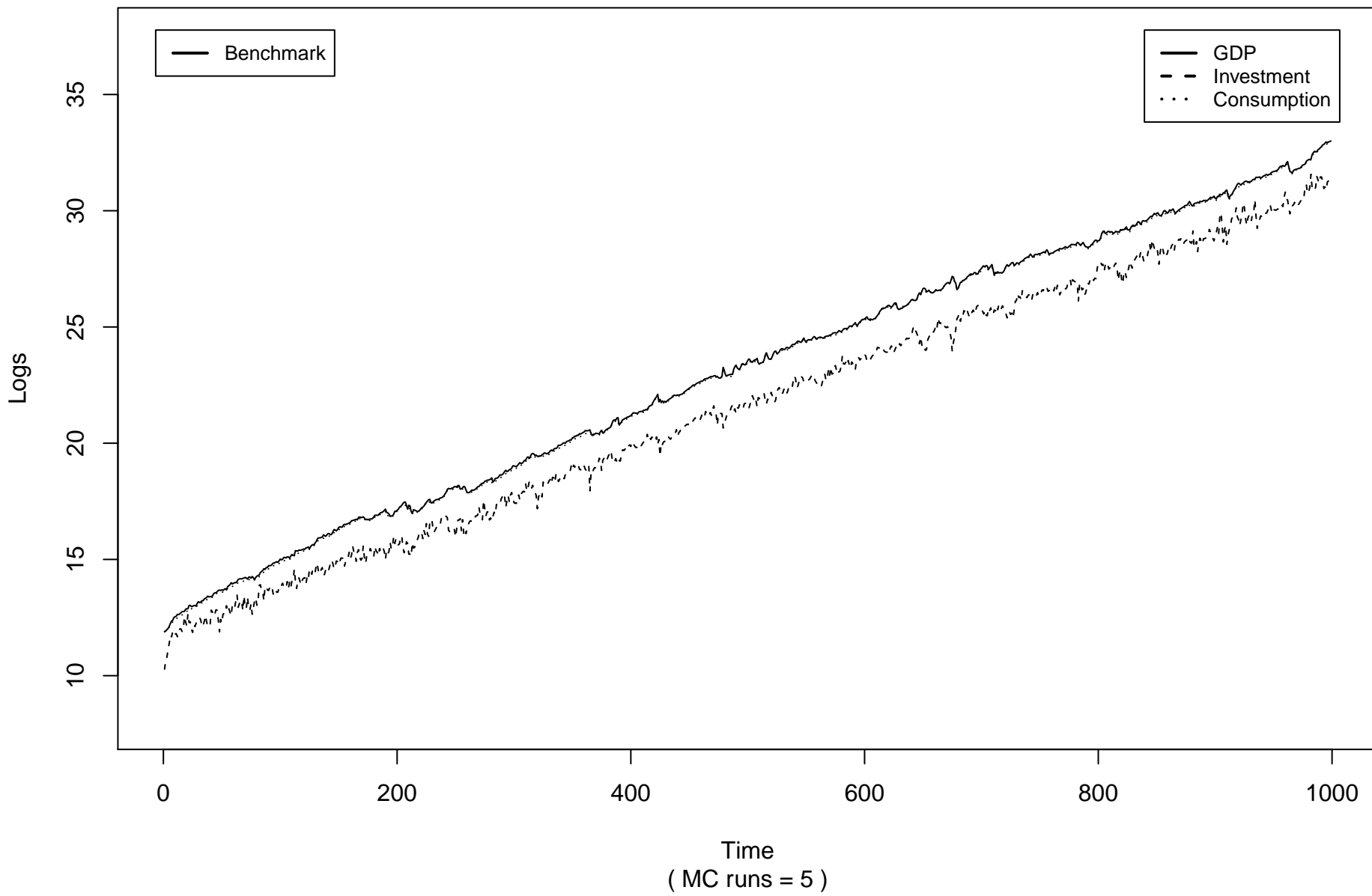
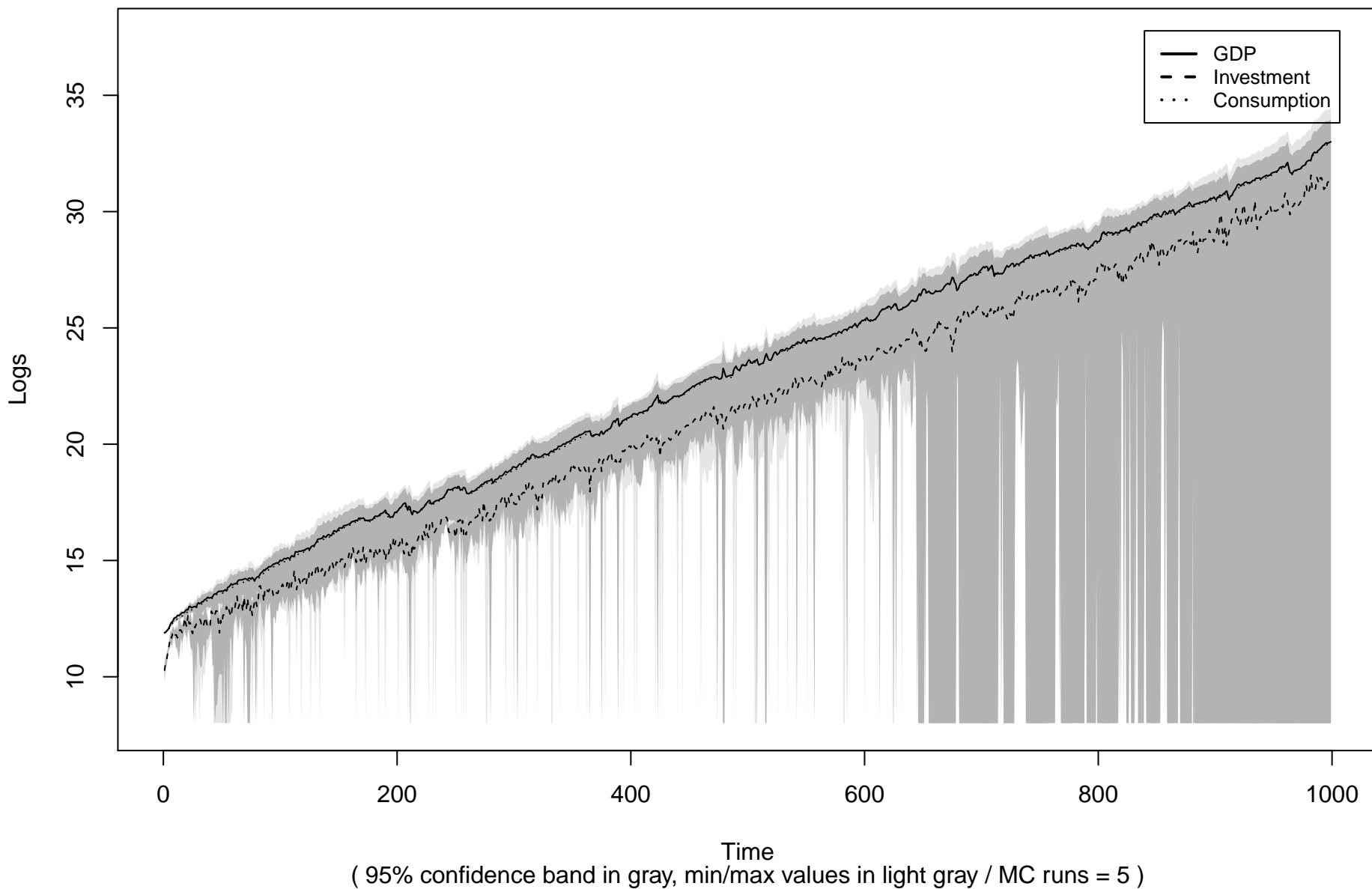


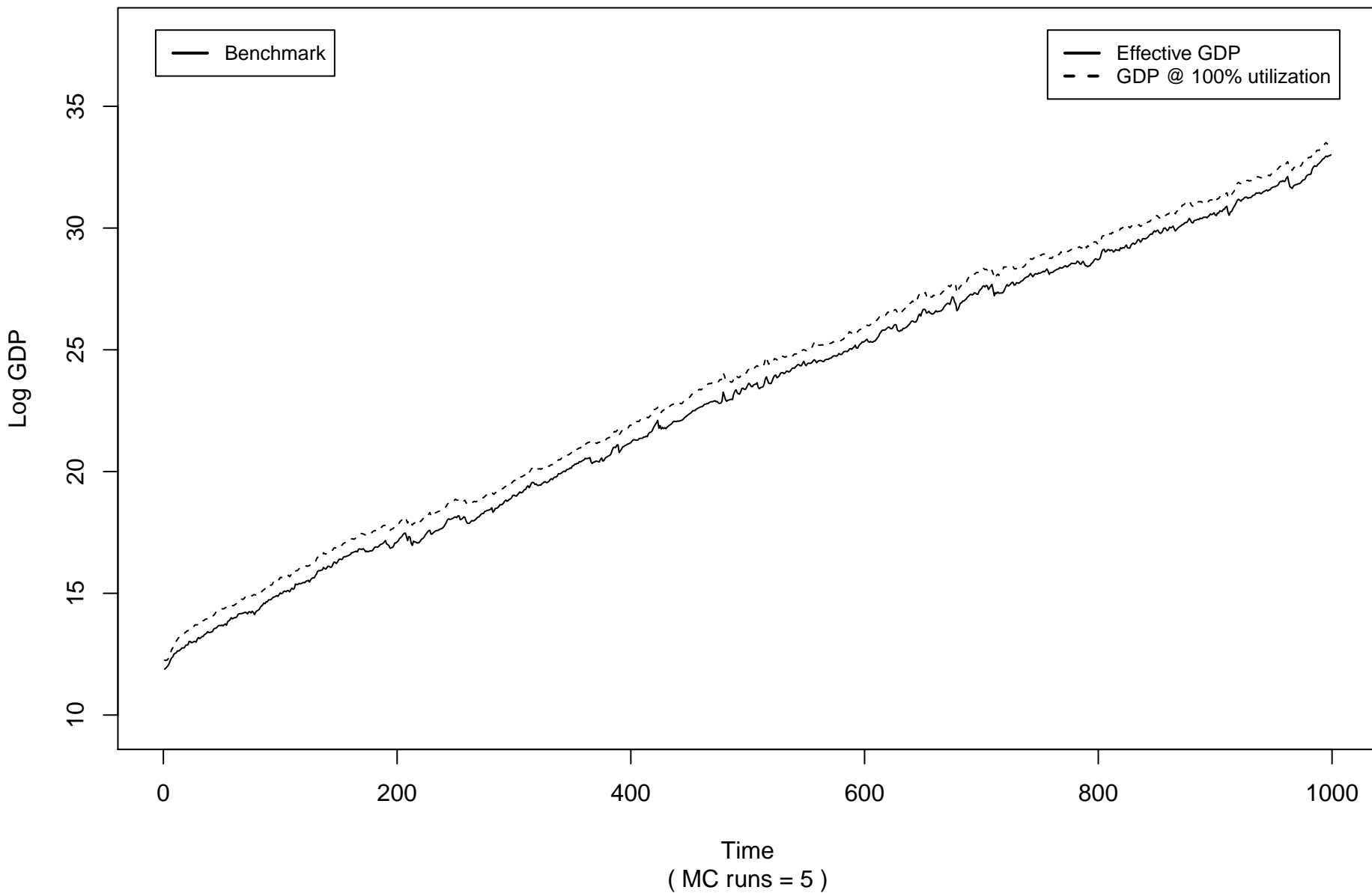
## GDP, investment and consumption ( all experiments )



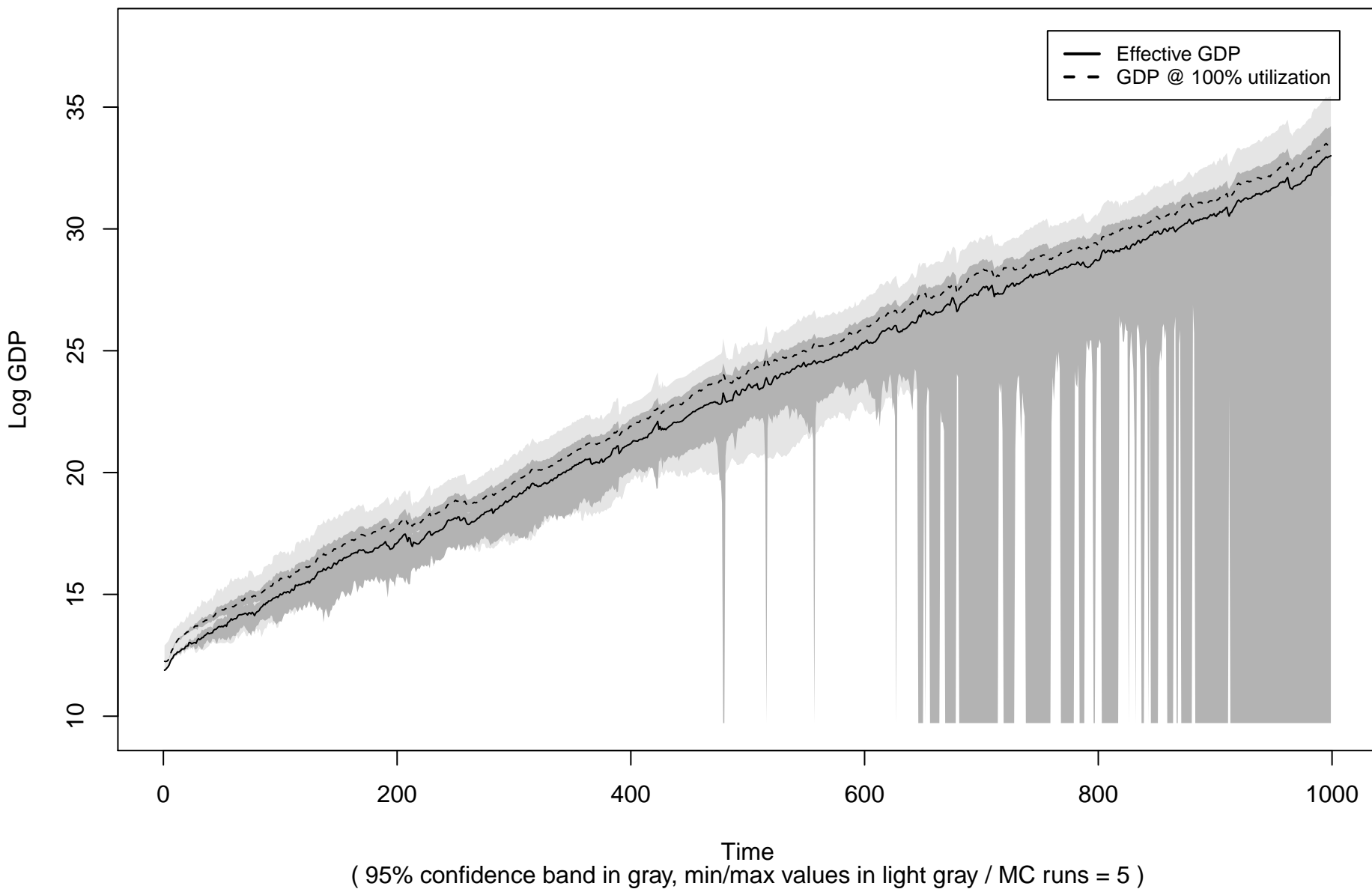
## GDP, investment and consumption ( Benchmark )



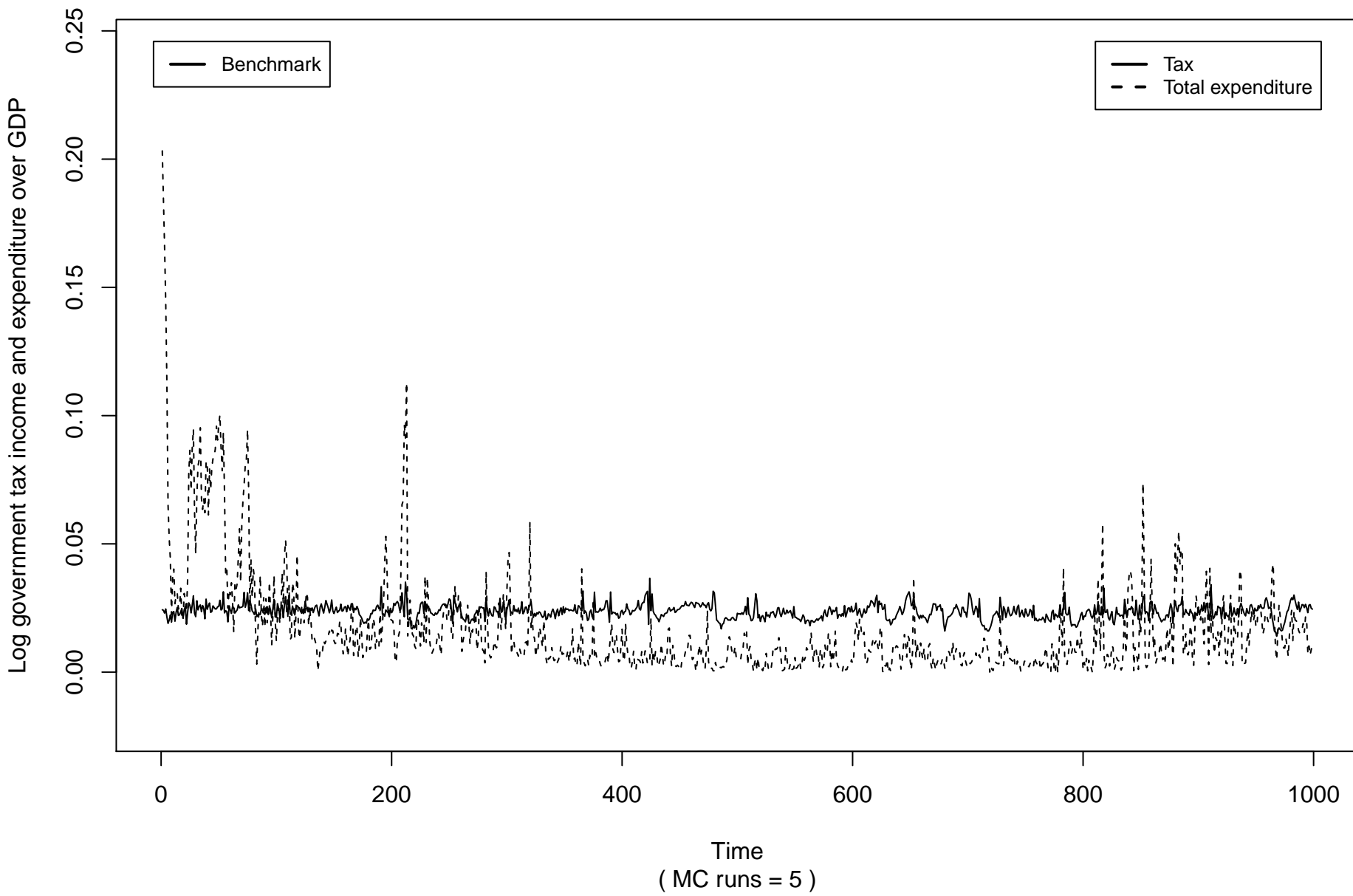
## GDP ( all experiments )



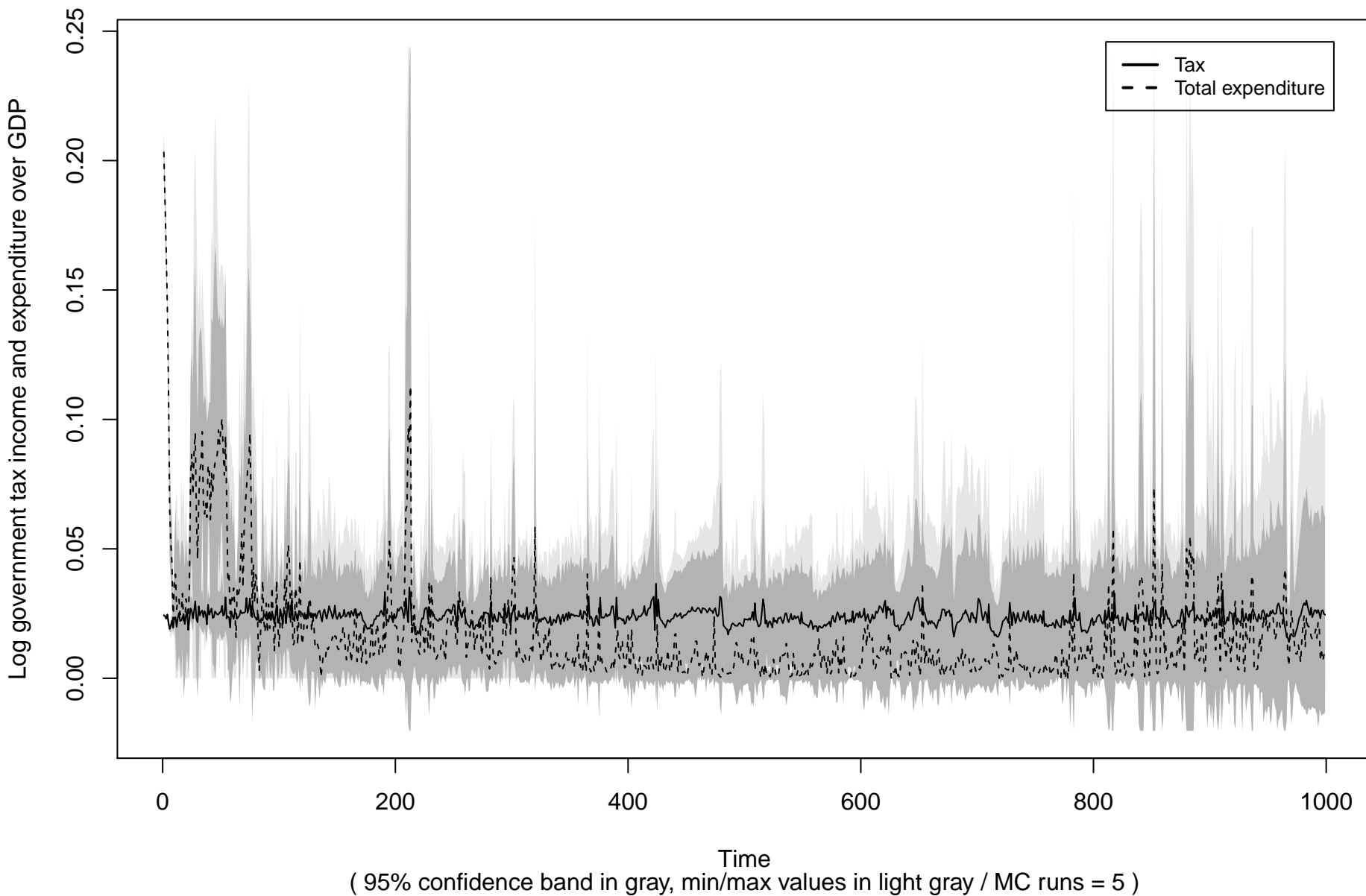
## GDP ( Benchmark )



