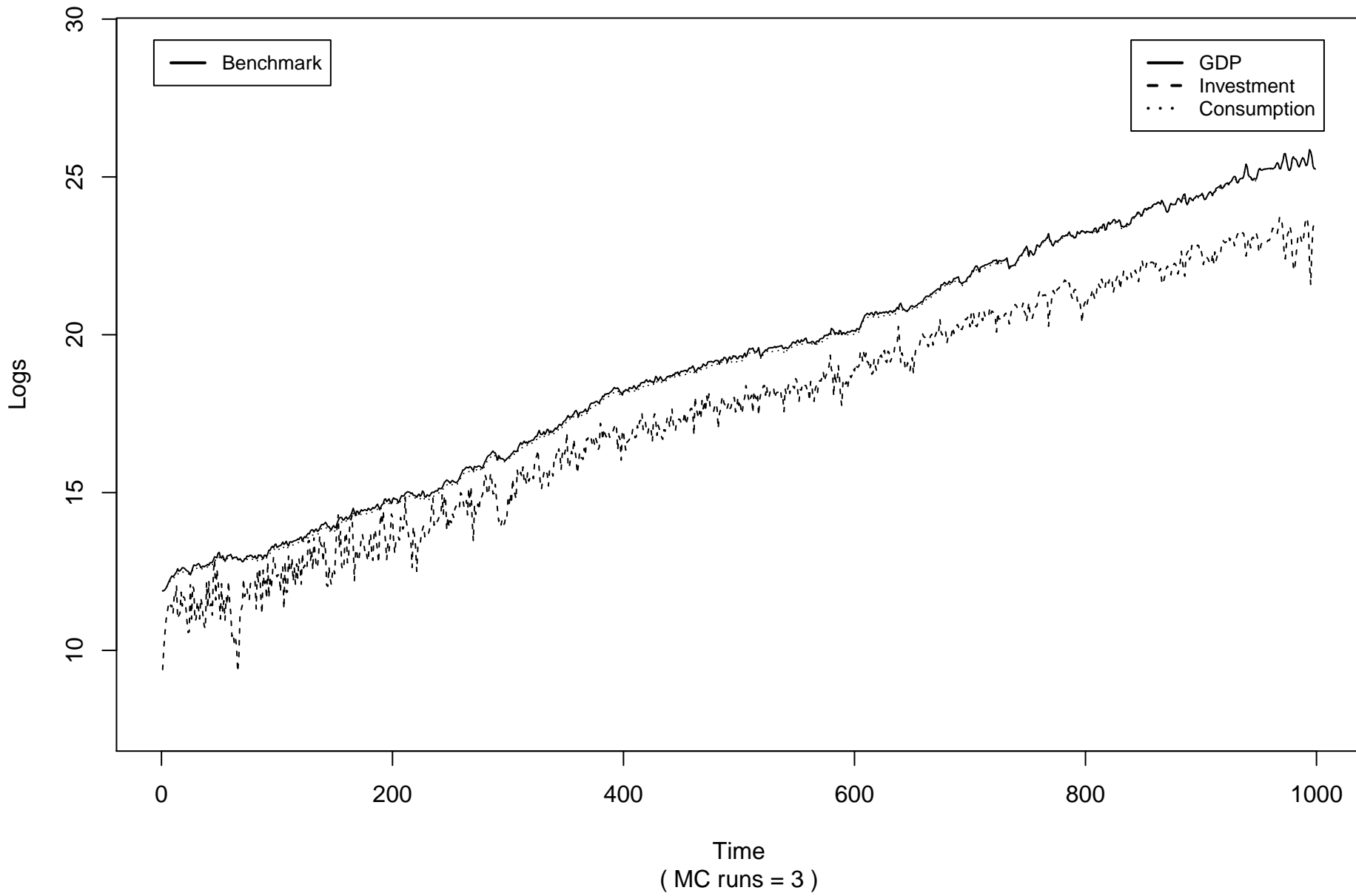
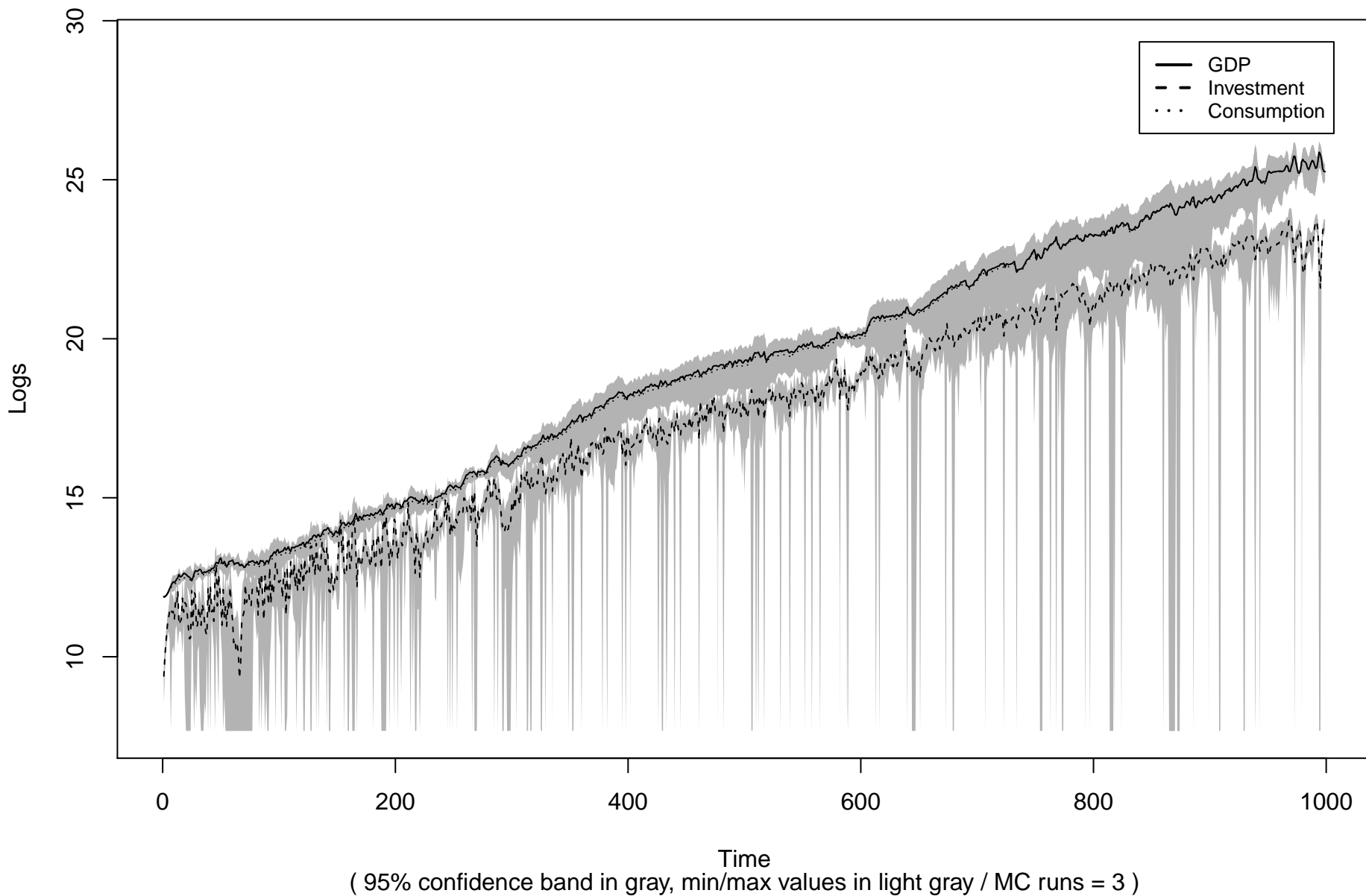


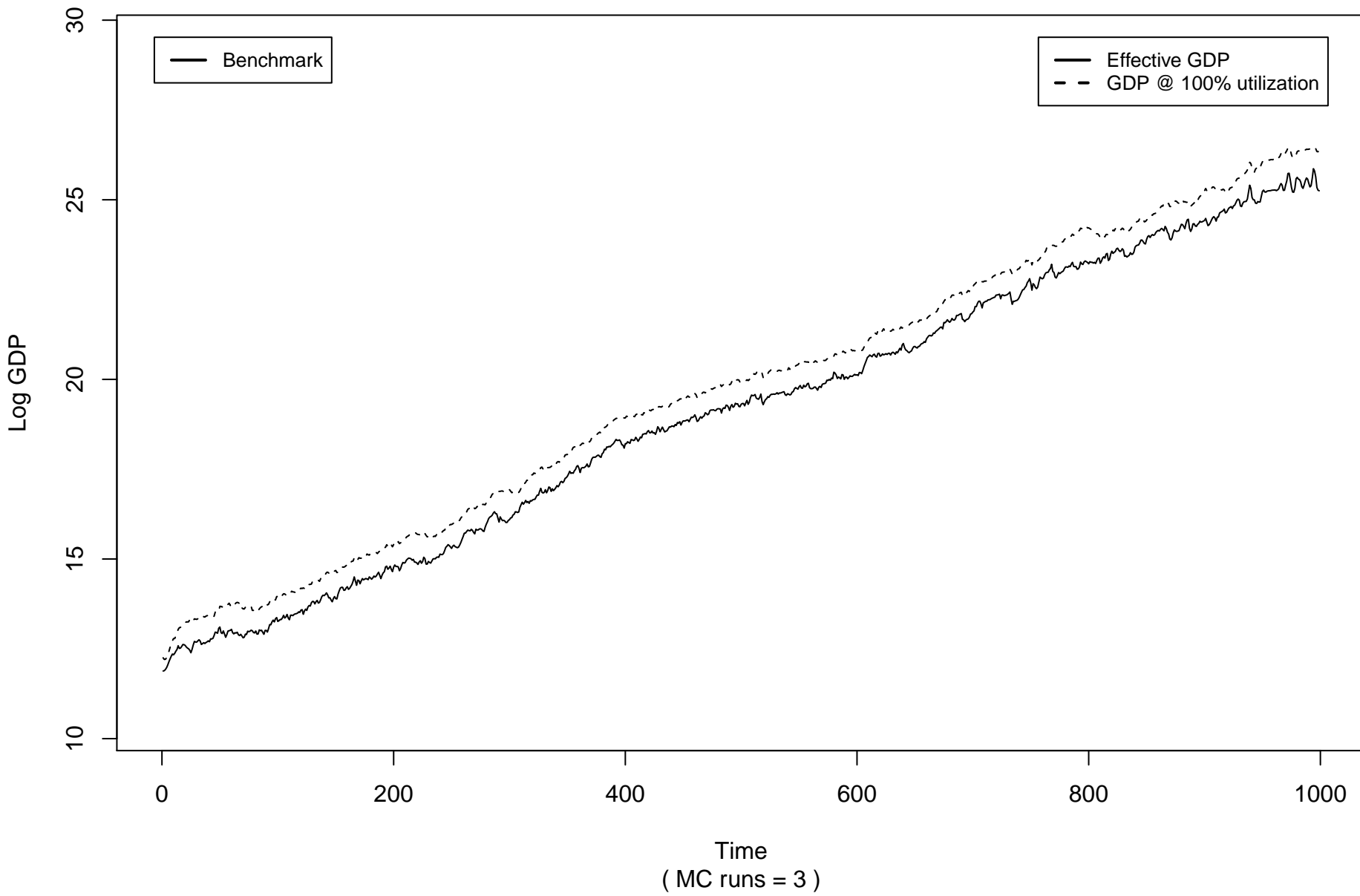
GDP, investment and consumption (all experiments)



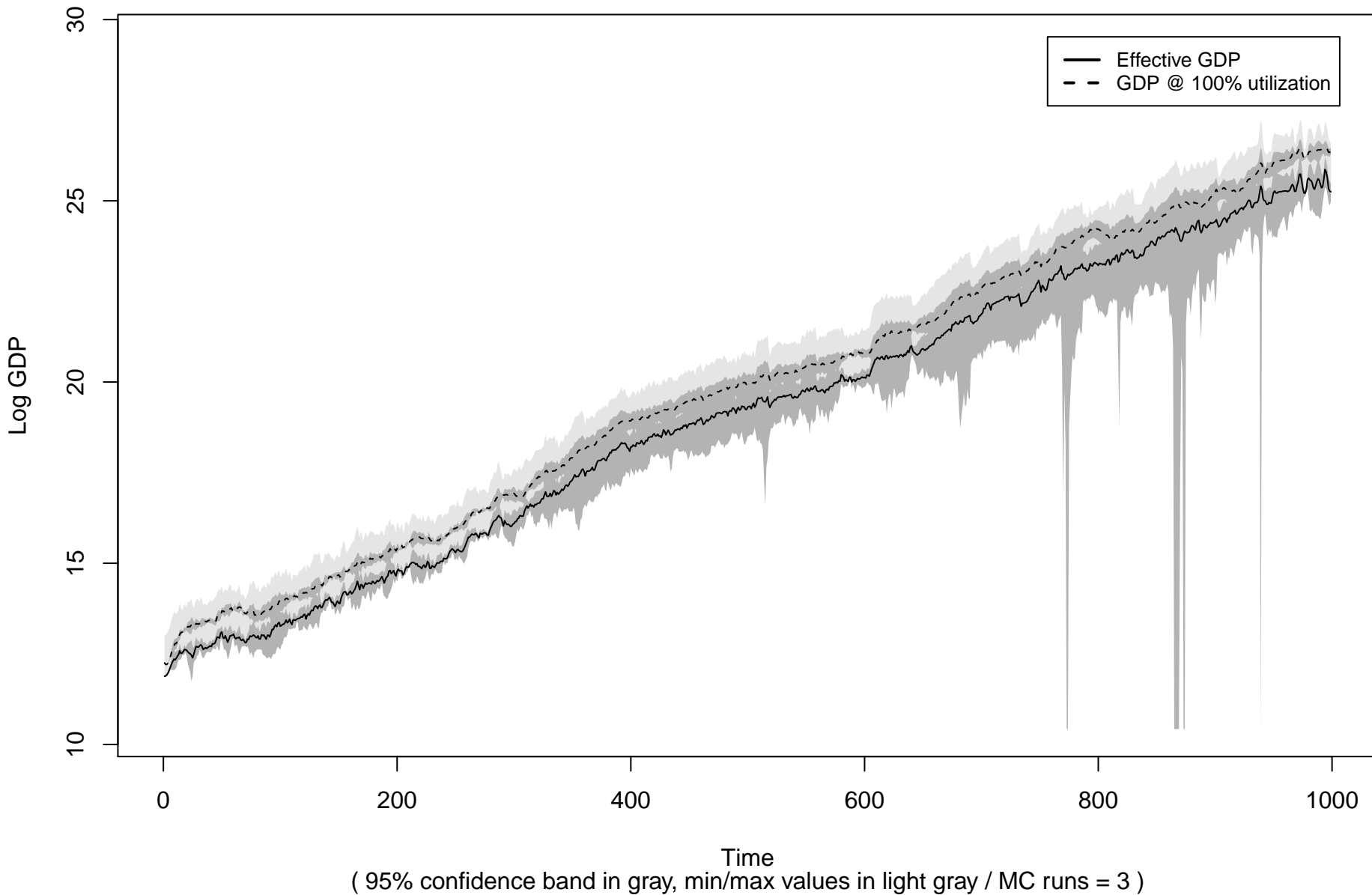
GDP, investment and consumption (Benchmark)



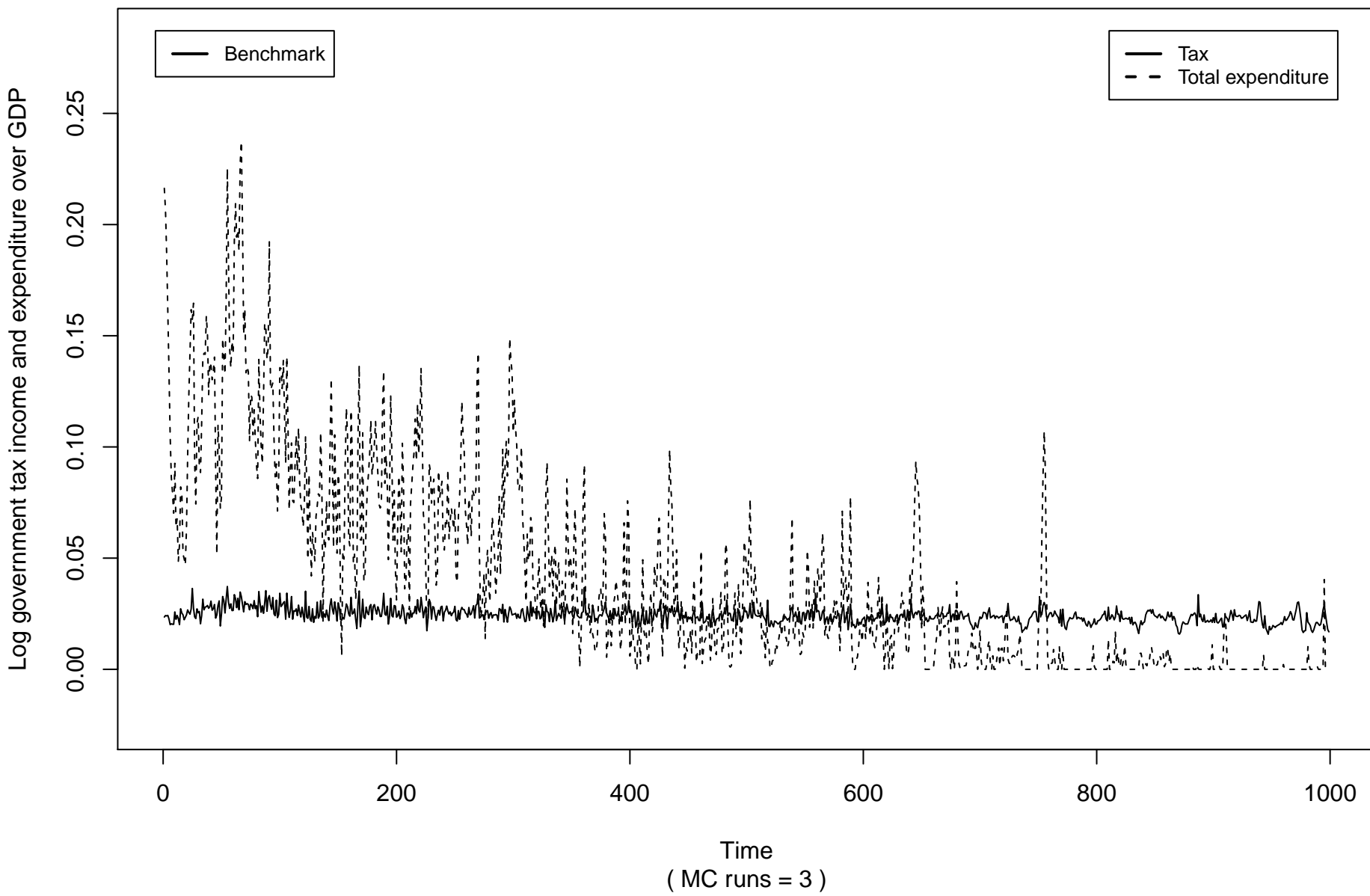
GDP (all experiments)



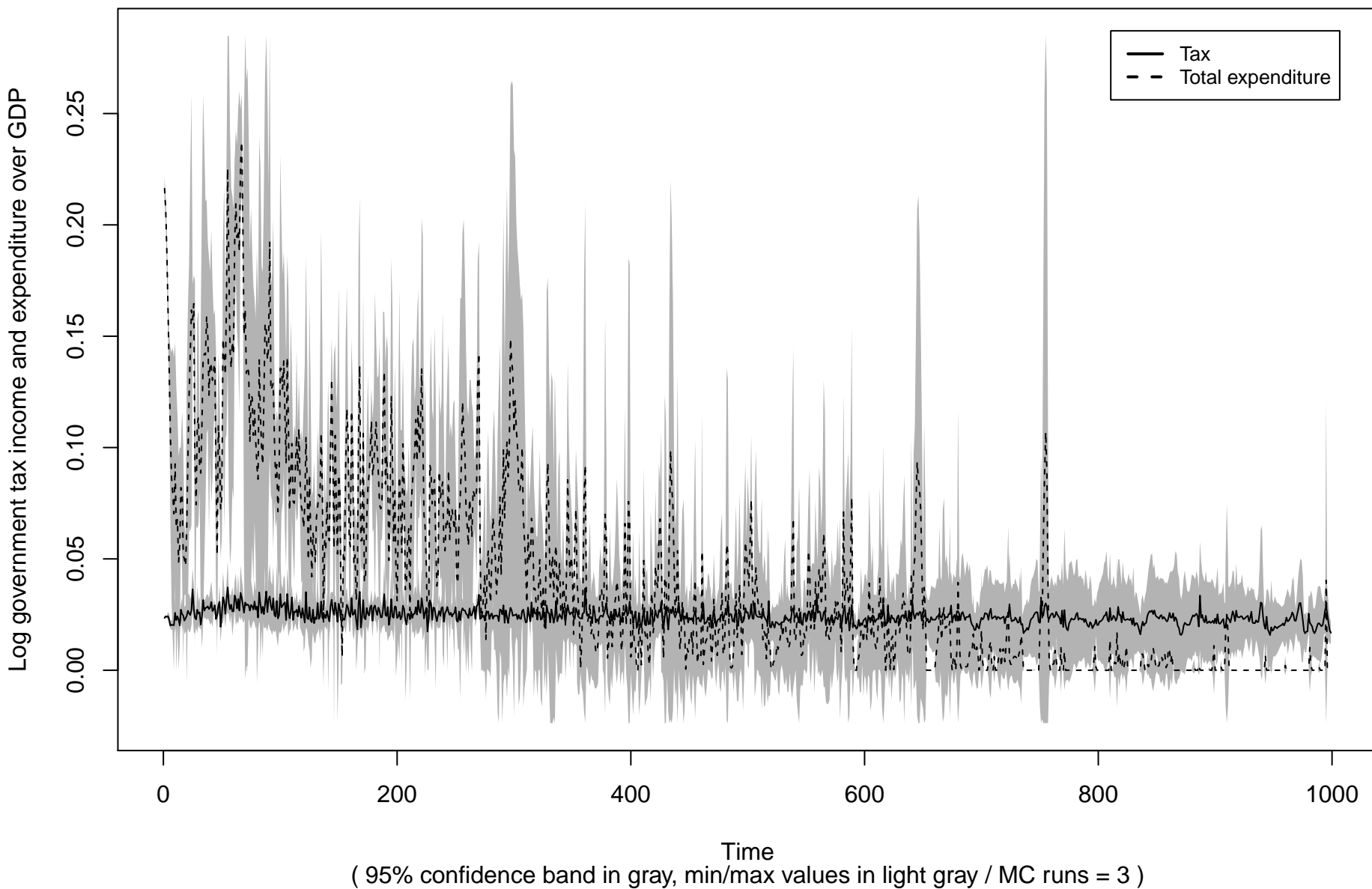
GDP (Benchmark)



