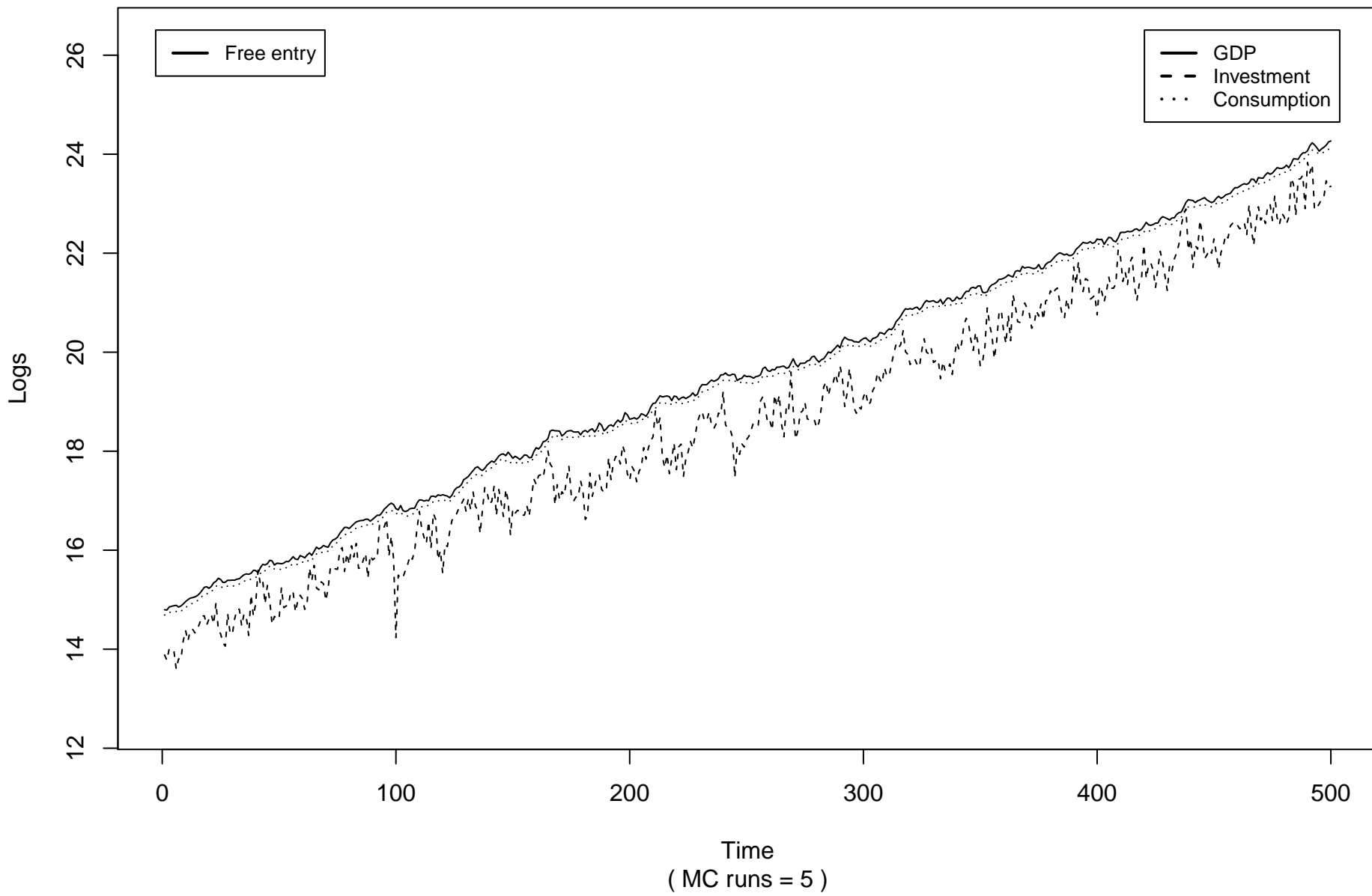
