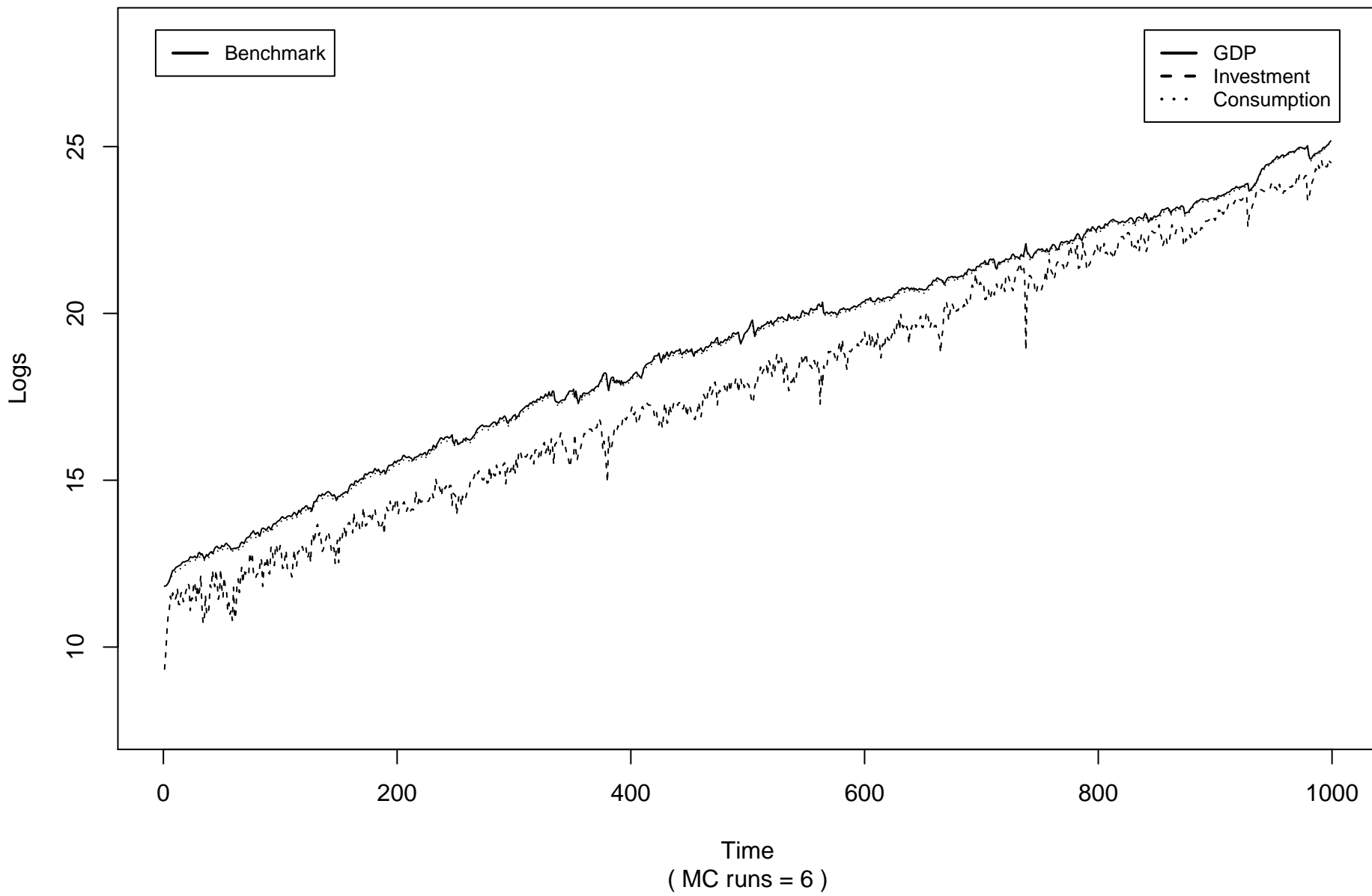
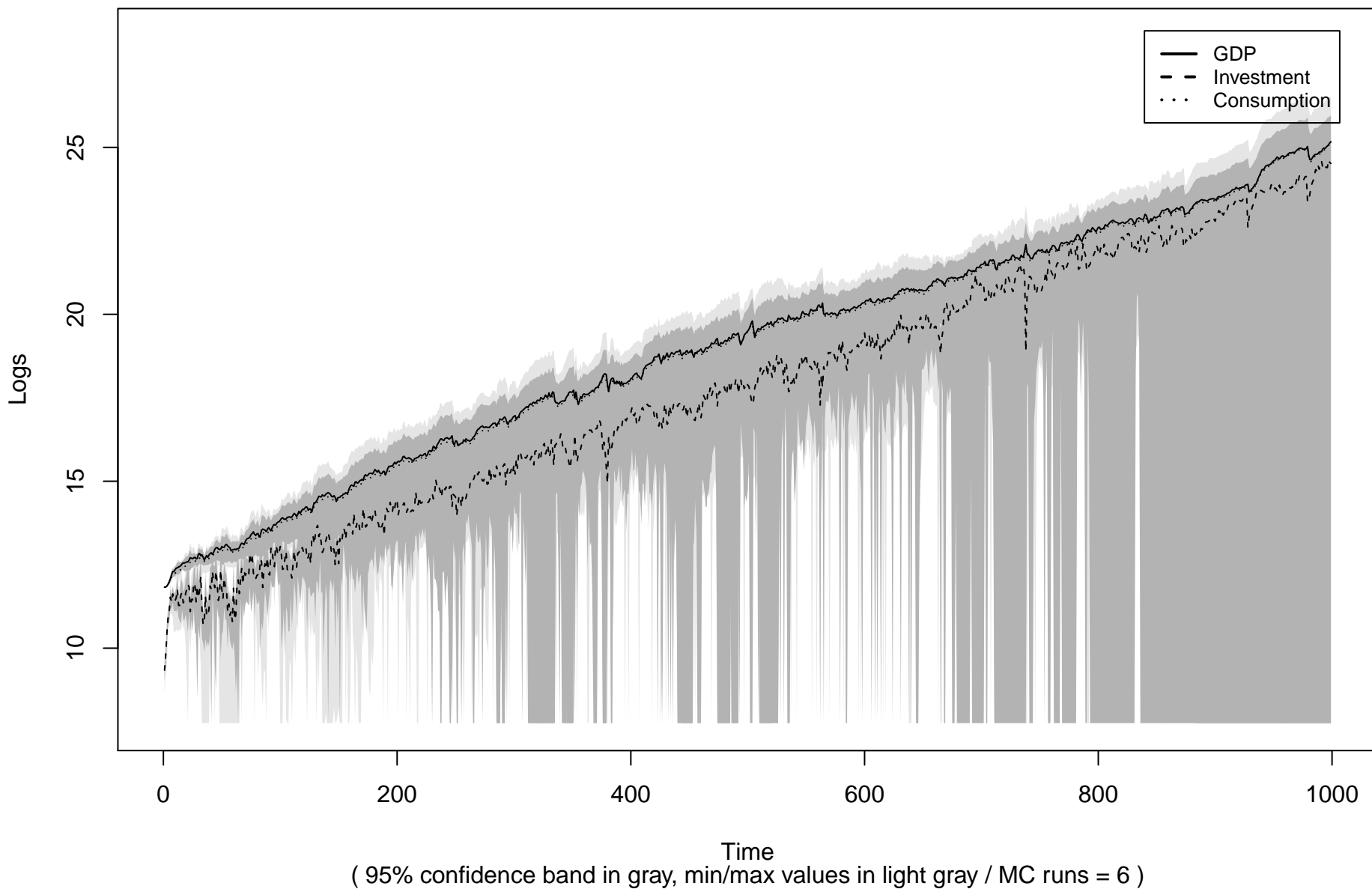


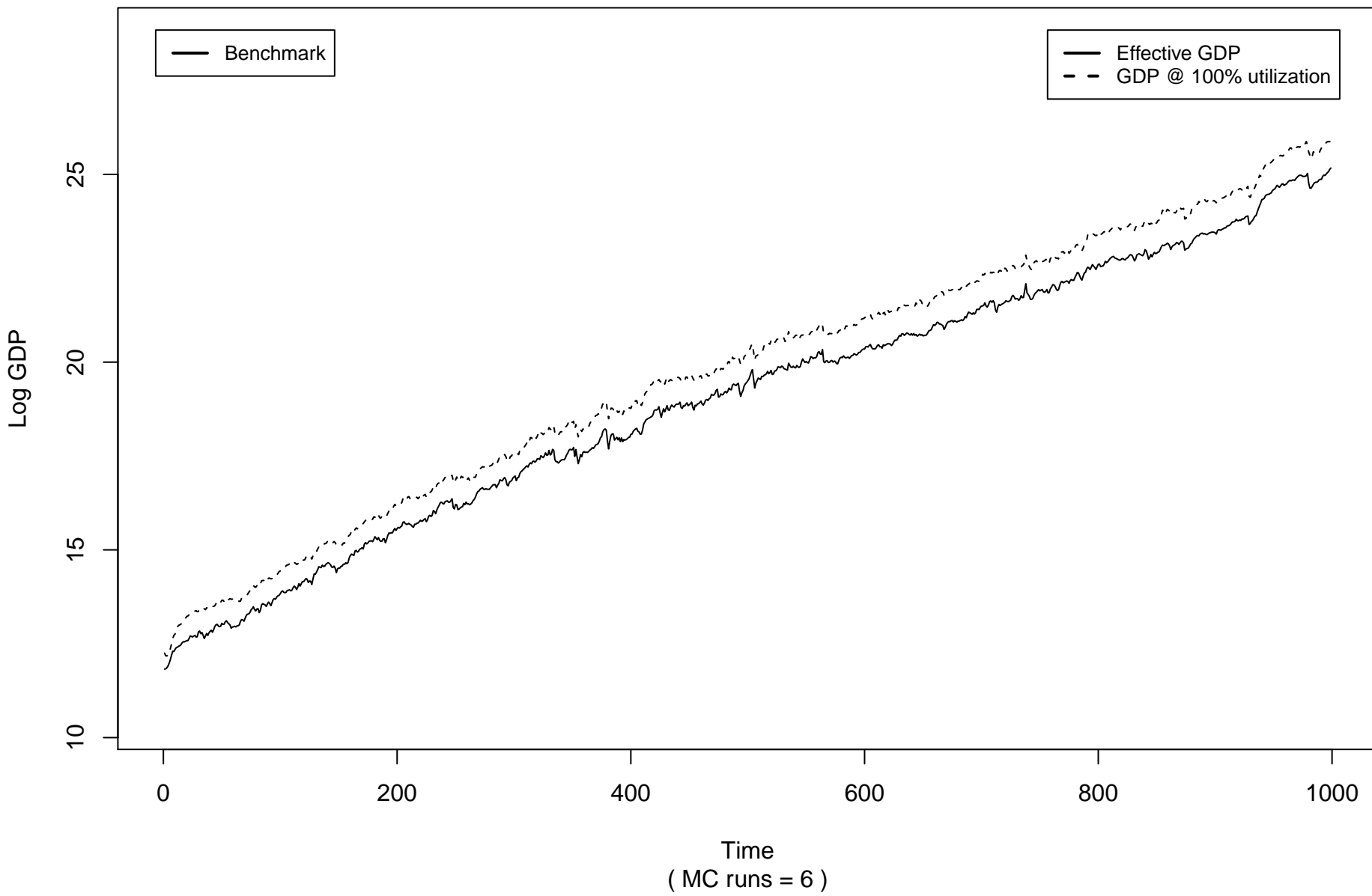
## GDP, investment and consumption ( all experiments )



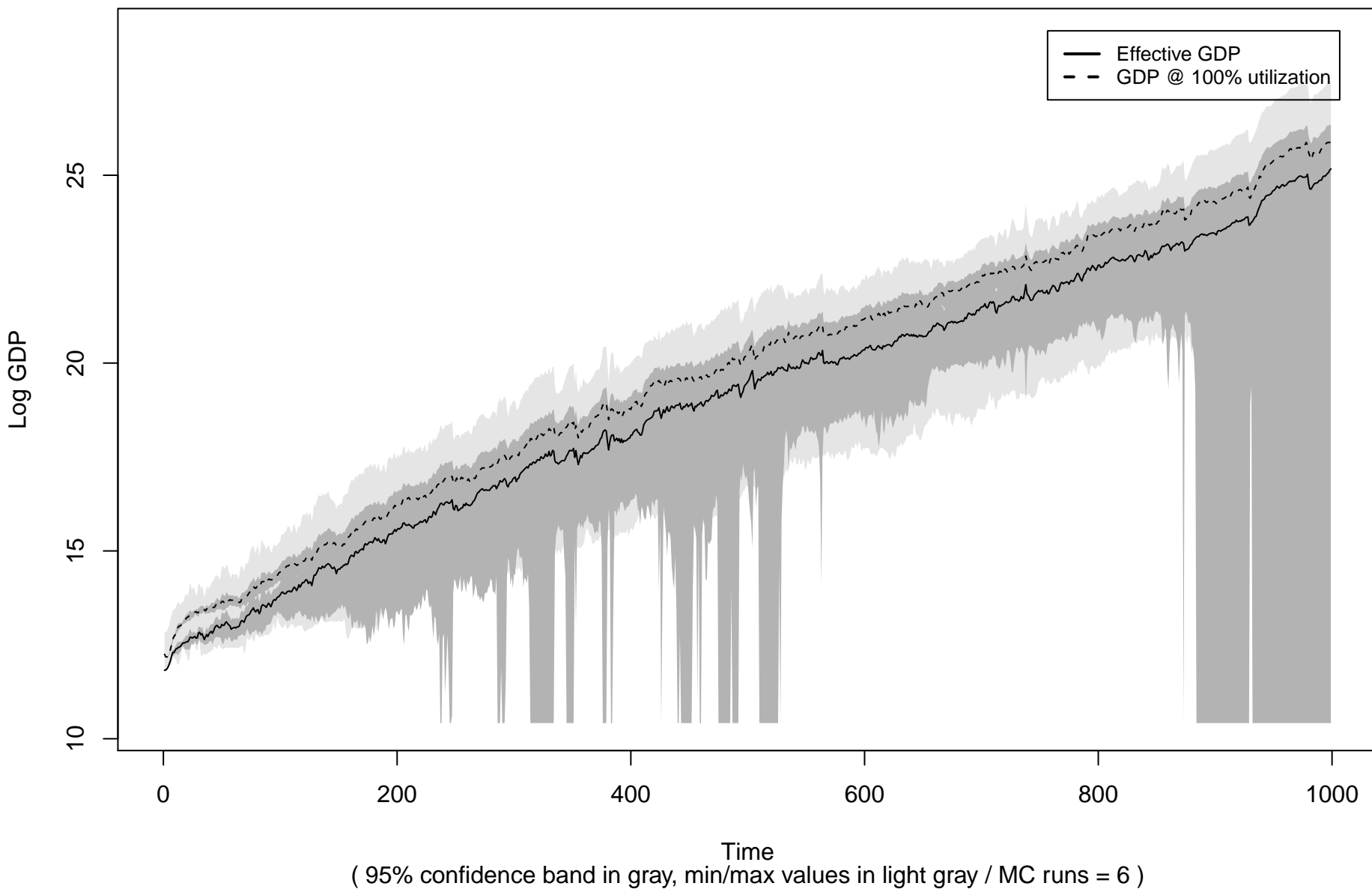
# GDP, investment and consumption ( Benchmark )



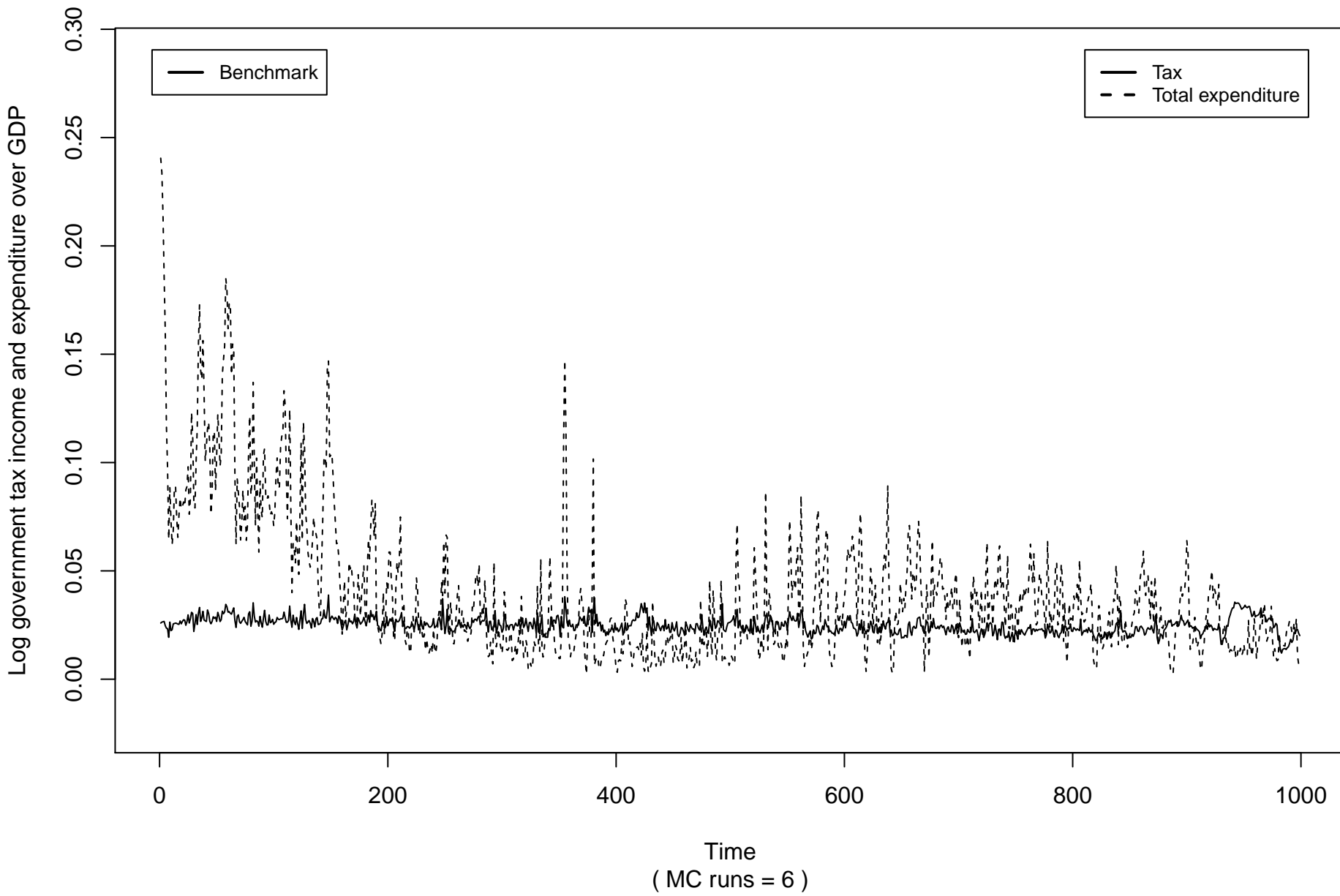
## GDP ( all experiments )



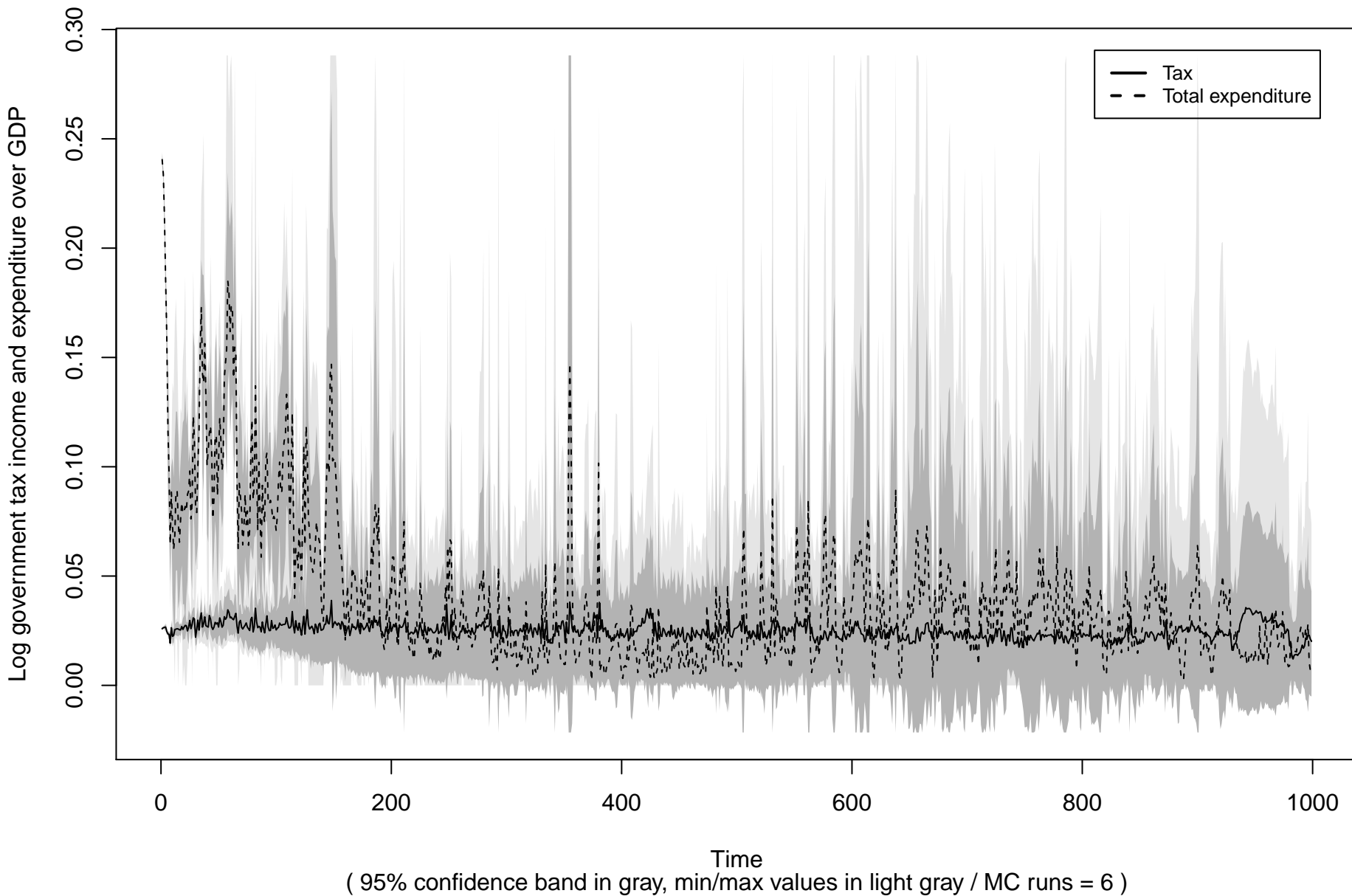
## GDP ( Benchmark )