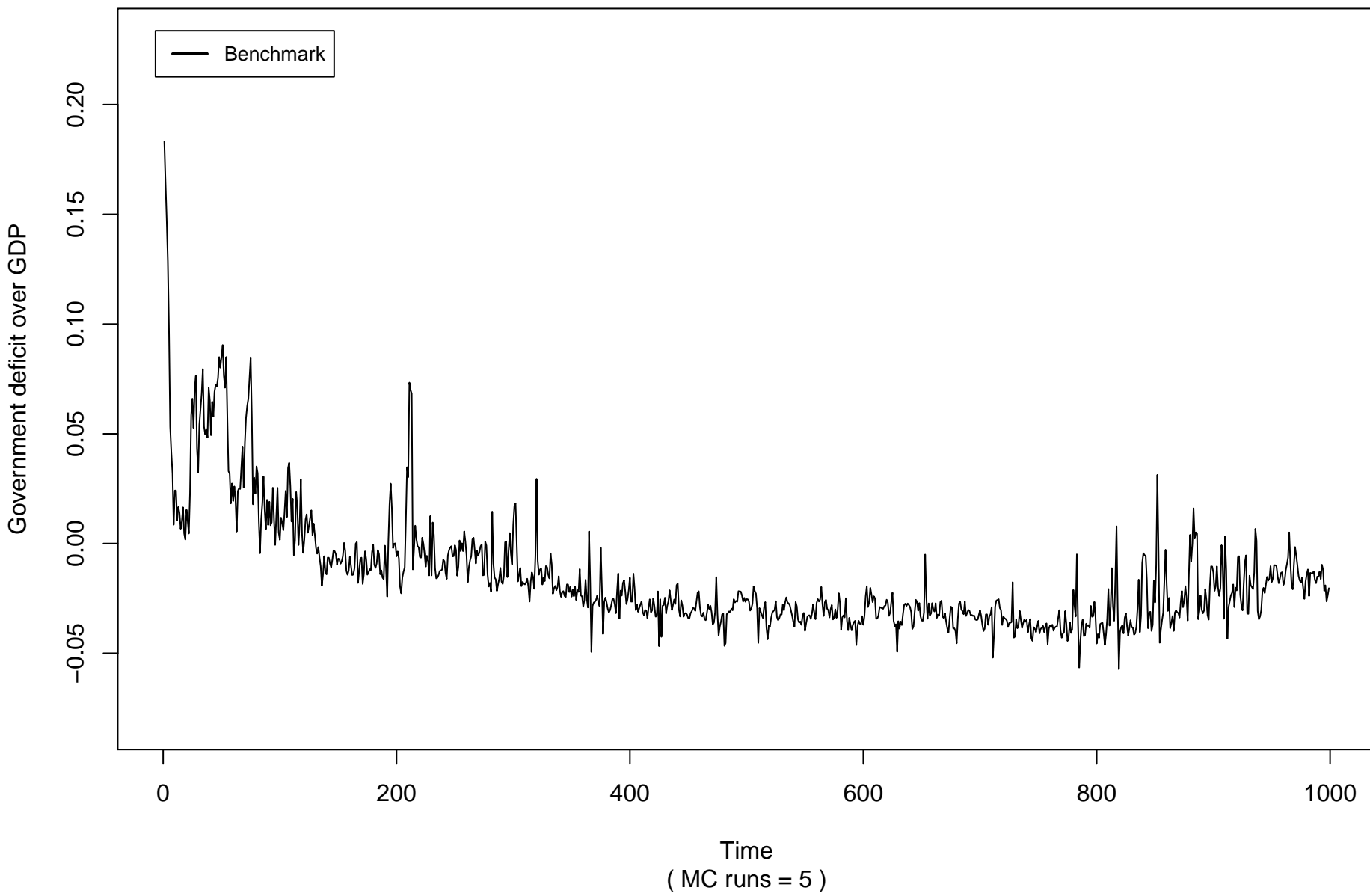
# Government income and expenditure on GDP ( all experiments )



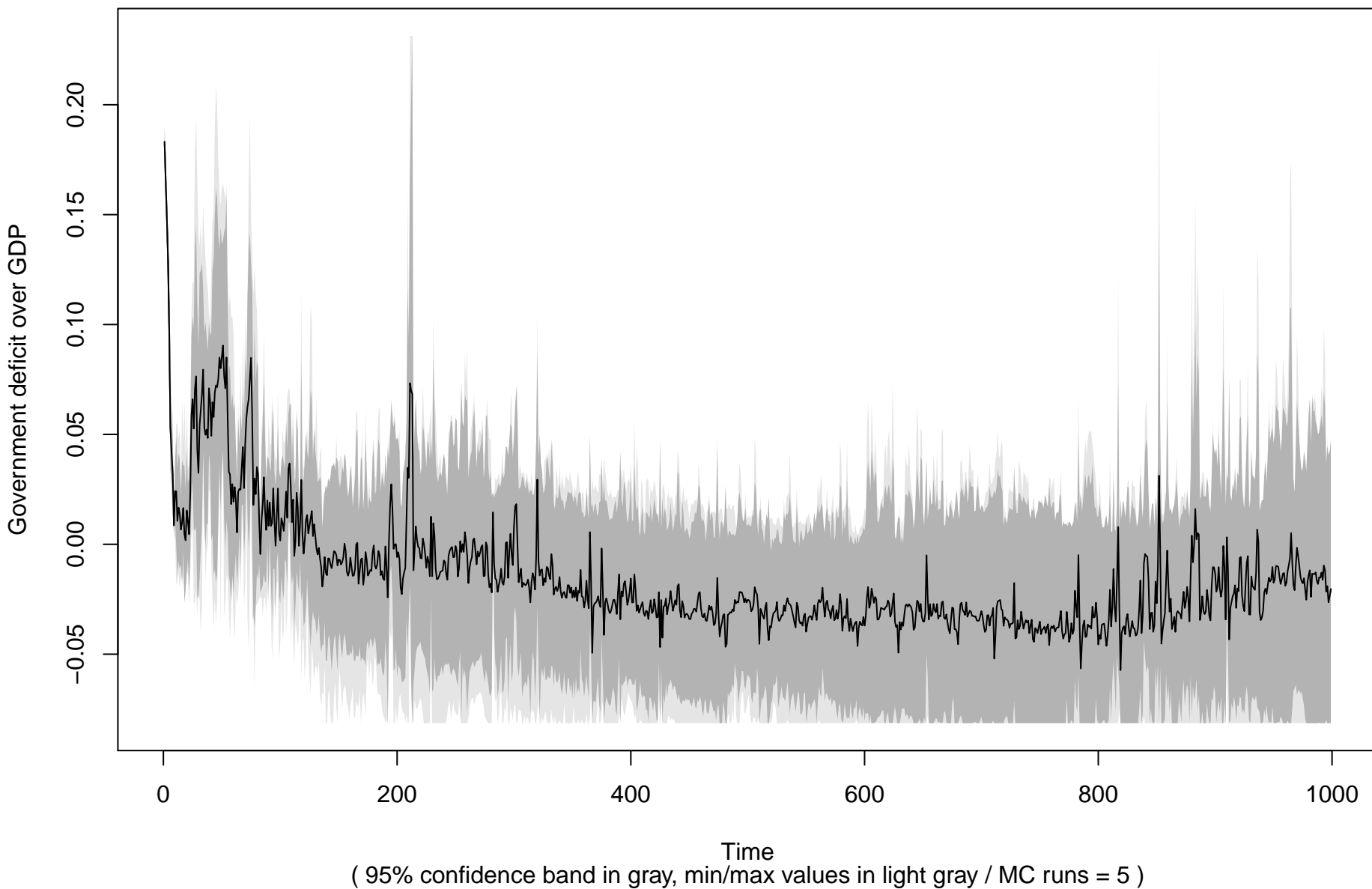
# Government income and expenditure on GDP ( Benchmark )



## Government deficit on GDP ( all experiments )

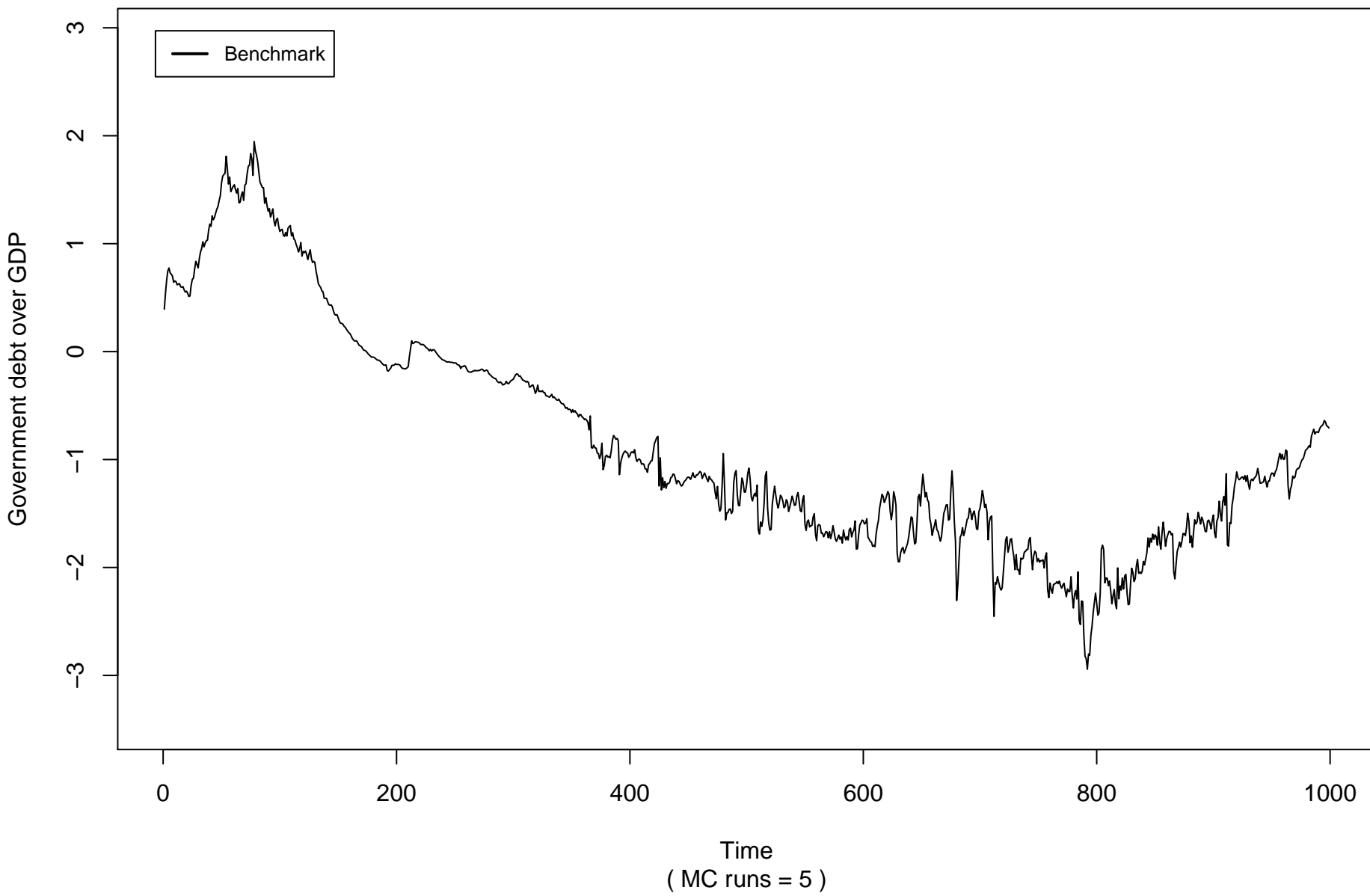


## Government deficit on GDP ( Benchmark )

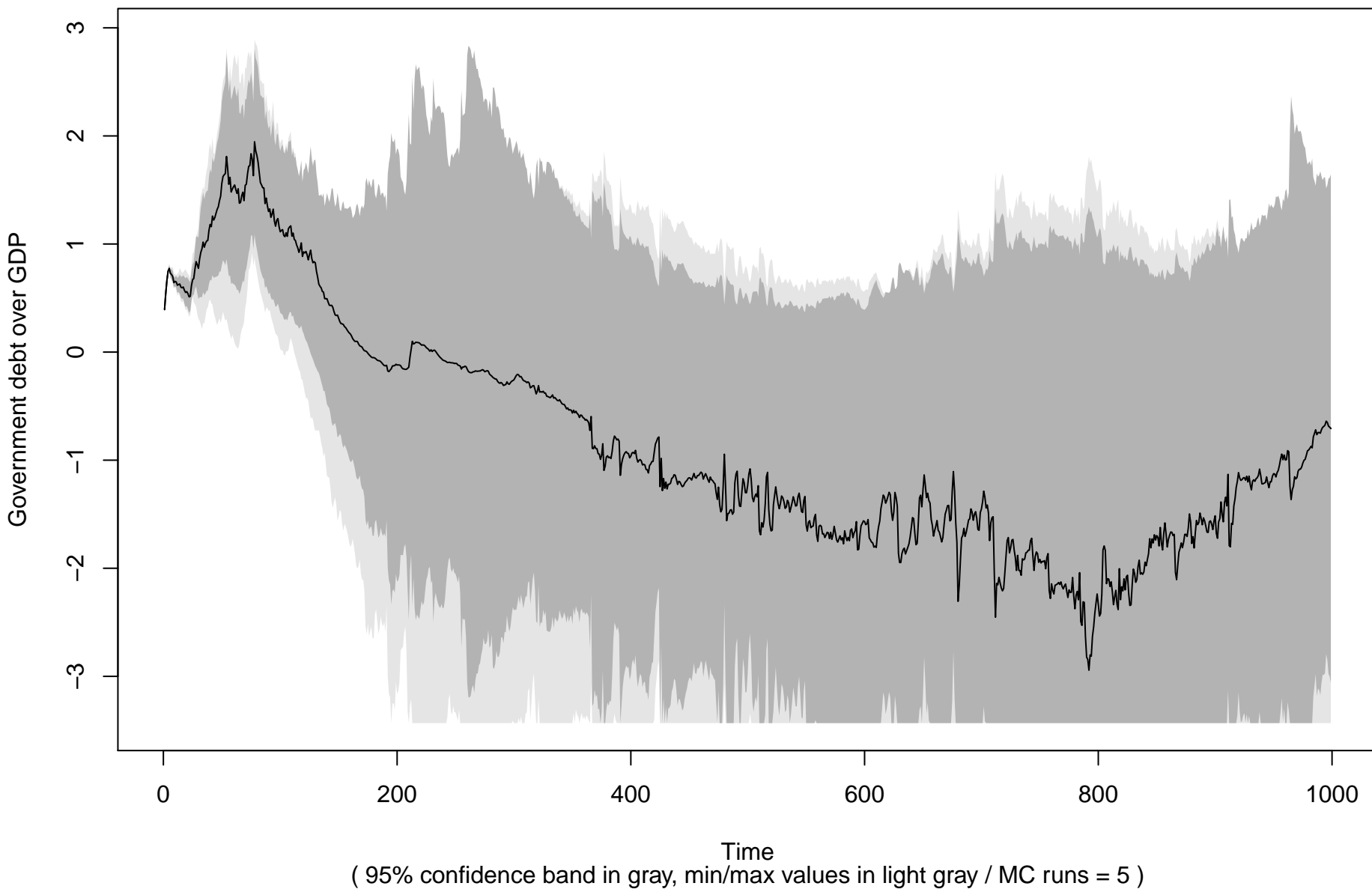




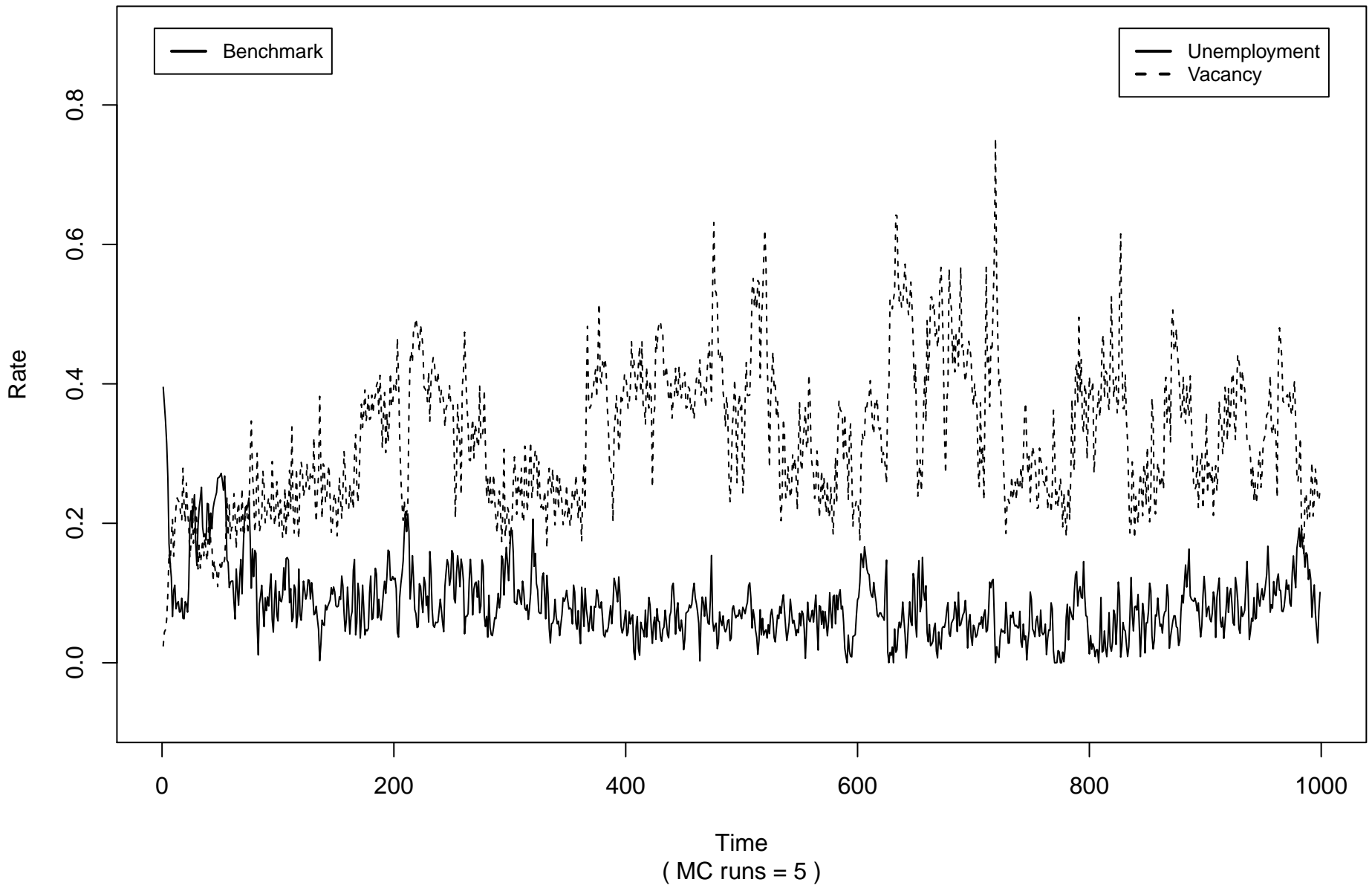
## Government debt on GDP ( all experiments )



