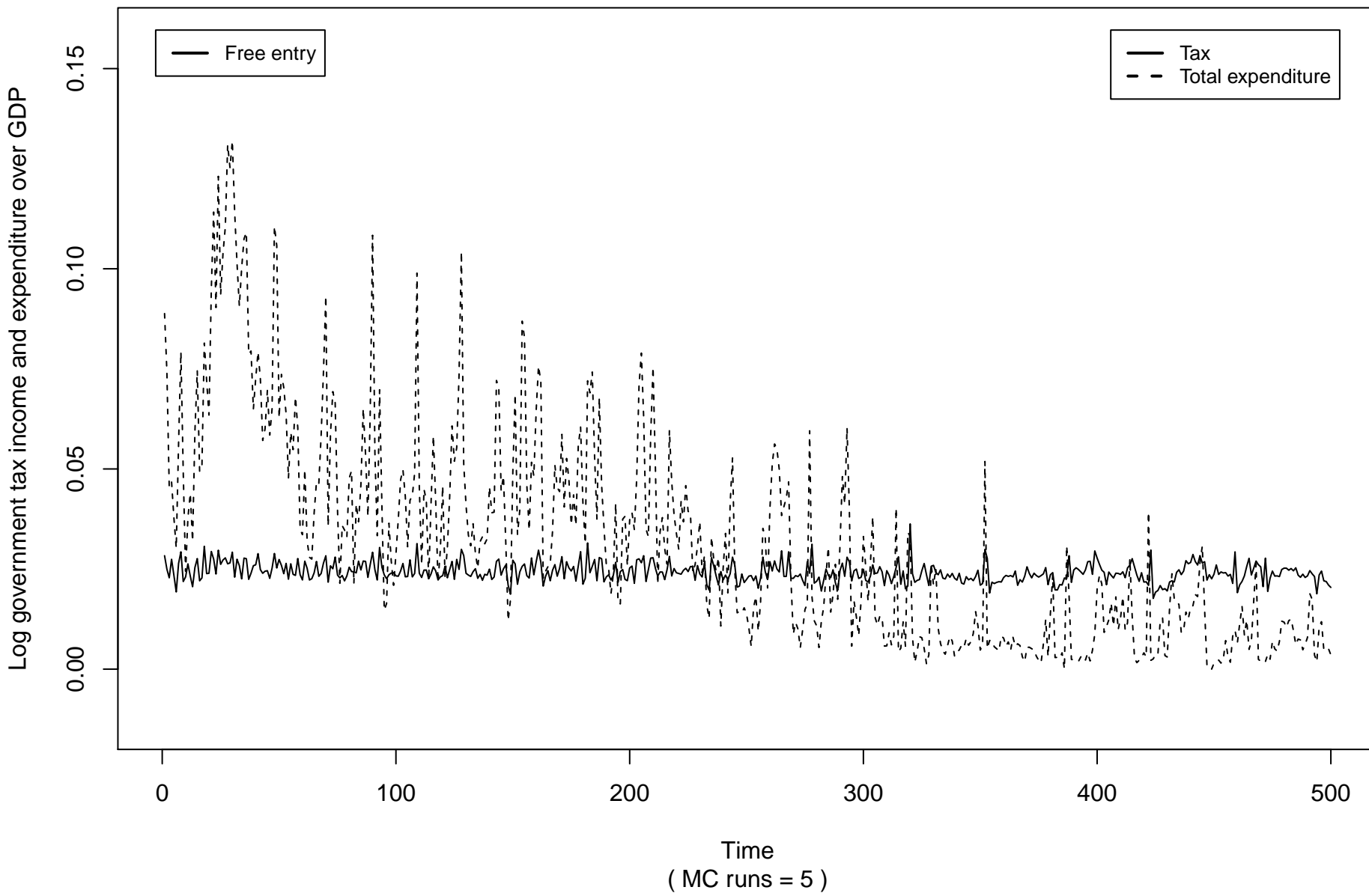
## GDP ( all experiments )



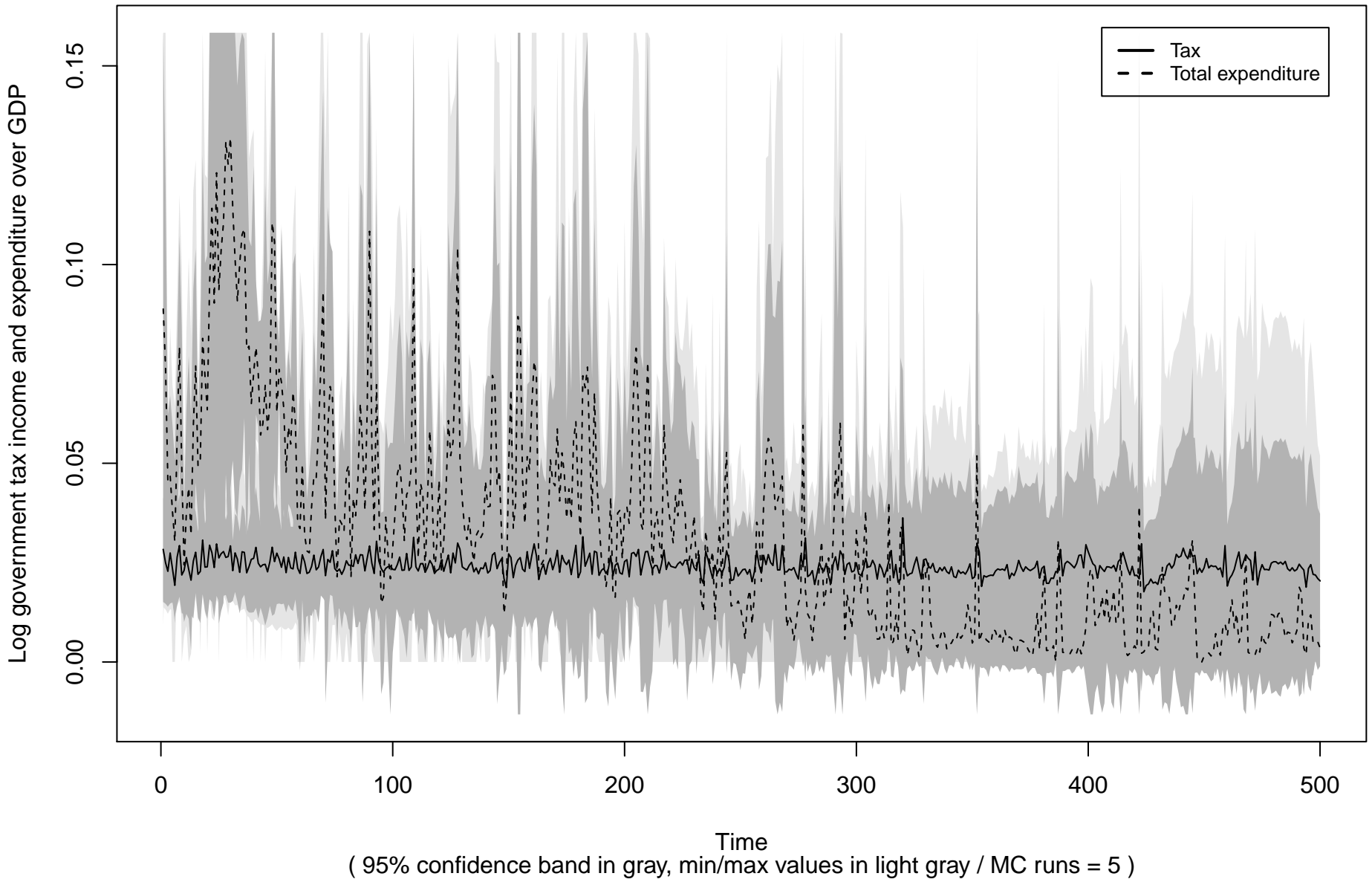
# GDP ( Free entry )



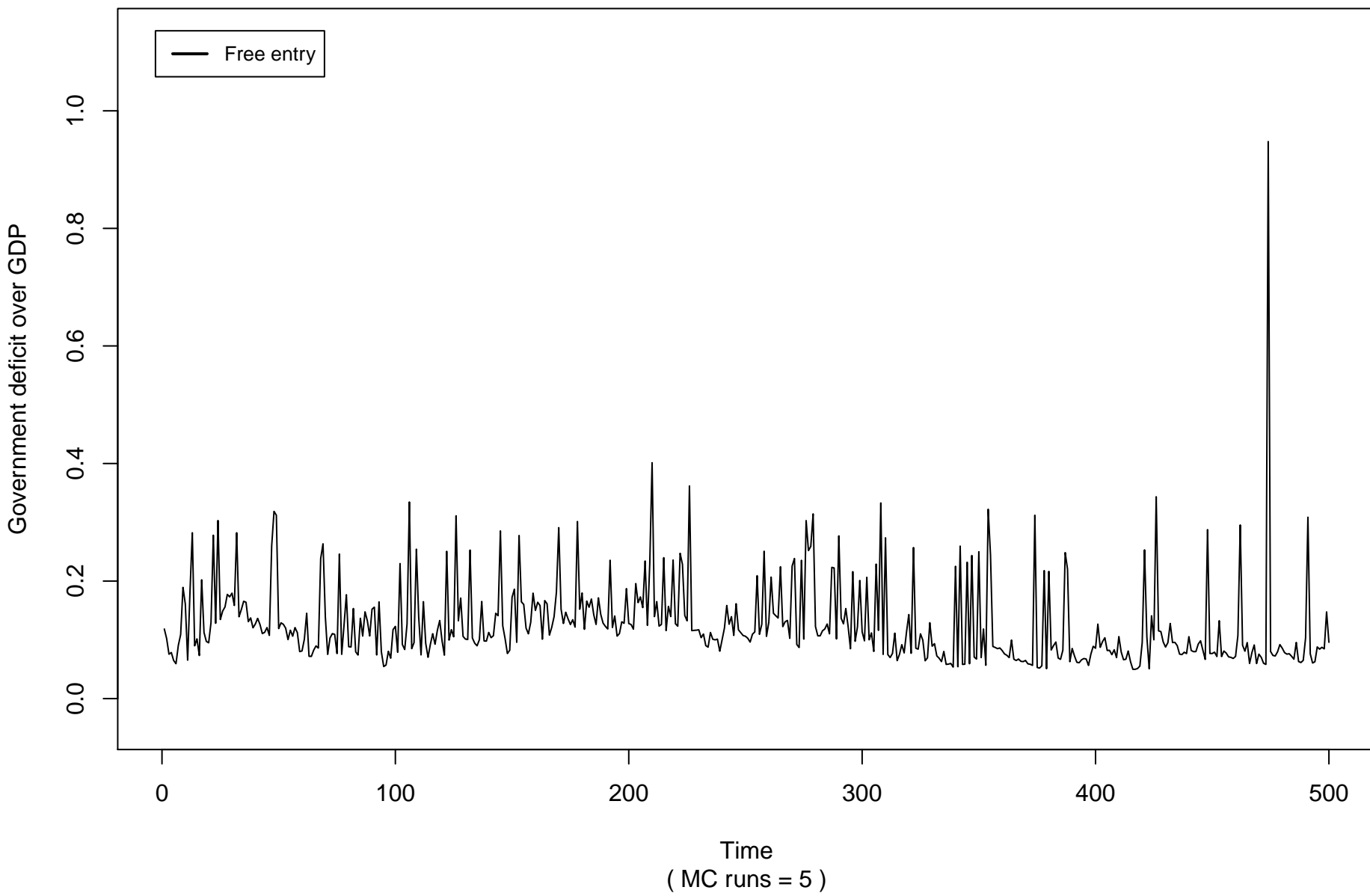
# Government income and expenditure on GDP ( all experiments )



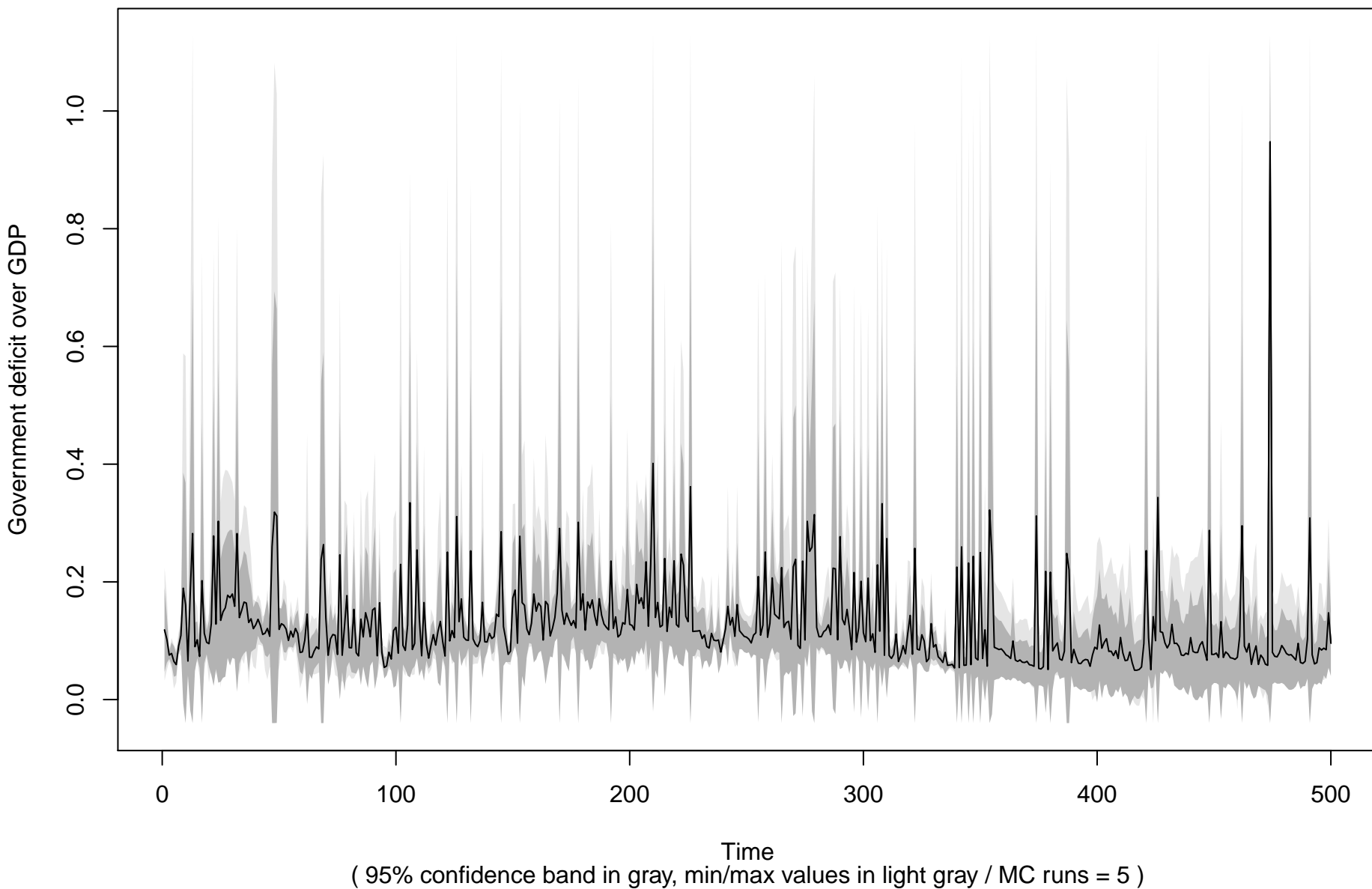
# Government income and expenditure on GDP ( Free entry )