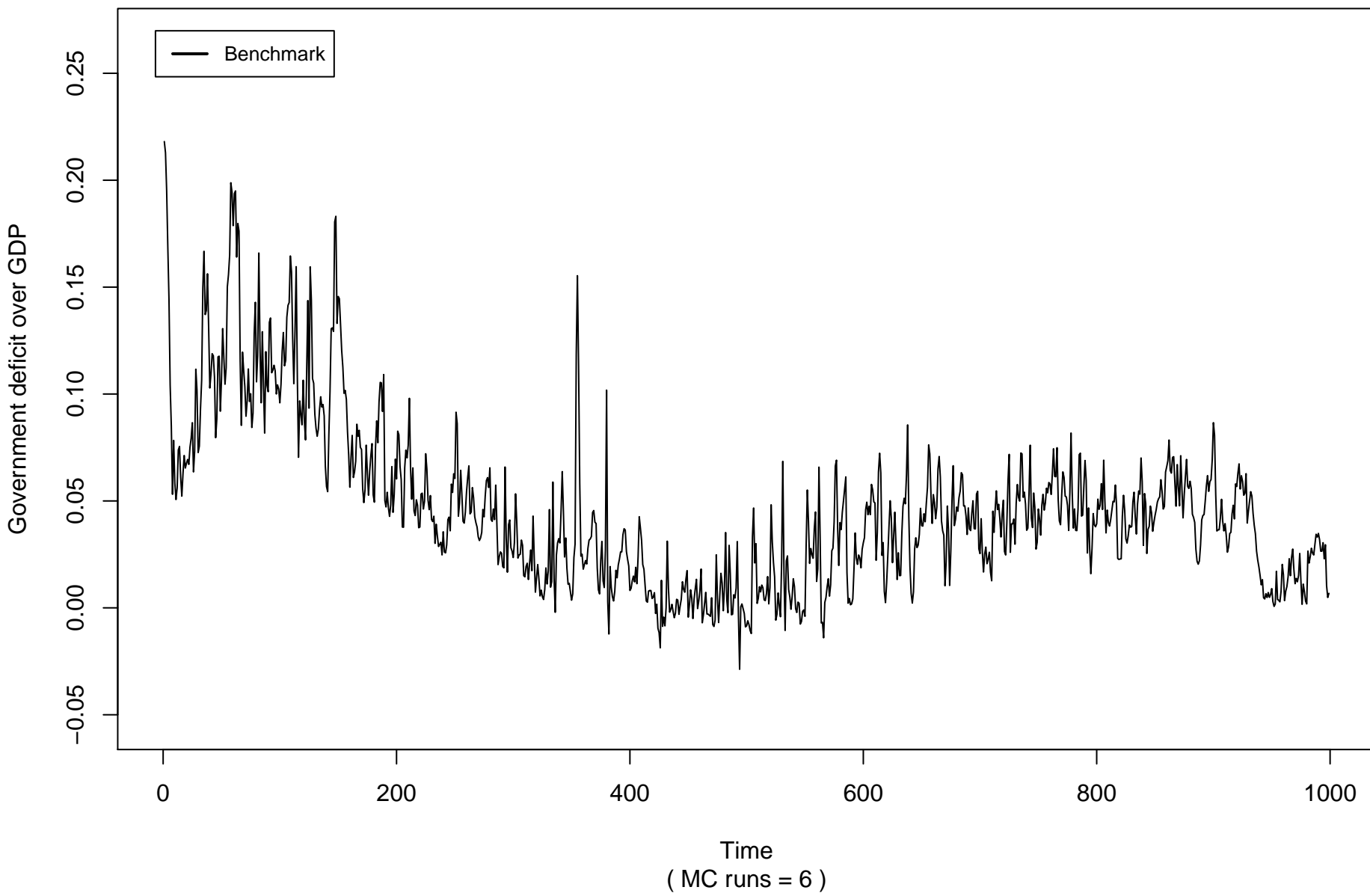
# Government income and expenditure on GDP ( all experiments )



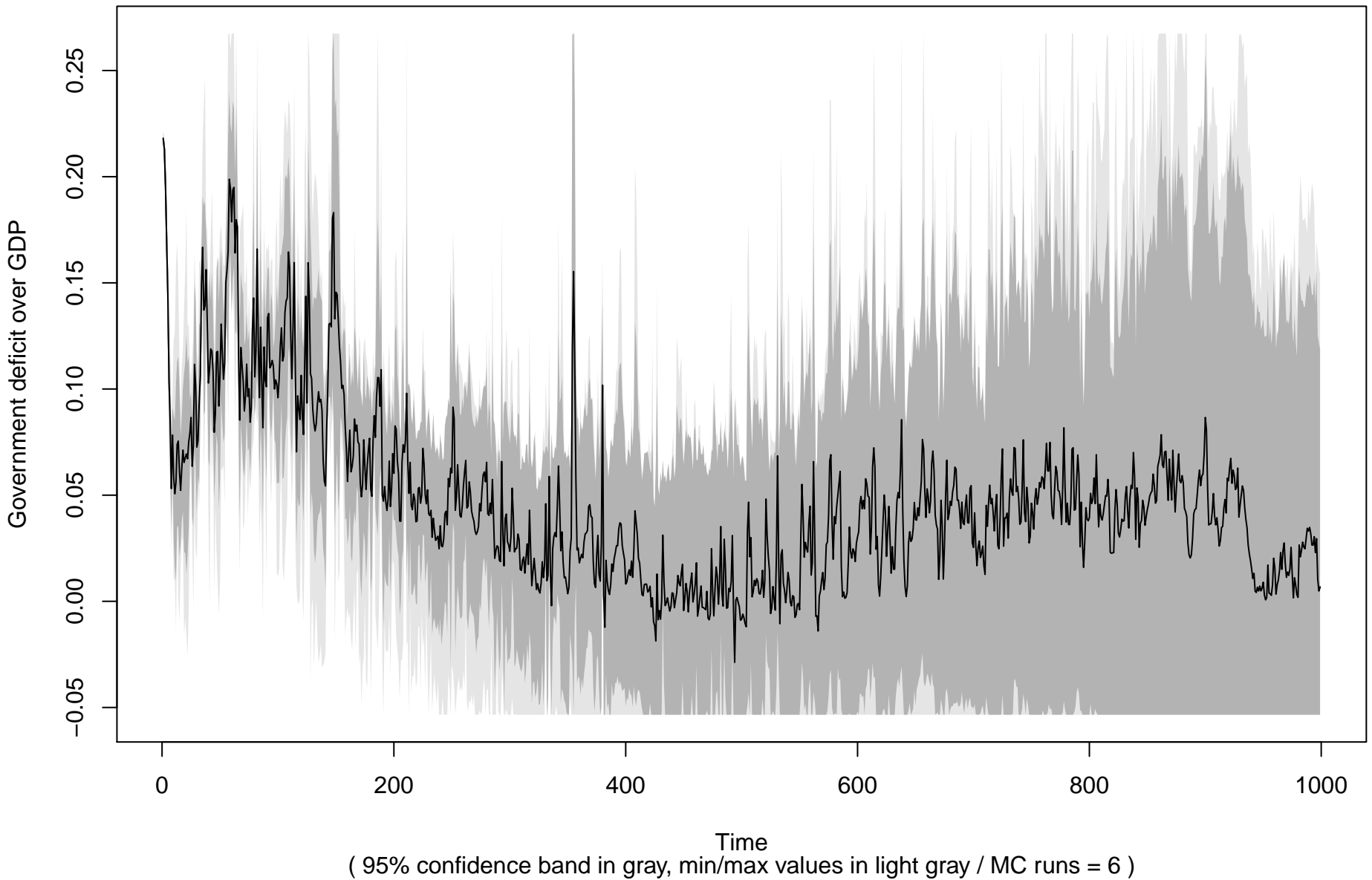
# Government income and expenditure on GDP ( Benchmark )



## Government deficit on GDP ( all experiments )

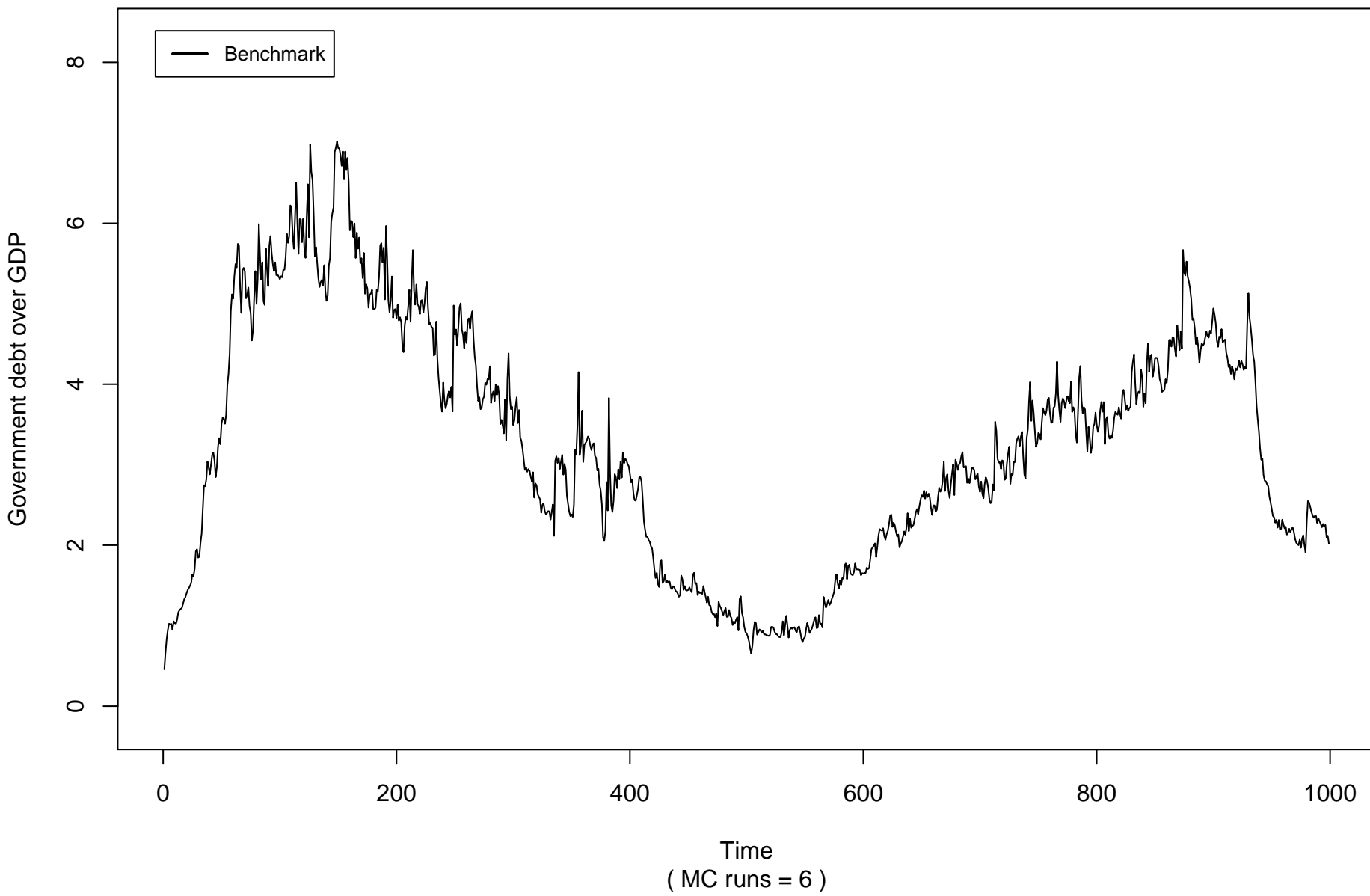


## Government deficit on GDP ( Benchmark )

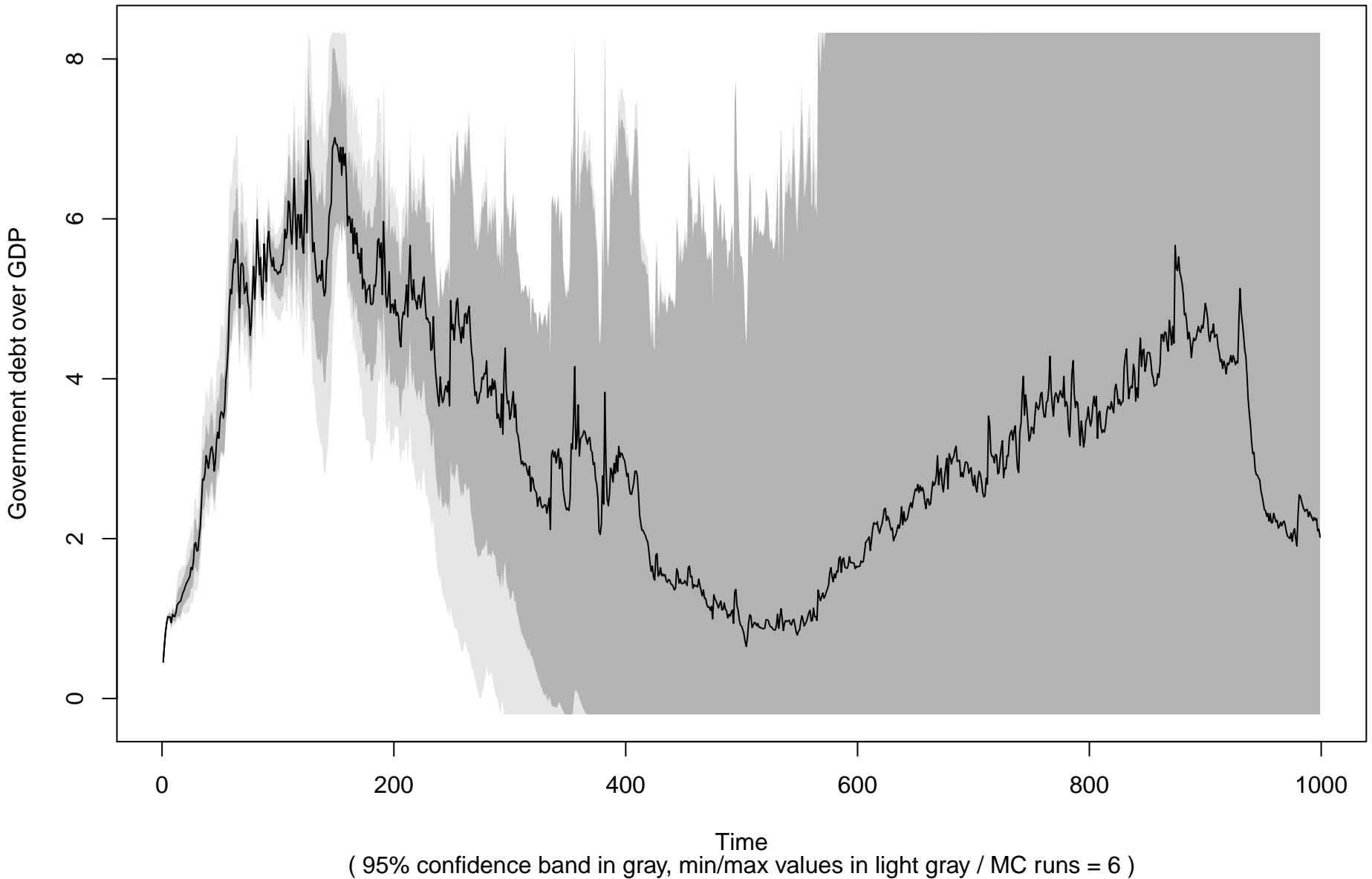




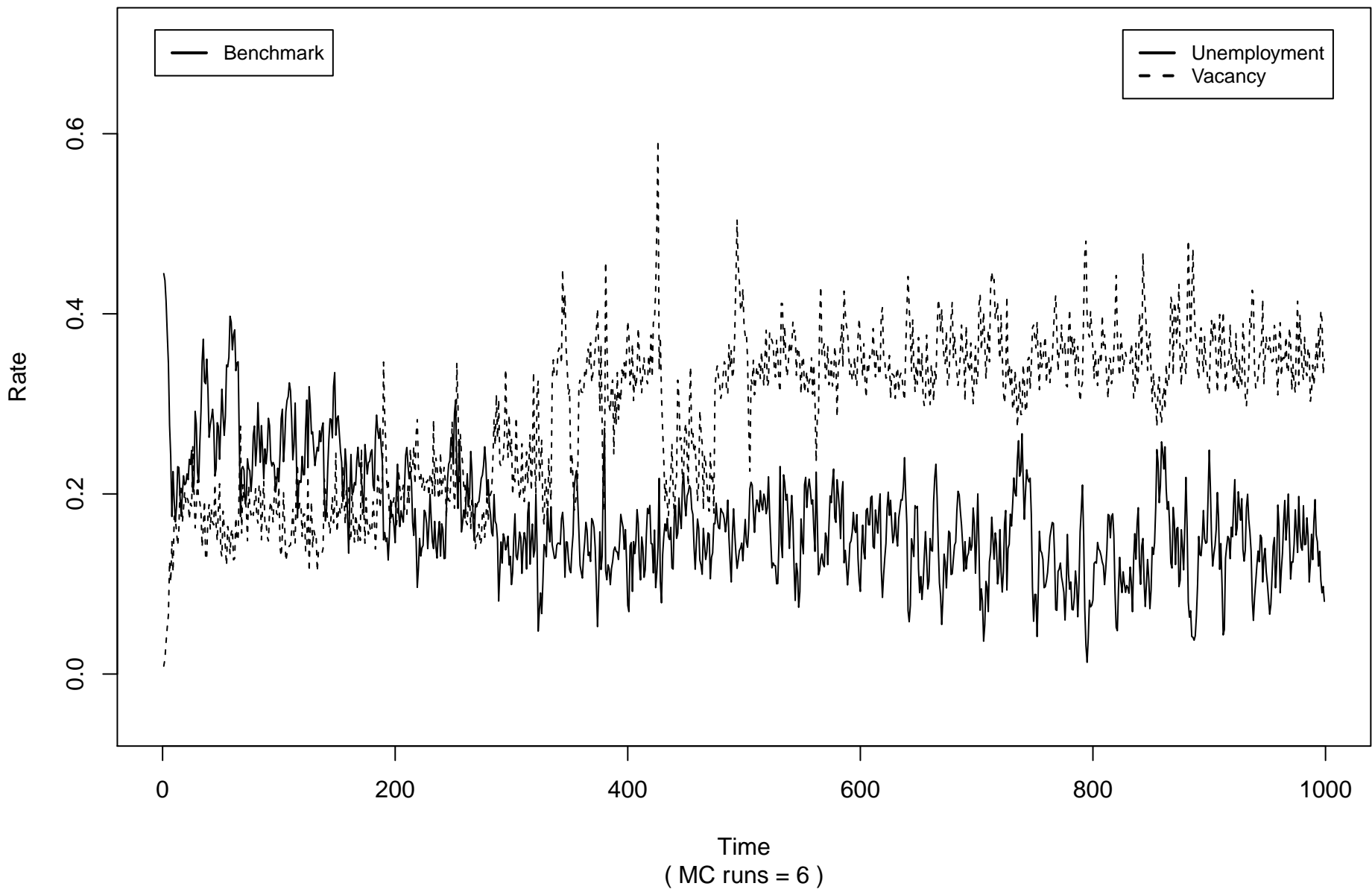
**Government debt on GDP ( all experiments )**