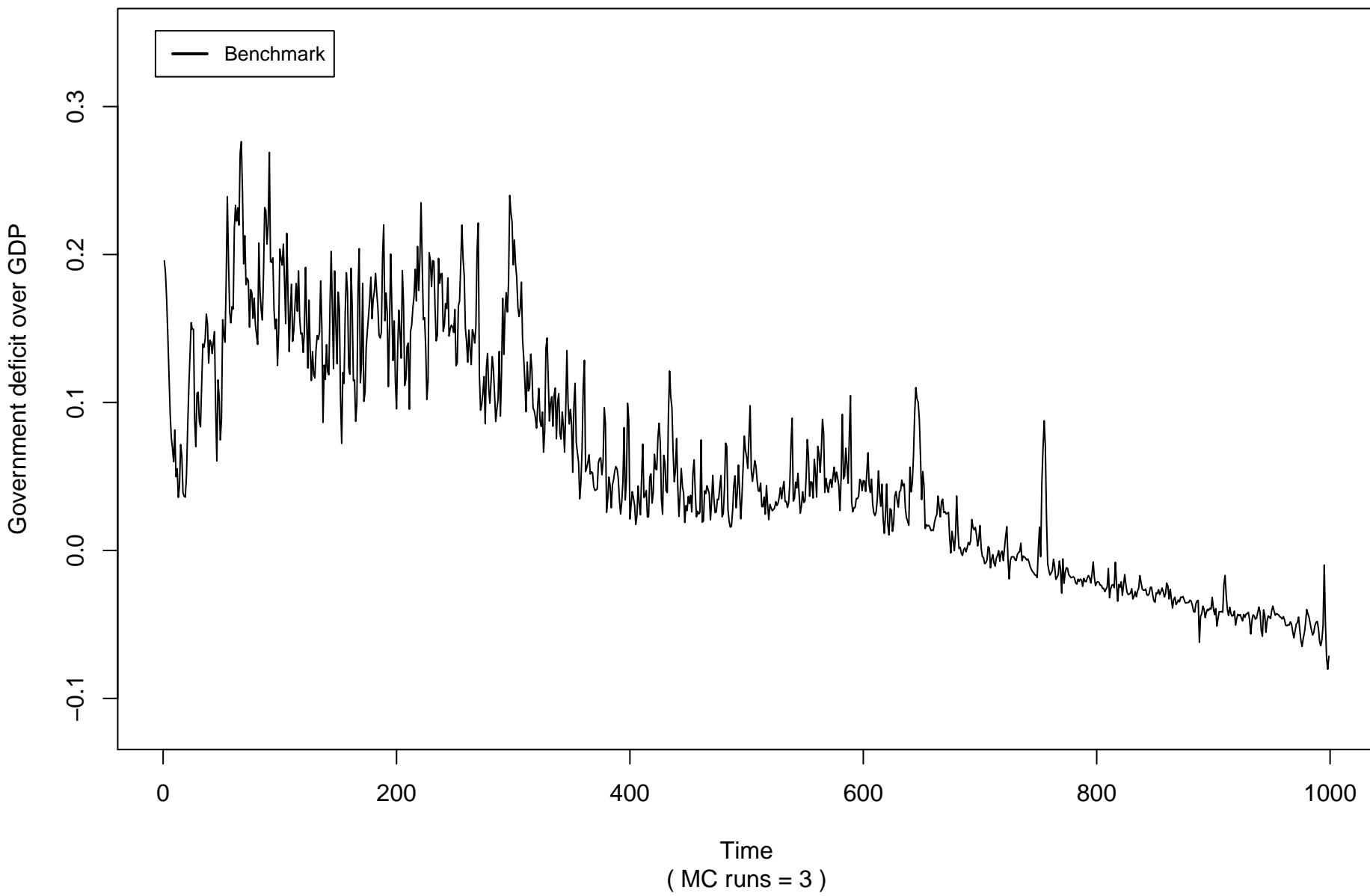
Government income and expenditure on GDP (all experiments)



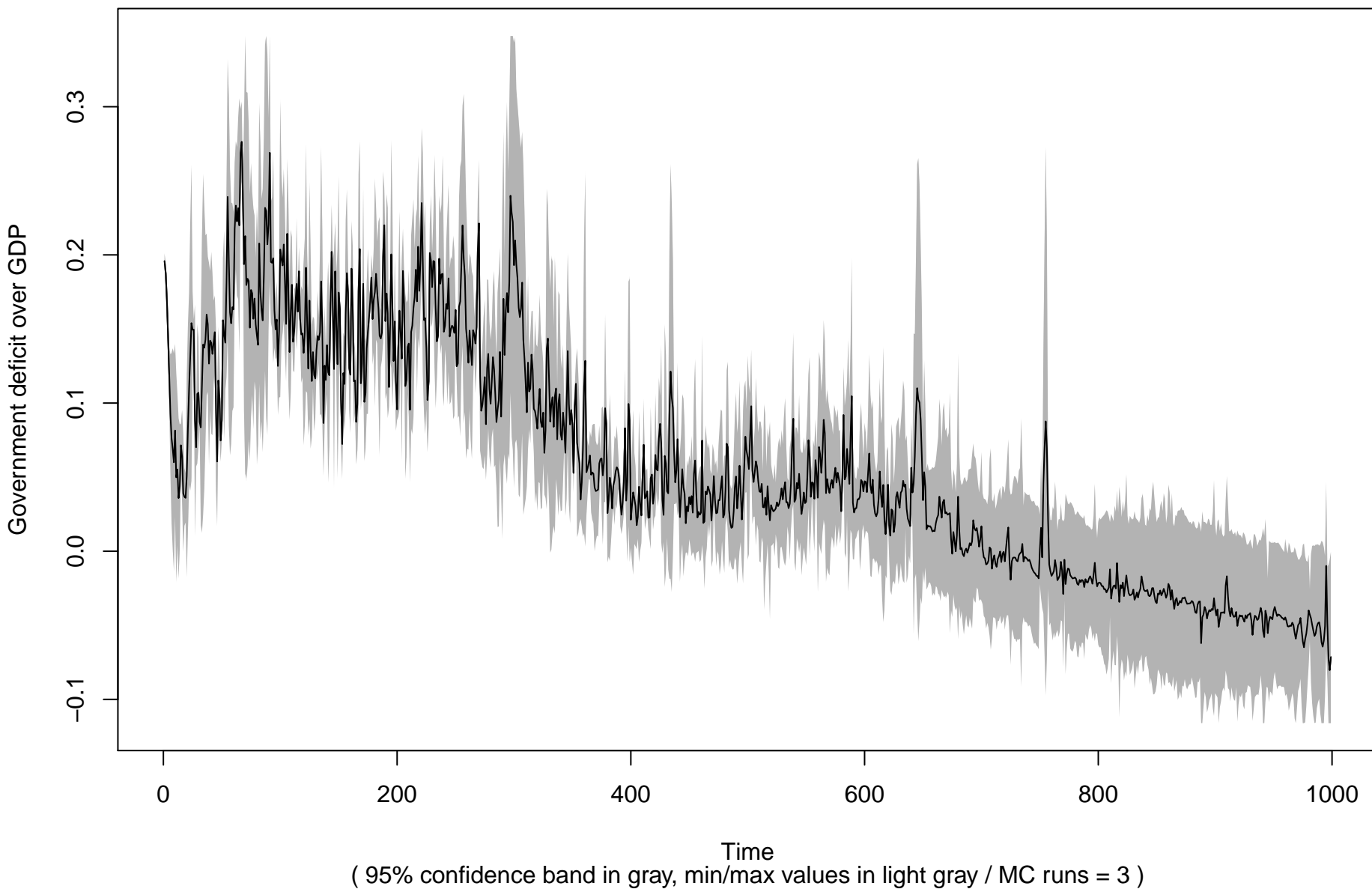
Government income and expenditure on GDP (Benchmark)



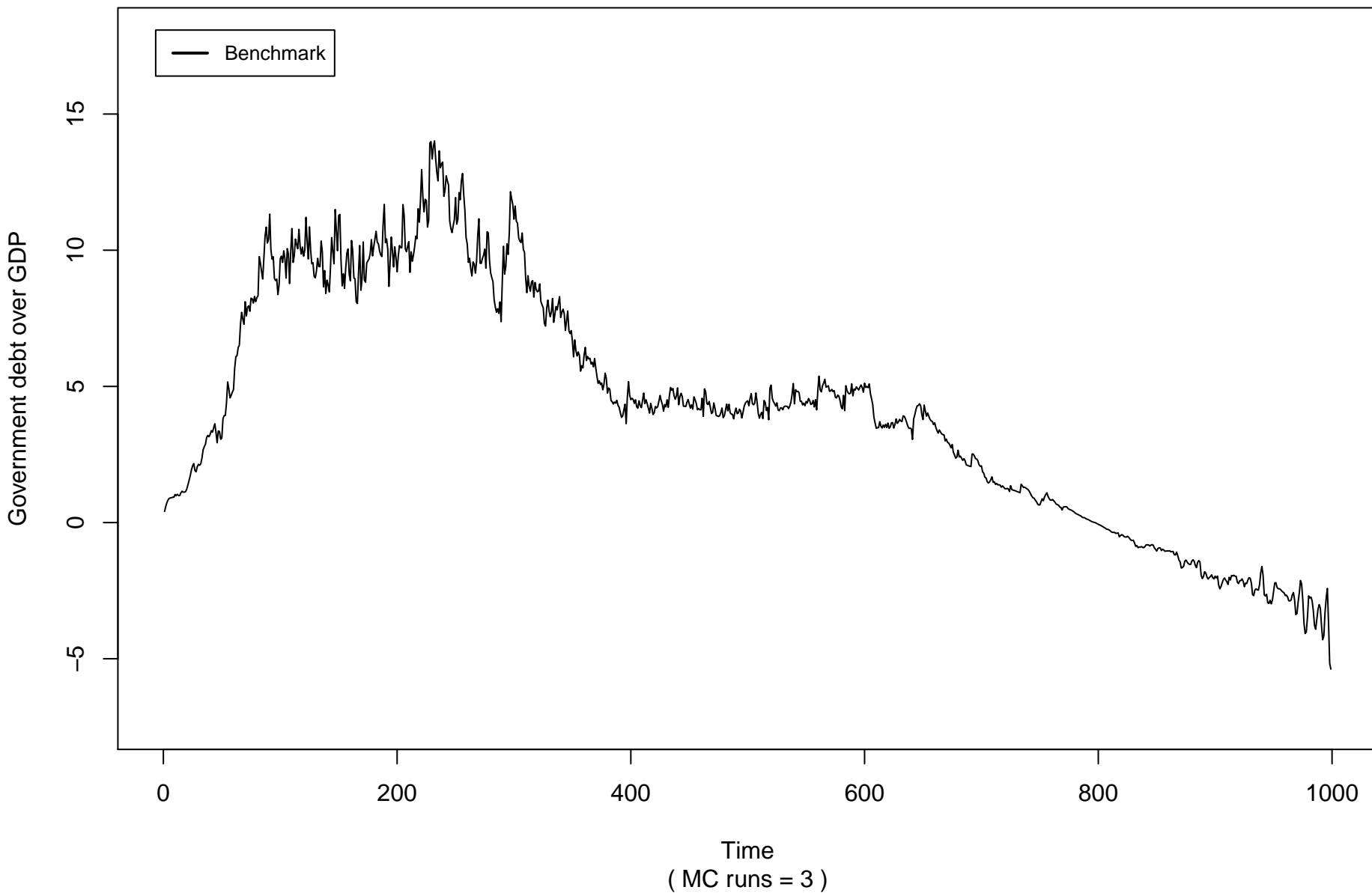
Government deficit on GDP (all experiments)



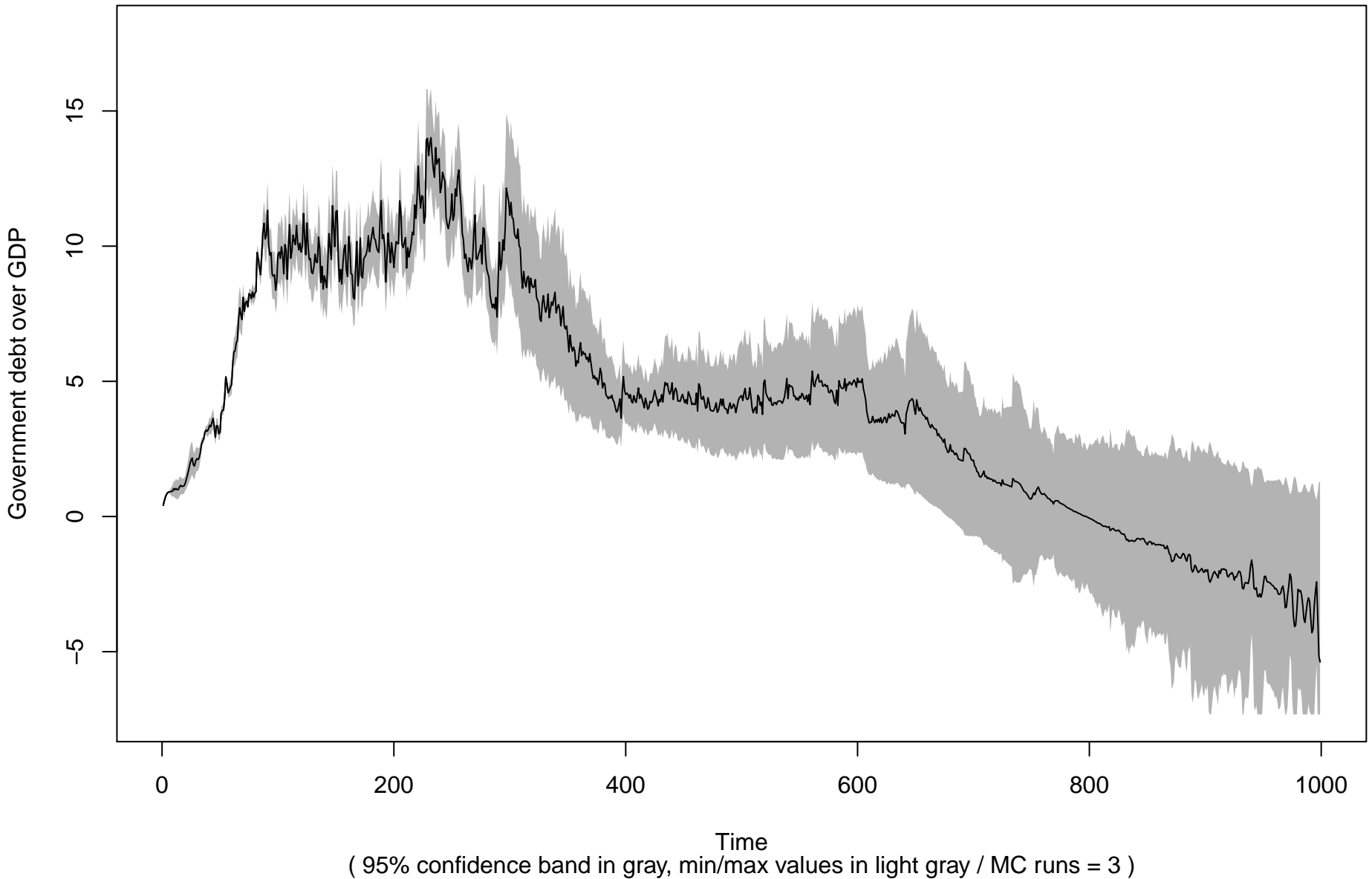
Government deficit on GDP (Benchmark)



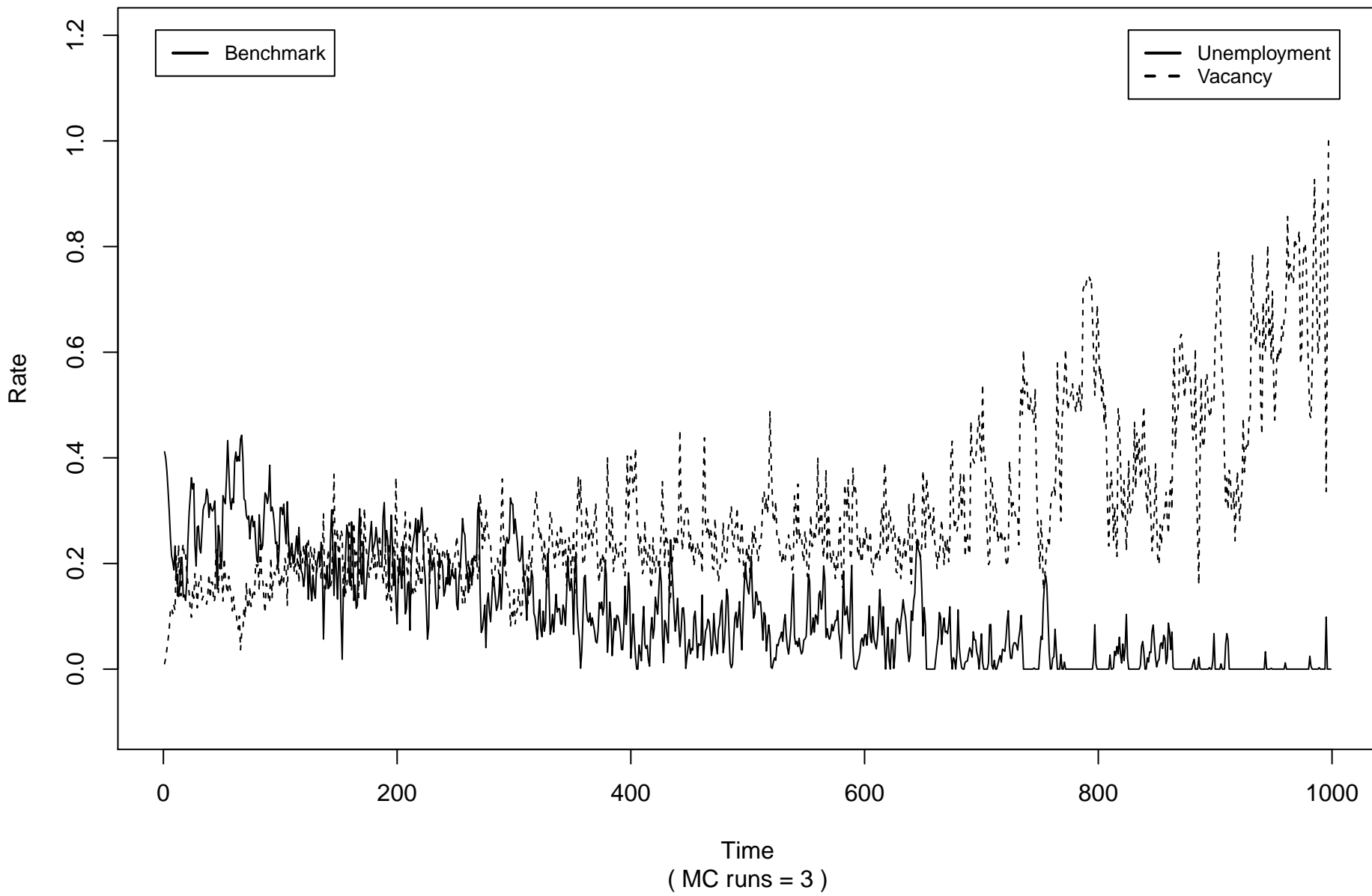
Government debt on GDP (all experiments)



