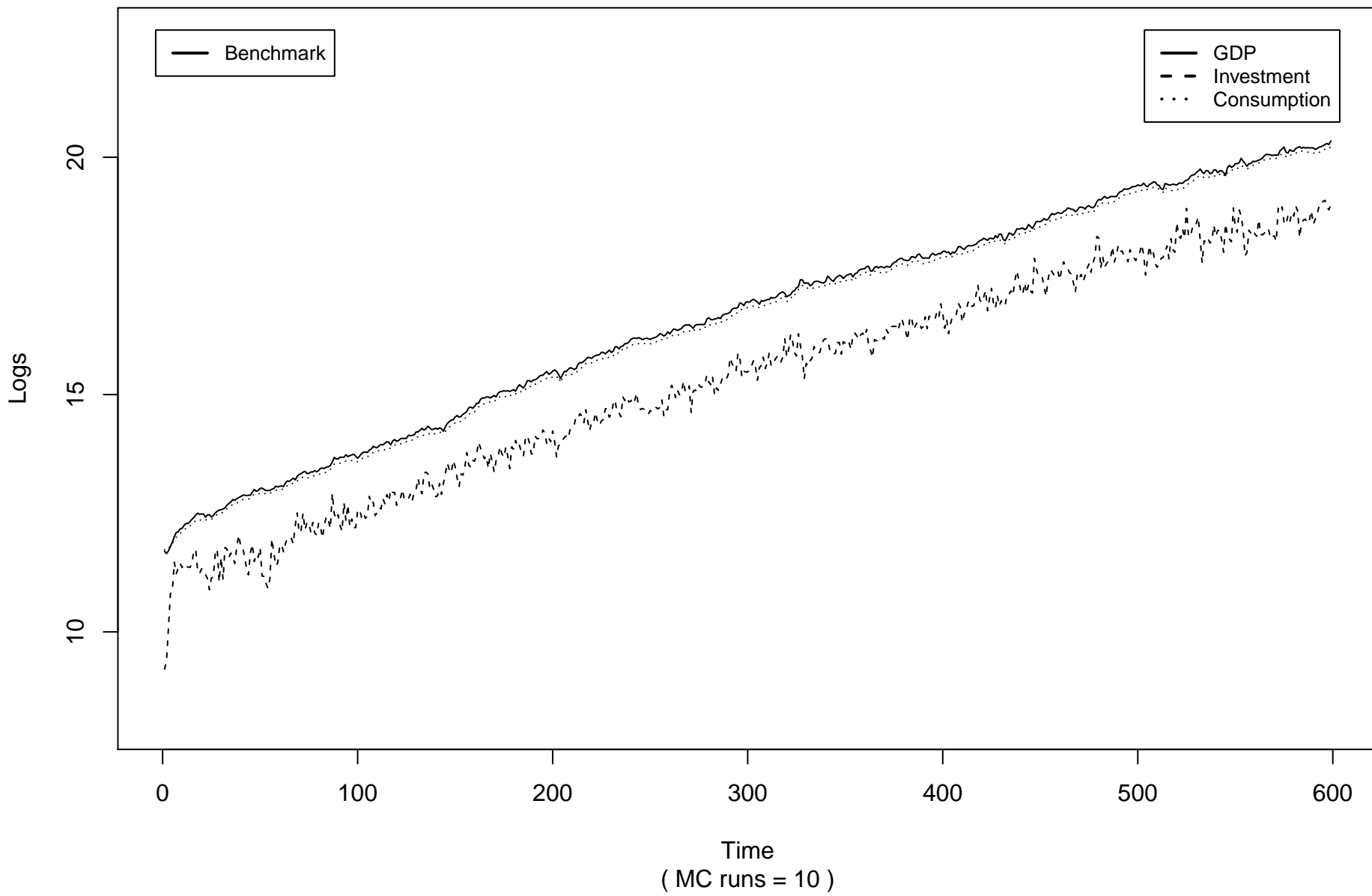
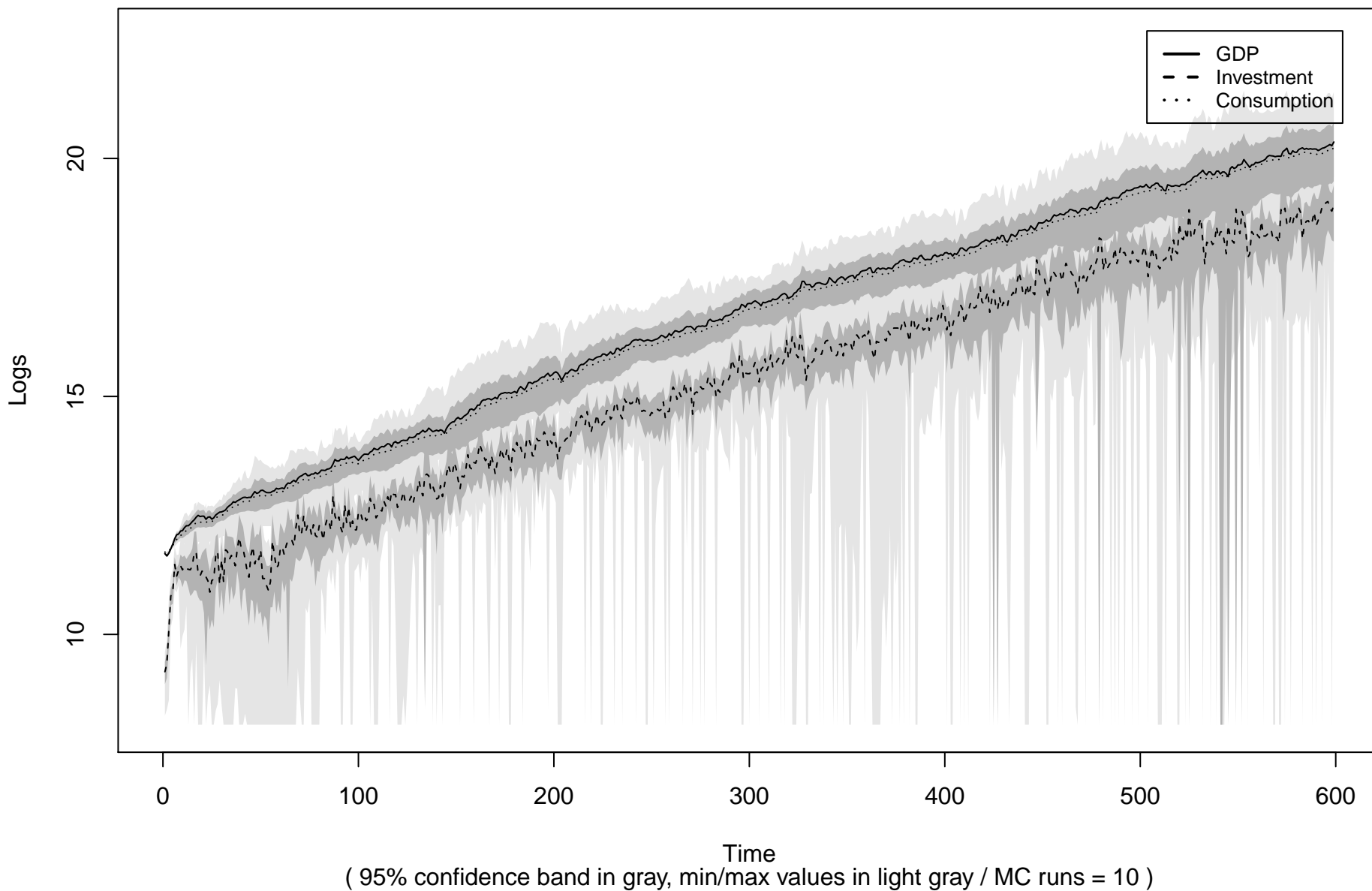


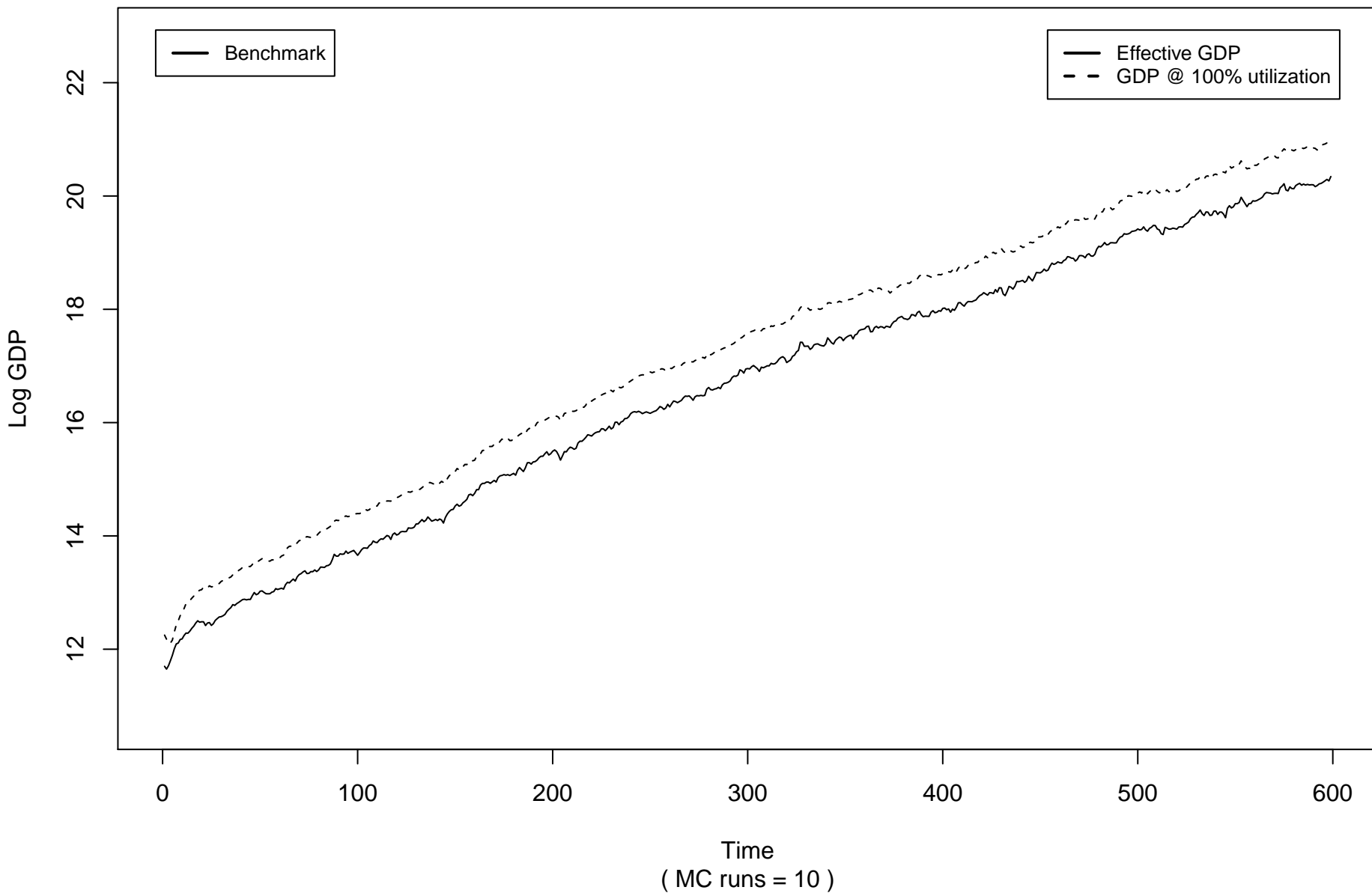
GDP, investment and consumption (all experiments)



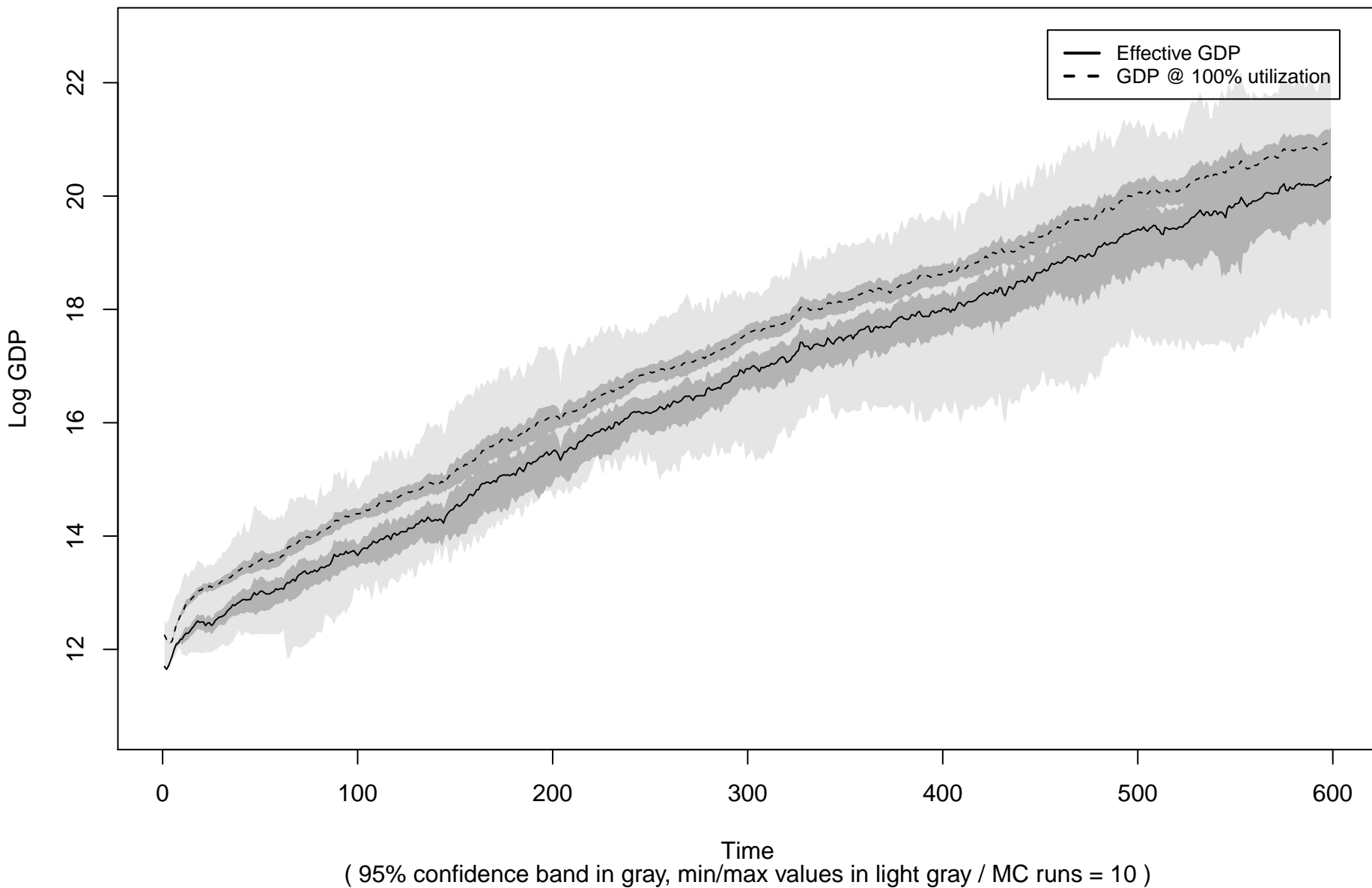
GDP, investment and consumption (Benchmark)



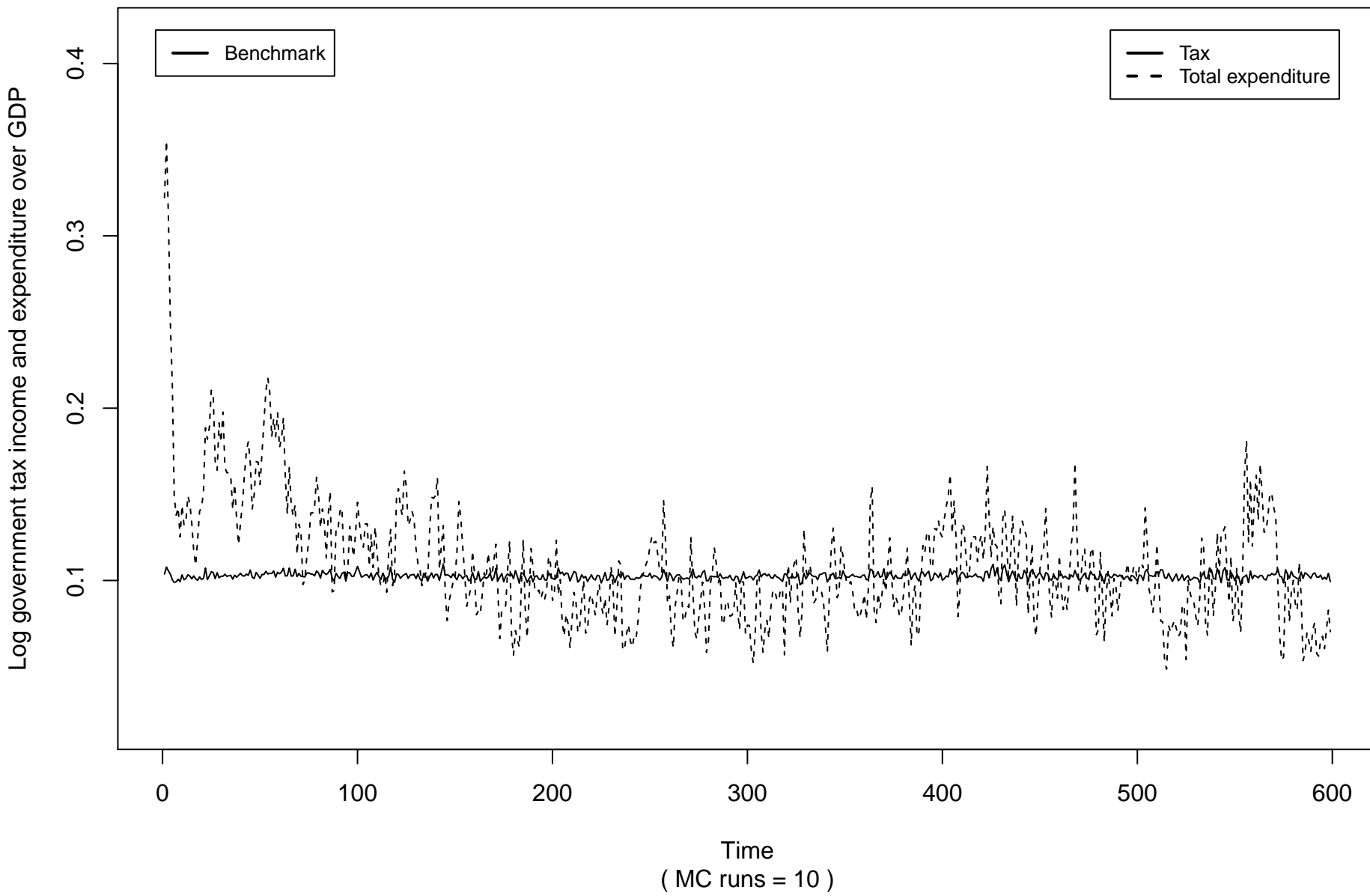
GDP (all experiments)



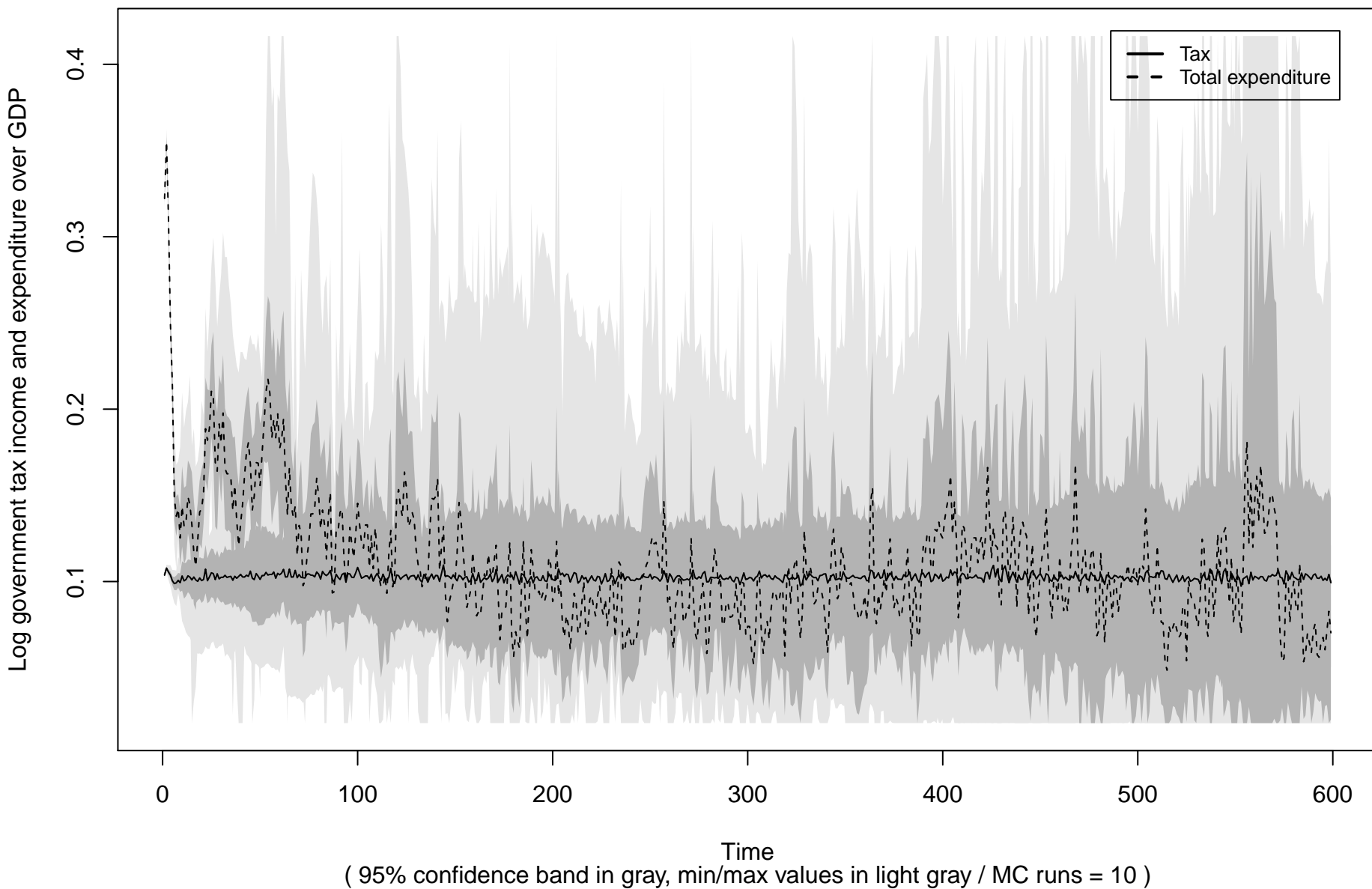
GDP (Benchmark)