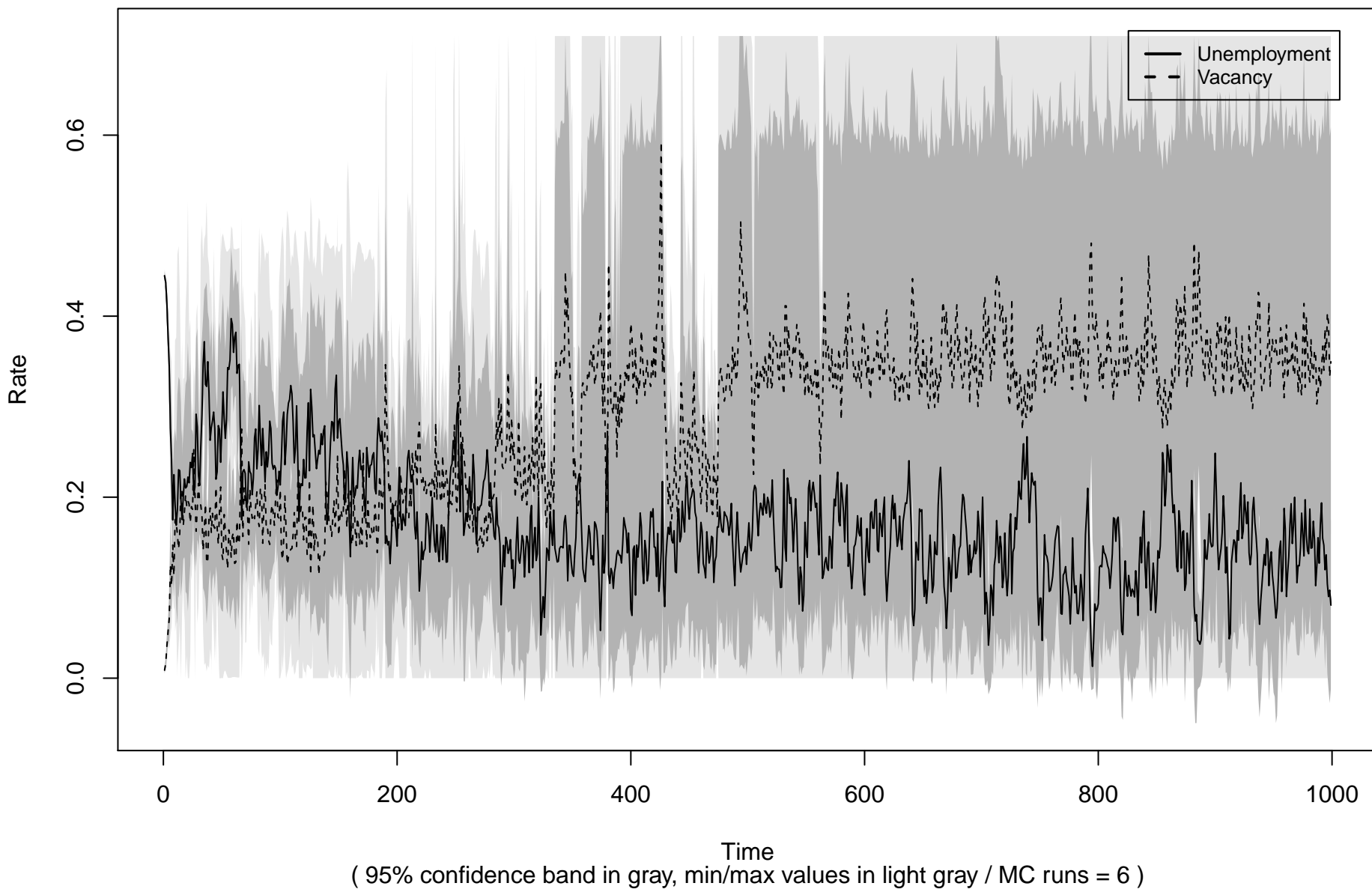
# Government debt on GDP ( Benchmark )



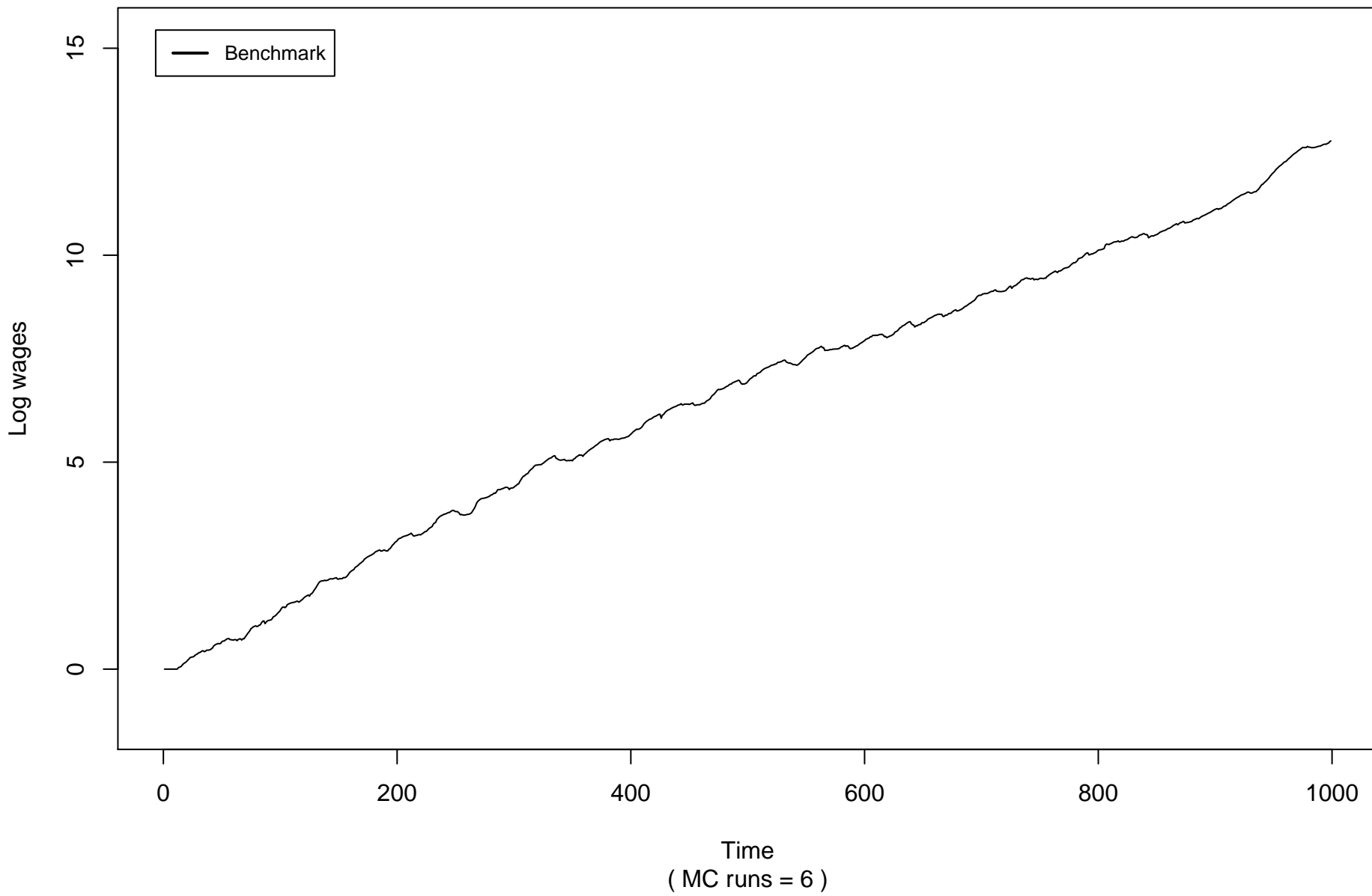
## Unemployment and vacancy rates ( all experiments )



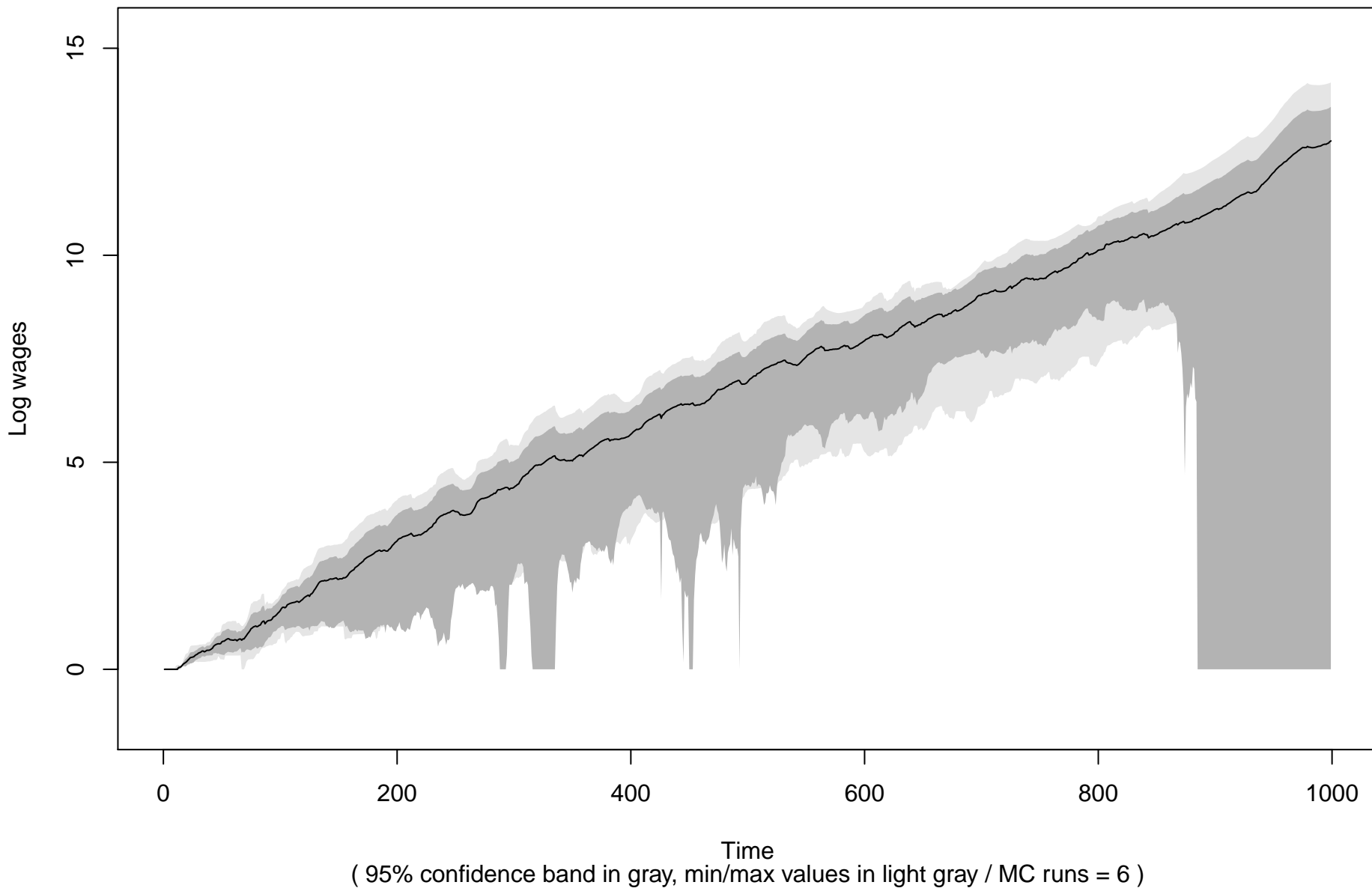
## Unemployment and vacancy rates ( Benchmark )



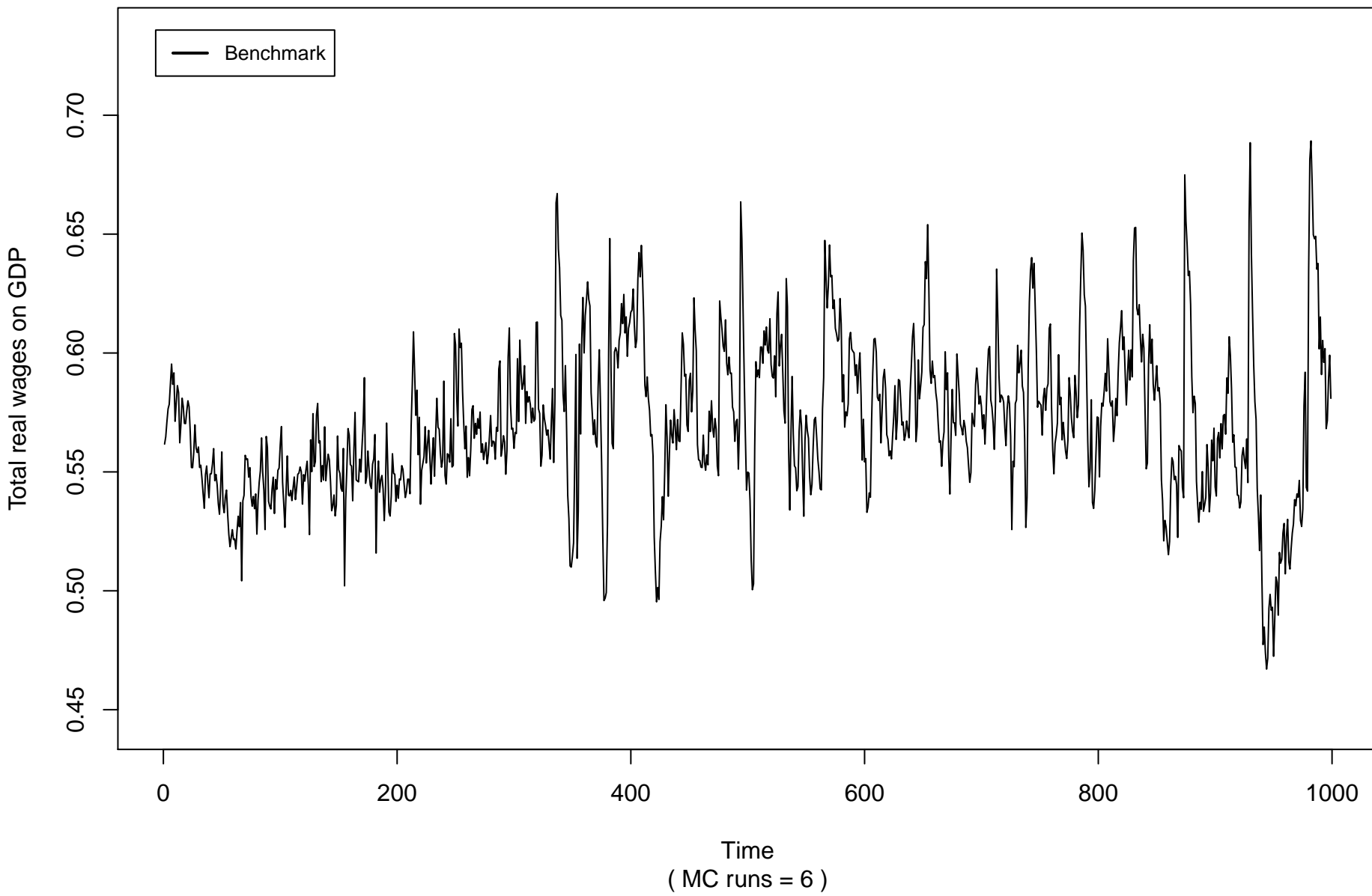
**Real wages average ( all experiments )**



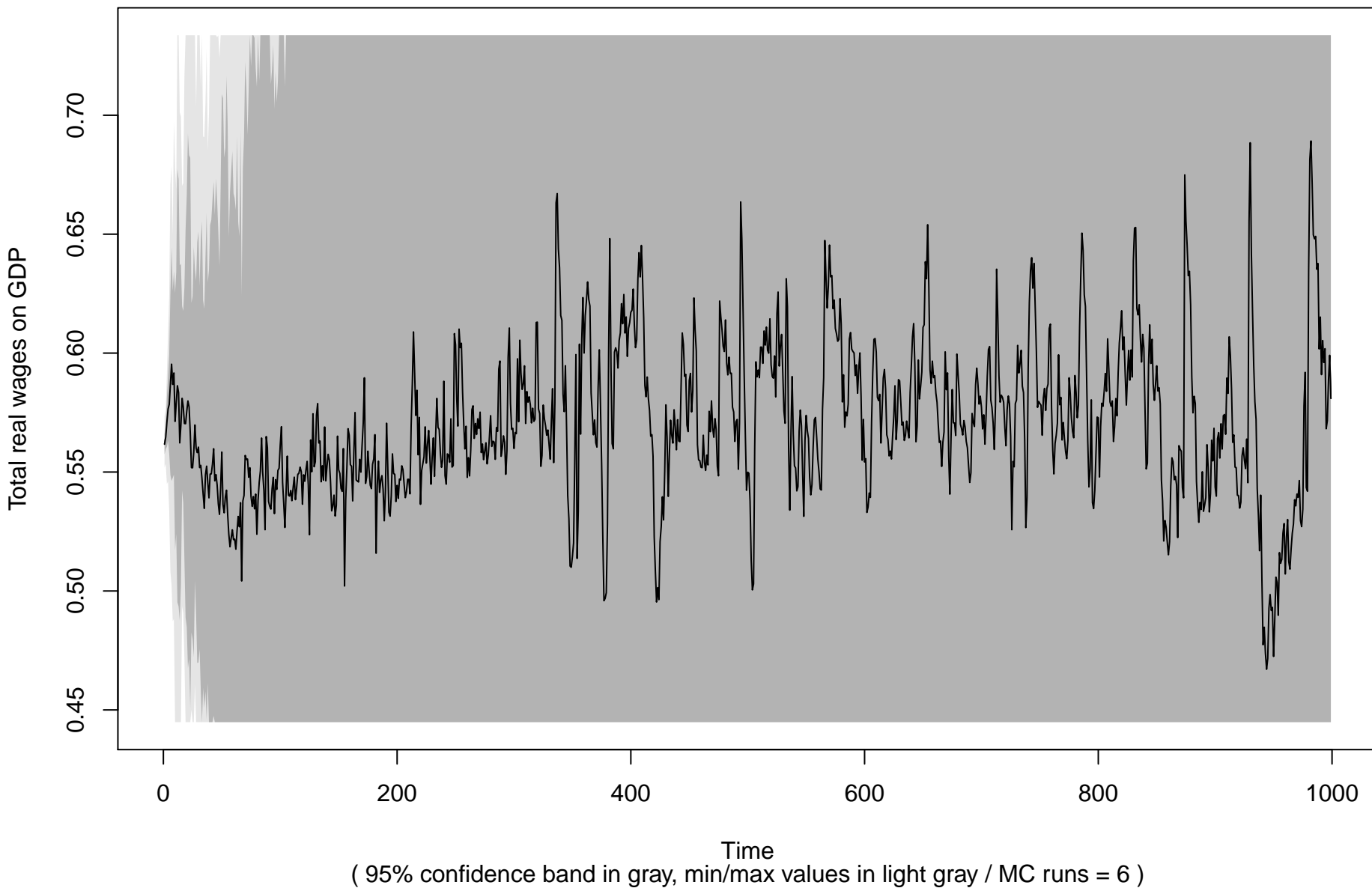
# Real wages average ( Benchmark )