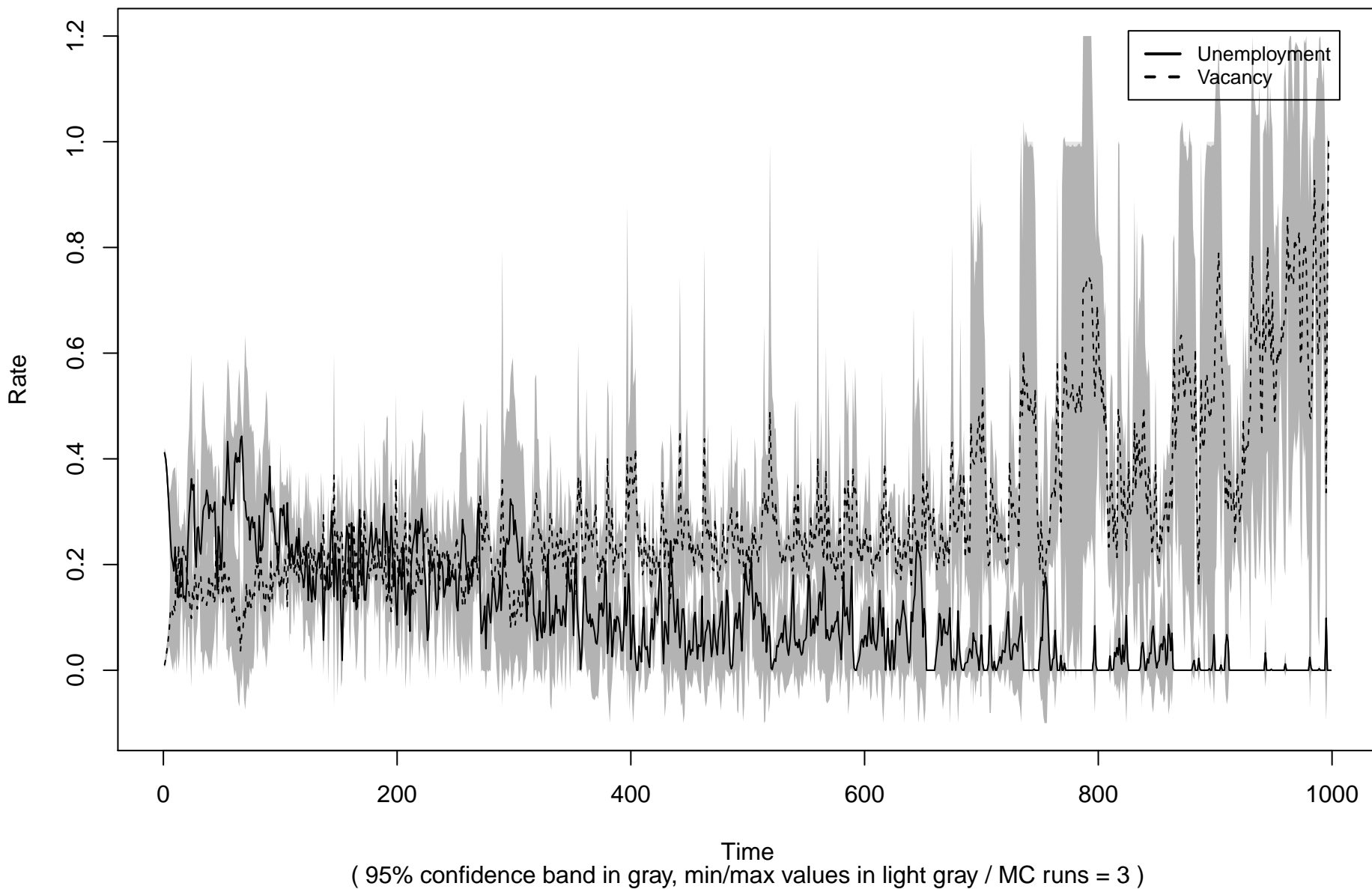
Government debt on GDP (Benchmark)



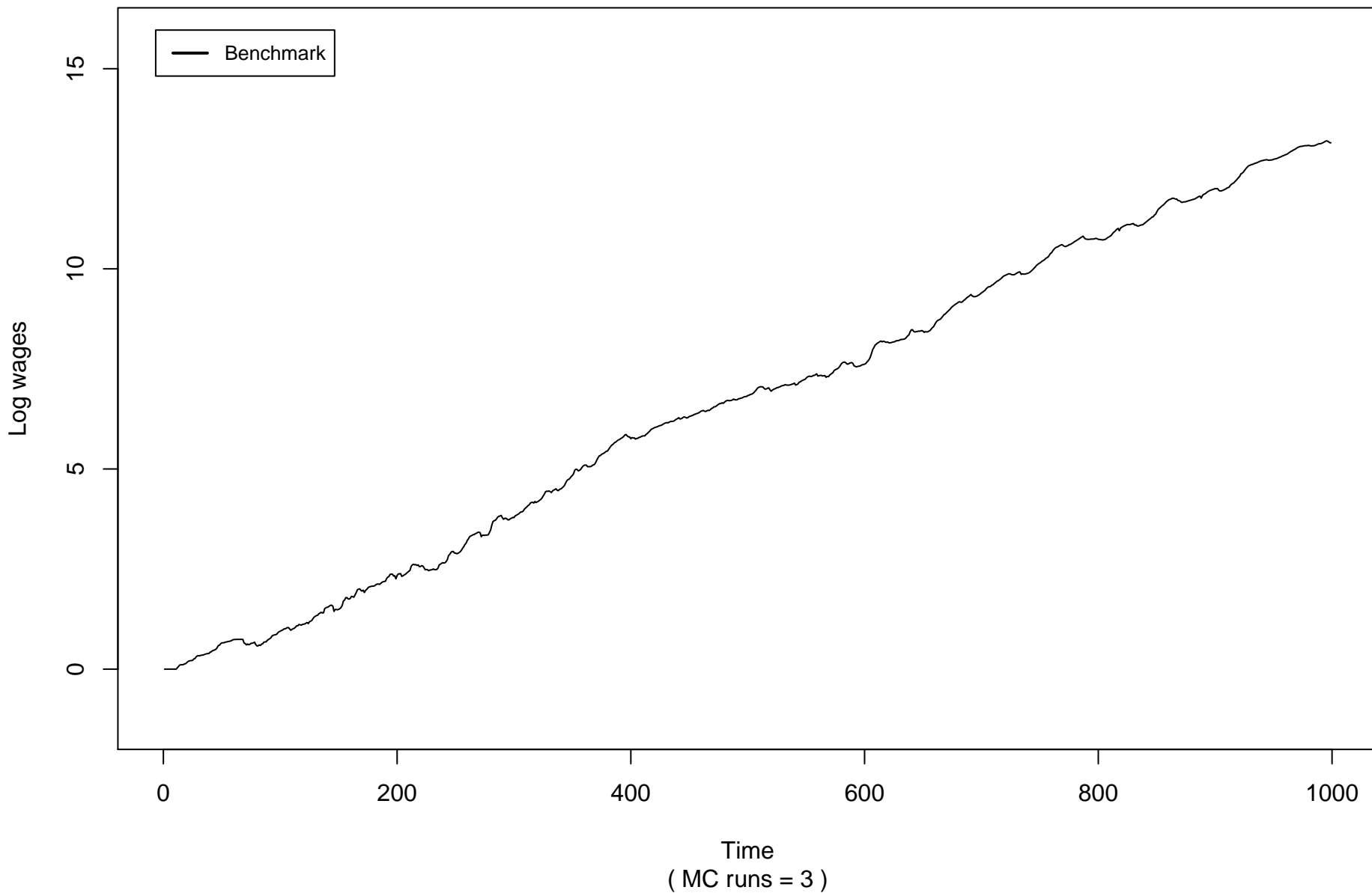
Unemployment and vacancy rates (all experiments)



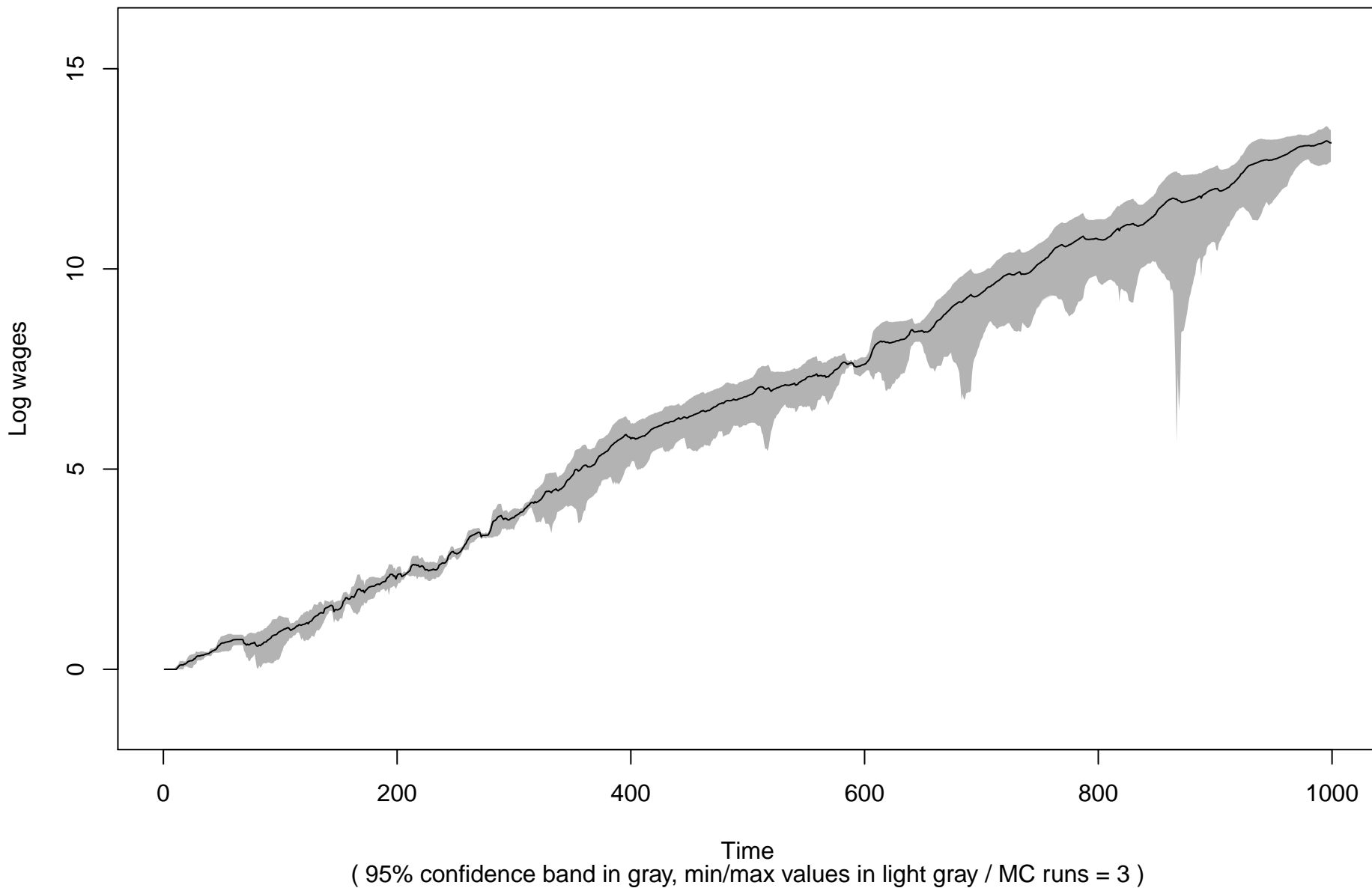
Unemployment and vacancy rates (Benchmark)



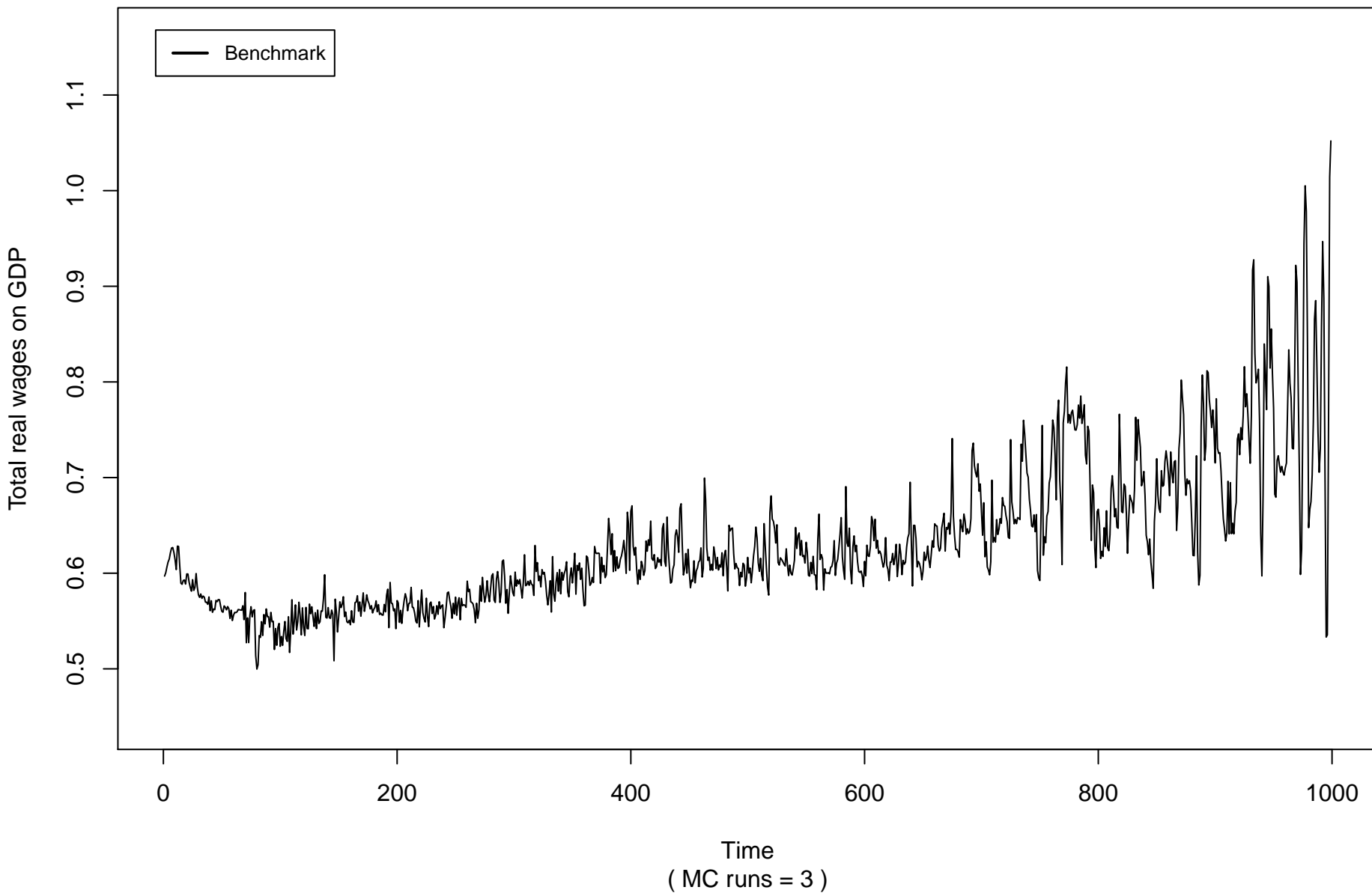
Real wages average (all experiments)



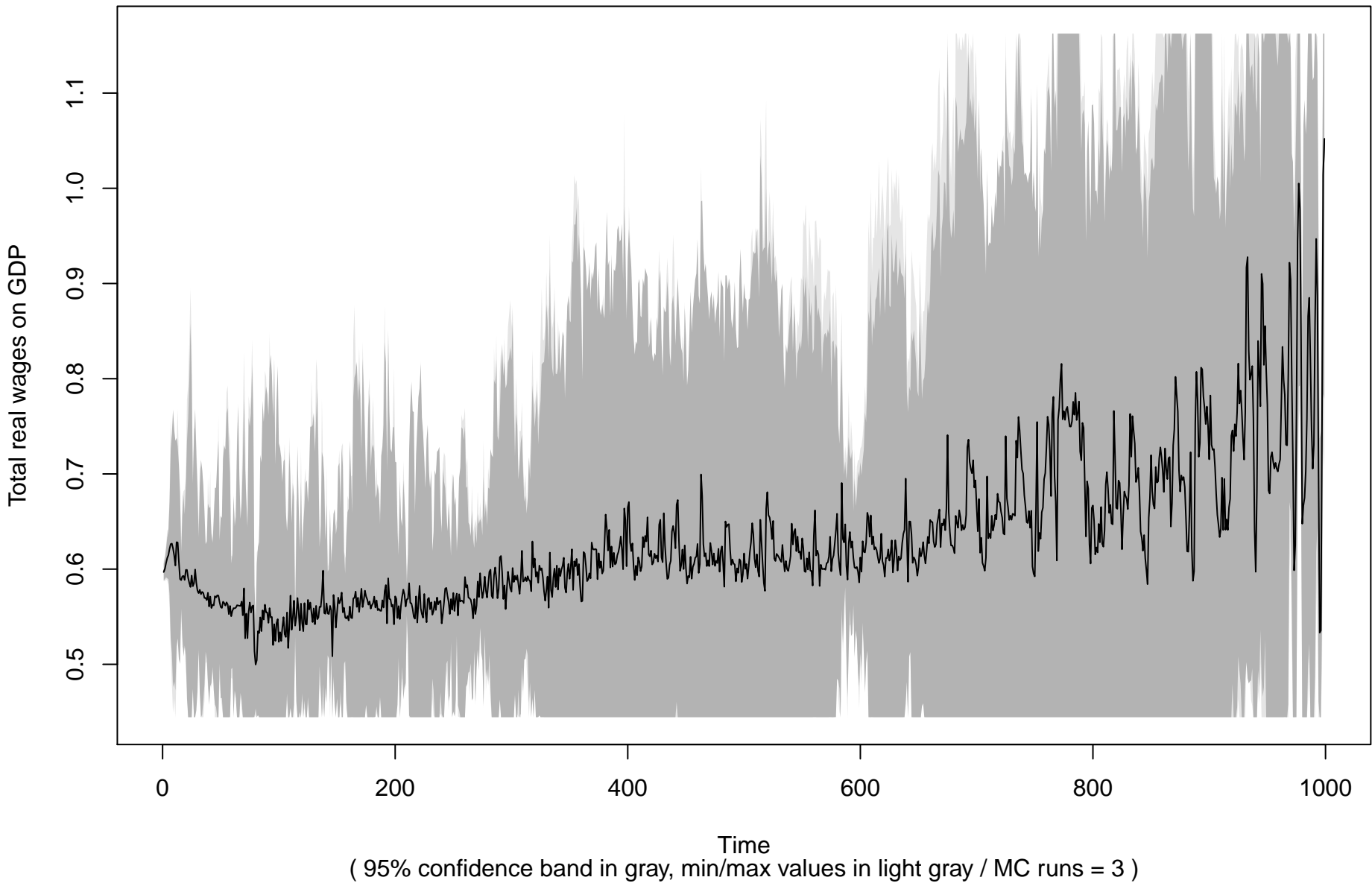
Real wages average (Benchmark)



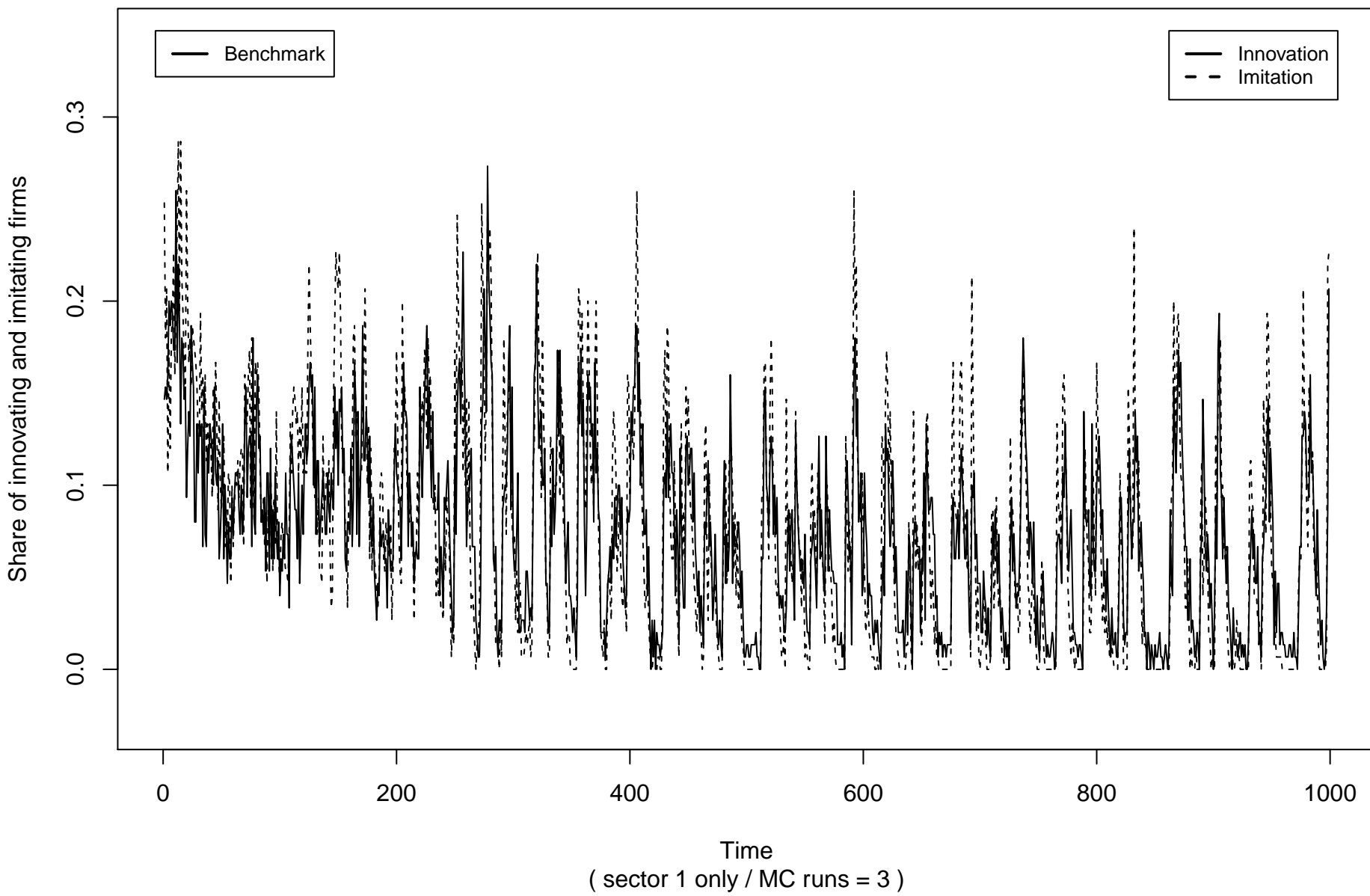
Wage share (all experiments)