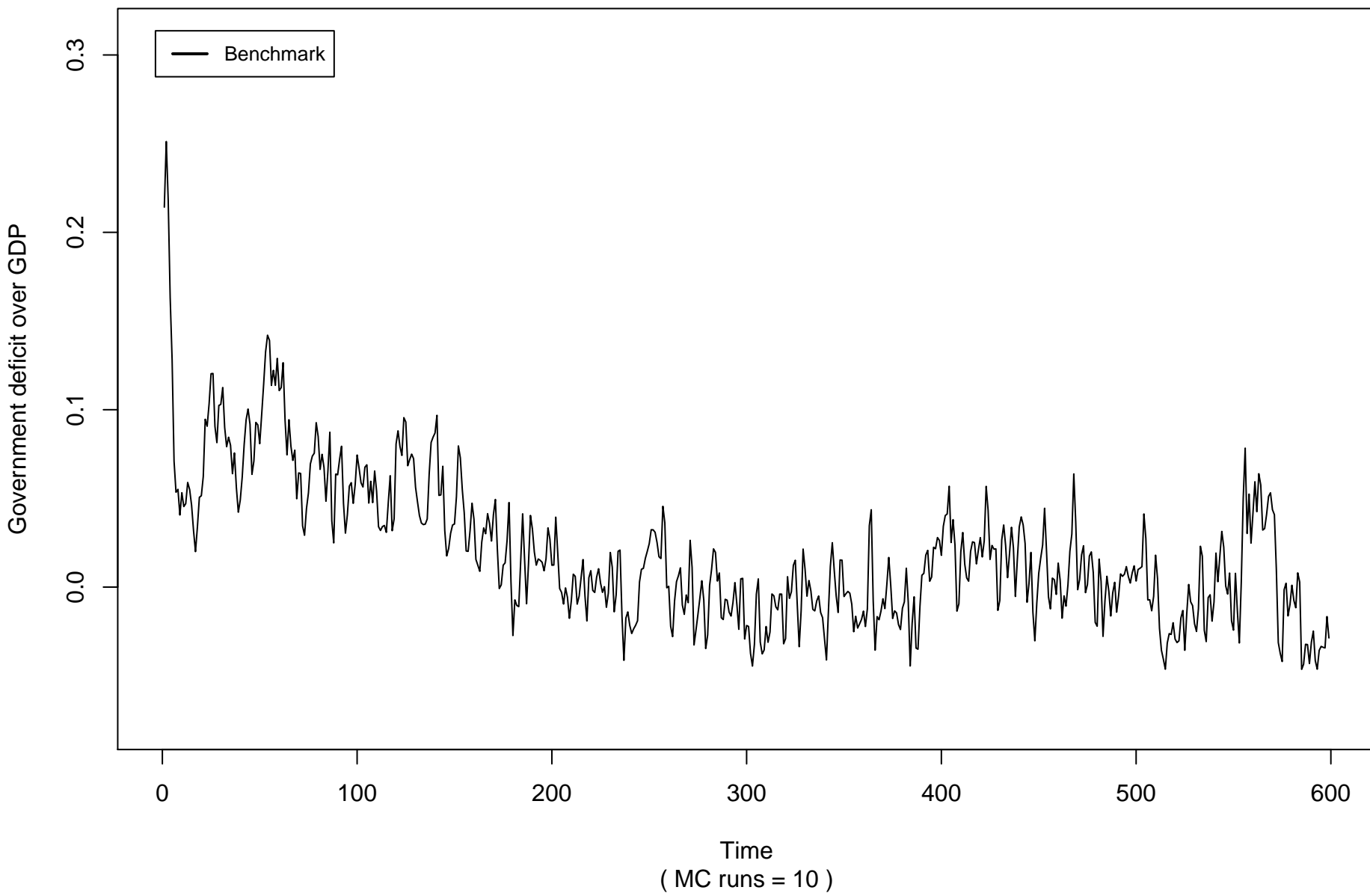
Government income and expenditure on GDP (all experiments)



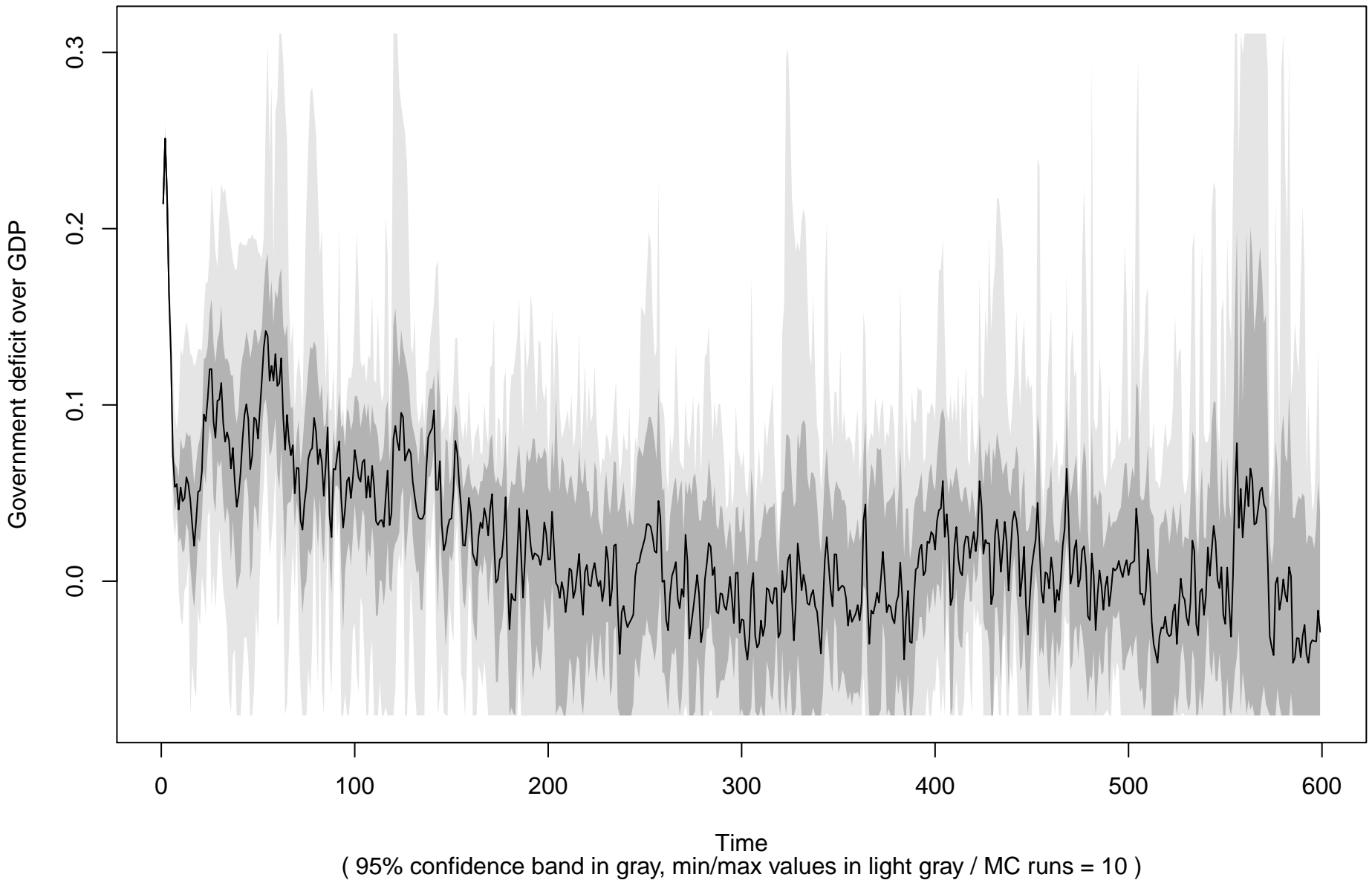
Government income and expenditure on GDP (Benchmark)



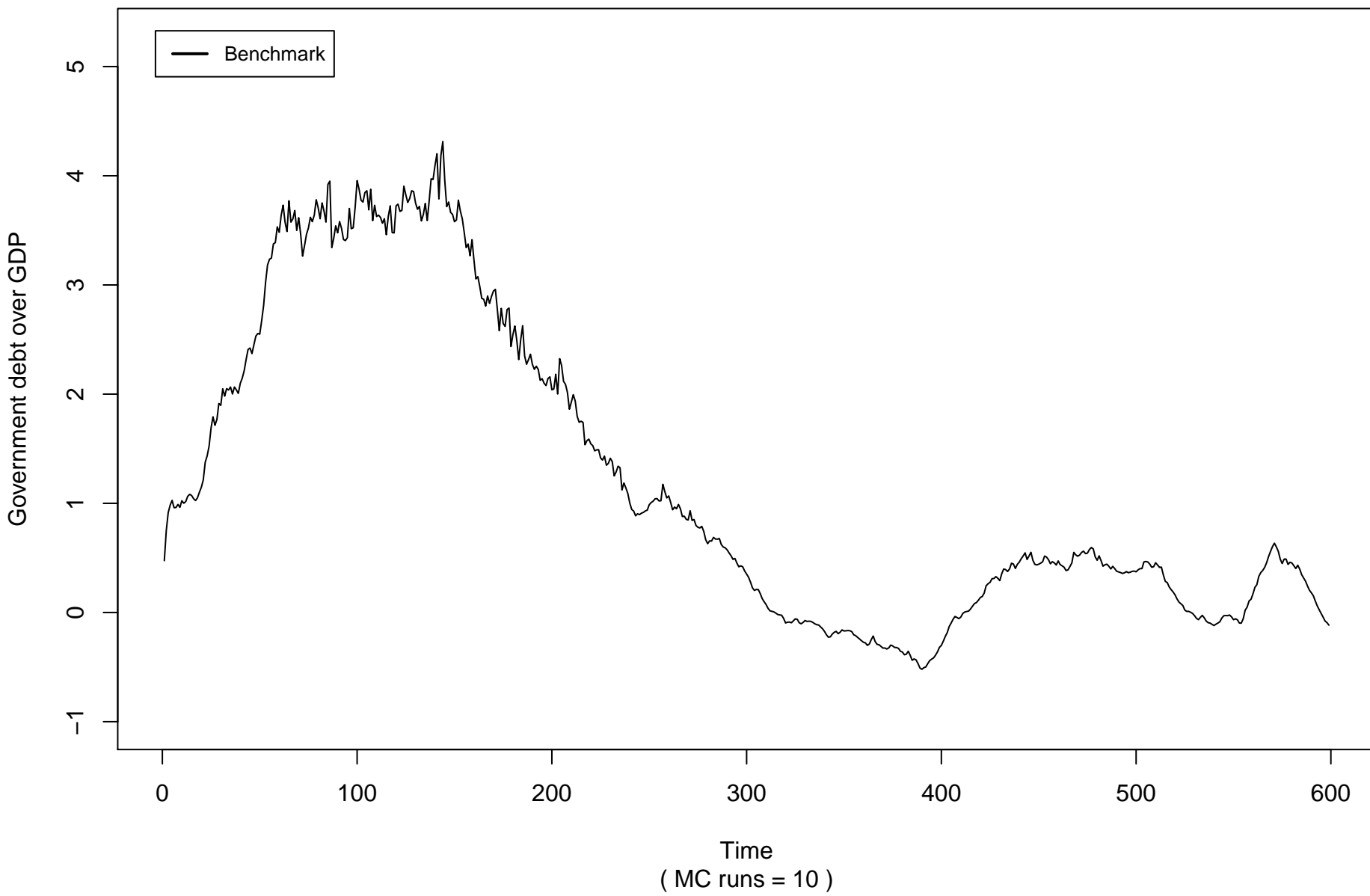
Government deficit on GDP (all experiments)



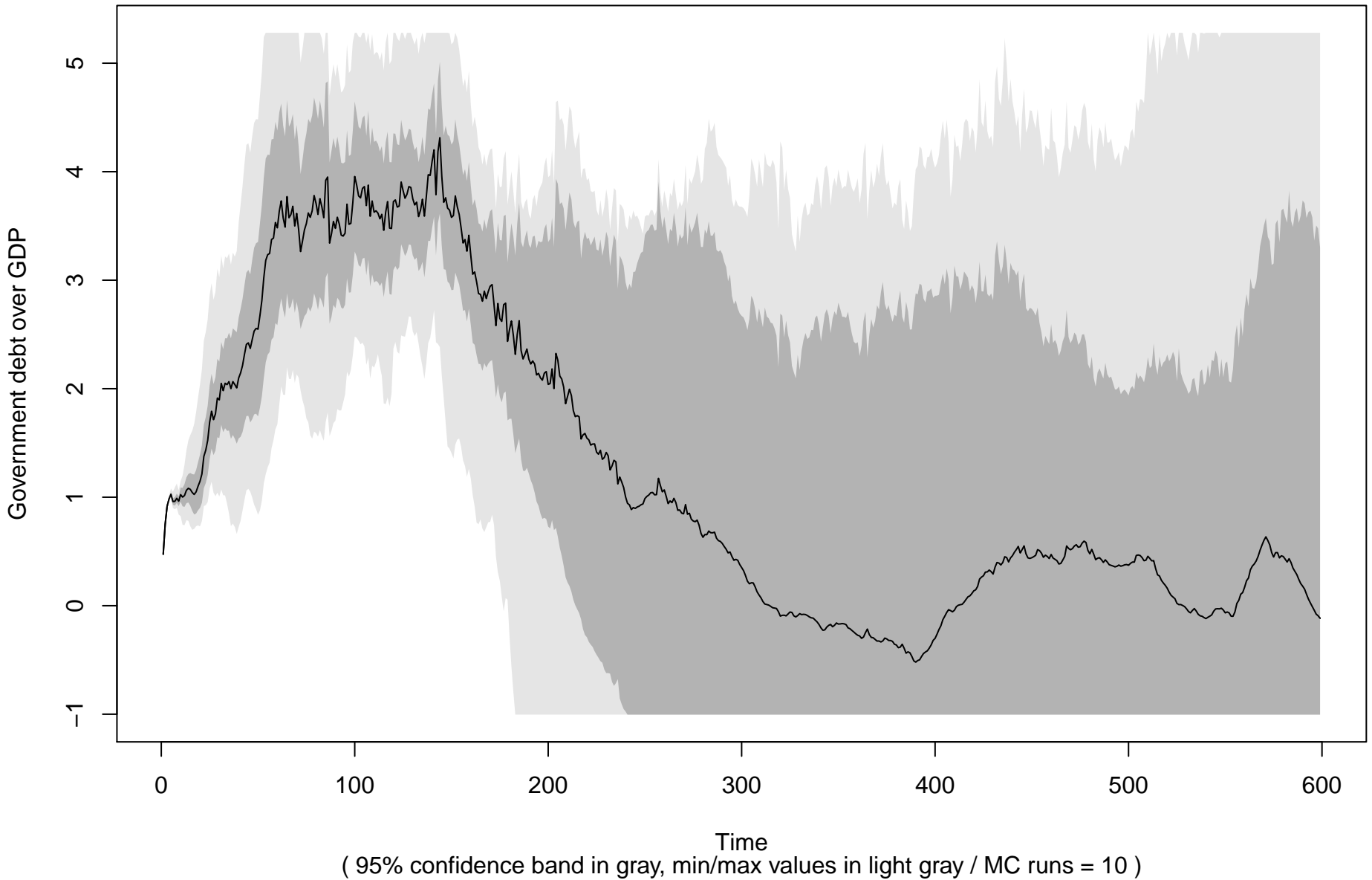
Government deficit on GDP (Benchmark)



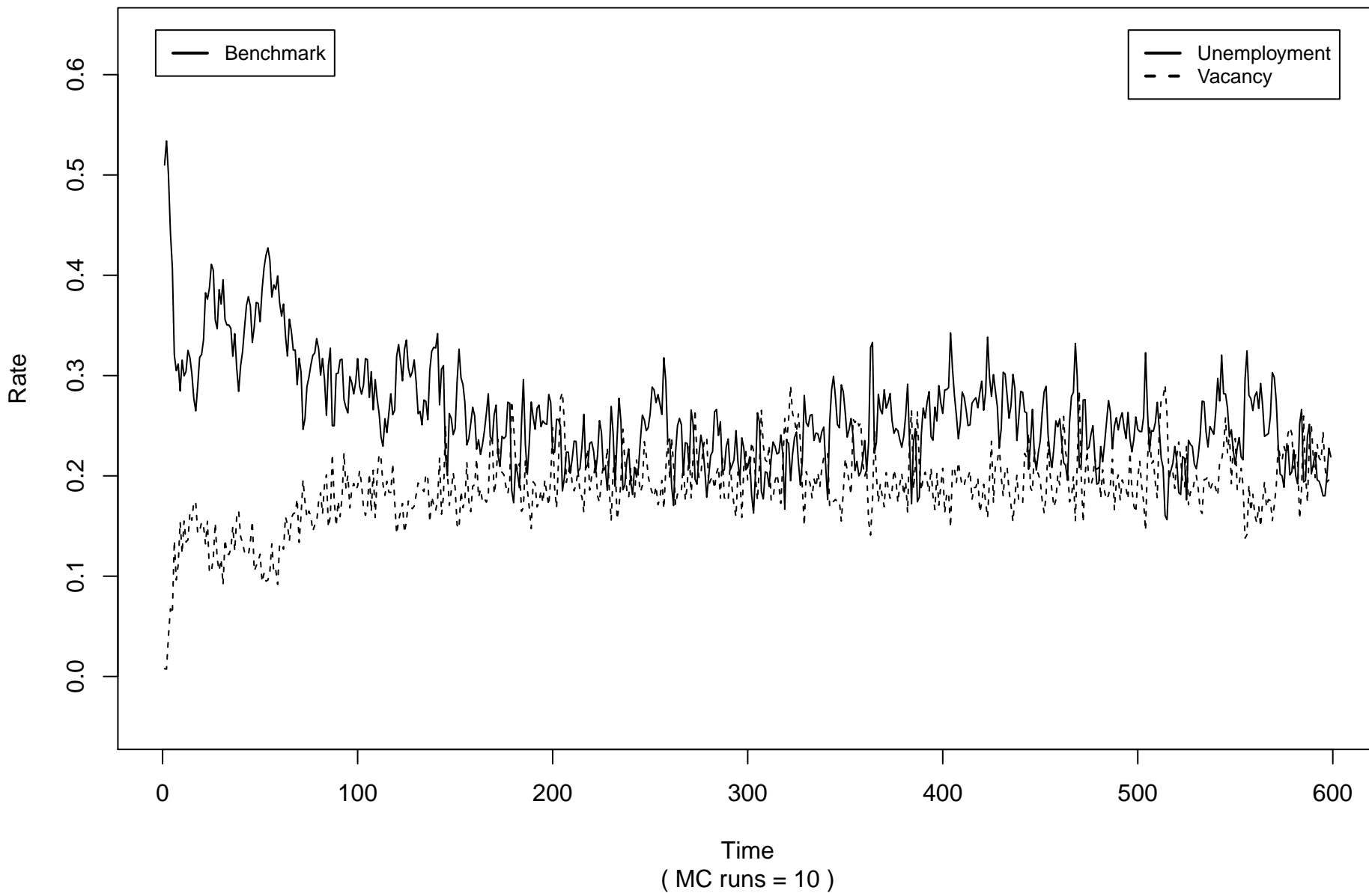
Government debt on GDP (all experiments)