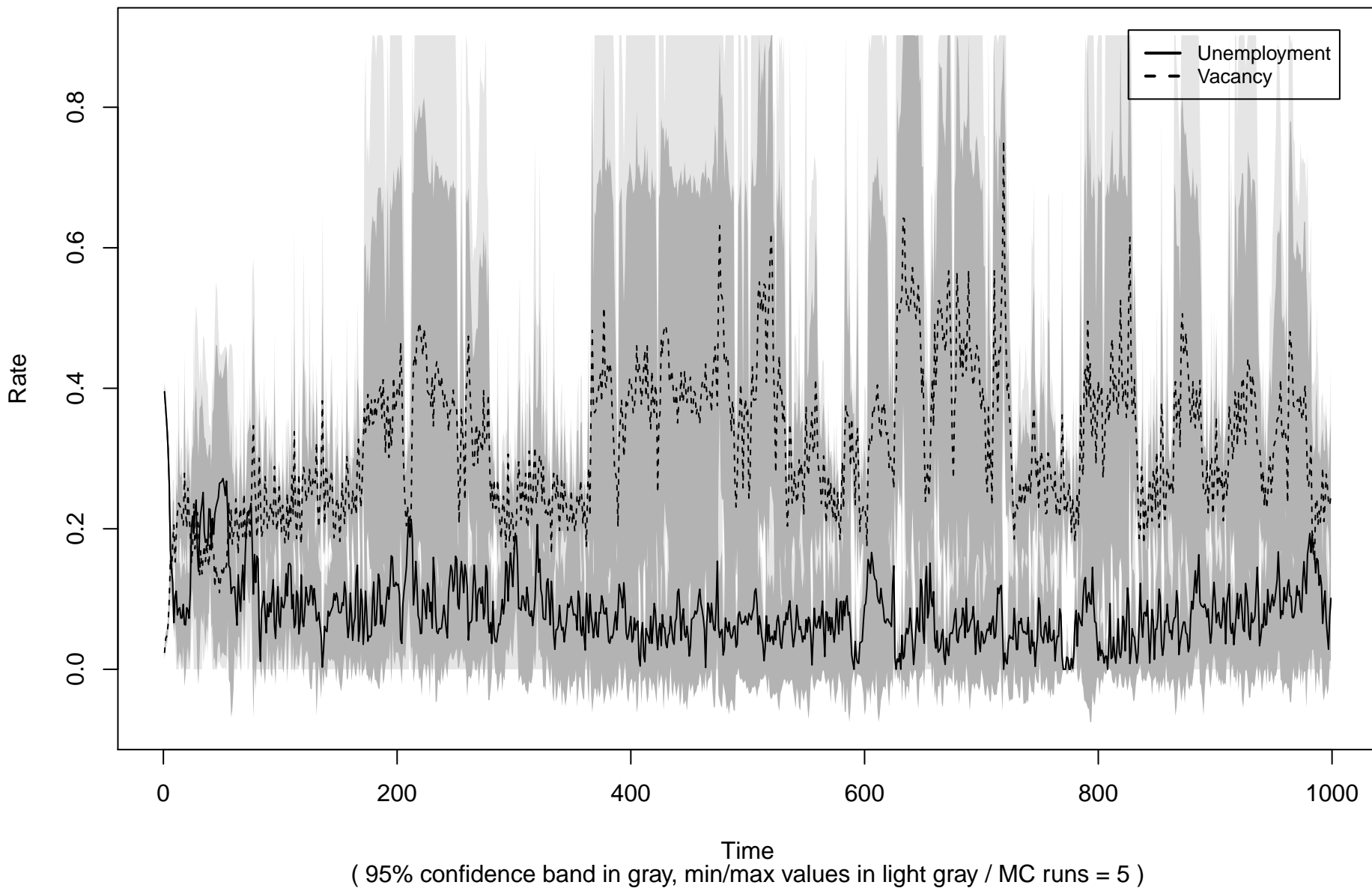
# Government debt on GDP ( Benchmark )



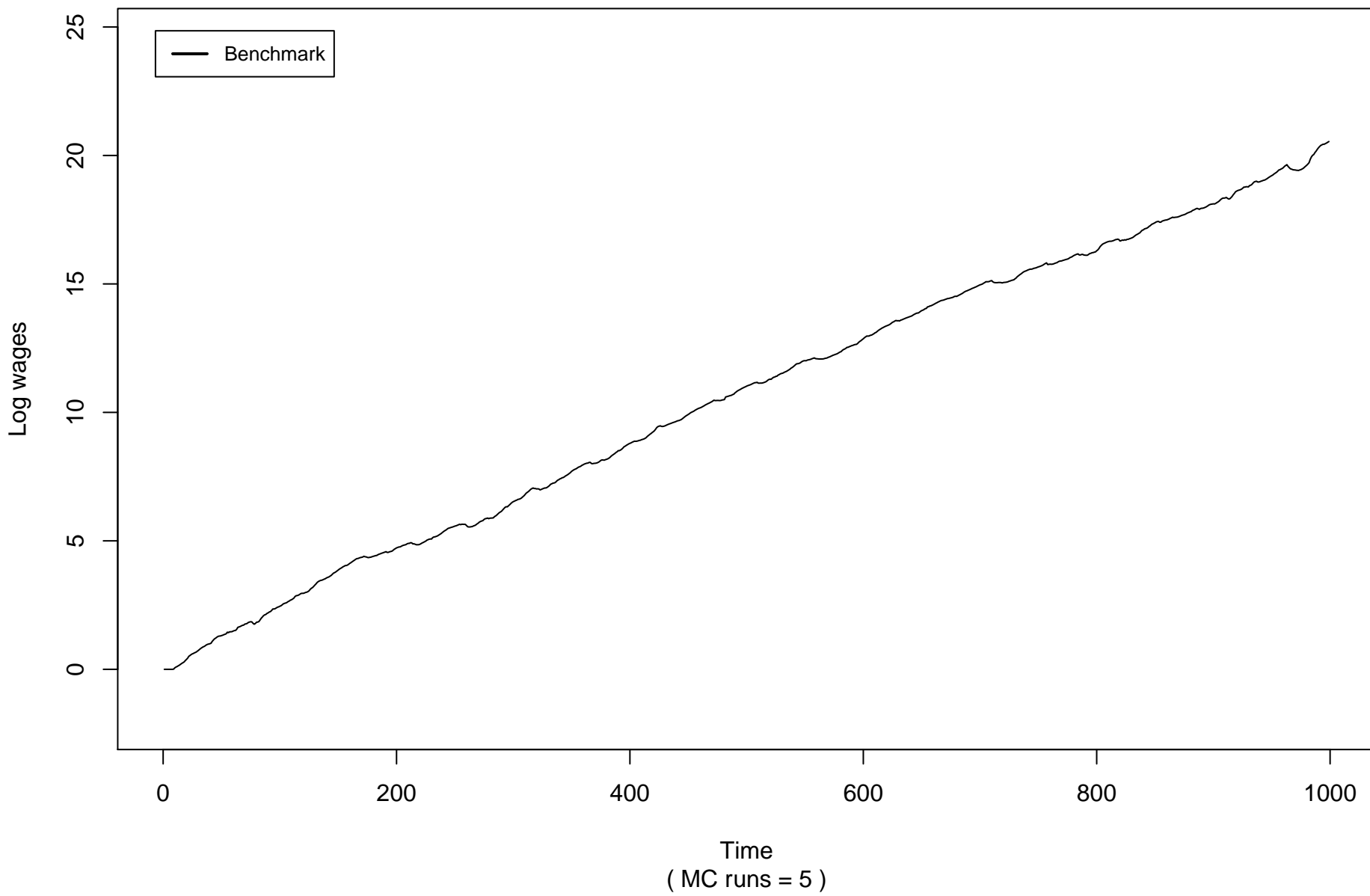
## Unemployment and vacancy rates ( all experiments )



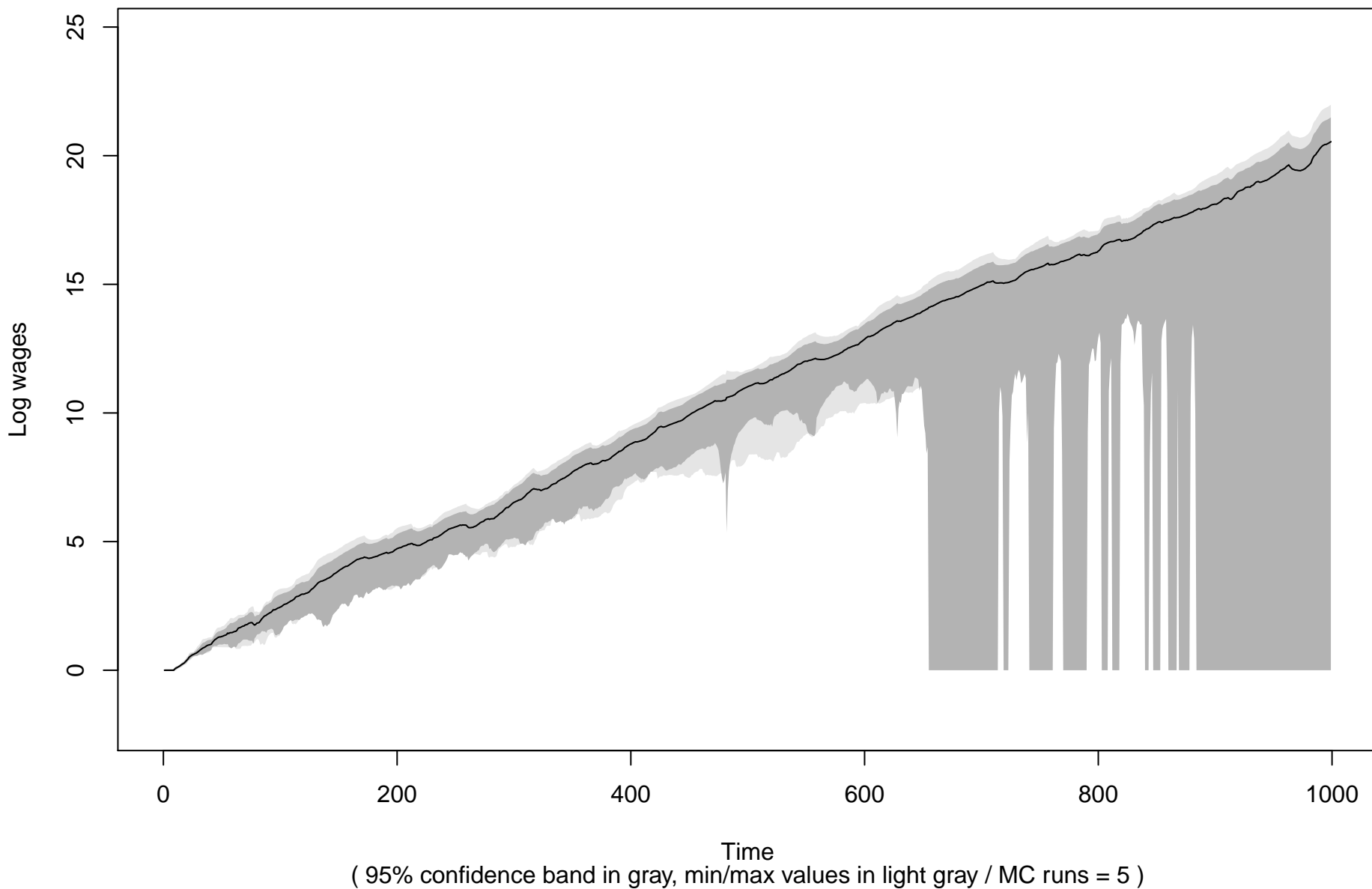
## Unemployment and vacancy rates ( Benchmark )



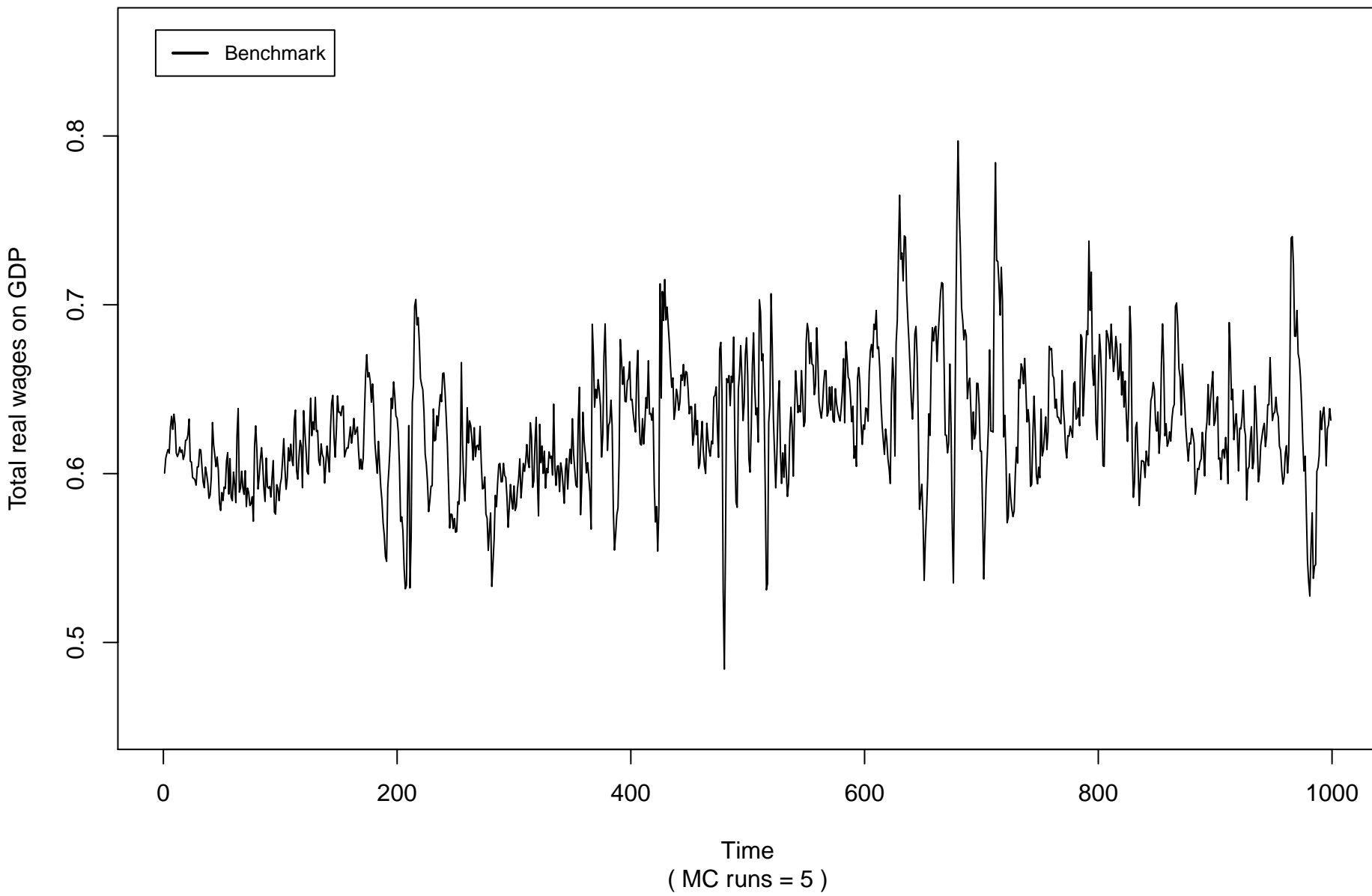
**Real wages average ( all experiments )**



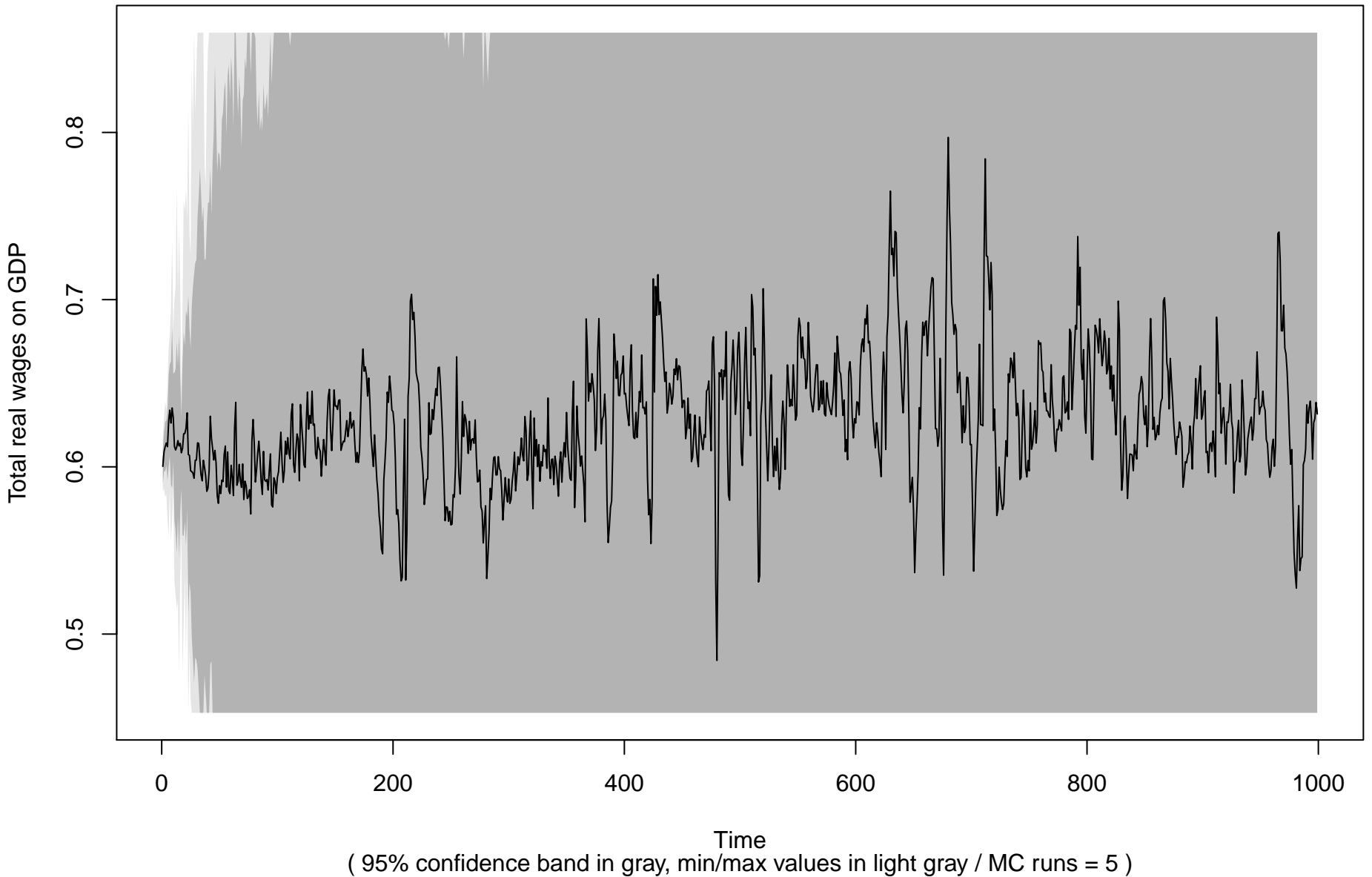
# Real wages average ( Benchmark )