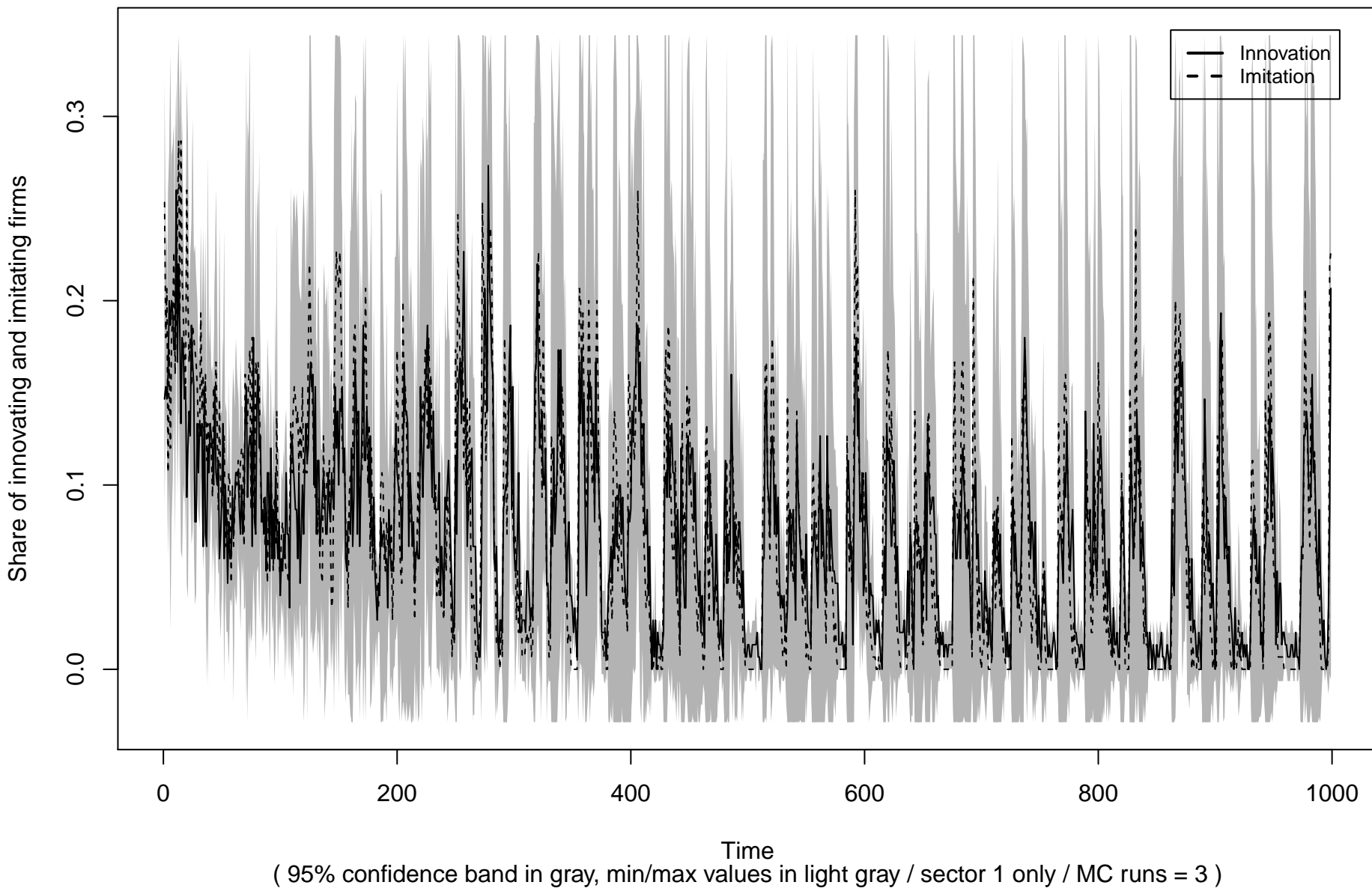
Wage share (Benchmark)



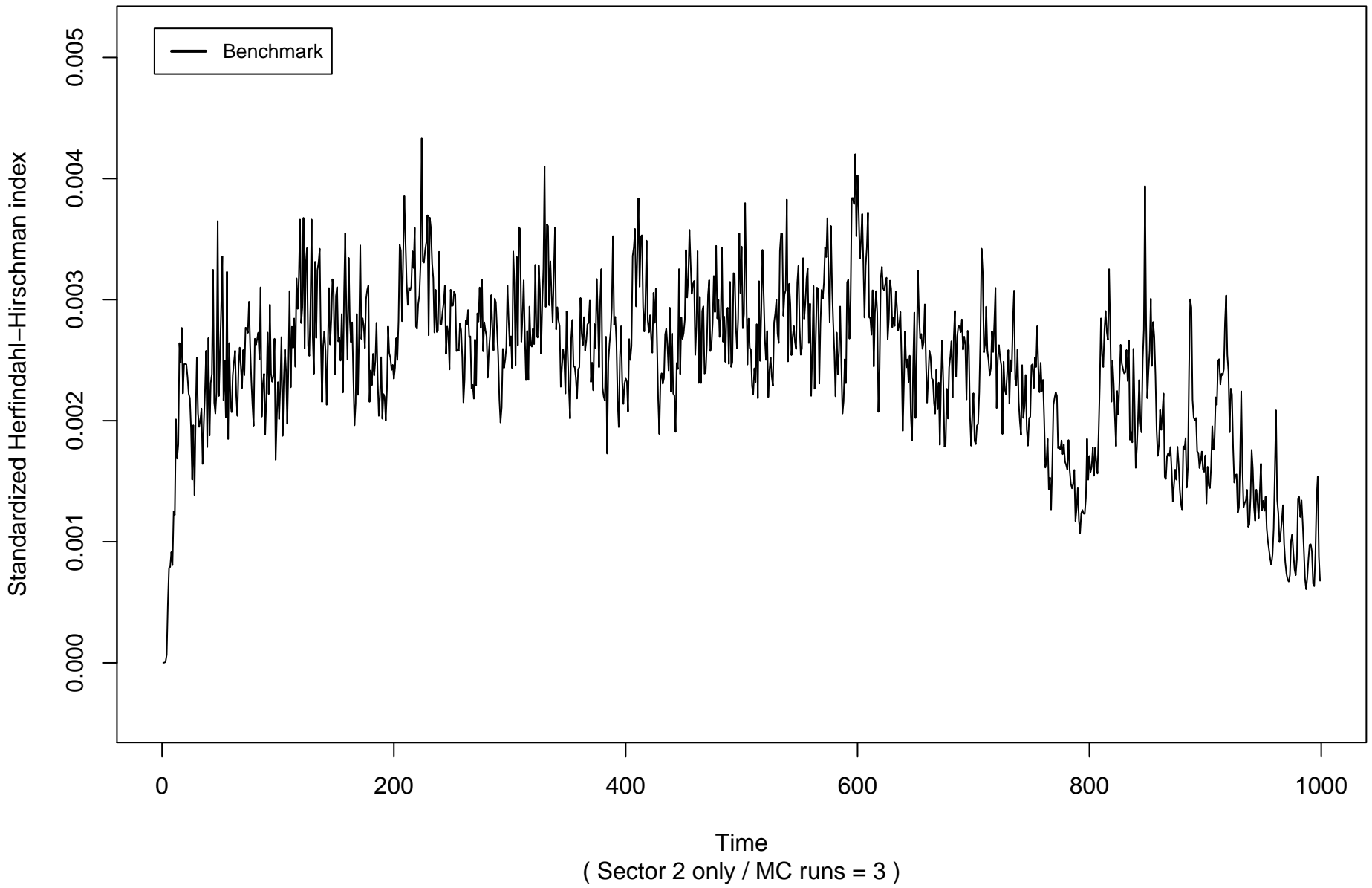
Innovation and imitation (all experiments)



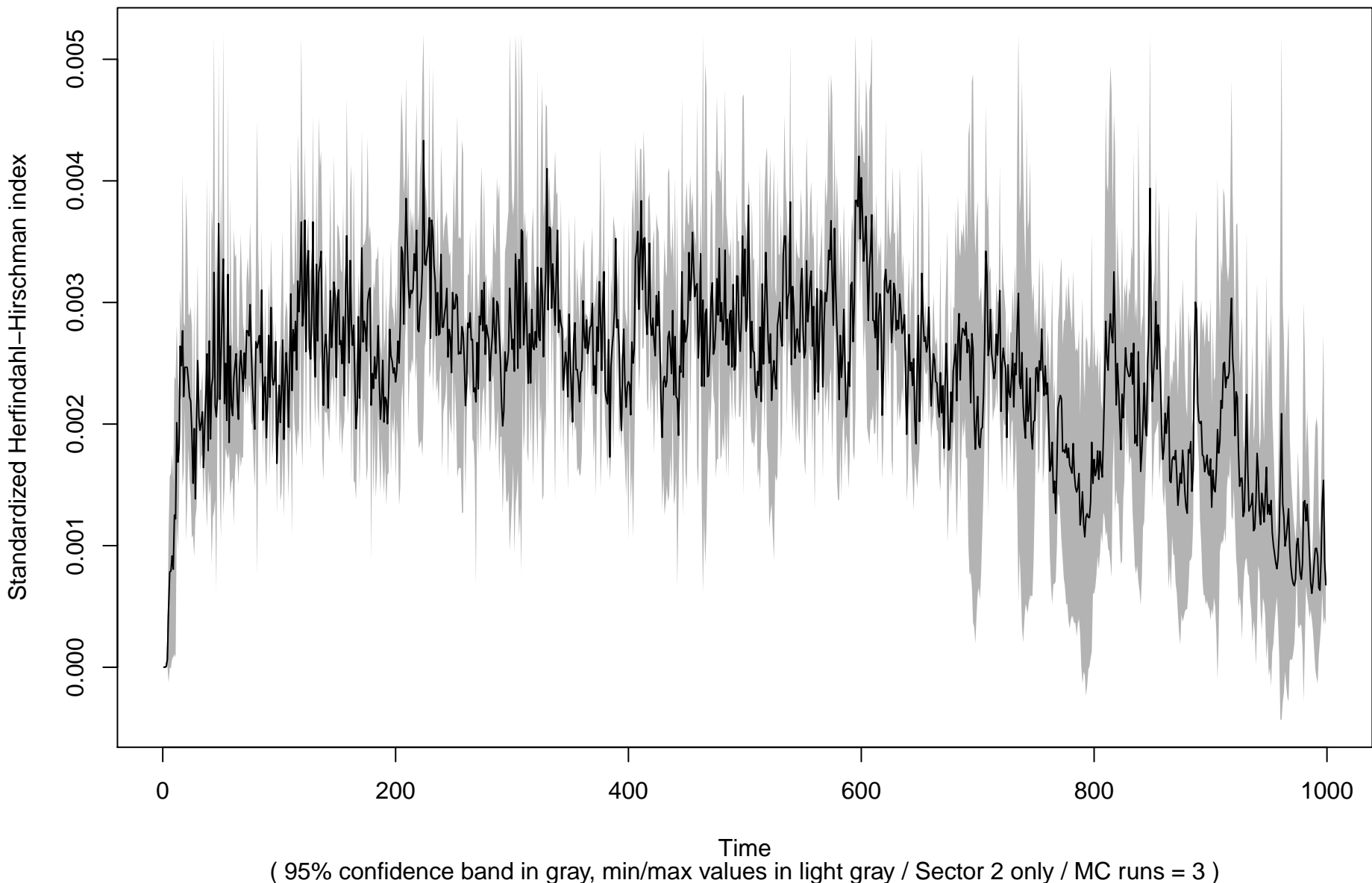
Innovation and imitation (Benchmark)



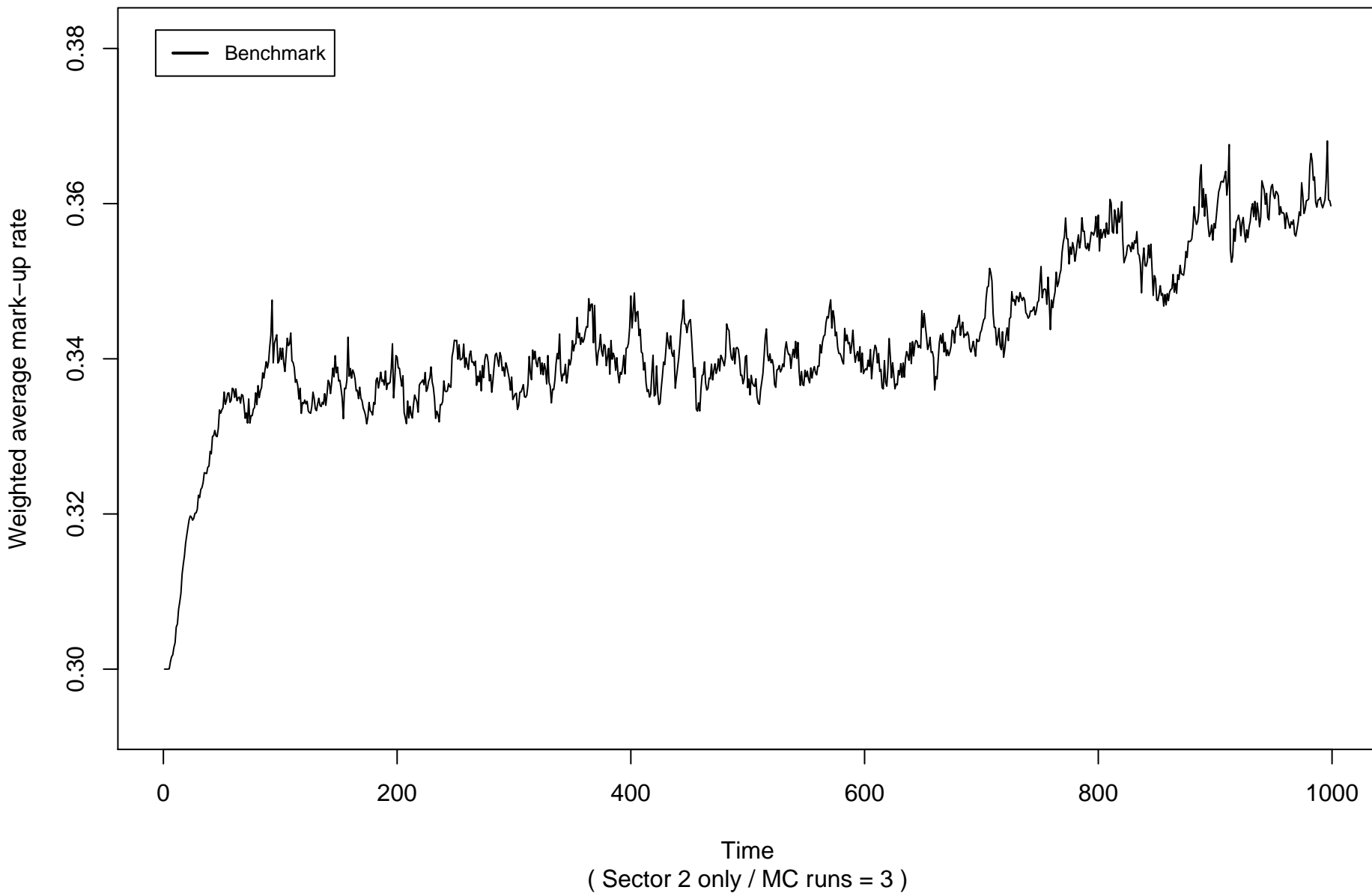
Market concentration (all experiments)



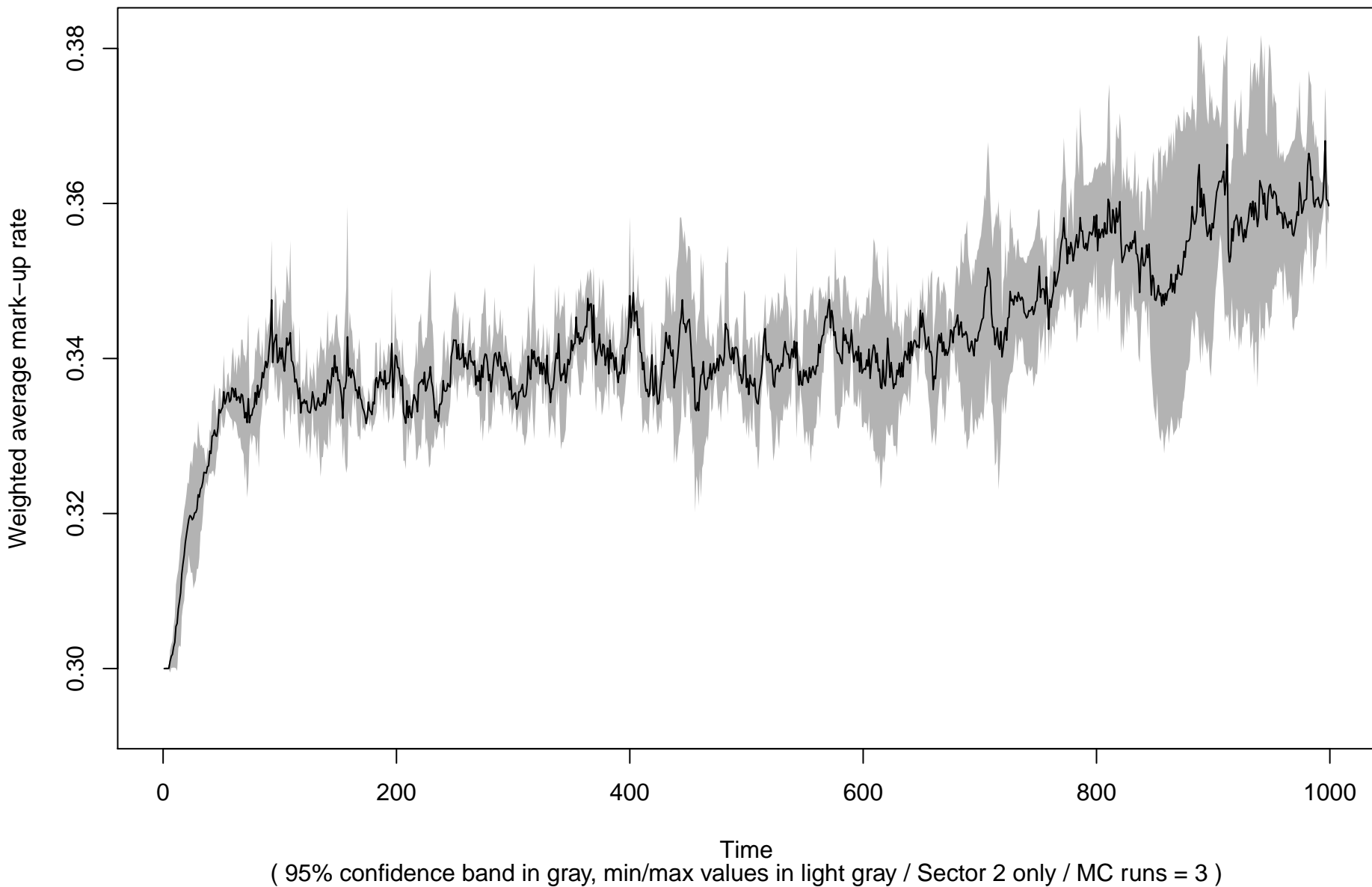
Market concentration (Benchmark)



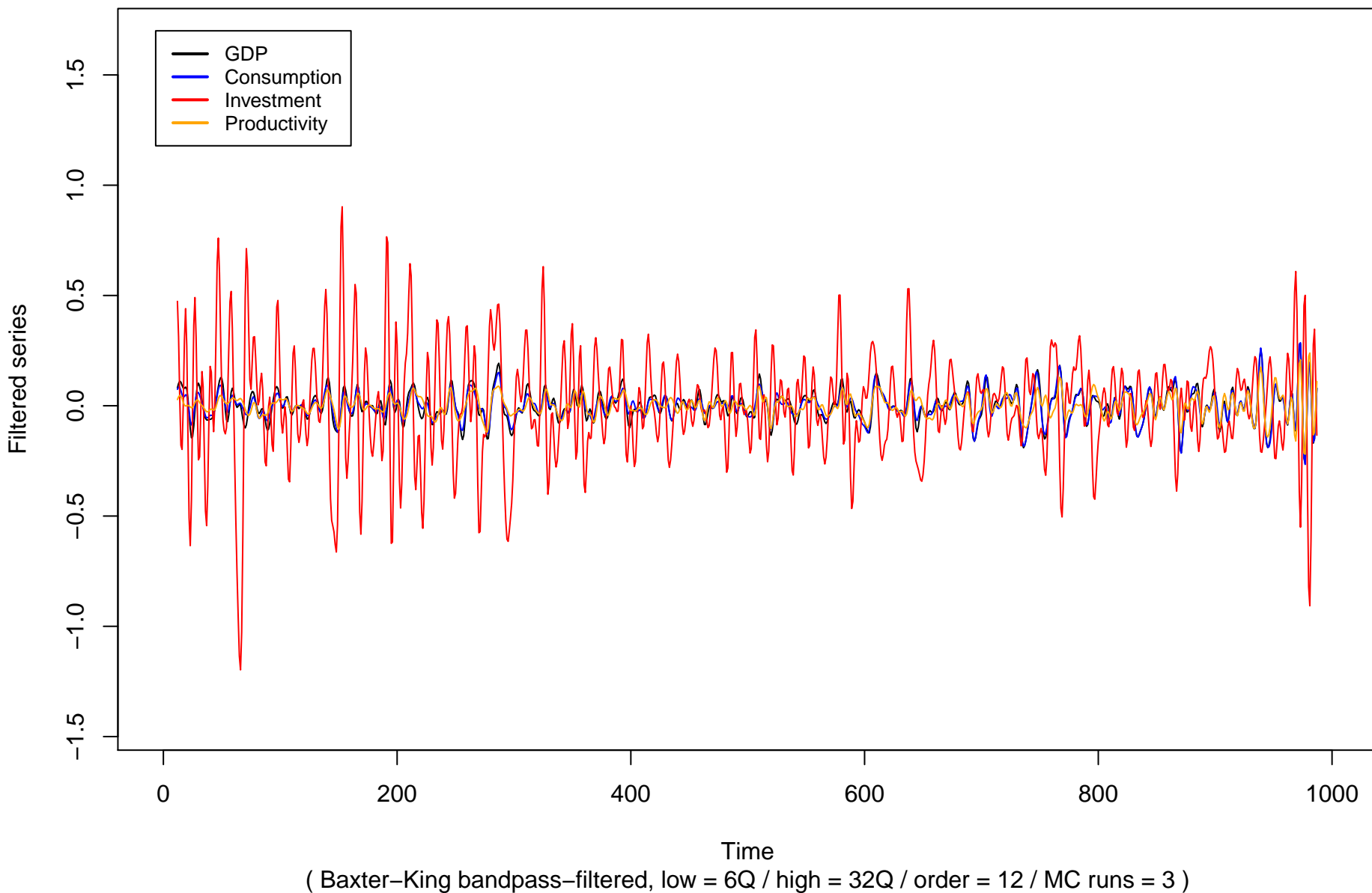
Mark-up average (all experiments)