# Government deficit on GDP ( all experiments )

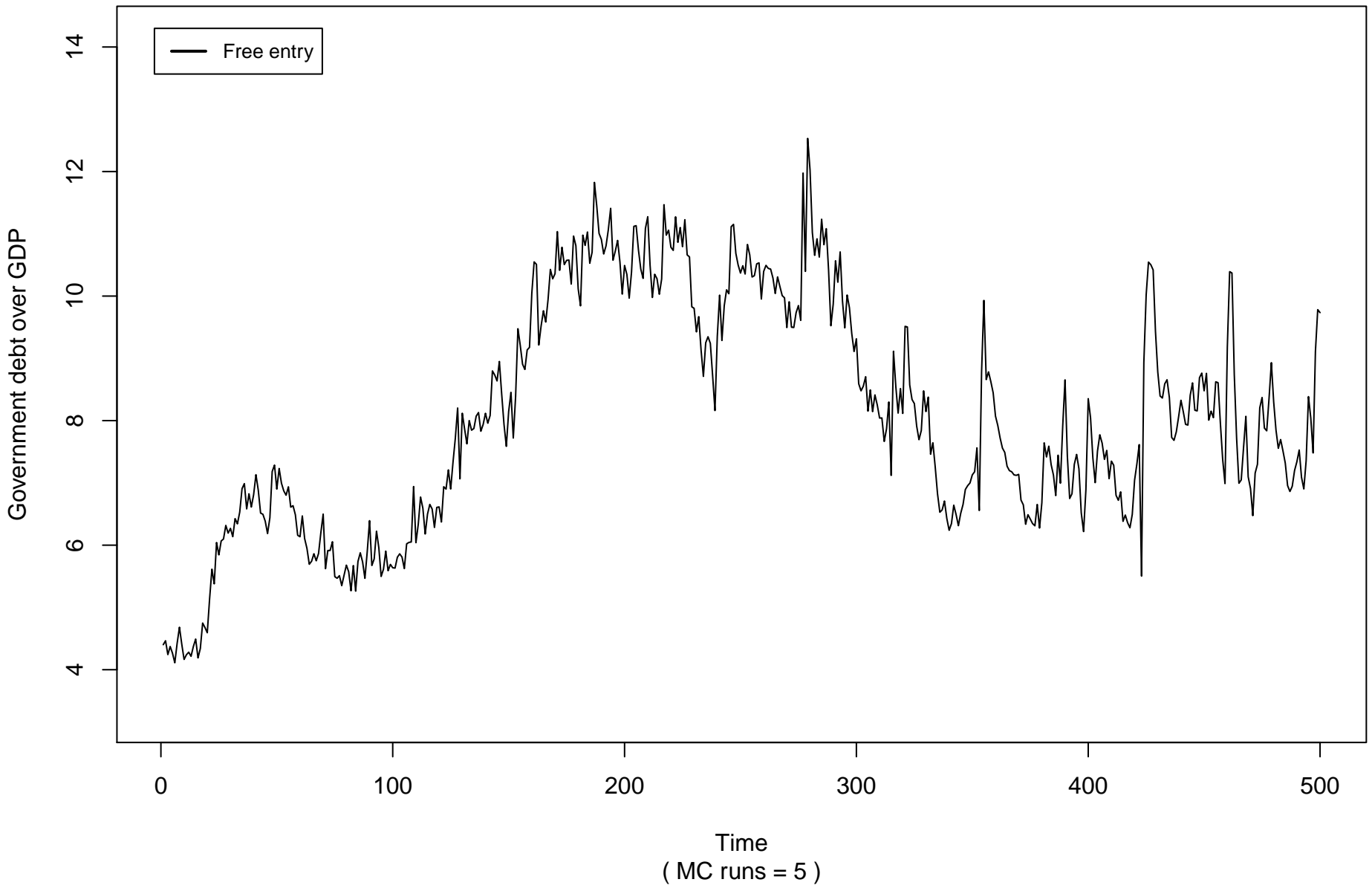


# Government deficit on GDP ( Free entry )

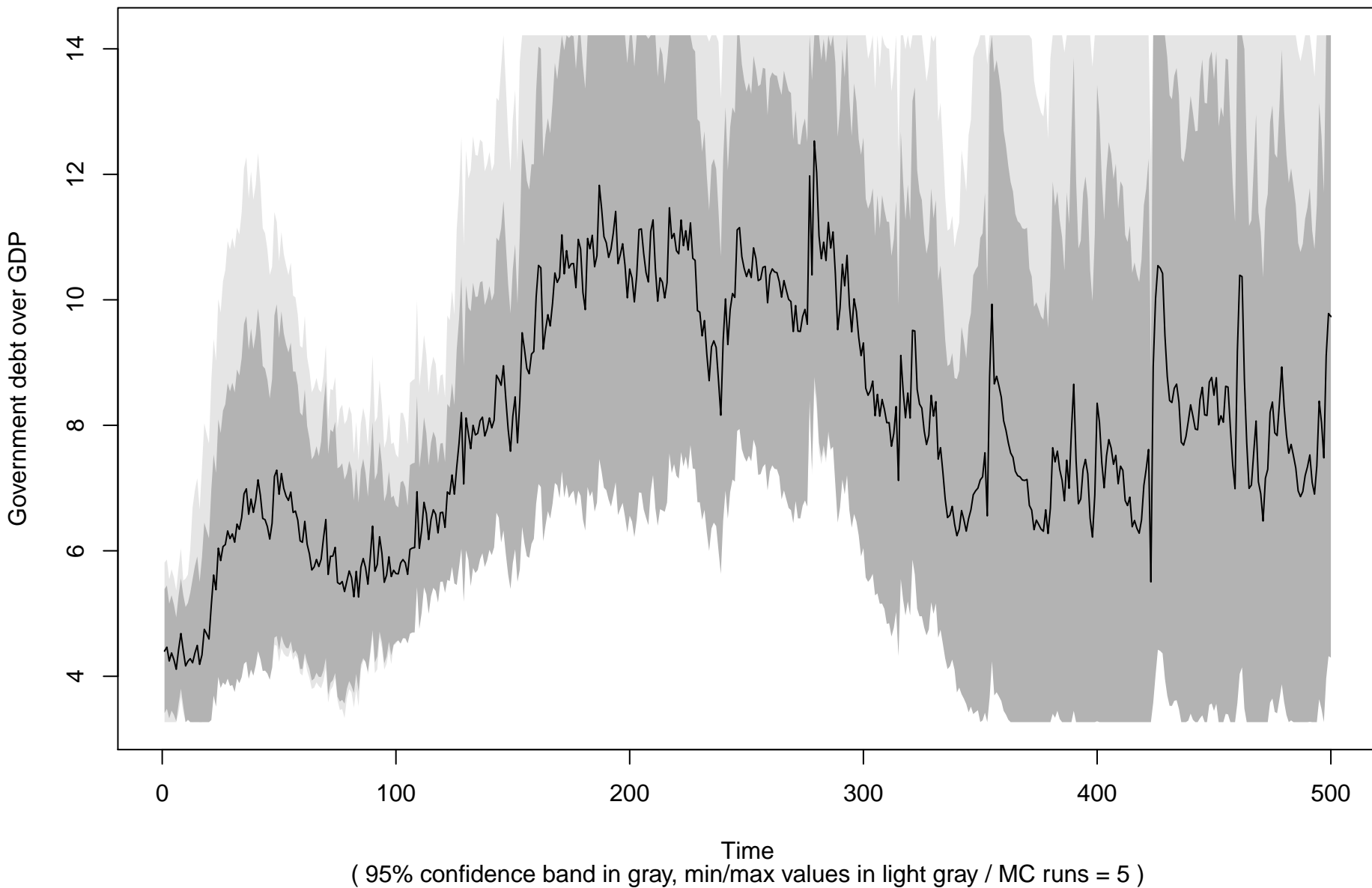




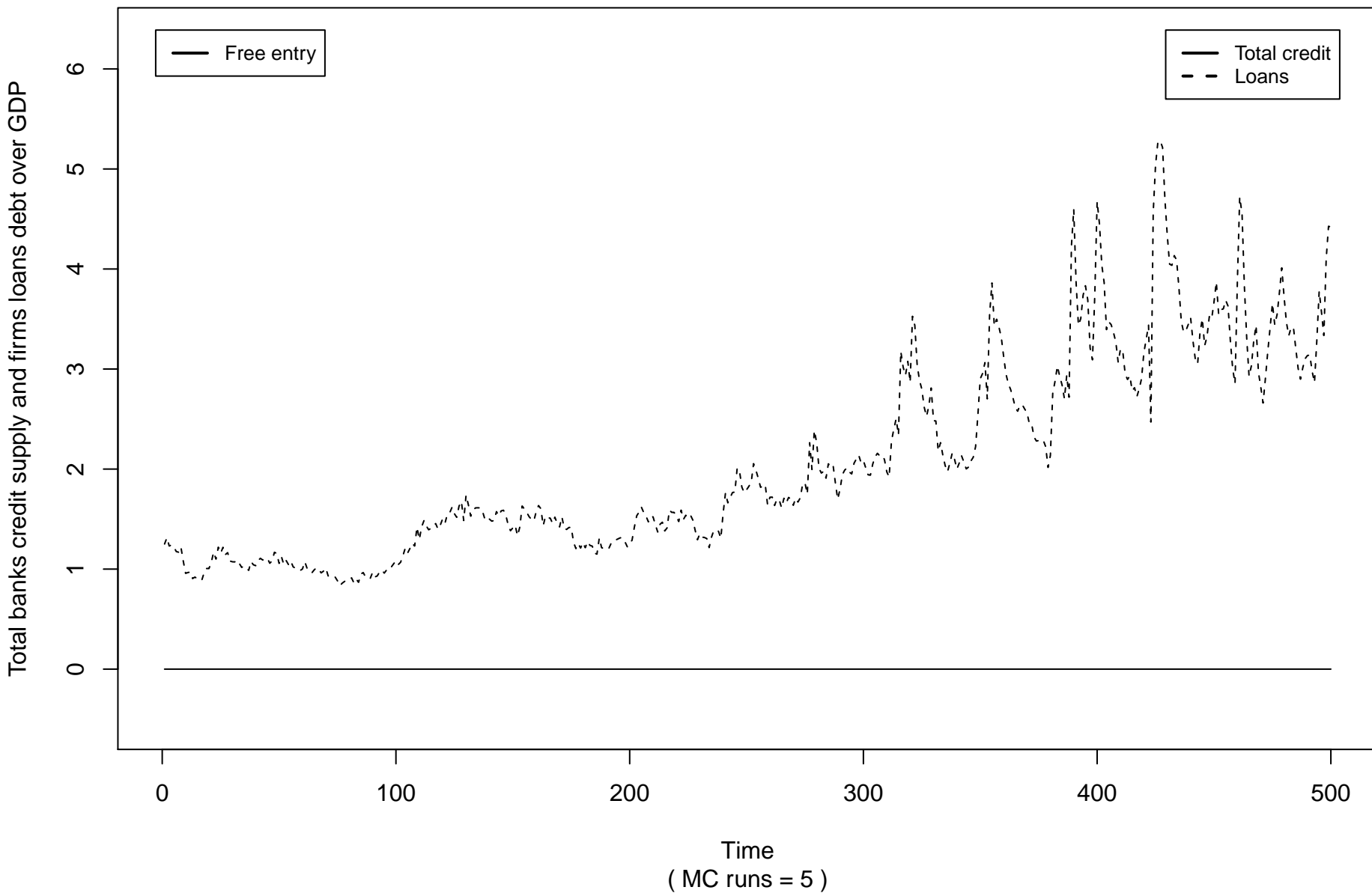
# Government debt on GDP ( all experiments )



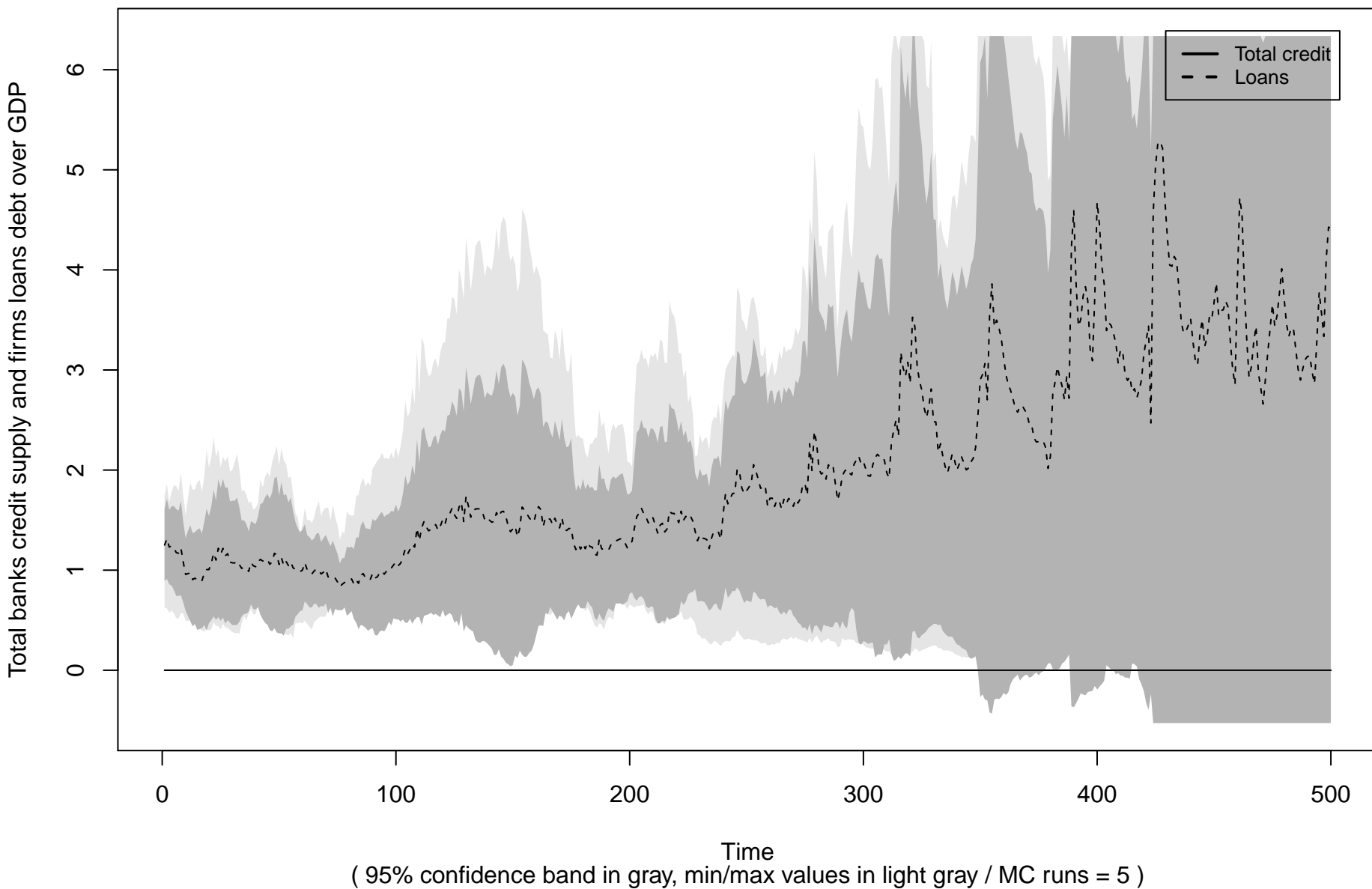
# Government debt on GDP ( Free entry )



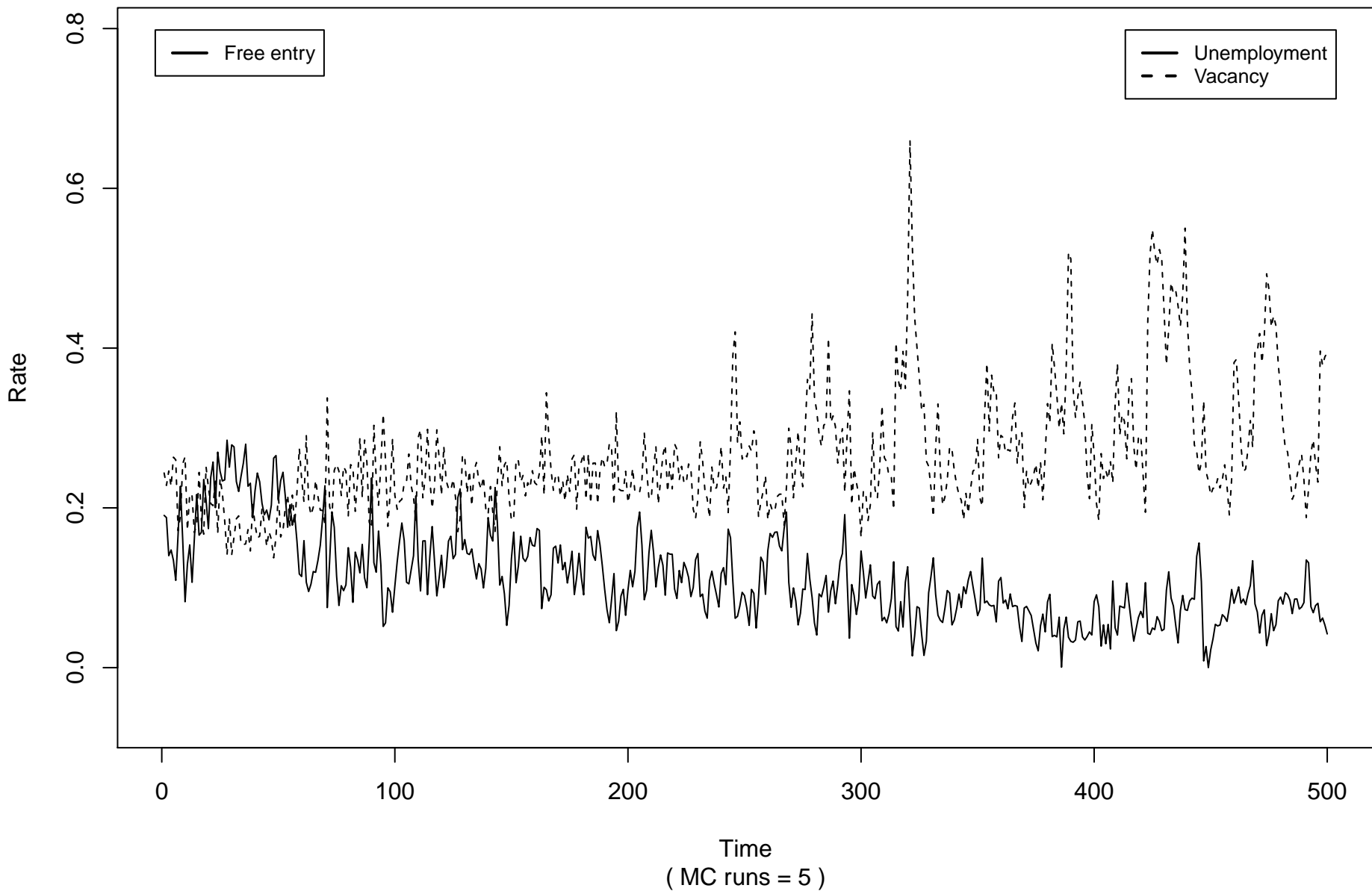
# Total credit supply and loans on GDP ( all experiments )



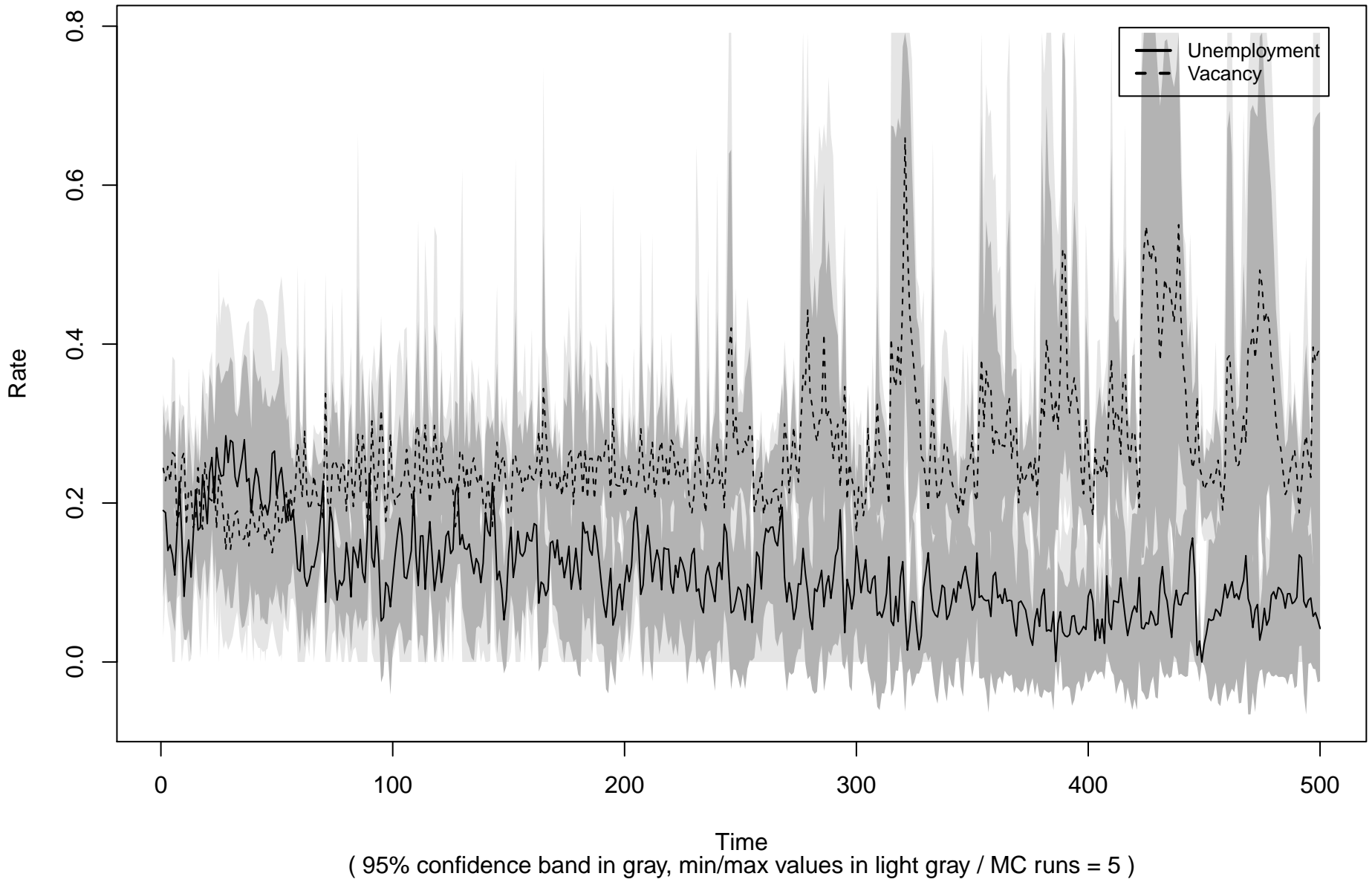
## Total credit supply and loans on GDP ( Free entry )



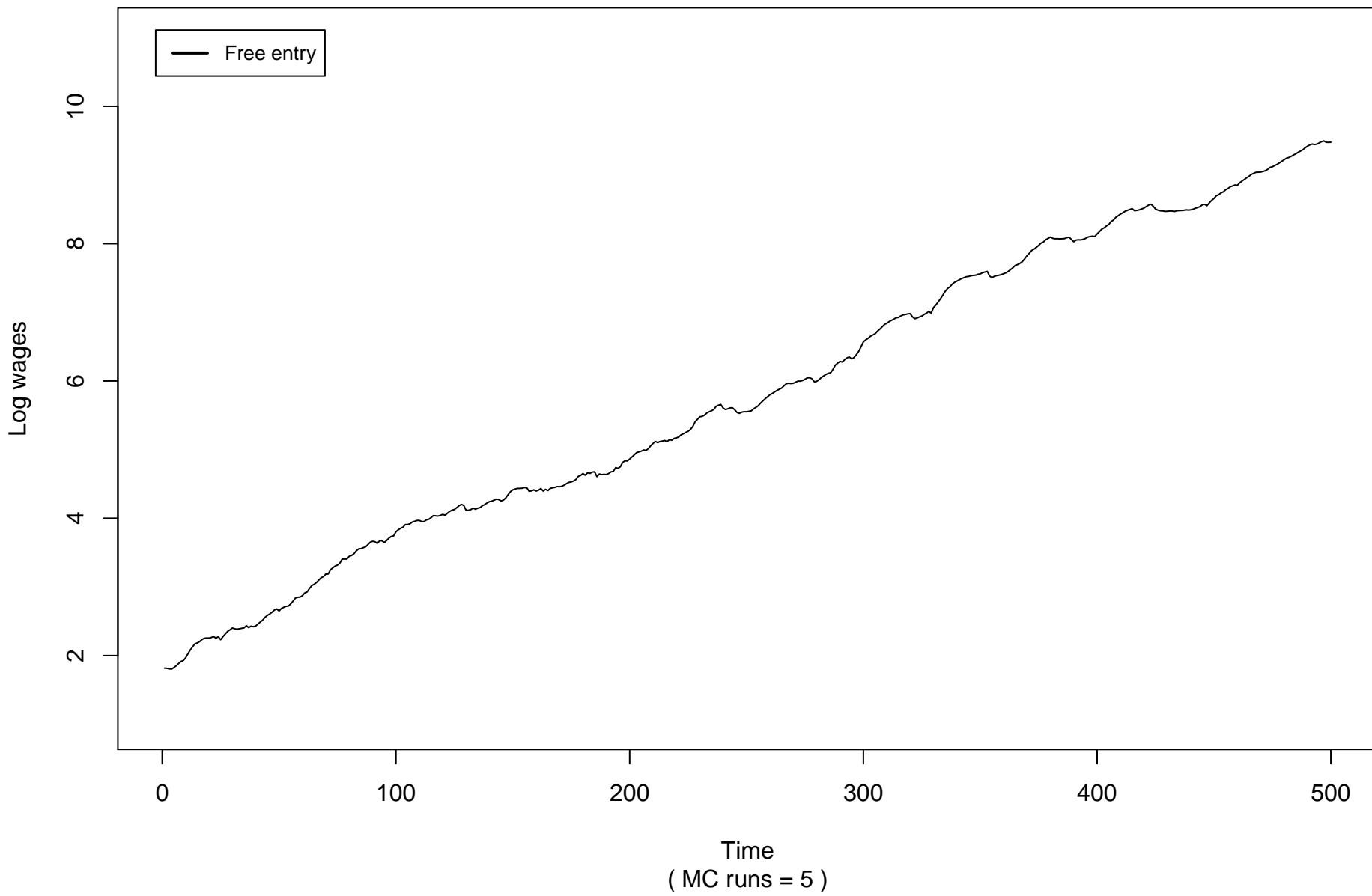
# Unemployment and vacancy rates ( all experiments )



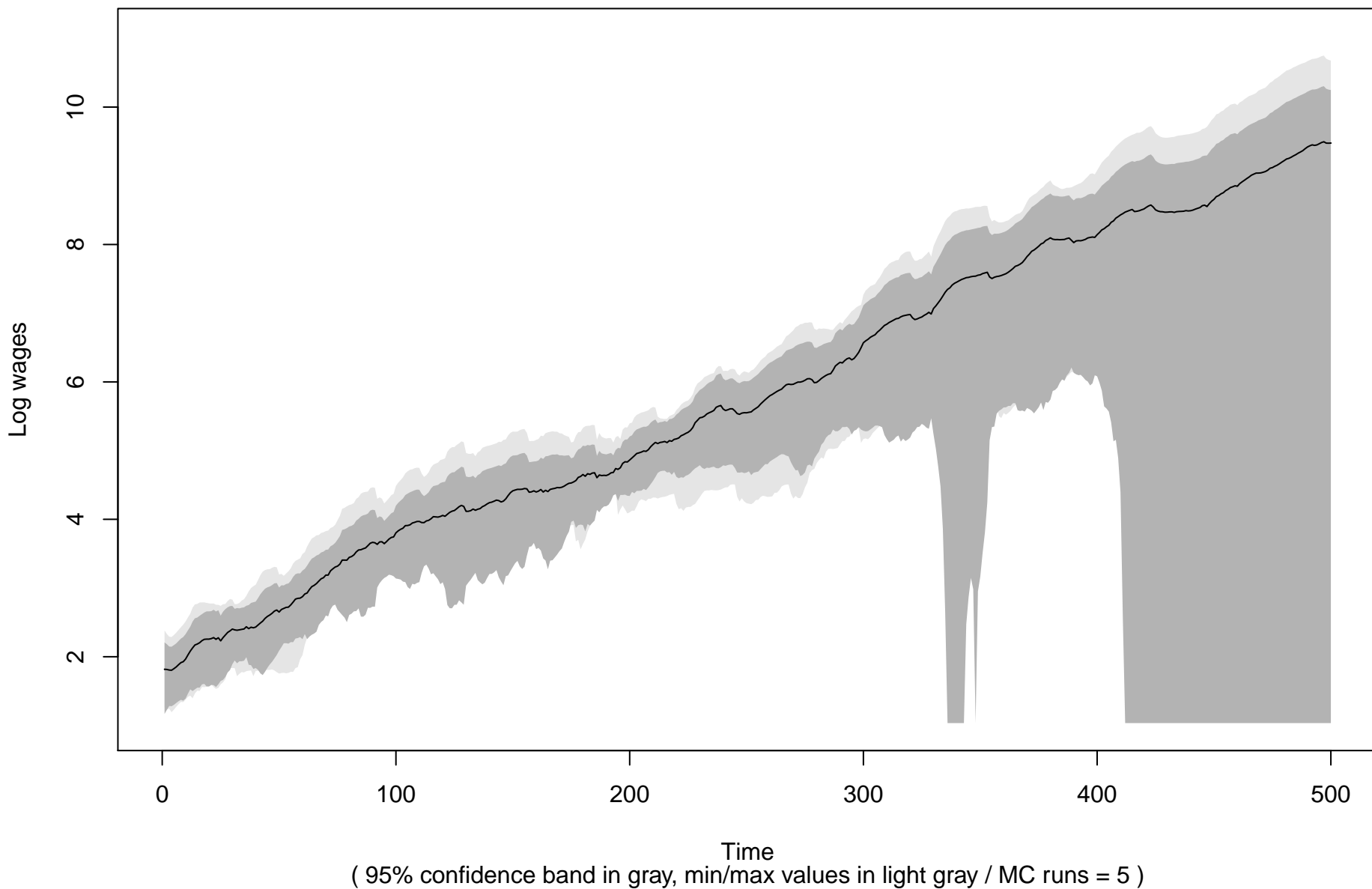
# Unemployment and vacancy rates ( Free entry )



Real wages average ( all experiments )