## Wage share ( all experiments )

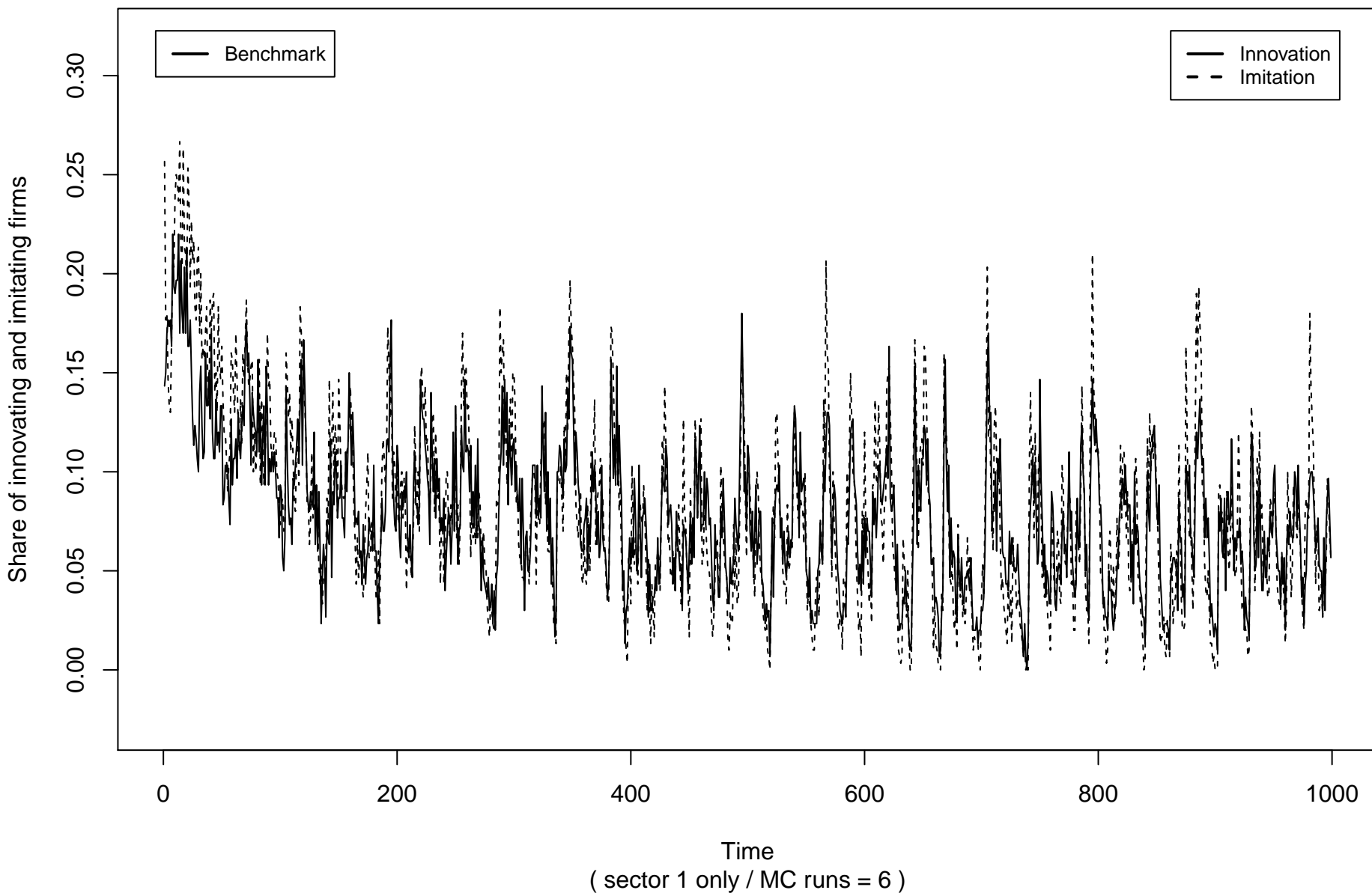


## Wage share ( Benchmark )

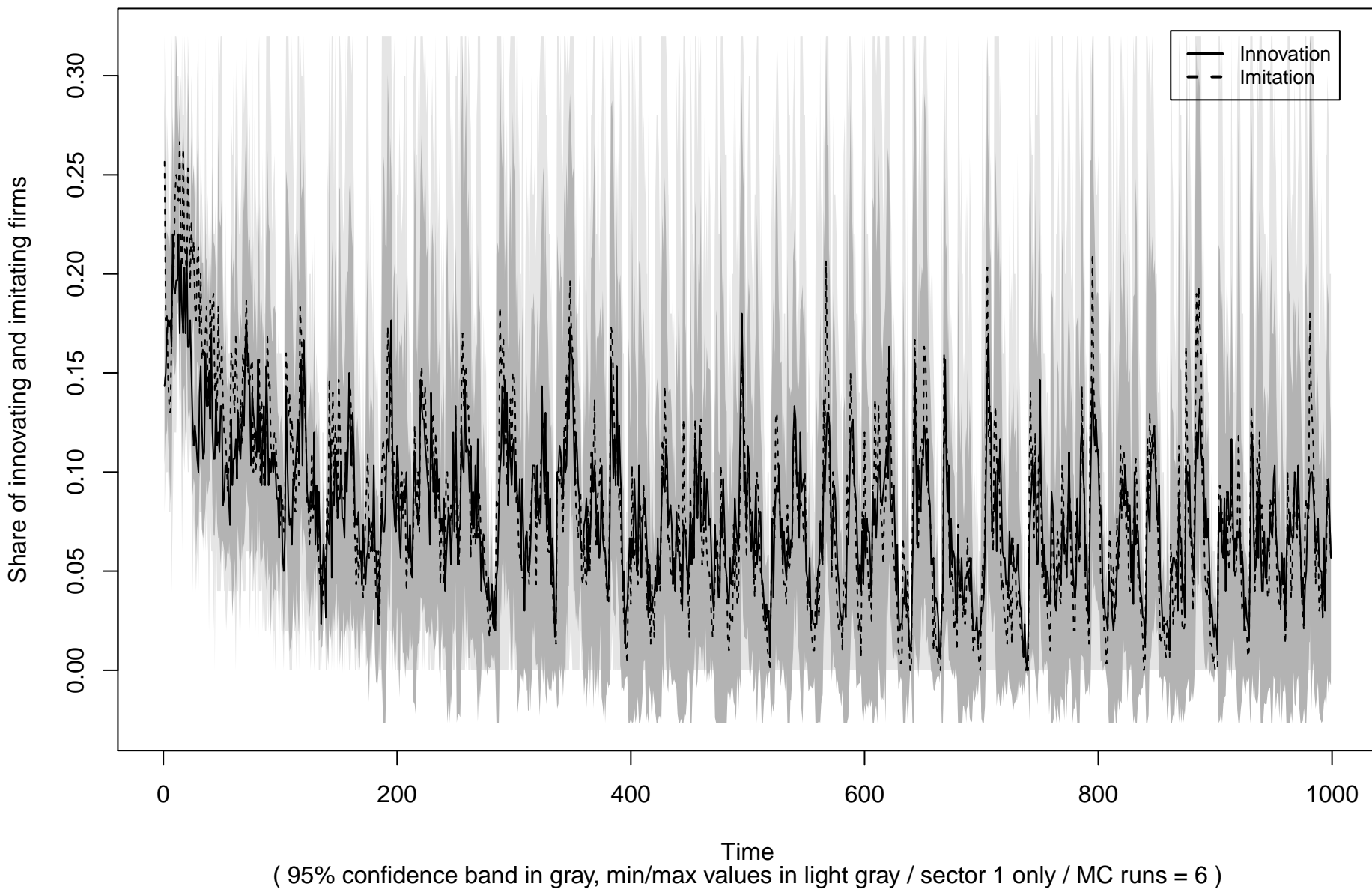




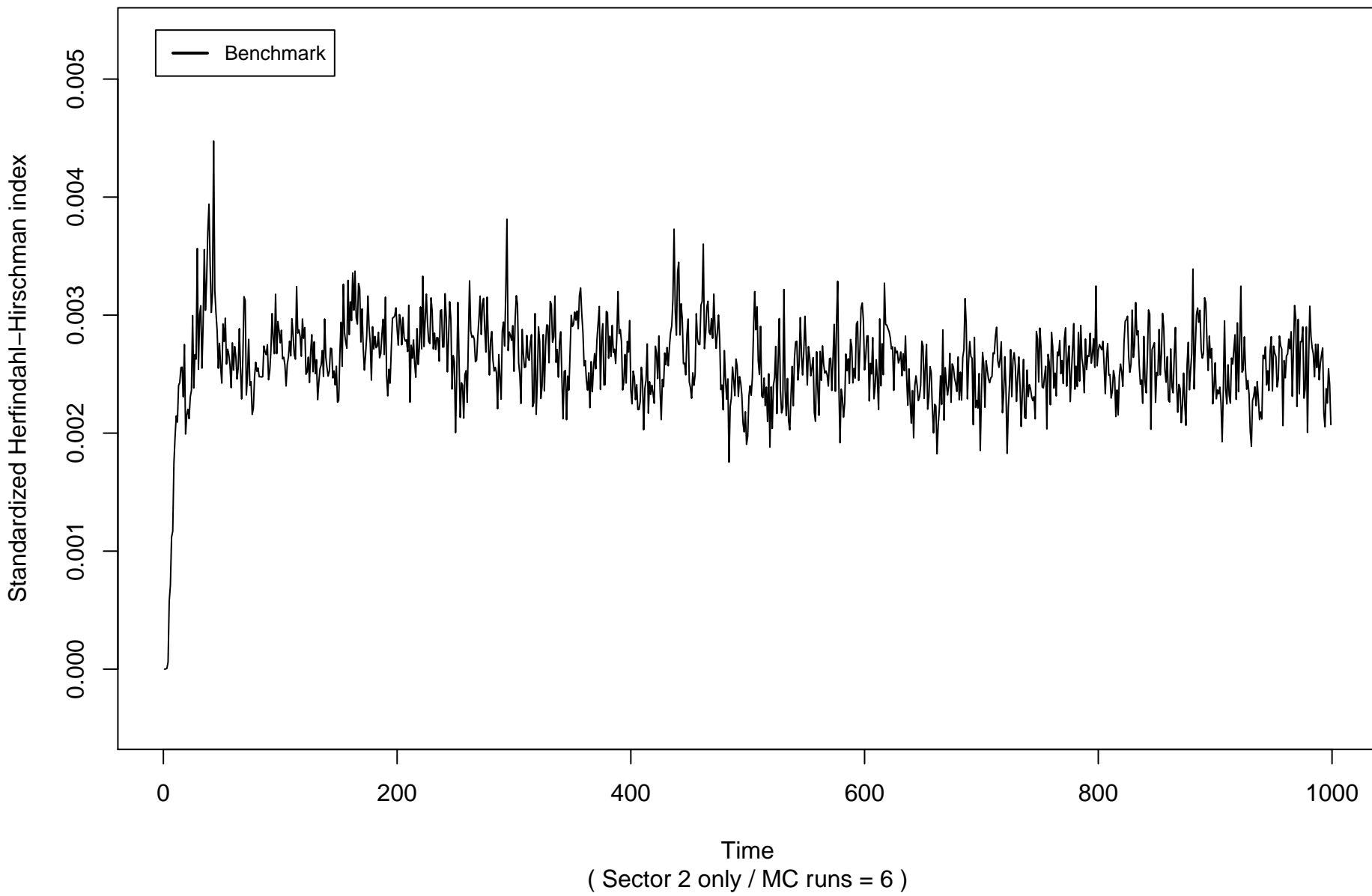
# Innovation and imitation ( all experiments )



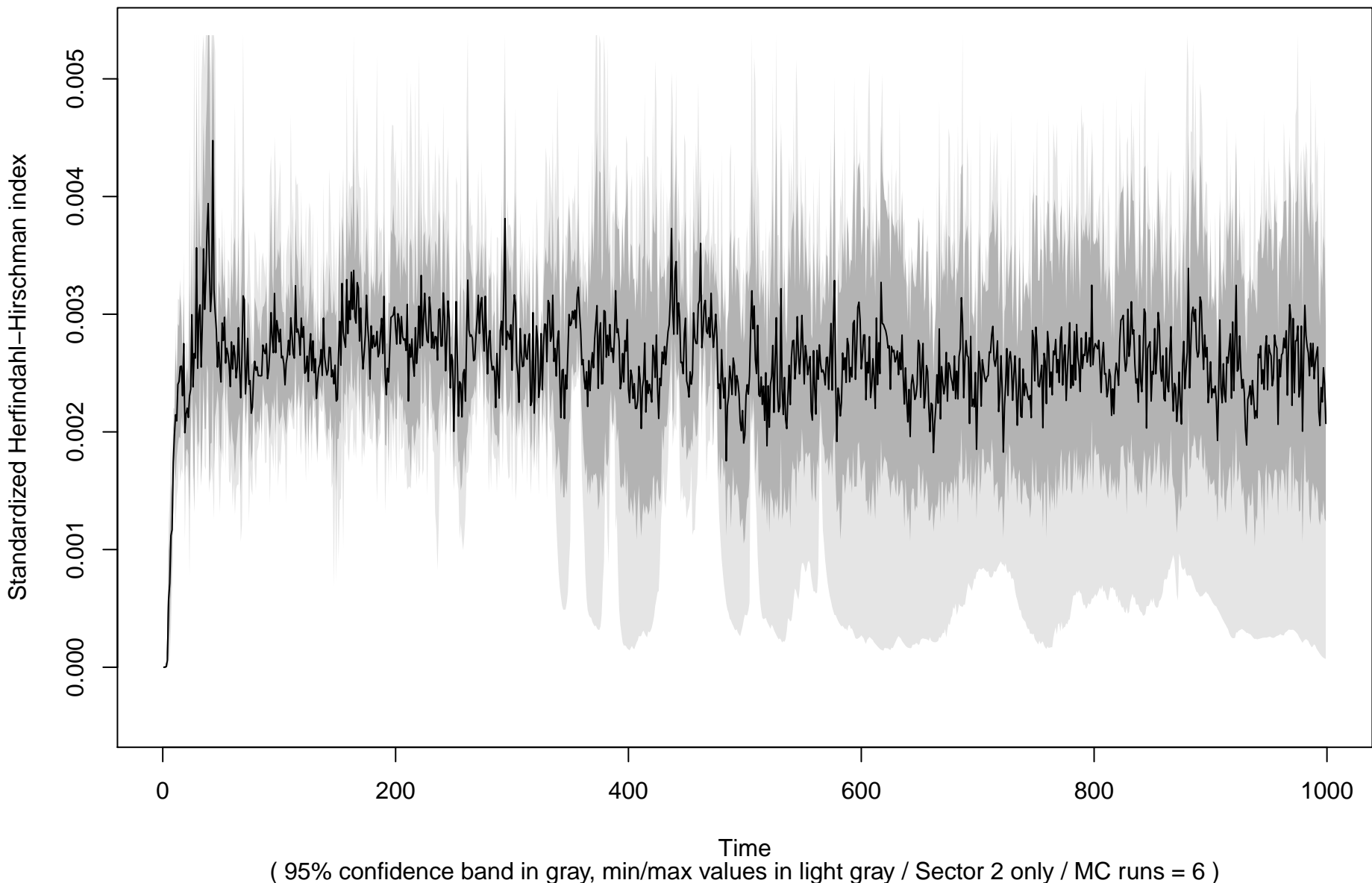
# Innovation and imitation ( Benchmark )



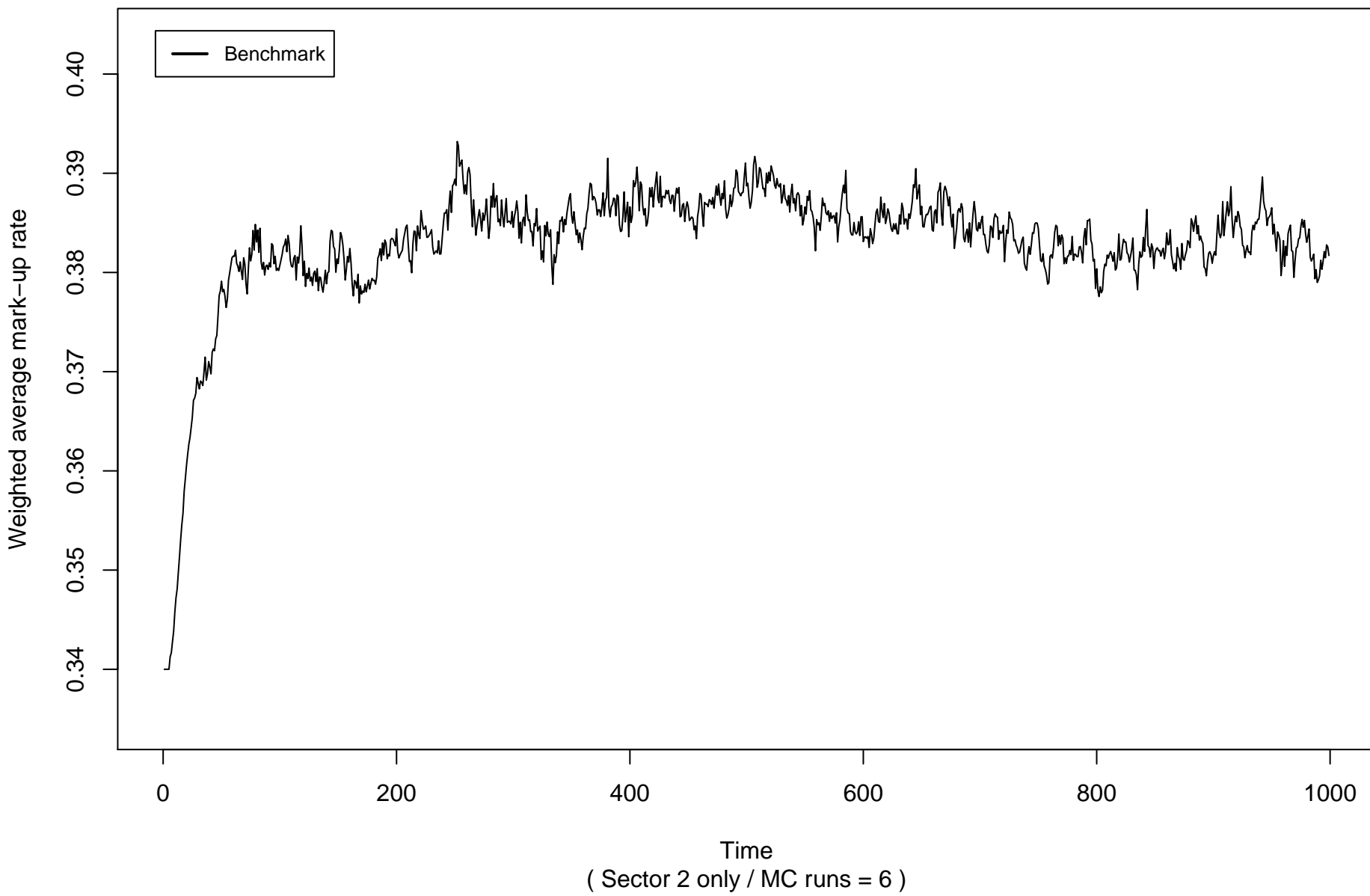
## Market concentration ( all experiments )



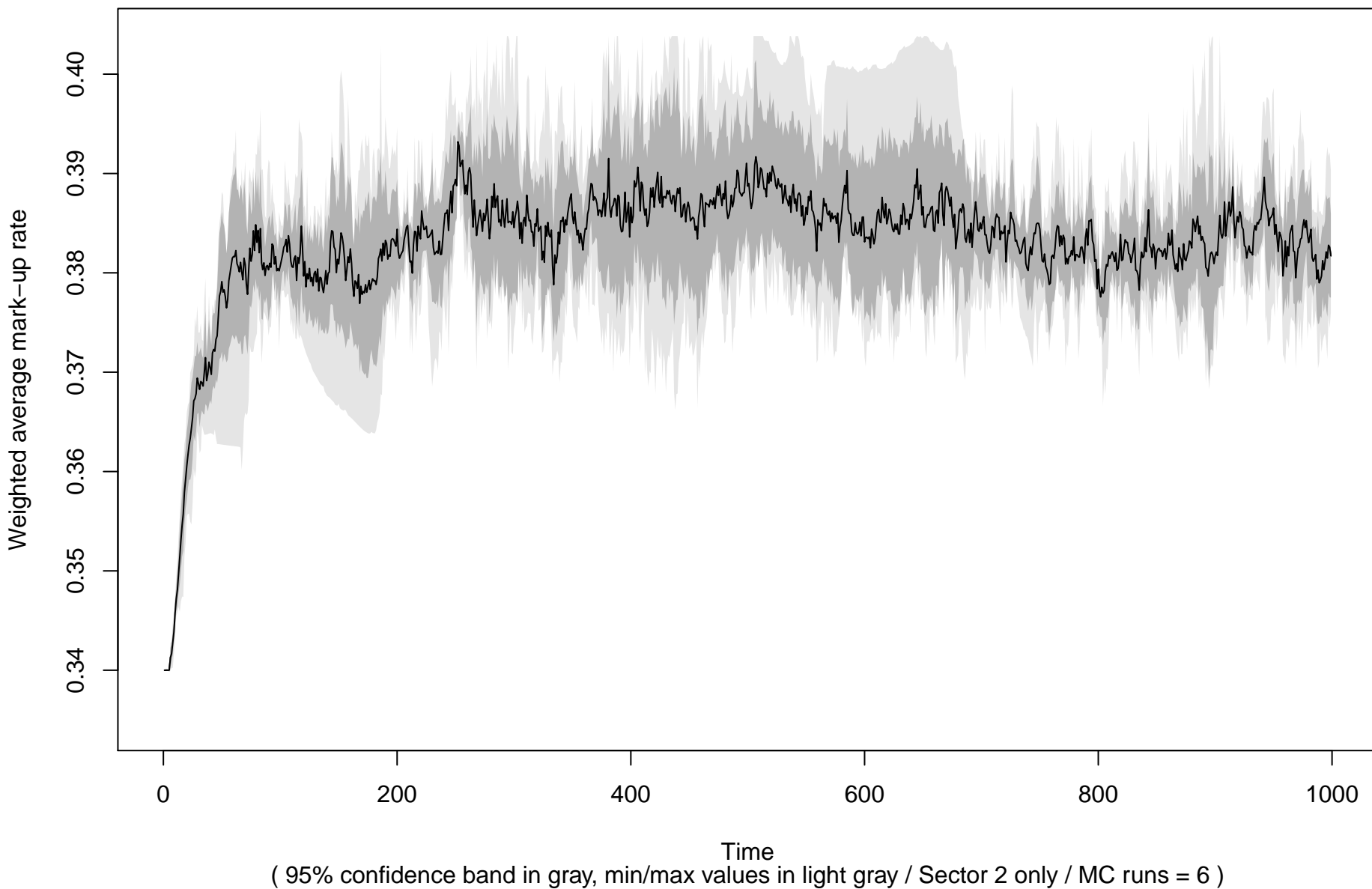
Market concentration ( Benchmark )



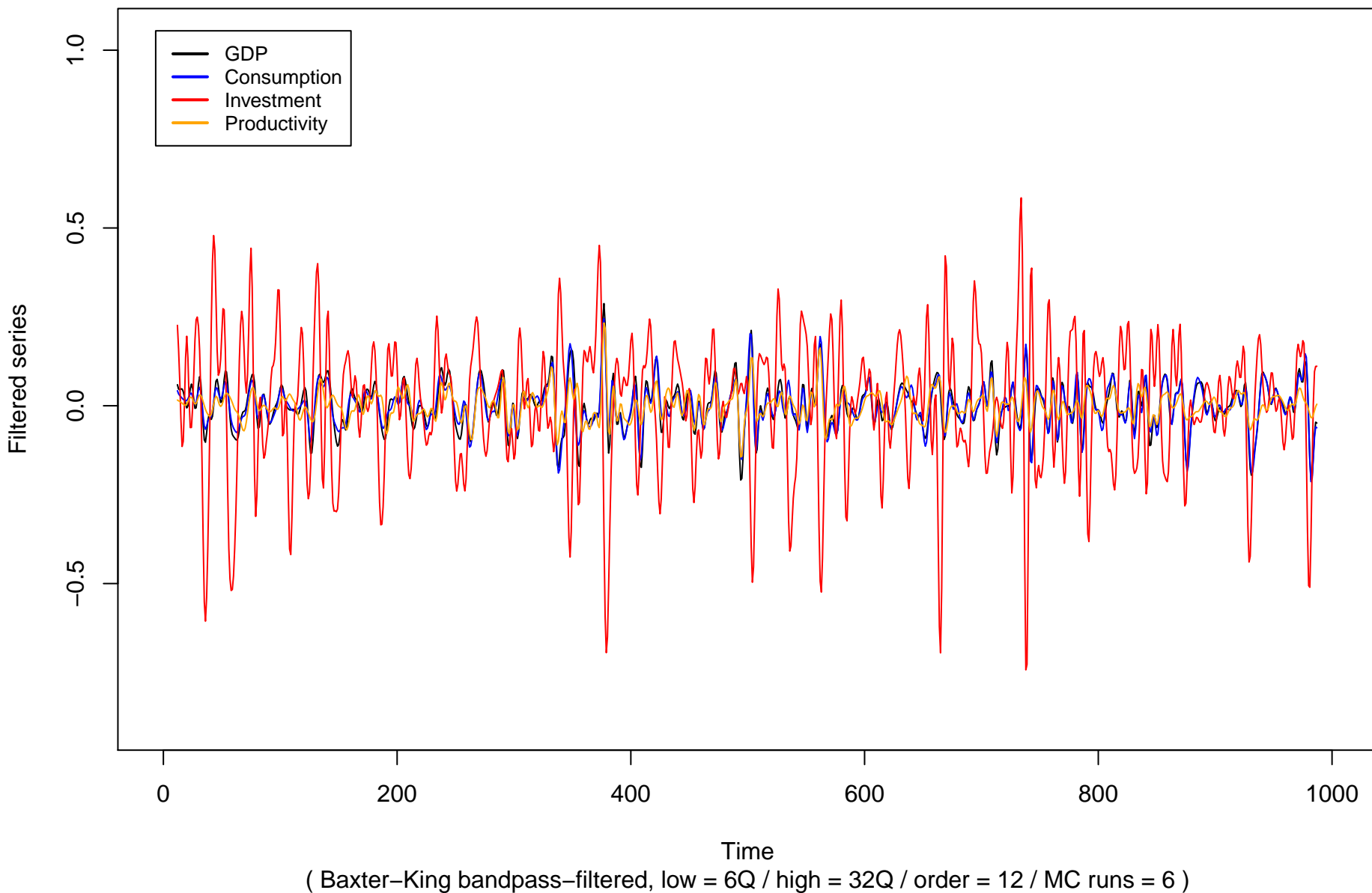
## Mark-up average ( all experiments )