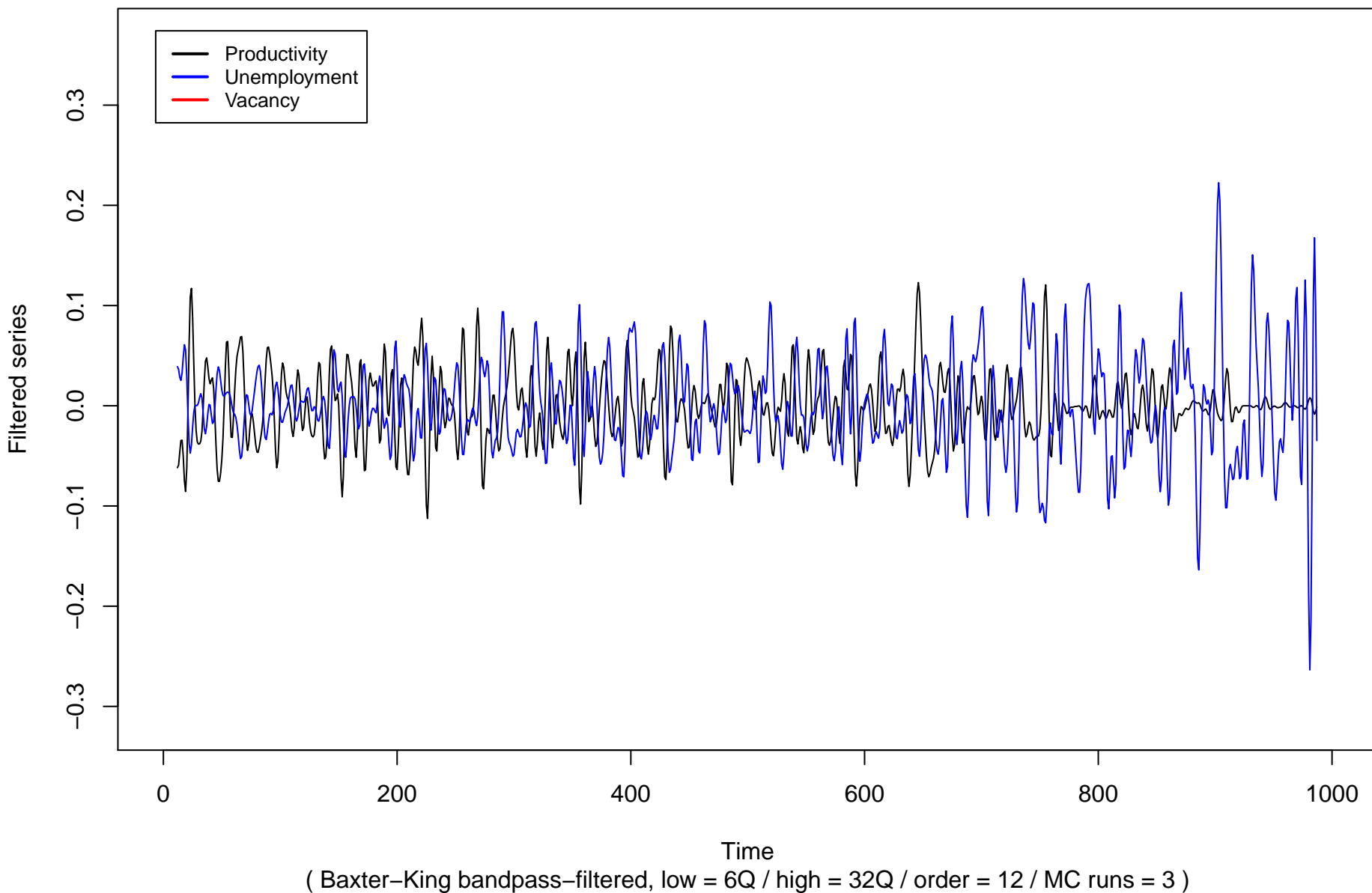
Mark-up average (Benchmark)



GDP cycles (Benchmark)



Shimer puzzle (Benchmark)



Key statistics and unit roots tests for cycles (Benchmark)

	GDP (output)	Consumption	Investment	Product.	Real wage
avg. growth rate	0.01337	0.01336	0.01432	0.01292	0.01312
(s.e.)	0.0001177	0.0001198	0.0002825	0.0001736	0.0002038
ADF test (logs)	−3.408	−3.08	−8.769	−3.195	−3.156
(s.e.)	0.5264	0.4685	0.269	0.5405	0.4428
(p-val.)	0.1362	0.213	0.01	0.203	0.1754
(s.e.)	0.08679	0.1108	0	0.1007	0.1284
ADF test (bpf)	−11.06	−10.96	−13.56	−10.74	−10.28
(s.e.)	0.2573	0.2333	0.1752	0.2461	0.3074
(p-val.)	0.01	0.01	0.01	0.01	0.01
(s.e.)	0	0	0	0	0
s.d. (bpf)	0.1117	0.09391	1.545	0.07488	0.06771
(s.e.)	0.006197	0.007236	0.1563	0.003042	0.004115
relative s.d. (GDP)	1	0.8405	13.82	0.6702	0.6061

(bpf: Baxter–King bandpass–filtered series, low = 6Q / high = 32Q / order = 12 / MC runs = 3 / 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
GDP (output)	-0.002258	0.2743	0.6089	0.8887	1	0.8887	0.6089	0.2743	-0.002258
(s.e.)	0.03198	0.02321	0.01208	0.003101	0	0.003101	0.01208	0.02321	0.03198
(p-val.)	0.8691	0.005872	0.0002437	7.033e-06	NA	7.033e-06	0.0002437	0.005872	0.8691
Consumption	0.04456	0.2867	0.5803	0.8341	0.9492	0.8685	0.629	0.3219	0.04744
(s.e.)	0.06374	0.04549	0.01923	0.005301	0.008839	0.001928	0.01945	0.03358	0.03603
(p-val.)	0.445	0.01932	0.0006868	2.356e-05	4.962e-05	2.857e-06	0.0005874	0.008138	0.6372
Investment	-0.2507	-0.3033	-0.2983	-0.1977	-0.01272	0.1944	0.3436	0.3857	0.3287
(s.e.)	0.06969	0.0473	0.003436	0.0513	0.08564	0.08284	0.0442	0.009719	0.0505
(p-val.)	0.05679	0.01817	0.0001057	0.05905	0.1972	0.1256	0.01188	0.00045	0.01702
Net investment	-0.1697	-0.19	-0.1683	-0.07783	0.06904	0.2199	0.3127	0.3135	0.2374
(s.e.)	0.06891	0.0481	0.01758	0.0462	0.07358	0.06902	0.03541	0.02327	0.05382
(p-val.)	0.1292	0.05845	0.01314	0.3821	0.06302	0.07466	0.009687	0.004225	0.04133
Change in inventories	-0.1197	-0.0594	0.05499	0.17	0.2237	0.1886	0.09155	-0.008501	-0.06
(s.e.)	0.0474	0.04688	0.02716	0.01942	0.03384	0.03378	0.02493	0.02372	0.02313
(p-val.)	0.1736	0.4971	0.5895	0.01543	0.02055	0.03219	0.1787	0.925	0.5302
Unemployment rate	0.2697	0.2049	0.05571	-0.1432	-0.3211	-0.4069	-0.3738	-0.2505	-0.1024
(s.e.)	0.07463	0.07985	0.06303	0.03018	0.004233	0.02319	0.02303	0.01166	0.012
(p-val.)	0.05422	0.1077	0.09119	0.05735	0.0001333	0.002244	0.002705	0.001902	0.03894
Productivity	0.1475	0.3396	0.5691	0.7523	0.8047	0.6873	0.4491	0.1806	-0.03318
(s.e.)	0.1028	0.09382	0.0606	0.0201	0.02149	0.02926	0.02036	0.02543	0.03874
(p-val.)	0.1763	0.04888	0.00699	0.0004233	0.000418	0.001091	0.001377	0.0215	0.583
Mark-up (sector 2)	0.2407	0.2312	0.1665	0.05962	-0.05597	-0.1434	-0.1856	-0.1881	-0.1698
(s.e.)	0.03433	0.05683	0.07368	0.07601	0.05853	0.02706	0.01268	0.03646	0.04411
(p-val.)	0.01748	0.04833	0.146	0.3225	0.1368	0.04748	0.005173	0.0372	0.06717
Total firm debt	0.1508	0.05769	-0.03539	-0.1019	-0.1316	-0.1345	-0.1333	-0.143	-0.1617
(s.e.)	0.002631	0.018	0.03803	0.05279	0.05459	0.04638	0.04509	0.05706	0.06368
(p-val.)	0.0004382	0.5831	0.6186	0.2643	0.1653	0.1292	0.1273	0.1457	0.1289
Liquidity-to-sales ratio	0.05016	-0.1555	-0.3889	-0.5813	-0.67	-0.6233	-0.4766	-0.2894	-0.1196
(s.e.)	0.0291	0.0161	0.03092	0.04472	0.0409	0.02416	0.01627	0.02681	0.03065
(p-val.)	0.601	0.0142	0.004414	0.003666	0.002248	0.0009235	0.0007679	0.006809	0.1003
Bankruptcy rate	0.2973	0.3536	0.3248	0.2232	0.09717	-0.00219	-0.05238	-0.06922	-0.08546
(s.e.)	0.05383	0.06228	0.06442	0.054	0.02989	0.000826	0.02545	0.03372	0.02276
(p-val.)	0.02428	0.02135	0.02757	0.04811	0.1801	0.9999	0.6289	0.4249	0.2053

(non-rate/ratio series are Baxter–King bandpass-filtered, low = 6Q / high = 32Q / order = 12 / MC runs = 3 / period = 2 – 1000)
(test H0: lag coefficient is not significant at 5% level)

Correlation structure for GDP (Benchmark)

	-4	-3	-2	-1	0	1	2	3	4
GDP (output)	-0.002258	0.2743	0.6089	0.8887	1	0.8887	0.6089	0.2743	-0.002258
(s.e.)	0.03198	0.02321	0.01208	0.003101	0	0.003101	0.01208	0.02321	0.03198
(p-val.)	0.8691	0.005872	0.0002437	7.033e-06	NA	7.033e-06	0.0002437	0.005872	0.8691
Consumption	0.04456	0.2867	0.5803	0.8341	0.9492	0.8685	0.629	0.3219	0.04744
(s.e.)	0.06374	0.04549	0.01923	0.005301	0.008839	0.001928	0.01945	0.03358	0.03603
(p-val.)	0.445	0.01932	0.0006868	2.356e-05	4.962e-05	2.857e-06	0.0005874	0.008138	0.6372
Investment	-0.2507	-0.3033	-0.2983	-0.1977	-0.01272	0.1944	0.3436	0.3857	0.3287
(s.e.)	0.06969	0.0473	0.003436	0.0513	0.08564	0.08284	0.0442	0.009719	0.0505
(p-val.)	0.05679	0.01817	0.0001057	0.05905	0.1972	0.1256	0.01188	0.00045	0.01702
Productivity	0.1475	0.3396	0.5691	0.7523	0.8047	0.6873	0.4491	0.1806	-0.03318
(s.e.)	0.1028	0.09382	0.0606	0.0201	0.02149	0.02926	0.02036	0.02543	0.03874
(p-val.)	0.1763	0.04888	0.00699	0.0004233	0.000418	0.001091	0.001377	0.0215	0.583
Entry	-0.08095	0.08148	0.2626	0.413	0.4895	0.4746	0.3913	0.2794	0.1737
(s.e.)	0.04748	0.06053	0.05783	0.0371	0.004981	0.02614	0.04426	0.04689	0.04117
(p-val.)	0.3641	0.1871	0.03699	0.005491	6.786e-05	0.001995	0.008794	0.02175	0.05659
Wage	0.3331	0.4838	0.599	0.6444	0.604	0.4883	0.3314	0.1712	0.03423
(s.e.)	0.04984	0.04106	0.03051	0.02105	0.0139	0.01355	0.02131	0.02831	0.02976
(p-val.)	0.01609	0.00467	0.001606	0.0006521	0.0003286	0.0005044	0.003099	0.03054	0.7511
Unemployment rate	0.2697	0.2049	0.05571	-0.1432	-0.3211	-0.4069	-0.3738	-0.2505	-0.1024
(s.e.)	0.07463	0.07985	0.06303	0.03018	0.004233	0.02319	0.02303	0.01166	0.012
(p-val.)	0.05422	0.1077	0.09119	0.05735	0.0001333	0.002244	0.002705	0.001902	0.03894
Vacancy rate	0.02675	-0.1335	-0.3102	-0.4187	-0.4018	-0.2656	-0.08484	0.05531	0.1084
(s.e.)	0.02962	0.03379	0.0229	0.008194	0.0192	0.01974	0.009082	0.03024	0.05786
(p-val.)	0.8235	0.08433	0.0042	0.0002635	0.001589	0.004634	0.06407	0.5473	0.2333

(non-rate/ratio series are Baxter–King bandpass-filtered, low = 6Q / high = 32Q / order = 12 / MC runs = 3 / period = 2 – 1000)
(test H0: lag coefficient is not significant at 5% level)

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

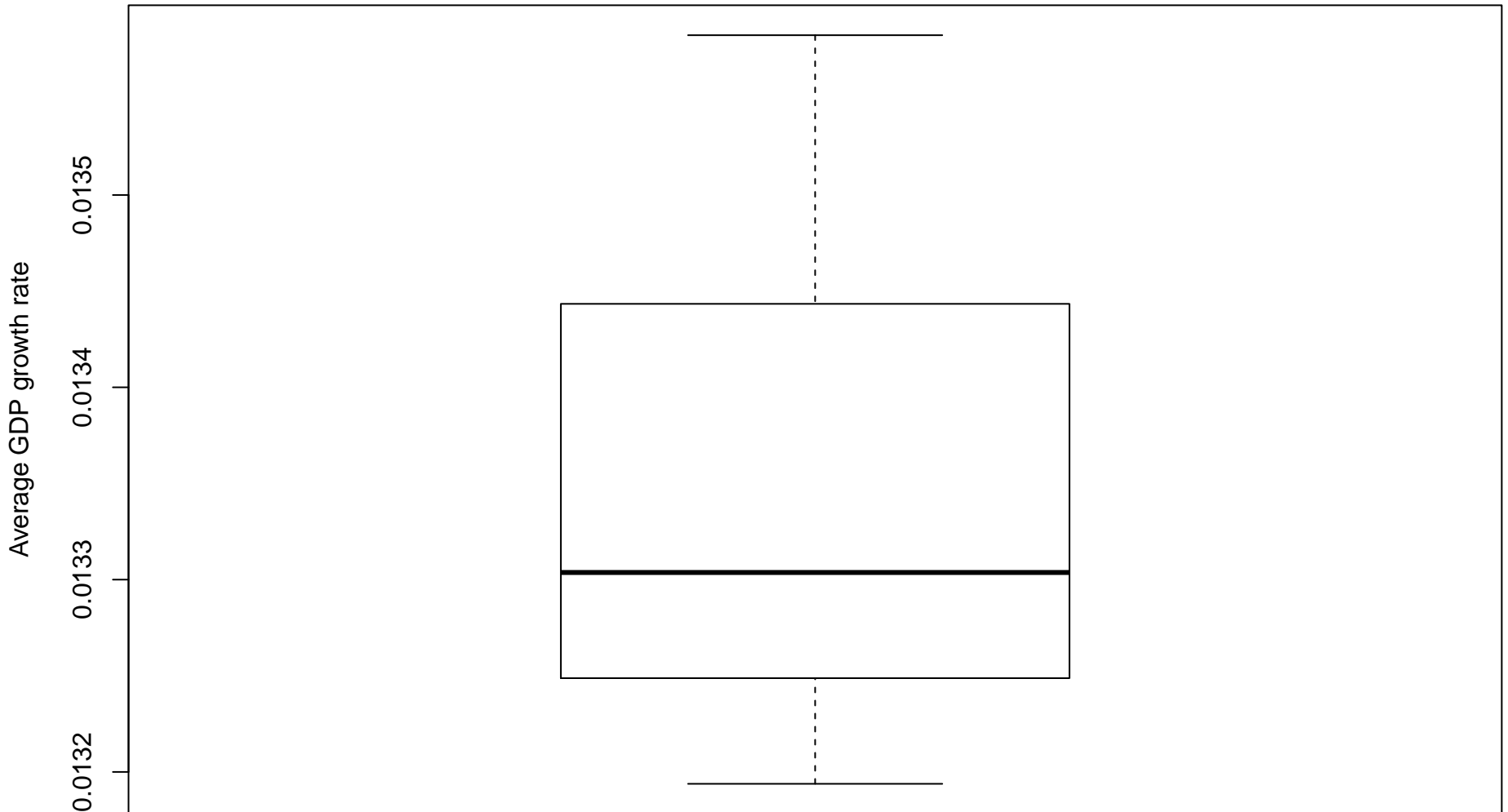
	avg.ADF	rej.ADF	avg.PP	rej.PP	avg.KPSS	rej.KPSS	avg.BDS	rej.BDS	avg.KS	rej.KS	AD	V
dGDP	0.01	1.00	0.01	1.00	0.10	0.00	0.00	1.00	0.27	0.00	0.33	C
dA	0.01	1.00	0.01	1.00	0.10	0.00	0.00	1.00	0.26	0.33	0.06	C
dw	0.01	1.00	0.01	1.00	0.10	0.00	0.00	1.00	0.25	0.33	0.05	C
V	0.01	1.00	0.01	1.00	0.01	1.00	0.00	1.00	0.23	0.67	0.00	C
U	0.01	1.00	0.01	1.00	0.01	1.00	0.00	1.00	0.01	1.00	0.00	C
mu2avg	0.01	1.00	0.01	1.00	0.01	1.00	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	0.25	0.67	0.02	C
HH2	0.01	1.00	0.01	1.00	0.01	1.00	0.00	1.00	0.07	0.67	0.00	C

(average p-values for testing H0 and rate of rejection of H0 / MC runs = 3 / period = 2 – 1000)