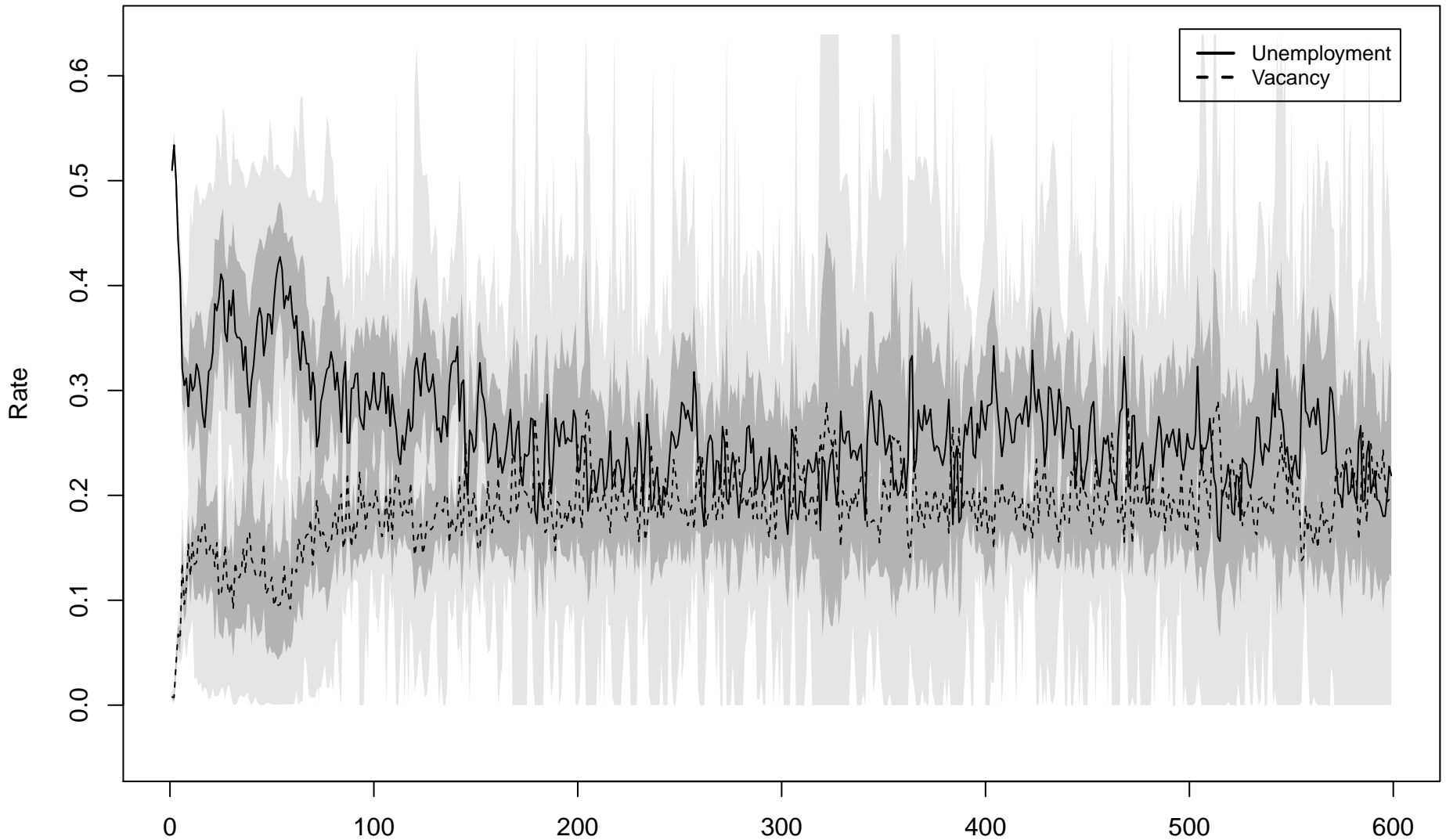
Government debt on GDP (Benchmark)



Unemployment and vacancy rates (all experiments)

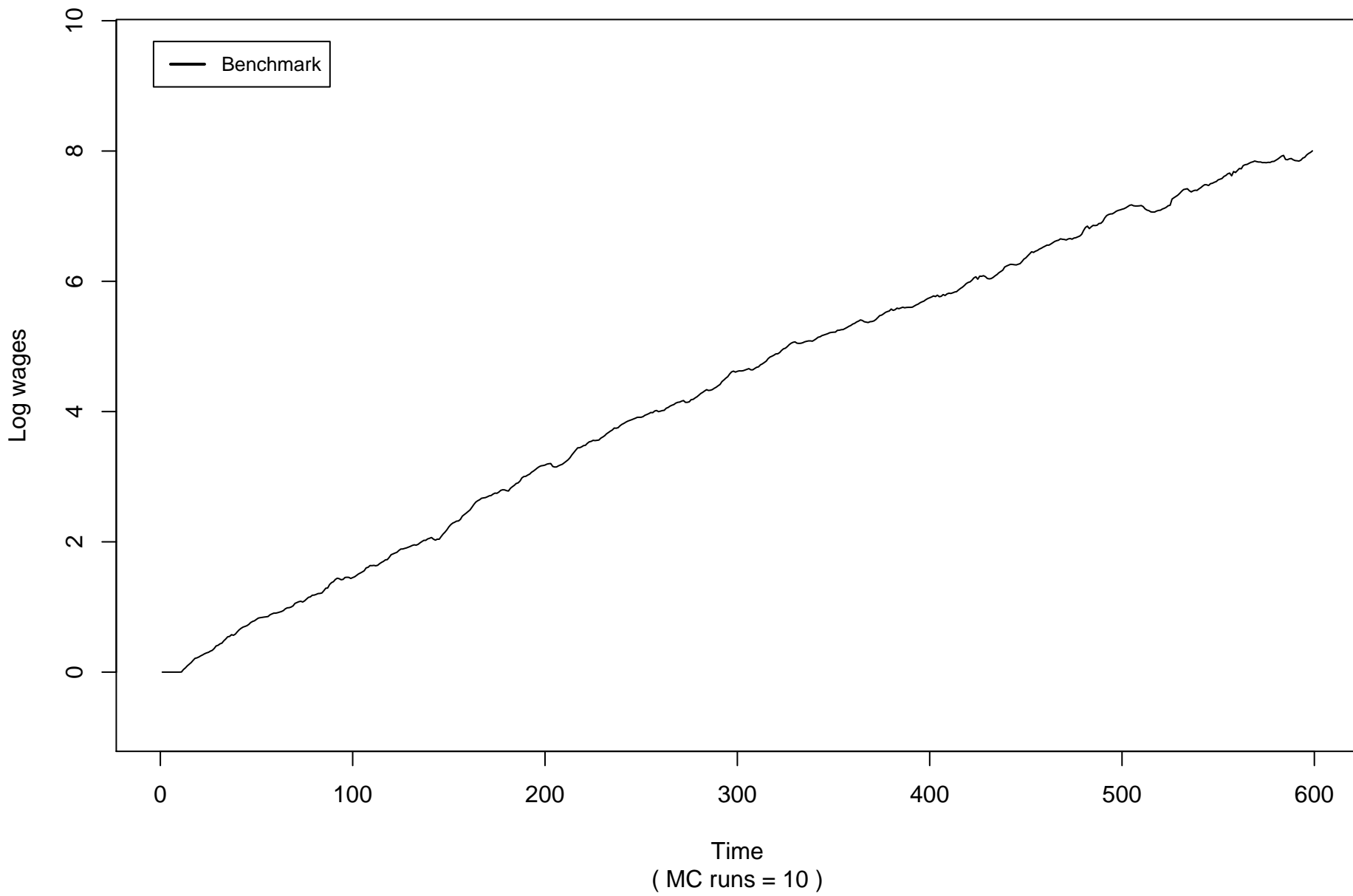


Unemployment and vacancy rates (Benchmark)

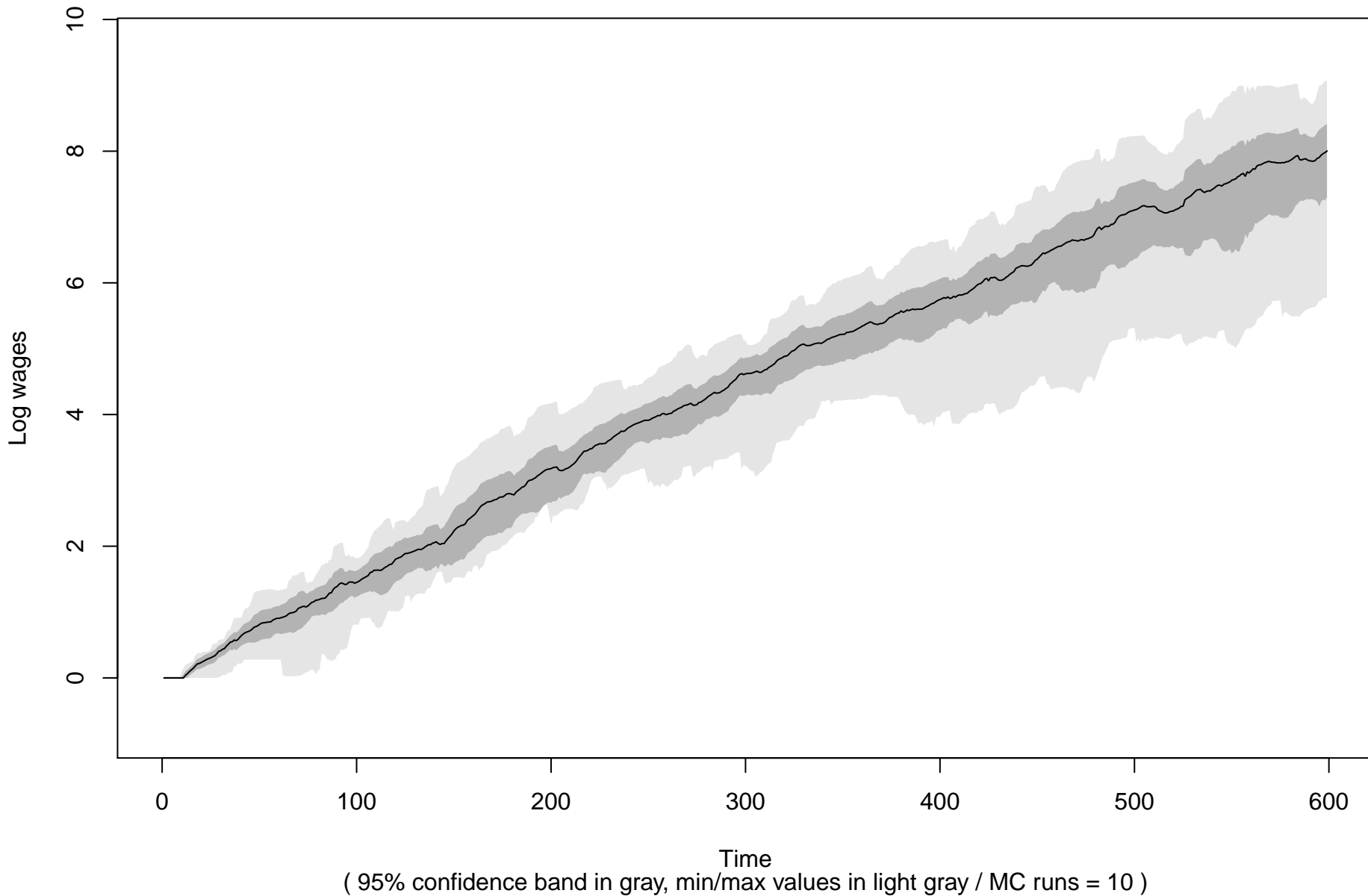


Time
(95% confidence band in gray, min/max values in light gray / MC runs = 10)

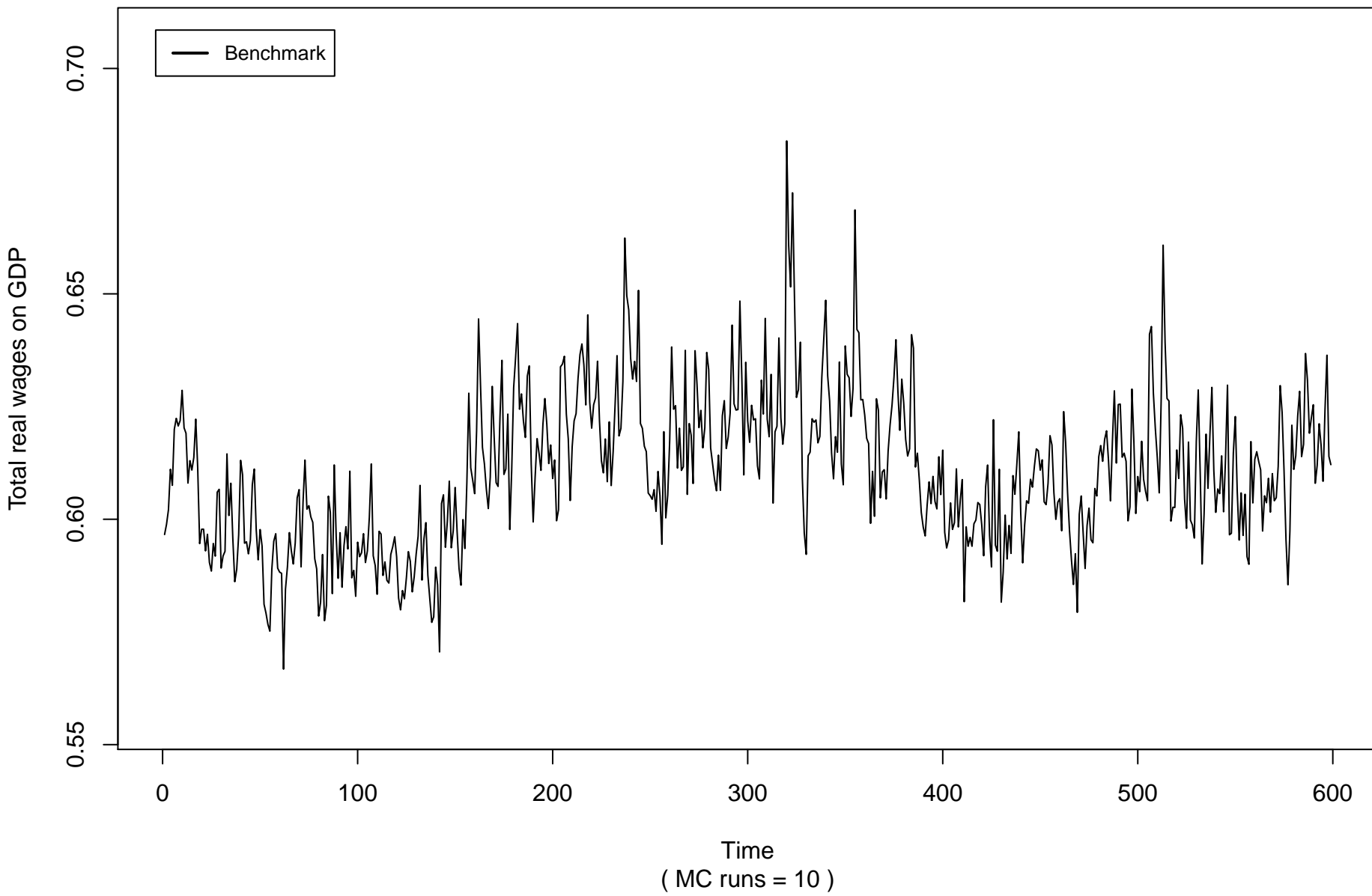
Real wages average (all experiments)



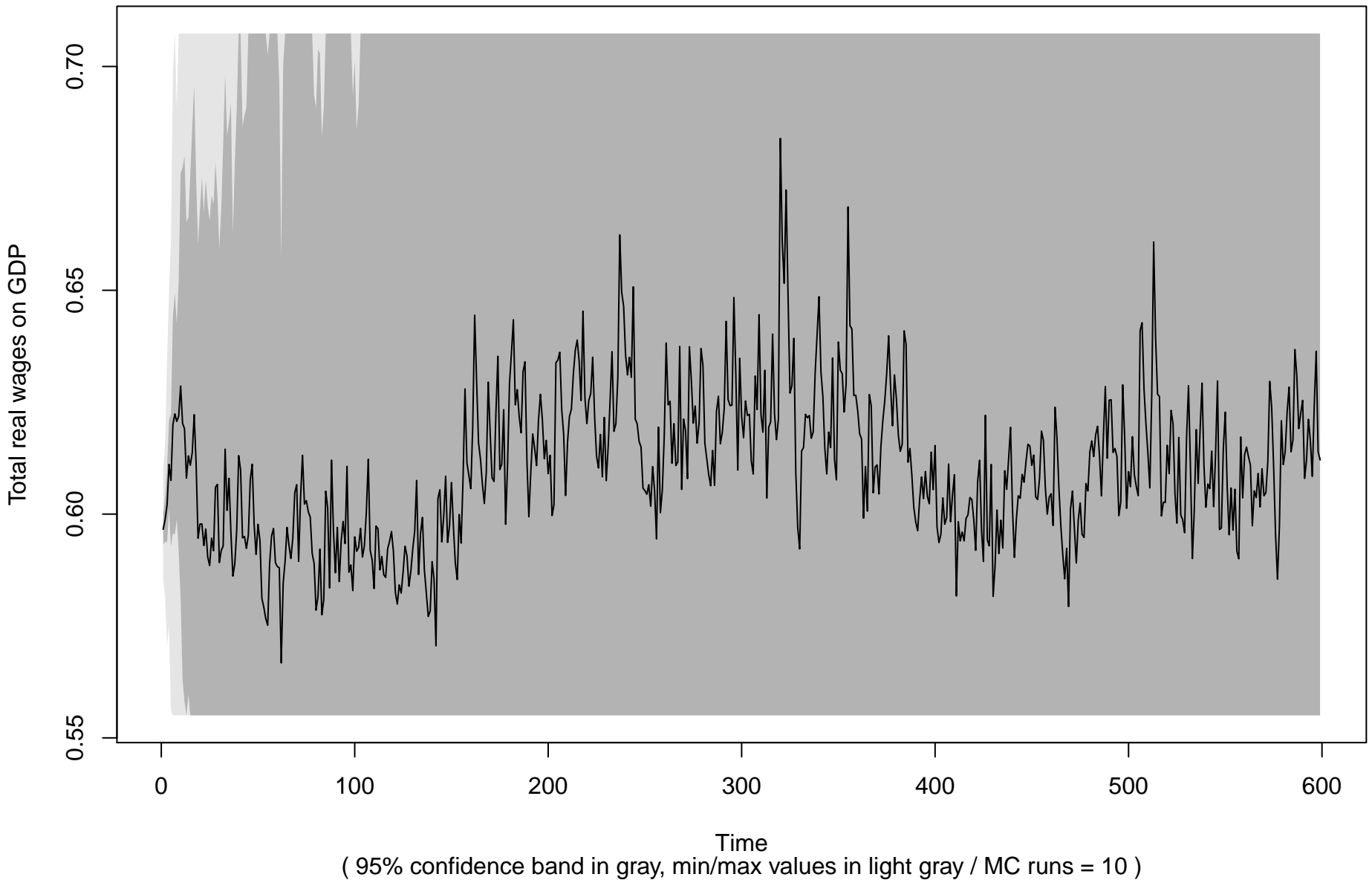
Real wages average (Benchmark)



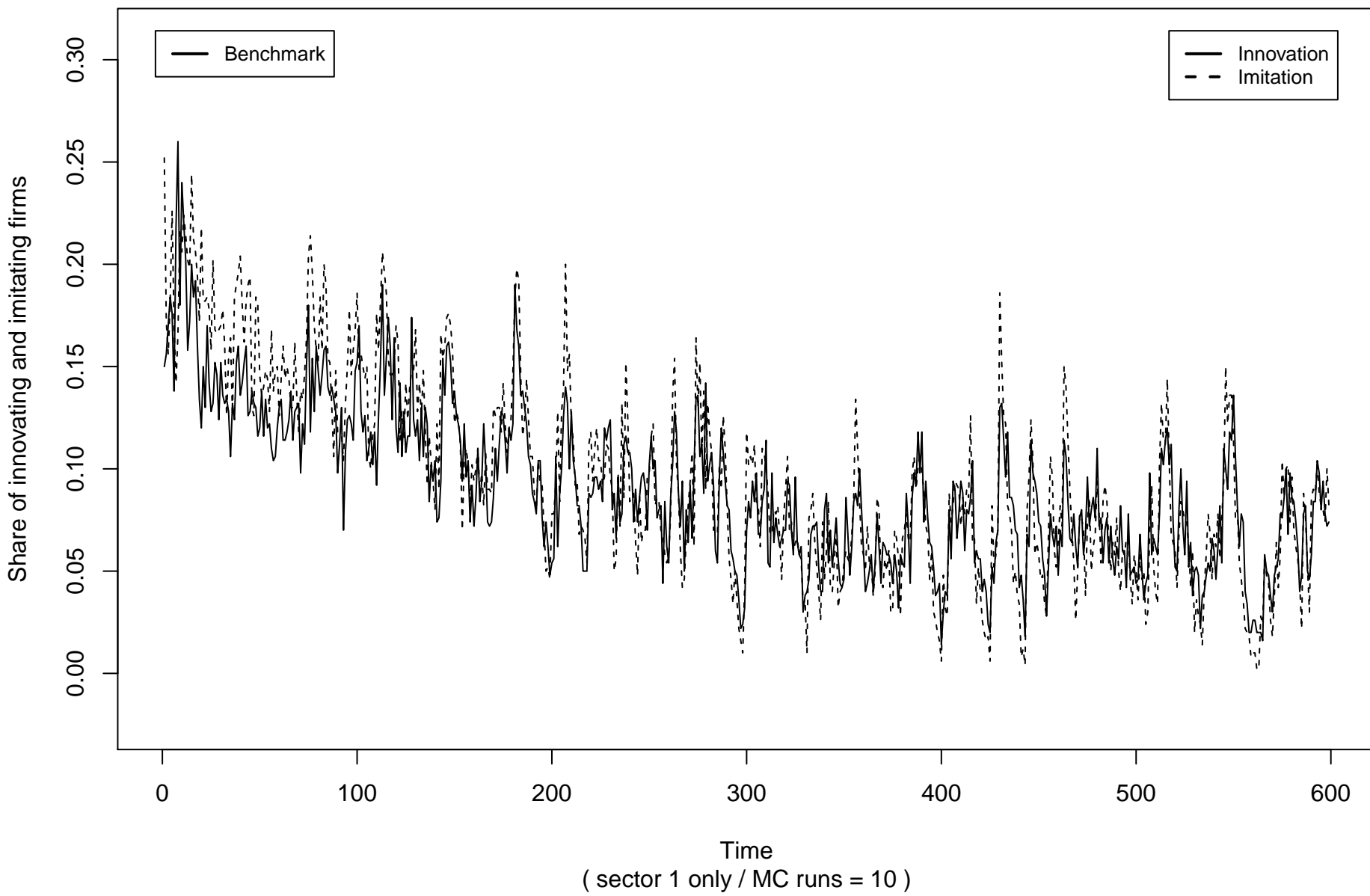
Wage share (all experiments)