## Wage share ( all experiments )

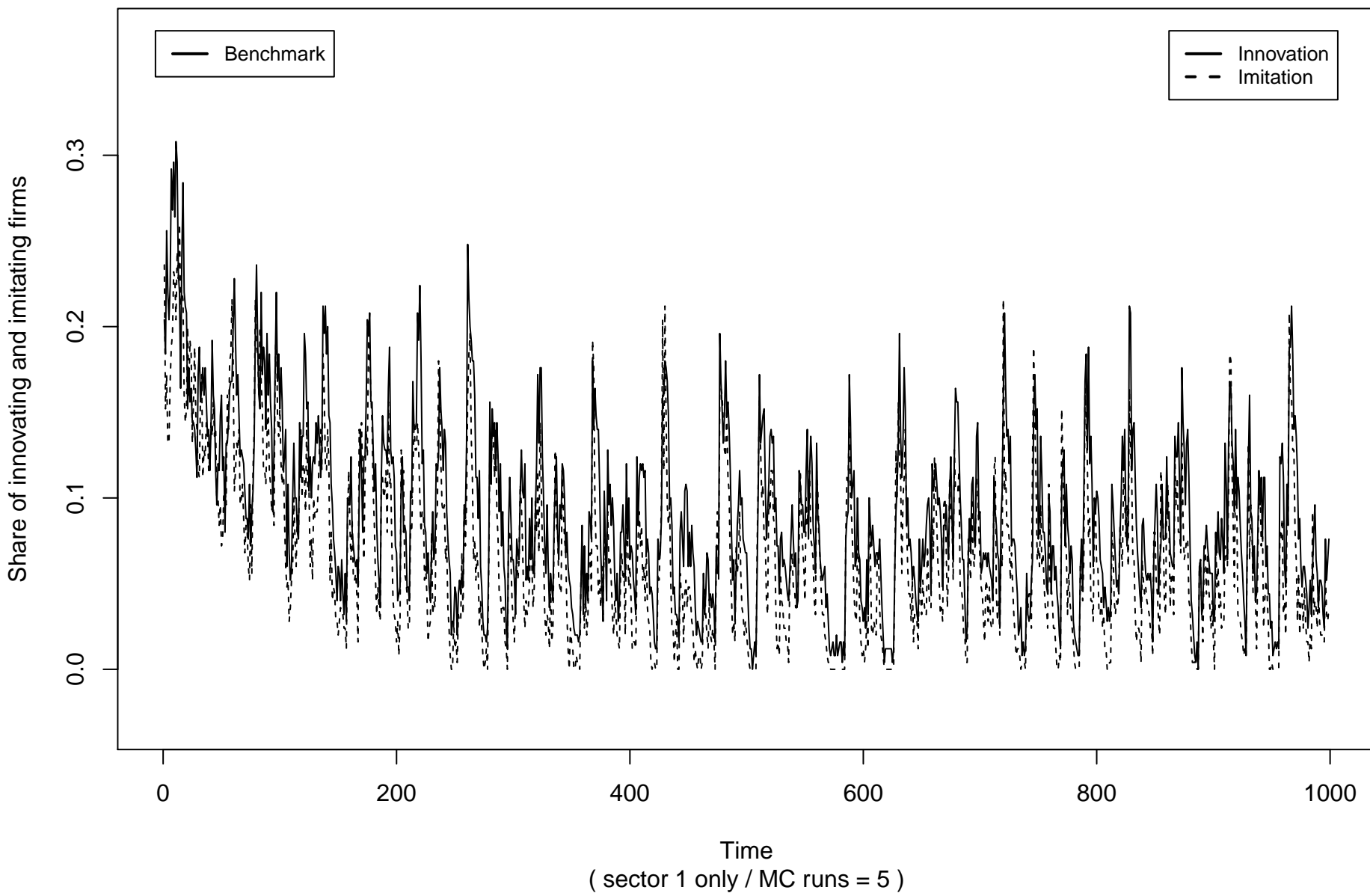


# Wage share ( Benchmark )

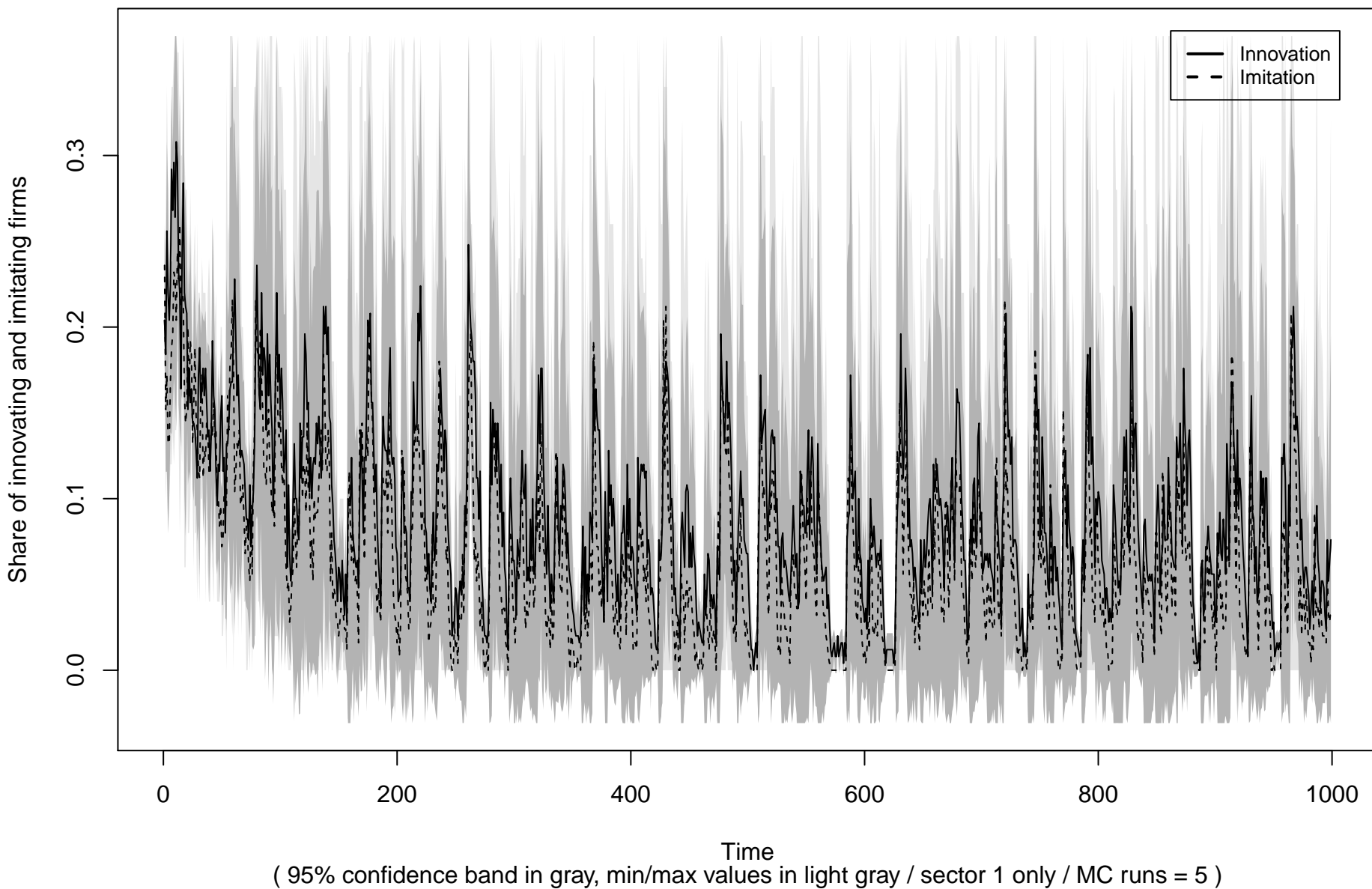




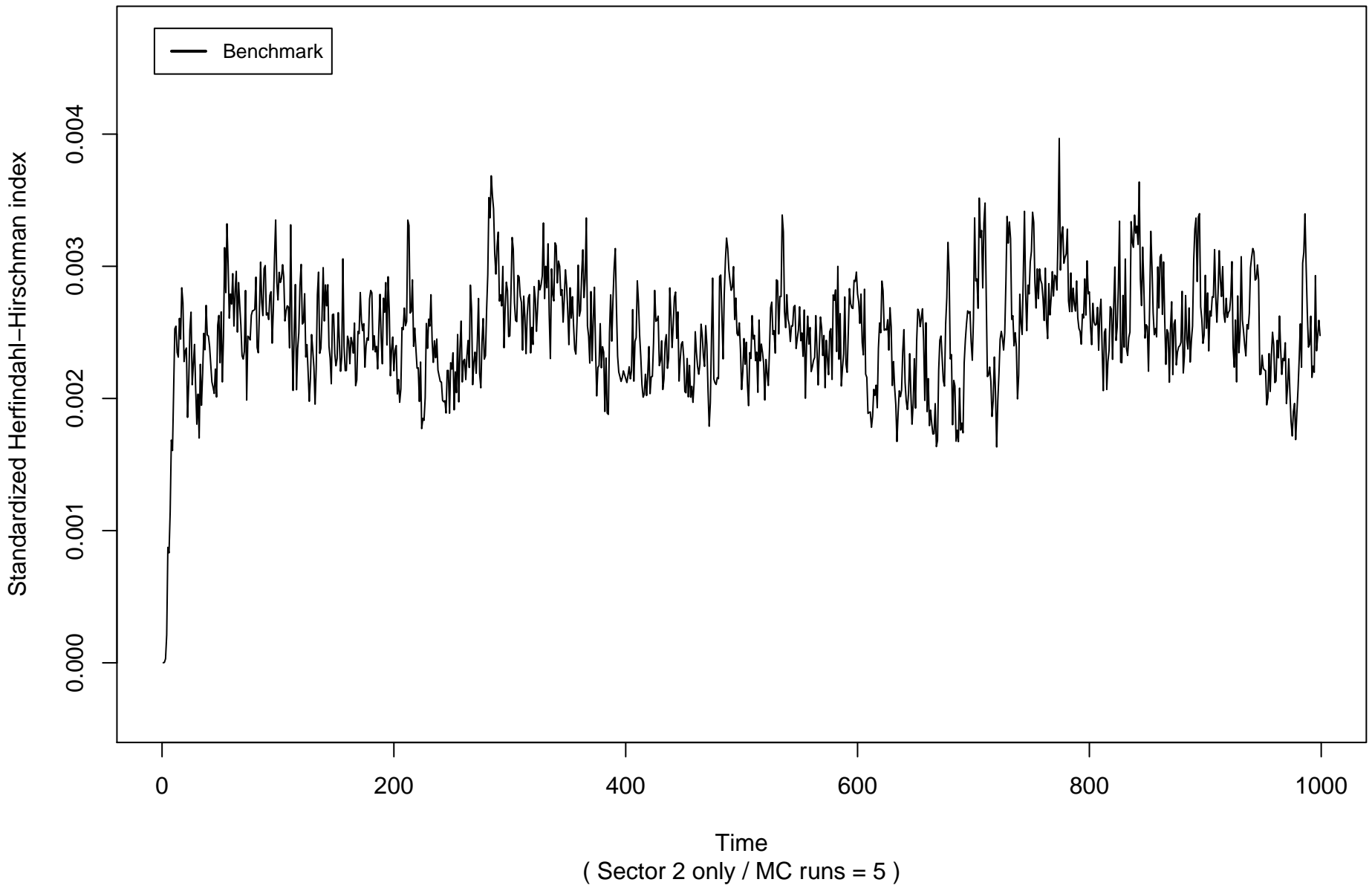
# Innovation and imitation ( all experiments )



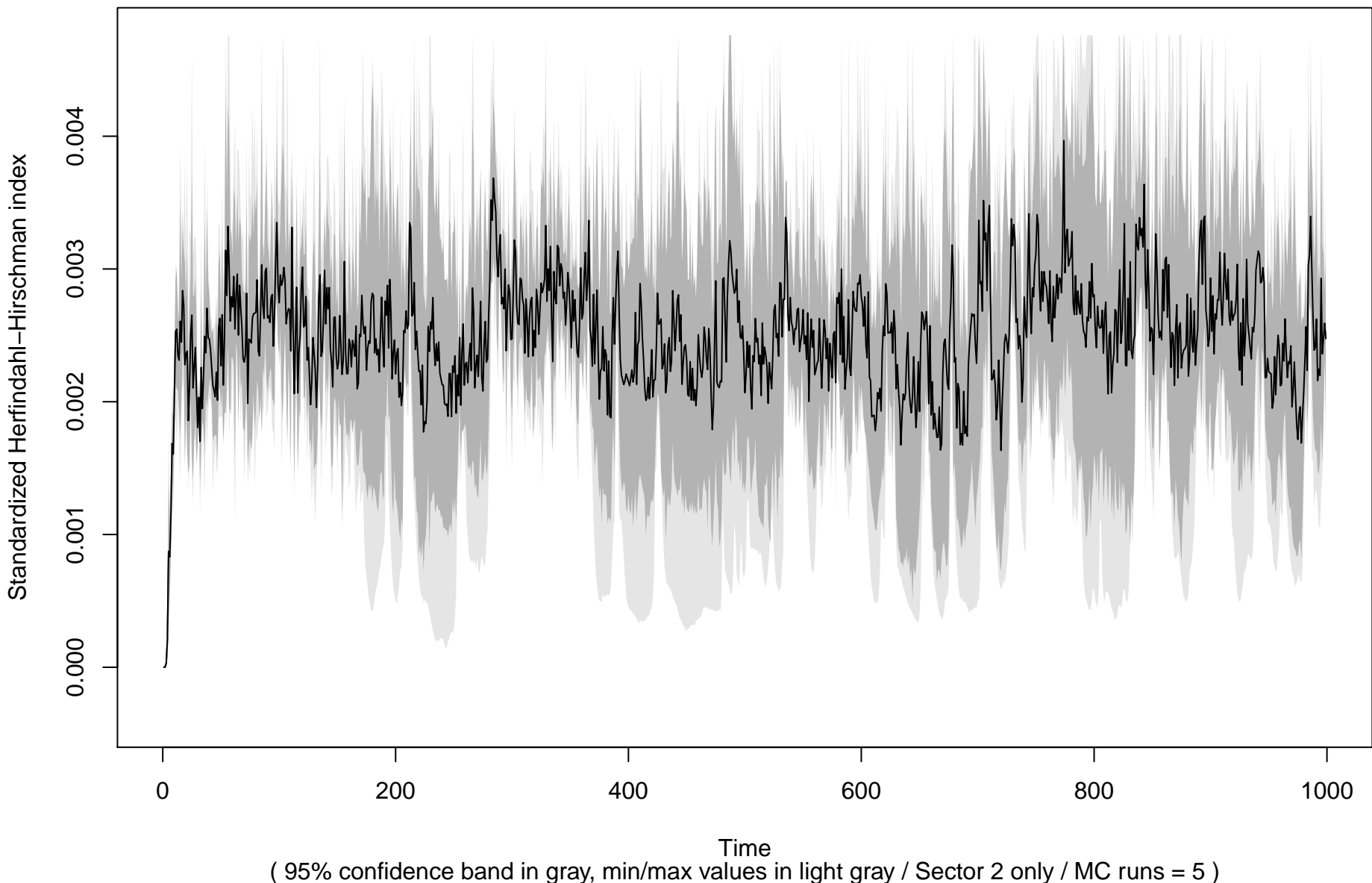
# Innovation and imitation ( Benchmark )



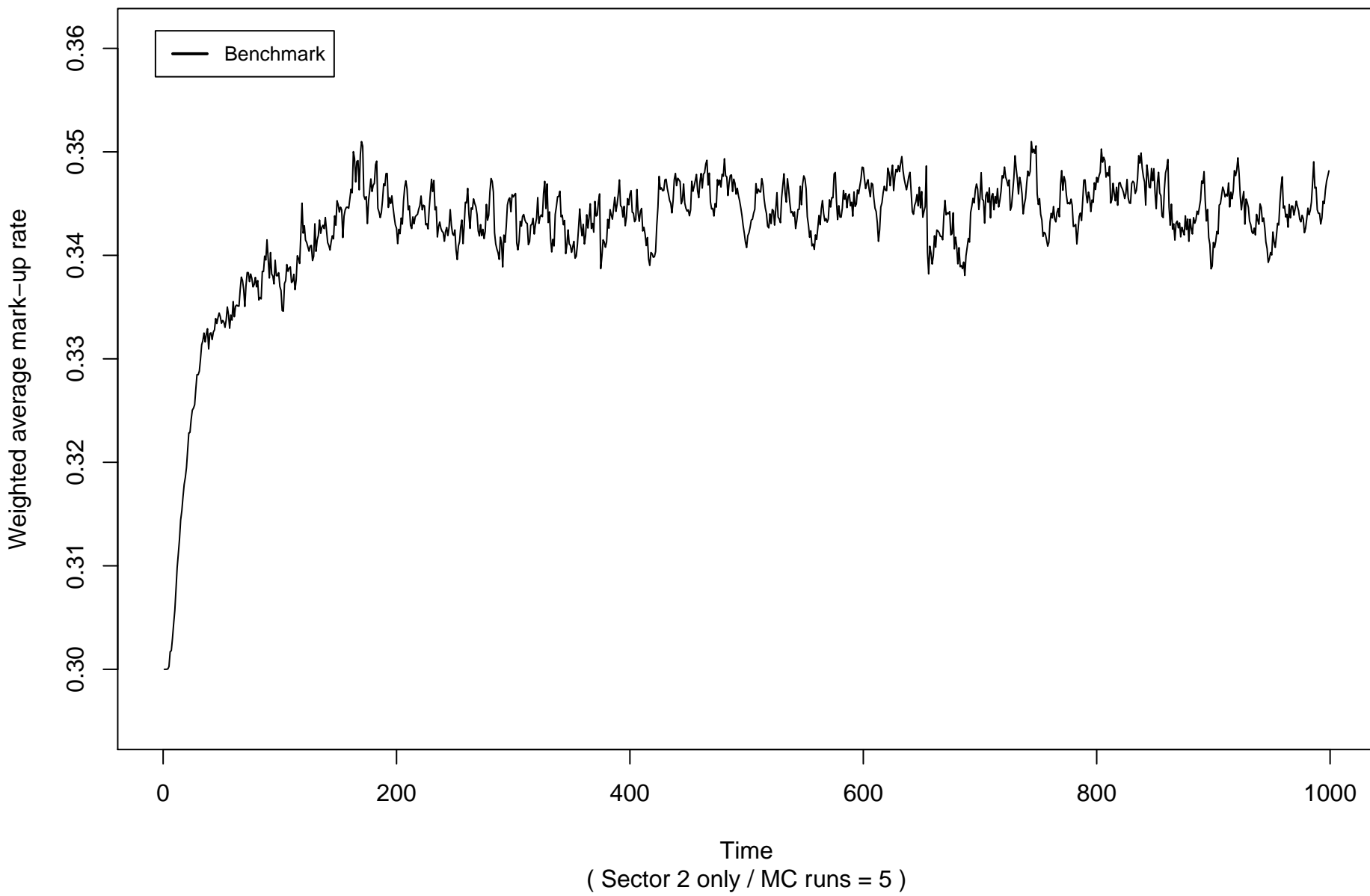
## Market concentration ( all experiments )



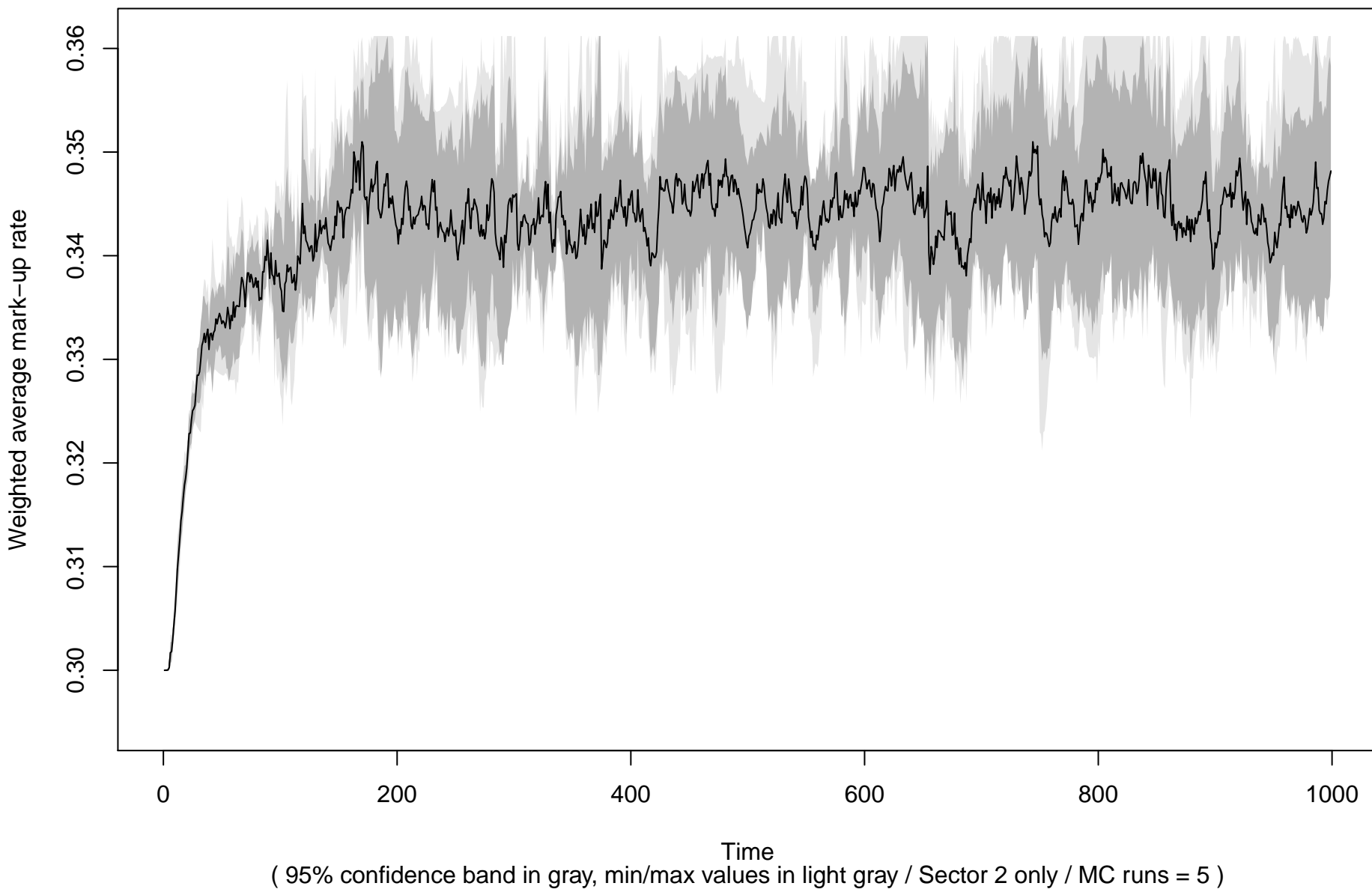
Market concentration ( Benchmark )



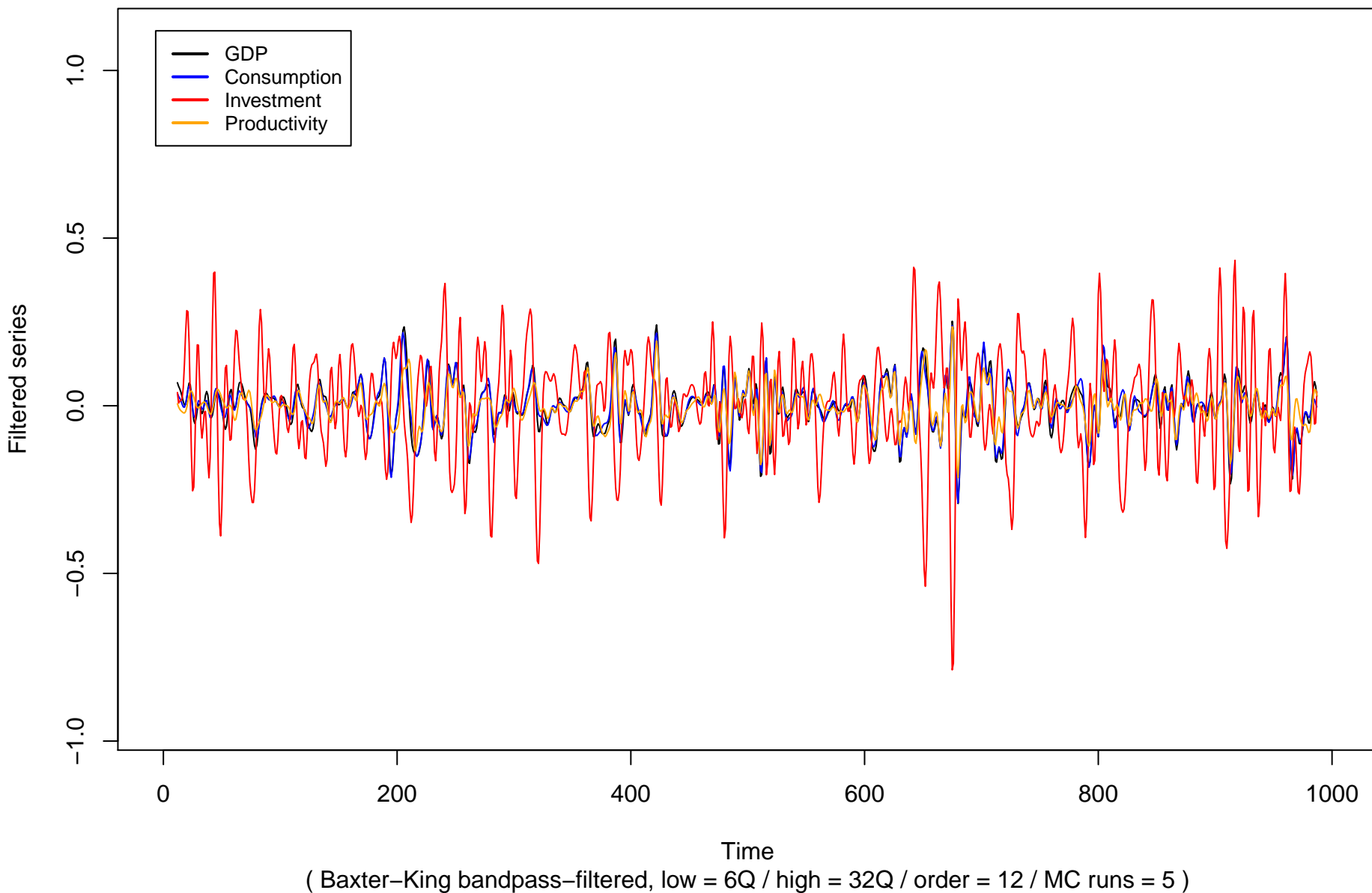
## Mark-up average ( all experiments )