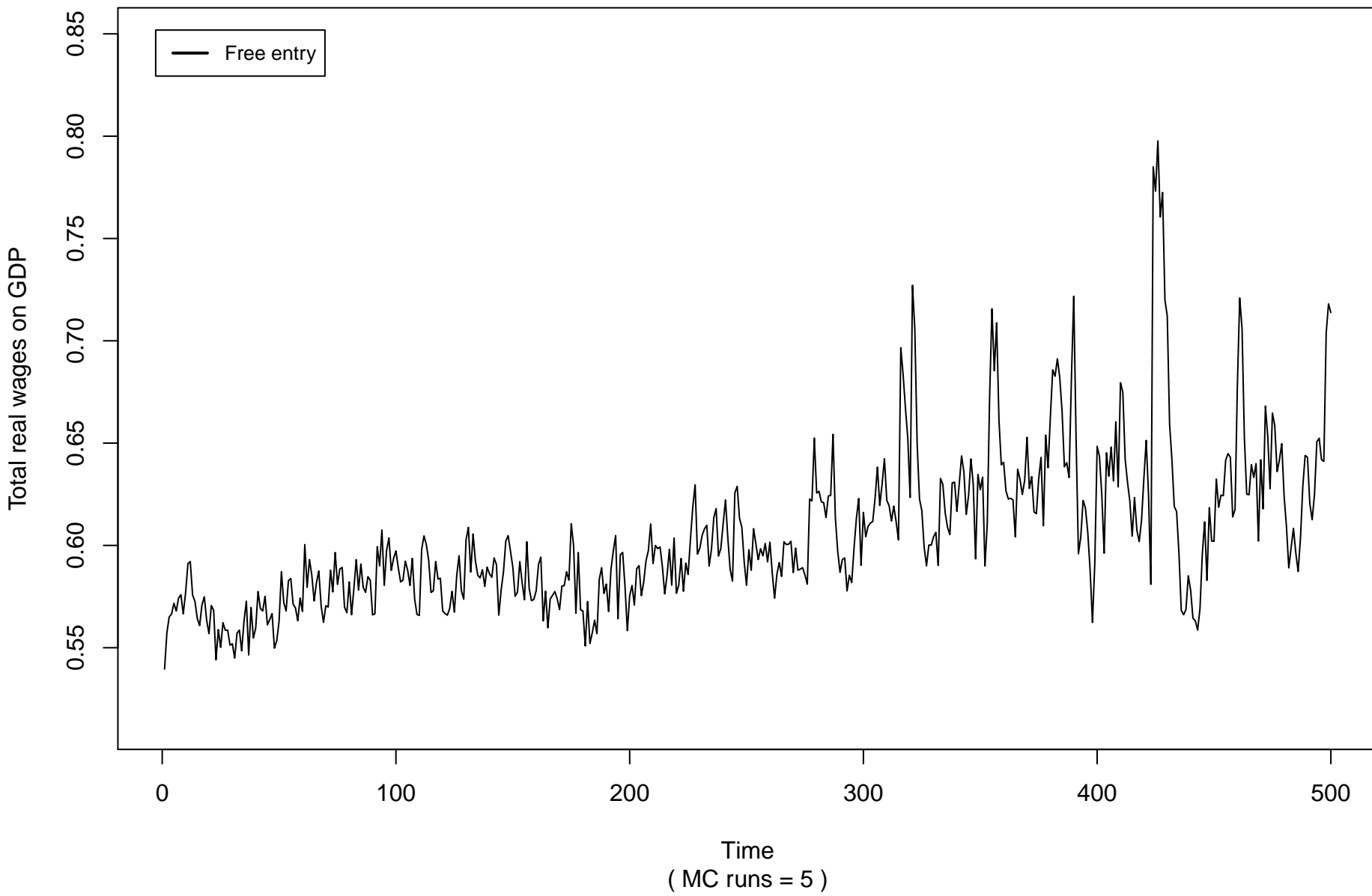


# Real wages average ( Free entry )

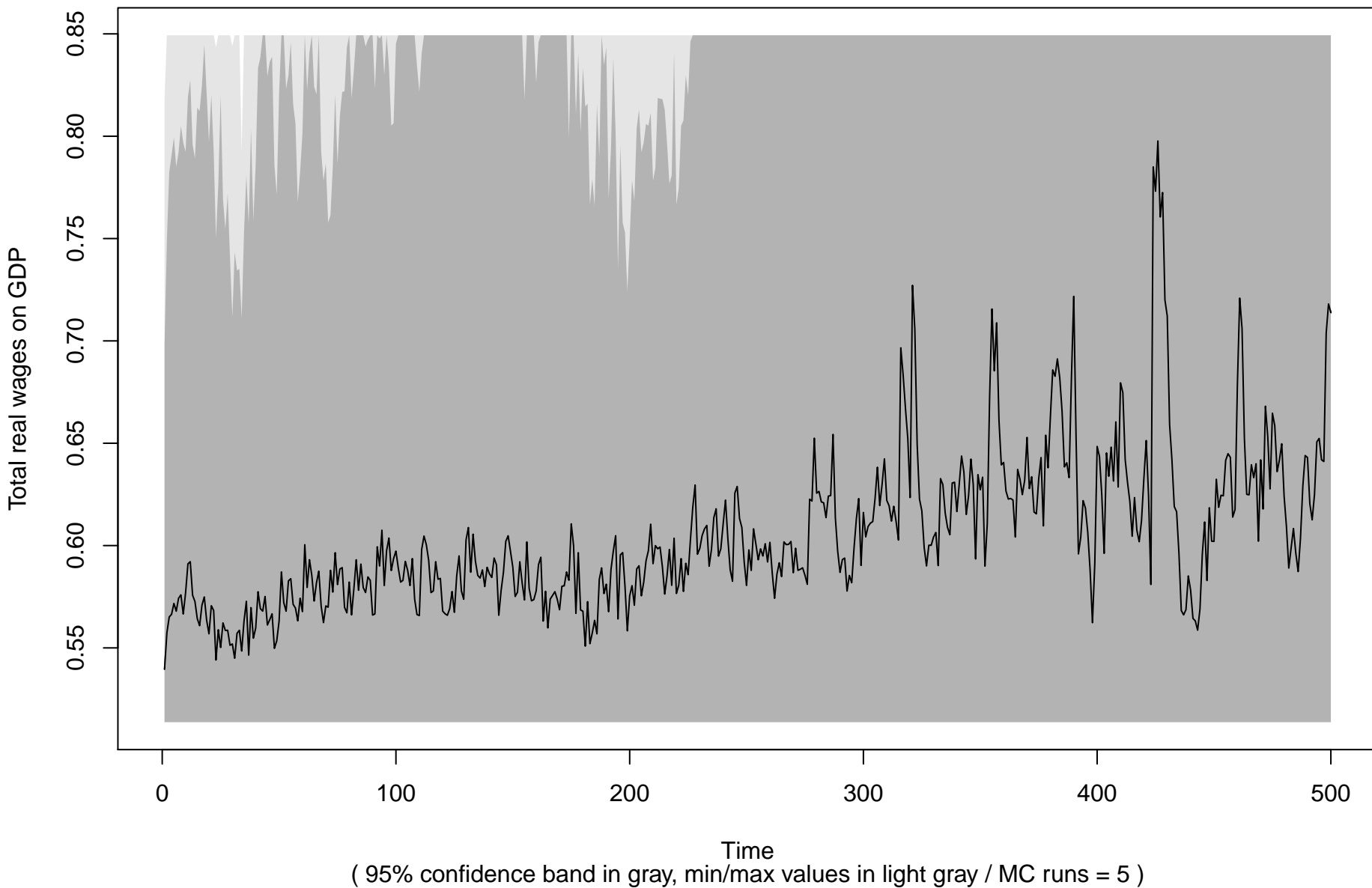




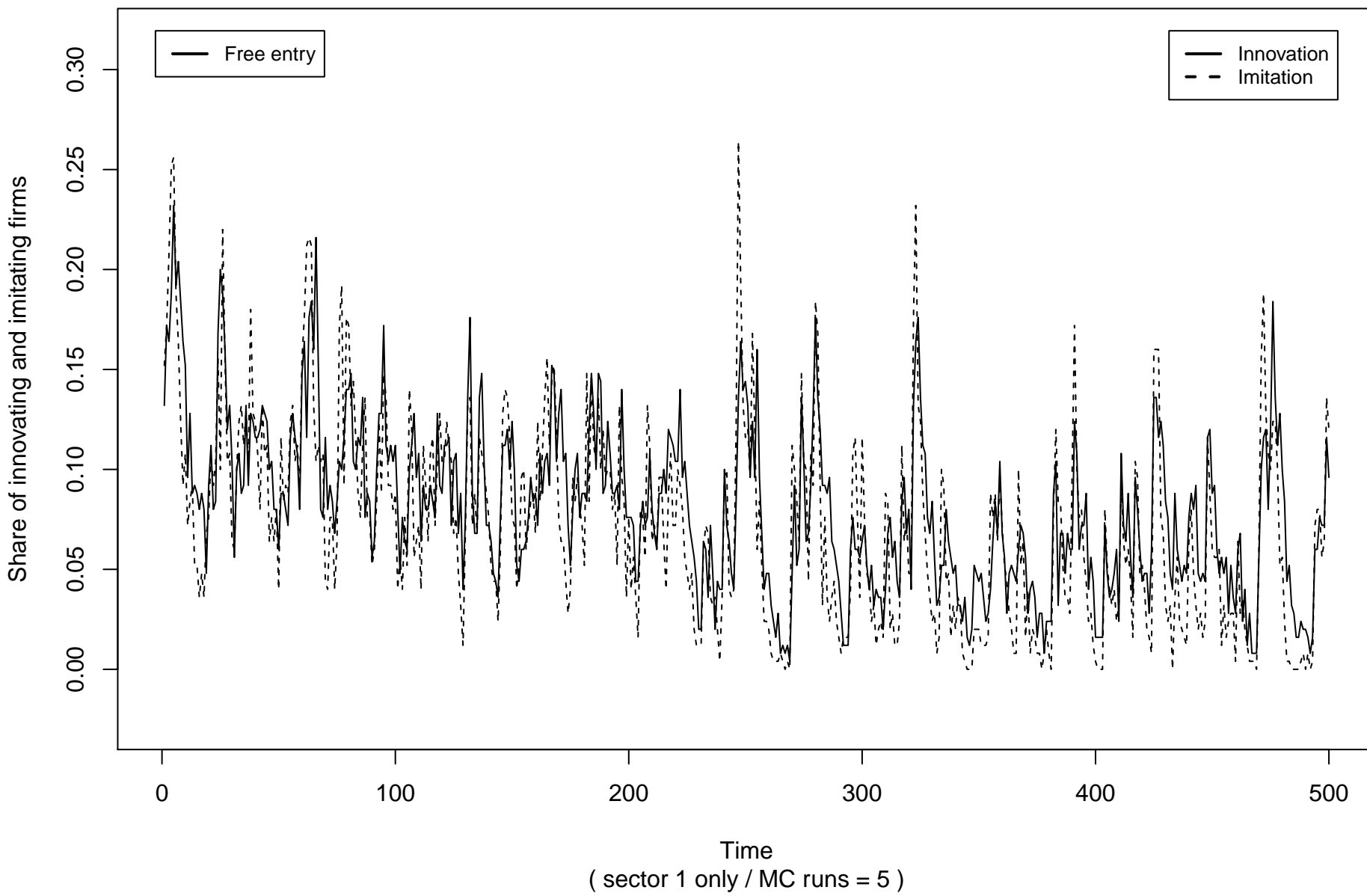
## Wage share ( all experiments )



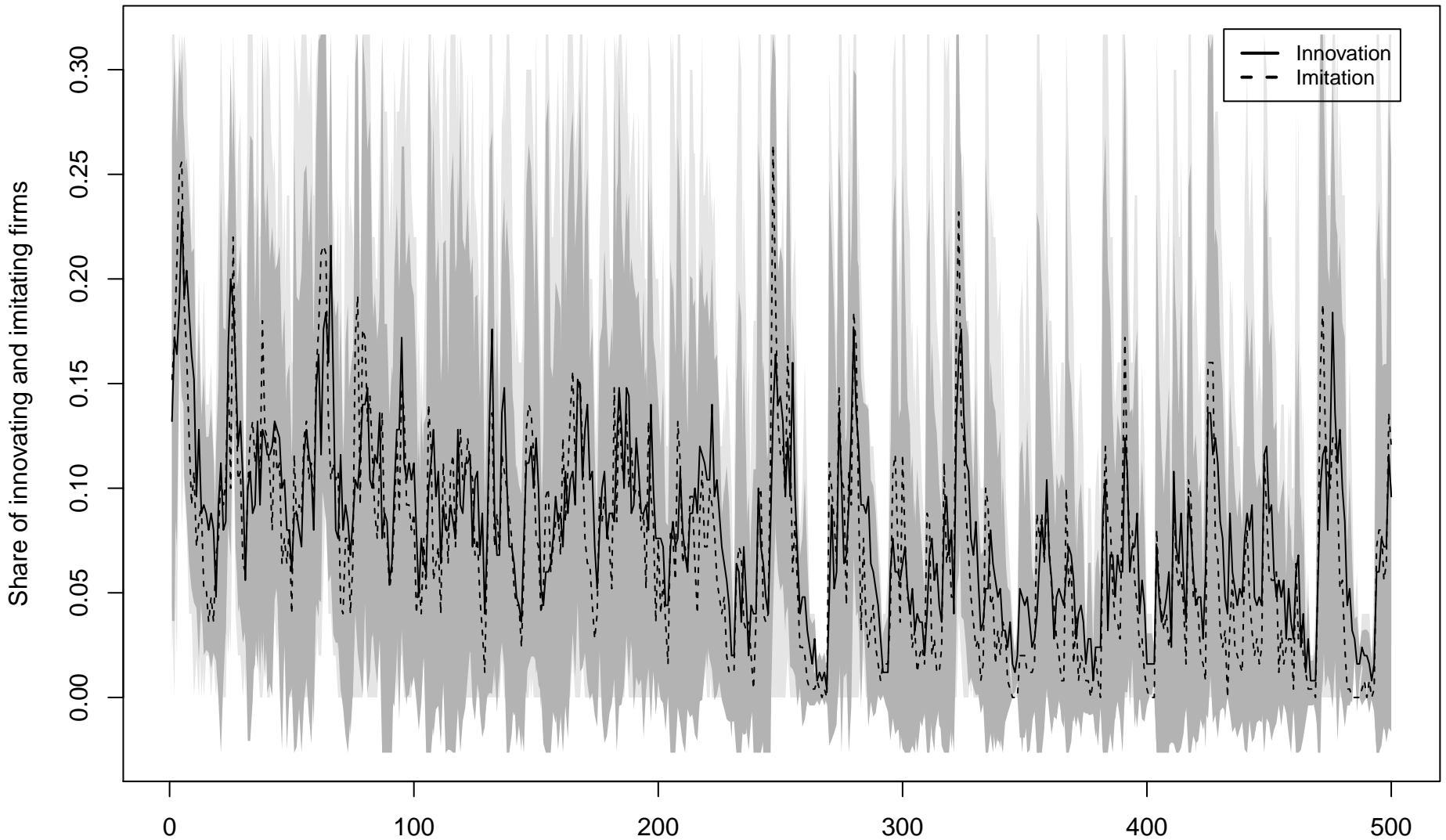
# Wage share ( Free entry )



# Innovation and imitation ( all experiments )

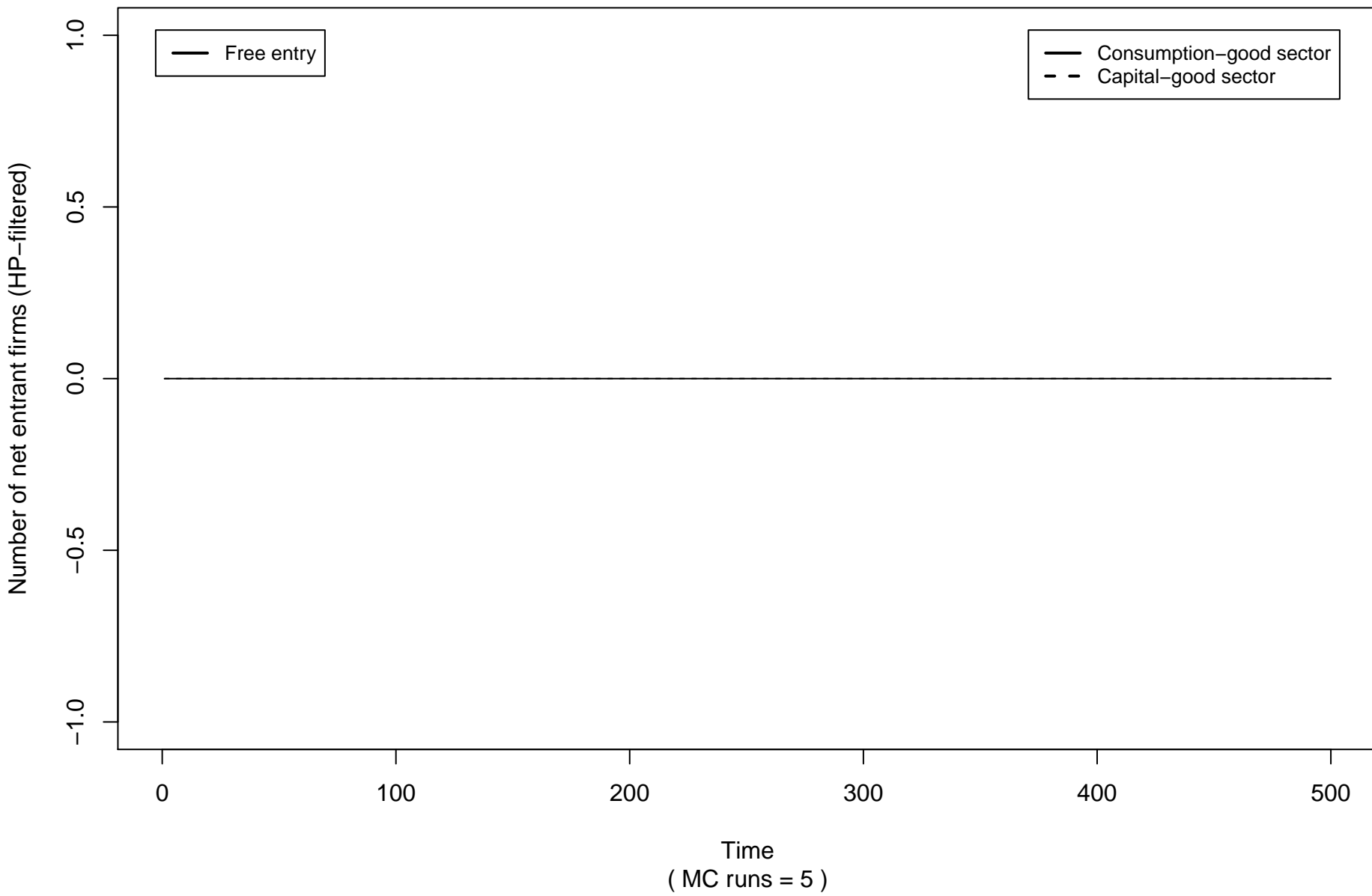


# Innovation and imitation ( Free entry )

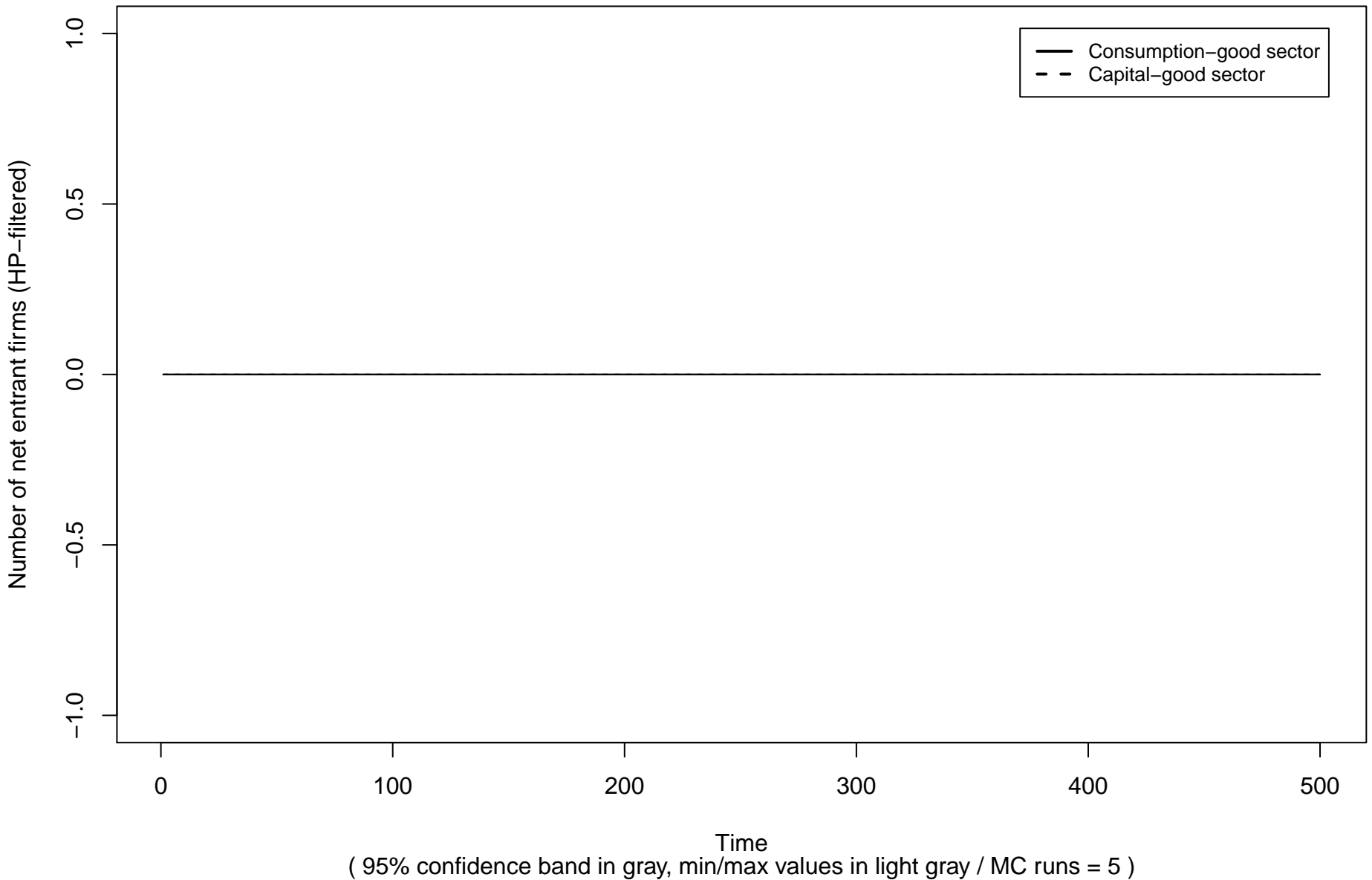


Time  
( 95% confidence band in gray, min/max values in light gray / sector 1 only / MC runs = 5 )