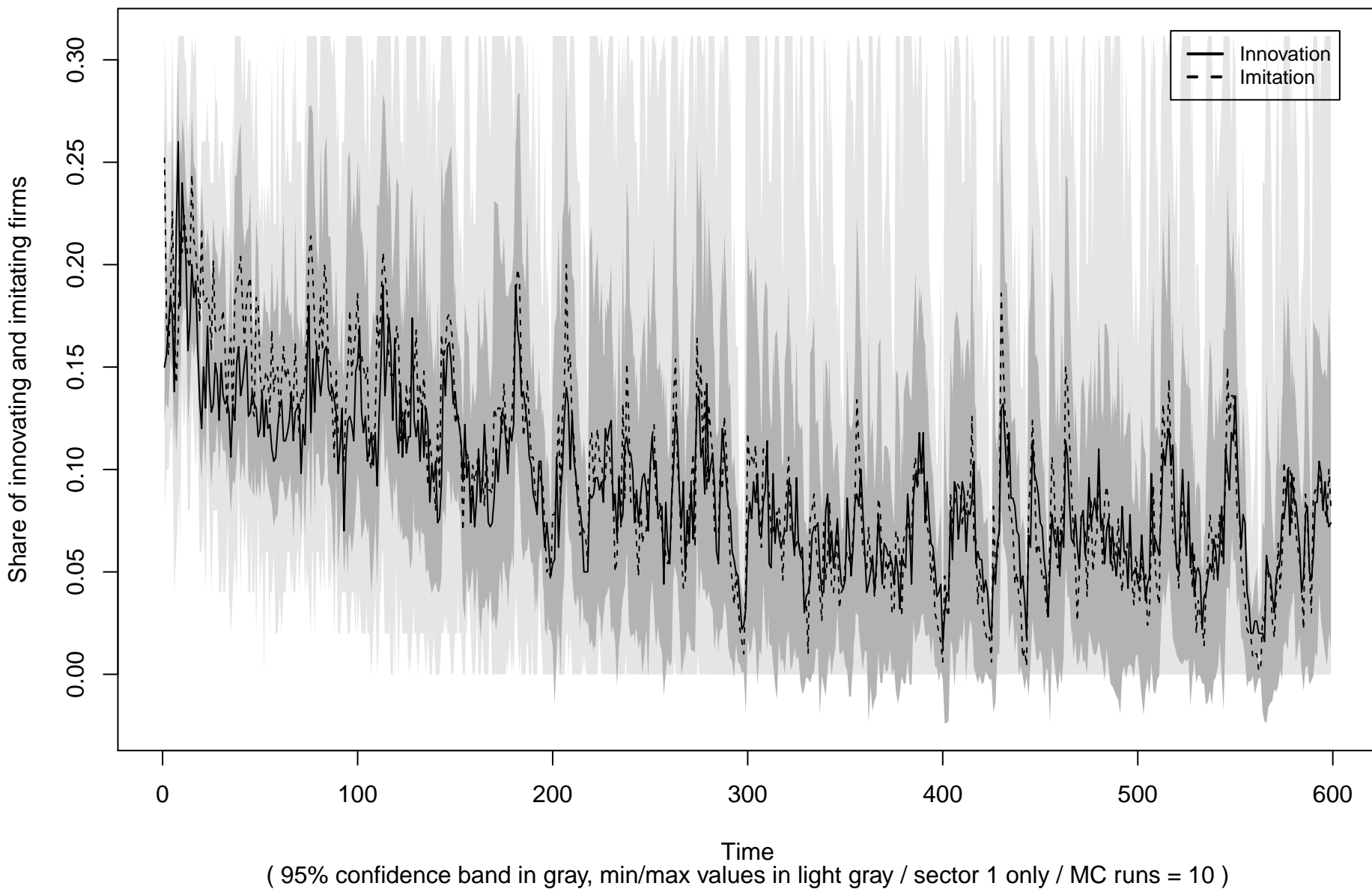
Wage share (Benchmark)



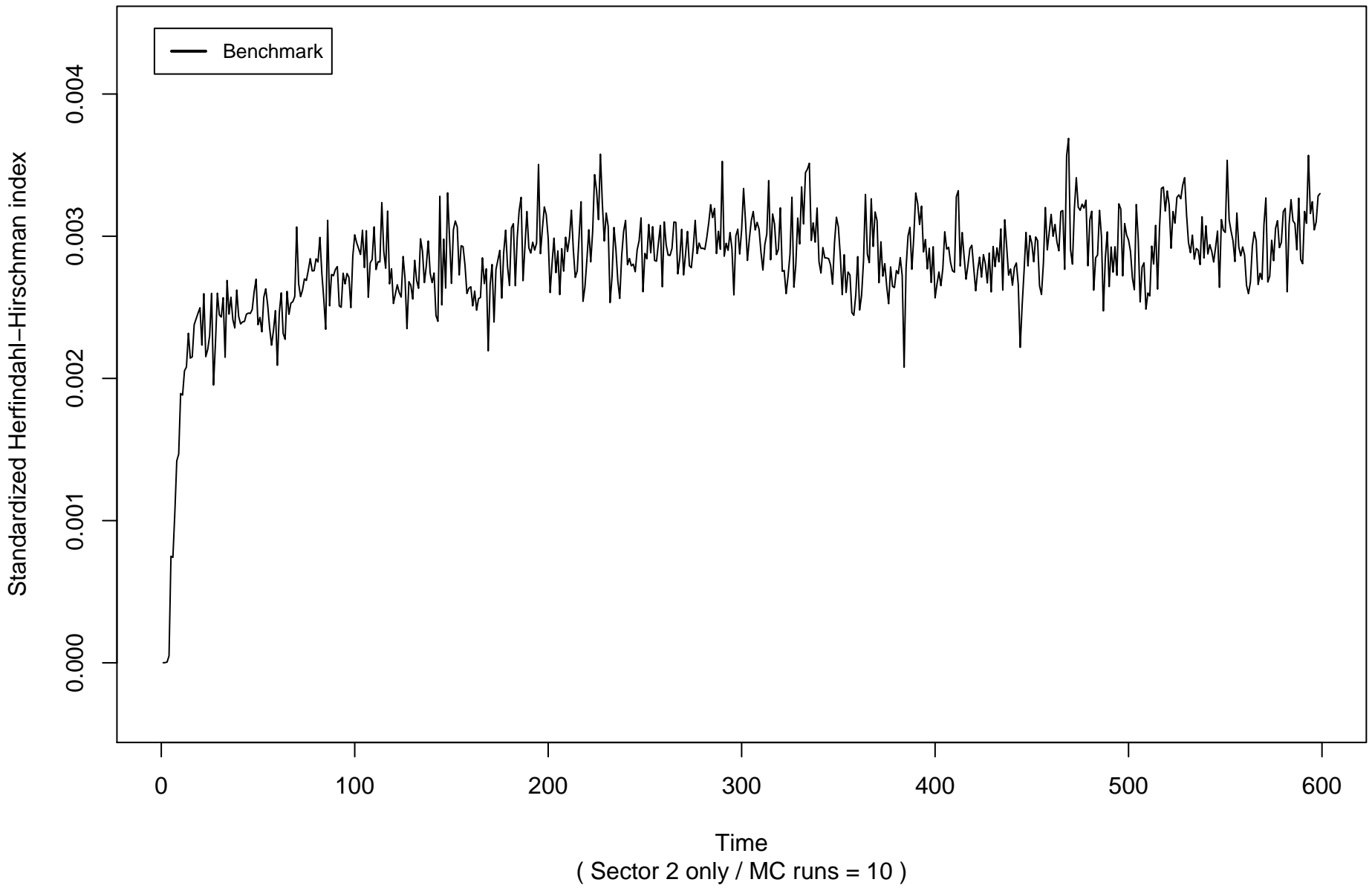
Innovation and imitation (all experiments)



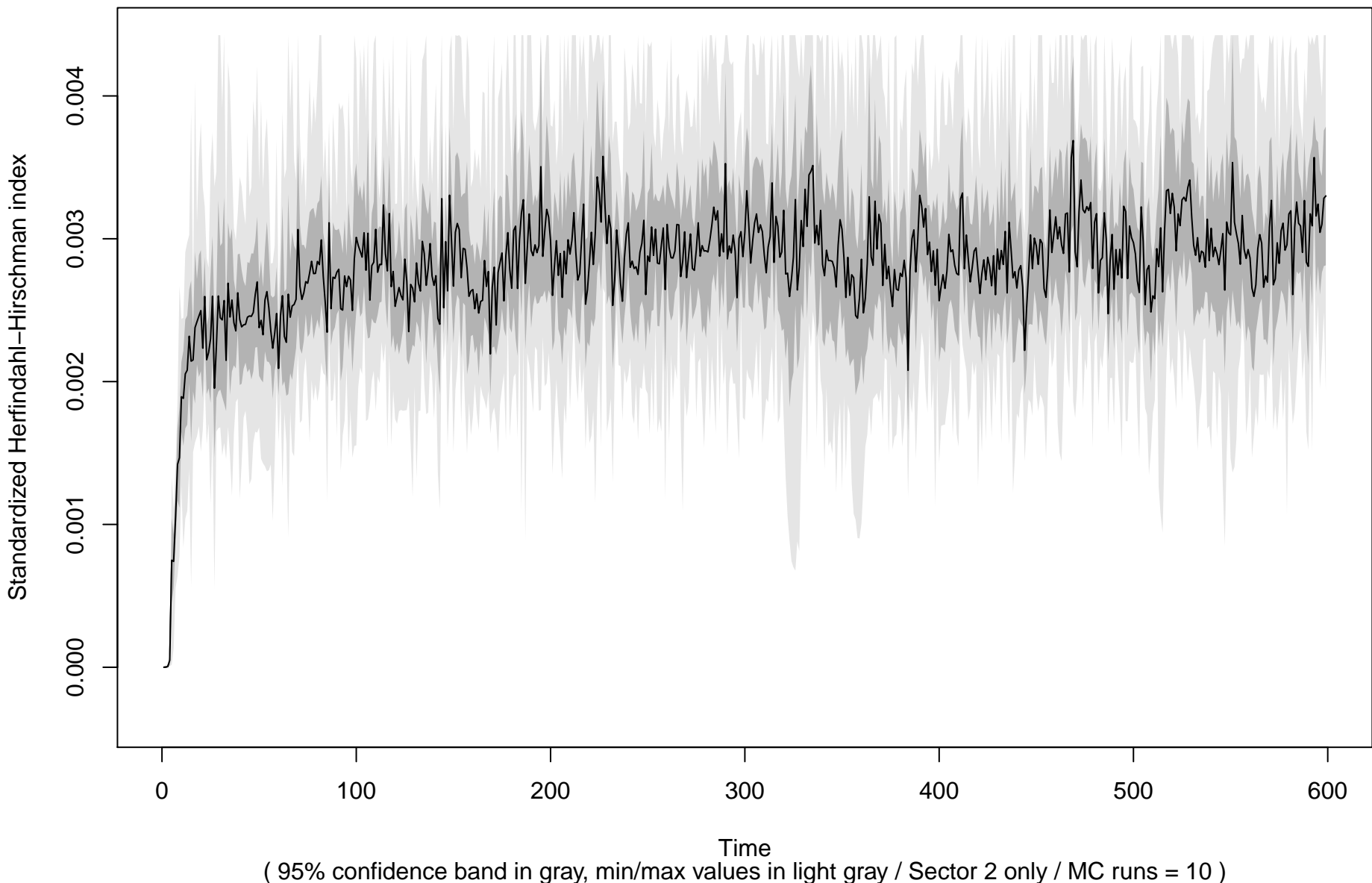
Innovation and imitation (Benchmark)



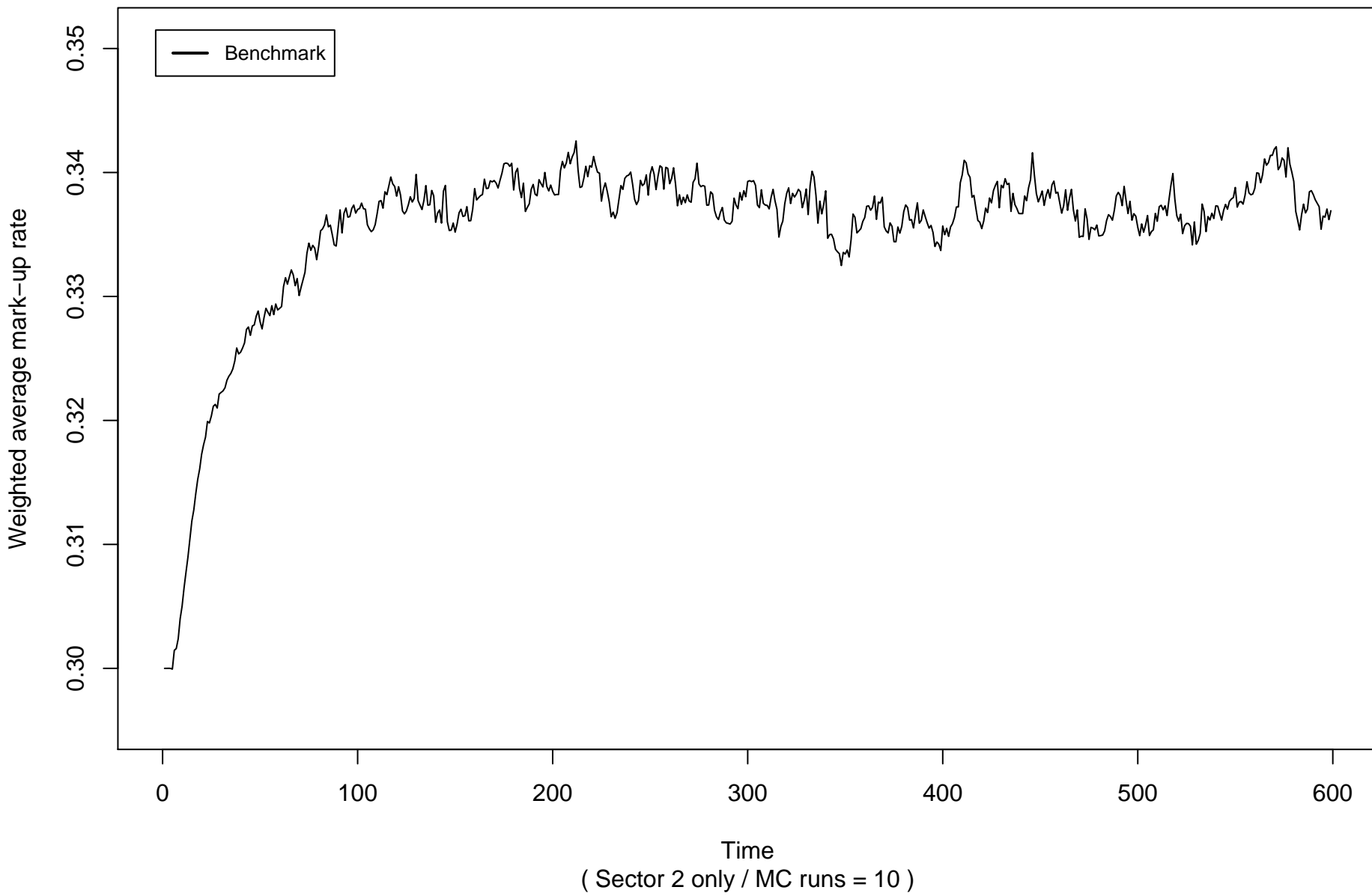
Market concentration (all experiments)



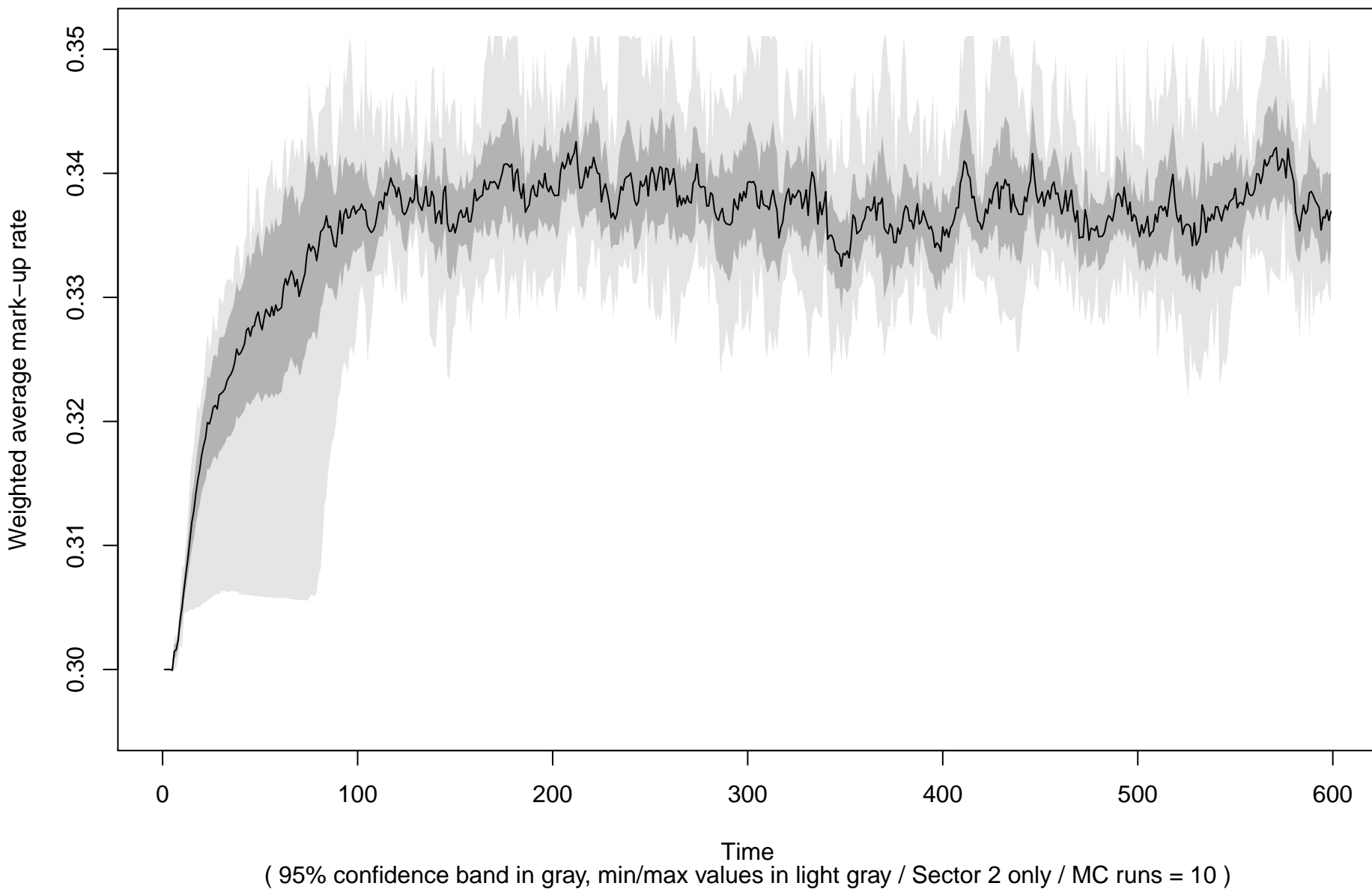
Market concentration (Benchmark)



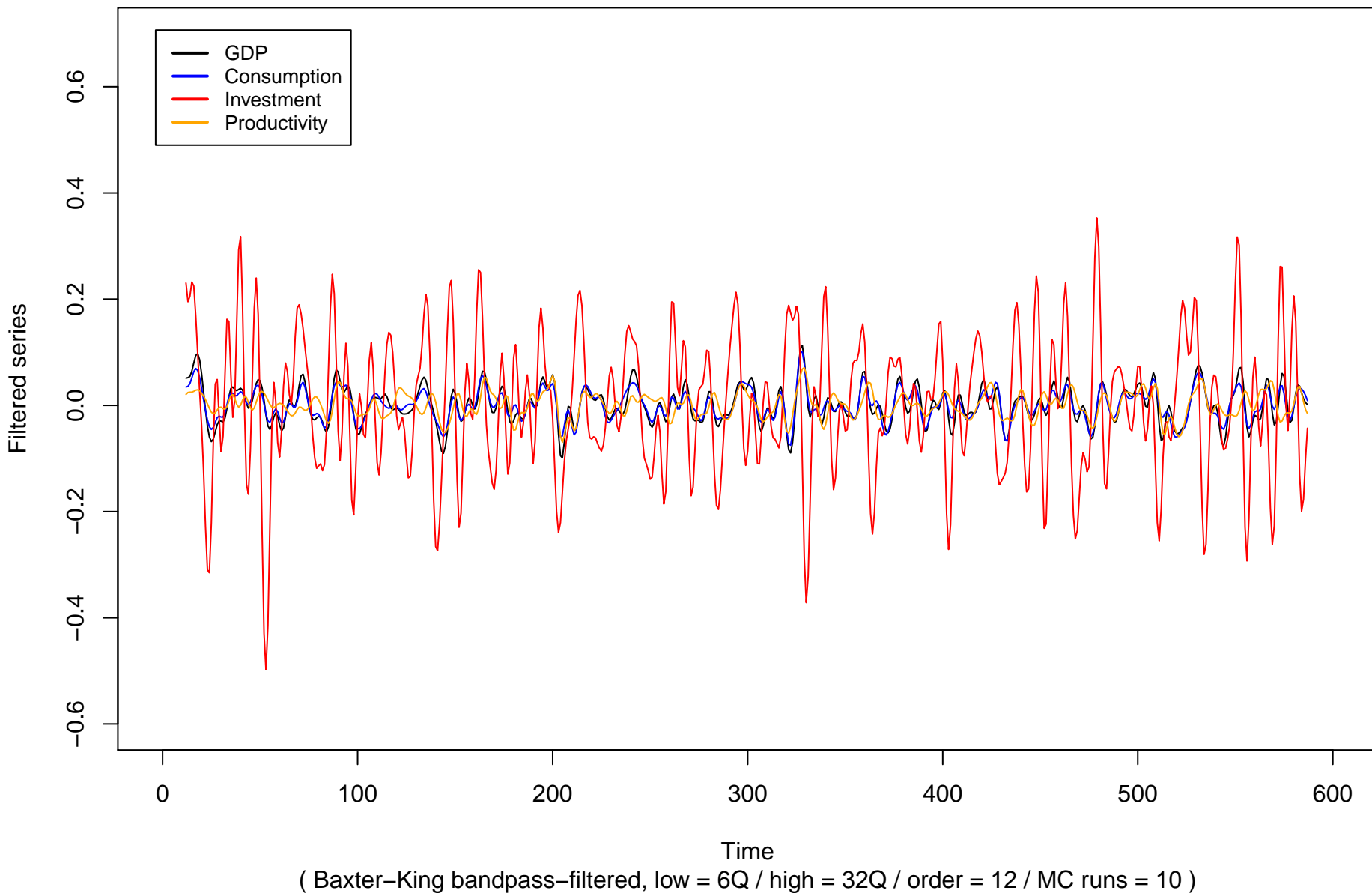
Mark-up average (all experiments)