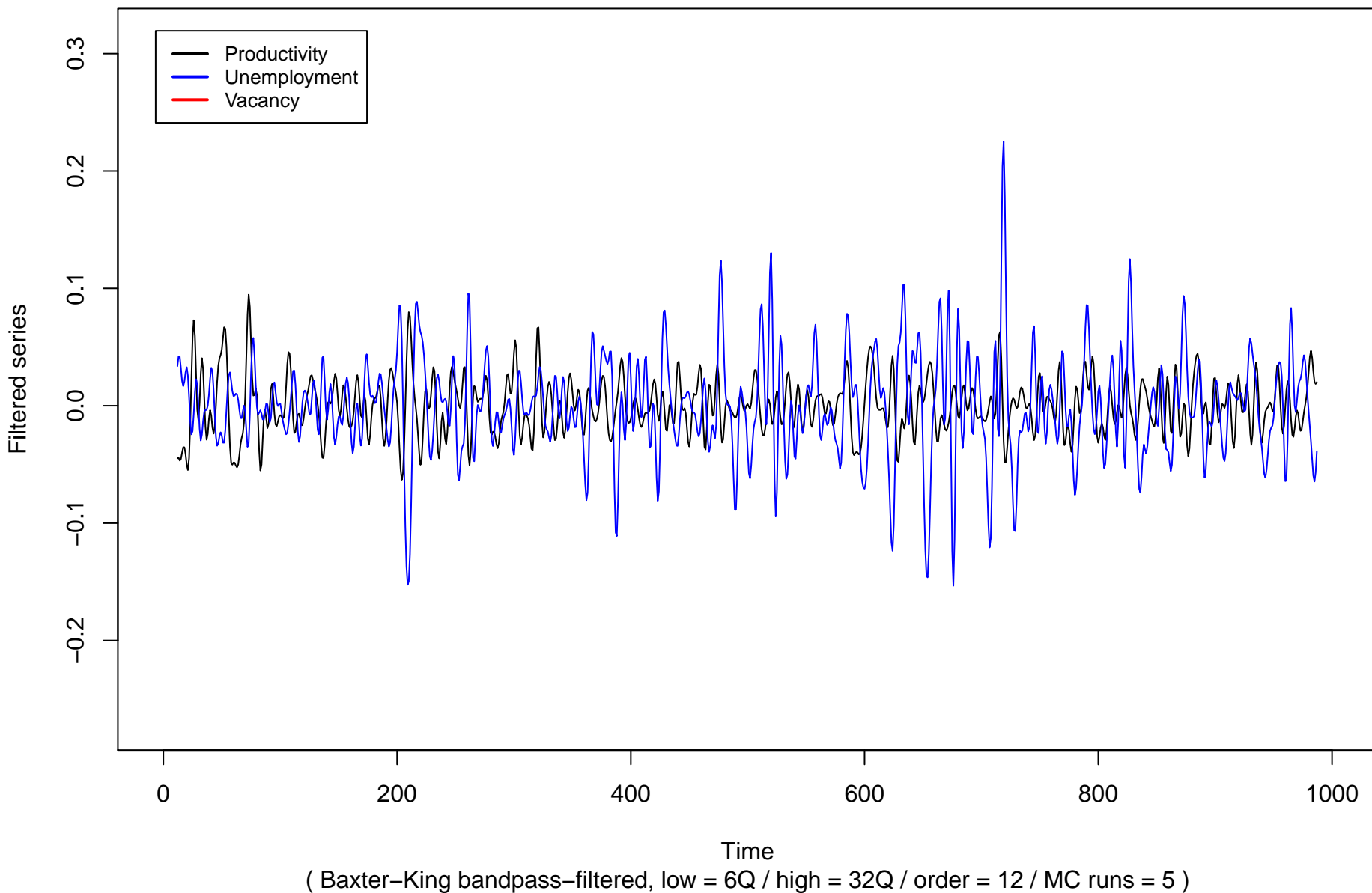
# Mark-up average ( Benchmark )



## 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>	0.01988	0.01977	0.02004	0.01949	0.01932
<b>(s.e.)</b>	0.000748	0.0007567	0.0008157	0.0007388	0.0007439
<b>ADF test (logs)</b>	−2.977	−2.694	−10.22	−2.809	−2.602
<b>(s.e.)</b>	0.6541	0.627	0.2847	0.5335	0.4952
<b>(p-val.)</b>	0.3497	0.4386	0.01	0.3604	0.4249
<b>(s.e.)</b>	0.105	0.1175	0	0.1171	0.1122
<b>ADF test (bpf)</b>	−10.91	−10.88	−14.29	−10.88	−10.31
<b>(s.e.)</b>	0.1274	0.1656	0.5584	0.3656	0.3864
<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>	0.107	0.09377	1.736	0.07771	0.07327
<b>(s.e.)</b>	0.004152	0.005645	0.1871	0.003645	0.00702
<b>relative s.d. (GDP)</b>	1	0.8764	16.23	0.7263	0.6848

( bpf: Baxter–King bandpass–filtered series, low = 6Q / high = 32Q / order = 12 / MC runs = 5 / period = 2 – 1000 )

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

## Correlation structure for GDP ( Benchmark )

	-4	-3	-2	-1	0	1	2	3	4
<b>GDP (output)</b>	0.0328	0.297	0.6202	0.8924	1	0.8924	0.6202	0.297	0.0328
(s.e.)	0.03844	0.03982	0.02588	0.007967	2.483e-17	0.007967	0.02588	0.03982	0.03844
(p-val.)	0.1749	0.002061	1.366e-05	2.54e-08	NA	2.54e-08	1.366e-05	0.002061	0.1749
<b>Consumption</b>	0.1033	0.3387	0.6176	0.8544	0.9554	0.8712	0.6335	0.3311	0.06091
(s.e.)	0.06057	0.05738	0.03638	0.01147	0.00625	0.00704	0.02128	0.03707	0.03848
(p-val.)	0.04008	0.004253	5.357e-05	1.316e-07	7.179e-09	1.718e-08	5.712e-06	0.0009552	0.03497
<b>Investment</b>	-0.2283	-0.335	-0.3831	-0.3161	-0.1342	0.09818	0.2898	0.3764	0.3556
(s.e.)	0.05643	0.05259	0.0283	0.02072	0.05584	0.07306	0.06462	0.04121	0.02455
(p-val.)	0.02106	0.003277	0.0001719	0.000127	0.1326	0.04863	0.01216	0.0007922	0.00014
<b>Net investment</b>	-0.1875	-0.2905	-0.3442	-0.2921	-0.1308	0.08055	0.2574	0.3382	0.3194
(s.e.)	0.04249	0.03113	0.01235	0.04213	0.07324	0.082	0.06509	0.03431	0.01499
(p-val.)	0.02092	0.0009167	1.085e-05	0.002731	0.1638	0.03402	0.01993	0.0006469	3.373e-05
<b>Change in inventories</b>	-0.1127	-0.06938	0.02077	0.1136	0.1591	0.1339	0.06573	0.0005105	-0.02615
(s.e.)	0.0281	0.02666	0.01917	0.02051	0.02507	0.02373	0.02264	0.02482	0.02321
(p-val.)	0.07275	0.1363	0.9501	0.03274	0.008965	0.01935	0.4382	0.8959	0.8582
<b>Unemployment rate</b>	0.2375	0.2424	0.1674	0.0248	-0.1328	-0.2401	-0.2633	-0.2135	-0.1362
(s.e.)	0.01745	0.02318	0.02432	0.01454	0.01817	0.03203	0.03536	0.02804	0.02132
(p-val.)	0.0002746	0.0007343	0.006147	0.9796	0.00879	0.00256	0.002348	0.002836	0.01266
<b>Productivity</b>	0.1687	0.3647	0.5975	0.7841	0.8379	0.7223	0.4785	0.1978	-0.03177
(s.e.)	0.0685	0.0662	0.03963	0.009562	0.0159	0.01727	0.03456	0.05713	0.05945
(p-val.)	0.01586	0.005121	8.68e-05	9.215e-08	5.267e-07	1.397e-06	0.000136	0.03814	0.1484
<b>Mark-up (sector 2)</b>	0.2688	0.2294	0.1448	0.0309	-0.0812	-0.1614	-0.1966	-0.1953	-0.1775
(s.e.)	0.03625	0.02352	0.03905	0.05258	0.05609	0.0514	0.04129	0.03078	0.02818
(p-val.)	0.002334	0.001029	0.05064	0.4282	0.02969	0.05055	0.01553	0.006171	0.007437
<b>Total firm debt</b>	0.07373	-0.03607	-0.1429	-0.2155	-0.237	-0.2139	-0.169	-0.1271	-0.09967
(s.e.)	0.09554	0.09403	0.08869	0.07166	0.03927	0.0225	0.06194	0.09352	0.1066
(p-val.)	0.07196	0.09341	0.063	0.04941	0.005594	0.001254	0.07949	0.02356	0.01807
<b>Liquidity-to-sales ratio</b>	0.04549	-0.1657	-0.4003	-0.5908	-0.6783	-0.6401	-0.5097	-0.3441	-0.1941
(s.e.)	0.04226	0.03084	0.04219	0.05553	0.0535	0.05293	0.06465	0.06859	0.05365
(p-val.)	0.5791	0.01411	0.000656	0.0003393	0.0001621	0.0001995	0.001141	0.007348	0.03476
<b>Bankruptcy rate</b>	0.4069	0.4516	0.3879	0.2236	0.02079	-0.1416	-0.2137	-0.2034	-0.1587
(s.e.)	0.02225	0.03809	0.04763	0.04158	0.02326	0.01562	0.02674	0.03086	0.02953
(p-val.)	5.055e-05	0.0002574	0.001193	0.008868	0.9072	0.003495	0.002377	0.005083	0.01533

( non-rate/ratio series are Baxter–King bandpass-filtered, low = 6Q / high = 32Q / order = 12 / MC runs = 5 / period = 2 – 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>	0.0328	0.297	0.6202	0.8924	1	0.8924	0.6202	0.297	0.0328
<b>(s.e.)</b>	0.03844	0.03982	0.02588	0.007967	2.483e-17	0.007967	0.02588	0.03982	0.03844
<b>(p-val.)</b>	0.1749	0.002061	1.366e-05	2.54e-08	NA	2.54e-08	1.366e-05	0.002061	0.1749
<b>Consumption</b>	0.1033	0.3387	0.6176	0.8544	0.9554	0.8712	0.6335	0.3311	0.06091
<b>(s.e.)</b>	0.06057	0.05738	0.03638	0.01147	0.00625	0.00704	0.02128	0.03707	0.03848
<b>(p-val.)</b>	0.04008	0.004253	5.357e-05	1.316e-07	7.179e-09	1.718e-08	5.712e-06	0.0009552	0.03497
<b>Investment</b>	-0.2283	-0.335	-0.3831	-0.3161	-0.1342	0.09818	0.2898	0.3764	0.3556
<b>(s.e.)</b>	0.05643	0.05259	0.0283	0.02072	0.05584	0.07306	0.06462	0.04121	0.02455
<b>(p-val.)</b>	0.02106	0.003277	0.0001719	0.000127	0.1326	0.04863	0.01216	0.0007922	0.00014
<b>Productivity</b>	0.1687	0.3647	0.5975	0.7841	0.8379	0.7223	0.4785	0.1978	-0.03177
<b>(s.e.)</b>	0.0685	0.0662	0.03963	0.009562	0.0159	0.01727	0.03456	0.05713	0.05945
<b>(p-val.)</b>	0.01586	0.005121	8.68e-05	9.215e-08	5.267e-07	1.397e-06	0.000136	0.03814	0.1484
<b>Entry</b>	-0.1587	0.003894	0.2065	0.3931	0.5075	0.5209	0.447	0.3273	0.2059
<b>(s.e.)</b>	0.02822	0.03738	0.04713	0.04588	0.0334	0.02015	0.02118	0.02329	0.01781
<b>(p-val.)</b>	0.0133	0.4403	0.01871	0.0009773	9.128e-05	1.101e-05	2.691e-05	0.0001694	0.0006369
<b>Wage</b>	0.3326	0.4953	0.6259	0.6832	0.6441	0.5156	0.3346	0.1469	-0.01307
<b>(s.e.)</b>	0.01719	0.03144	0.05003	0.0625	0.0657	0.05868	0.04454	0.0285	0.02049
<b>(p-val.)</b>	4.758e-05	8.025e-05	0.0001764	0.0002878	0.0004482	0.000754	0.001803	0.02036	0.9602
<b>Unemployment rate</b>	0.2375	0.2424	0.1674	0.0248	-0.1328	-0.2401	-0.2633	-0.2135	-0.1362
<b>(s.e.)</b>	0.01745	0.02318	0.02432	0.01454	0.01817	0.03203	0.03536	0.02804	0.02132
<b>(p-val.)</b>	0.0002746	0.0007343	0.006147	0.9796	0.00879	0.00256	0.002348	0.002836	0.01266
<b>Vacancy rate</b>	0.06986	-0.07849	-0.2712	-0.4175	-0.4427	-0.3376	-0.1617	-0.003261	0.07871
<b>(s.e.)</b>	0.09807	0.0871	0.07222	0.05701	0.03851	0.02147	0.02981	0.04474	0.05189
<b>(p-val.)</b>	0.08826	0.05729	0.02213	0.001683	0.0002937	0.0001062	0.01433	0.03894	0.2248

( non-rate/ratio series are Baxter–King bandpass-filtered, low = 6Q / high = 32Q / order = 12 / MC runs = 5 / period = 2 – 1000 )  
 ( test H0: lag coefficient is not significant at 5% level )

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

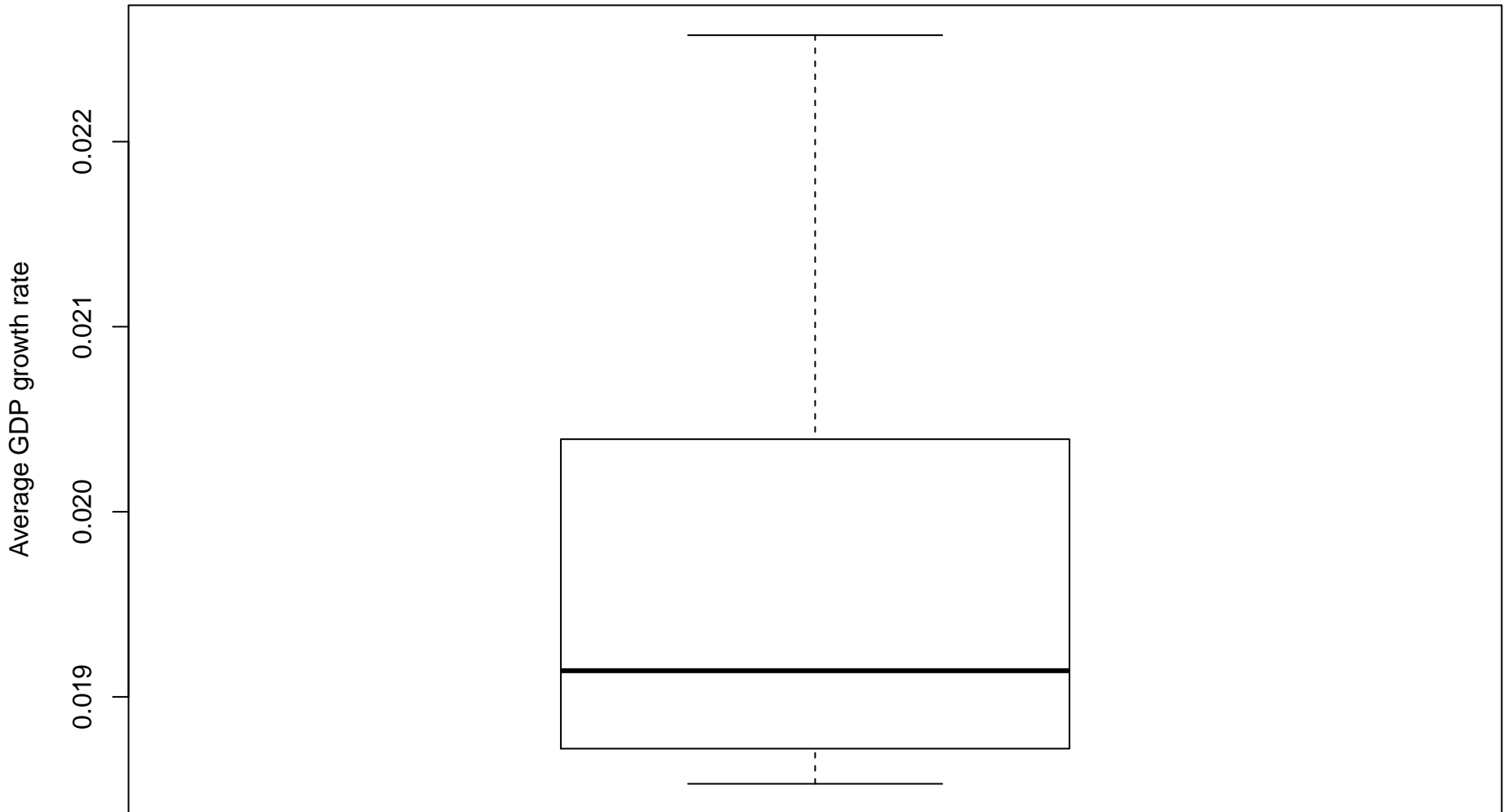
	avg.ADF	rej.ADF	avg.PP	rej.PP	avg.KPSS	rej.KPSS	avg.BDS	rej.BDS	avg.KS	rej.KS	AD	V
dGDP	0.01	1.00	0.01	1.00	0.09	0.00	0.02	0.80	0.26	0.60	0.00	C
dA	0.01	1.00	0.01	1.00	0.08	0.20	0.00	1.00	0.03	0.90	0.00	C
dw	0.01	1.00	0.01	1.00	0.09	0.00	0.00	1.00	0.02	0.90	0.00	C
V	0.01	1.00	0.01	1.00	0.01	1.00	0.00	1.00	0.02	0.80	0.00	C
U	0.01	1.00	0.01	1.00	0.01	1.00	0.00	1.00	0.00	1.00	0.00	C
mu2avg	0.01	1.00	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	0.08	0.20	0.00	1.00	0.07	0.80	0.00	C
HH2	0.01	1.00	0.01	1.00	0.01	1.00	0.00	1.00	0.00	1.00	0.00	C

( average p-values for testing H0 and rate of rejection of H0 / MC runs = 5 / period = 2 – 1000 )