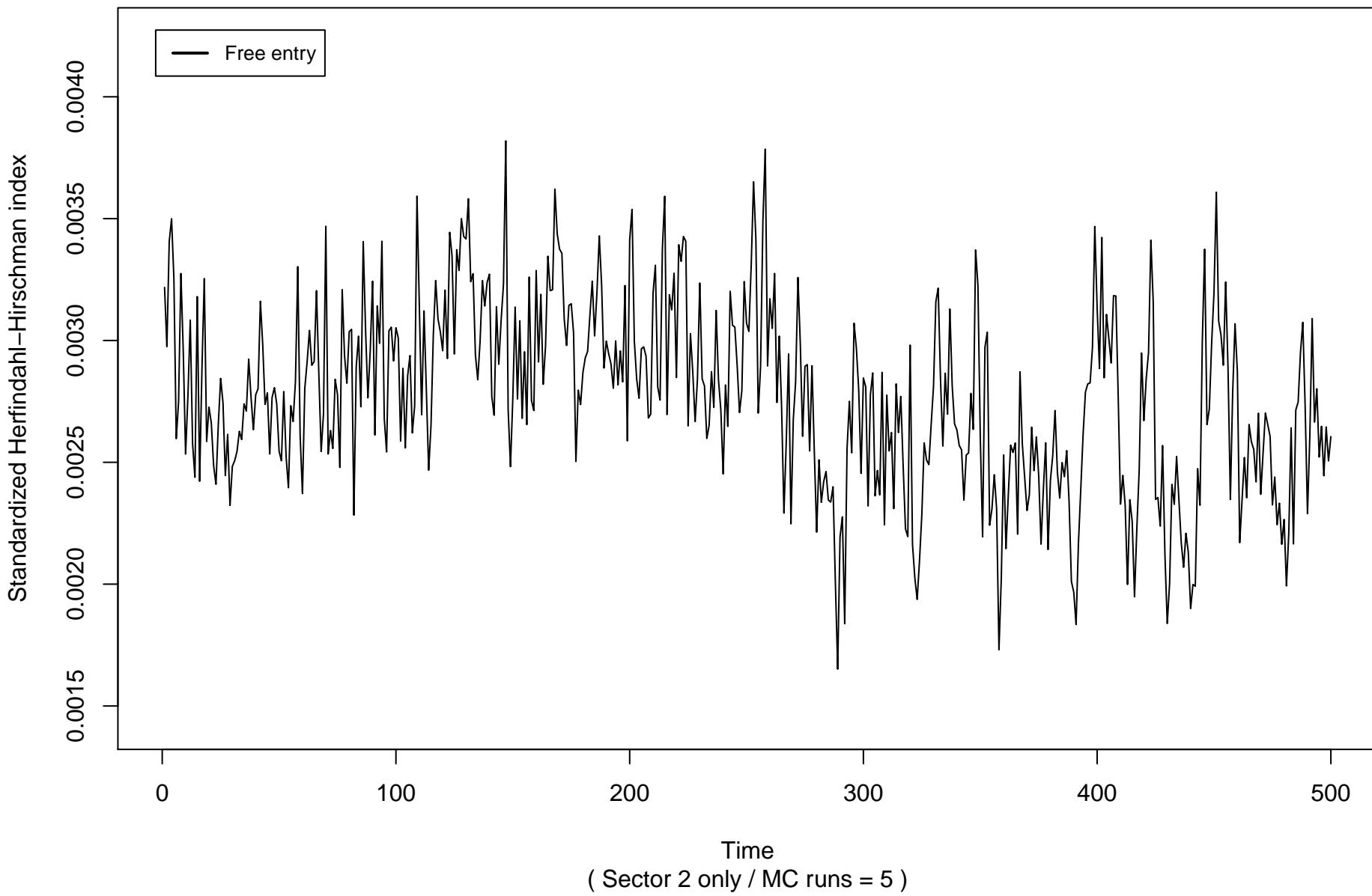
# Net entry of firms trend ( all experiments )



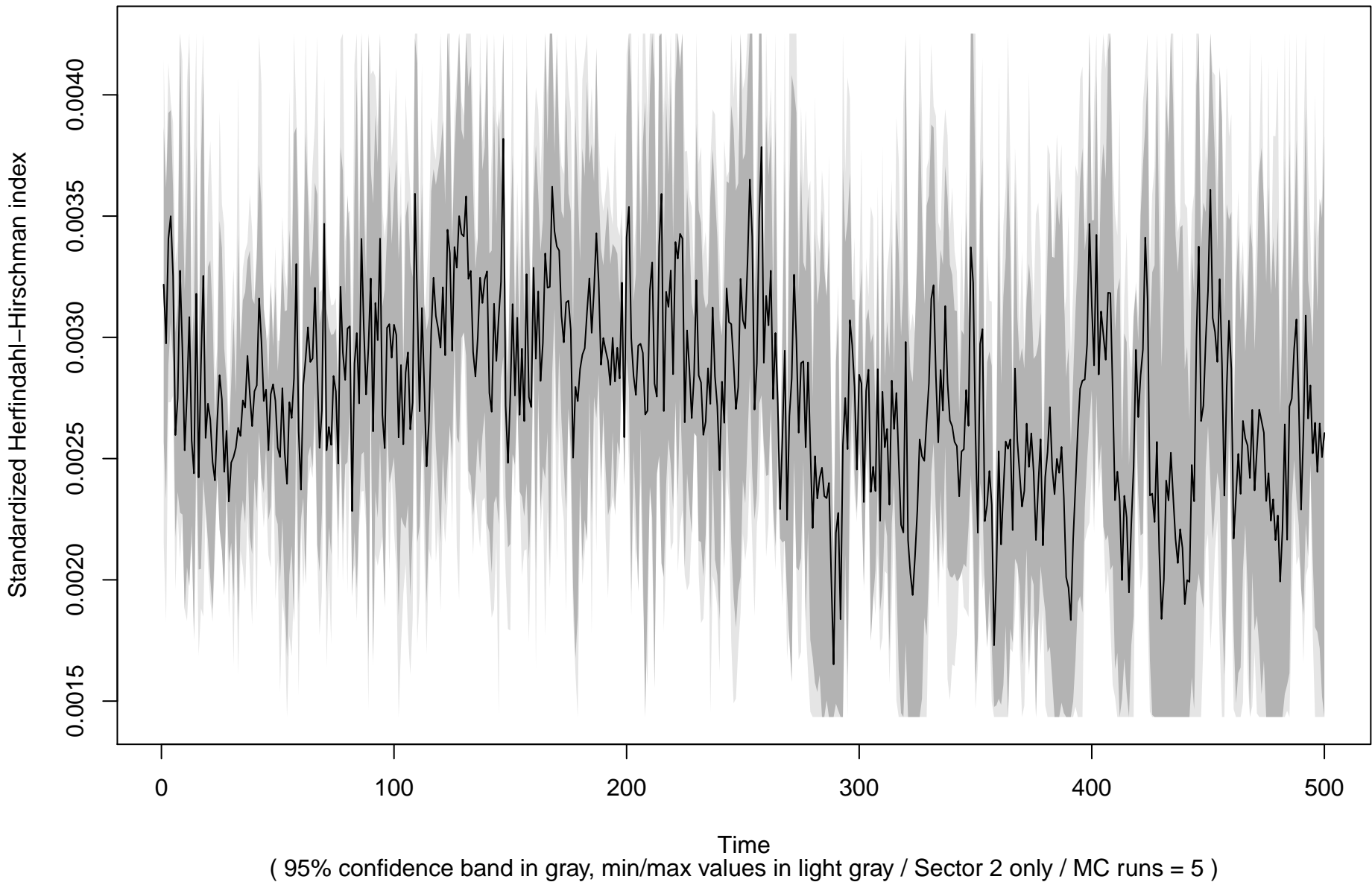
# Net entry of firms trend ( Free entry )



# Market concentration ( all experiments )

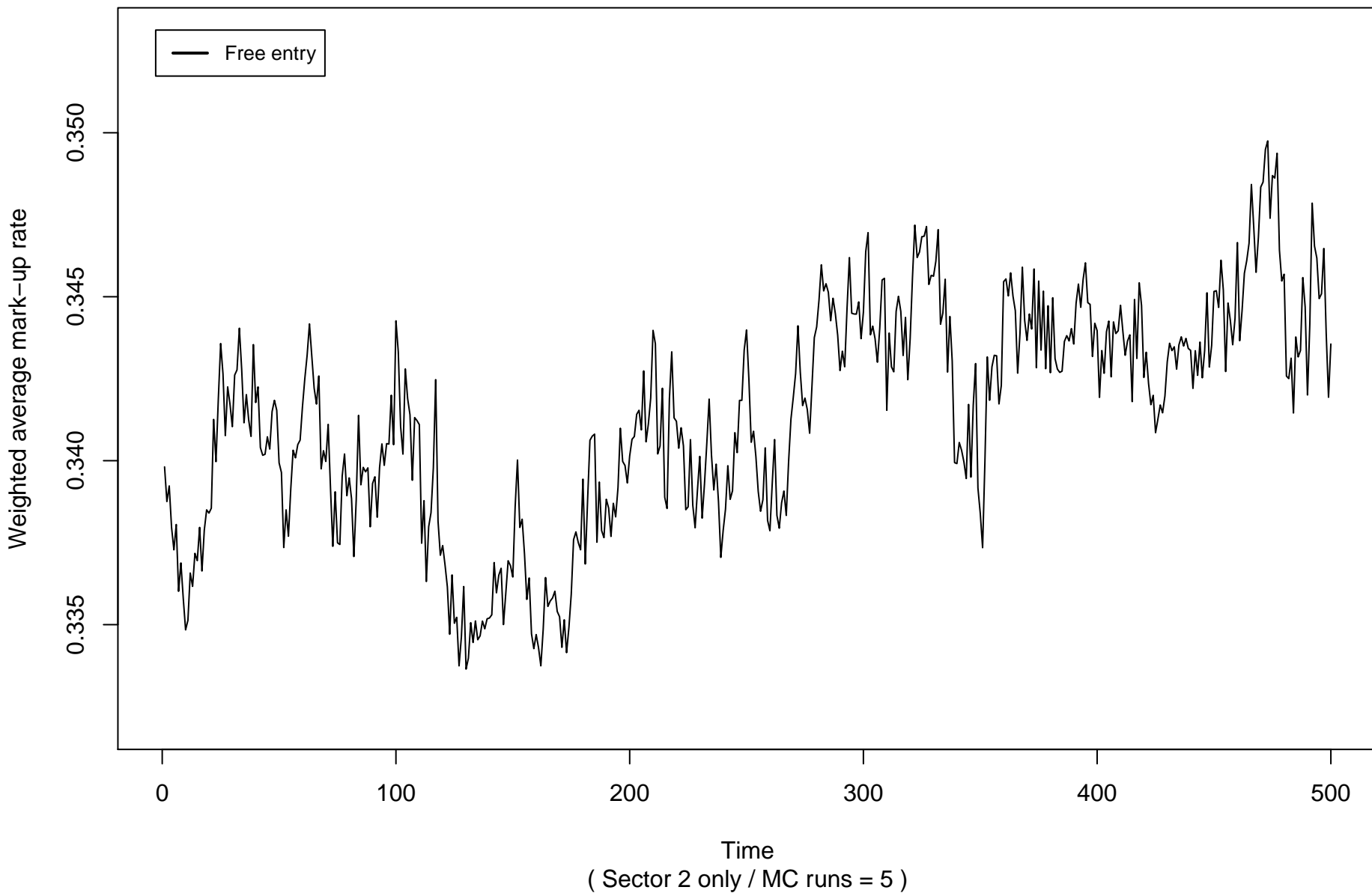


# Market concentration ( Free entry )

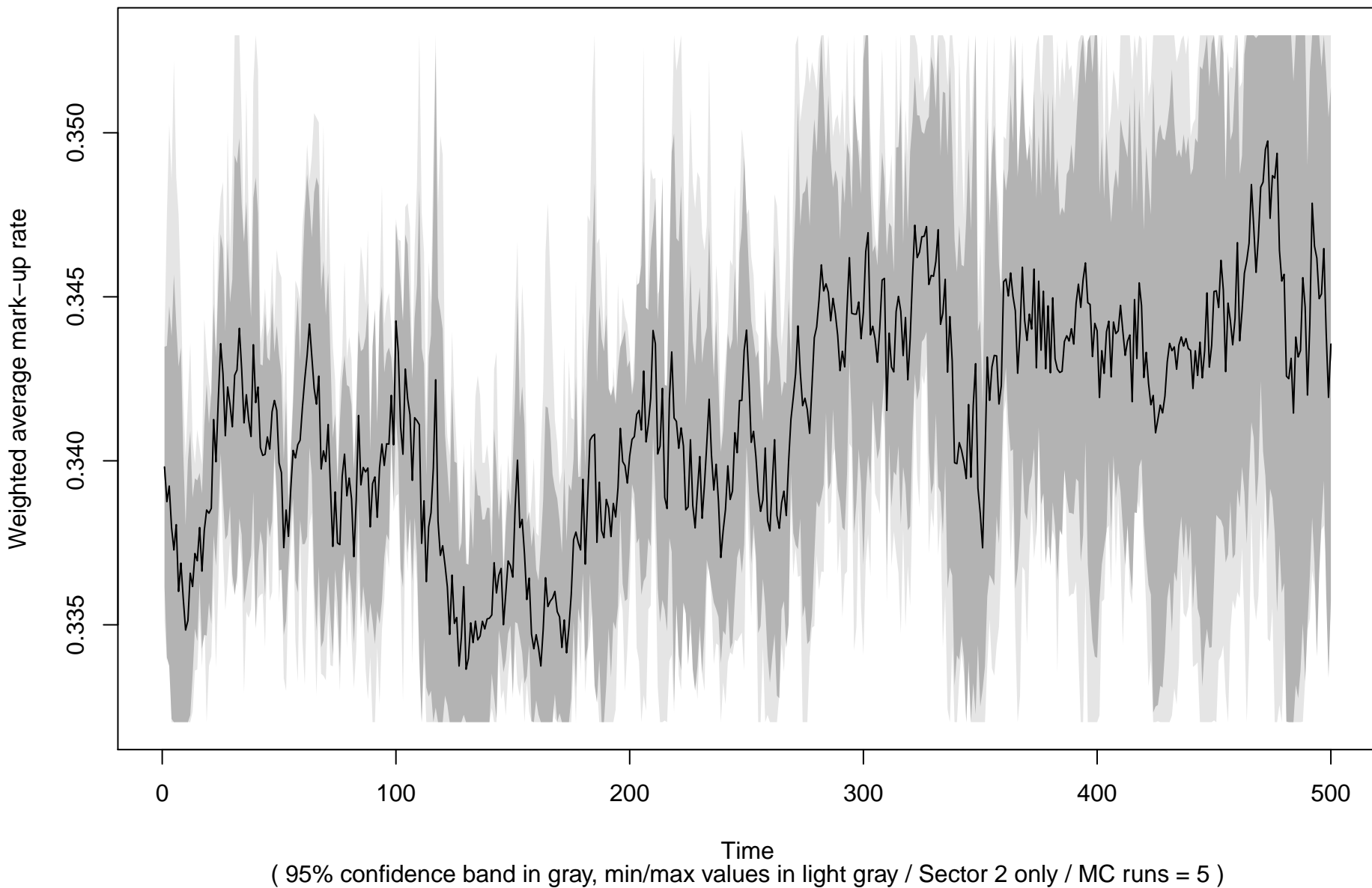




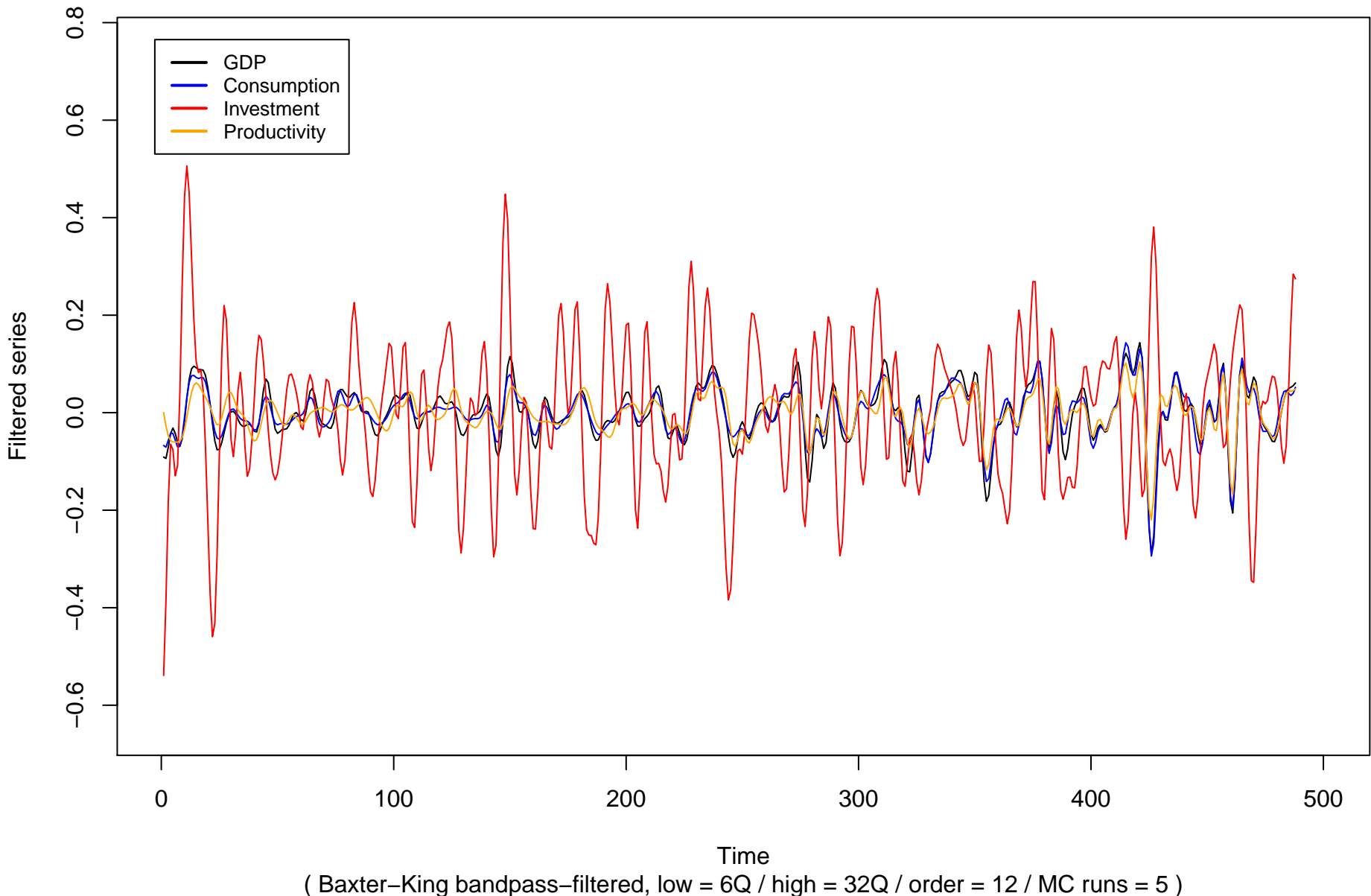
# Mark-up average ( all experiments )



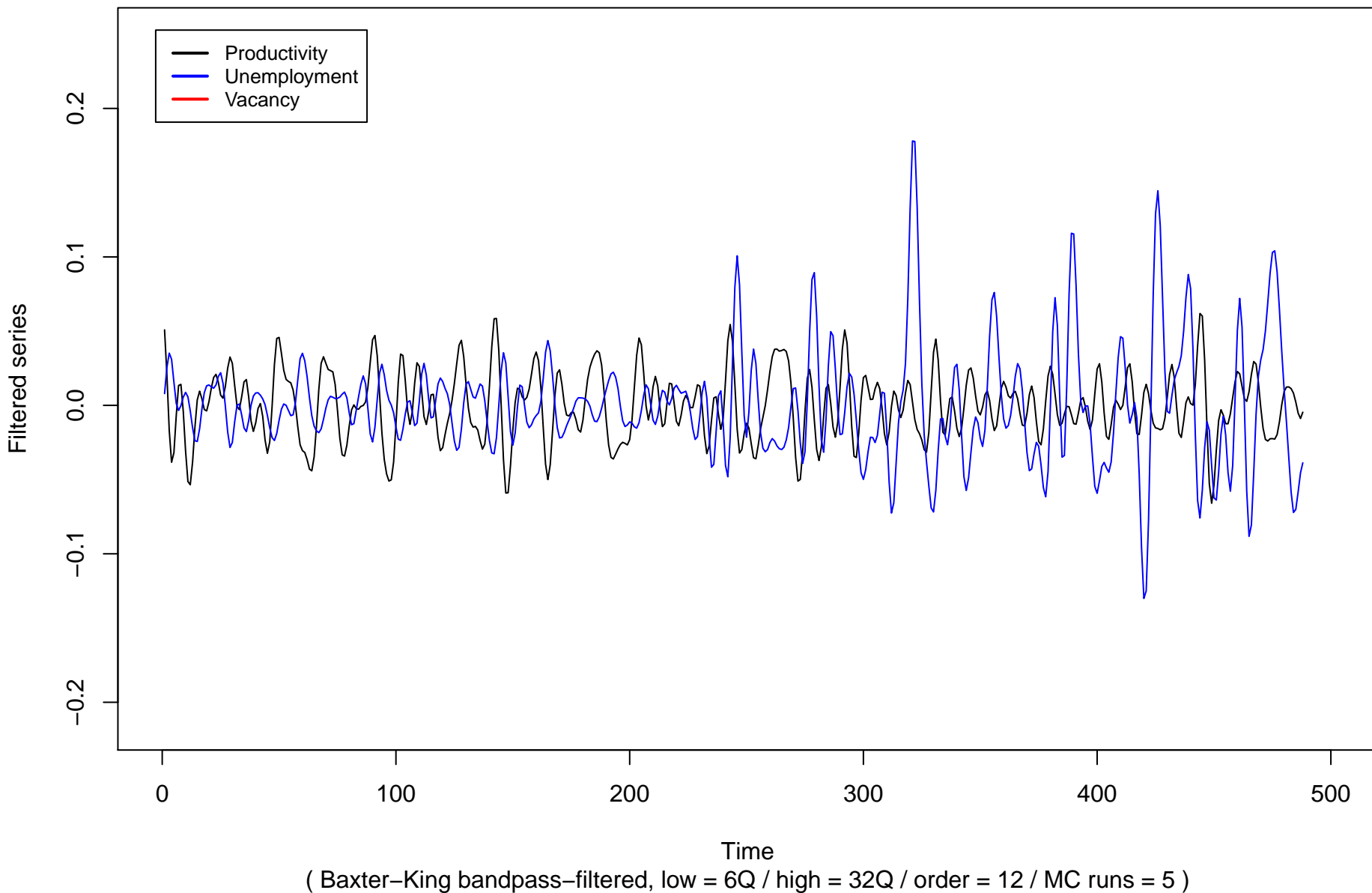
# Mark-up average ( Free entry )