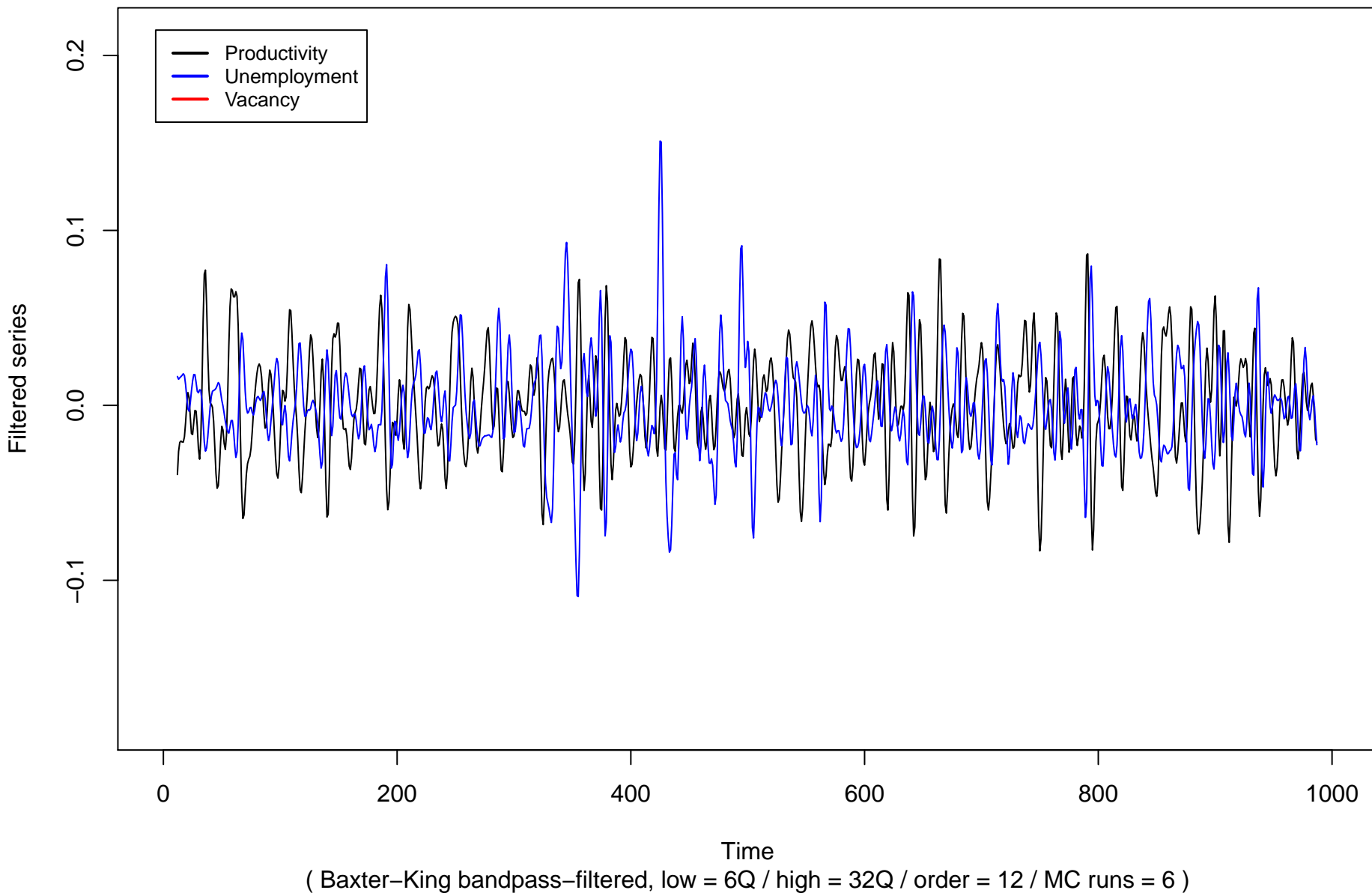
## Mark-up average ( Benchmark )



## GDP cycles ( Benchmark )



## Shimer puzzle ( Benchmark )





## Key statistics and unit roots tests for cycles ( Benchmark )

	<b>GDP (output)</b>	<b>Consumption</b>	<b>Investment</b>	<b>Product.</b>	<b>Real wage</b>
<b>avg. growth rate</b>	0.01129	0.01129	0.01089	0.01107	0.01125
<b>(s.e.)</b>	0.0006336	0.0006371	0.0007286	0.0005641	0.0006232
<b>ADF test (logs)</b>	−2.776	−2.633	−9.888	−2.475	−2.483
<b>(s.e.)</b>	0.2	0.183	0.3466	0.1776	0.2375
<b>(p-val.)</b>	0.2549	0.3103	0.01	0.3771	0.3826
<b>(s.e.)</b>	0.08244	0.07745	0	0.07516	0.09425
<b>ADF test (bpf)</b>	−9.974	−9.514	−13.2	−9.744	−9.12
<b>(s.e.)</b>	0.4699	0.2301	0.3044	0.1555	0.3078
<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>	0.09743	0.08392	1.614	0.06851	0.07089
<b>(s.e.)</b>	0.009243	0.01078	0.1378	0.003607	0.005957
<b>relative s.d. (GDP)</b>	1	0.8614	16.57	0.7032	0.7276

( bpf: Baxter–King bandpass–filtered series, low = 6Q / high = 32Q / order = 12 / MC runs = 6 / period = 200 – 1000 )

( ADF test H0: there are unit roots / non–stationary at 5% level )

## Correlation structure for GDP ( Benchmark )

	<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>	-0.02382	0.251	0.5936	0.8842	1	0.8842	0.5936	0.251	-0.02382
<b>(s.e.)</b>	0.01443	0.01238	0.007163	0.001892	0	0.001892	0.007163	0.01238	0.01443
<b>(p-val.)</b>	0.9826	1.094e-05	4.203e-09	6.119e-13	NA	6.119e-13	4.203e-09	1.094e-05	0.9826
<b>Consumption</b>	0.07758	0.3063	0.5858	0.8298	0.9411	0.8628	0.6246	0.3147	0.03361
<b>(s.e.)</b>	0.03748	0.02744	0.01401	0.009971	0.01027	0.005891	0.01153	0.01978	0.02068
<b>(p-val.)</b>	0.09246	0.0001487	1.291e-07	3.499e-09	2.061e-09	2.043e-10	3.423e-08	2.615e-05	0.8039
<b>Investment</b>	-0.3331	-0.4013	-0.3805	-0.2443	-0.02471	0.1958	0.3344	0.3561	0.2891
<b>(s.e.)</b>	0.03791	0.02502	0.01368	0.03899	0.05712	0.05483	0.03746	0.02628	0.0294
<b>(p-val.)</b>	0.000415	1.953e-05	1.36e-06	0.002729	0.04667	0.01728	0.0003845	4.97e-05	0.0002905
<b>Net investment</b>	-0.2784	-0.3501	-0.3388	-0.2186	-0.02106	0.1751	0.2929	0.303	0.2365
<b>(s.e.)</b>	0.02886	0.01456	0.02862	0.05829	0.07238	0.06354	0.04263	0.03445	0.03812
<b>(p-val.)</b>	0.0003328	3.037e-06	0.0001004	0.02173	0.03949	0.01323	0.001451	0.000459	0.002975
<b>Change in inventories</b>	-0.2189	-0.1226	0.0599	0.2375	0.3144	0.2471	0.09833	-0.03904	-0.09704
<b>(s.e.)</b>	0.01591	0.008876	0.02048	0.03068	0.0311	0.02406	0.01648	0.01749	0.0187
<b>(p-val.)</b>	9.123e-05	0.0005116	0.2792	0.001141	0.0002301	0.0002957	0.03927	0.8597	0.05985
<b>Unemployment rate</b>	0.3182	0.2972	0.1658	-0.03549	-0.2218	-0.3092	-0.2723	-0.1501	-0.01838
<b>(s.e.)</b>	0.0428	0.03535	0.0303	0.03209	0.03899	0.04251	0.04322	0.04499	0.04719
<b>(p-val.)</b>	0.0009322	0.0005775	0.009358	0.3695	0.004681	0.00106	0.002305	0.03922	0.1416
<b>Productivity</b>	0.2436	0.4272	0.6107	0.7351	0.7478	0.632	0.4263	0.1961	0.002227
<b>(s.e.)</b>	0.05633	0.05172	0.03055	0.01424	0.03148	0.04256	0.04483	0.04684	0.04722
<b>(p-val.)</b>	0.01168	0.0004406	4.915e-06	3.999e-08	1.89e-06	2.076e-05	0.000229	0.01761	0.01854
<b>Mark-up (sector 2)</b>	0.2687	0.217	0.1195	-0.001111	-0.1101	-0.1778	-0.1948	-0.1739	-0.1391
<b>(s.e.)</b>	0.02424	0.02106	0.01934	0.01903	0.02023	0.02303	0.02641	0.0299	0.033
<b>(p-val.)</b>	0.0001821	0.0003637	0.01549	0.97	0.0316	0.002004	0.002	0.006685	0.03334
<b>Total firm debt</b>	0.09595	0.005466	-0.08069	-0.149	-0.1939	-0.2176	-0.2279	-0.2293	-0.2211
<b>(s.e.)</b>	0.0647	0.0665	0.06849	0.06547	0.05313	0.03395	0.02591	0.04116	0.05629
<b>(p-val.)</b>	0.002474	0.162	0.2544	0.0796	0.02783	0.002964	0.0006892	0.00484	0.009166
<b>Liquidity-to-sales ratio</b>	0.0838	-0.113	-0.3532	-0.573	-0.6998	-0.6846	-0.5443	-0.3381	-0.1382
<b>(s.e.)</b>	0.02357	0.02337	0.02415	0.01987	0.01744	0.02801	0.039	0.04152	0.03607
<b>(p-val.)</b>	0.1985	0.04032	3.463e-05	8.29e-07	1.437e-07	1.71e-06	3.062e-05	0.0005801	0.04415
<b>Bankruptcy rate</b>	0.3348	0.3	0.187	0.03704	-0.08996	-0.1543	-0.1577	-0.1364	-0.1263
<b>(s.e.)</b>	0.03536	0.04896	0.05524	0.04865	0.03716	0.03855	0.04416	0.03746	0.0236
<b>(p-val.)</b>	0.0002917	0.002312	0.03653	0.2221	0.04643	0.03101	0.0412	0.05188	0.02073

( non-rate/ratio series are Baxter-King bandpass-filtered, low = 6Q / high = 32Q / order = 12 / MC runs = 6 / period = 200 – 1000 )

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

## Correlation structure for GDP ( Benchmark )

	<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>	-0.02382	0.251	0.5936	0.8842	1	0.8842	0.5936	0.251	-0.02382
<b>(s.e.)</b>	0.01443	0.01238	0.007163	0.001892	0	0.001892	0.007163	0.01238	0.01443
<b>(p-val.)</b>	0.9826	1.094e-05	4.203e-09	6.119e-13	NA	6.119e-13	4.203e-09	1.094e-05	0.9826
<b>Consumption</b>	0.07758	0.3063	0.5858	0.8298	0.9411	0.8628	0.6246	0.3147	0.03361
<b>(s.e.)</b>	0.03748	0.02744	0.01401	0.009971	0.01027	0.005891	0.01153	0.01978	0.02068
<b>(p-val.)</b>	0.09246	0.0001487	1.291e-07	3.499e-09	2.061e-09	2.043e-10	3.423e-08	2.615e-05	0.8039
<b>Investment</b>	-0.3331	-0.4013	-0.3805	-0.2443	-0.02471	0.1958	0.3344	0.3561	0.2891
<b>(s.e.)</b>	0.03791	0.02502	0.01368	0.03899	0.05712	0.05483	0.03746	0.02628	0.0294
<b>(p-val.)</b>	0.000415	1.953e-05	1.36e-06	0.002729	0.04667	0.01728	0.0003845	4.97e-05	0.0002905
<b>Productivity</b>	0.2436	0.4272	0.6107	0.7351	0.7478	0.632	0.4263	0.1961	0.002227
<b>(s.e.)</b>	0.05633	0.05172	0.03055	0.01424	0.03148	0.04256	0.04483	0.04684	0.04722
<b>(p-val.)</b>	0.01168	0.0004406	4.915e-06	3.999e-08	1.89e-06	2.076e-05	0.000229	0.01761	0.01854
<b>Entry</b>	-0.12	0.04356	0.2225	0.3687	0.4423	0.431	0.3581	0.2618	0.1747
<b>(s.e.)</b>	0.04538	0.05012	0.04199	0.02079	0.0116	0.0321	0.04107	0.03869	0.03472
<b>(p-val.)</b>	0.02368	0.1651	0.006173	1.295e-05	2.486e-07	4.364e-05	0.0003999	0.001787	0.01139
<b>Wage</b>	0.3552	0.5183	0.64	0.6863	0.6424	0.5185	0.3508	0.1774	0.02534
<b>(s.e.)</b>	0.02262	0.0224	0.03234	0.04351	0.04978	0.05021	0.04749	0.04406	0.04054
<b>(p-val.)</b>	2.435e-05	2.638e-06	5.035e-06	1.482e-05	4.078e-05	0.0001345	0.0008691	0.02358	0.1954
<b>Unemployment rate</b>	0.3182	0.2972	0.1658	-0.03549	-0.2218	-0.3092	-0.2723	-0.1501	-0.01838
<b>(s.e.)</b>	0.0428	0.03535	0.0303	0.03209	0.03899	0.04251	0.04322	0.04499	0.04719
<b>(p-val.)</b>	0.0009322	0.0005775	0.009358	0.3695	0.004681	0.00106	0.002305	0.03922	0.1416
<b>Vacancy rate</b>	0.06095	-0.1207	-0.2892	-0.3735	-0.3425	-0.2249	-0.09062	-0.003681	0.0135
<b>(s.e.)</b>	0.05229	0.0356	0.03625	0.05748	0.07274	0.06962	0.04914	0.02871	0.03832
<b>(p-val.)</b>	0.03758	0.08001	0.0007583	0.001448	0.005964	0.0332	0.1321	0.6259	0.3545

( non-rate/ratio series are Baxter–King bandpass-filtered, low = 6Q / high = 32Q / order = 12 / MC runs = 6 / period = 200 – 1000 )

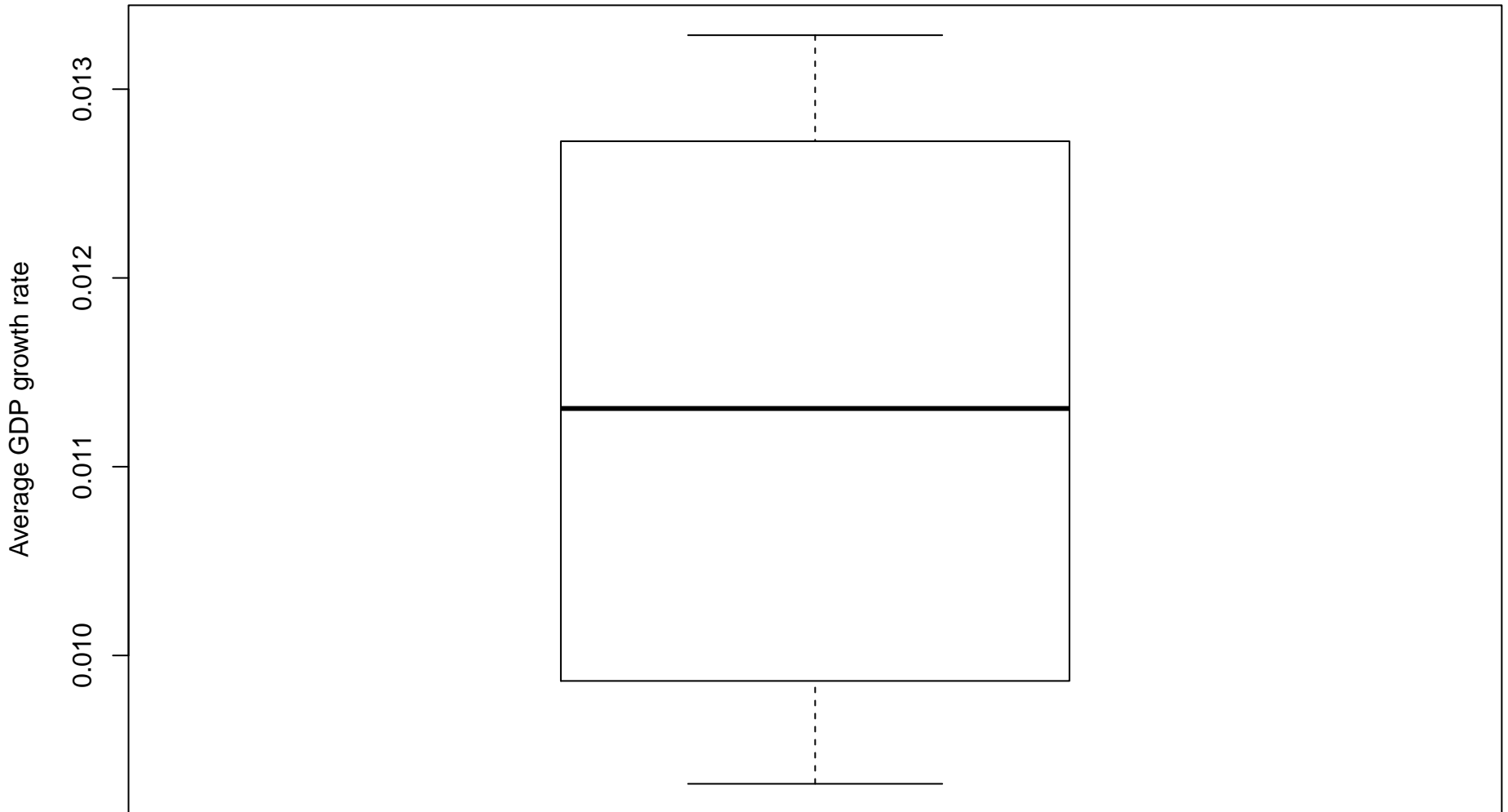
( test H0: lag coefficient is not significant at 5% level )

## Stationarity, i.i.d. and ergodicity tests ( Benchmark )

	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	0.02	0.83	0.20	0.47	0.00	C
dA	0.01	1.00	0.01	1.00	0.10	0.00	0.00	1.00	0.04	0.87	0.00	C
dw	0.01	1.00	0.01	1.00	0.10	0.00	0.01	0.83	0.04	0.87	0.00	C
V	0.01	1.00	0.01	1.00	0.03	0.83	0.00	1.00	0.07	0.87	0.00	C
U	0.01	1.00	0.01	1.00	0.01	1.00	0.00	1.00	0.00	0.93	0.00	C
mu2avg	0.07	0.83	0.01	1.00	0.06	0.50	0.00	1.00	0.00	1.00	0.00	C
HH1	0.01	1.00	0.01	1.00	0.09	0.17	0.00	1.00	0.20	0.53	0.00	C
HH2	0.01	1.00	0.01	1.00	0.07	0.33	0.00	1.00	0.10	0.67	0.00	C