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

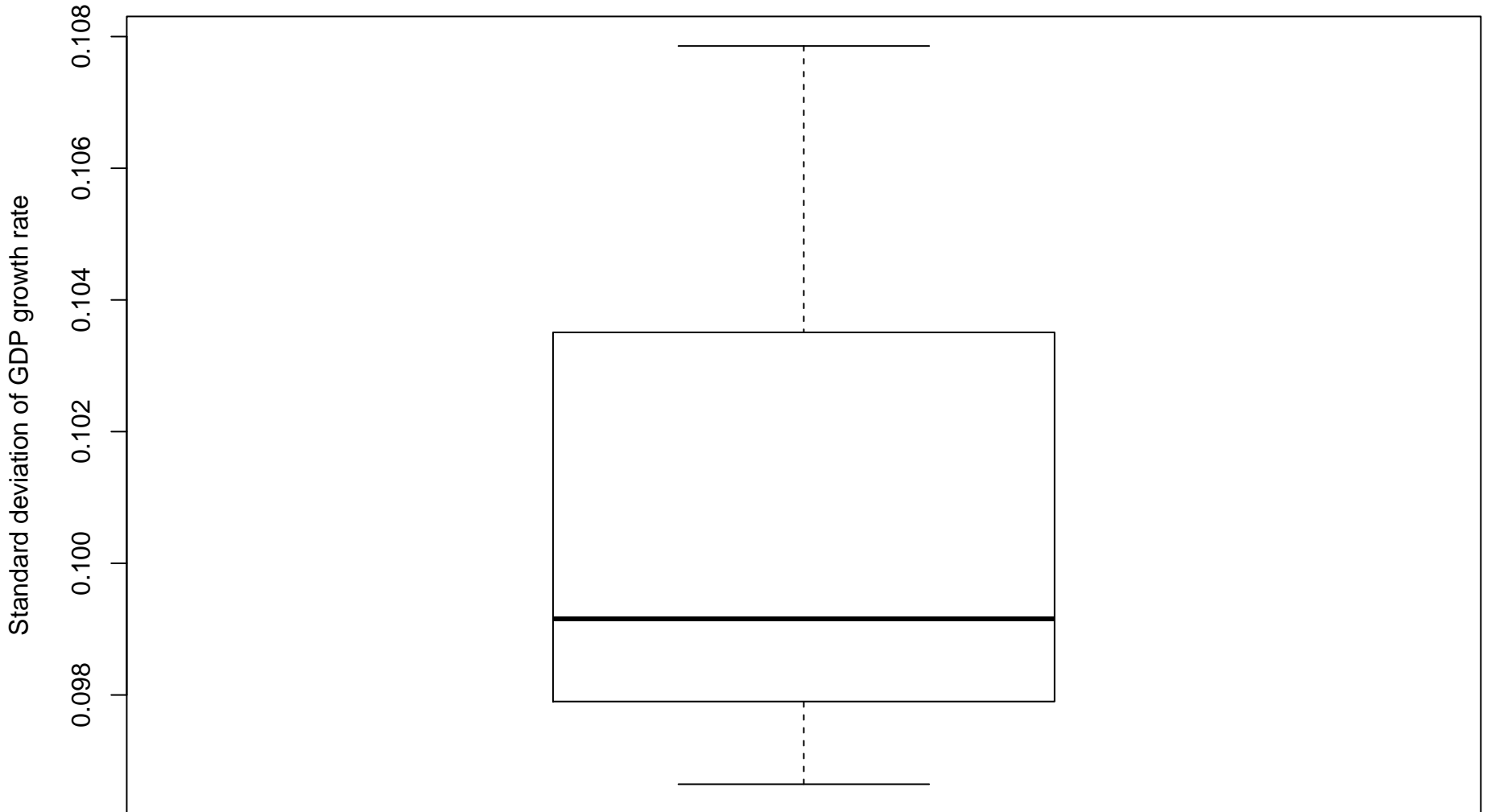
(significance = 0.05)

GDP growth



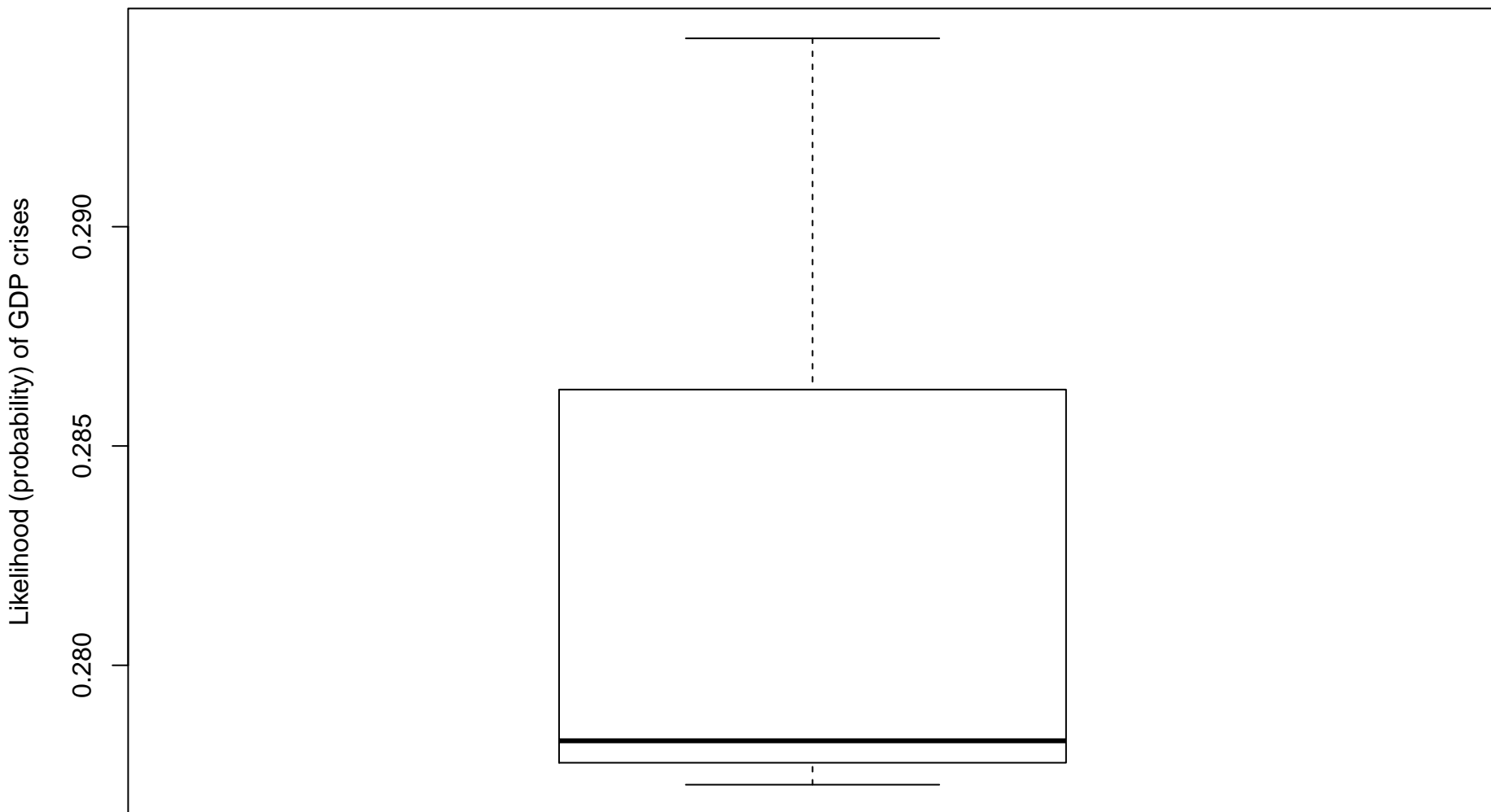
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 3 / period = 2 – 1000)

Volatility of GDP growth



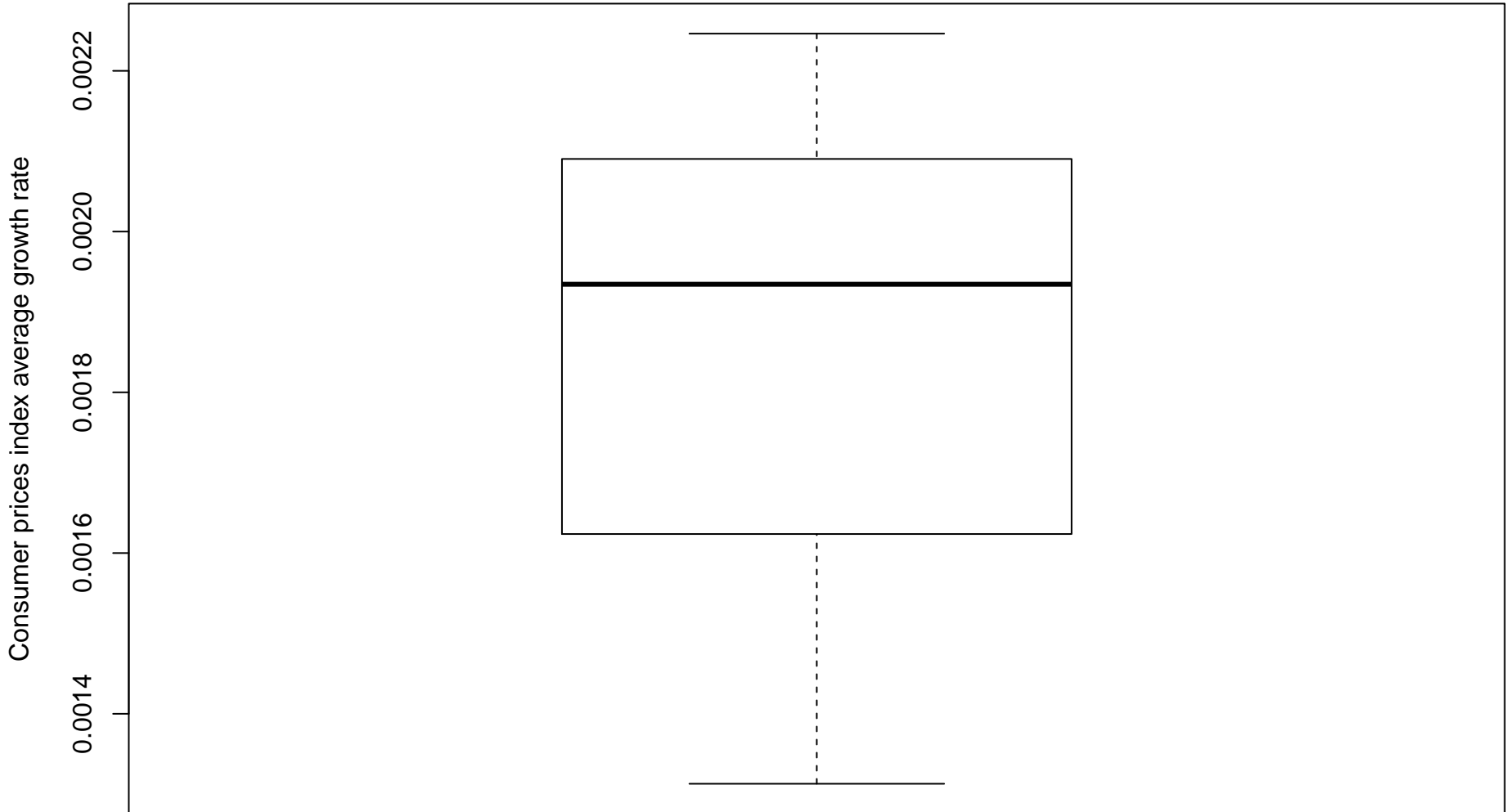
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 3 / period = 2 – 1000)

Likelihood of GDP crises



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

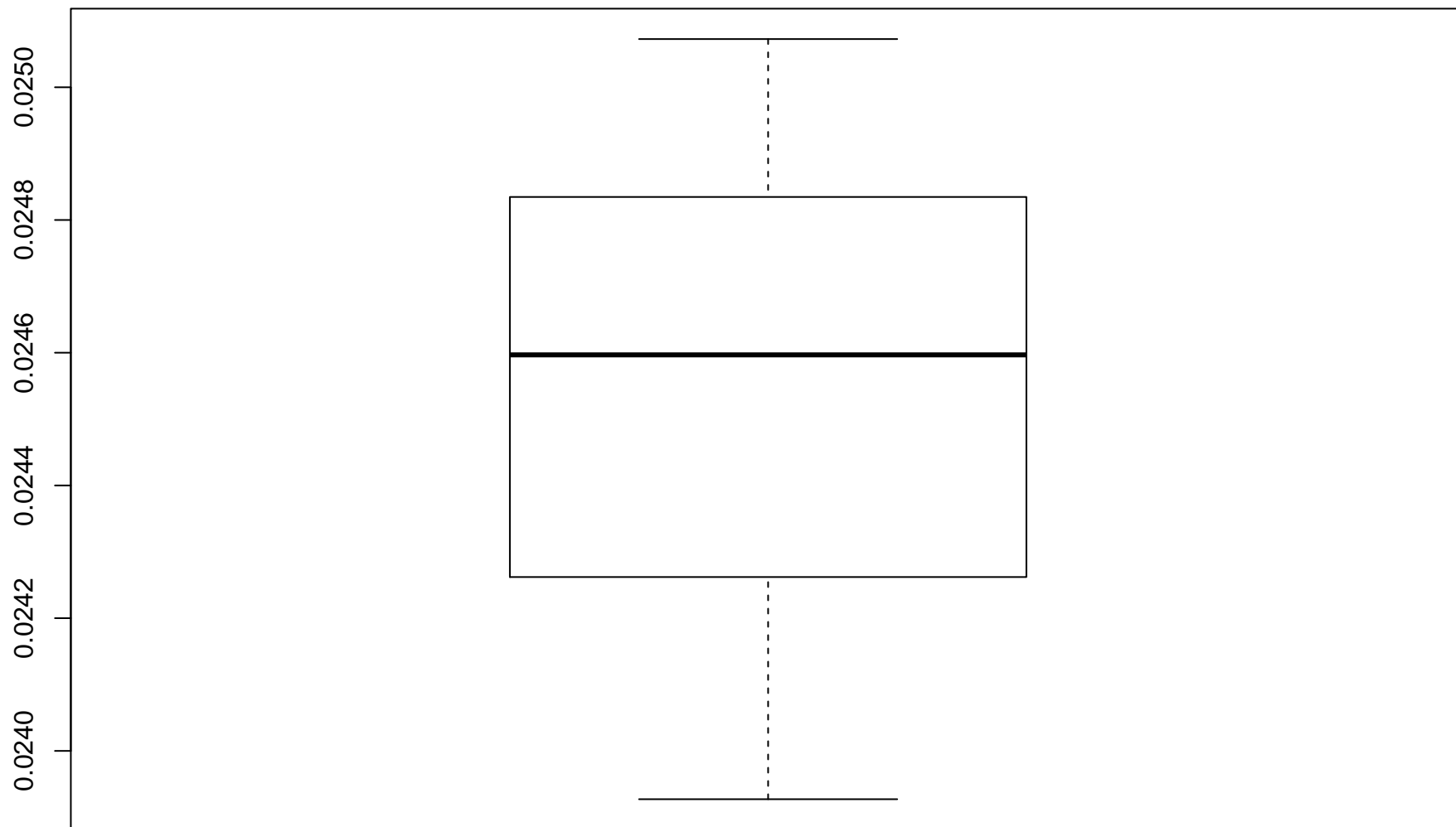
Inflation



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

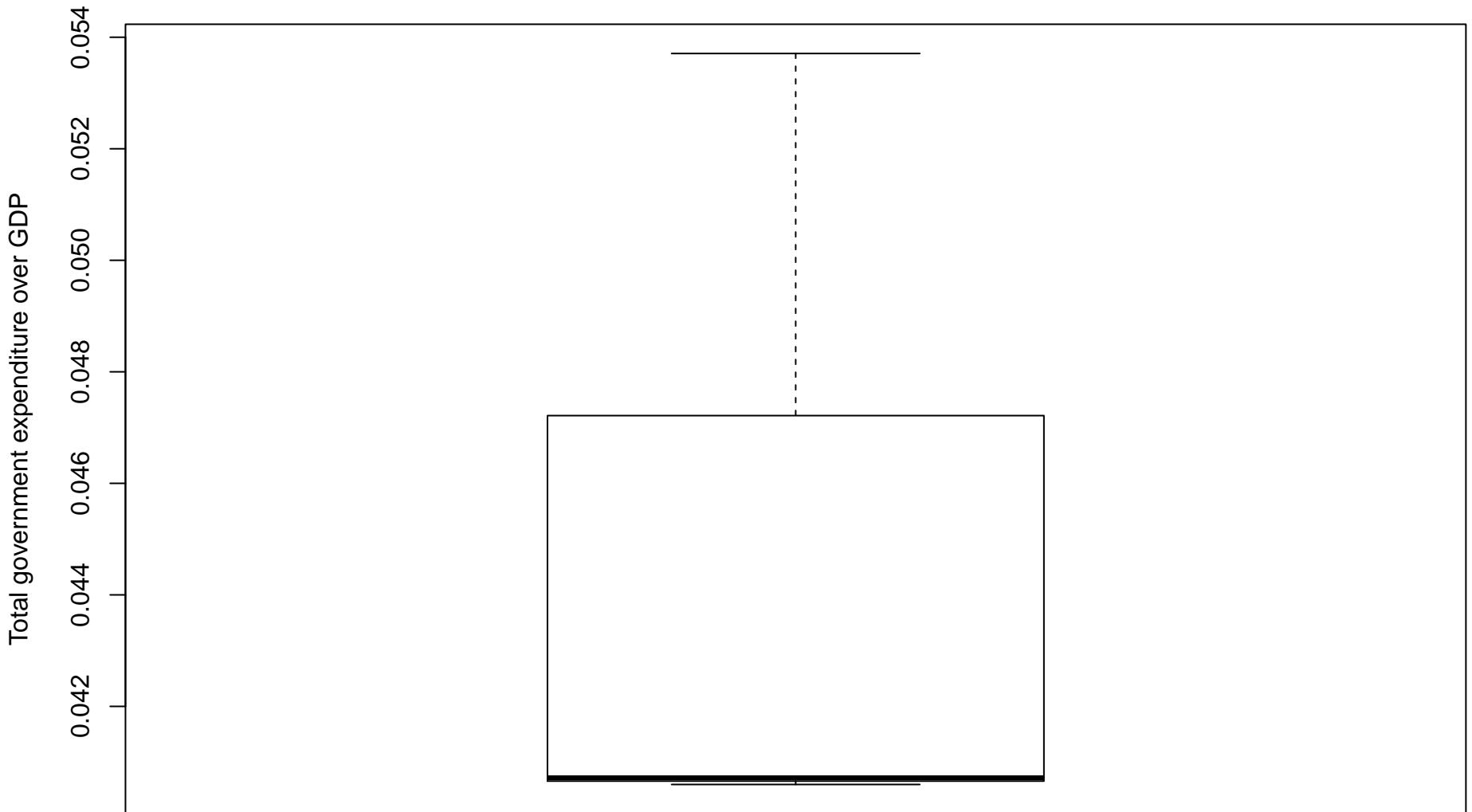
Government tax income over GDP

Tax



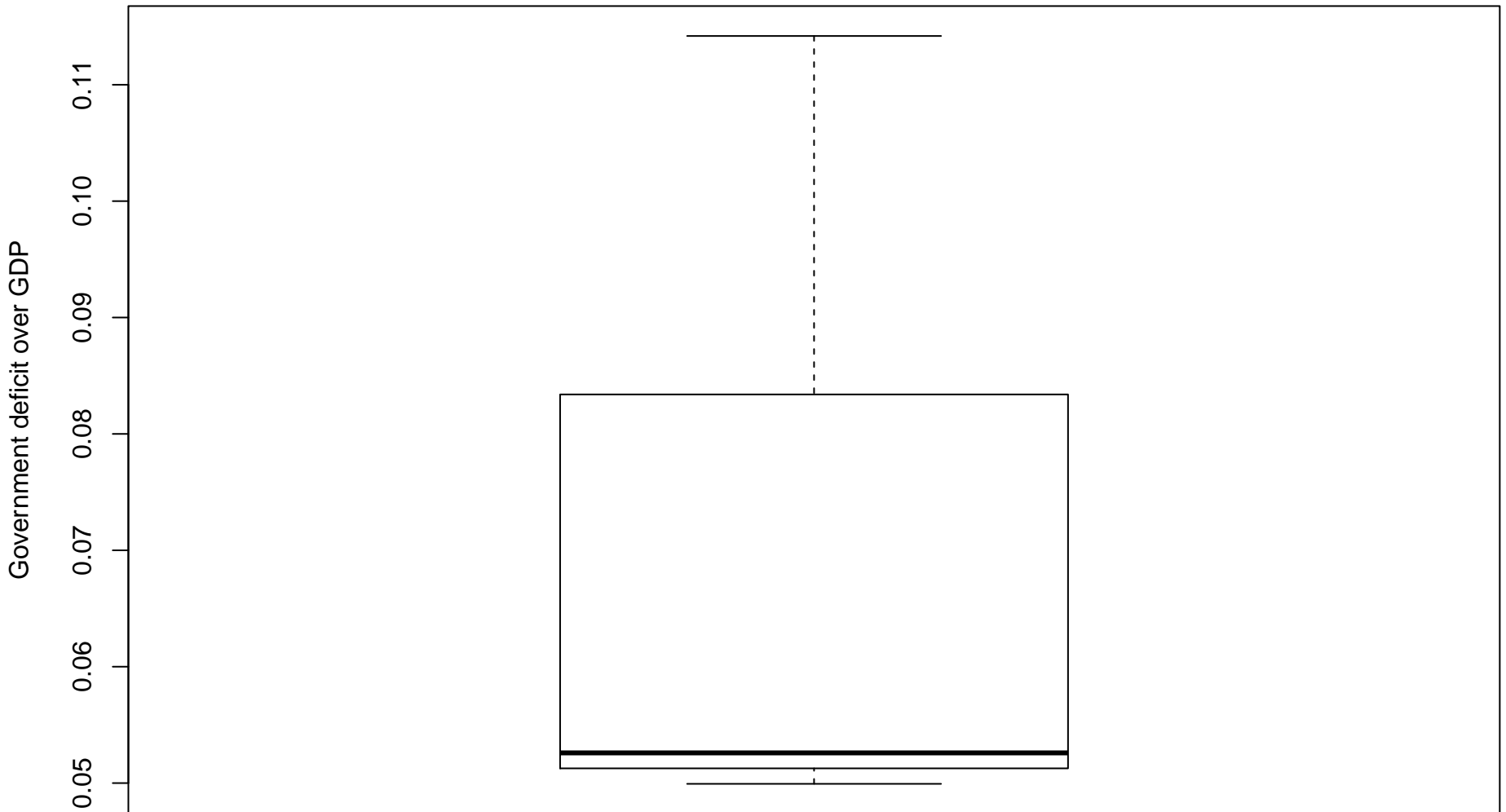
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 3 / period = 2 – 1000)