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

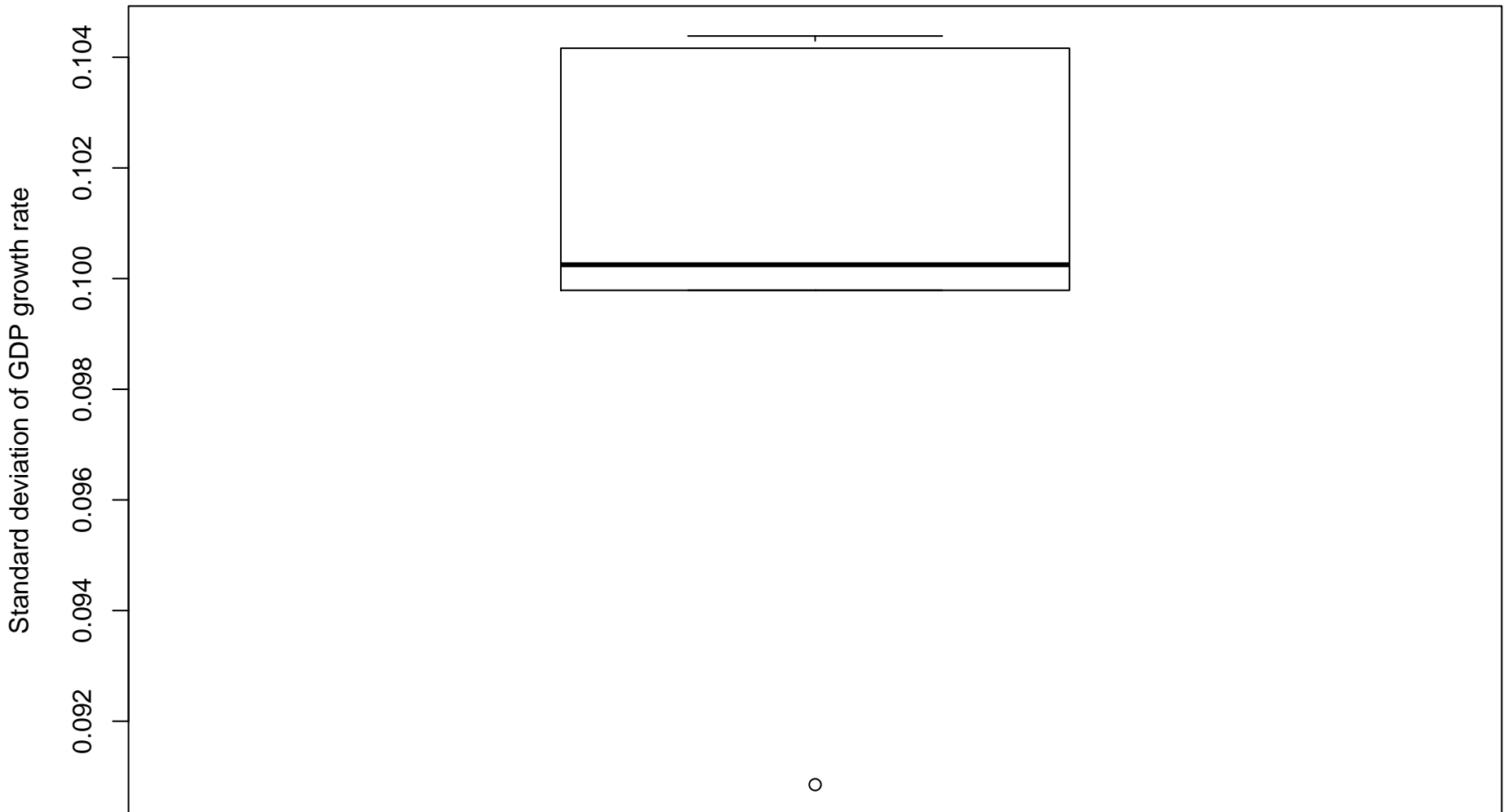
( significance = 0.05 )

## GDP growth



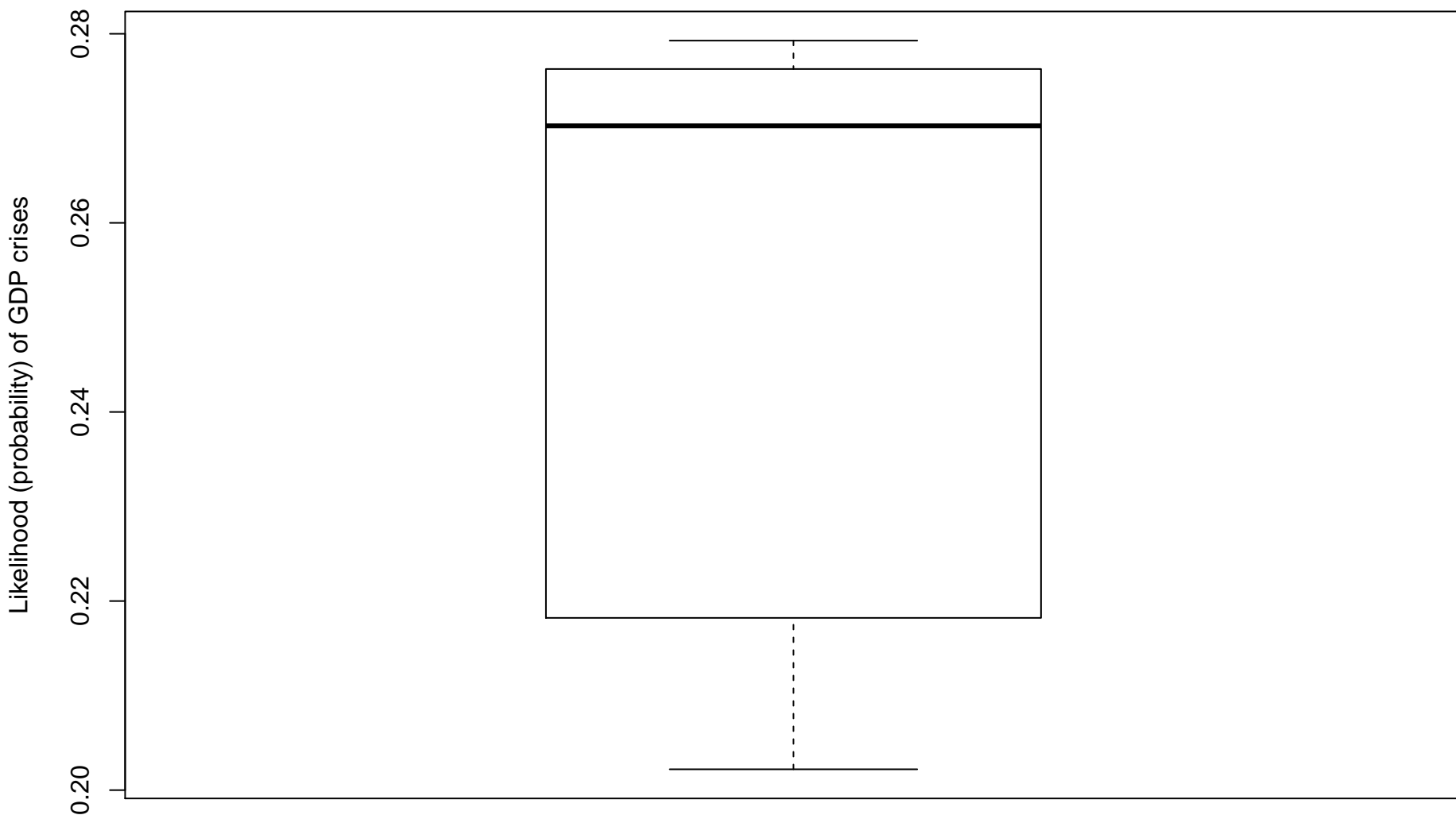
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 2 – 1000 )

## Volatility of GDP growth



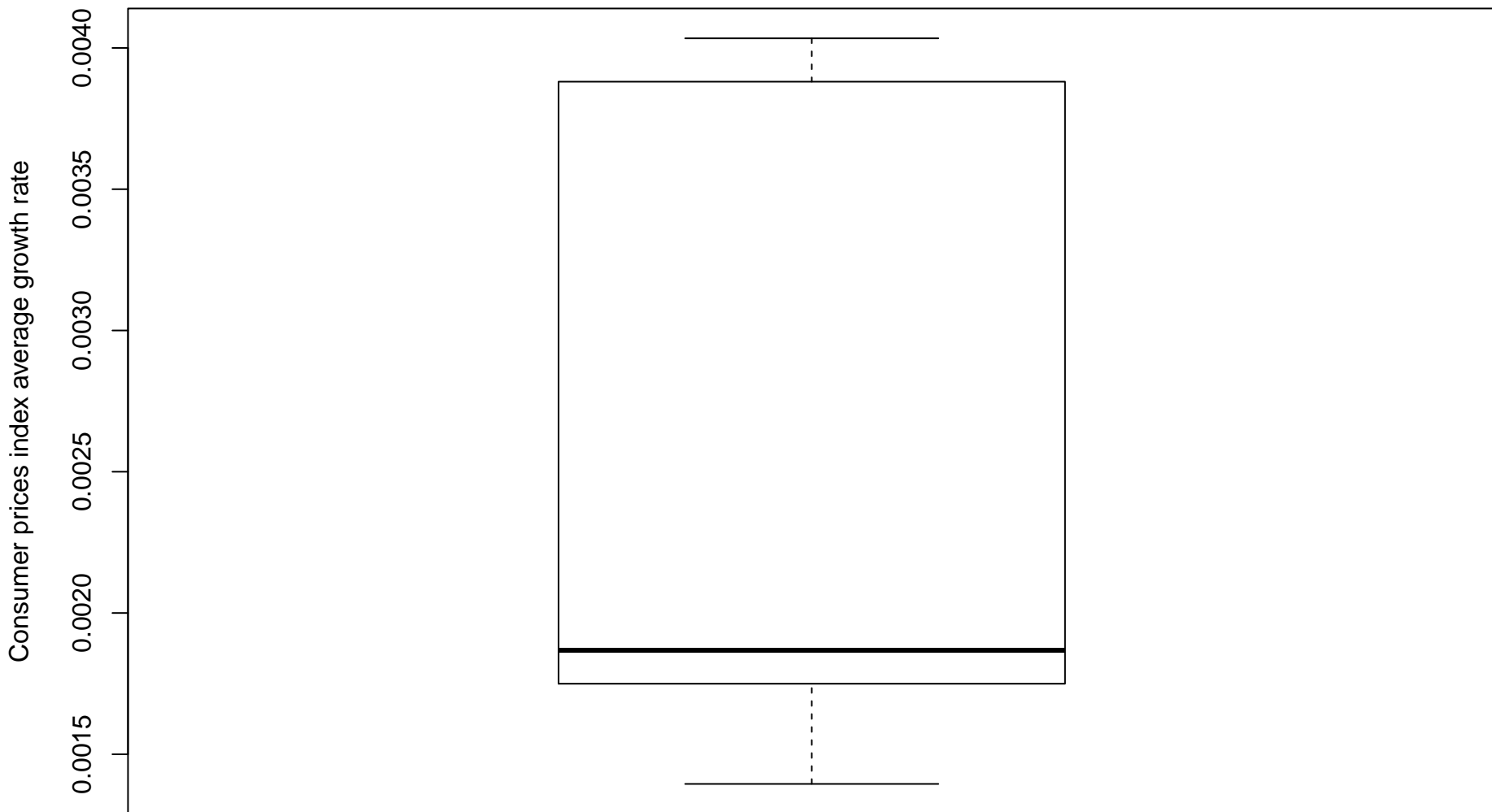
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 2 – 1000 )

## Likelihood of GDP crises



( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 2 – 1000 )

# Inflation



( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 2 – 1000 )



Government tax income over GDP

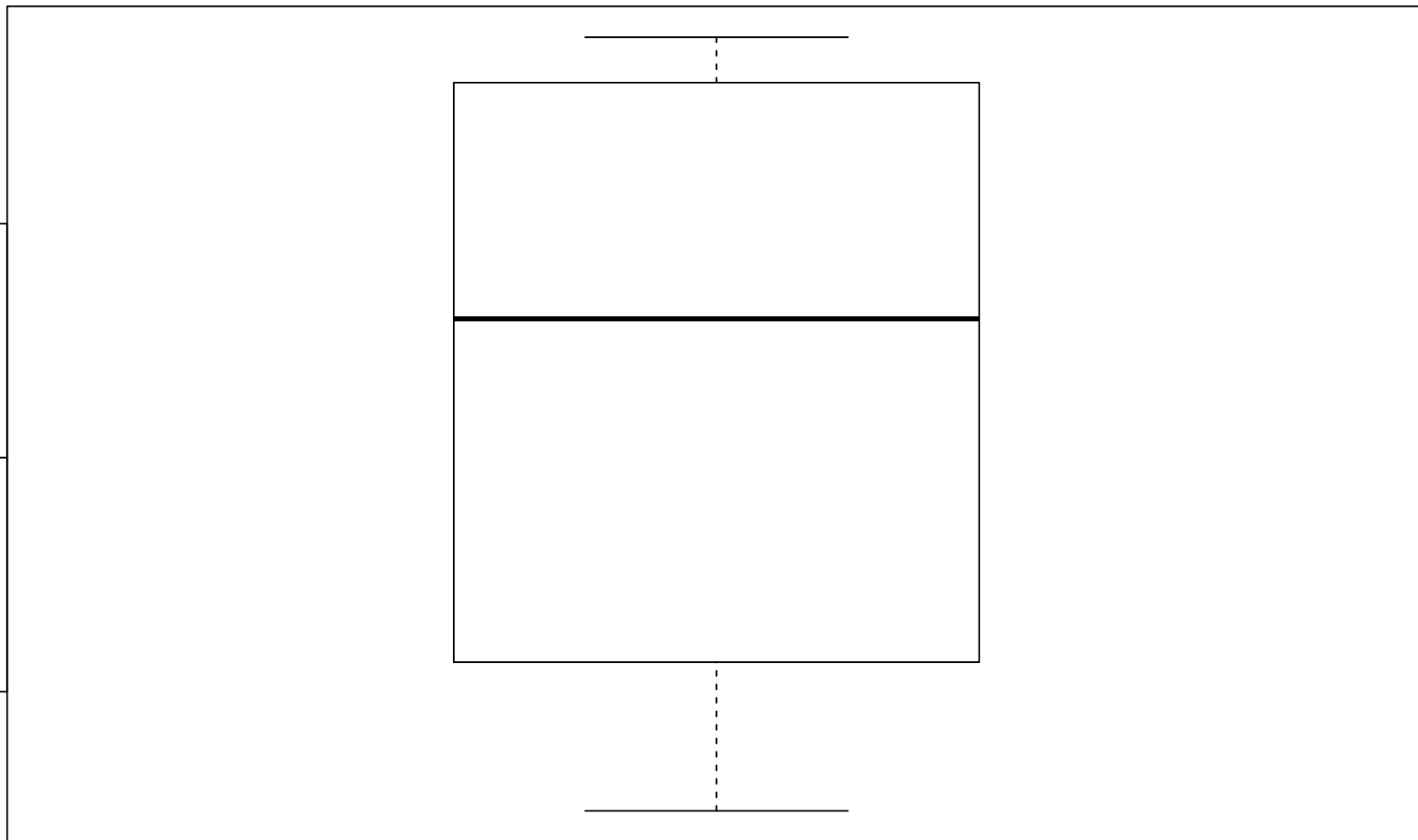
0.0245

0.0240

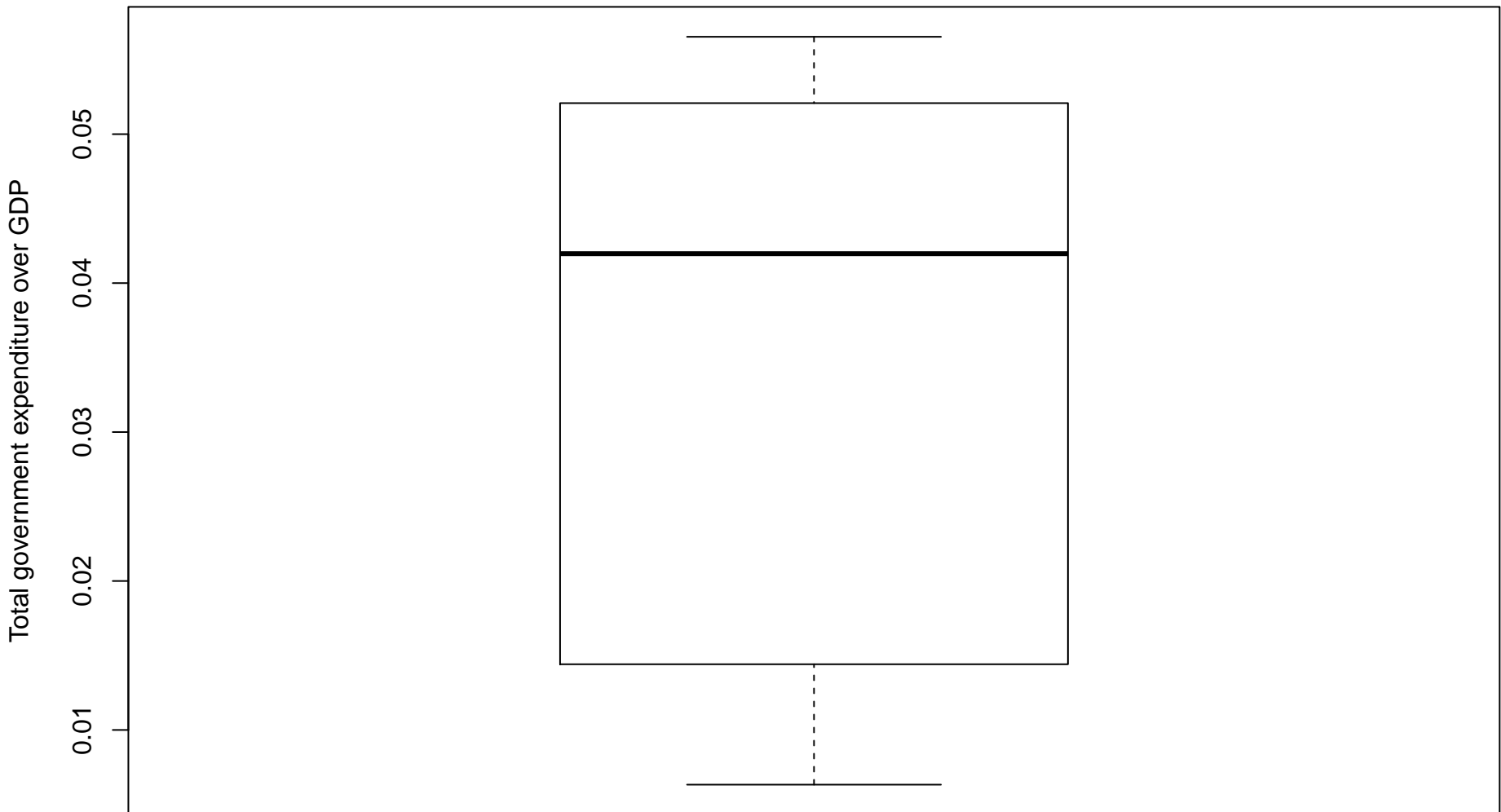
0.0235

Tax

( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 2 – 1000 )