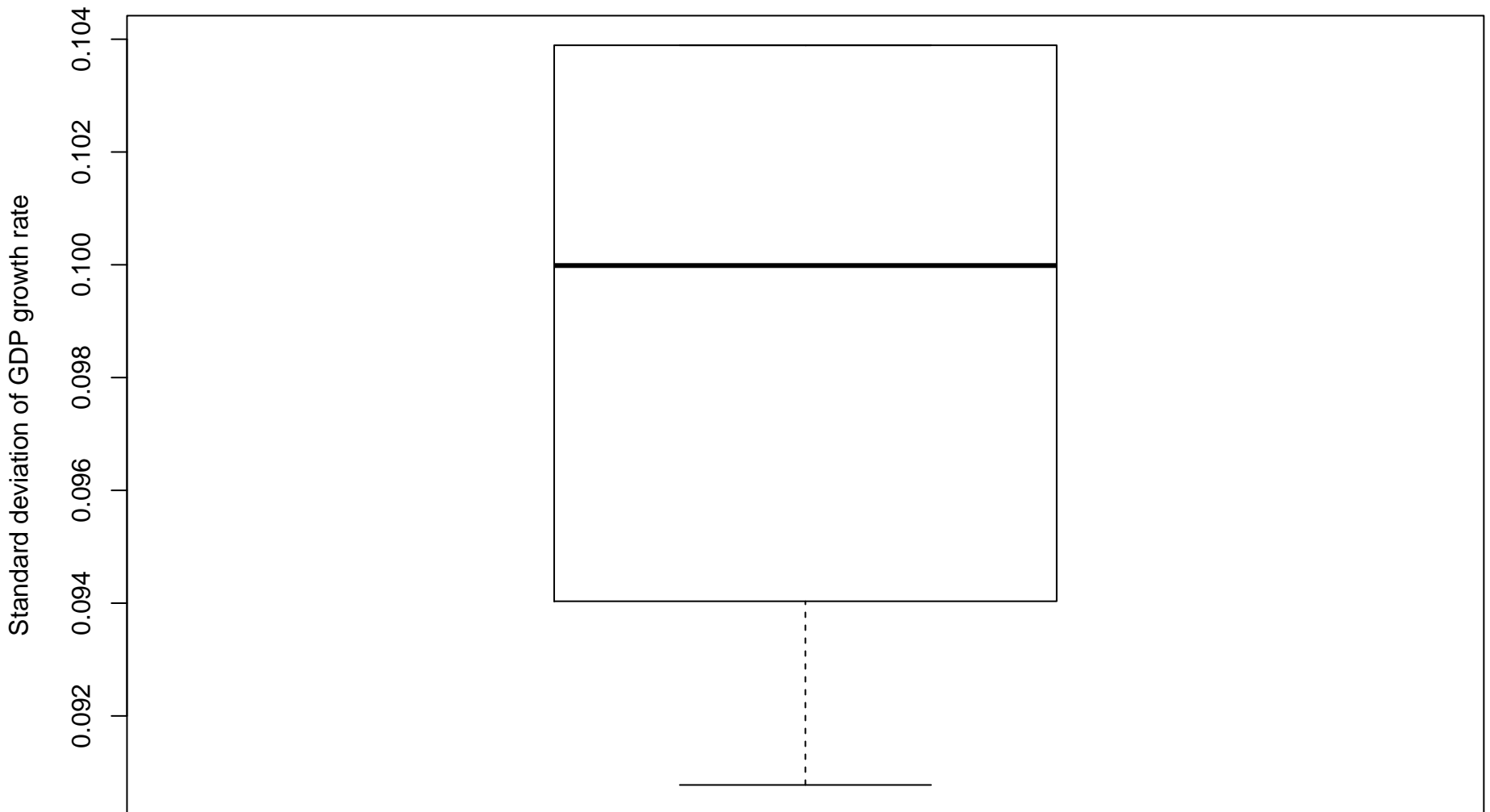
( average p-values for testing H0 and rate of rejection of H0 / MC runs = 6 / period = 200 – 1000 )  
 ( ADF/PP H0: non-stationary, KPSS H0: stationary, BDS H0: i.i.d., KS/AD/WW H0: ergodic )  
 ( significance = 0.05 )

## GDP growth



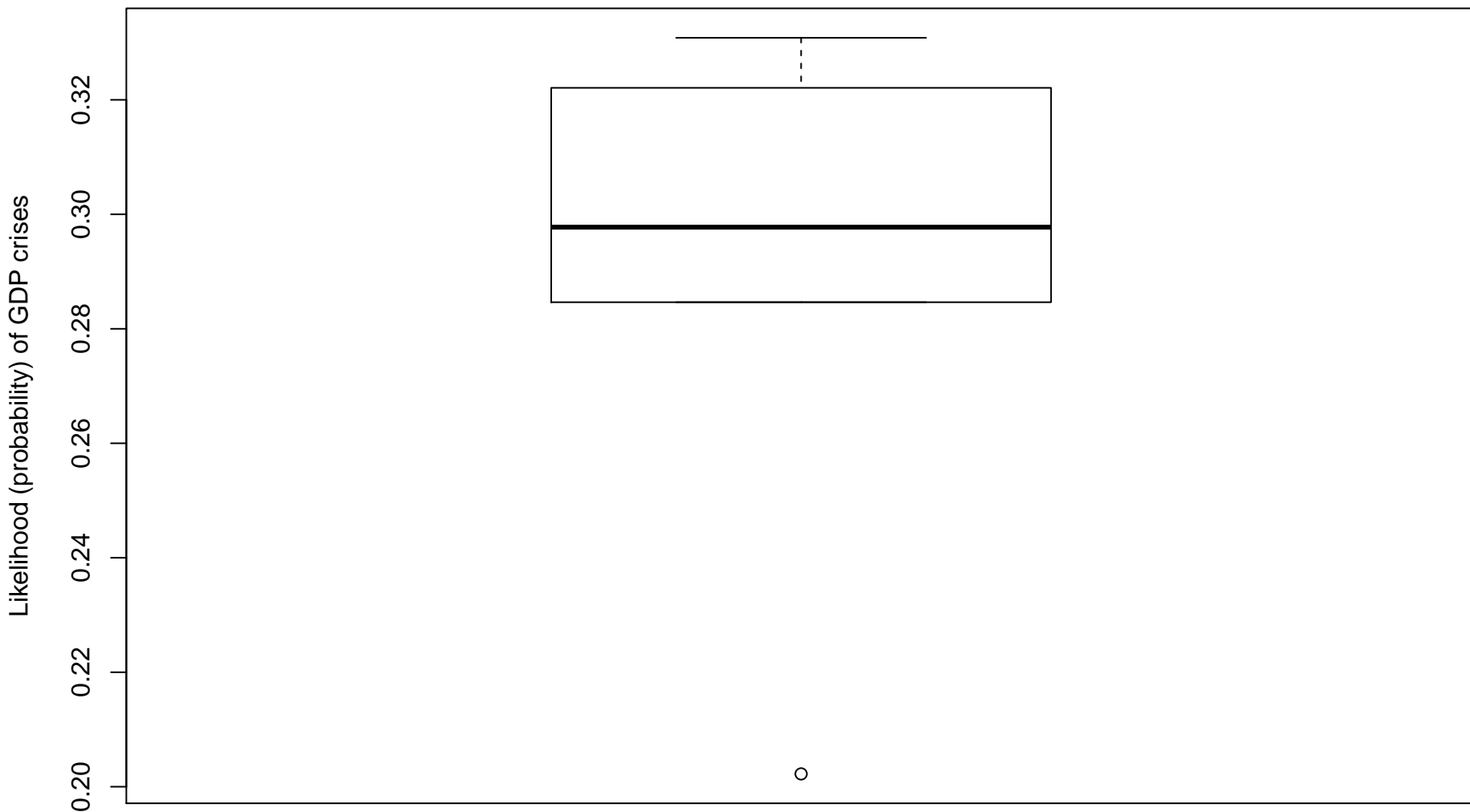
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 6 / period = 200 – 1000 )

## Volatility of GDP growth



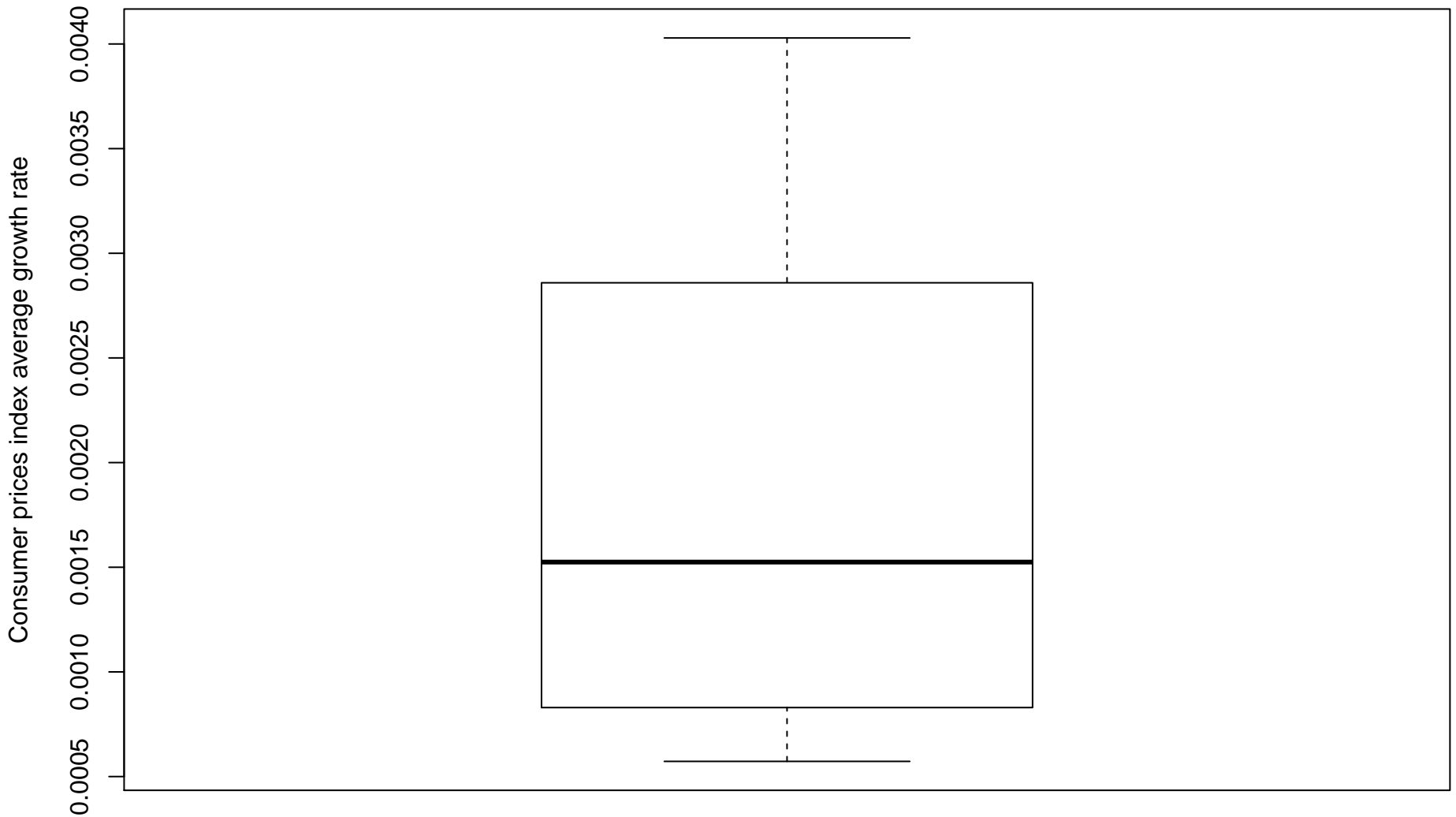
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 6 / period = 200 – 1000 )

## Likelihood of GDP crises



( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 6 / period = 200 – 1000 )

# Inflation



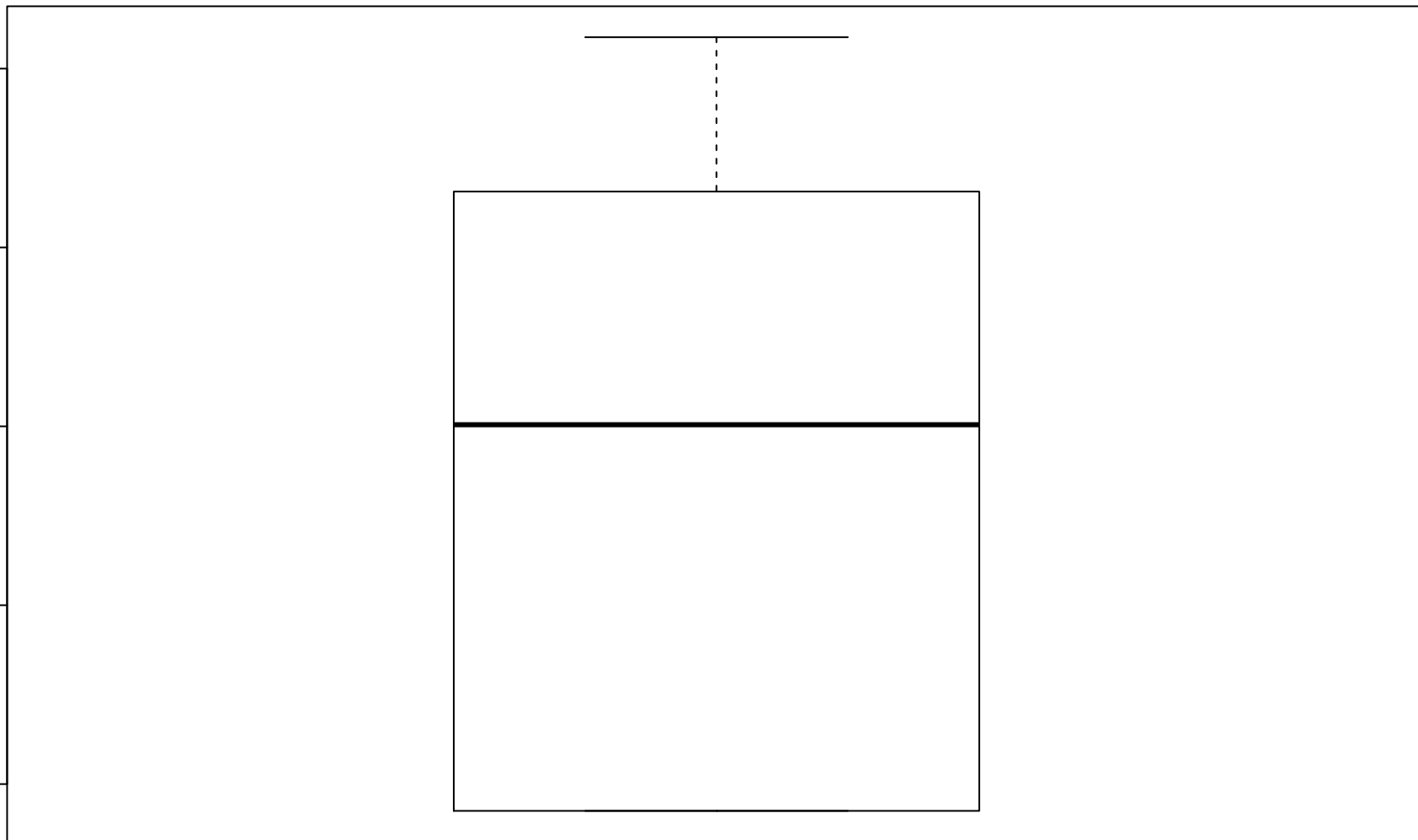
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 6 / period = 200 – 1000 )



Government tax income over GDP

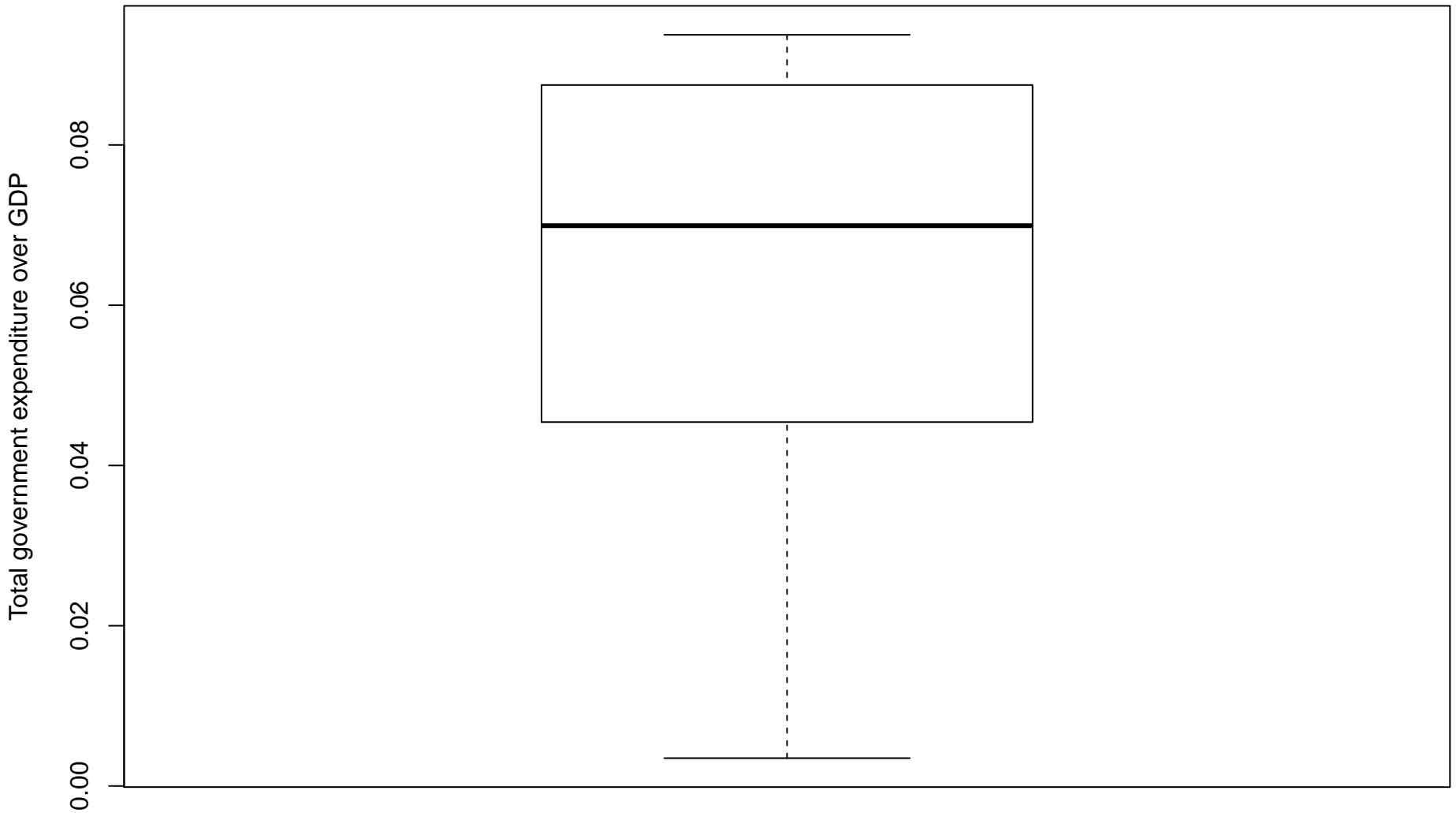
Tax

0.0280  
0.0275  
0.0270  
0.0265  
0.0260



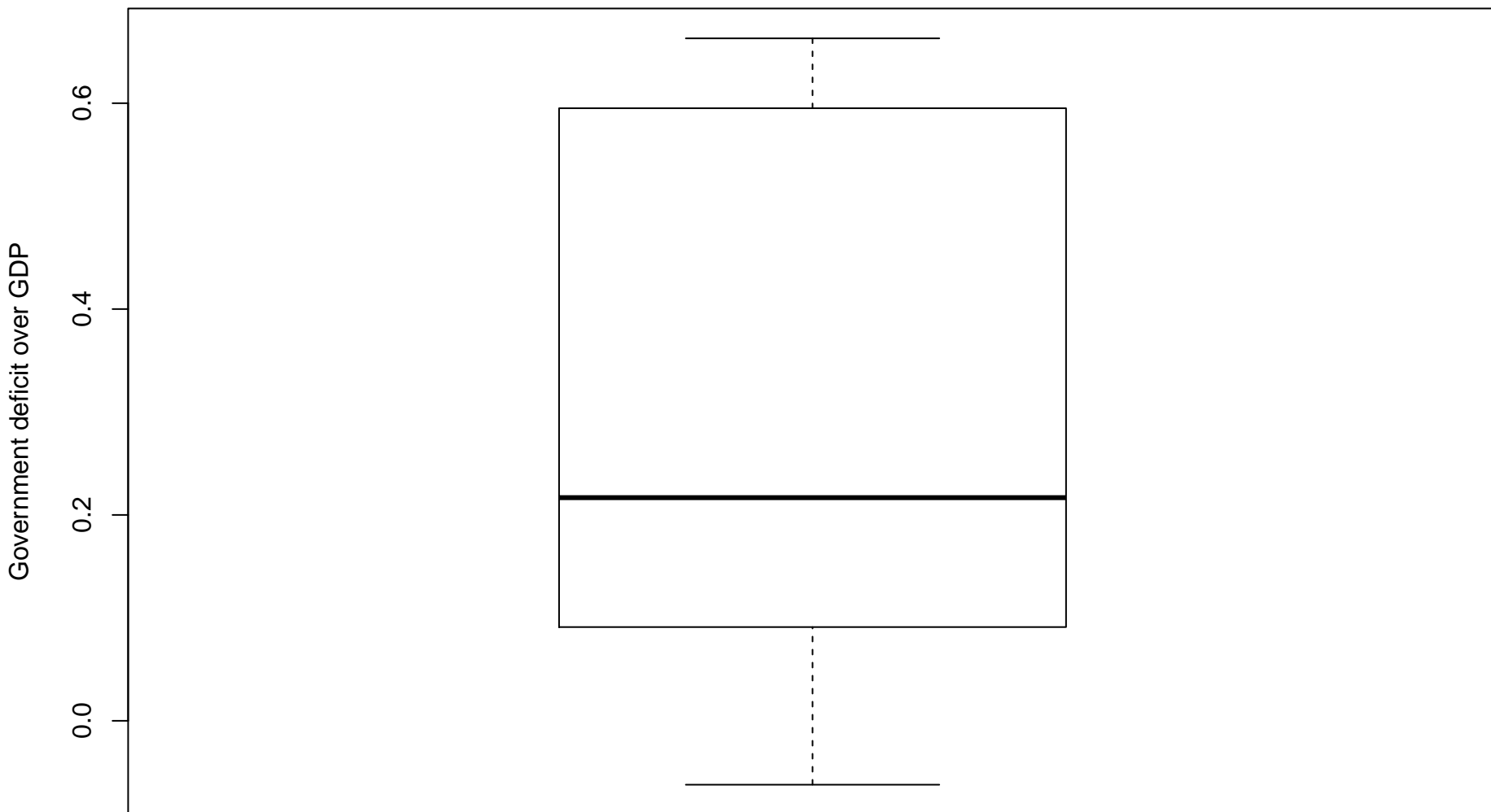
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 6 / period = 200 – 1000 )