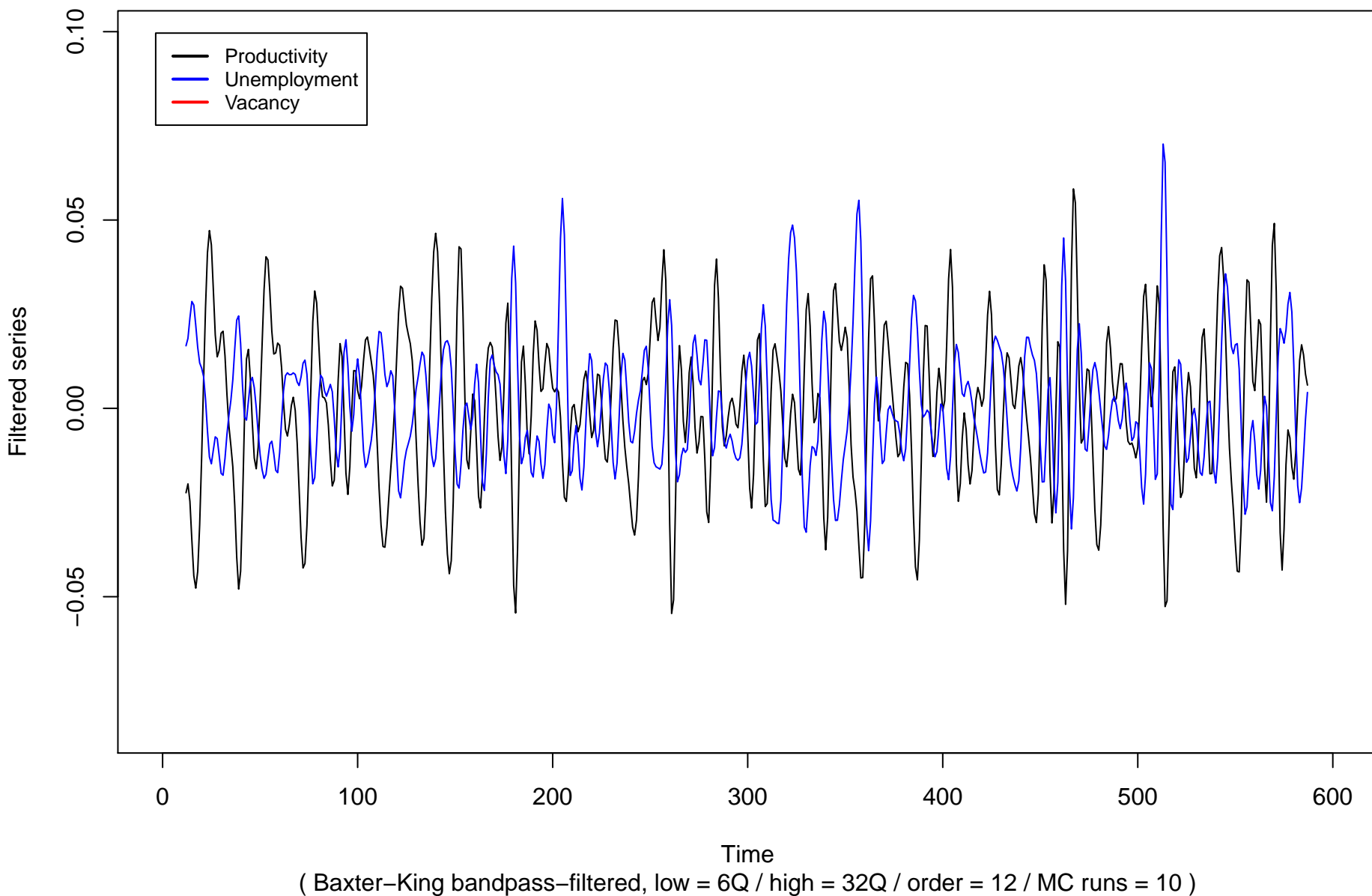
Mark-up average (Benchmark)



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	0.01383	0.01362	0.01581	0.01328	0.01284
(s.e.)	0.0005284	0.000514	0.0006365	0.0004673	0.0004785
ADF test (logs)	-2.594	-2.537	-7.642	-2.68	-2.522
(s.e.)	0.305	0.3277	0.3985	0.2727	0.2681
(p-val.)	0.36	0.3972	0.01	0.3258	0.3826
(s.e.)	0.1083	0.1083	0	0.1	0.09713
ADF test (bpf)	-10.56	-9.908	-11	-9.332	-9.006
(s.e.)	0.2914	0.3125	0.1296	0.2381	0.1852
(p-val.)	0.01	0.01	0.01	0.01	0.01
(s.e.)	0	0	0	0	0
s.d. (bpf)	0.08997	0.07548	1.462	0.06417	0.07155
(s.e.)	0.003508	0.003397	0.04013	0.002338	0.001315
relative s.d. (GDP)	1	0.839	16.25	0.7133	0.7953

(bpf: Baxter–King bandpass–filtered series, low = 6Q / high = 32Q / order = 12 / MC runs = 10 / period = 2 – 600)

(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)	0.02187	0.2825	0.6099	0.889	1	0.889	0.6099	0.2825	0.02187
(s.e.)	0.02502	0.01921	0.01098	0.003228	2.867e-17	0.003228	0.01098	0.01921	0.02502
(p-val.)	0.8677	1.156e-06	1.765e-12	6.532e-19	NA	6.532e-19	1.765e-12	1.156e-06	0.8677
Consumption	0.109	0.3222	0.5877	0.8259	0.943	0.8827	0.6673	0.3779	0.109
(s.e.)	0.03287	0.02462	0.01552	0.008155	0.003885	0.003595	0.01052	0.01898	0.02559
(p-val.)	0.009696	2.051e-06	5.725e-11	5.661e-15	1.935e-18	1.843e-18	4.784e-13	3.808e-08	0.01769
Investment	-0.2904	-0.3113	-0.2487	-0.1027	0.08051	0.2313	0.2974	0.275	0.2044
(s.e.)	0.02356	0.03087	0.03844	0.0422	0.03855	0.02987	0.02396	0.02468	0.02547
(p-val.)	4.558e-06	1.861e-05	0.0008742	0.004207	0.4135	0.0003389	3.991e-06	1.224e-05	0.0004339
Net investment	-0.2071	-0.2038	-0.1306	0.001902	0.1459	0.2418	0.2576	0.2051	0.13
(s.e.)	0.02984	0.03818	0.0437	0.04484	0.03945	0.02886	0.01887	0.01855	0.02271
(p-val.)	0.001058	0.005051	0.01588	0.2826	0.0645	0.0001657	2.963e-06	4.213e-05	0.0276
Change in inventories	-0.2107	-0.1126	0.07418	0.2595	0.3431	0.2804	0.1212	-0.03526	-0.1085
(s.e.)	0.01869	0.02074	0.01594	0.009892	0.007634	0.01179	0.0195	0.02463	0.02365
(p-val.)	3.19e-05	0.06355	0.6385	1.069e-08	3.603e-11	1.893e-08	0.03185	0.7119	0.01984
Unemployment rate	0.2321	0.1979	0.05704	-0.1439	-0.3124	-0.3653	-0.2849	-0.1251	0.02767
(s.e.)	0.02379	0.02792	0.03298	0.03582	0.03483	0.0305	0.02566	0.02442	0.02658
(p-val.)	6.321e-05	0.001114	0.2579	0.05395	4.571e-05	3.113e-06	1.126e-05	0.04384	0.75
Productivity	0.2602	0.434	0.5954	0.6896	0.6796	0.5663	0.3922	0.2115	0.06373
(s.e.)	0.03449	0.03125	0.03081	0.03731	0.04391	0.04404	0.0377	0.0313	0.03186
(p-val.)	0.0002727	6.281e-07	2.18e-08	2.68e-08	1.271e-07	7.796e-07	8.404e-06	0.001154	0.2929
Mark-up (sector 2)	0.2978	0.252	0.1573	0.03554	-0.07901	-0.1571	-0.1904	-0.1903	-0.1769
(s.e.)	0.01652	0.01901	0.02433	0.02907	0.03216	0.03357	0.03382	0.03361	0.0329
(p-val.)	1.721e-07	4.092e-06	0.005632	0.6135	0.0792	0.002583	0.002017	0.004755	0.008171
Total firm debt	0.2545	0.2005	0.1333	0.0551	-0.03117	-0.1191	-0.198	-0.2548	-0.2804
(s.e.)	0.03437	0.03796	0.0407	0.04003	0.03492	0.02711	0.02217	0.02522	0.03183
(p-val.)	0.00019	0.0001316	0.00486	0.1137	0.482	0.02418	0.0002404	3.427e-05	7.104e-05
Liquidity-to-sales ratio	0.04241	-0.1347	-0.3494	-0.5449	-0.6568	-0.6432	-0.5198	-0.3388	-0.1628
(s.e.)	0.03107	0.02931	0.02983	0.02877	0.02402	0.01812	0.01597	0.01986	0.02616
(p-val.)	0.4748	0.02877	4.157e-06	2.955e-08	9.008e-10	9.073e-11	2.668e-10	1.9e-07	0.005739
Bankruptcy rate	0.2589	0.2647	0.2098	0.1207	0.0396	-0.008285	-0.03281	-0.06435	-0.1206
(s.e.)	0.03213	0.03677	0.03708	0.03234	0.03153	0.03831	0.04167	0.03681	0.02898
(p-val.)	0.000174	0.0003583	0.003365	0.0781	0.6326	0.2867	0.1671	0.1992	0.0683

(non-rate/ratio series are Baxter-King bandpass-filtered, low = 6Q / high = 32Q / order = 12 / MC runs = 10 / period = 2 – 600)
(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)	0.02187	0.2825	0.6099	0.889	1	0.889	0.6099	0.2825	0.02187
(s.e.)	0.02502	0.01921	0.01098	0.003228	2.867e-17	0.003228	0.01098	0.01921	0.02502
(p-val.)	0.8677	1.156e-06	1.765e-12	6.532e-19	NA	6.532e-19	1.765e-12	1.156e-06	0.8677
Consumption	0.109	0.3222	0.5877	0.8259	0.943	0.8827	0.6673	0.3779	0.109
(s.e.)	0.03287	0.02462	0.01552	0.008155	0.003885	0.003595	0.01052	0.01898	0.02559
(p-val.)	0.009696	2.051e-06	5.725e-11	5.661e-15	1.935e-18	1.843e-18	4.784e-13	3.808e-08	0.01769
Investment	-0.2904	-0.3113	-0.2487	-0.1027	0.08051	0.2313	0.2974	0.275	0.2044
(s.e.)	0.02356	0.03087	0.03844	0.0422	0.03855	0.02987	0.02396	0.02468	0.02547
(p-val.)	4.558e-06	1.861e-05	0.0008742	0.004207	0.4135	0.0003389	3.991e-06	1.224e-05	0.0004339
Productivity	0.2602	0.434	0.5954	0.6896	0.6796	0.5663	0.3922	0.2115	0.06373
(s.e.)	0.03449	0.03125	0.03081	0.03731	0.04391	0.04404	0.0377	0.0313	0.03186
(p-val.)	0.0002727	6.281e-07	2.18e-08	2.68e-08	1.271e-07	7.796e-07	8.404e-06	0.001154	0.2929
Entry	-0.08273	0.06907	0.22	0.3314	0.3805	0.3694	0.3215	0.2632	0.2105
(s.e.)	0.02281	0.02094	0.01682	0.01544	0.02011	0.02529	0.02803	0.02961	0.03111
(p-val.)	0.44	0.5746	8.027e-06	2.76e-08	5.814e-08	5.757e-07	6.083e-06	8.072e-05	0.001162
Wage	0.2925	0.4633	0.6099	0.6945	0.6932	0.6067	0.4626	0.297	0.1403
(s.e.)	0.01789	0.02076	0.02395	0.02689	0.02874	0.02987	0.03024	0.02986	0.02846
(p-val.)	4.191e-07	9.194e-09	1.86e-09	1.396e-09	2.569e-09	1.374e-08	2.45e-07	2.36e-05	0.004882
Unemployment rate	0.2321	0.1979	0.05704	-0.1439	-0.3124	-0.3653	-0.2849	-0.1251	0.02767
(s.e.)	0.02379	0.02792	0.03298	0.03582	0.03483	0.0305	0.02566	0.02442	0.02658
(p-val.)	6.321e-05	0.001114	0.2579	0.05395	4.571e-05	3.113e-06	1.126e-05	0.04384	0.75
Vacancy rate	0.1211	-0.04048	-0.1841	-0.2452	-0.2067	-0.1106	-0.02706	-0.005616	-0.04715
(s.e.)	0.04796	0.05012	0.05216	0.05505	0.05353	0.04347	0.02934	0.02866	0.04244
(p-val.)	0.001968	0.4438	0.03491	0.007485	0.01063	0.02978	0.5642	0.606	0.1578

(non-rate/ratio series are Baxter–King bandpass-filtered, low = 6Q / high = 32Q / order = 12 / MC runs = 10 / period = 2 – 600)
(test H0: lag coefficient is not significant at 5% level)

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

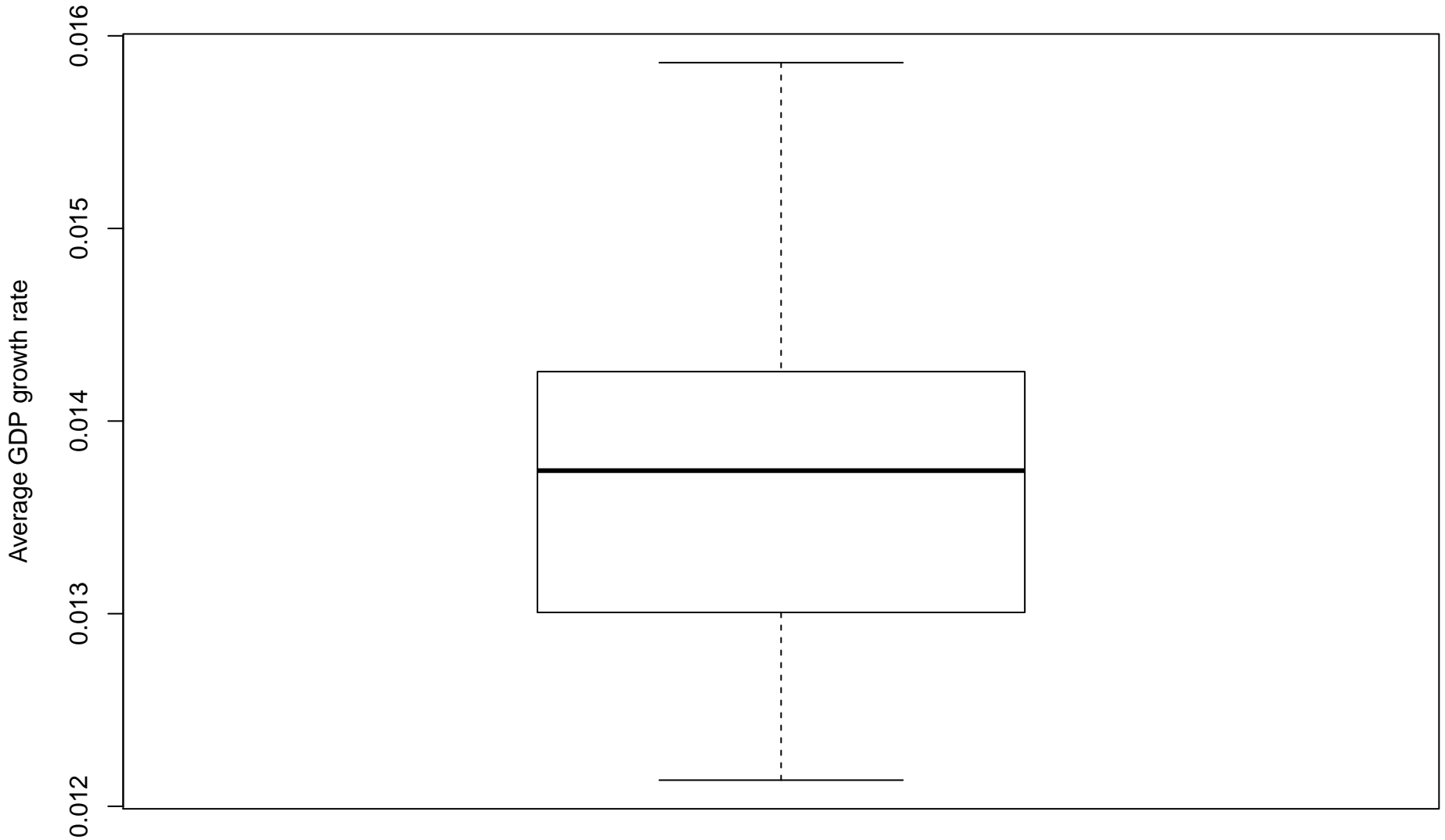
	avg.ADF	rej.ADF	avg.PP	rej.PP	avg.KPSS	rej.KPSS	avg.BDS	rej.BDS	avg.KS	rej.KS	AD	V
dGDP	0.01	1.00	0.01	1.00	0.10	0.00	0.09	0.40	0.54	0.04	0.45	C
dA	0.01	1.00	0.01	1.00	0.09	0.10	0.00	1.00	0.27	0.42	0.00	C
dw	0.01	1.00	0.01	1.00	0.09	0.10	0.01	1.00	0.26	0.42	0.00	C
V	0.01	1.00	0.01	1.00	0.04	0.70	0.00	1.00	0.35	0.29	0.00	C
U	0.01	1.00	0.01	1.00	0.04	0.60	0.00	1.00	0.05	0.84	0.00	C
mu2avg	0.04	0.90	0.02	0.90	0.01	1.00	0.00	1.00	0.03	0.80	0.00	C
HH1	0.01	1.00	0.01	1.00	0.10	0.00	0.00	1.00	0.27	0.40	0.08	C
HH2	0.01	1.00	0.01	1.00	0.01	1.00	0.00	1.00	0.39	0.27	0.00	C

(average p-values for testing H0 and rate of rejection of H0 / MC runs = 10 / period = 2 – 600)