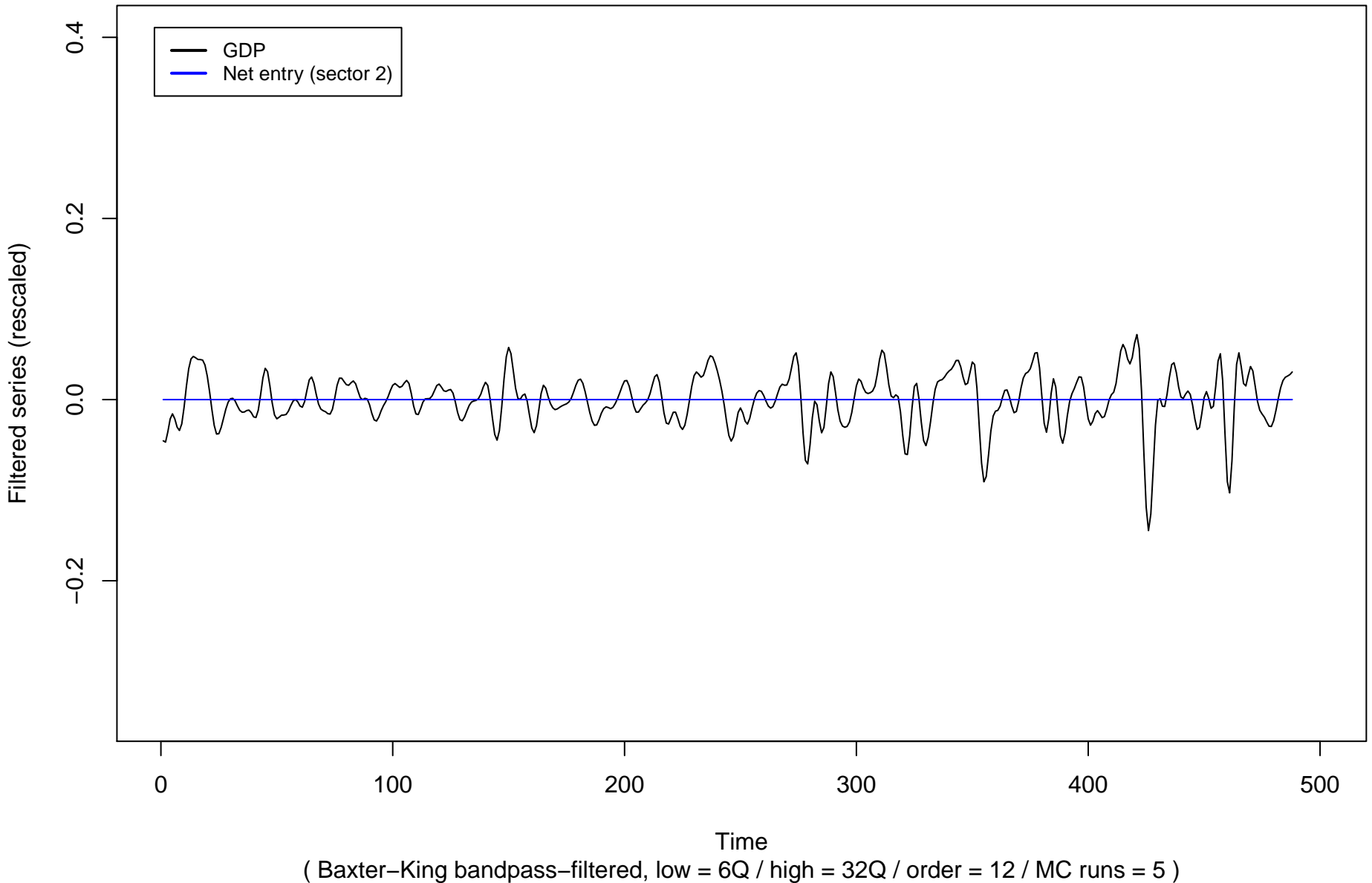
**GDP cycles ( Free entry )**



## Shimer puzzle ( Free entry )



## Net entry dynamics and business cycle ( Free entry )



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

	<b>GDP (output)</b>	<b>Consumption</b>	<b>Investment</b>	<b>Product.</b>	<b>Real wage</b>
<b>avg. growth rate</b>	0.01285	0.01292	0.01205	0.01249	0.01303
<b>(s.e.)</b>	0.00139	0.00152	0.001016	0.001471	0.001743
<b>ADF test (logs)</b>	−2.944	−2.759	−6.968	−2.577	−2.899
<b>(s.e.)</b>	0.6189	0.5474	0.2119	0.4821	0.604
<b>(p−val.)</b>	0.3368	0.3663	0.01	0.3691	0.3469
<b>(s.e.)</b>	0.1765	0.1689	0	0.1697	0.1727
<b>ADF test (bpf)</b>	−5.532	−6.016	−6.751	−5.699	−5.733
<b>(s.e.)</b>	0.4721	0.5687	0.0653	0.3996	0.2139
<b>(p−val.)</b>	0.01	0.01	0.01	0.01	0.01
<b>(s.e.)</b>	0	0	0	0	0
<b>s.d. (bpf)</b>	0.1024	0.08741	1.46	0.07249	0.06497
<b>(s.e.)</b>	0.006578	0.007259	0.1224	0.004439	0.005956
<b>relative s.d. (GDP)</b>	1	0.8532	14.25	0.7076	0.6342

( 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
<b>GDP (output)</b>	0.005728	0.2834	0.6154	0.8913	1	0.8913	0.6154	0.2834	0.005728
(s.e.)	0.04236	0.03852	0.02383	0.007165	2.483e-17	0.007165	0.02383	0.03852	0.04236
(p-val.)	0.6323	0.003086	1.162e-05	1.824e-08	NA	1.824e-08	1.162e-05	0.003086	0.6323
<b>Consumption</b>	0.07046	0.3286	0.6192	0.8544	0.9467	0.8547	0.6161	0.3192	0.05611
(s.e.)	0.04115	0.03987	0.02703	0.01065	0.006195	0.01108	0.02357	0.03689	0.04207
(p-val.)	0.2672	0.001686	1.864e-05	1.073e-07	7.829e-09	1.253e-07	1.106e-05	0.001458	0.374
<b>Investment</b>	-0.2735	-0.3995	-0.448	-0.3529	-0.1136	0.1884	0.4326	0.5297	0.4681
(s.e.)	0.01995	0.03439	0.04309	0.04196	0.03287	0.02679	0.03303	0.04068	0.044
(p-val.)	0.000316	0.0003736	0.0005162	0.001443	0.1824	0.007781	0.000218	0.0001905	0.0004557
<b>Net investment</b>	-0.2402	-0.3674	-0.4252	-0.346	-0.124	0.1652	0.4048	0.5051	0.4514
(s.e.)	0.01697	0.02611	0.03614	0.03914	0.0376	0.03865	0.04273	0.04475	0.04551
(p-val.)	0.0003512	0.0001936	0.0003353	0.001225	0.1533	0.04617	0.0008038	0.000343	0.0006139
<b>Change in inventories</b>	-0.2572	-0.177	0.02323	0.2591	0.4121	0.4096	0.2731	0.09372	-0.03507
(s.e.)	0.06237	0.04795	0.03295	0.03726	0.04658	0.04766	0.04476	0.04216	0.03872
(p-val.)	0.0234	0.05658	0.8395	0.004303	0.001024	0.001147	0.006258	0.3807	0.562
<b>Unemployment rate</b>	0.2728	0.3122	0.2689	0.1405	-0.03209	-0.1818	-0.2563	-0.2452	-0.1789
(s.e.)	0.02119	0.01744	0.02834	0.03953	0.04342	0.04037	0.0393	0.04115	0.04133
(p-val.)	0.0004044	9.196e-05	0.001315	0.1003	0.3165	0.03261	0.005469	0.007962	0.03752
<b>Productivity</b>	0.07172	0.298	0.57	0.8001	0.8952	0.809	0.579	0.2942	0.0461
(s.e.)	0.0555	0.05336	0.03474	0.02253	0.02513	0.02339	0.03436	0.04569	0.03757
(p-val.)	0.1127	0.007522	7.333e-05	2.853e-06	2.691e-06	3.159e-06	6.535e-05	0.004702	0.5865
<b>Mark-up (sector 2)</b>	0.1733	0.1233	0.03874	-0.0567	-0.1309	-0.1636	-0.1542	-0.1232	-0.09515
(s.e.)	0.04825	0.04432	0.04907	0.04806	0.04513	0.04669	0.04646	0.03968	0.0293
(p-val.)	0.06269	0.1919	0.526	0.4288	0.1614	0.07403	0.09279	0.1686	0.3163
<b>Total firm debt</b>	-0.02955	-0.1246	-0.2112	-0.2646	-0.2707	-0.2328	-0.1732	-0.1158	-0.07429
(s.e.)	0.04527	0.03607	0.04055	0.04975	0.04958	0.04031	0.03526	0.04375	0.05432
(p-val.)	0.5153	0.1419	0.01592	0.01033	0.009177	0.009632	0.02869	0.2294	0.4294
<b>Liquidity-to-sales ratio</b>	0.1405	-0.1157	-0.3976	-0.6277	-0.7405	-0.7129	-0.5774	-0.3938	-0.2167
(s.e.)	0.03175	0.02683	0.03451	0.04135	0.04008	0.0357	0.03205	0.02767	0.03159
(p-val.)	0.06469	0.1273	0.0003876	9.387e-05	3.971e-05	2.976e-05	5.032e-05	0.0001724	0.006183
<b>Bankruptcy rate</b>	0.4578	0.485	0.3989	0.2115	-0.01205	-0.1904	-0.2754	-0.2735	-0.229
(s.e.)	0.05973	0.08915	0.1182	0.126	0.1046	0.06463	0.03	0.02871	0.03895
(p-val.)	0.001599	0.00524	0.02691	0.006973	0.1392	0.08149	0.001435	0.001263	0.009345

( 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 )

	<b>-4</b>	<b>-3</b>	<b>-2</b>	<b>-1</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>GDP (output)</b>	0.005728	0.2834	0.6154	0.8913	1	0.8913	0.6154	0.2834	0.005728
<b>(s.e.)</b>	0.04236	0.03852	0.02383	0.007165	2.483e-17	0.007165	0.02383	0.03852	0.04236
<b>(p-val.)</b>	0.6323	0.003086	1.162e-05	1.824e-08	NA	1.824e-08	1.162e-05	0.003086	0.6323
<b>Consumption</b>	0.07046	0.3286	0.6192	0.8544	0.9467	0.8547	0.6161	0.3192	0.05611
<b>(s.e.)</b>	0.04115	0.03987	0.02703	0.01065	0.006195	0.01108	0.02357	0.03689	0.04207
<b>(p-val.)</b>	0.2672	0.001686	1.864e-05	1.073e-07	7.829e-09	1.253e-07	1.106e-05	0.001458	0.374
<b>Investment</b>	-0.2735	-0.3995	-0.448	-0.3529	-0.1136	0.1884	0.4326	0.5297	0.4681
<b>(s.e.)</b>	0.01995	0.03439	0.04309	0.04196	0.03287	0.02679	0.03303	0.04068	0.044
<b>(p-val.)</b>	0.000316	0.0003736	0.0005162	0.001443	0.1824	0.007781	0.000218	0.0001905	0.0004557
<b>Productivity</b>	0.07172	0.298	0.57	0.8001	0.8952	0.809	0.579	0.2942	0.0461
<b>(s.e.)</b>	0.0555	0.05336	0.03474	0.02253	0.02513	0.02339	0.03436	0.04569	0.03757
<b>(p-val.)</b>	0.1127	0.007522	7.333e-05	2.853e-06	2.691e-06	3.159e-06	6.535e-05	0.004702	0.5865
<b>Net entry</b>	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
<b>(s.e.)</b>	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>(p-val.)</b>	1	1	1	1	1	1	1	1	1
<b>Entry</b>	-0.09283	0.08134	0.3024	0.5068	0.6227	0.6059	0.4708	0.2733	0.08304
<b>(s.e.)</b>	0.06276	0.0719	0.07541	0.07079	0.05832	0.04383	0.03538	0.03331	0.02928
<b>(p-val.)</b>	0.2879	0.07213	0.02101	0.001907	0.0003711	0.0001382	0.0001909	0.002193	0.4613
<b>Wage</b>	0.3746	0.5298	0.6453	0.6784	0.6101	0.4541	0.2596	0.07895	-0.05212
<b>(s.e.)</b>	0.0542	0.03959	0.04432	0.0602	0.06943	0.06589	0.04948	0.02859	0.02198
<b>(p-val.)</b>	0.002781	0.0001711	0.0001088	0.0002876	0.0007906	0.002375	0.01109	0.3273	0.8634
<b>Unemployment rate</b>	0.2728	0.3122	0.2689	0.1405	-0.03209	-0.1818	-0.2563	-0.2452	-0.1789
<b>(s.e.)</b>	0.02119	0.01744	0.02834	0.03953	0.04342	0.04037	0.0393	0.04115	0.04133
<b>(p-val.)</b>	0.0004044	9.196e-05	0.001315	0.1003	0.3165	0.03261	0.005469	0.007962	0.03752
<b>Vacancy rate</b>	0.04506	-0.1703	-0.4192	-0.6084	-0.6578	-0.5474	-0.3313	-0.1001	0.07015
<b>(s.e.)</b>	0.06336	0.04679	0.03737	0.04544	0.05449	0.05235	0.0469	0.04569	0.04225
<b>(p-val.)</b>	0.2093	0.06292	0.0004087	0.0001563	0.0002239	0.0004353	0.002926	0.153	0.4234

( 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 )

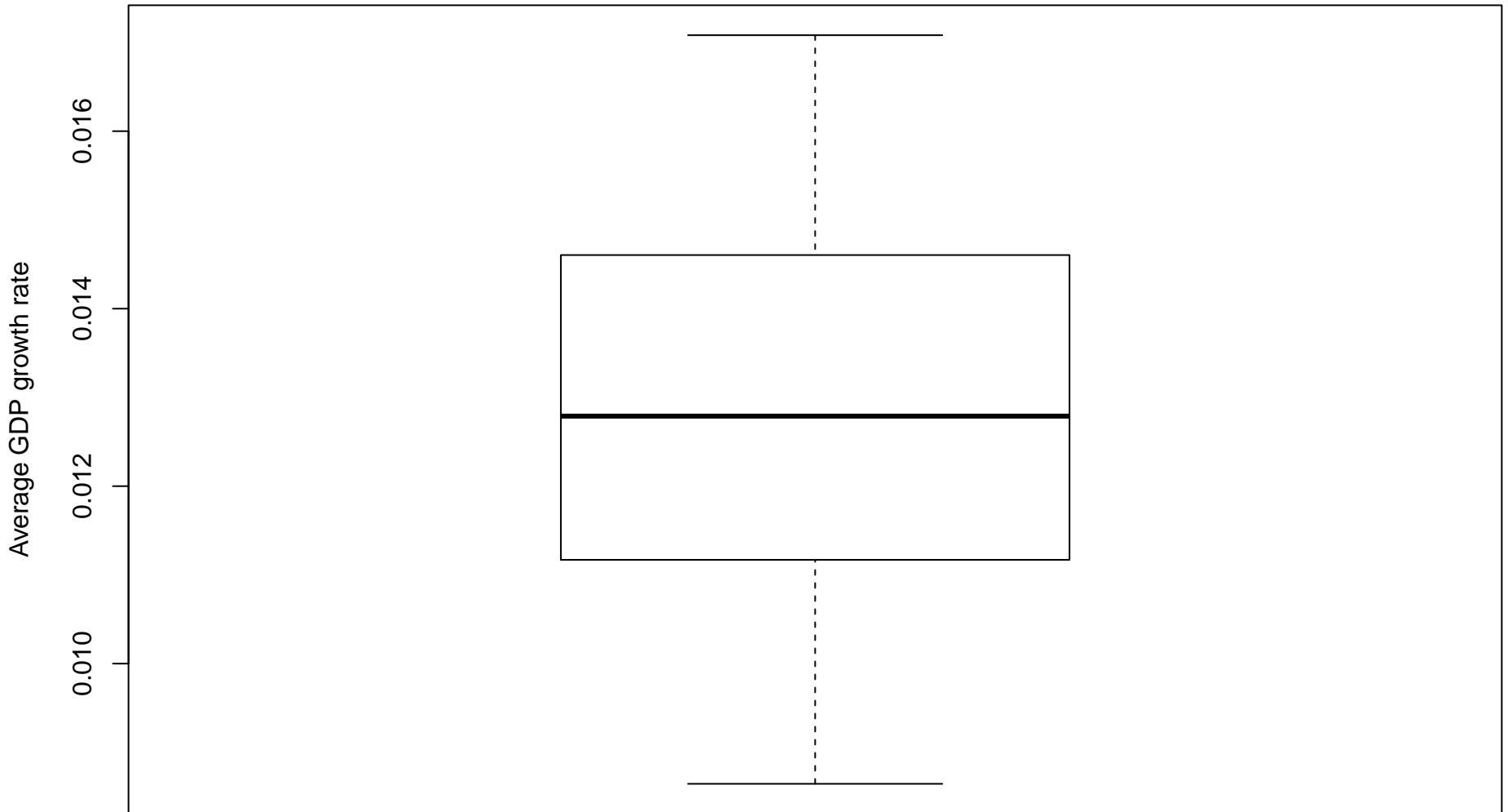
	avg.ADF	rej.ADF	avg.PP	rej.PP	avg.KPSS	rej.KPSS	avg.BDS	rej.BDS	avg.KS	rej.KS	AD	V
dGDP	0.01	1.00	0.01	1.00	0.10	0.00	0.05	0.80	0.40	0.00	0.20	C
dA	0.01	1.00	0.01	1.00	0.09	0.00	0.01	1.00	0.06	0.80	0.00	C
dw	0.01	1.00	0.01	1.00	0.10	0.00	0.01	1.00	0.06	0.90	0.00	C
V	0.01	1.00	0.01	1.00	0.07	0.40	0.04	0.80	0.03	0.90	0.00	C
U	0.01	1.00	0.01	1.00	0.04	0.60	0.00	1.00	0.02	0.90	0.00	C
mu2avg	0.03	0.80	0.01	1.00	0.04	0.60	0.00	1.00	0.00	1.00	0.00	C
HH1	0.01	1.00	0.01	1.00	0.09	0.00	0.00	1.00	0.23	0.50	0.00	C
HH2	0.01	1.00	0.01	1.00	0.04	0.60	0.00	1.00	0.05	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 )

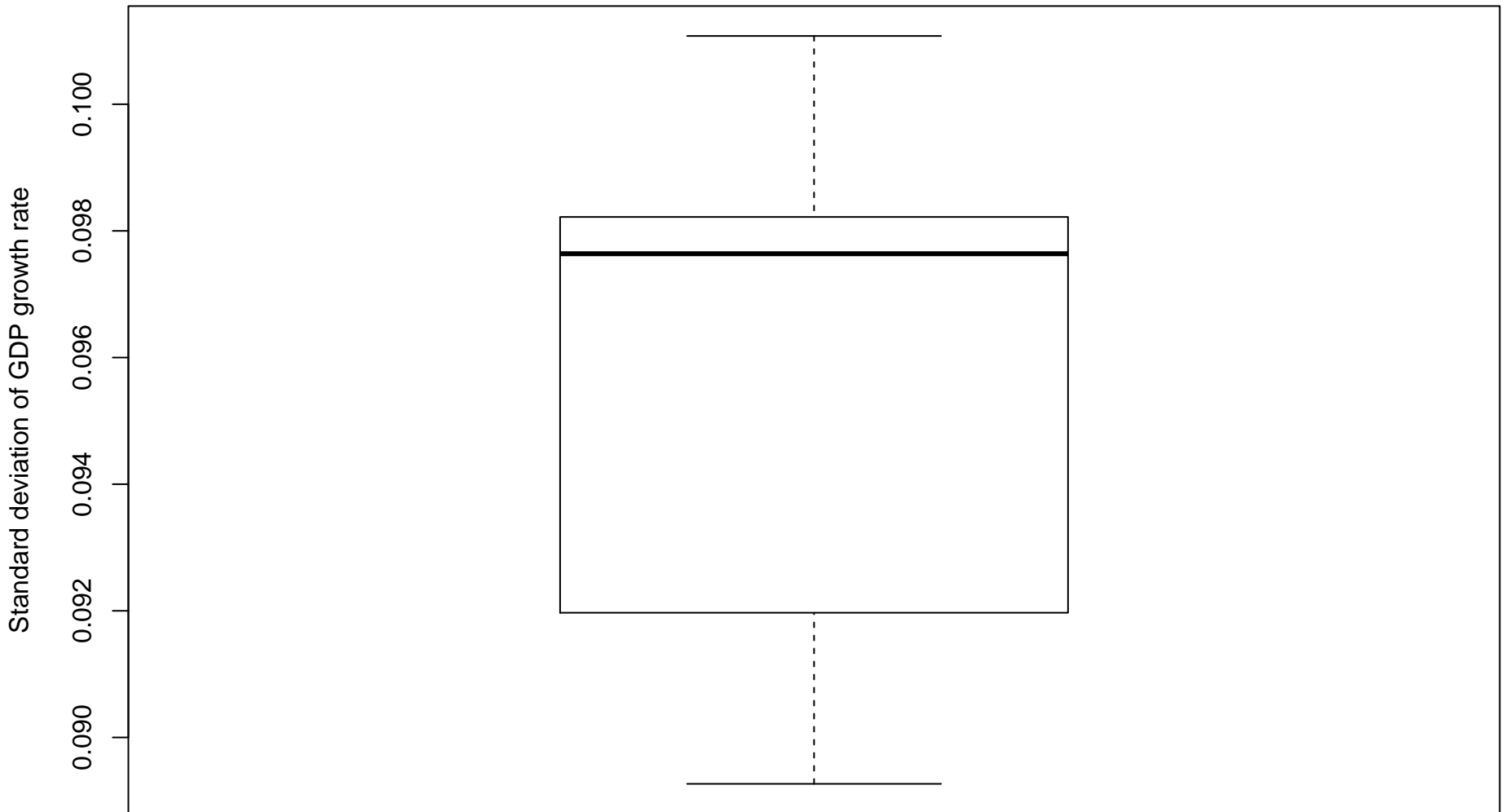
( significance = 0.05 )