## Government total expenditure



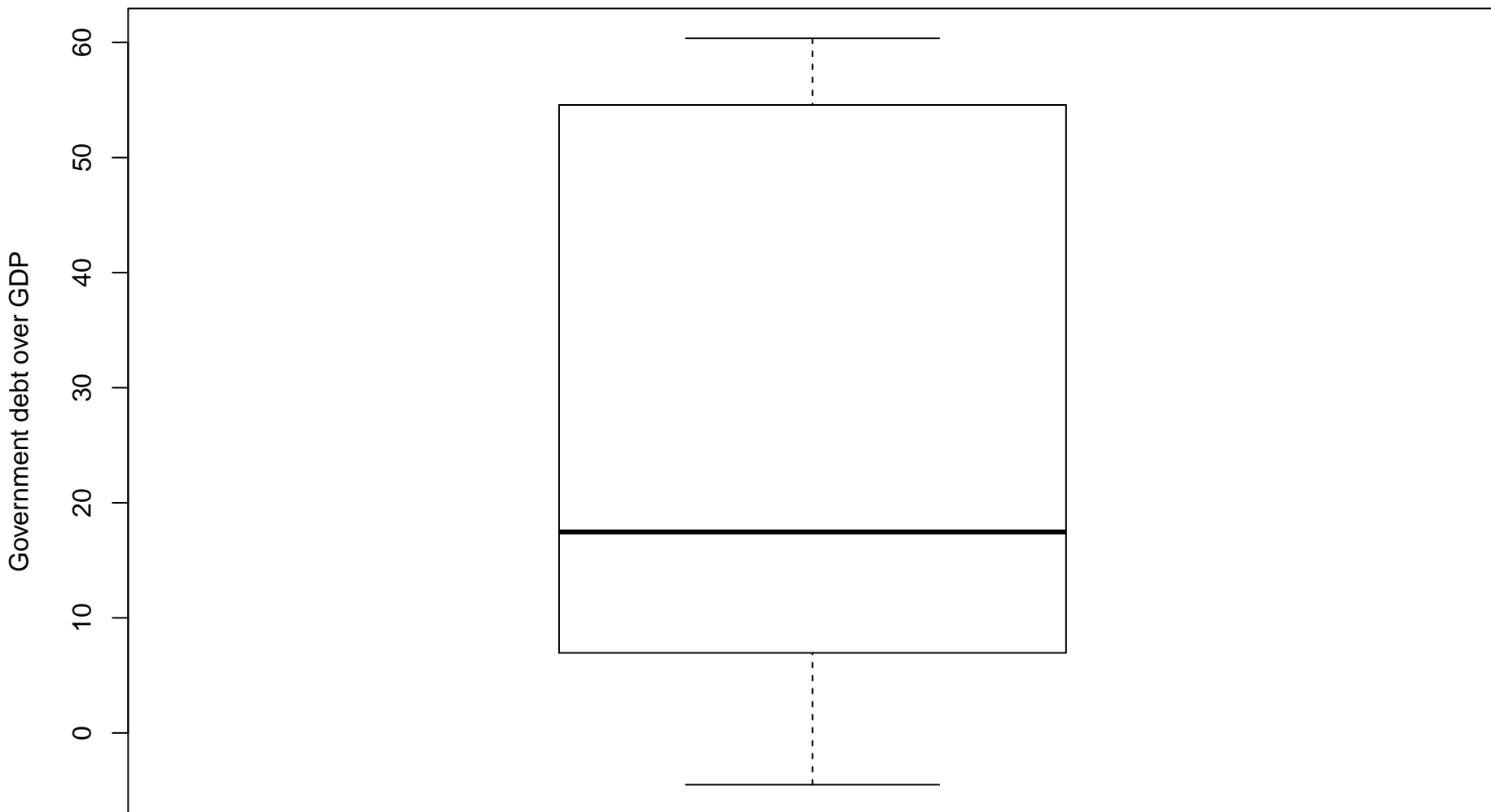
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 6 / period = 200 – 1000 )

## Government deficit



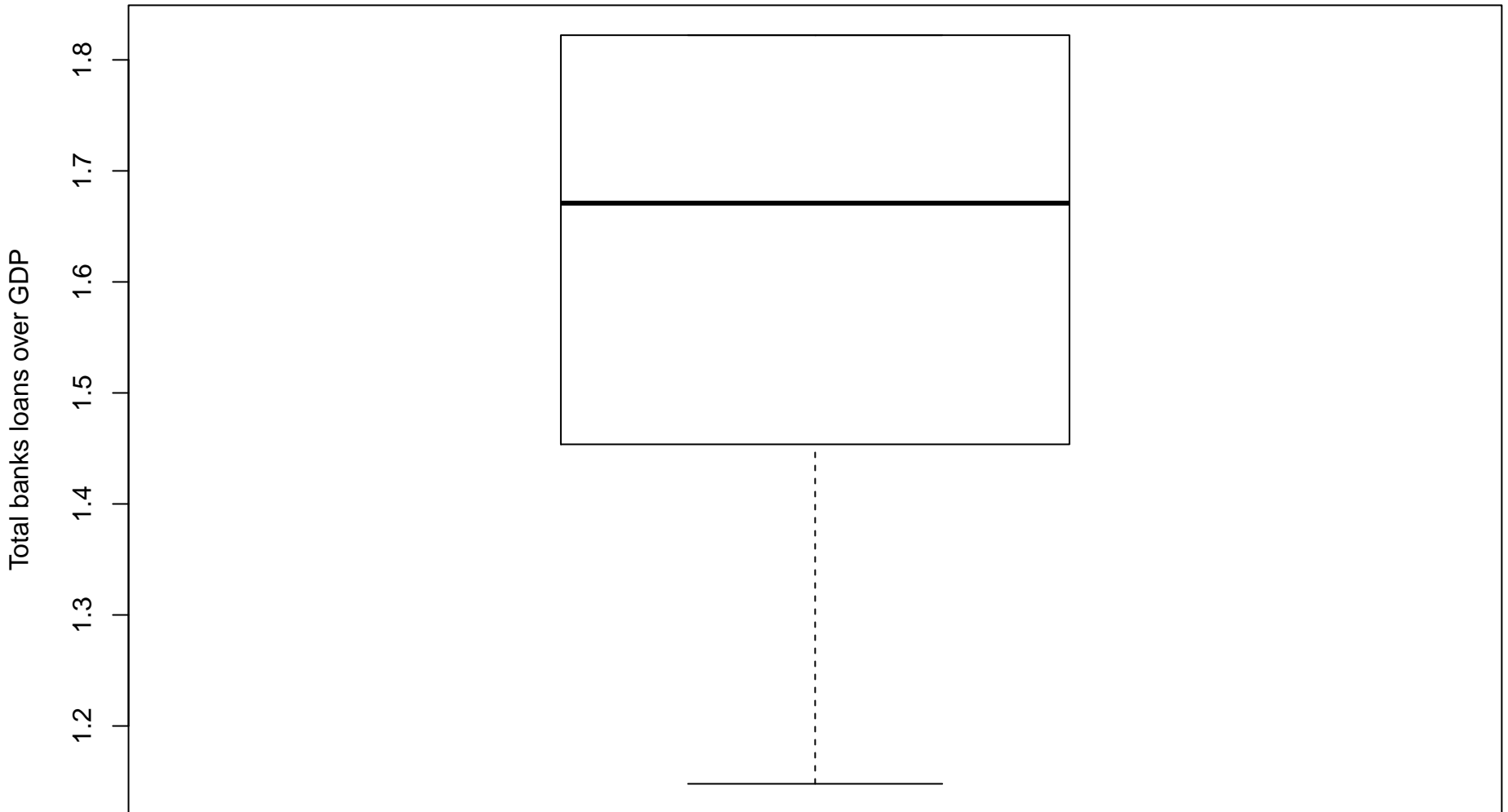
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 6 / period = 200 – 1000 )

## Government debt



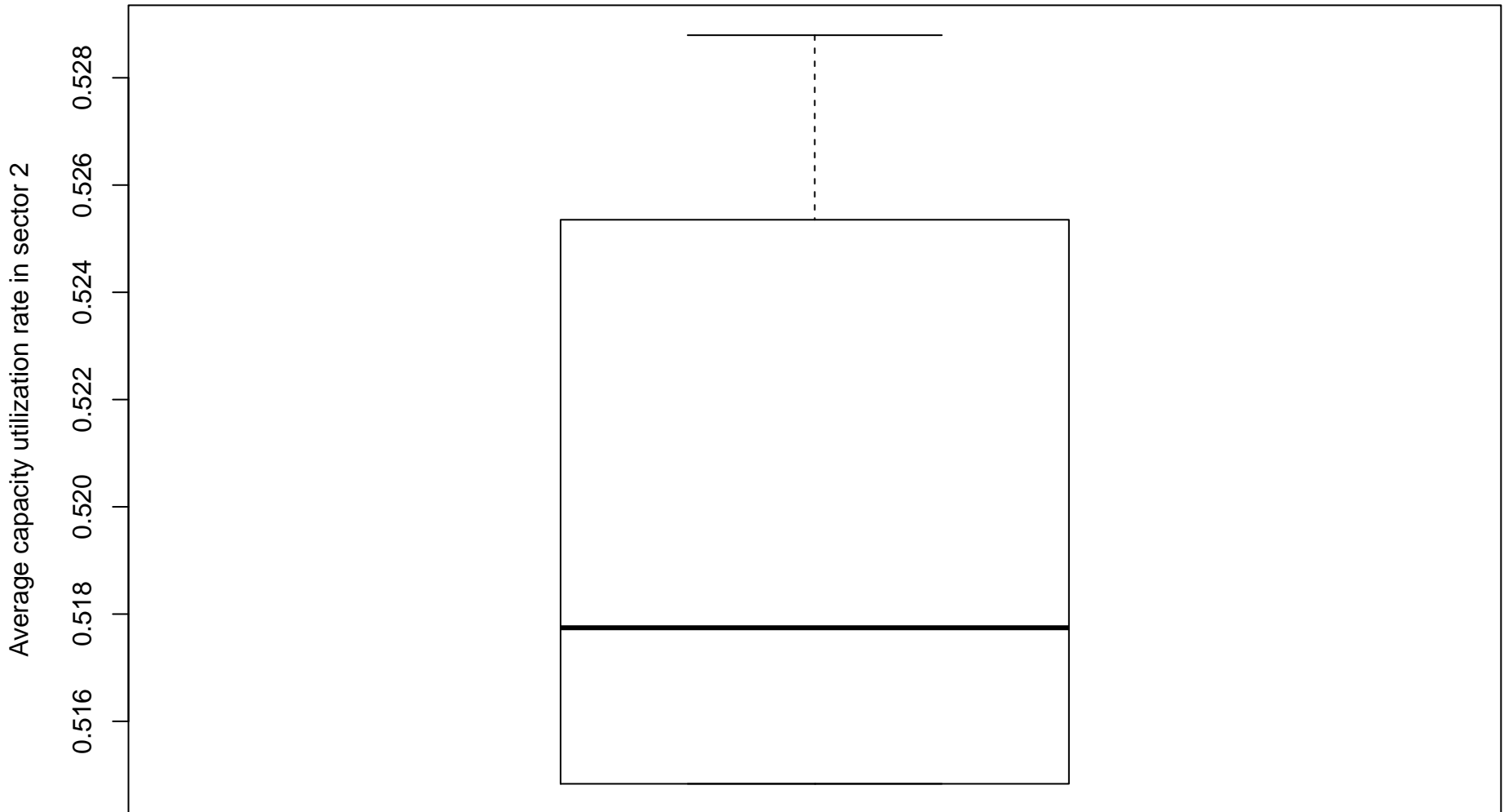
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 6 / period = 200 – 1000 )

## Loans



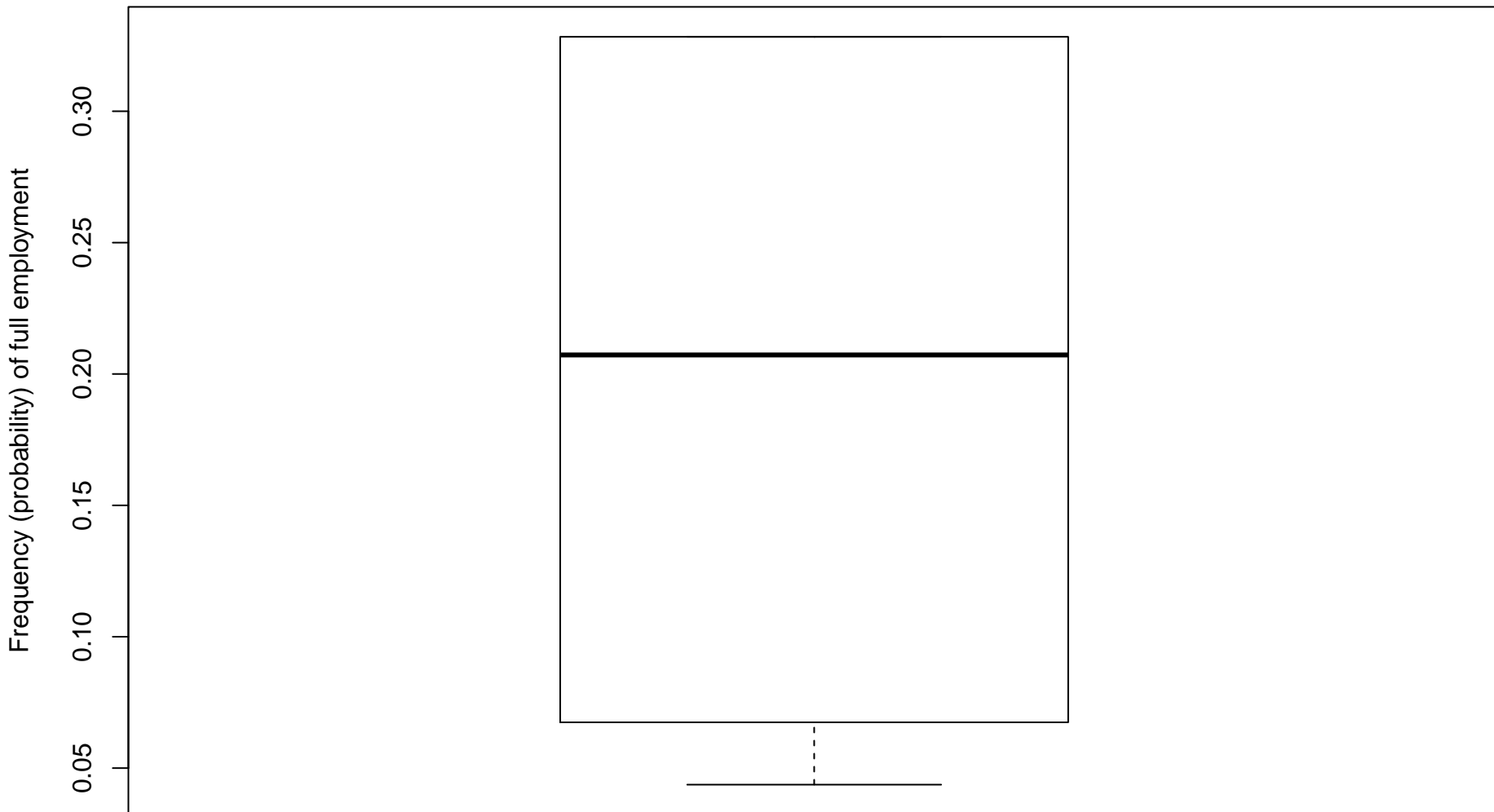
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 6 / period = 200 – 1000 )

# Capacity utilization



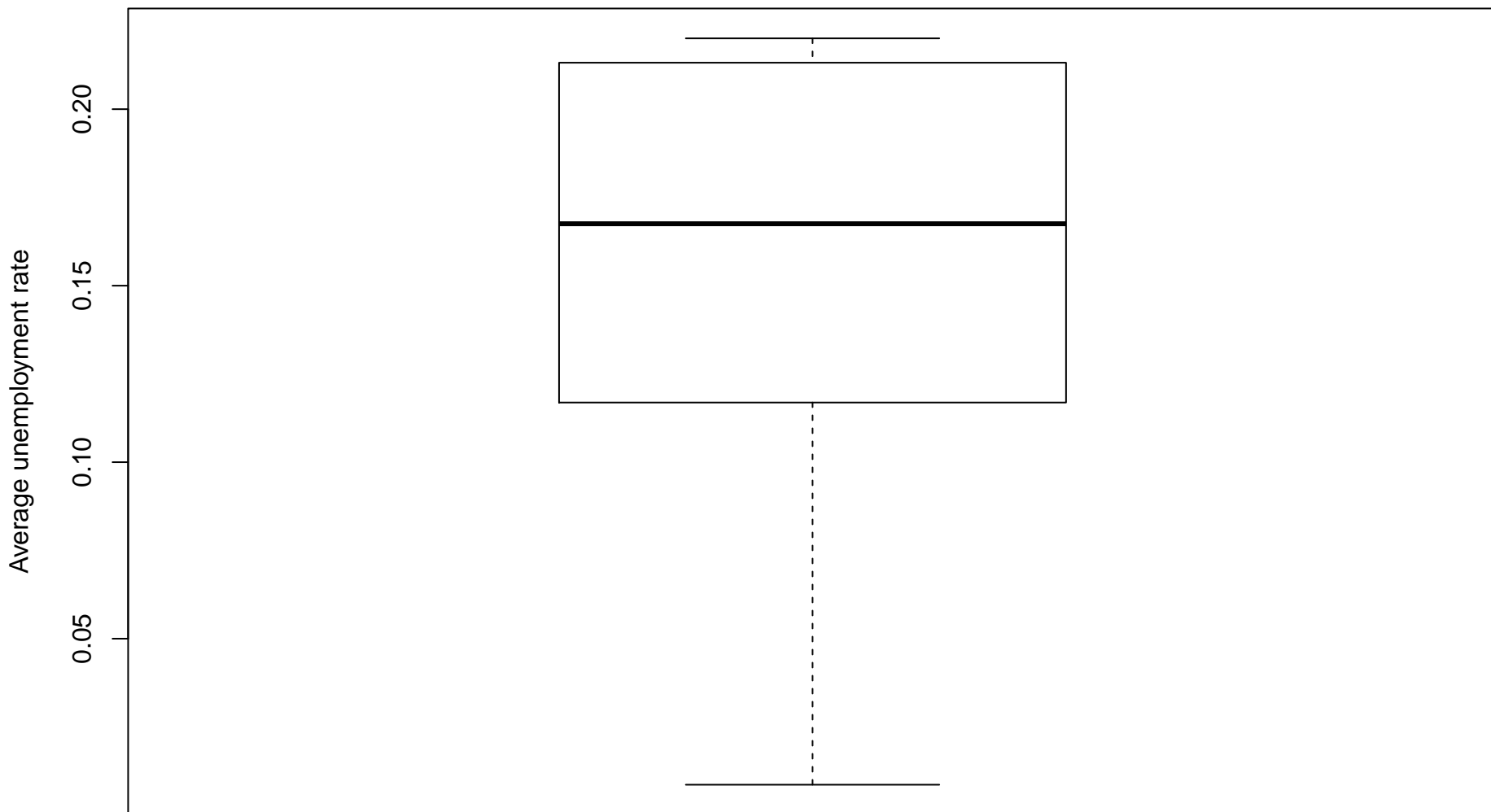
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 6 / period = 200 – 1000 )

## Full employment frequency



( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 6 / period = 200 – 1000 )

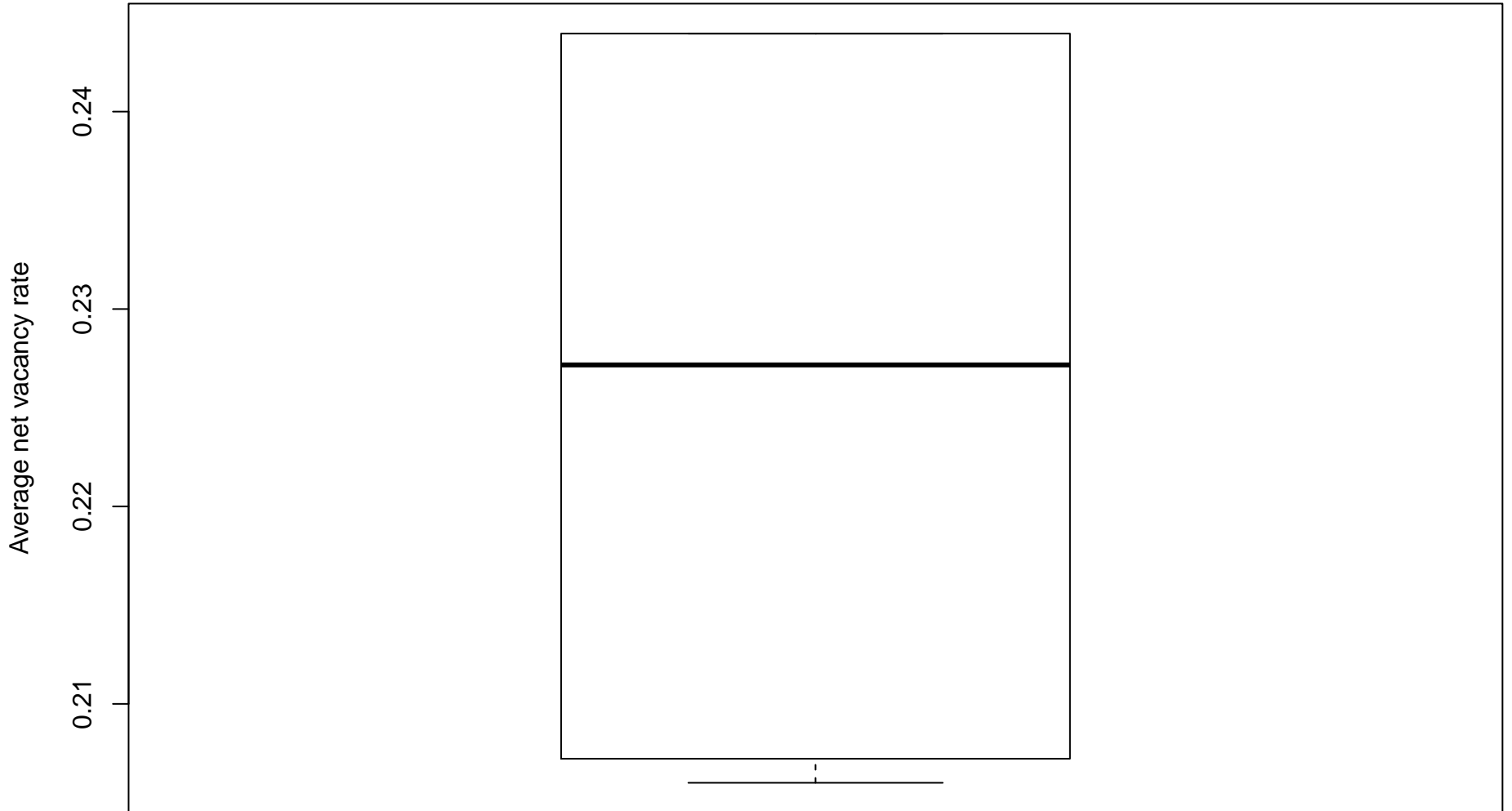
## Unemployment



( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 6 / period = 200 – 1000 )