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

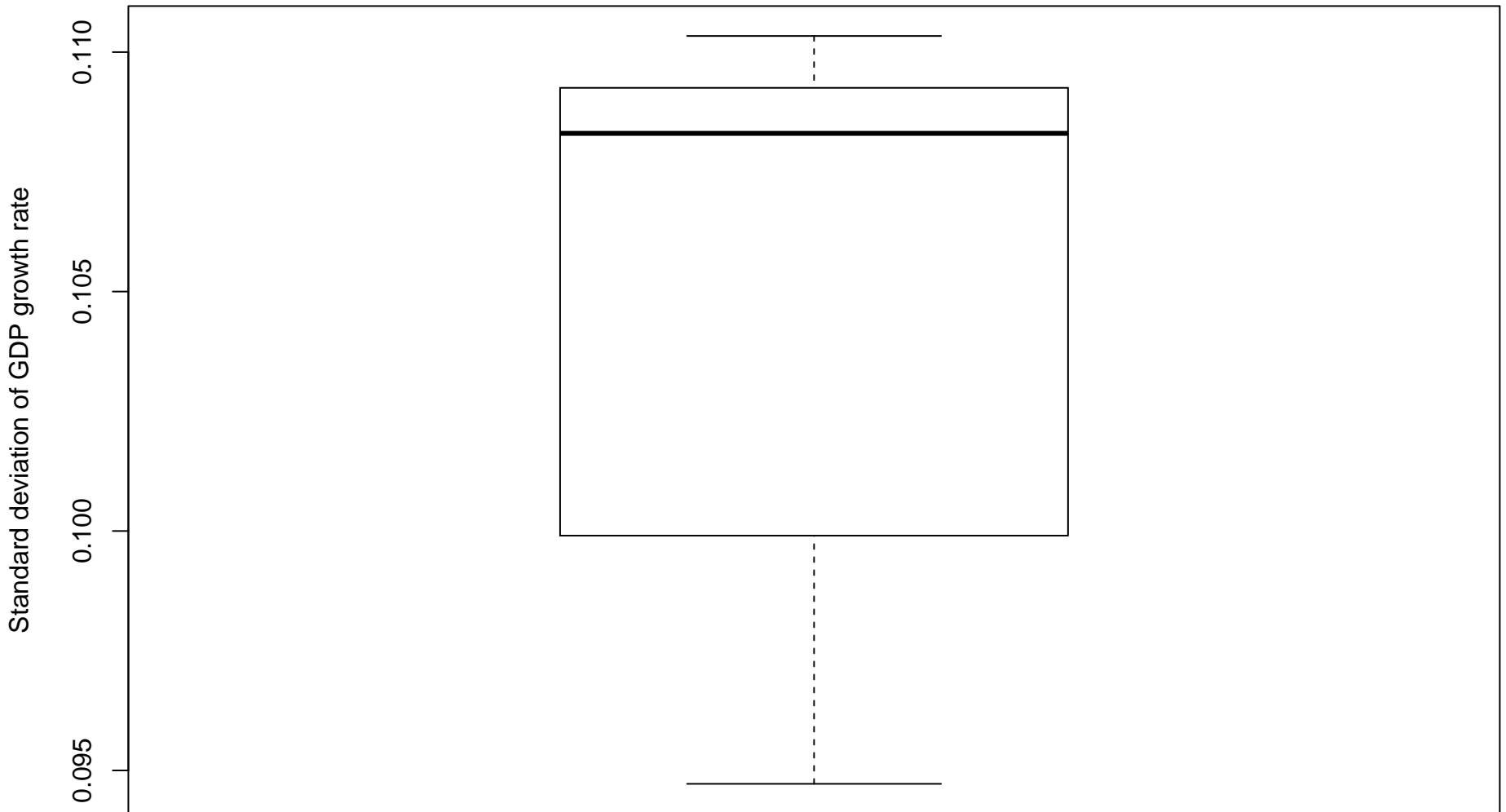
(significance = 0.05)

GDP growth



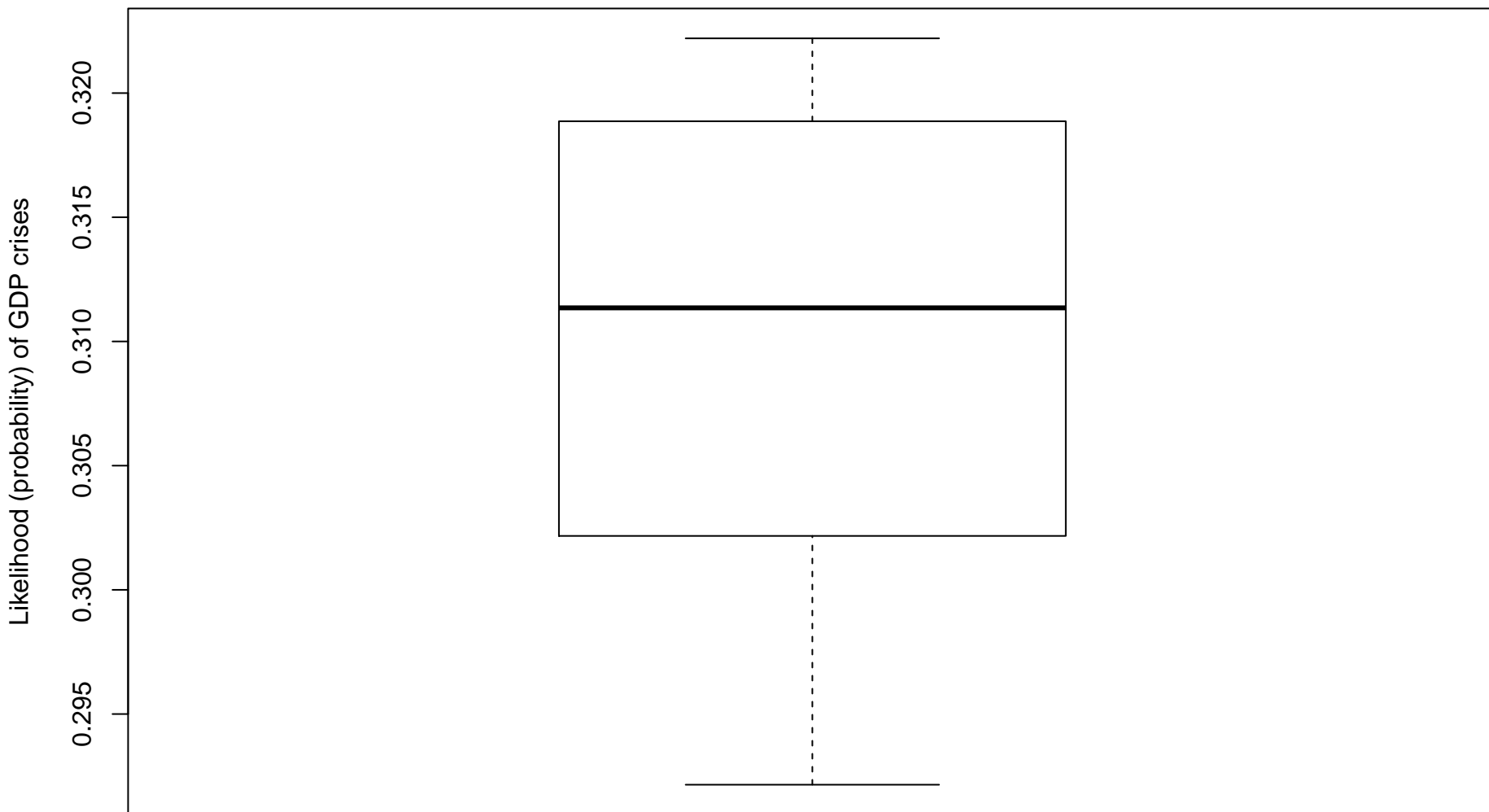
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 10 / period = 2 – 600)

Volatility of GDP growth



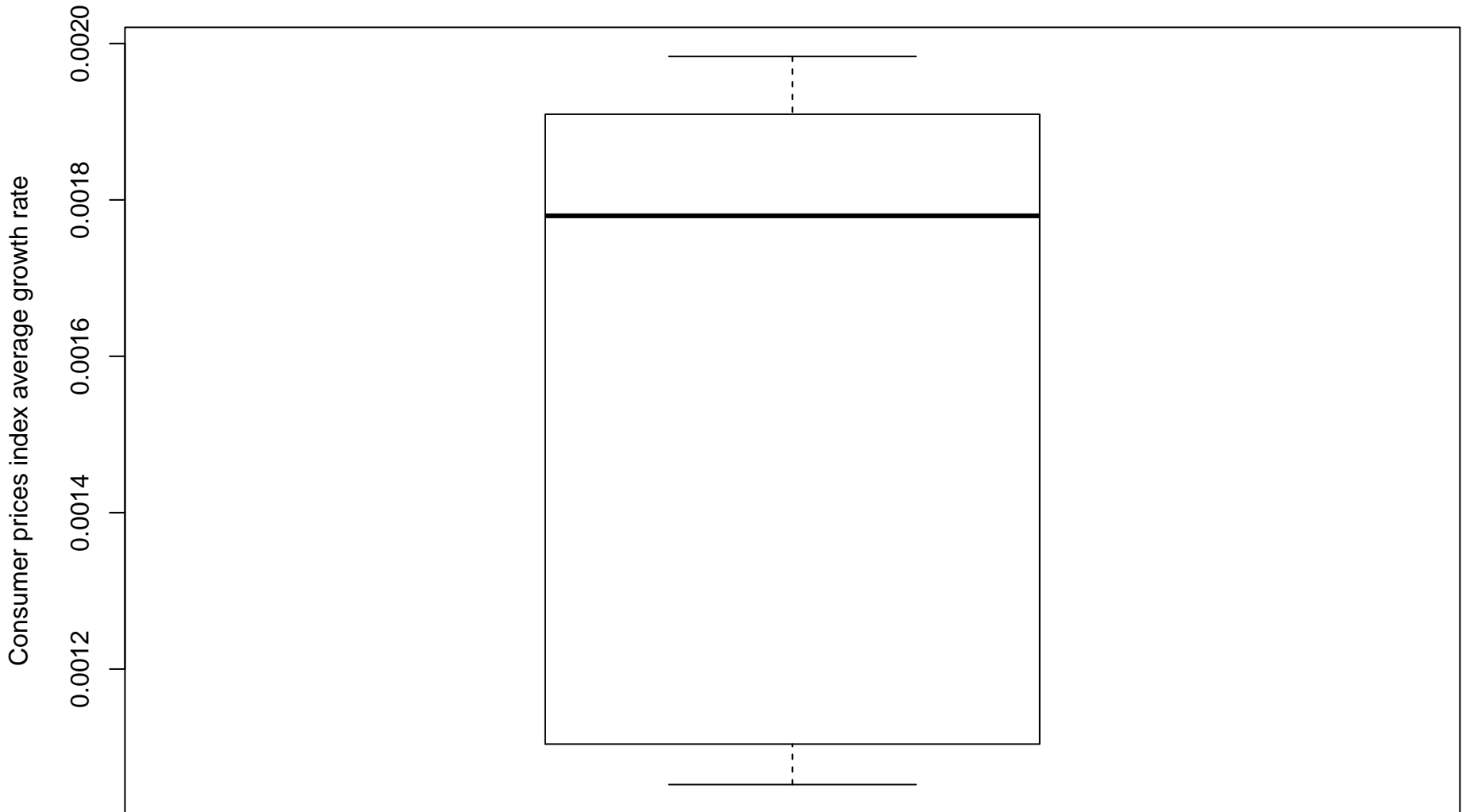
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 10 / period = 2 – 600)

Likelihood of GDP crises



(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 10 / period = 2 – 600)

Inflation

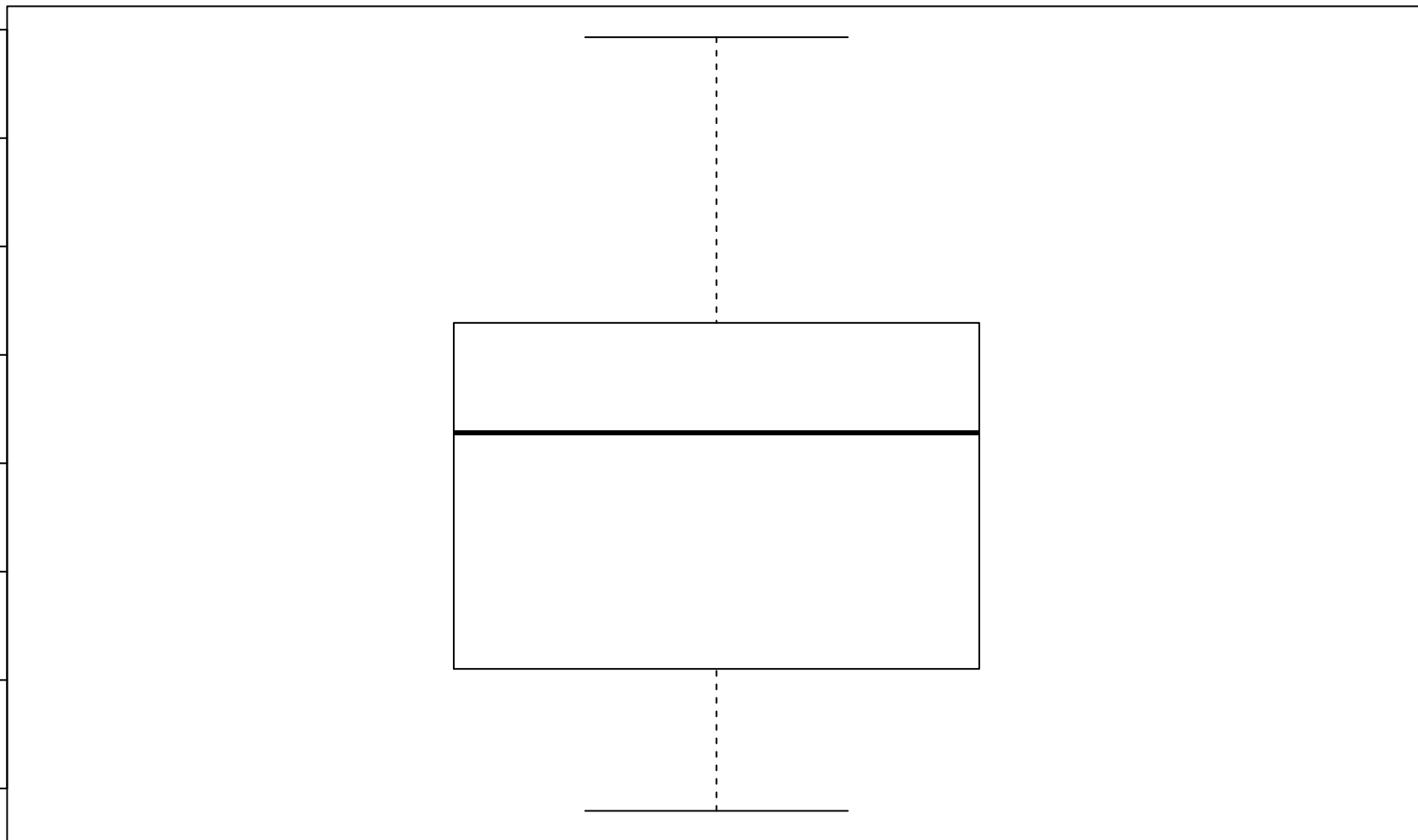


(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 10 / period = 2 – 600)

Government tax income over GDP

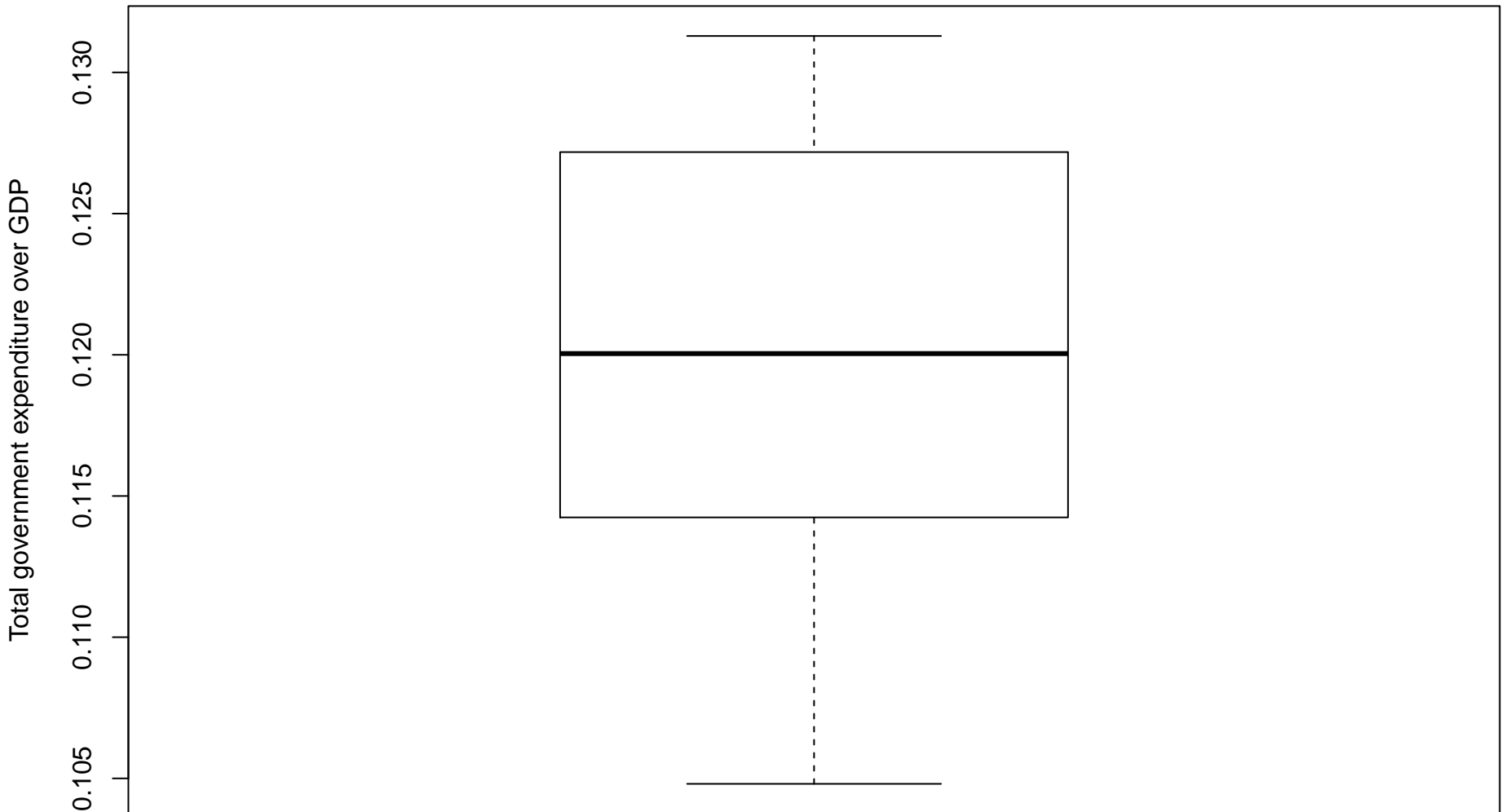
0.1026 0.1028 0.1030 0.1032 0.1034 0.1036 0.1038 0.1040

Tax



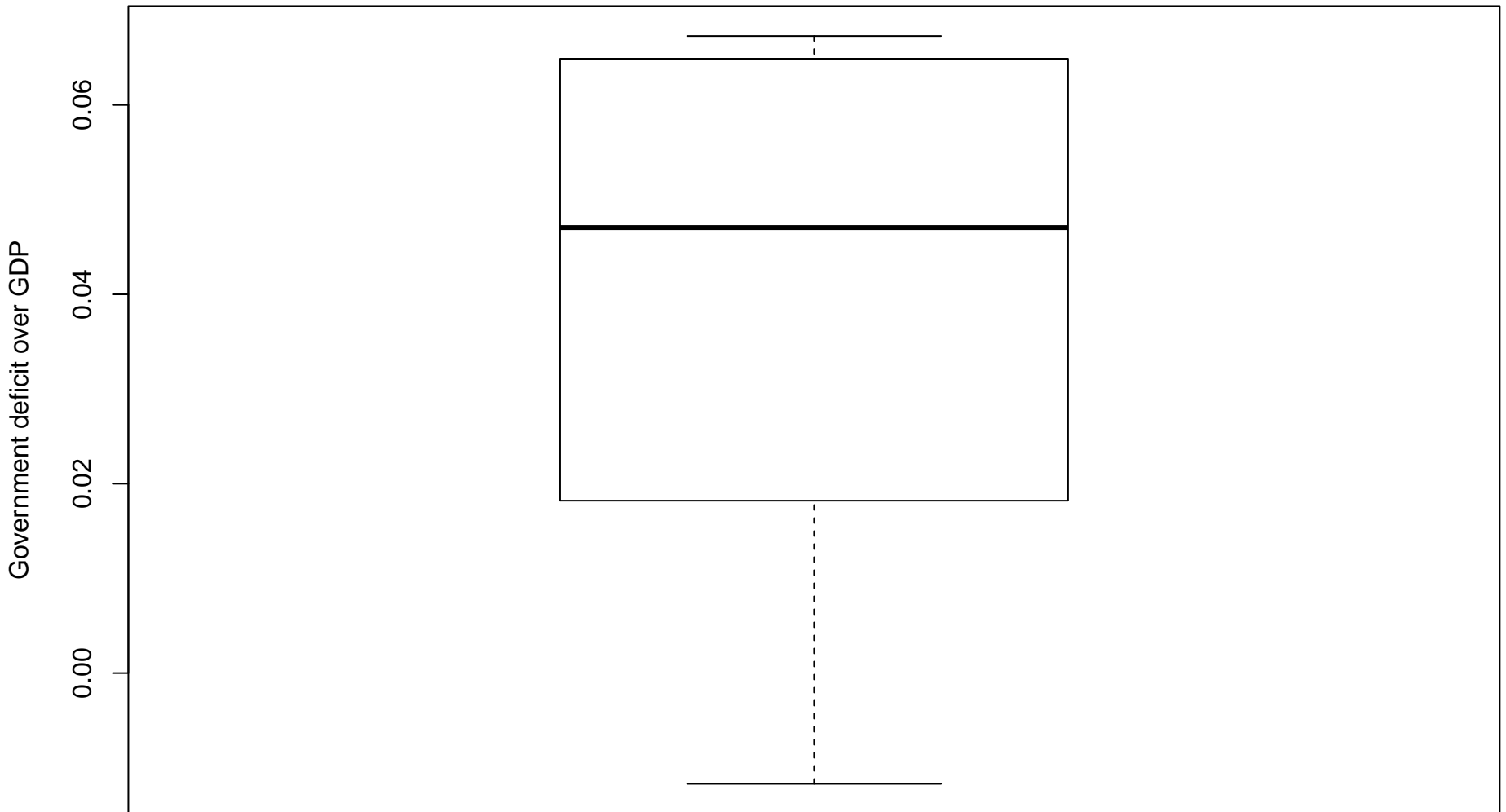
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 10 / period = 2 – 600)