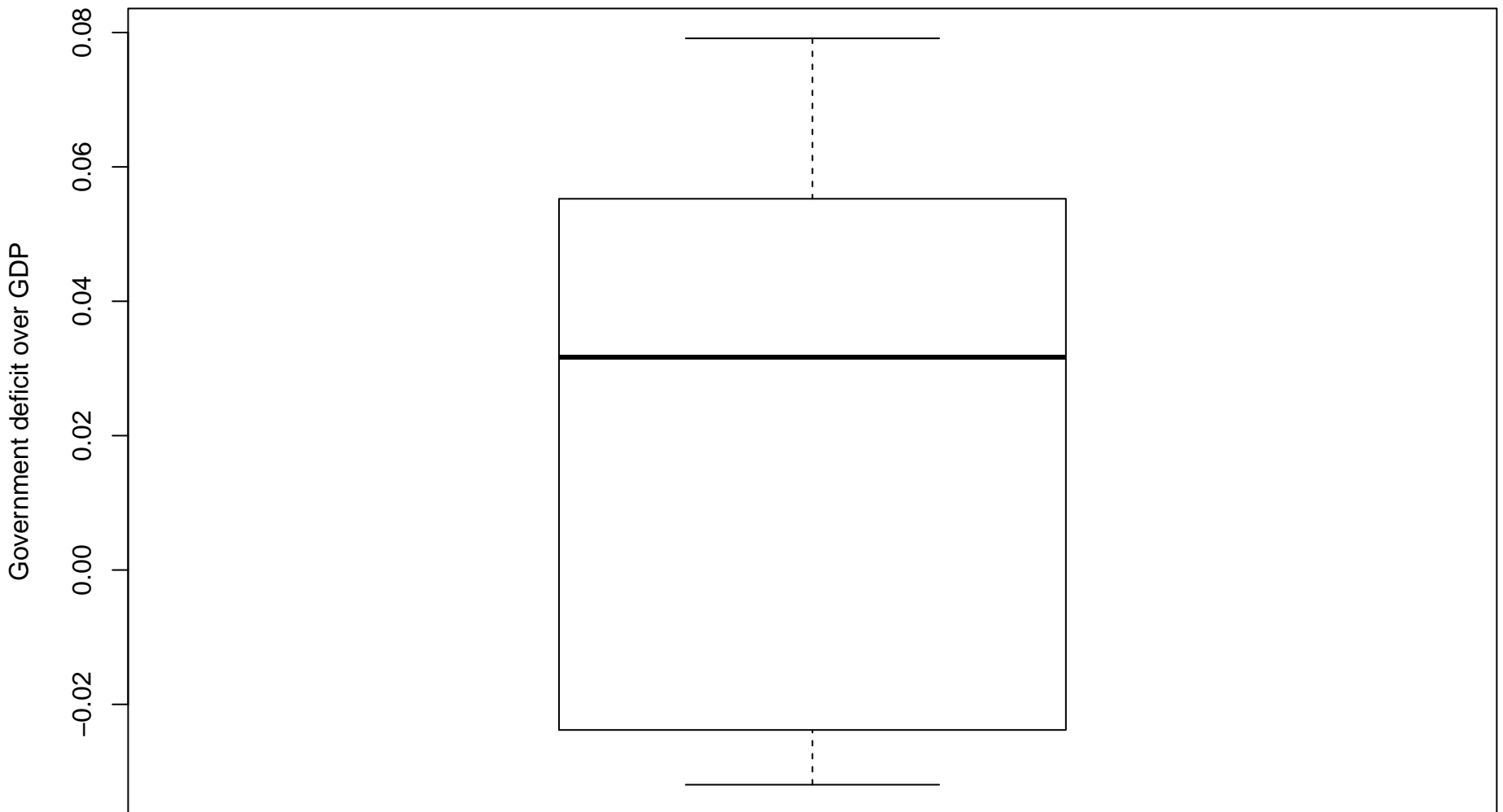


## Government total expenditure



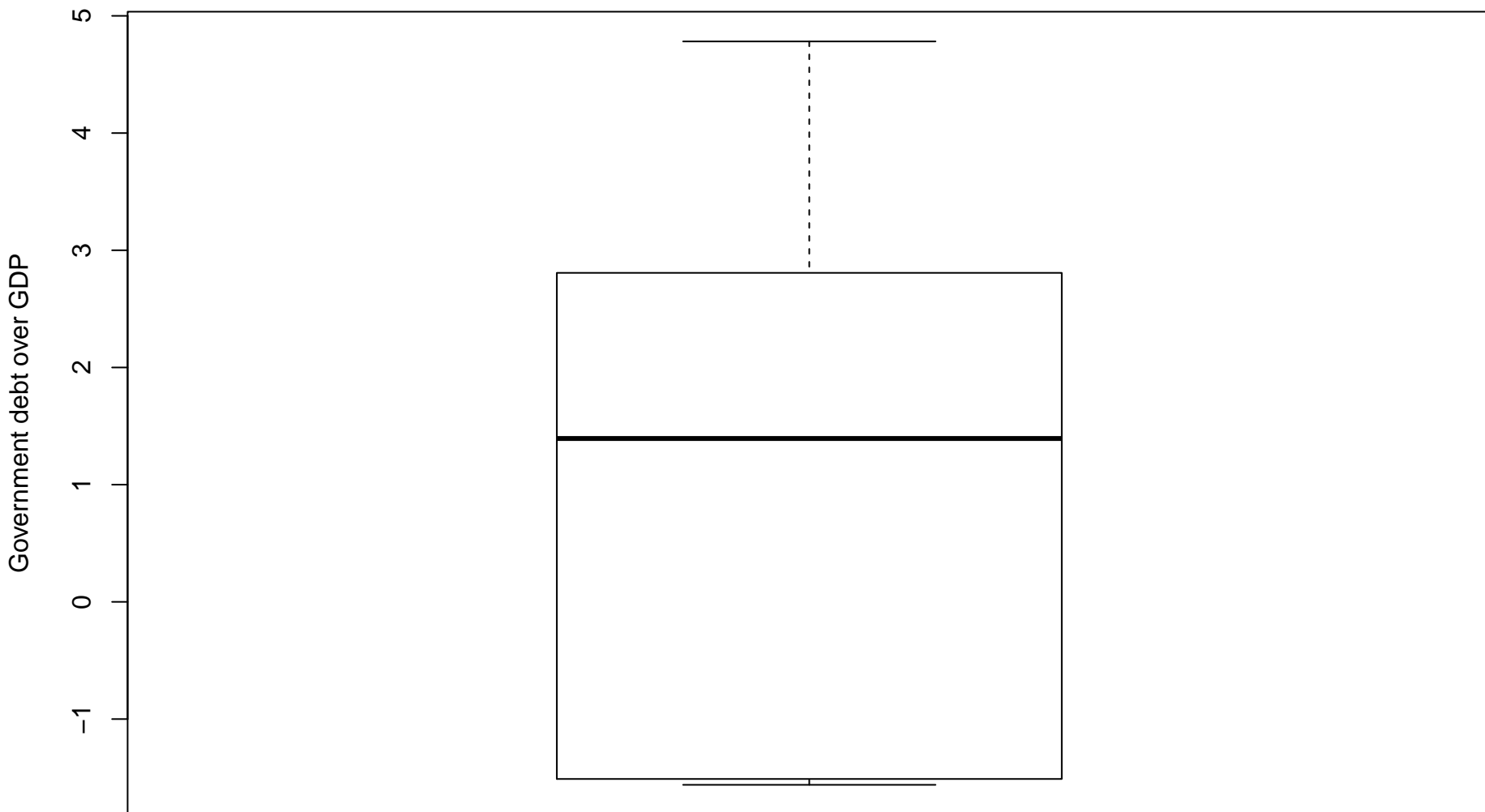
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 2 – 1000 )

## Government deficit



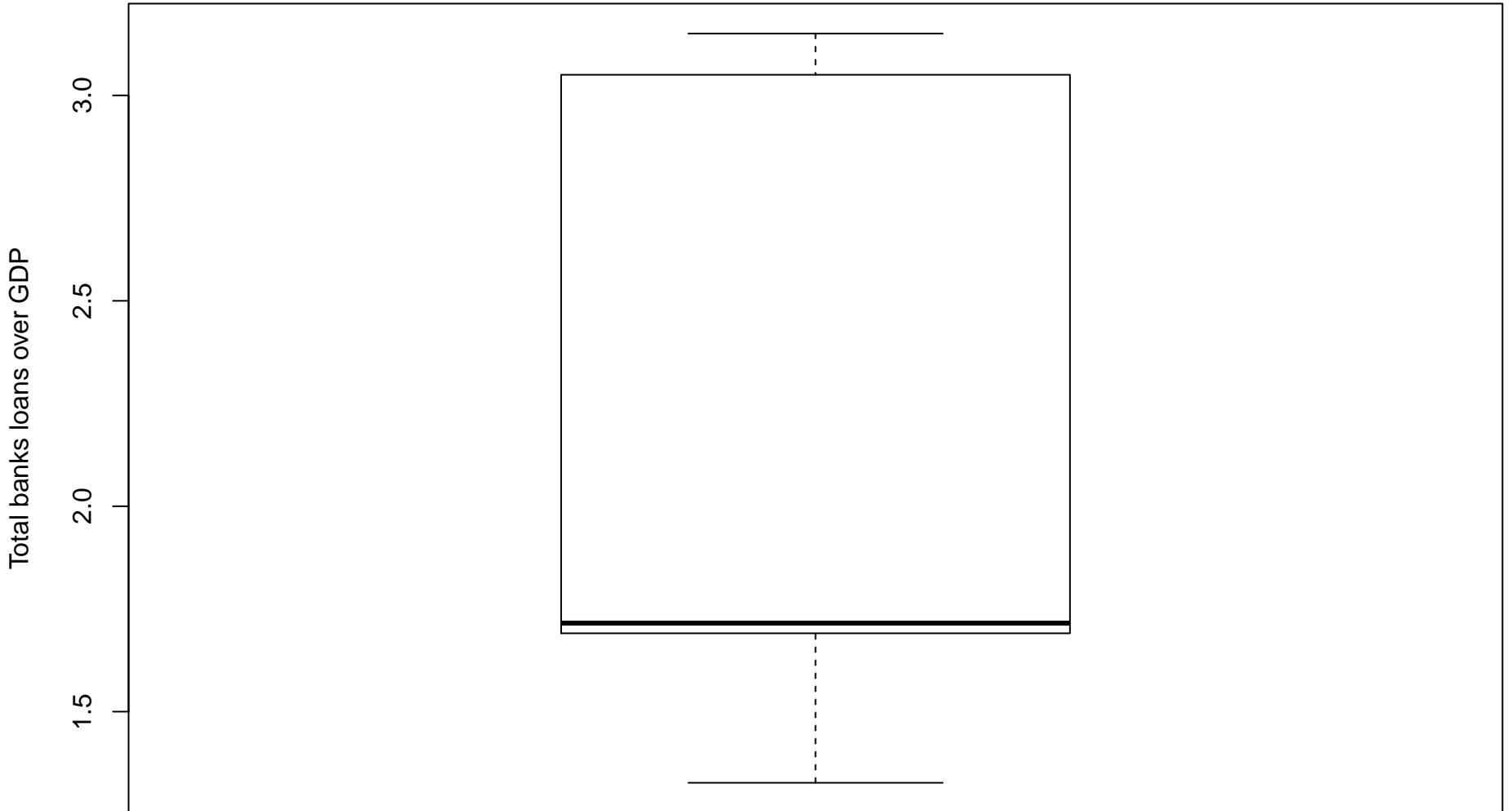
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 2 – 1000 )

# Government debt



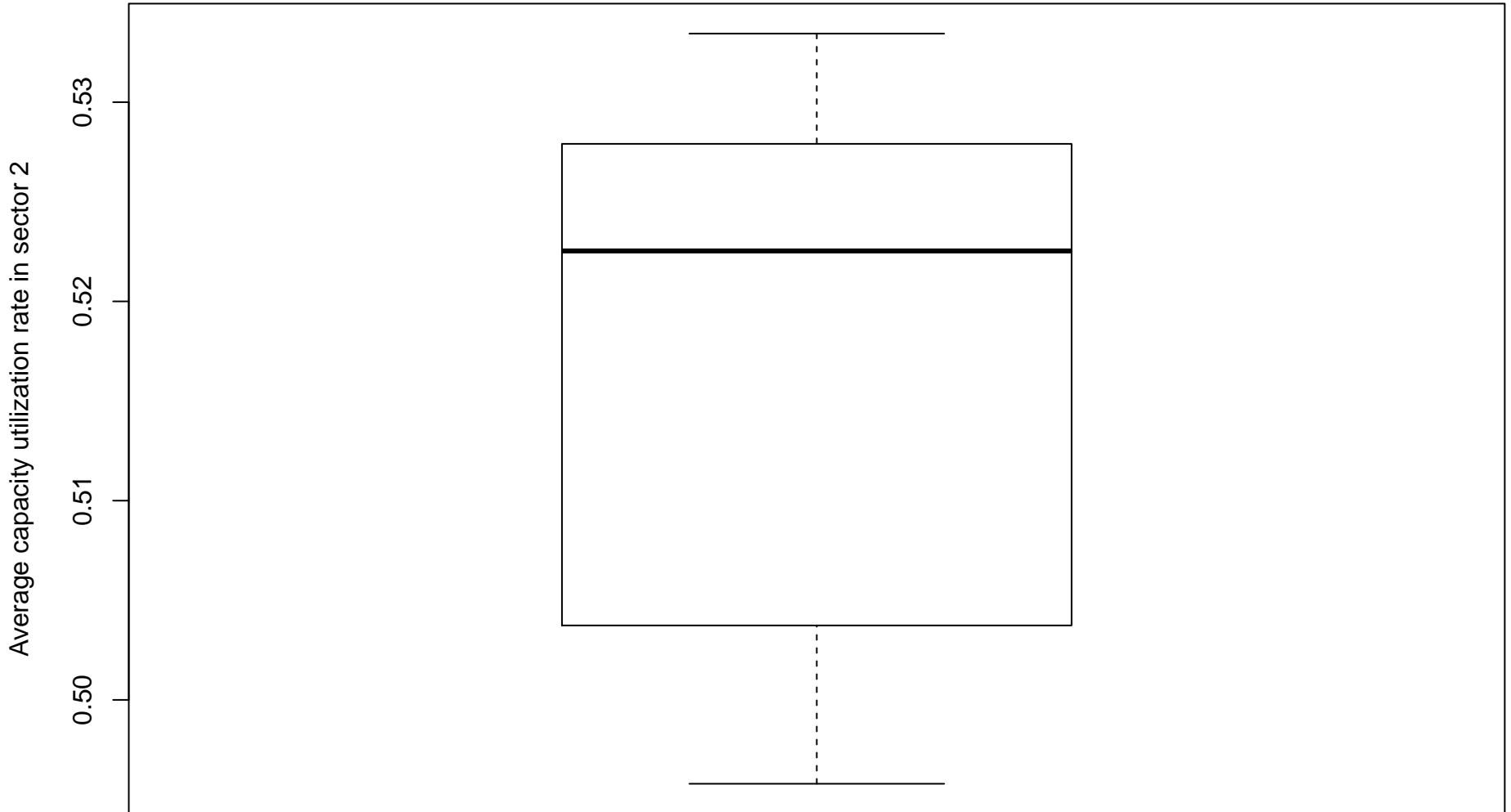
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 2 – 1000 )

## Loans



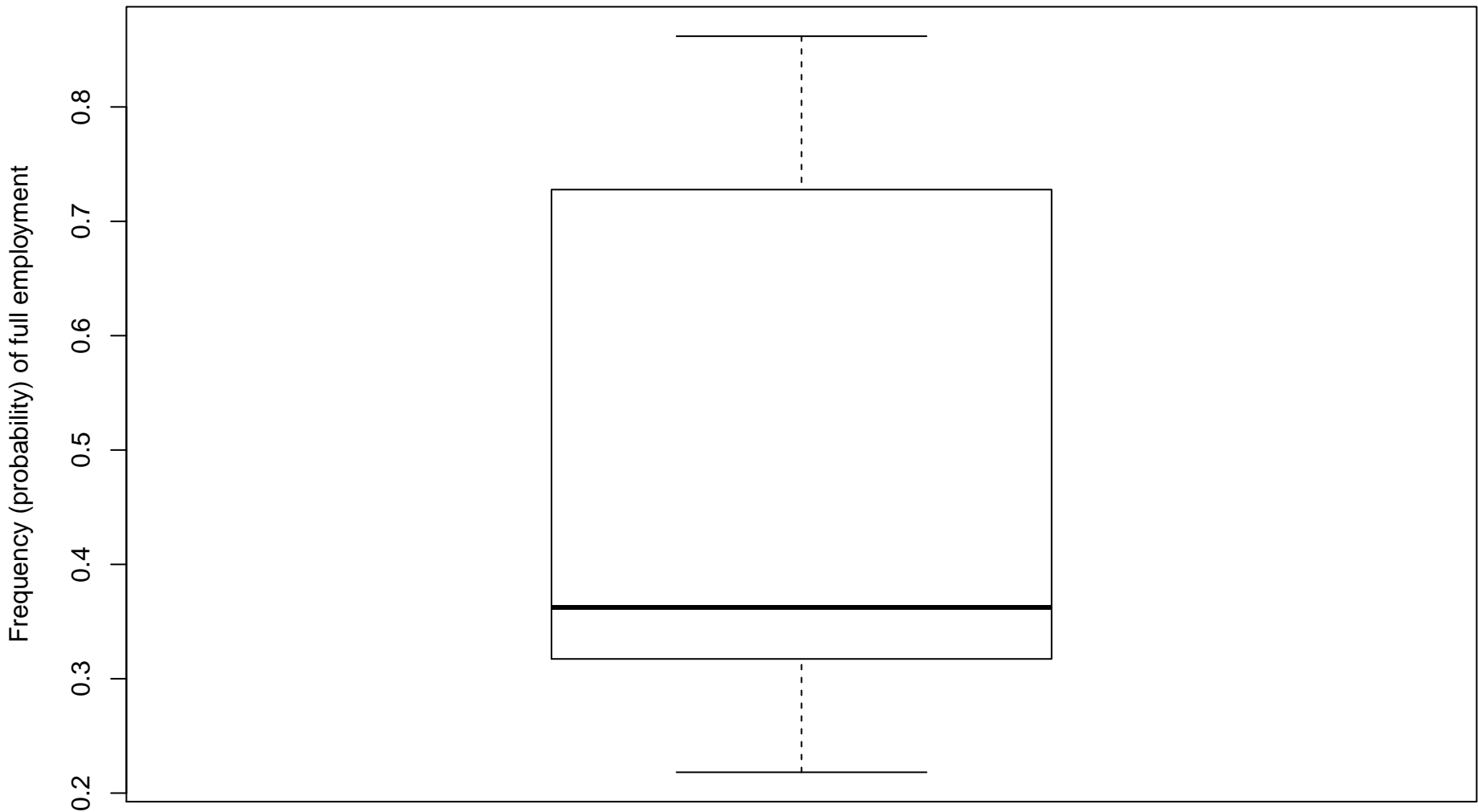
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 2 – 1000 )

## Capacity utilization



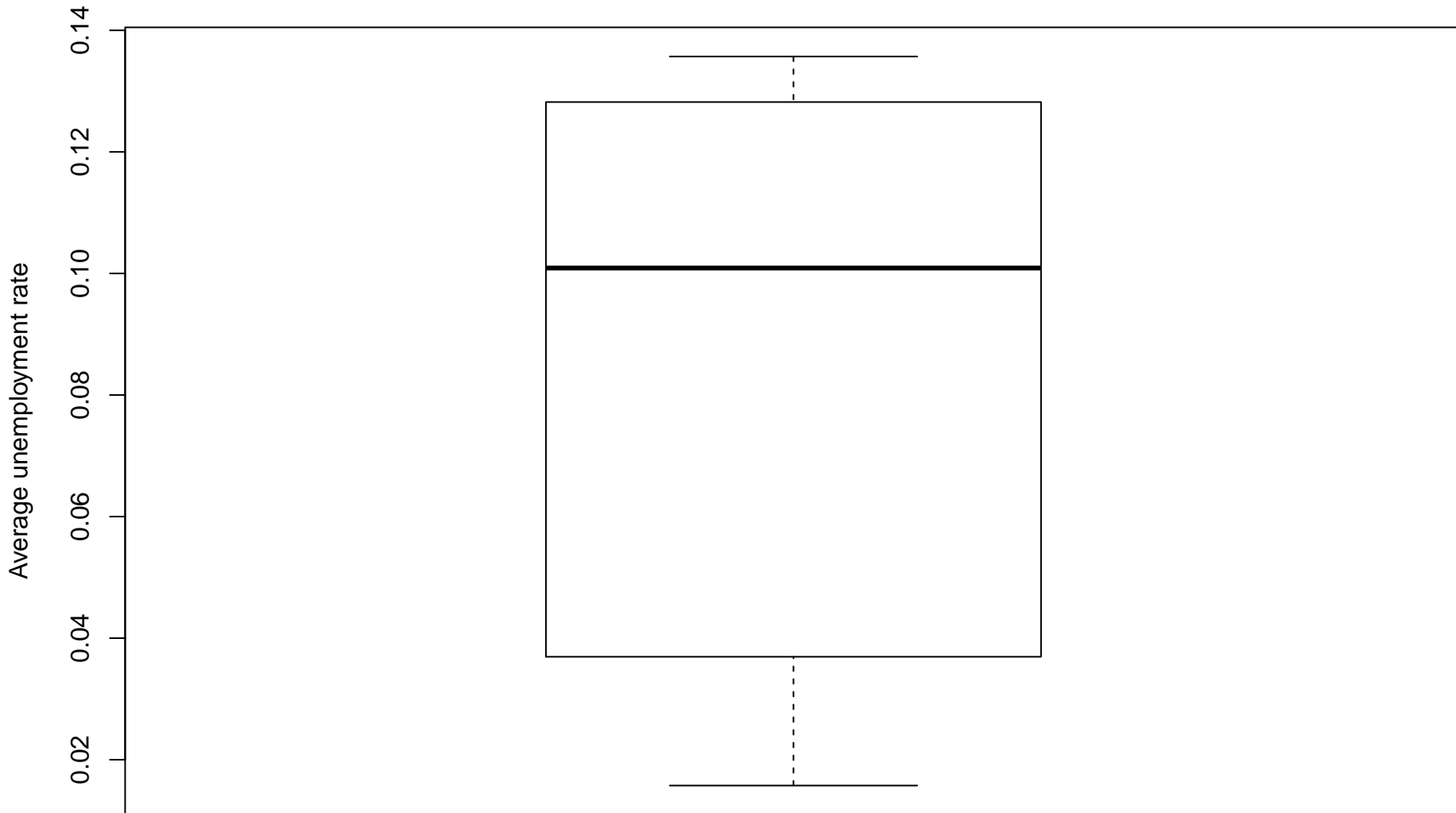
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 2 – 1000 )

## Full employment frequency



( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 2 – 1000 )

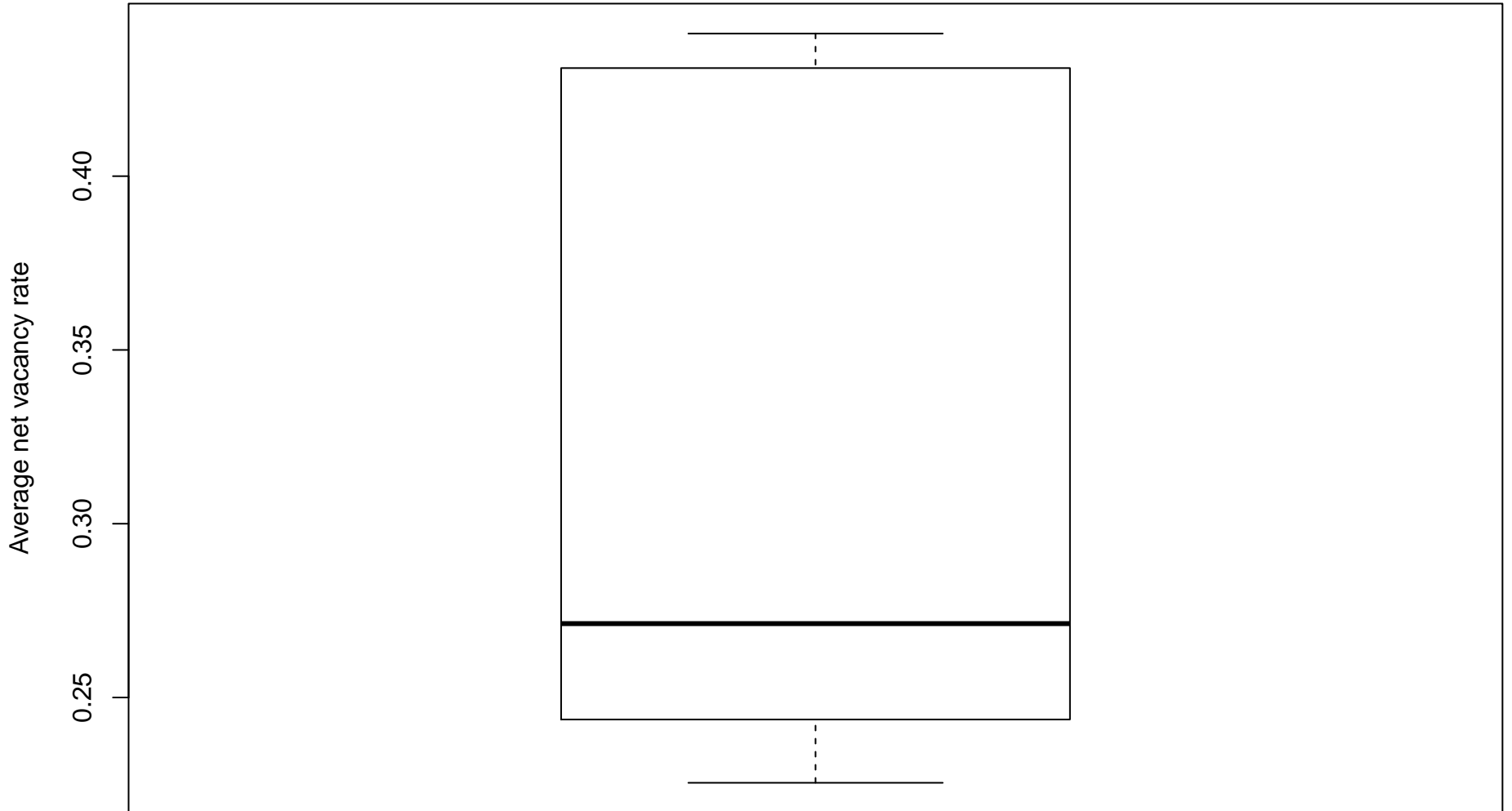
# Unemployment



( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 2 – 1000 )