## GDP growth



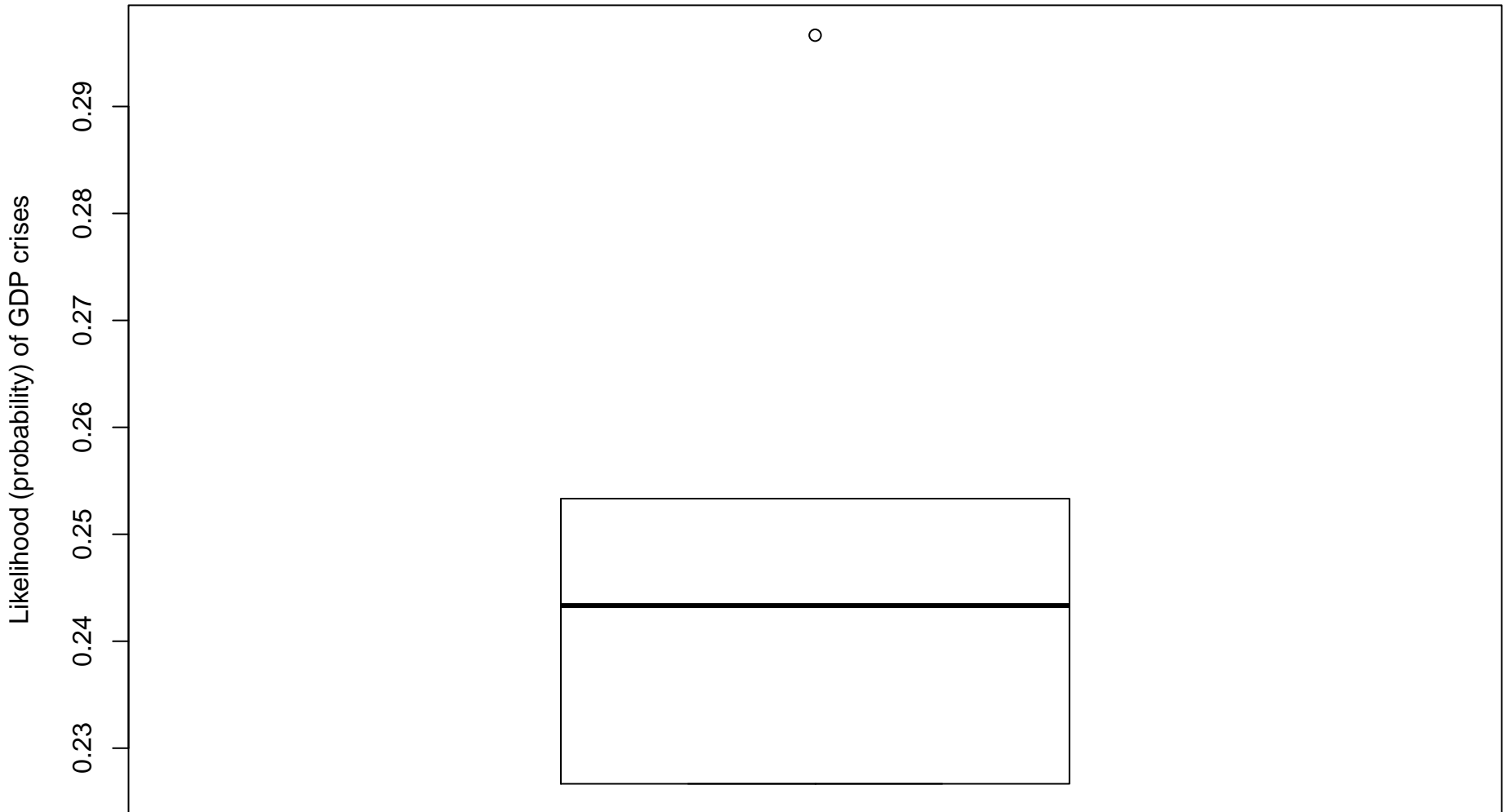
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600 )

## Volatility of GDP growth



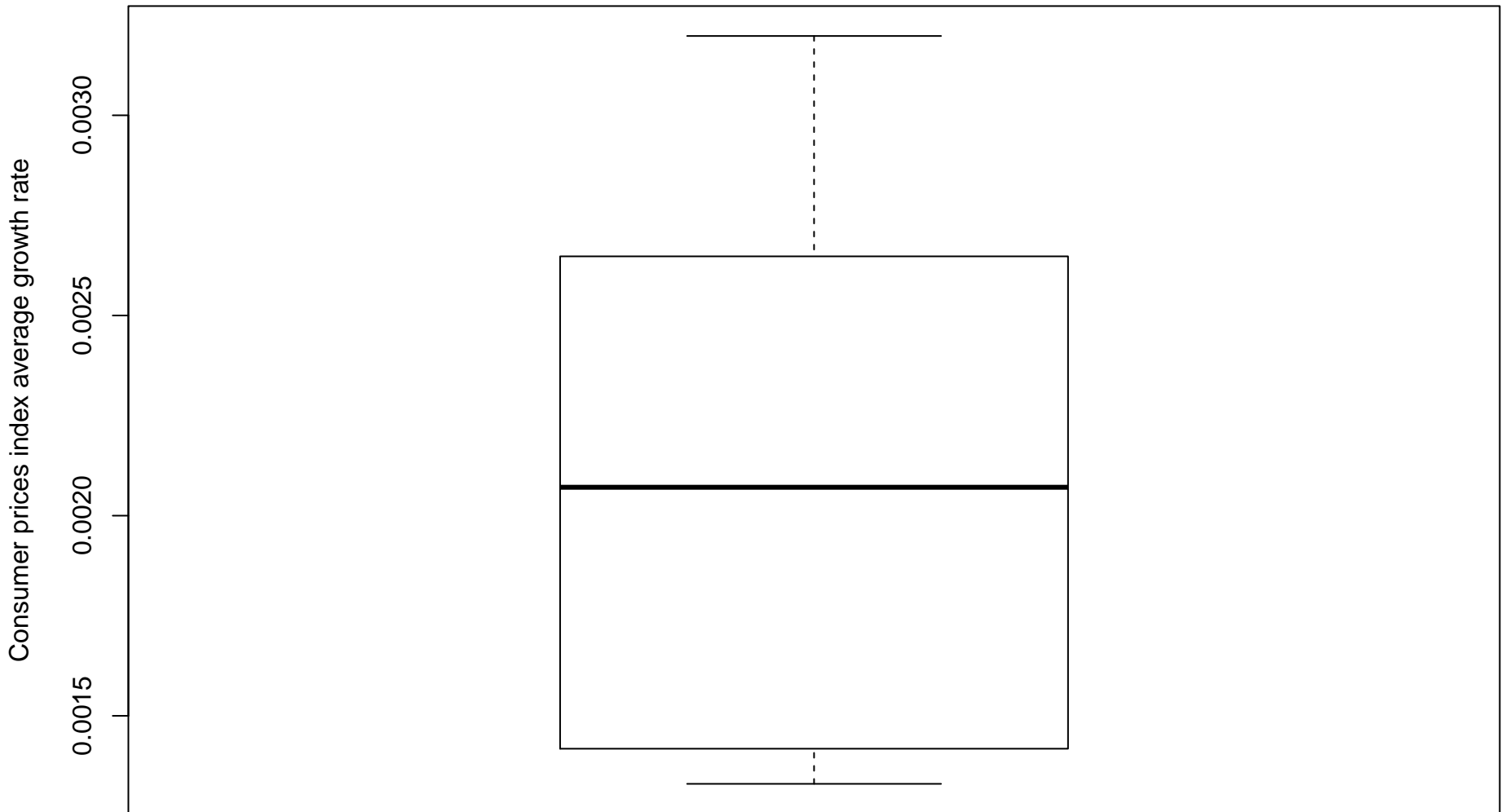
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600 )

## Likelihood of GDP crises



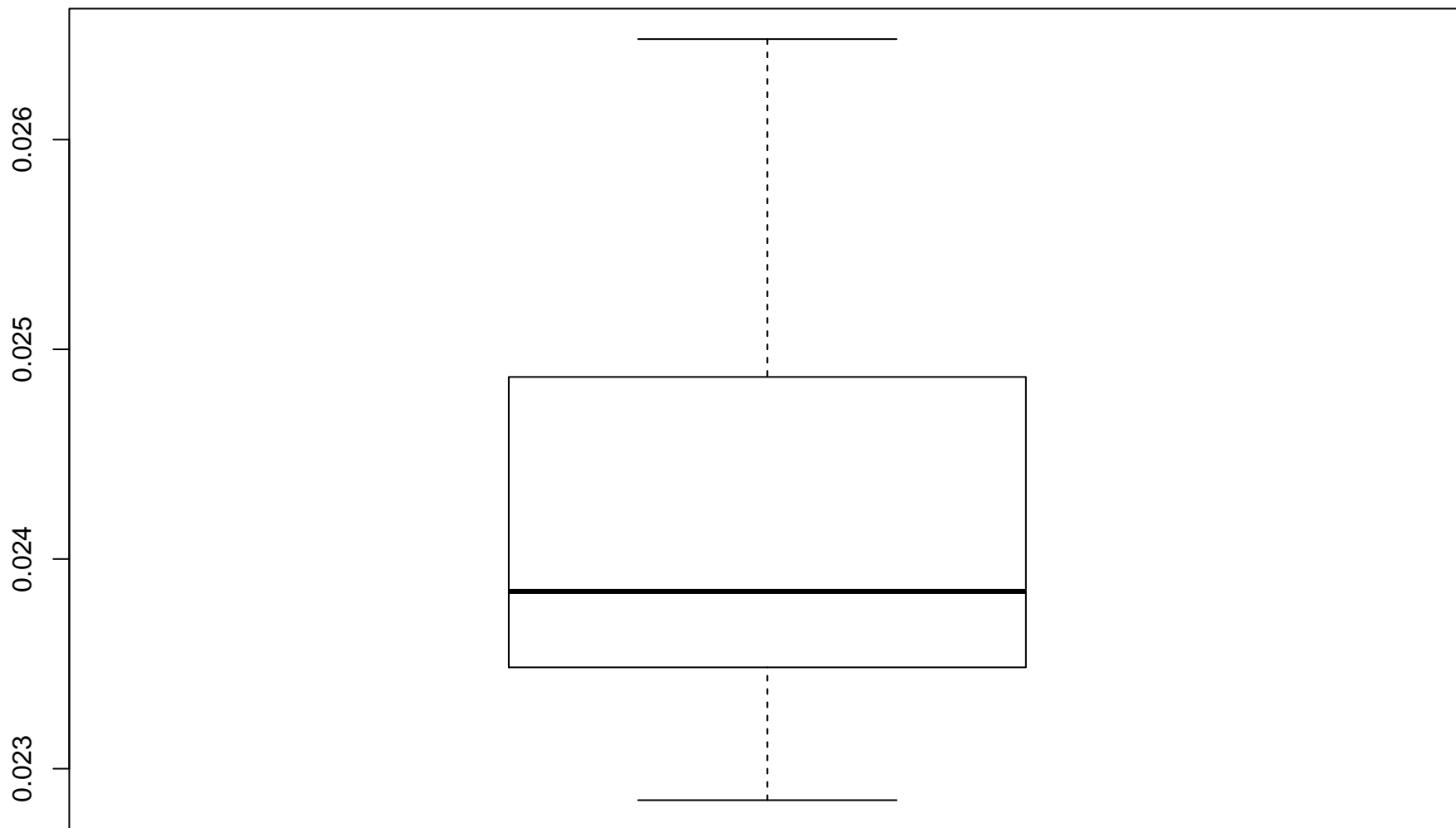
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600 )

# Inflation



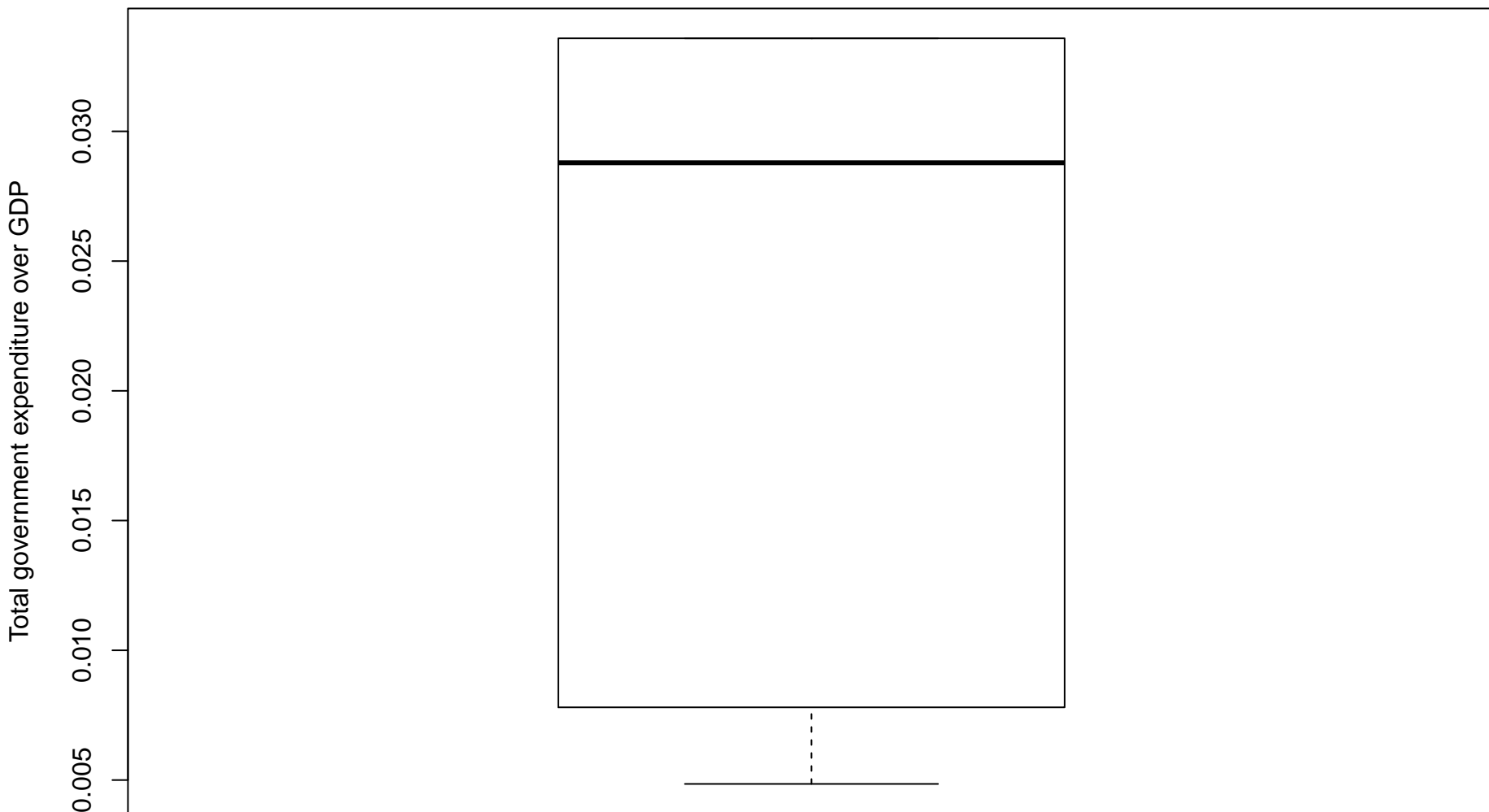
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600 )

Government tax income over GDP



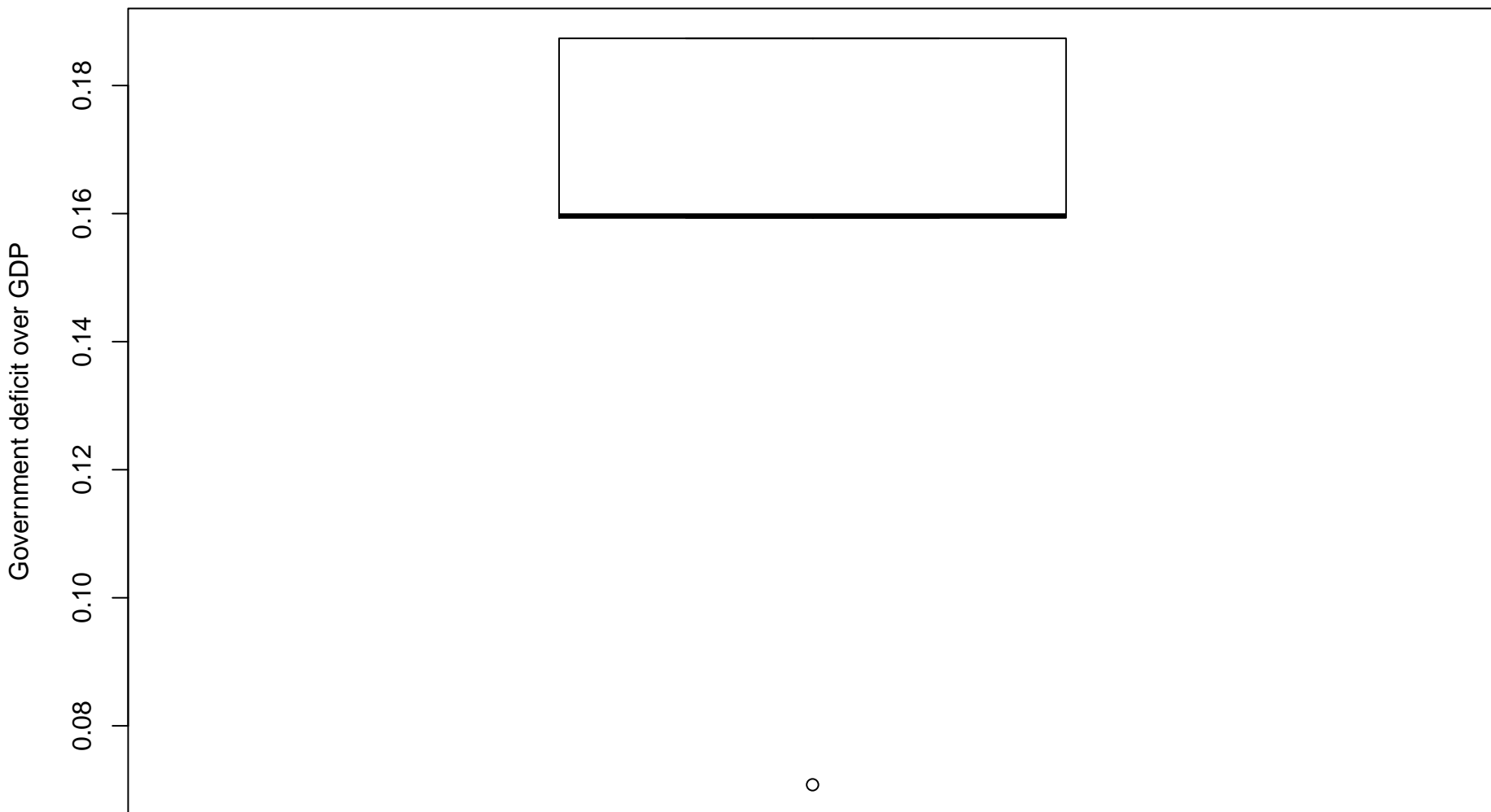
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600 )