Government total expenditure



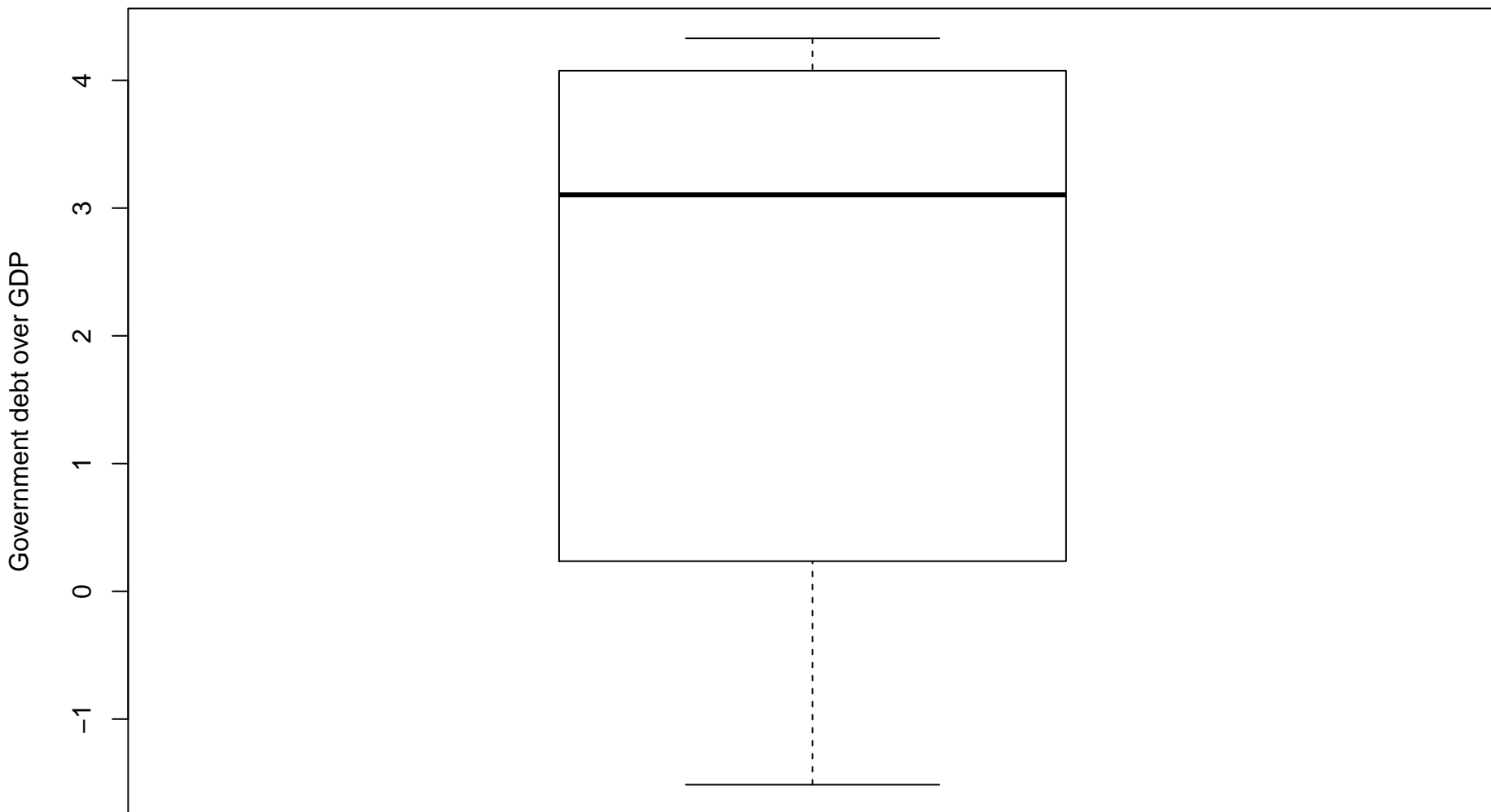
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 10 / period = 2 – 600)

Government deficit



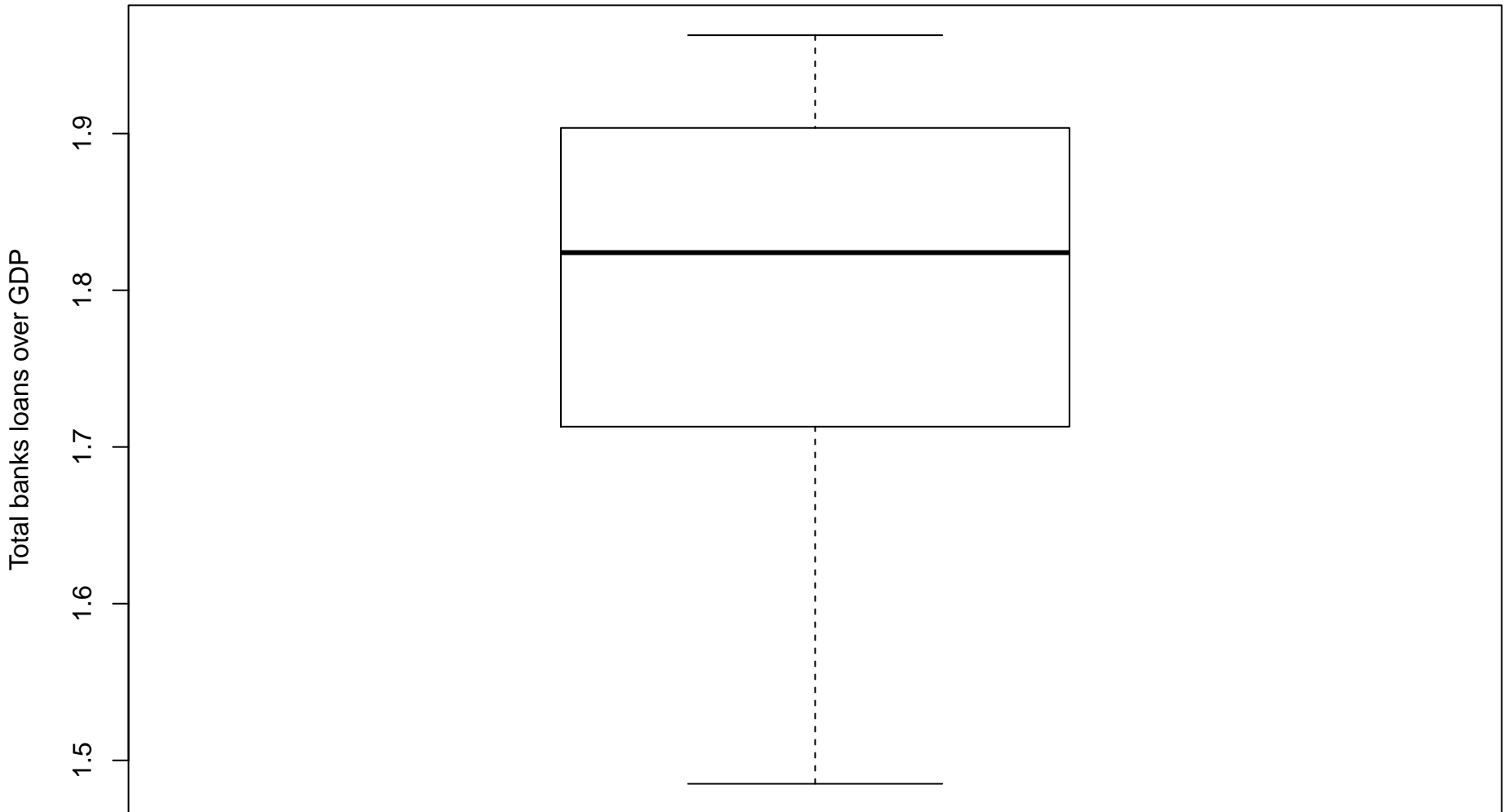
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 10 / period = 2 – 600)

Government debt



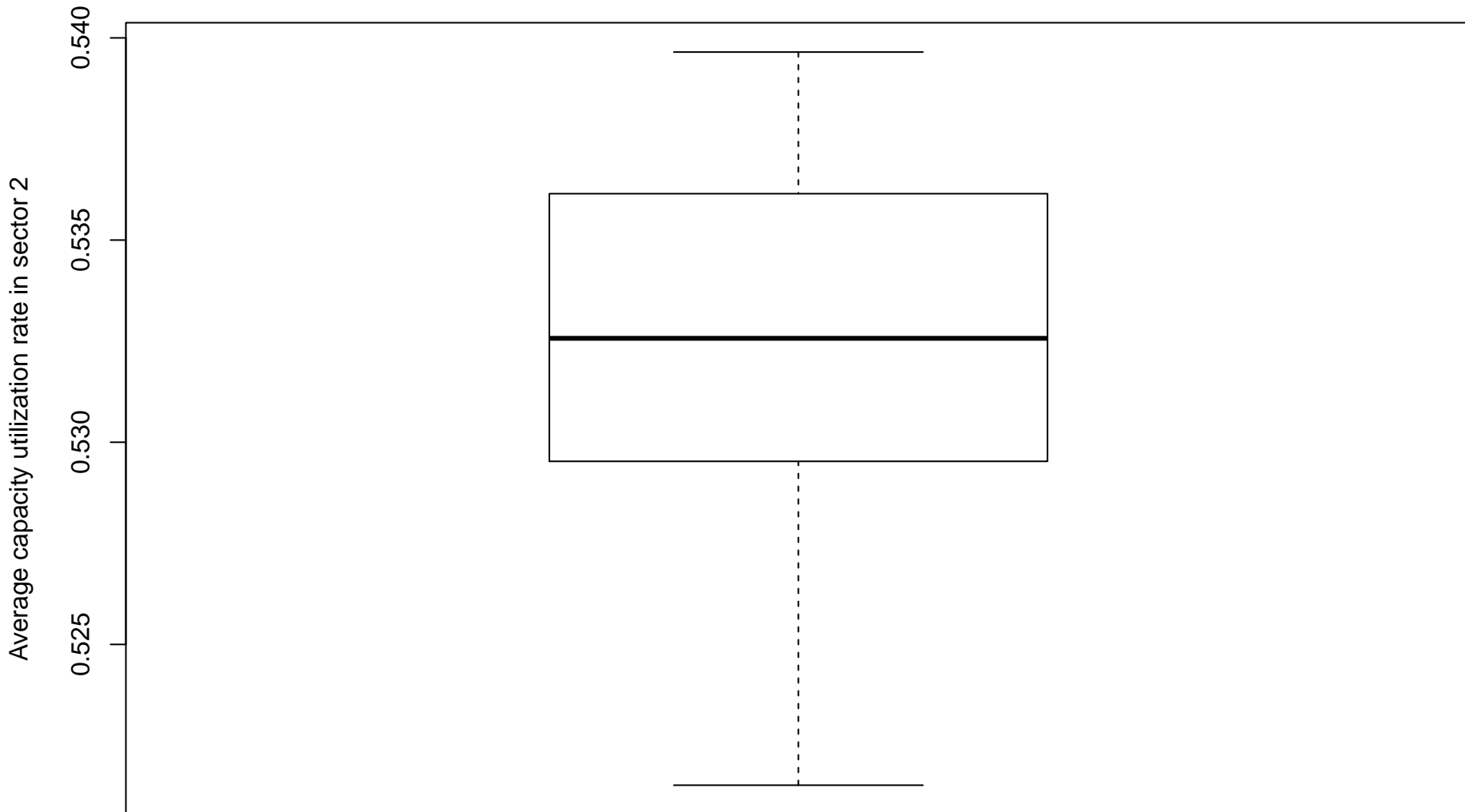
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 10 / period = 2 – 600)

Loans



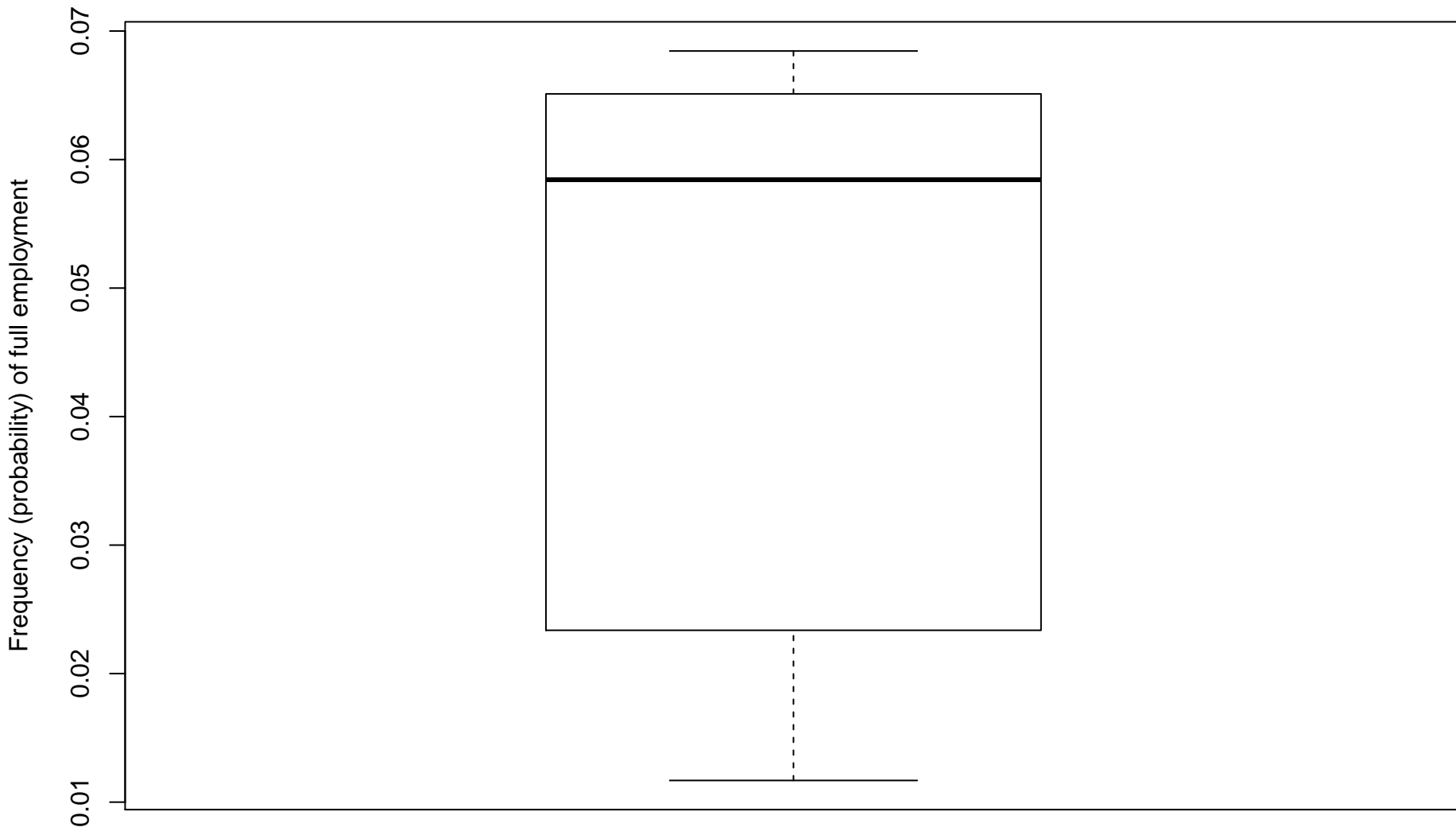
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 10 / period = 2 – 600)

Capacity utilization



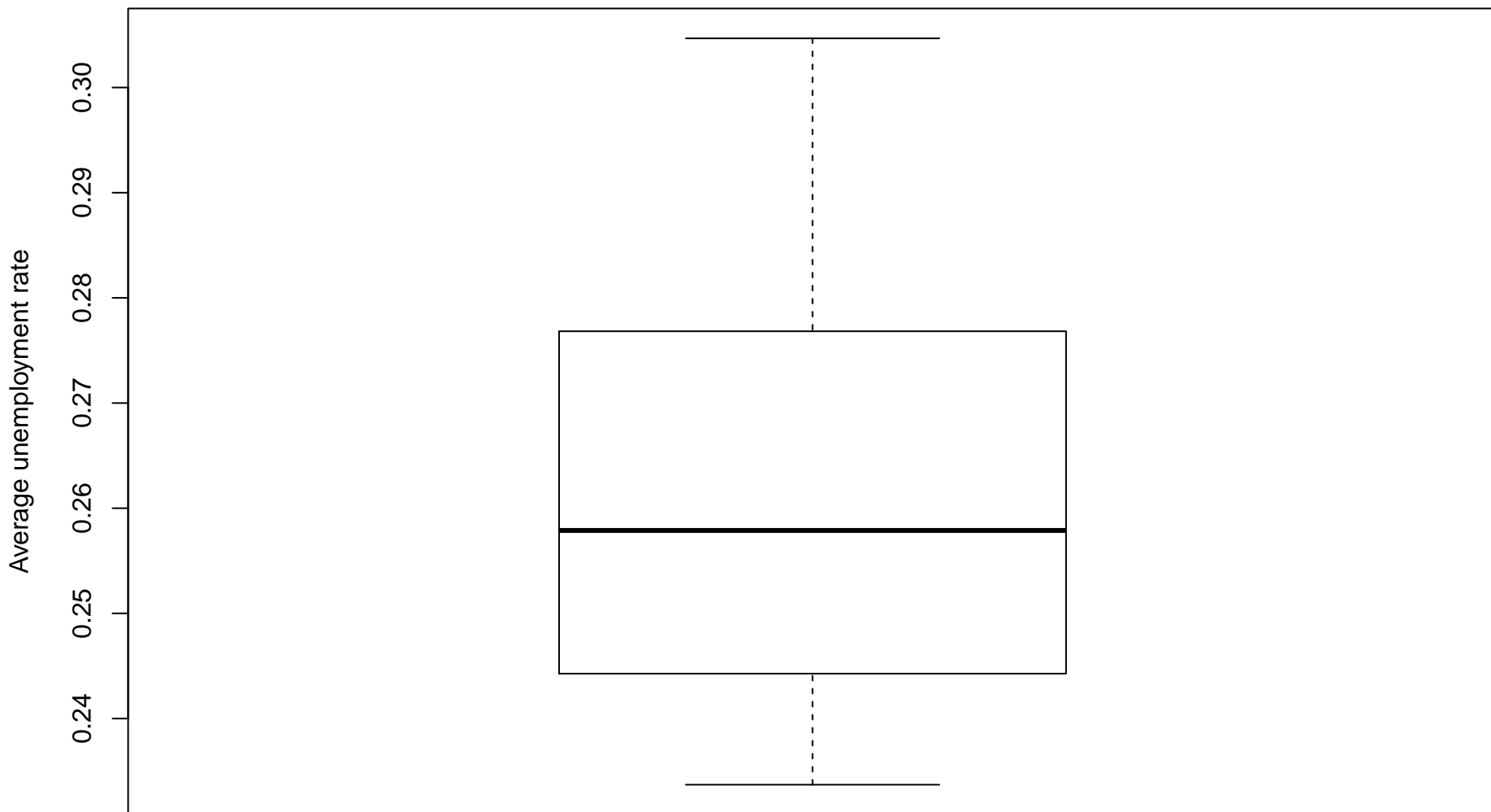
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 10 / period = 2 – 600)

Full employment frequency



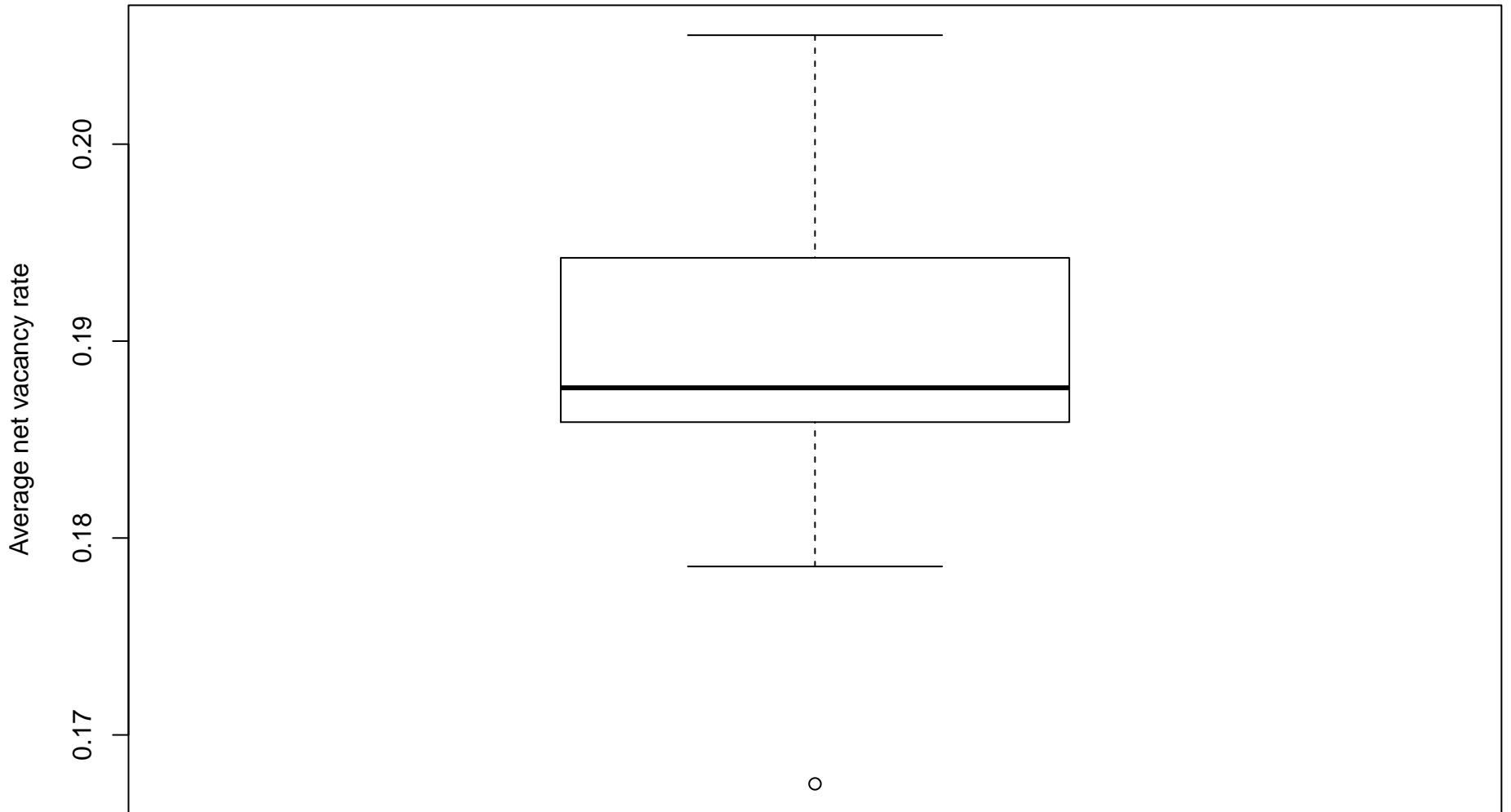
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 10 / period = 2 – 600)