Government total expenditure



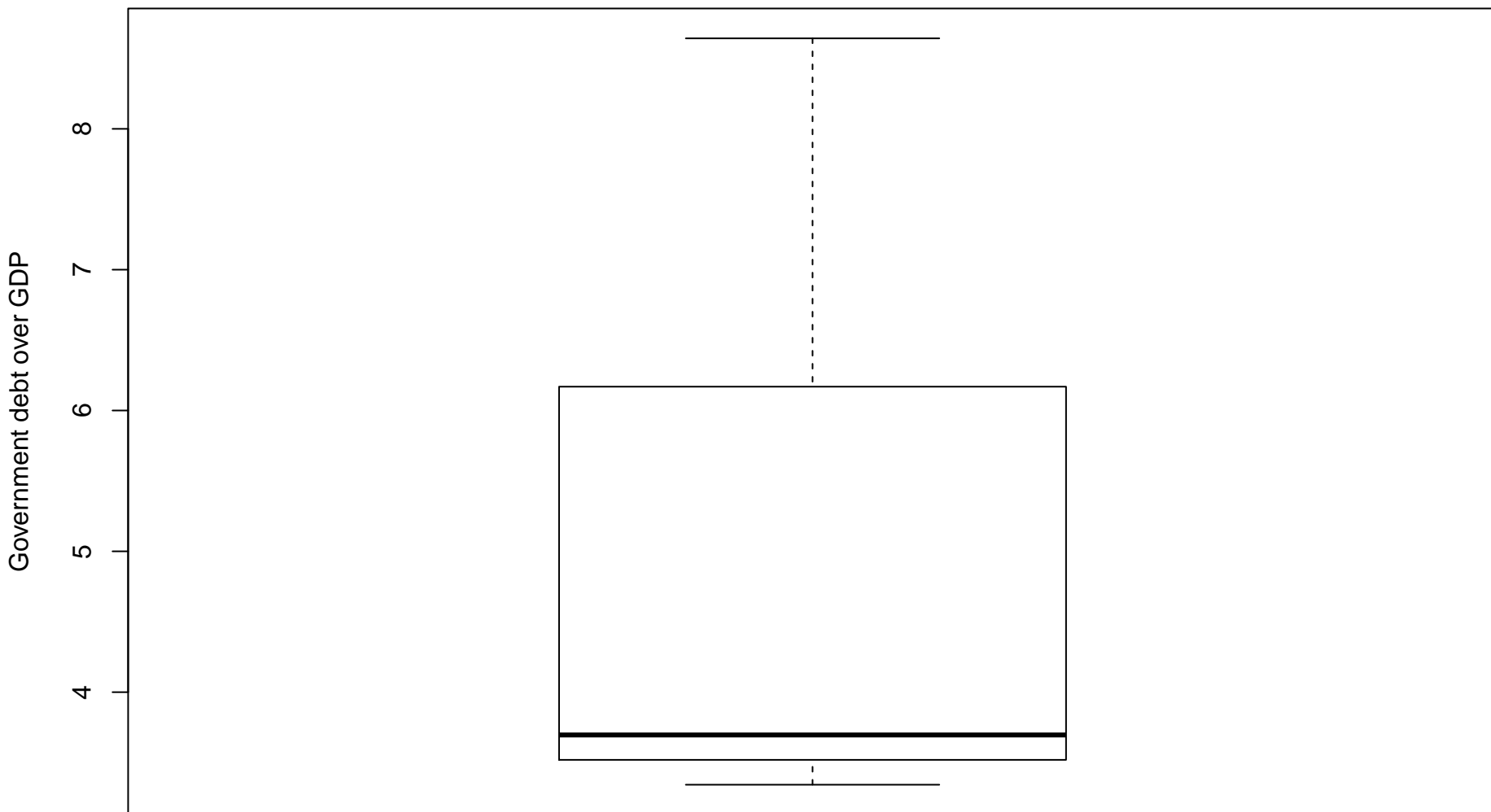
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 3 / period = 2 – 1000)

Government deficit



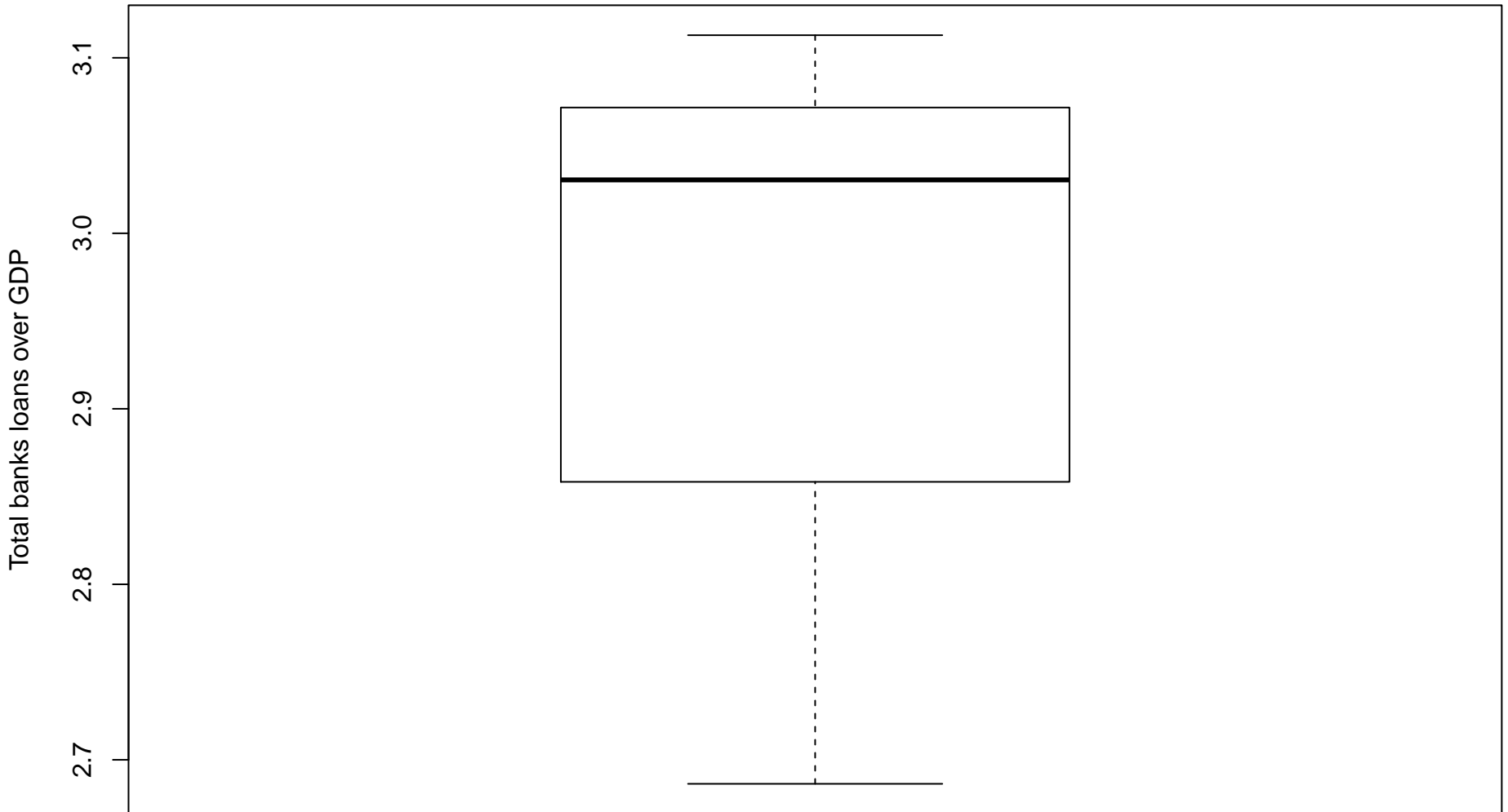
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 3 / period = 2 – 1000)

Government debt



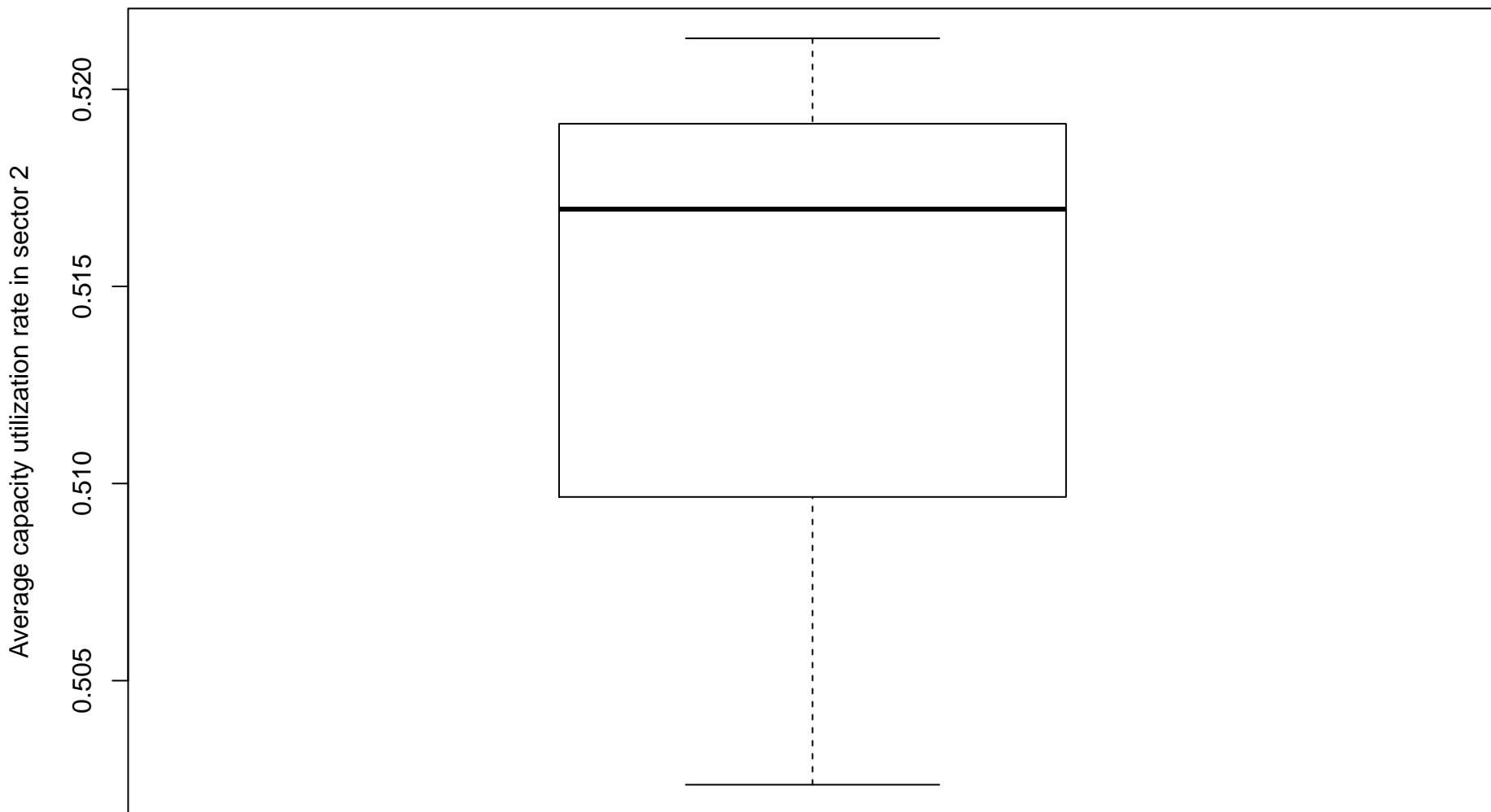
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 3 / period = 2 – 1000)

Loans



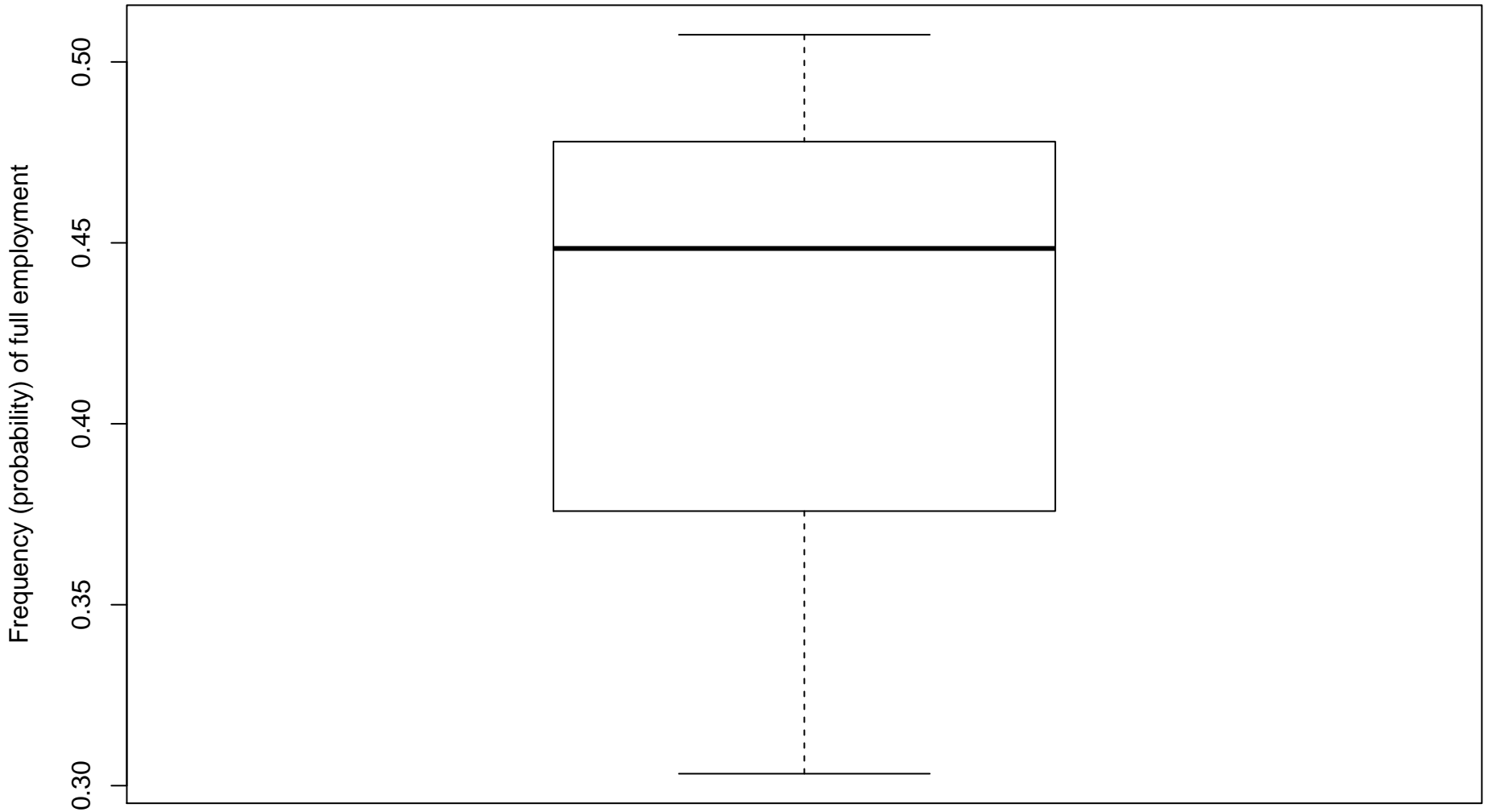
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 3 / period = 2 – 1000)

Capacity utilization



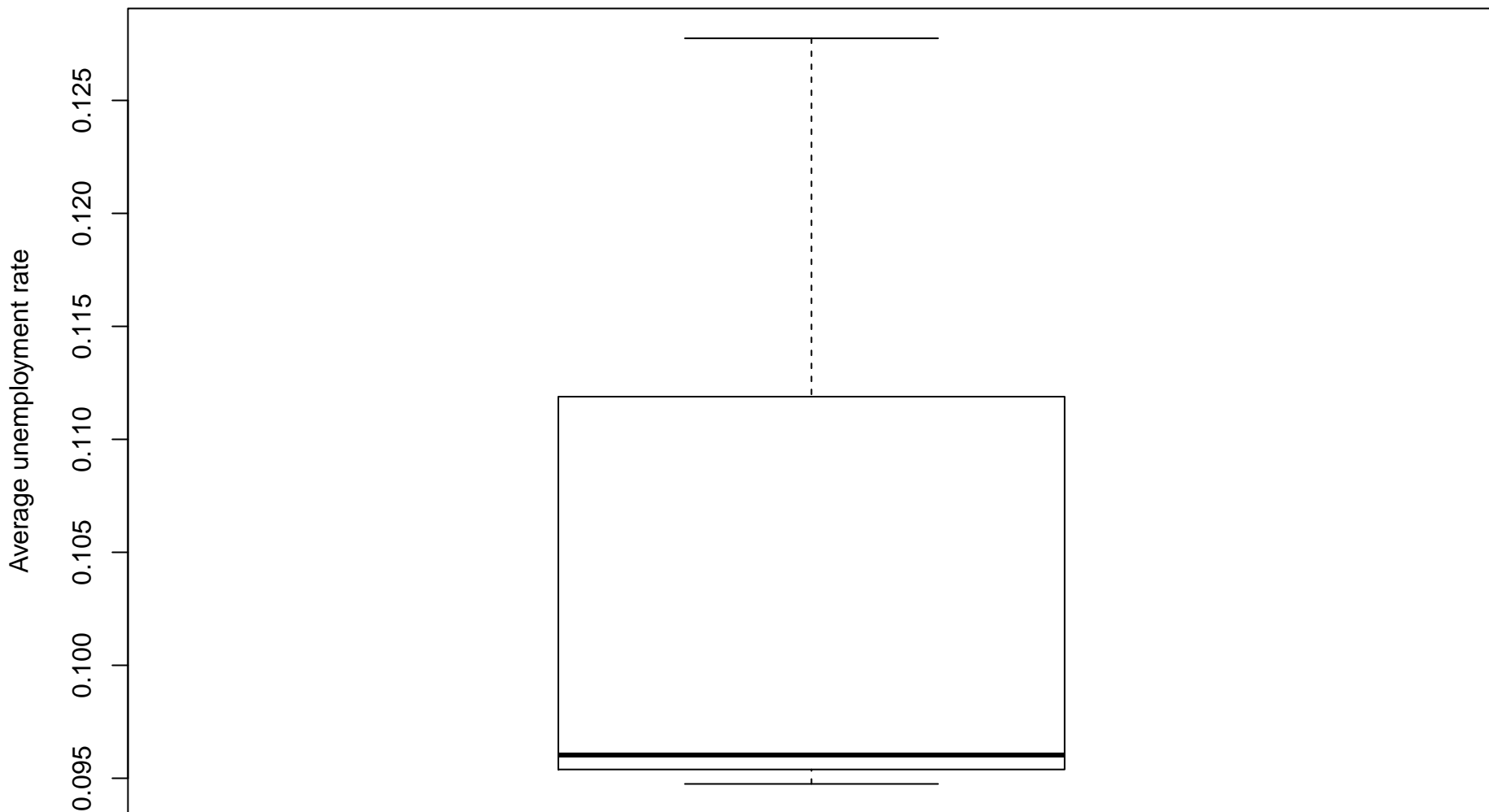
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 3 / period = 2 – 1000)

Full employment frequency



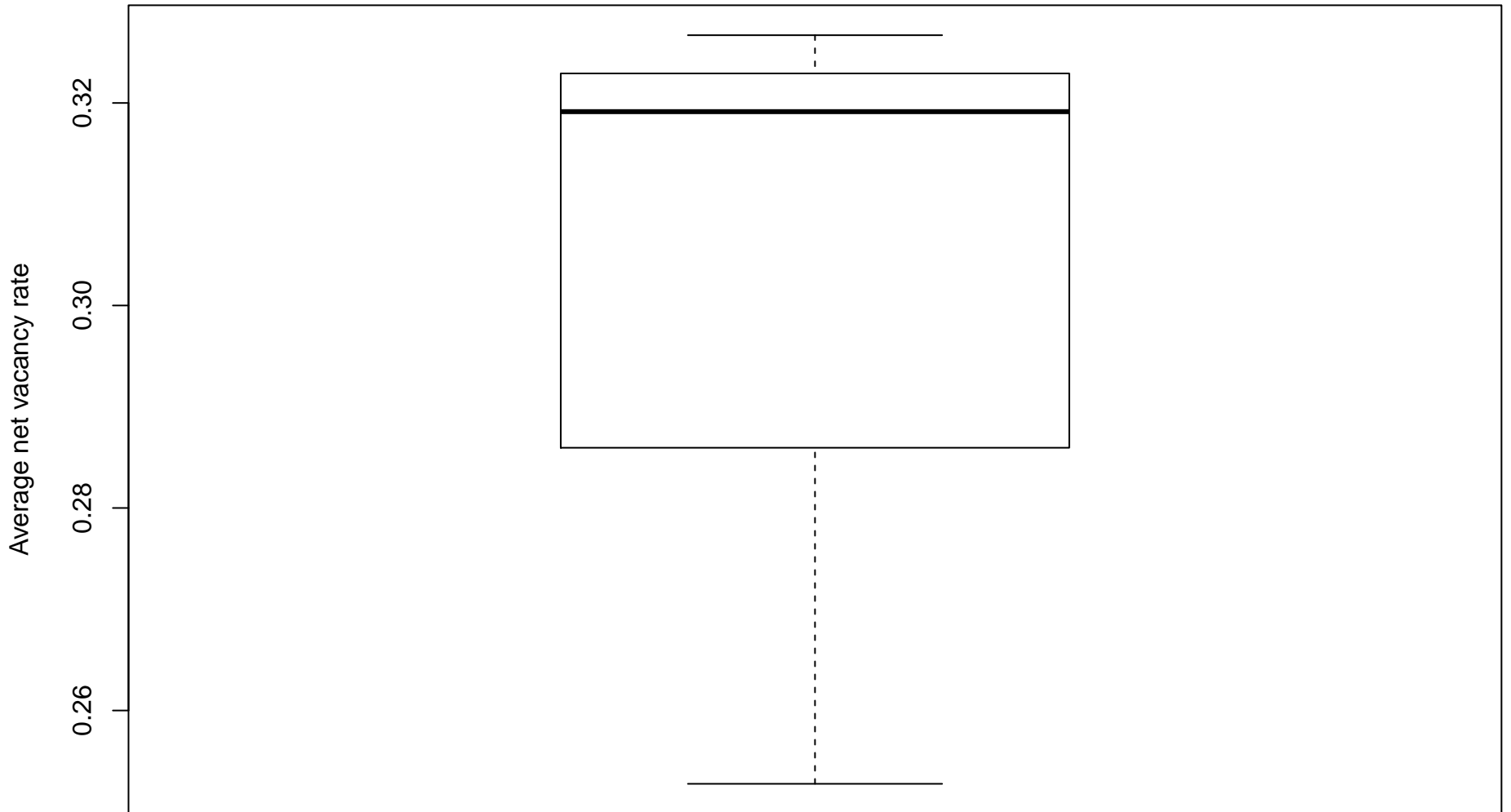
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 3 / period = 2 – 1000)