## Government total expenditure



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

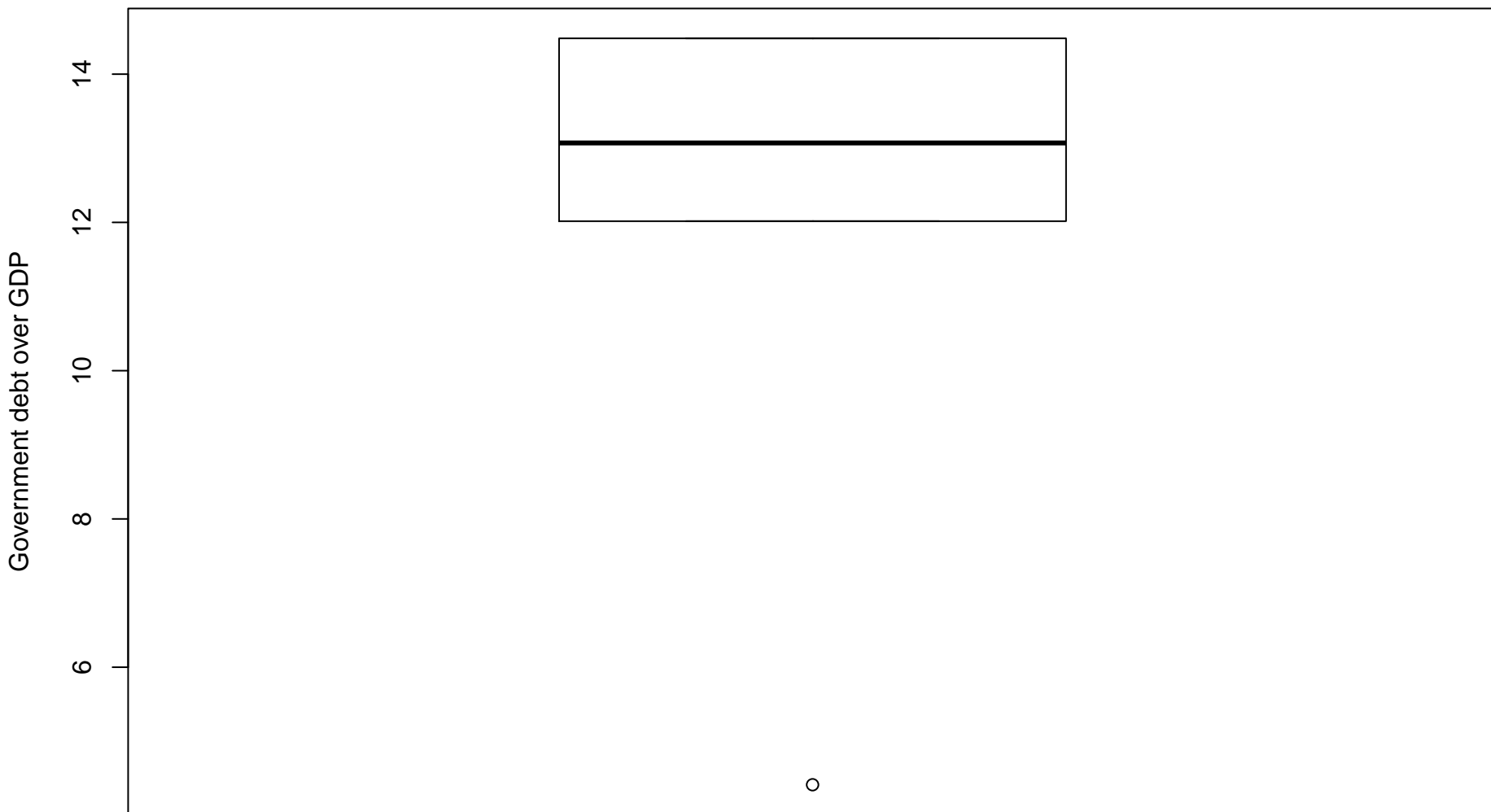
## Government deficit



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

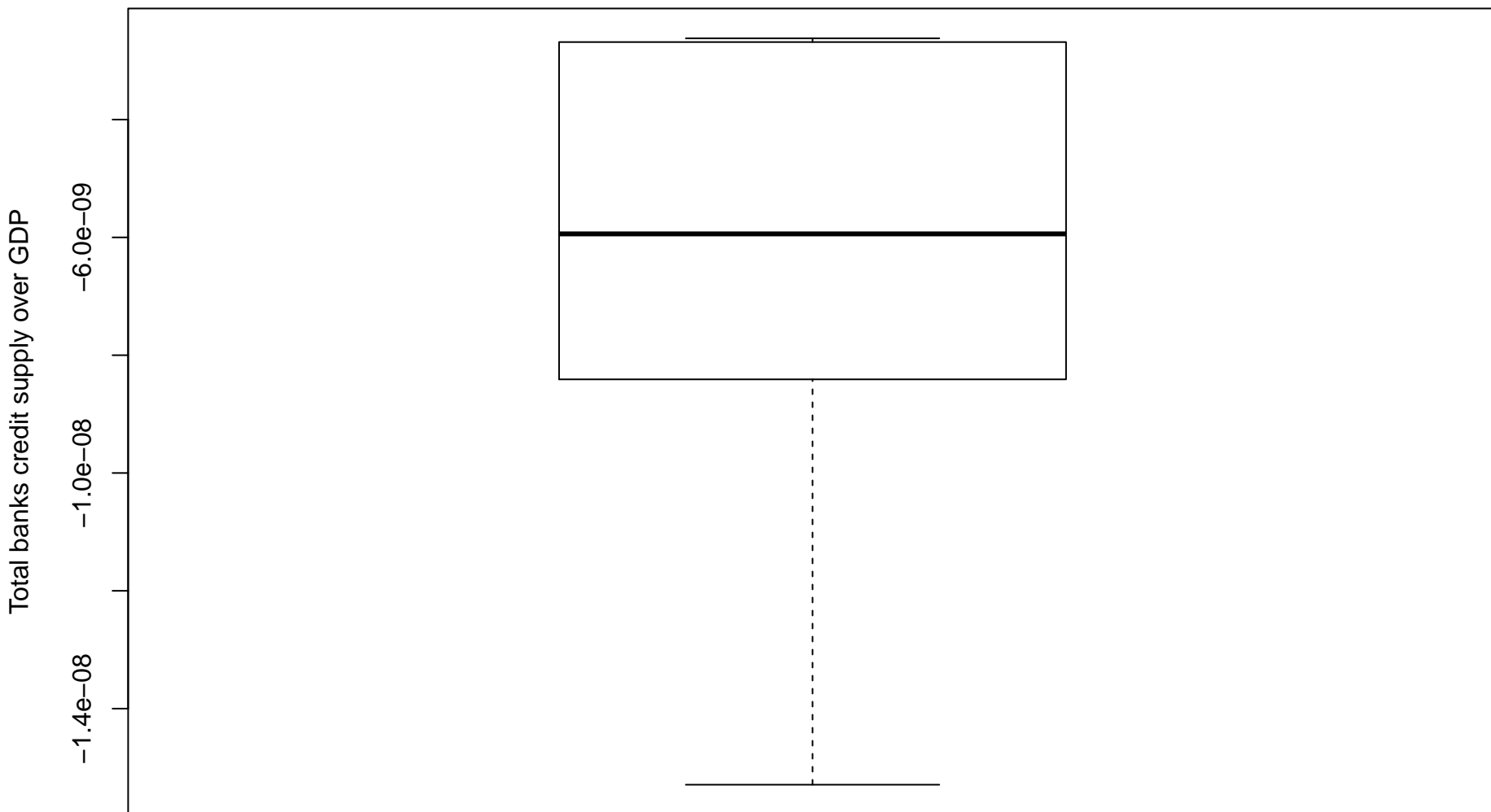


## Government debt



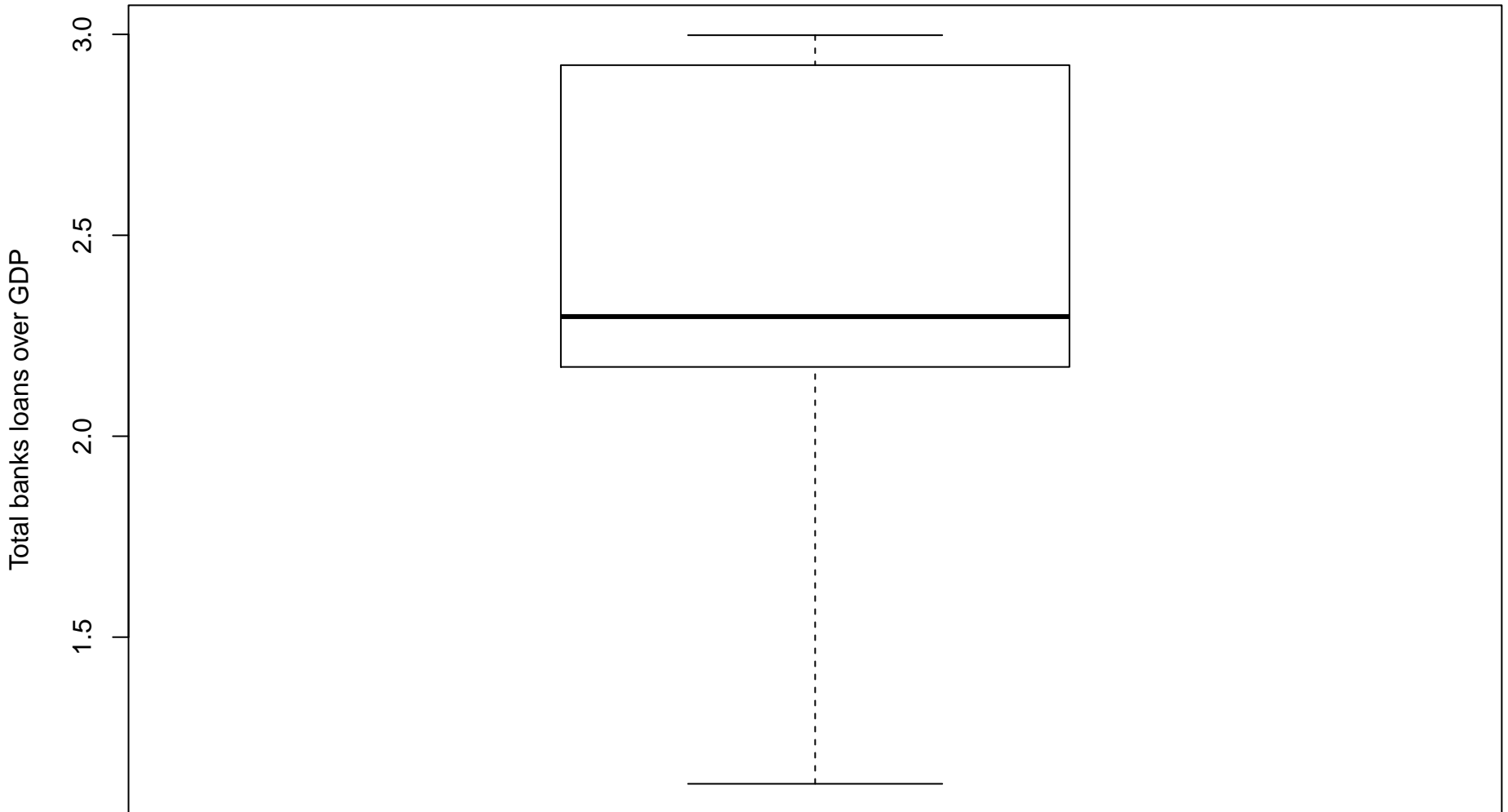
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600 )

## Credit supply



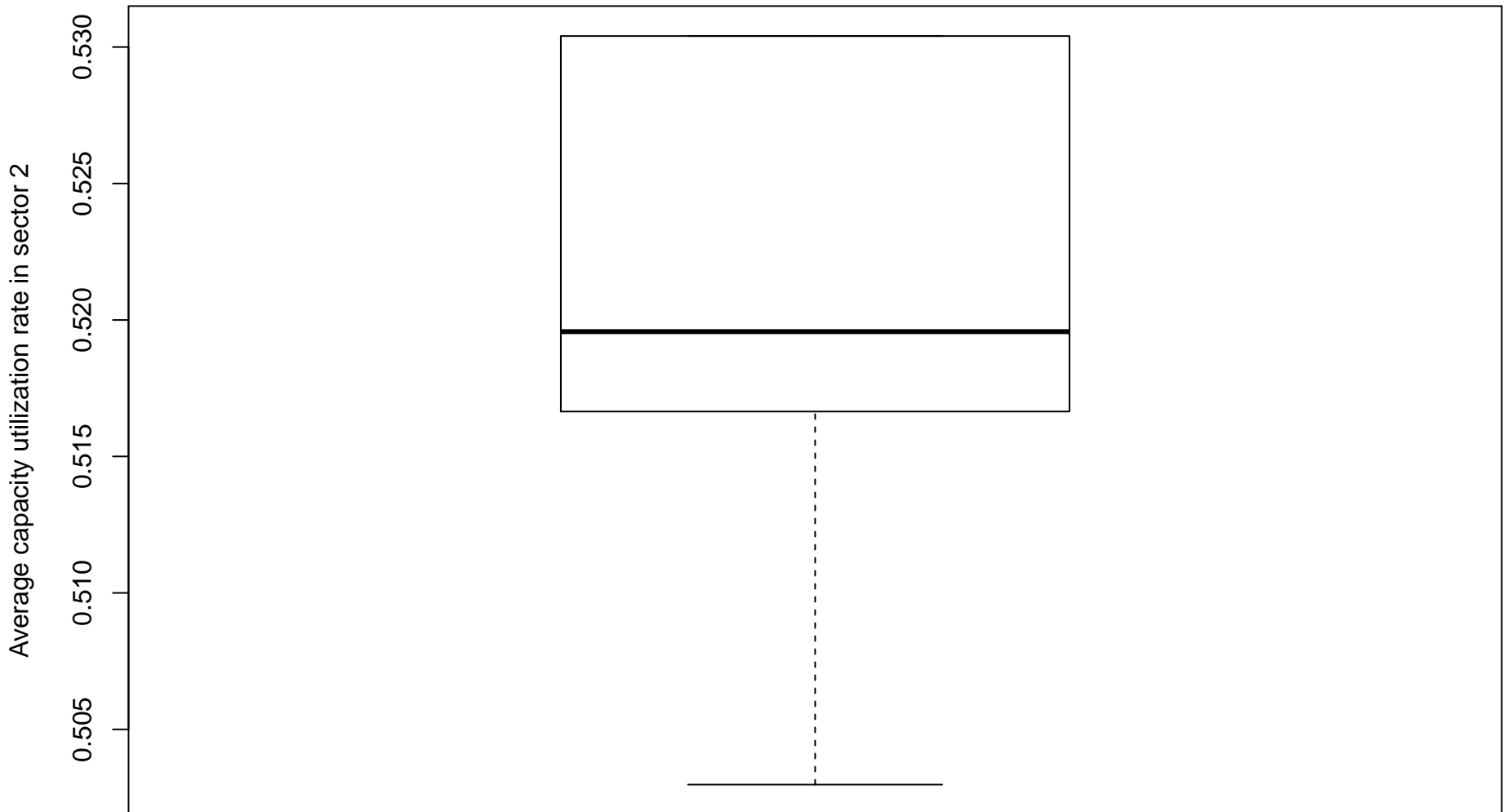
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600 )

## Loans



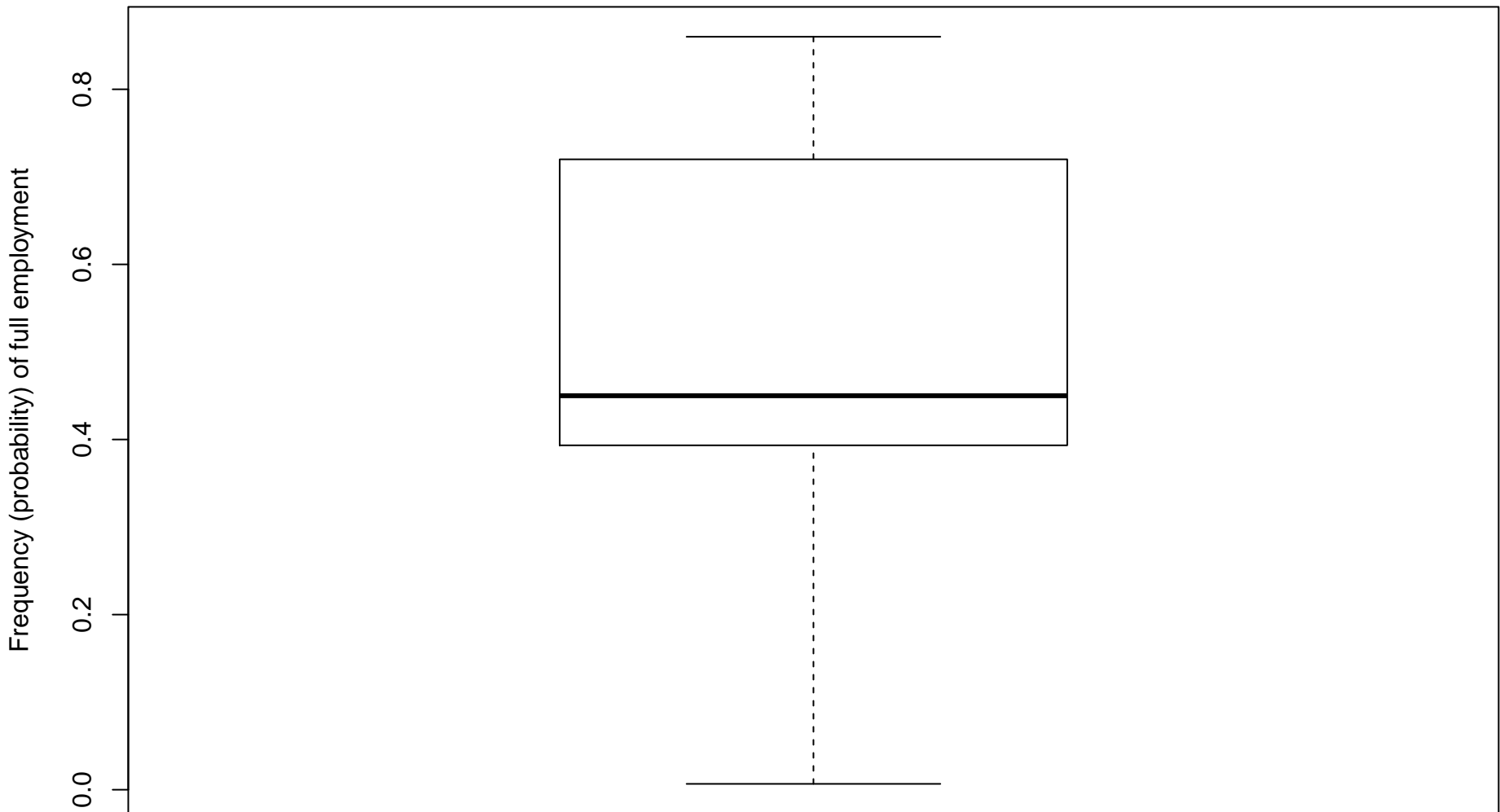
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600 )

## Capacity utilization



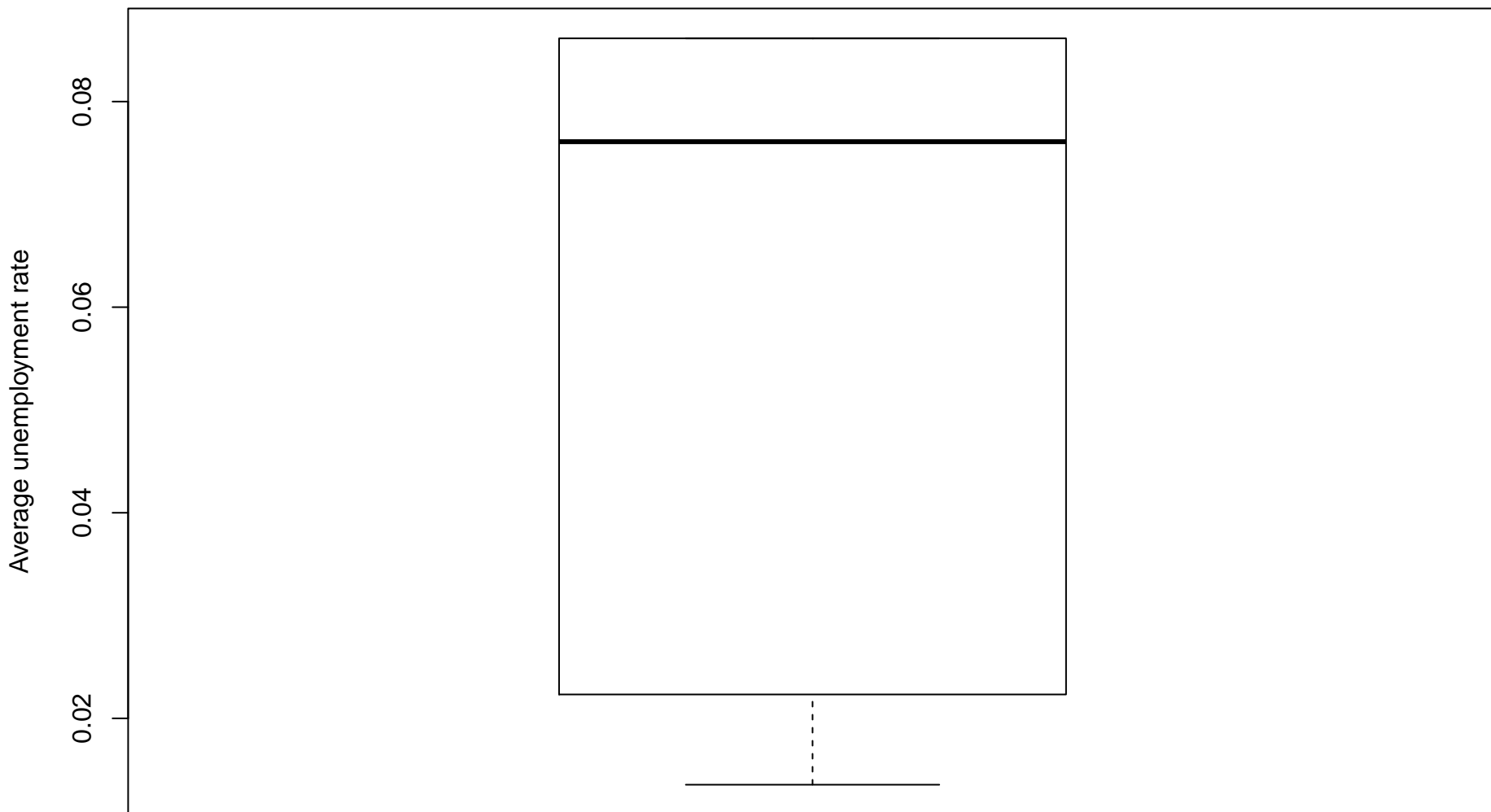
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600 )

## Full employment frequency



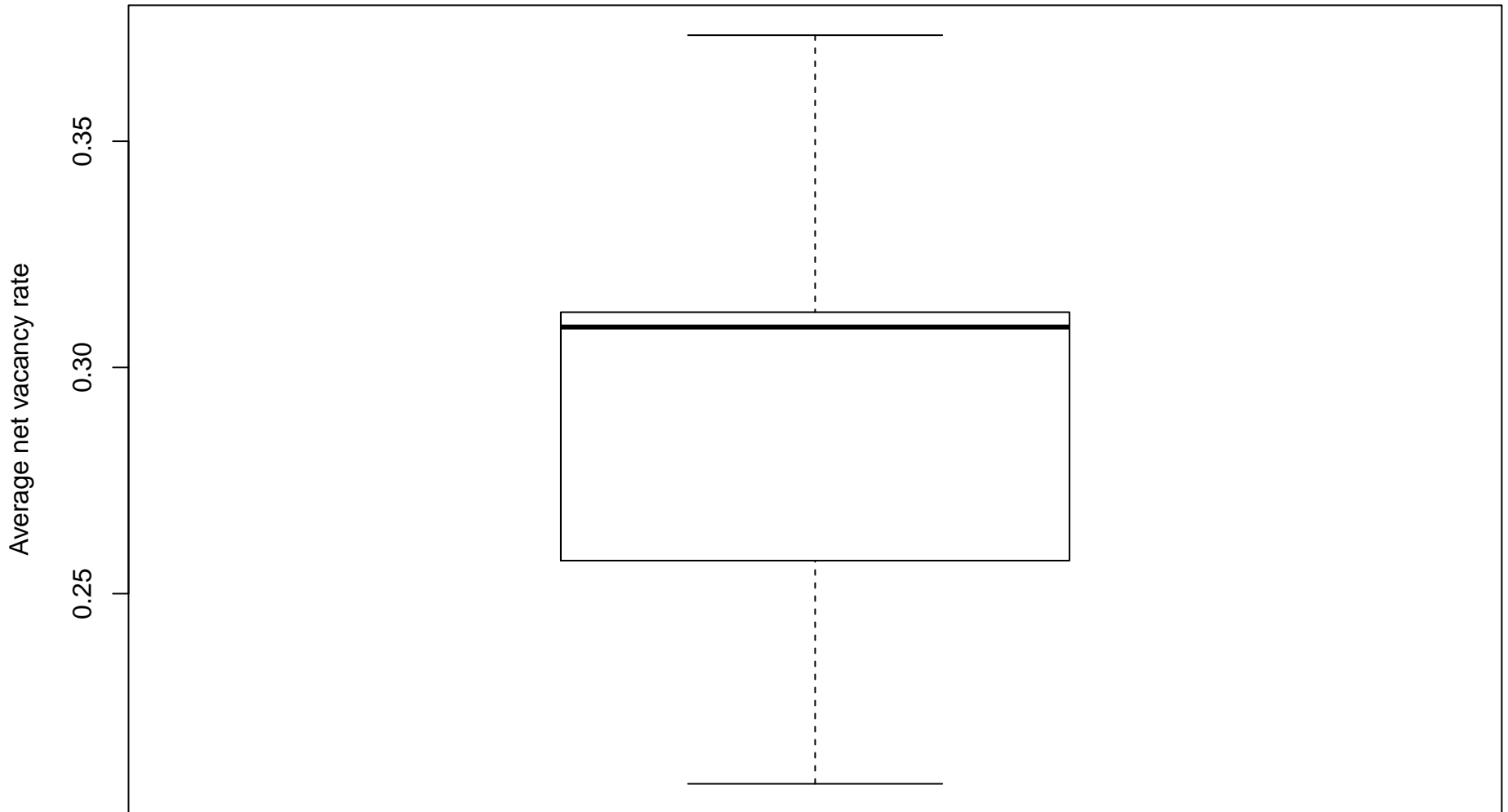
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600 )