Unemployment



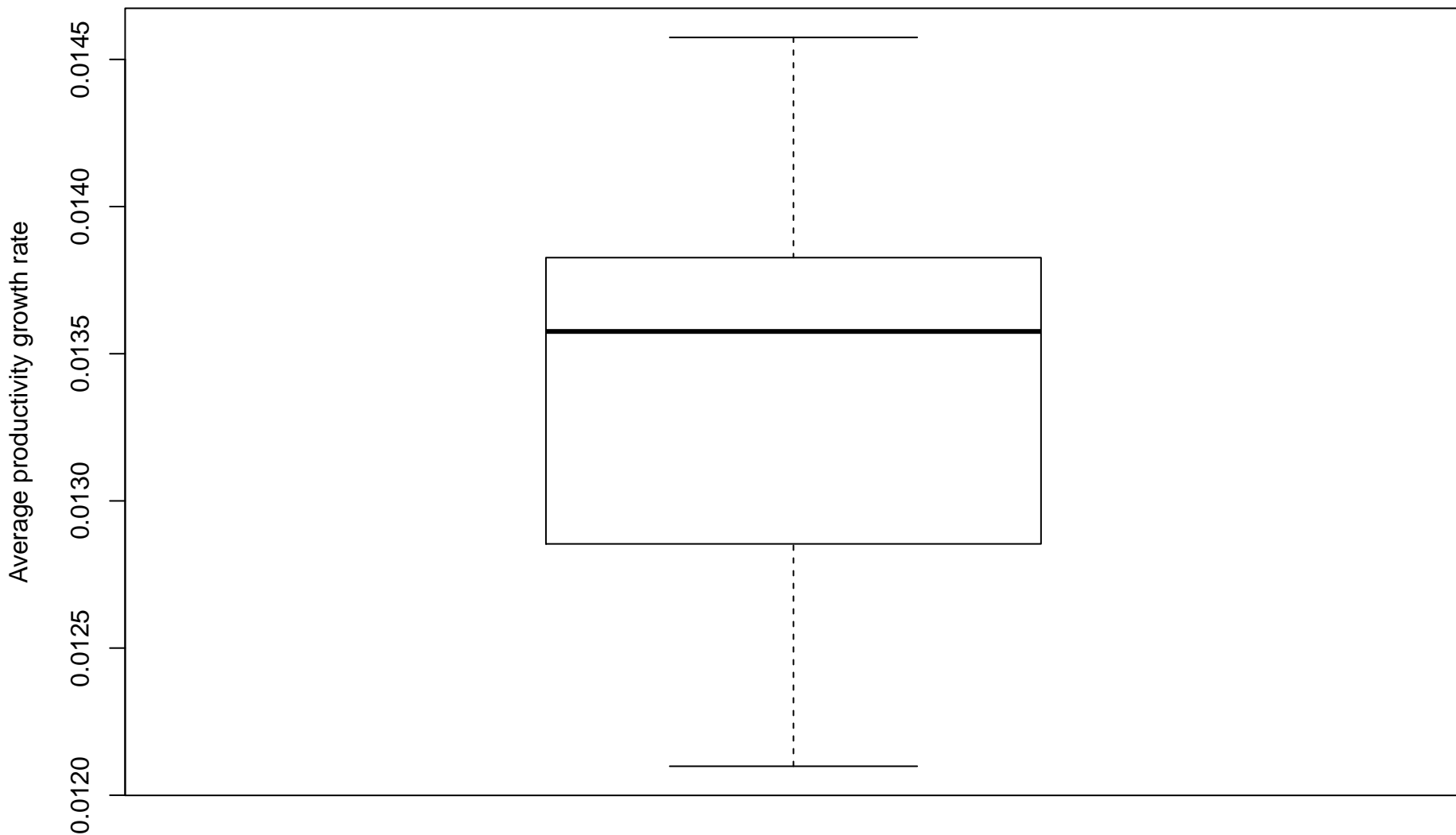
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 10 / period = 2 – 600)

Vacancy



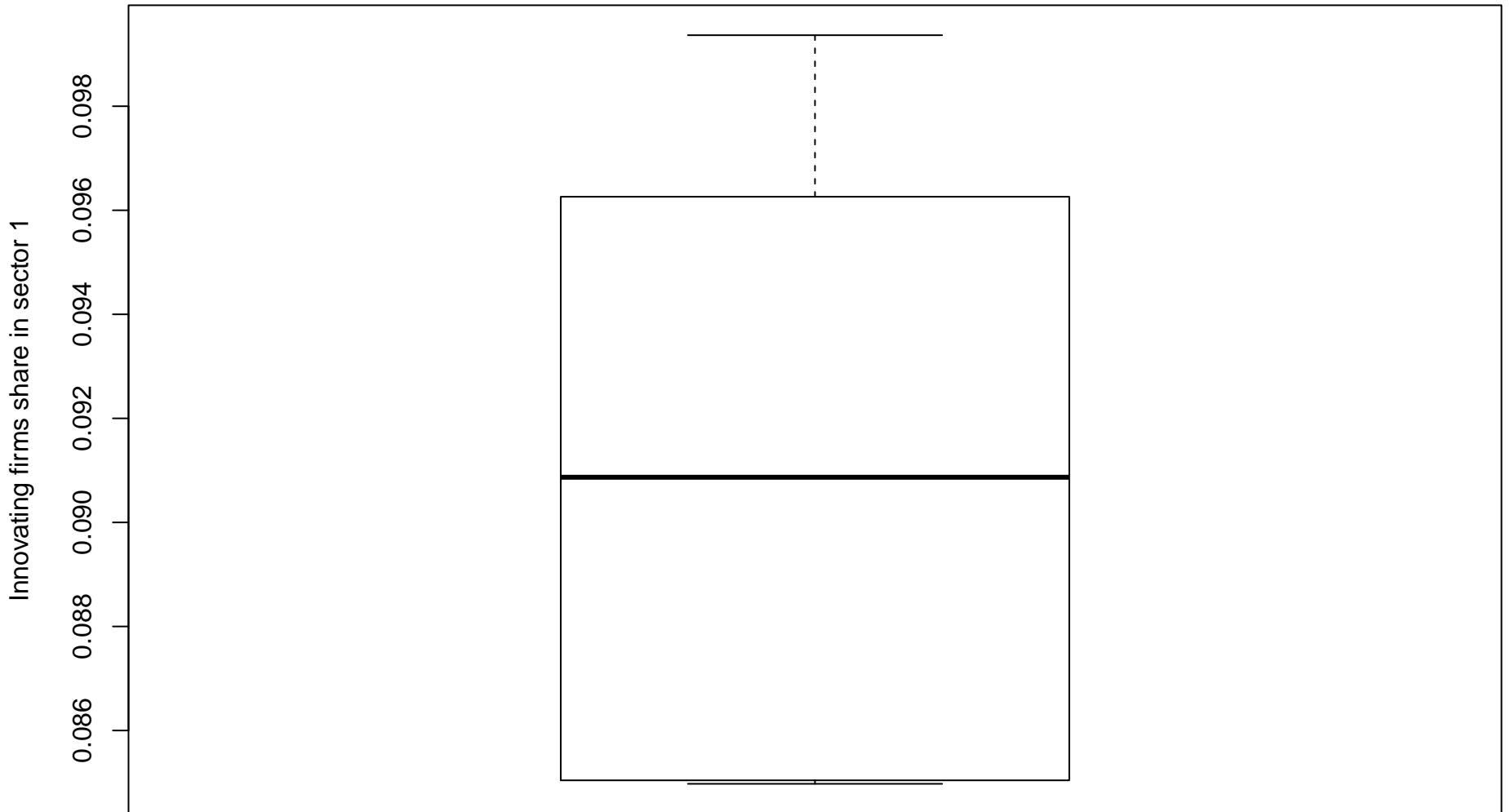
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 10 / period = 2 – 600)

Productivity growth



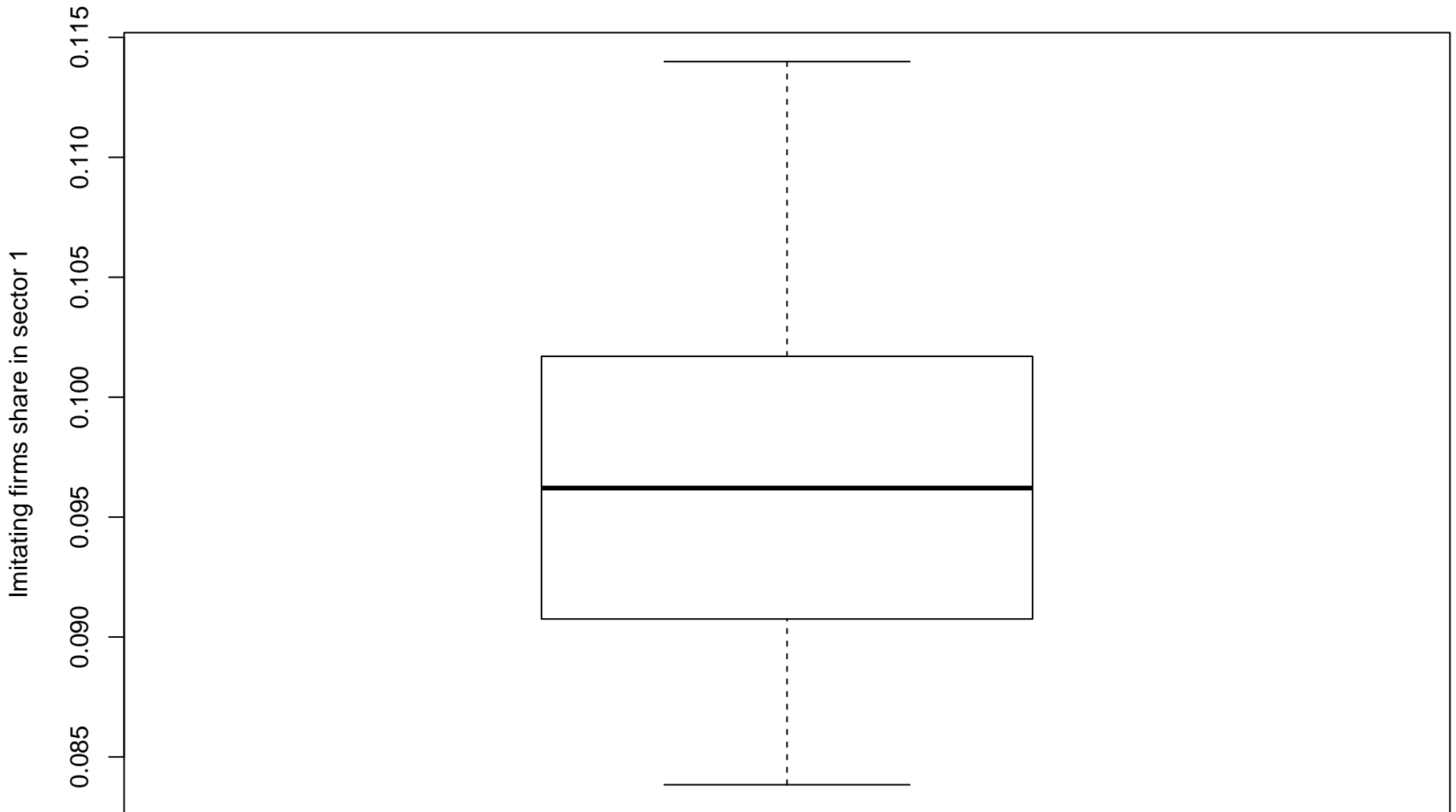
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 10 / period = 2 – 600)

Innovation



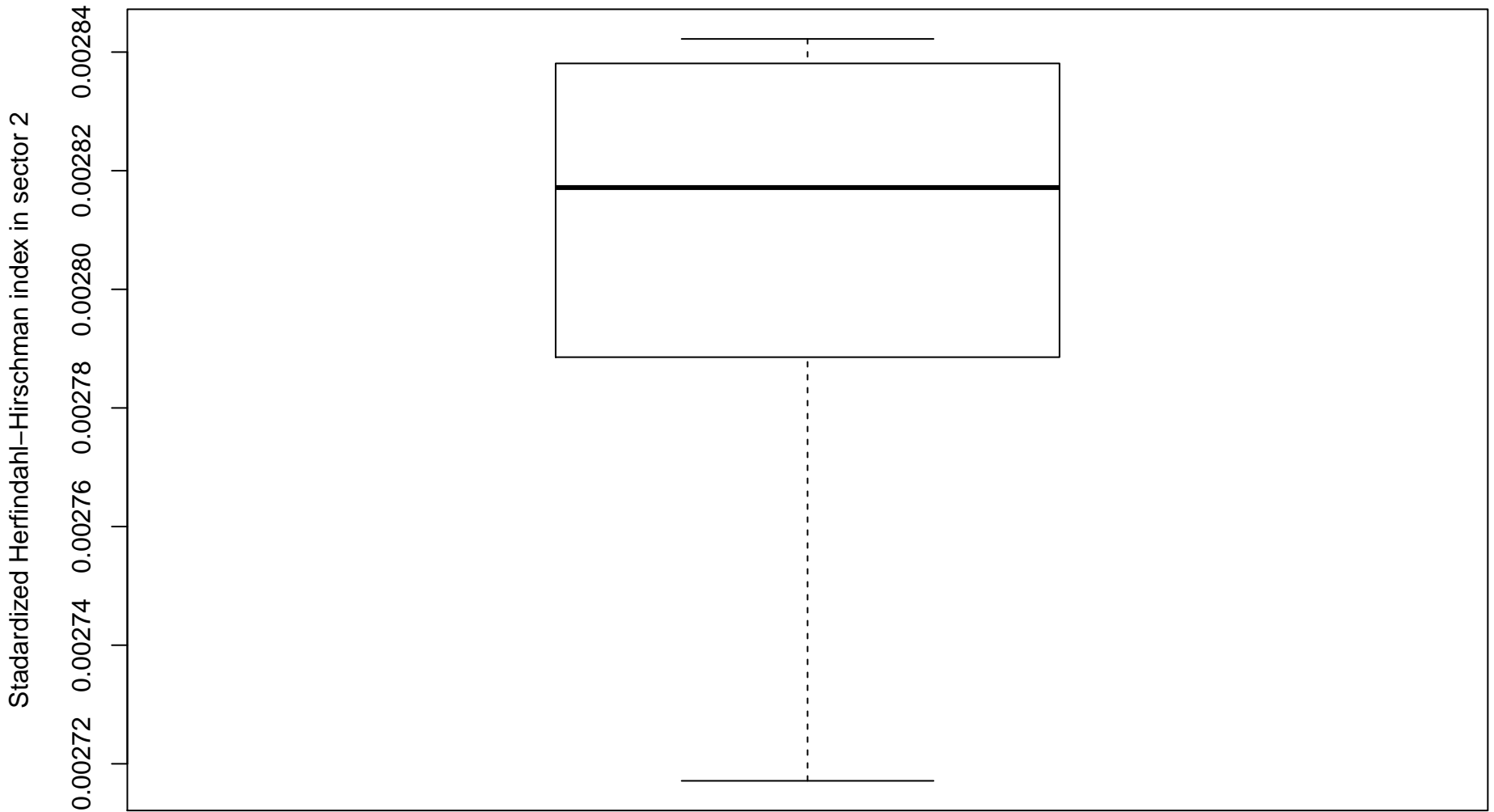
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 10 / period = 2 – 600)

Imitation



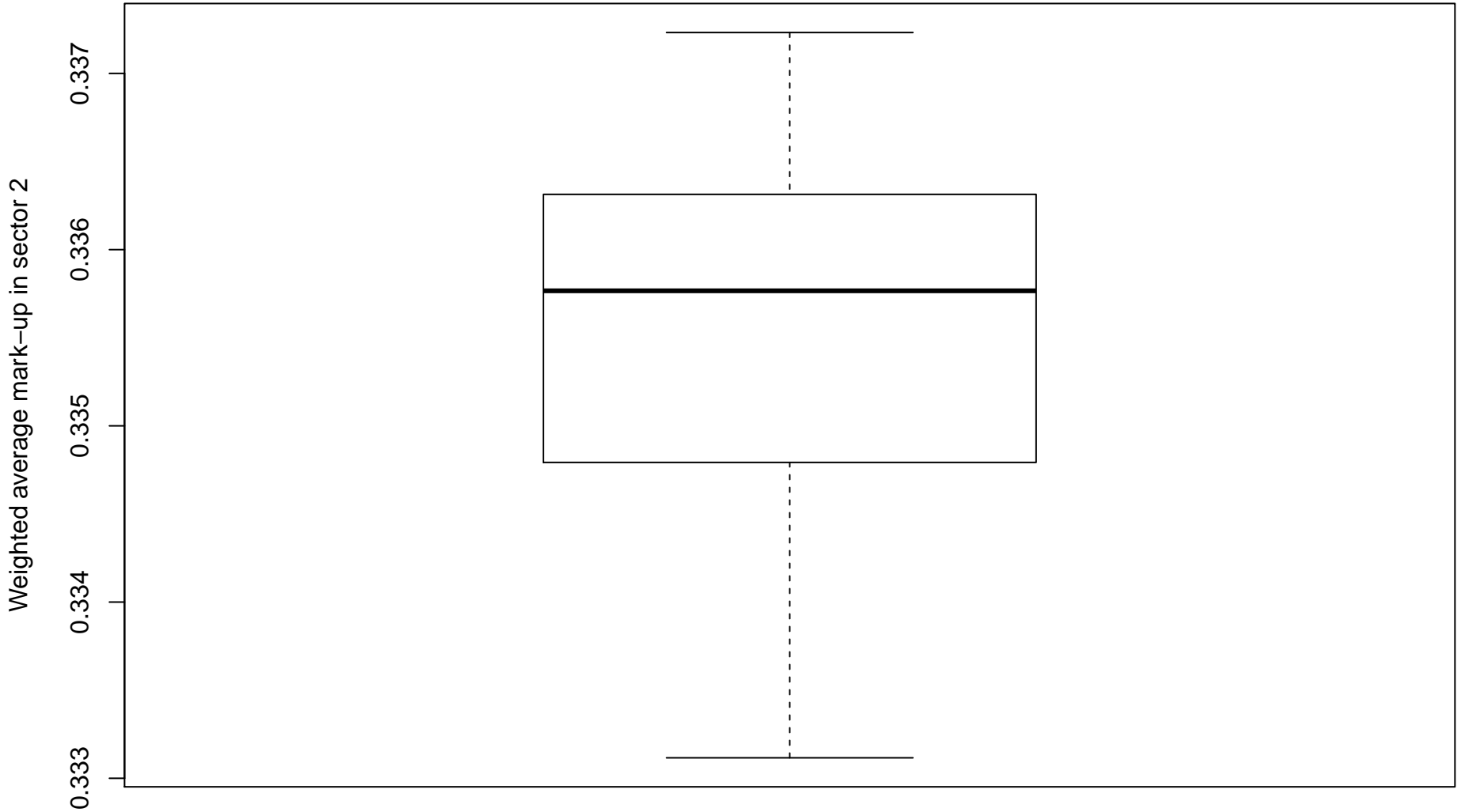
(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 10 / period = 2 – 600)

Market concentration



(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 10 / period = 2 – 600)

Mark-ups



(bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 10 / period = 2 – 600)

Monte Carlo descriptive statistics (all experiments)

	Avg[1]	SD[1]	Min[1]	Max[1]
GDP growth	0.01351	0.001663	0.009926	0.01586
Volatility of GDP growth	0.1073	0.01078	0.09472	0.1334
Likelihood of GDP crises	0.3132	0.01804	0.2922	0.3556
Inflation	0.001756	0.0006618	0.001052	0.003318
Tax	0.1032	0.0004513	0.1026	0.104
Government total expenditure	0.1217	0.01226	0.1048	0.1488
Government deficit	0.04943	0.05123	-0.01169	0.1748
Government debt	3.054	4.13	-1.514	13.11
Loans	1.799	0.1402	1.485	1.963
Capacity utilization	0.5333	0.006991	0.5215	0.5471
Full employment frequency	0.05376	0.0361	0.01169	0.1352
Unemployment	0.261	0.02197	0.2337	0.3047
Vacancy	0.188	0.01034	0.1675	0.2055
Productivity growth	0.01329	0.001476	0.01004	0.01554
Innovation	0.0908	0.005424	0.08497	0.09937
Imitation	0.0966	0.008772	0.08384	0.114
Market concentration	0.002815	5.29e-05	0.002717	0.002922
Mark-ups	0.3355	0.001174	0.3331	0.3372

Experiments: [1] Benchmark

(numbers in brackets indicate the experiment number / MC runs = 10 / period = 2 – 600)