Unemployment



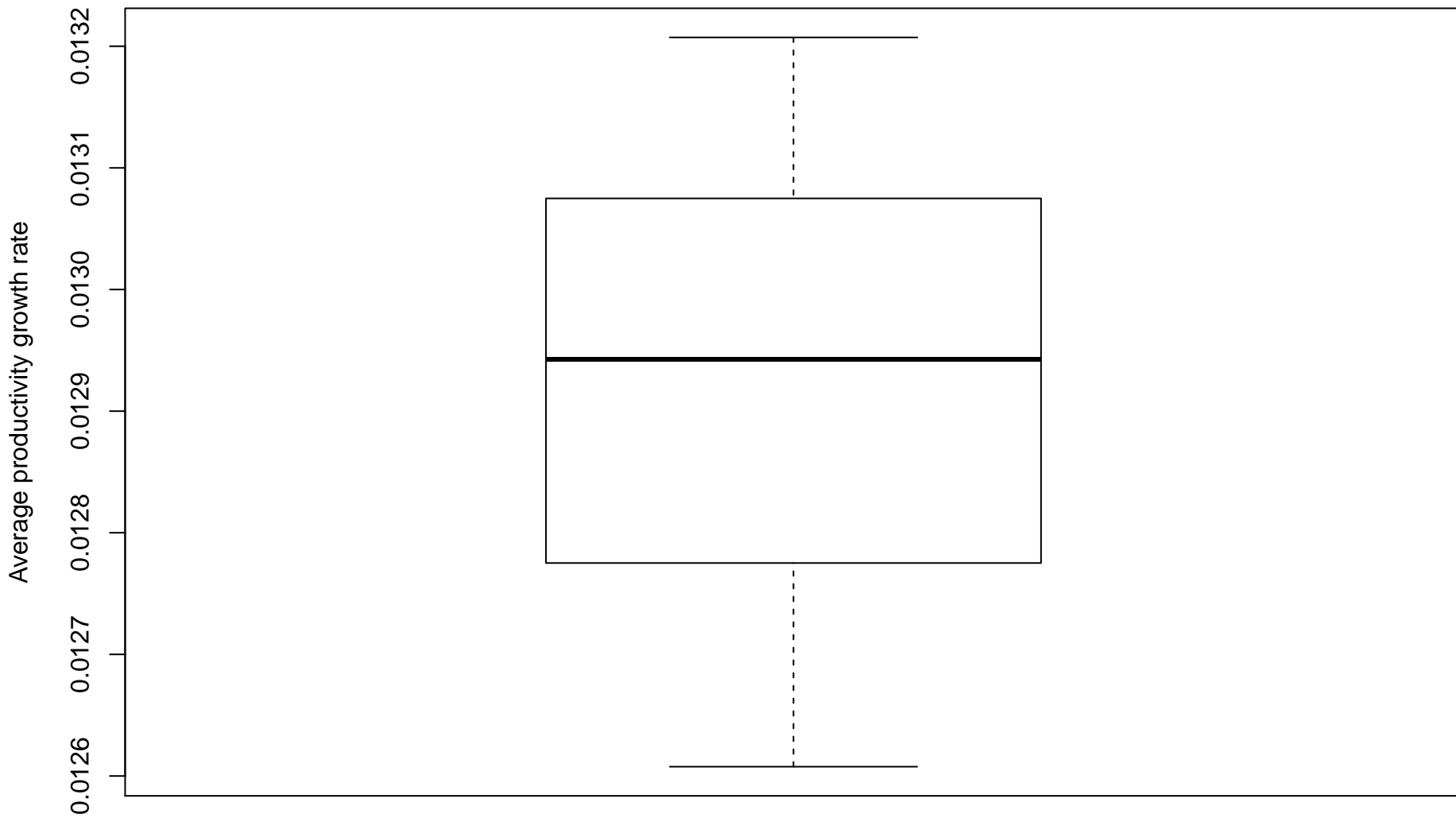
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 3 / period = 2 – 1000)

Vacancy



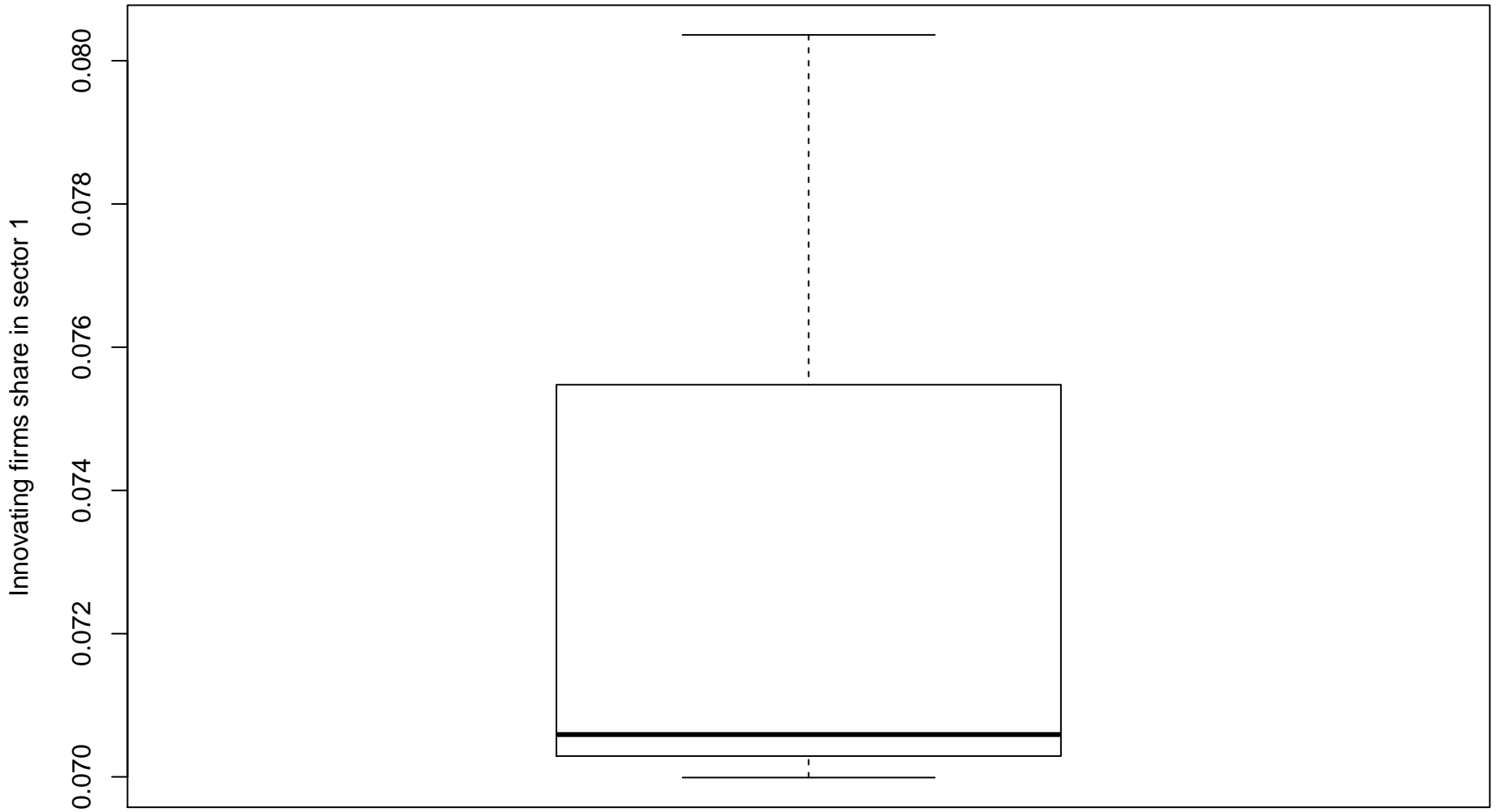
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 3 / period = 2 – 1000)

Productivity growth



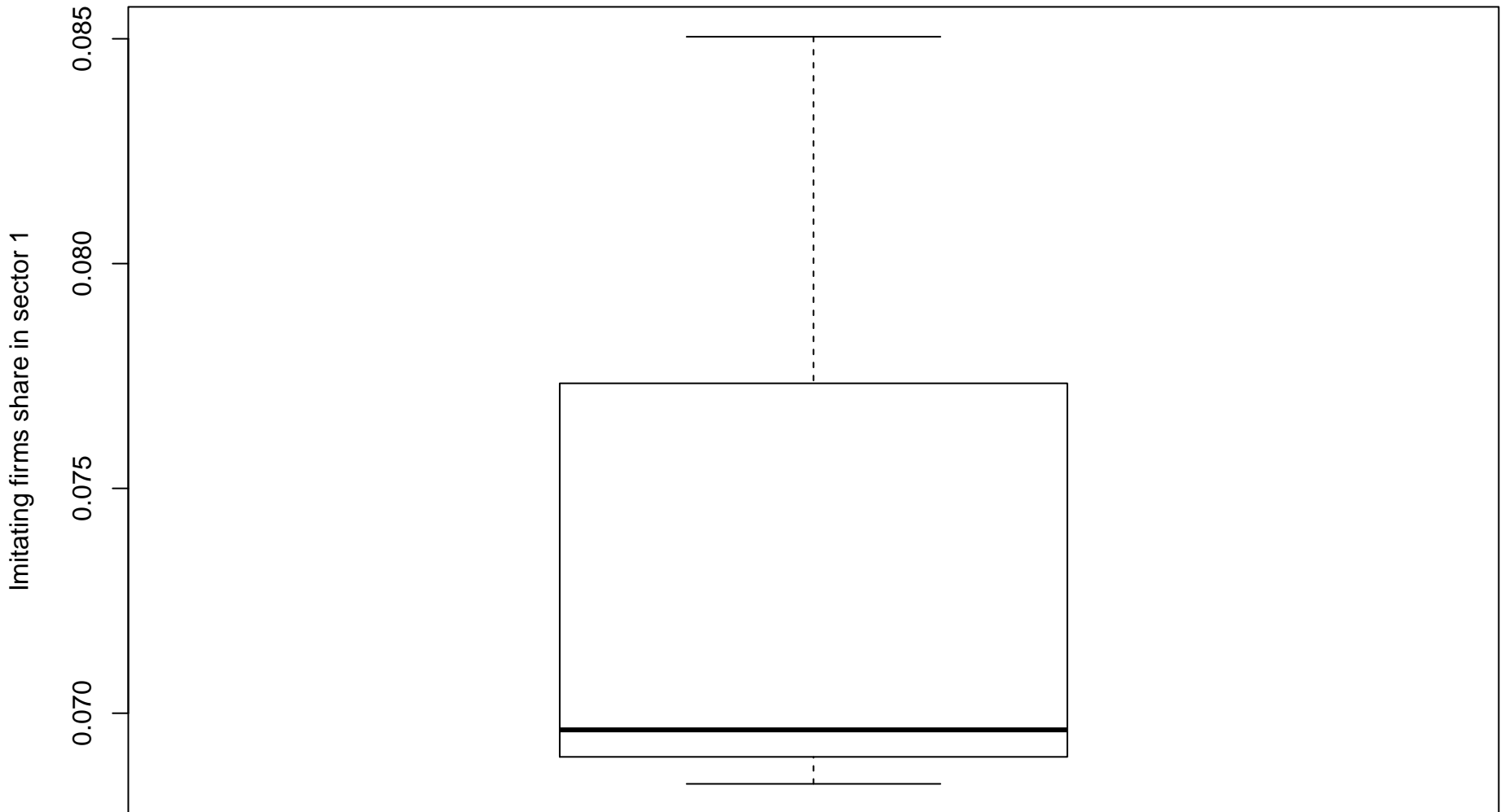
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 3 / period = 2 – 1000)

Innovation



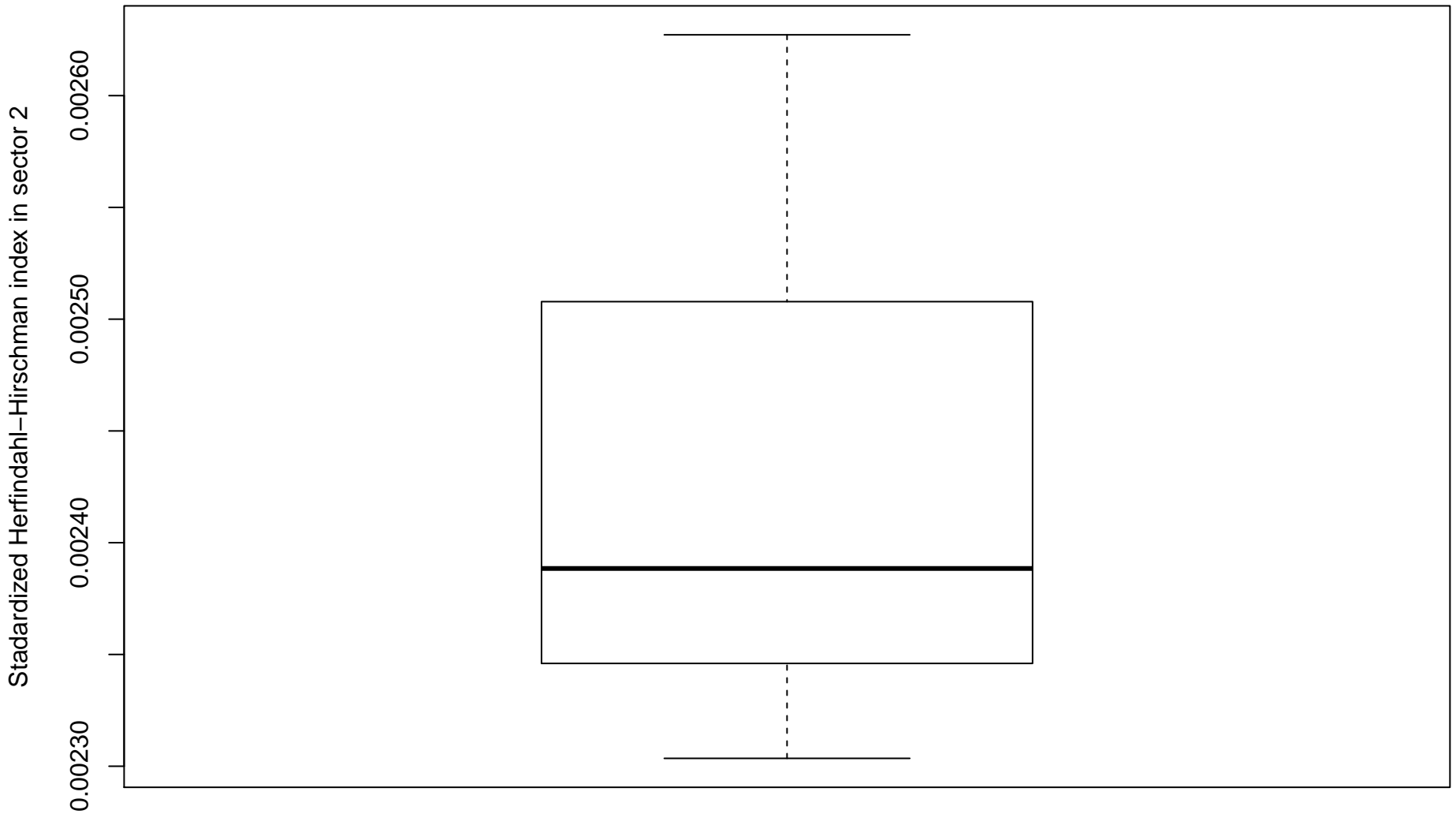
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 3 / period = 2 – 1000)

Imitation



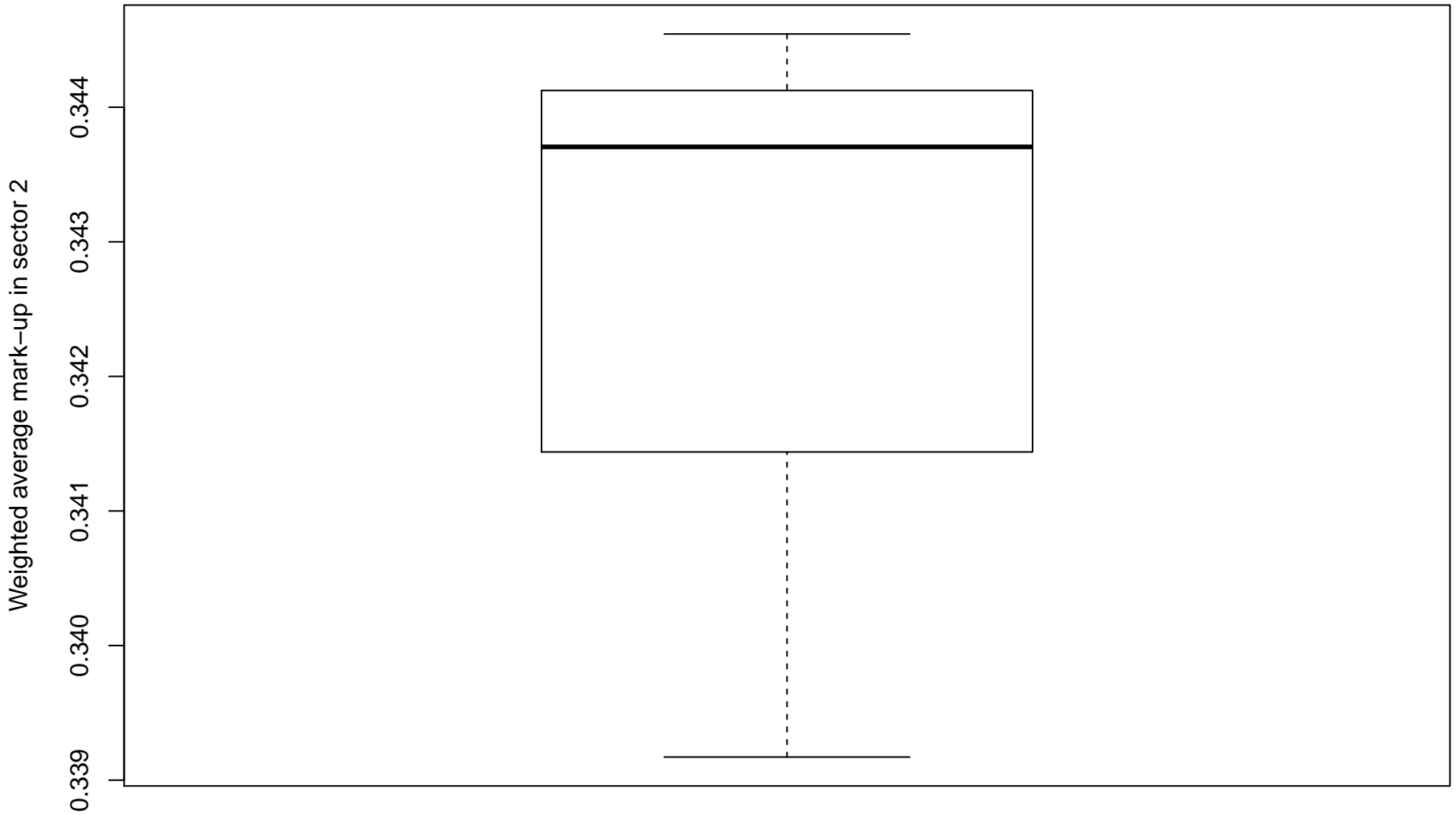
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 3 / period = 2 – 1000)

Market concentration



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

Mark-ups



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

Monte Carlo descriptive statistics (all experiments)

	Avg[1]	SD[1]	Min[1]	Max[1]
GDP growth	0.01336	0.0002007	0.01319	0.01358
Volatility of GDP growth	0.1012	0.005884	0.09664	0.1079
Likelihood of GDP crises	0.2833	0.009549	0.2773	0.2943
Inflation	0.001831	0.0004752	0.001313	0.002246
Tax	0.02453	0.0005754	0.02393	0.02507
Government total expenditure	0.04501	0.007534	0.0406	0.05371
Government deficit	0.07224	0.03635	0.04993	0.1142
Government debt	5.227	2.963	3.343	8.643
Loans	2.943	0.2263	2.686	3.113
Capacity utilization	0.5135	0.009919	0.5024	0.5213
Full employment frequency	0.4198	0.1051	0.3033	0.5075
Unemployment	0.1062	0.01869	0.09475	0.1277
Vacancy	0.2995	0.04068	0.2528	0.3267
Productivity growth	0.01292	0.0003005	0.01261	0.01321
Innovation	0.07365	0.005822	0.06999	0.08036
Imitation	0.07437	0.009266	0.06843	0.08505
Market concentration	0.00244	0.0001678	0.002304	0.002627
Mark-ups	0.3425	0.00289	0.3392	0.3445

Experiments: [1] Benchmark

(numbers in brackets indicate the experiment number / MC runs = 3 / period = 2 – 1000)