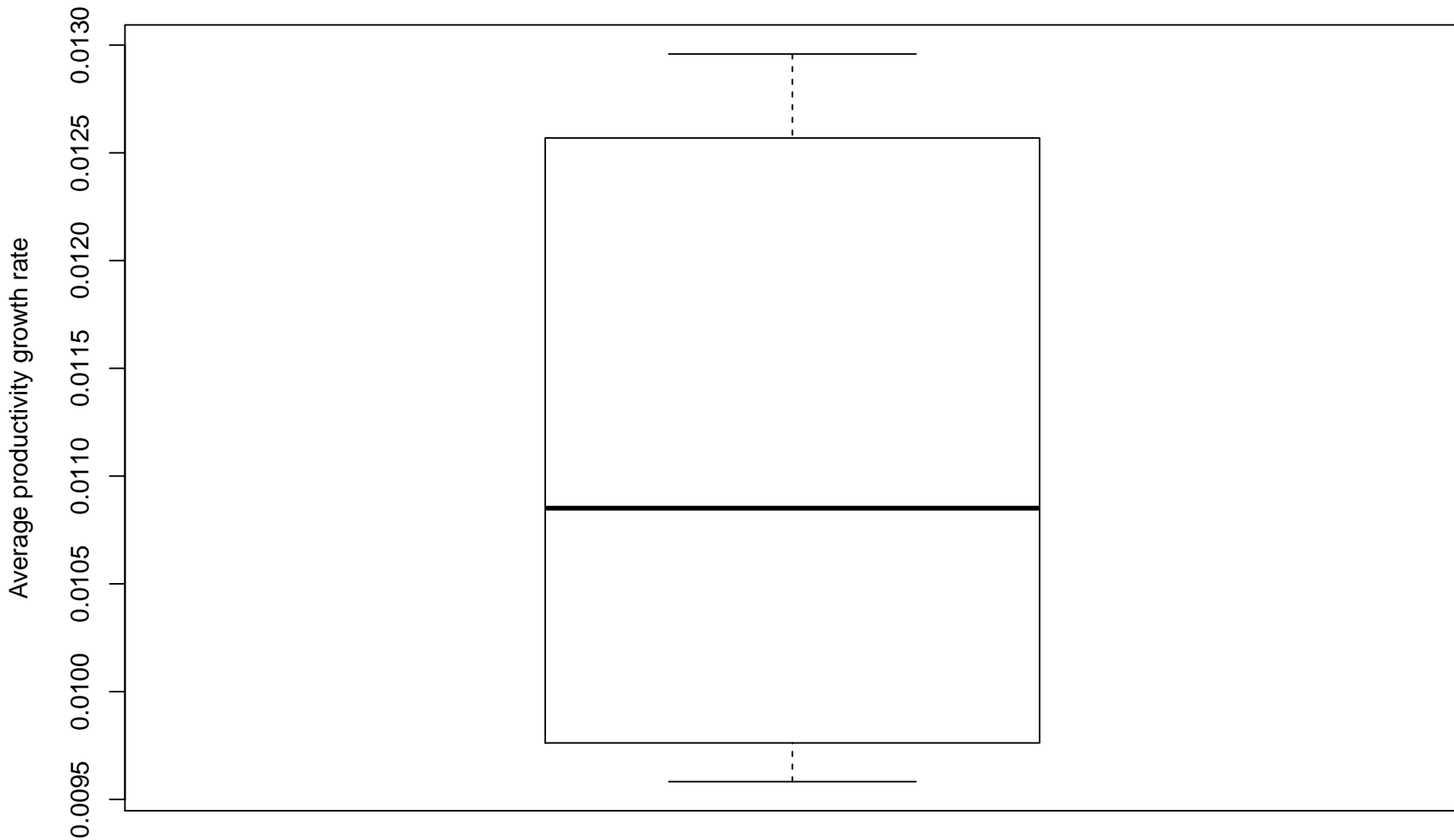


# Vacancy



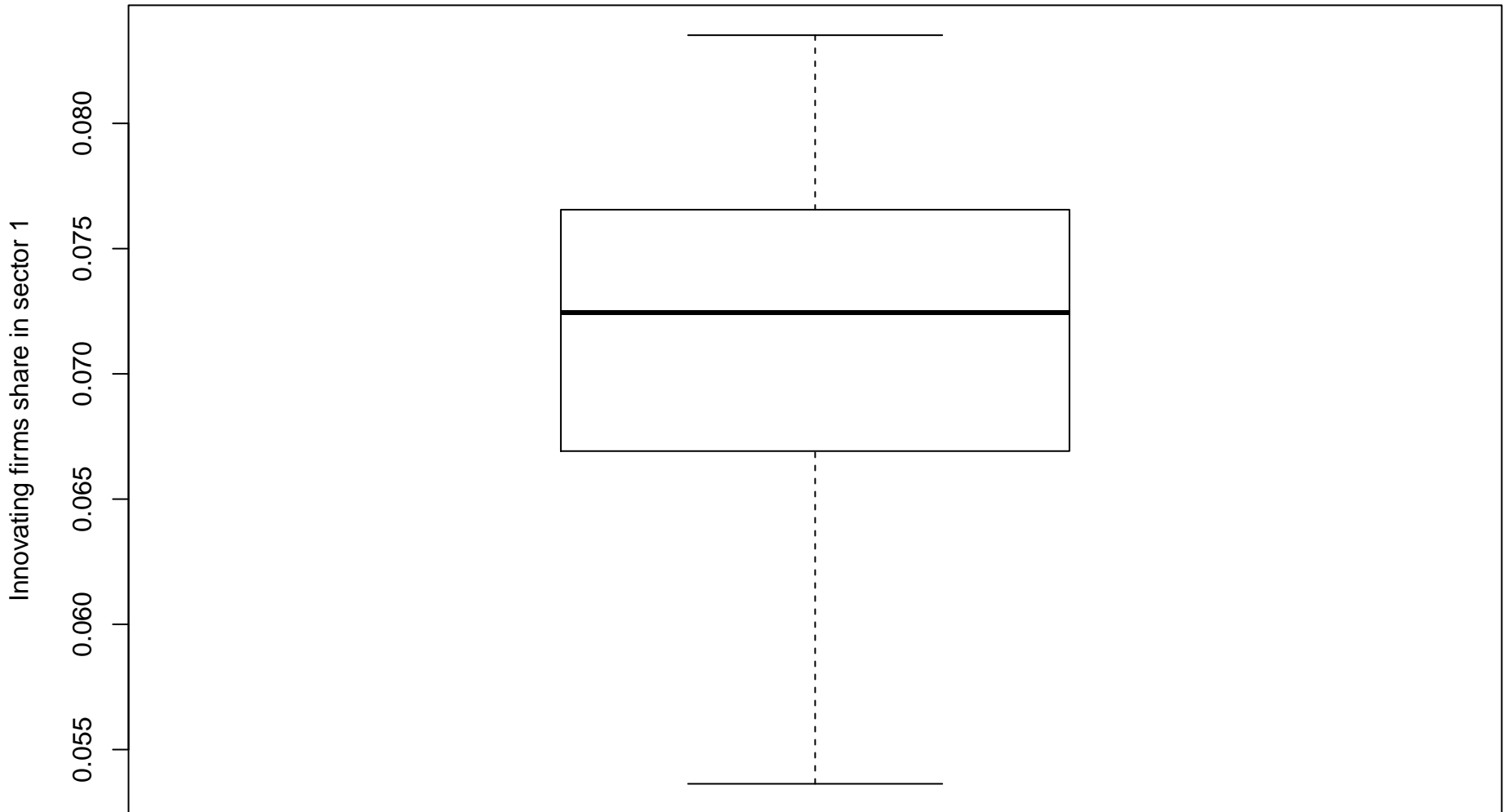
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 6 / period = 200 – 1000 )

# Productivity growth



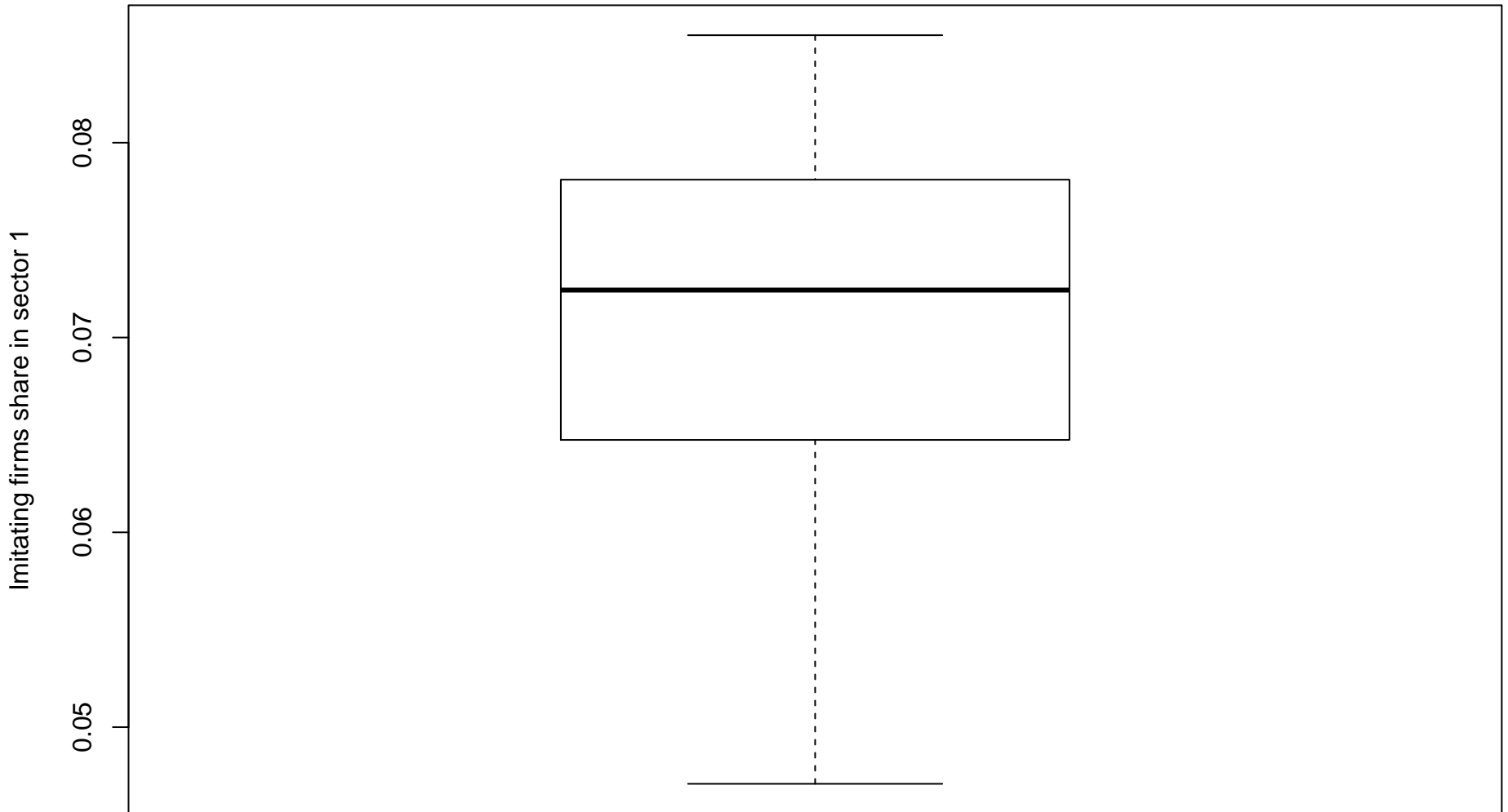
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 6 / period = 200 – 1000 )

# Innovation



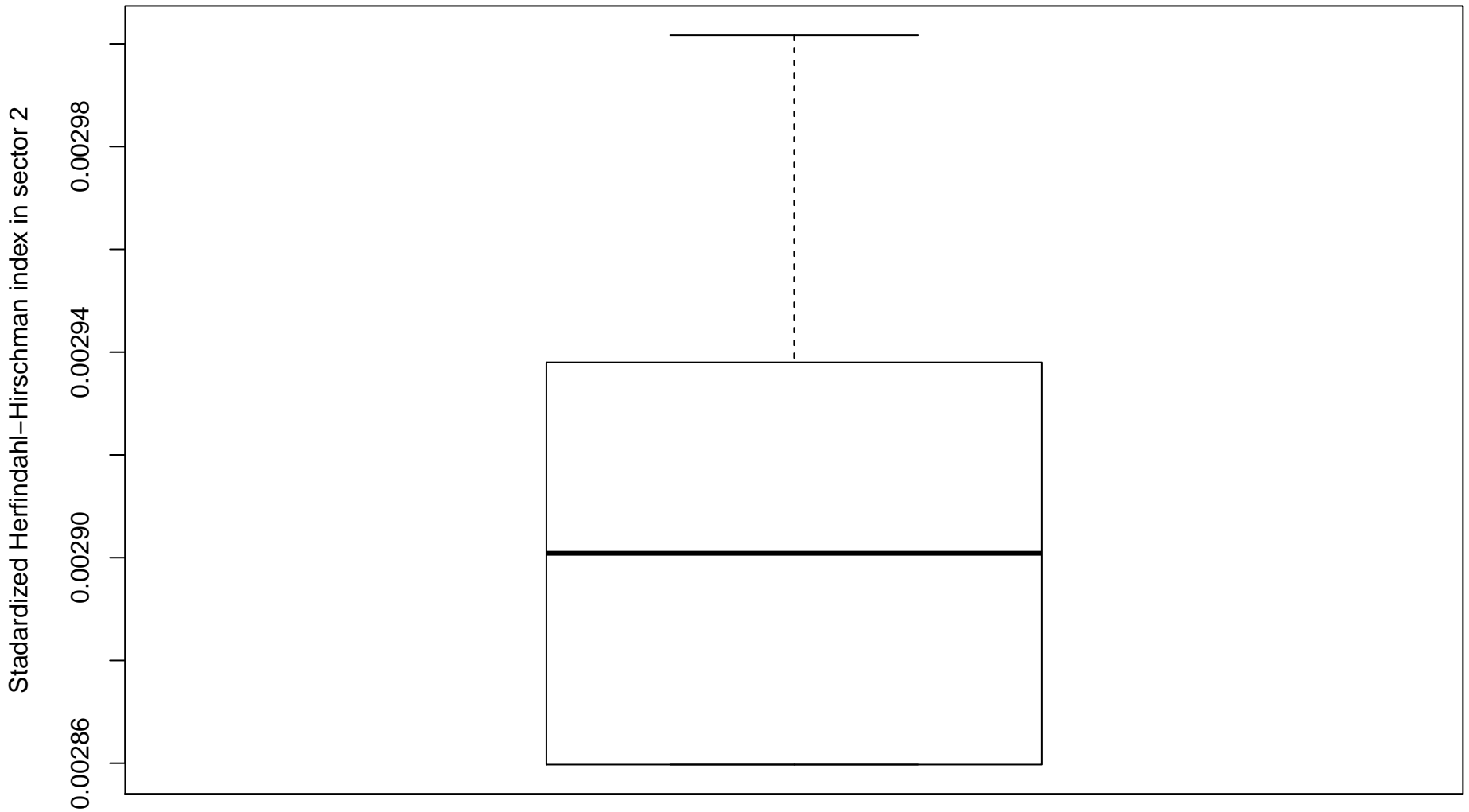
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 6 / period = 200 – 1000 )

## Imitation



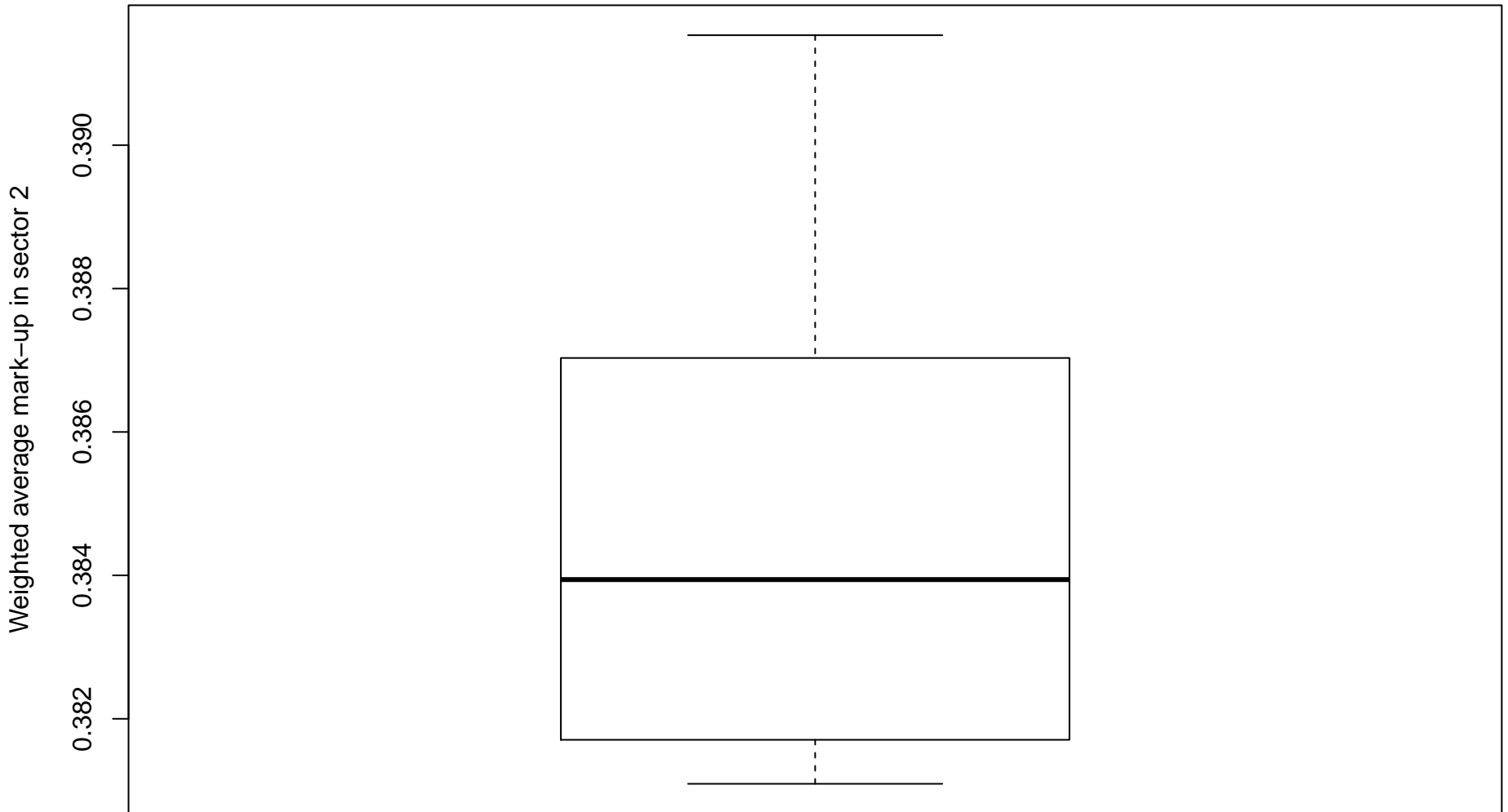
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 6 / period = 200 – 1000 )

## Market concentration



( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 6 / period = 200 – 1000 )

## Mark-ups



( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 6 / period = 200 – 1000 )

# 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>	0.0113	0.001567	0.00932	0.01329
<b>Volatility of GDP growth</b>	0.1015	0.01031	0.09078	0.1202
<b>Likelihood of GDP crises</b>	0.2892	0.04594	0.2022	0.3308
<b>Inflation</b>	0.00189	0.001354	0.0005725	0.004029
<b>Tax</b>	0.02614	0.002566	0.02118	0.02809
<b>Government total expenditure</b>	0.06166	0.03407	0.003474	0.09375
<b>Government deficit</b>	0.2868	0.2946	−0.0621	0.663
<b>Government debt</b>	25.39	26.99	−4.498	60.36
<b>Loans</b>	3.736	5.352	1.148	14.65
<b>Capacity utilization</b>	0.4693	0.1264	0.2116	0.5288
<b>Full employment frequency</b>	0.2963	0.3283	0.0437	0.9238
<b>Unemployment</b>	0.149	0.08018	0.008633	0.2201
<b>Vacancy</b>	0.3212	0.2428	0.206	0.8155
<b>Productivity growth</b>	0.0111	0.001418	0.009582	0.01296
<b>Innovation</b>	0.07092	0.01027	0.05363	0.08352
<b>Imitation</b>	0.07005	0.01353	0.04709	0.08552
<b>Market concentration</b>	0.002597	0.0007932	0.0009807	0.003002
<b>Mark-ups</b>	0.3849	0.003929	0.3811	0.3915

Experiments: [1] Benchmark

( numbers in brackets indicate the experiment number / MC runs = 6 / period = 200 – 1000 )