# Unemployment



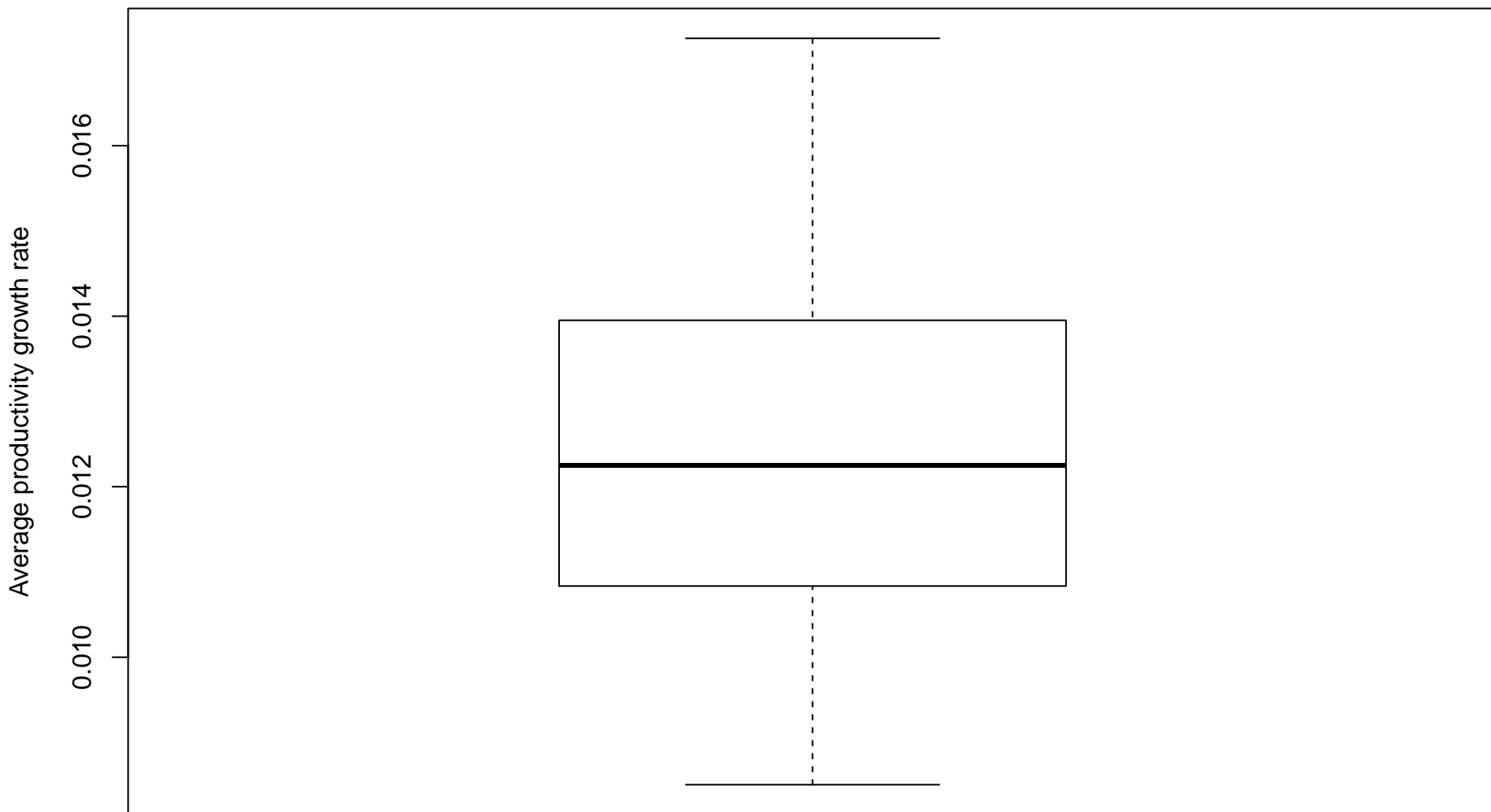
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600 )

# Vacancy



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

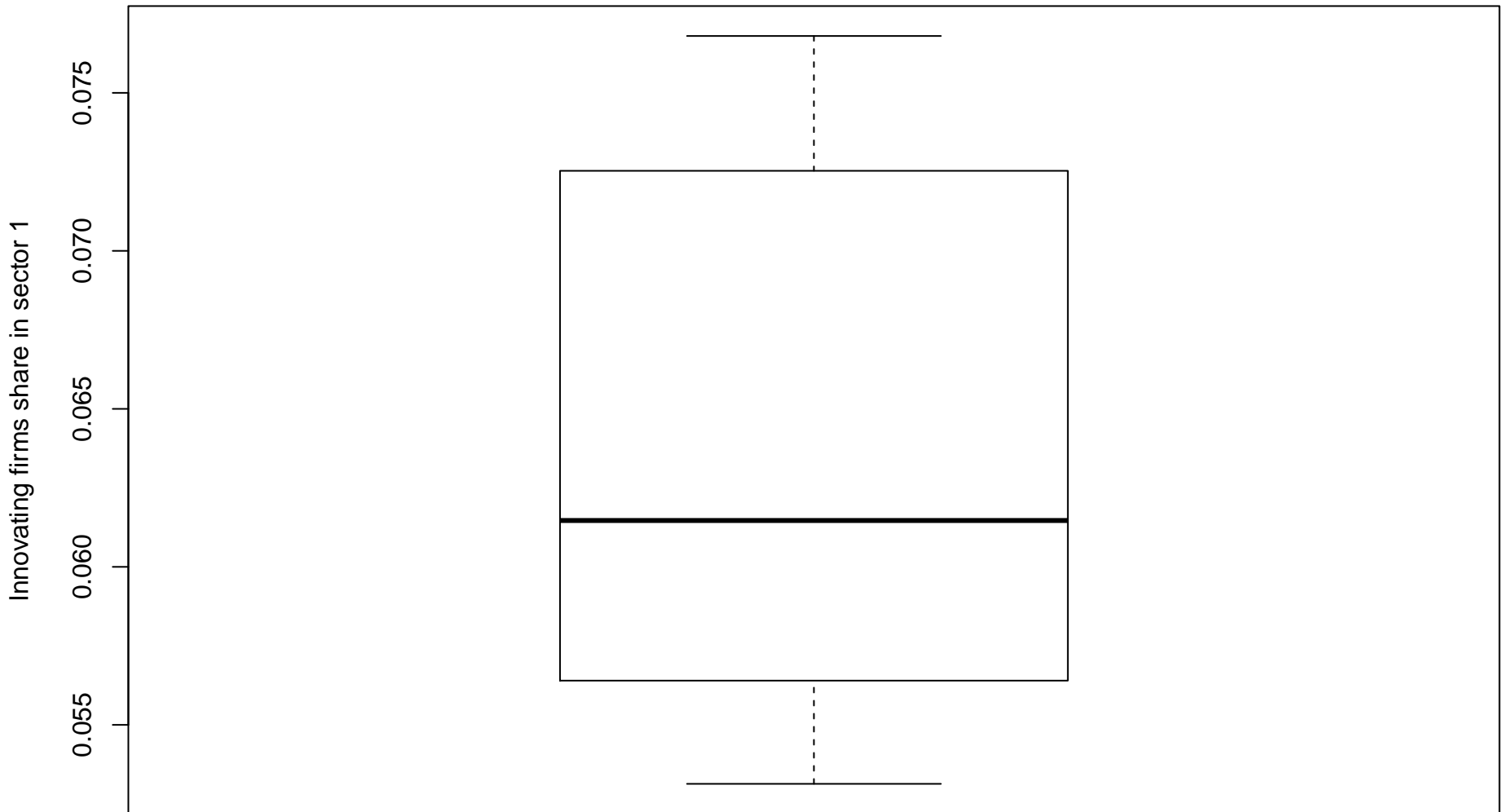
## Productivity growth



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

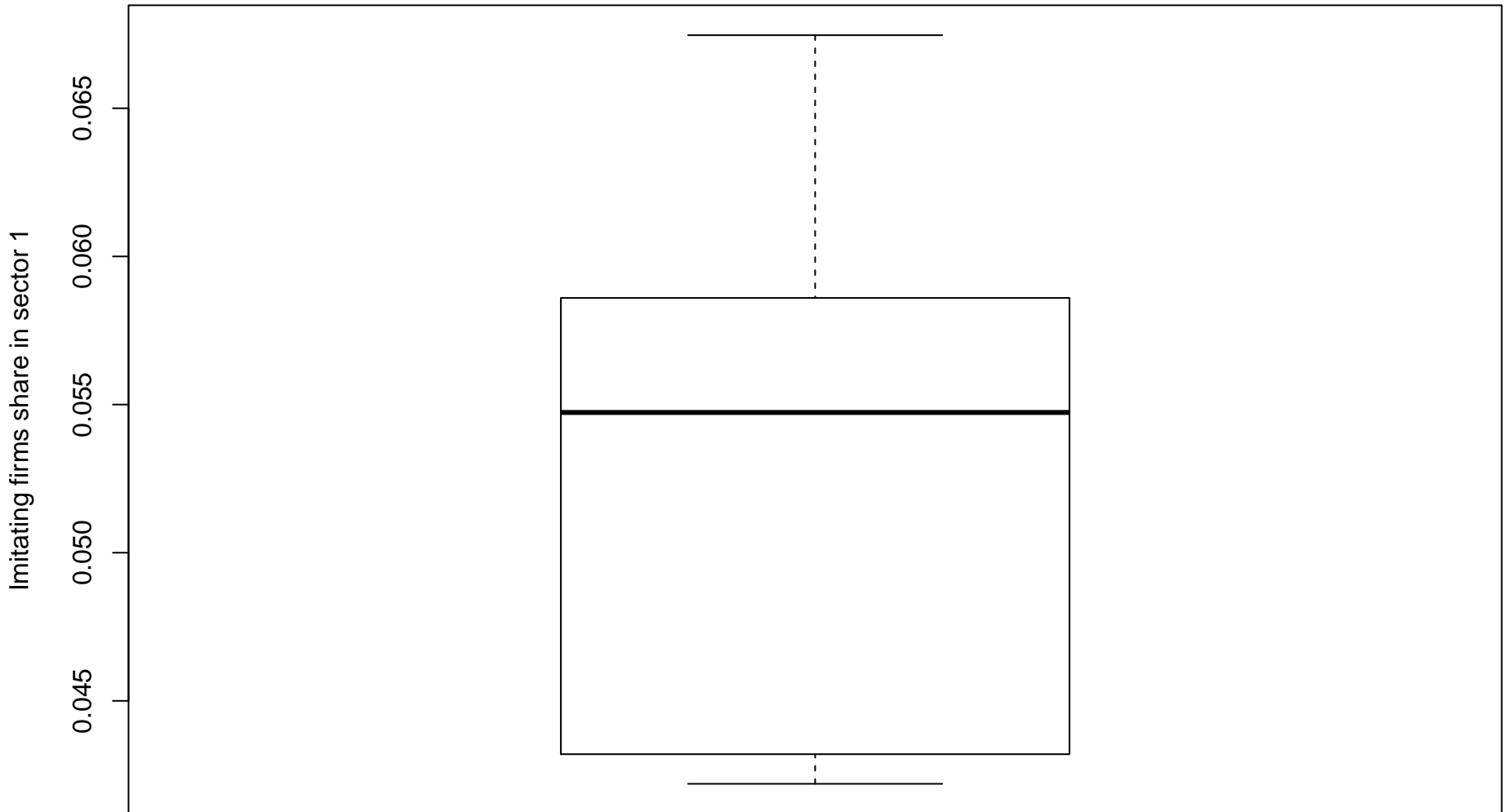


# Innovation



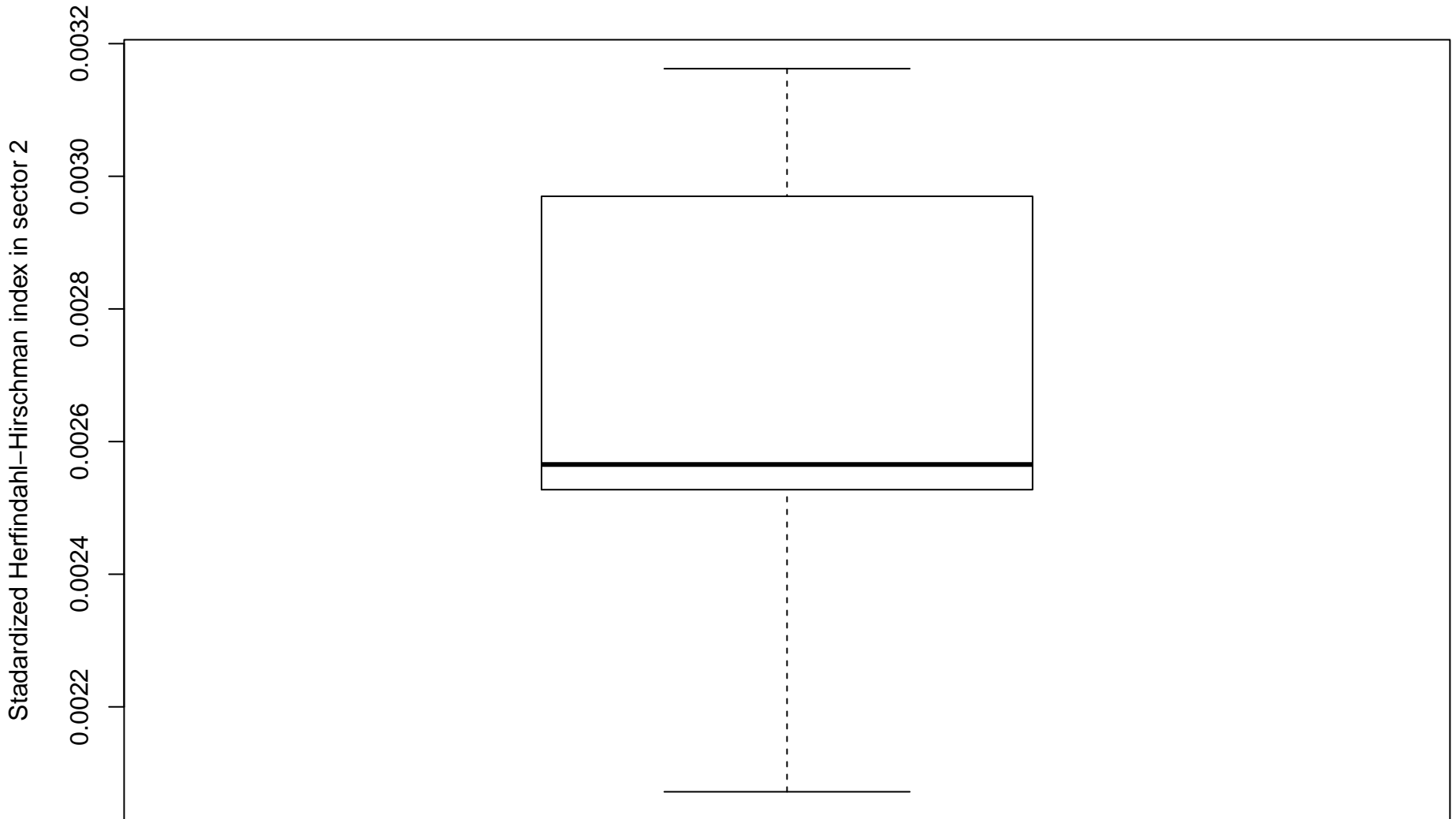
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600 )

## Imitation



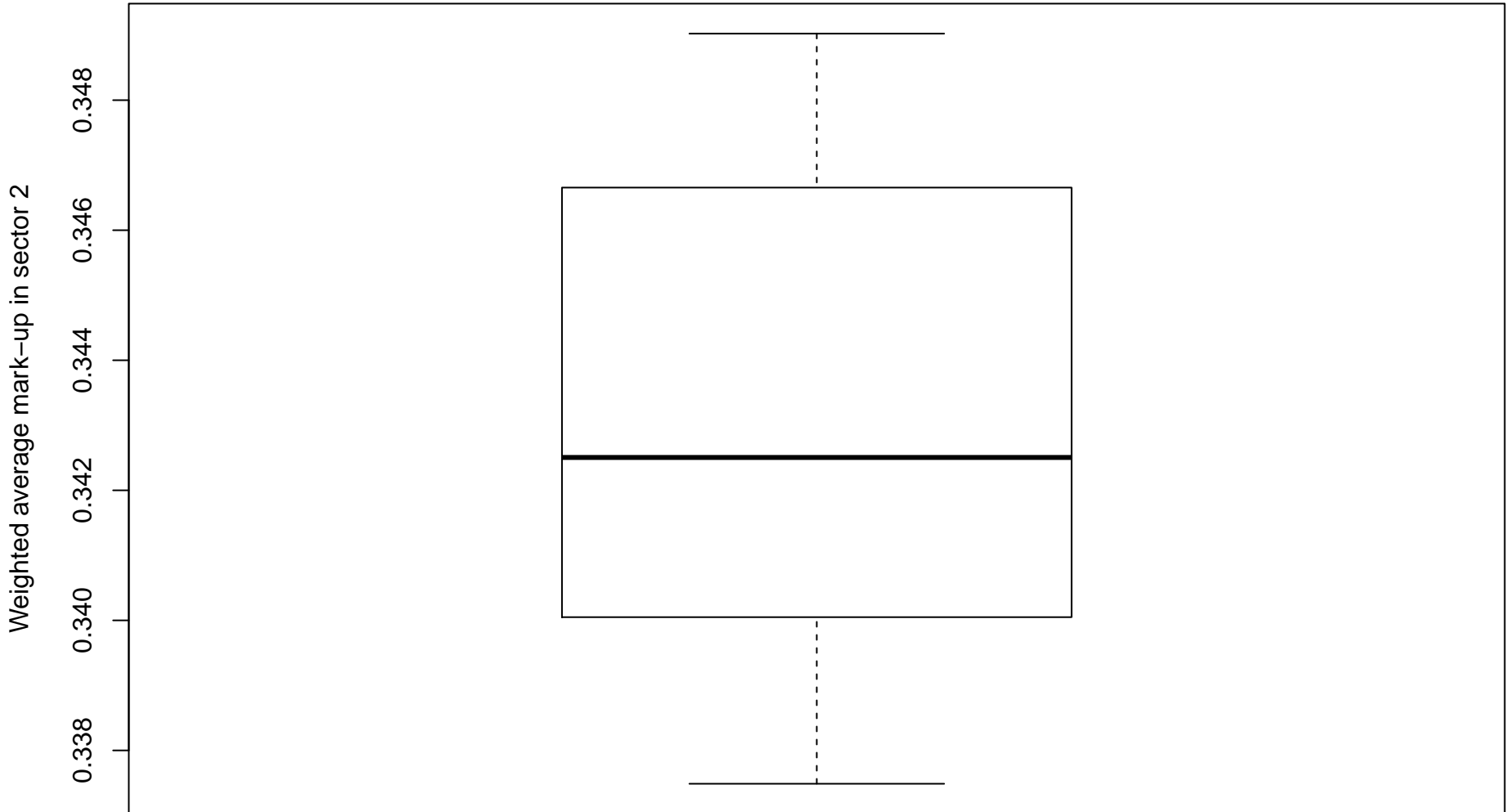
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600 )

## Market concentration



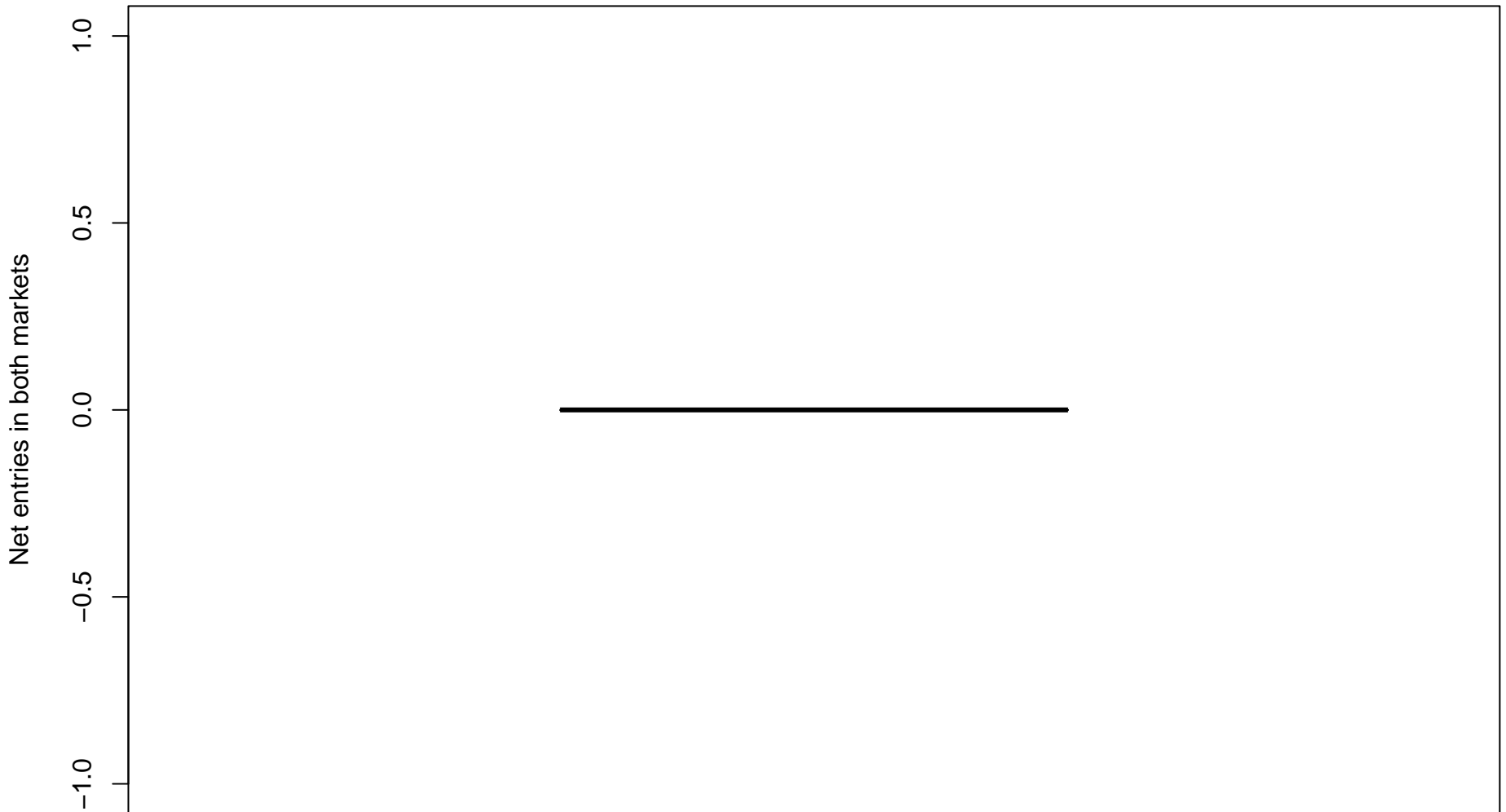
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600 )

## 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 )

	<b>Avg[1]</b>	<b>SD[1]</b>	<b>Min[1]</b>	<b>Max[1]</b>
<b>GDP growth</b>	0.01286	0.00322	0.008646	0.01708
<b>Volatility of GDP growth</b>	0.09563	0.004856	0.08927	0.1011
<b>Likelihood of GDP crises</b>	0.2493	0.02881	0.2267	0.2967
<b>Inflation</b>	0.002133	0.0007999	0.00133	0.003198
<b>Tax</b>	0.02431	0.001419	0.02285	0.02648
<b>Government total expenditure</b>	0.03364	0.03557	0.00485	0.09315
<b>Government deficit</b>	0.1977	0.1272	0.07081	0.4112
<b>Government debt</b>	15.51	10.82	4.415	33.58
<b>Credit supply</b>	-6.989e-09	5.236e-09	-1.529e-08	-2.621e-09
<b>Loans</b>	2.305	0.7499	1.135	2.998
<b>Capacity utilization</b>	0.5249	0.01943	0.503	0.5549
<b>Full employment frequency</b>	0.486	0.3295	0.006667	0.86
<b>Unemployment</b>	0.08435	0.08415	0.01355	0.2236
<b>Vacancy</b>	0.292	0.06244	0.208	0.3734
<b>Productivity growth</b>	0.01256	0.003299	0.008505	0.01726
<b>Innovation</b>	0.06407	0.01023	0.05313	0.0768
<b>Imitation</b>	0.05324	0.01068	0.0422	0.06747
<b>Market concentration</b>	0.002659	0.0004244	0.002072	0.003162
<b>Mark-ups</b>	0.3431	0.004714	0.3375	0.349
<b>Net entry of firms</b>	0	0	0	0

Experiments: [1] Free entry

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