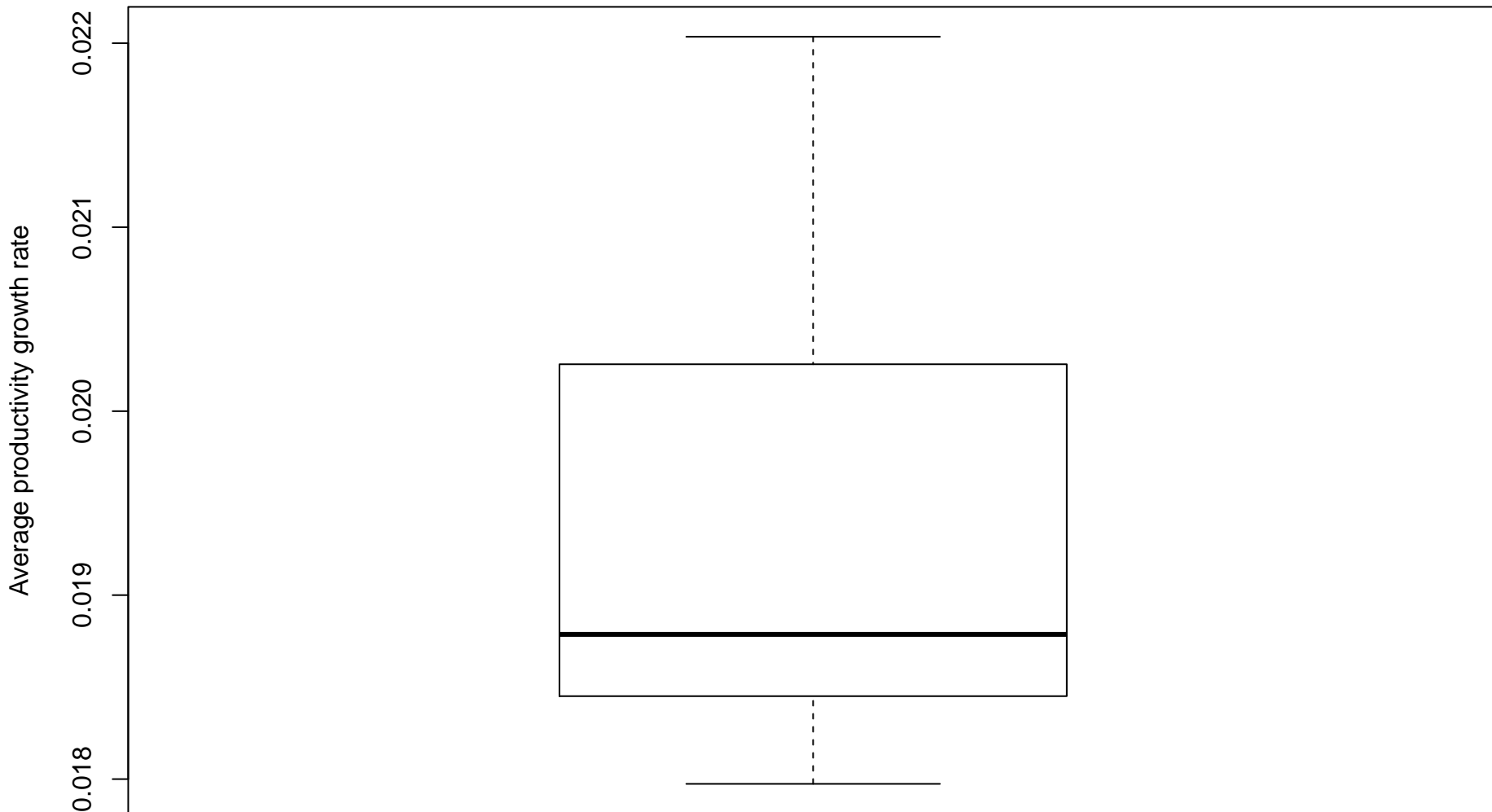


# Vacancy



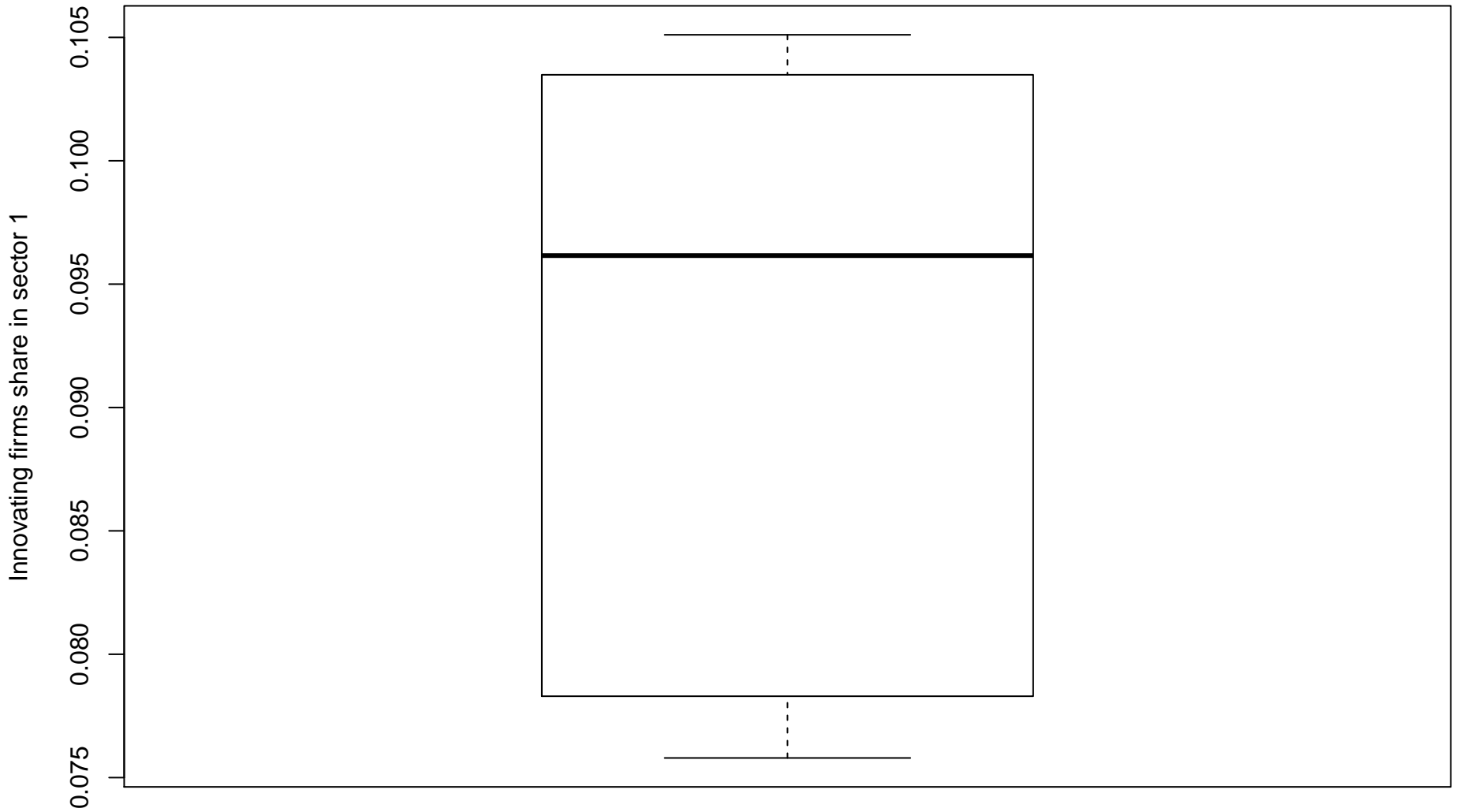
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 2 – 1000 )

## Productivity growth



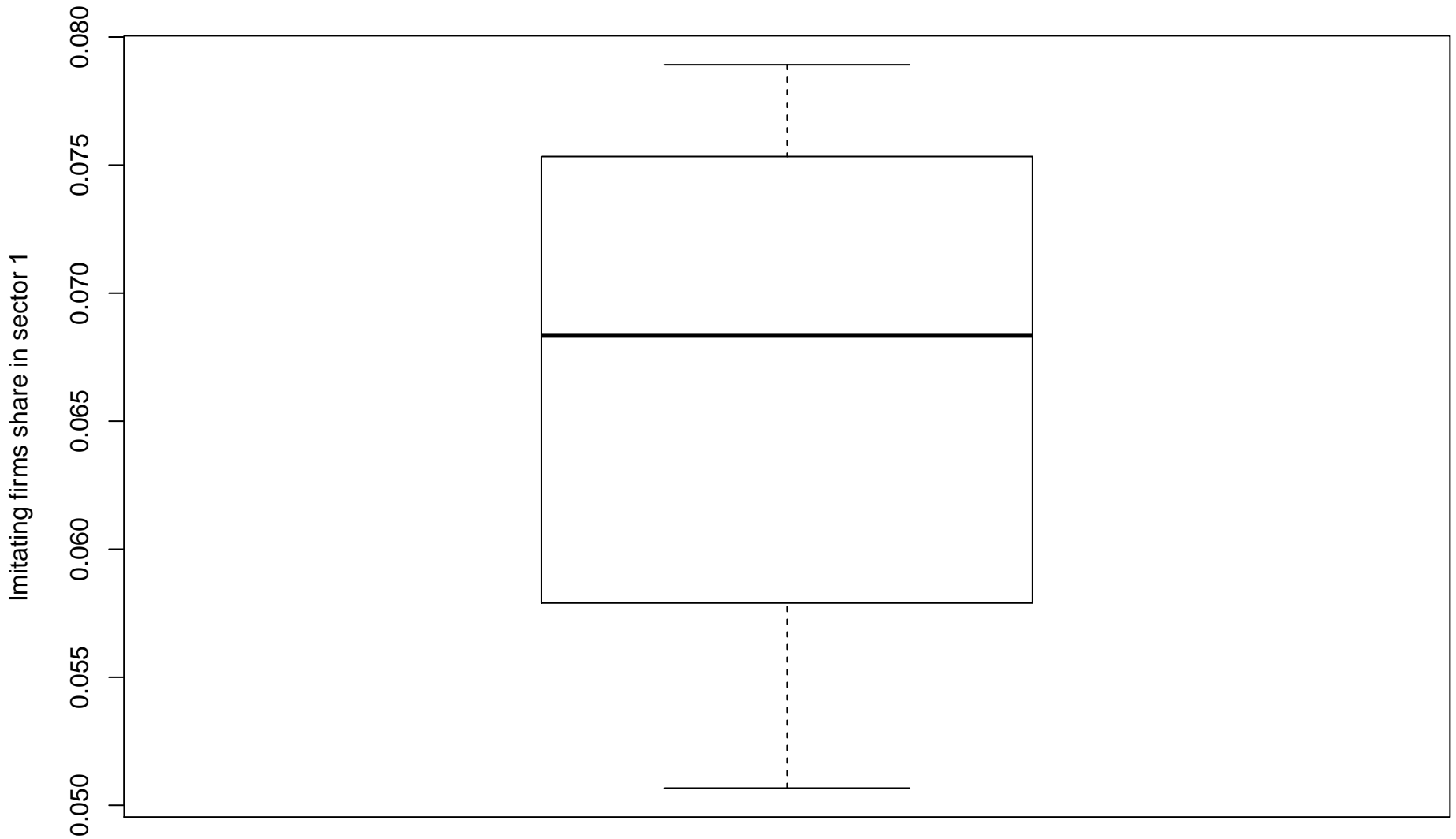
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 2 – 1000 )

# Innovation



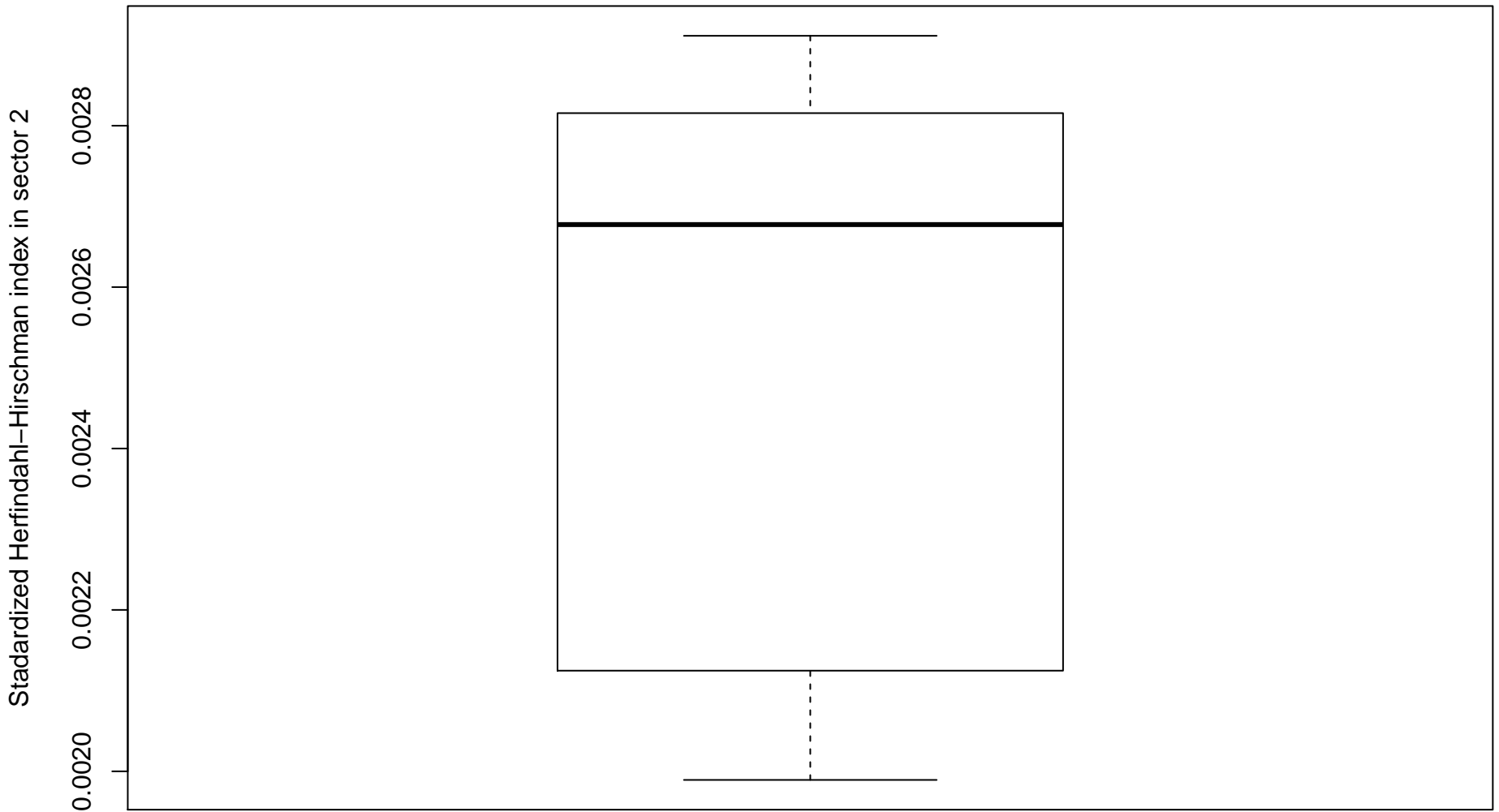
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 2 – 1000 )

## Imitation



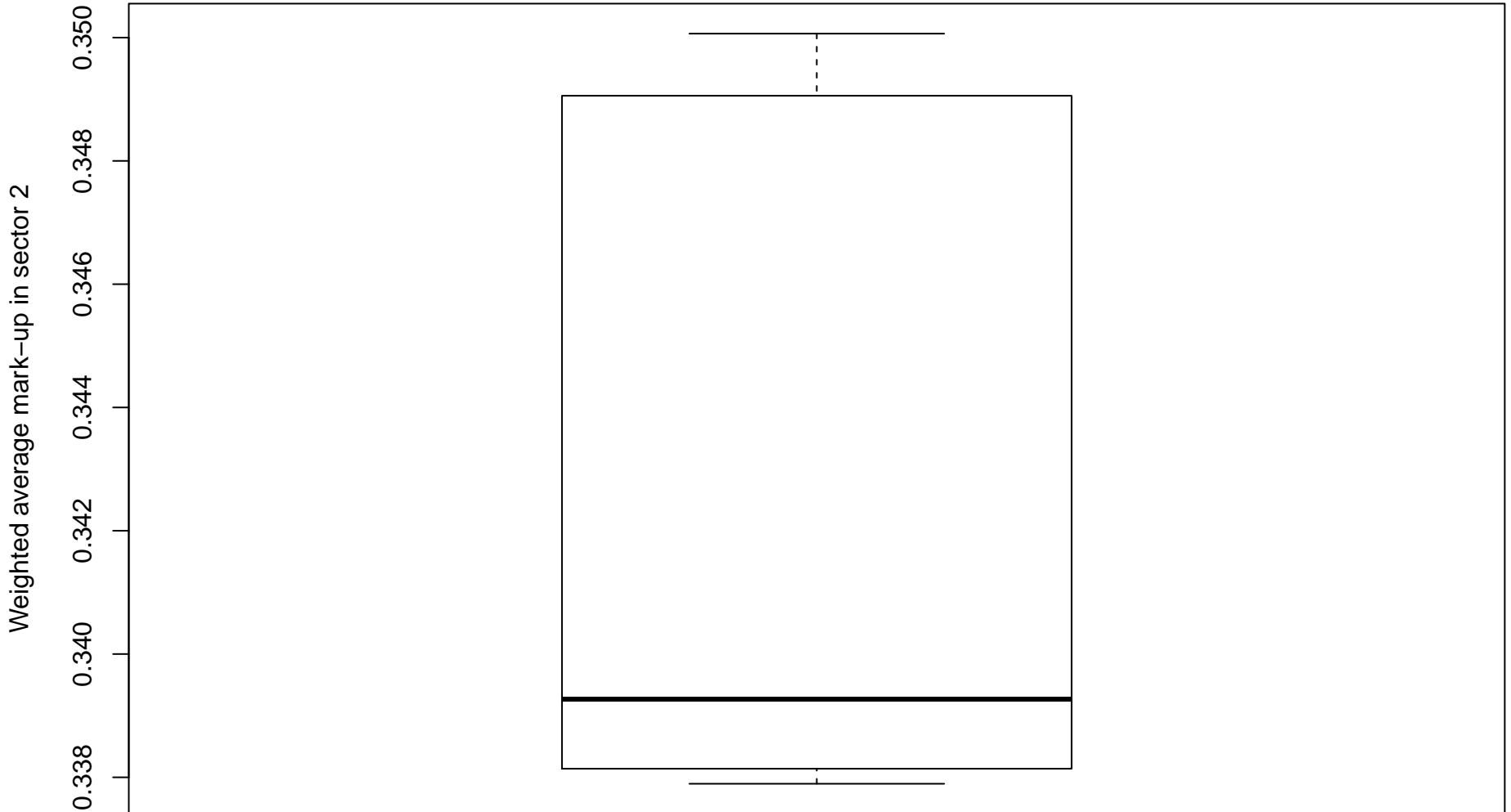
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 2 – 1000 )

## Market concentration



( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 2 – 1000 )

## Mark-ups



( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 2 – 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>	0.01987	0.001676	0.01853	0.02258
<b>Volatility of GDP growth</b>	0.09989	0.005483	0.09085	0.1044
<b>Likelihood of GDP crises</b>	0.2492	0.03623	0.2022	0.2793
<b>Inflation</b>	0.002585	0.001266	0.001395	0.004034
<b>Tax</b>	0.02416	0.0007362	0.02325	0.0249
<b>Government total expenditure</b>	0.03427	0.02262	0.006327	0.05654
<b>Government deficit</b>	0.02206	0.04867	-0.03196	0.07914
<b>Government debt</b>	1.182	2.758	-1.561	4.782
<b>Loans</b>	2.187	0.8488	1.327	3.15
<b>Capacity utilization</b>	0.5167	0.01616	0.4958	0.5334
<b>Full employment frequency</b>	0.4975	0.2804	0.2182	0.8619
<b>Unemployment</b>	0.08349	0.05428	0.01574	0.1357
<b>Vacancy</b>	0.3225	0.105	0.2255	0.441
<b>Productivity growth</b>	0.0195	0.001653	0.01797	0.02204
<b>Innovation</b>	0.09177	0.01388	0.0758	0.1051
<b>Imitation</b>	0.06623	0.01183	0.05067	0.07892
<b>Market concentration</b>	0.002504	0.0004189	0.001989	0.002911
<b>Mark-ups</b>	0.3429	0.006127	0.3379	0.3501

Experiments: [1] Benchmark

( numbers in brackets indicate the experiment number / MC runs = 5 / period = 2 – 1000 )