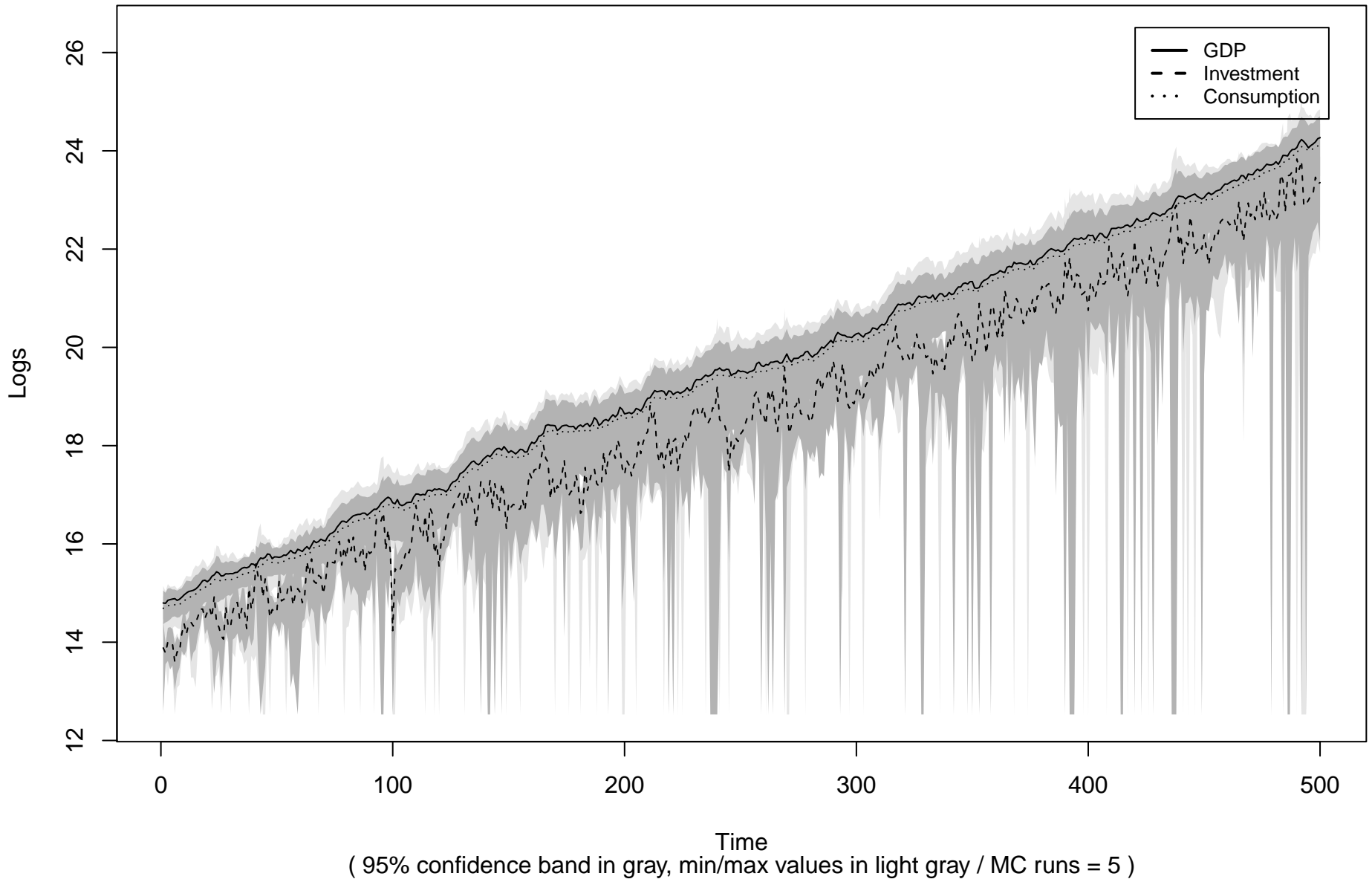


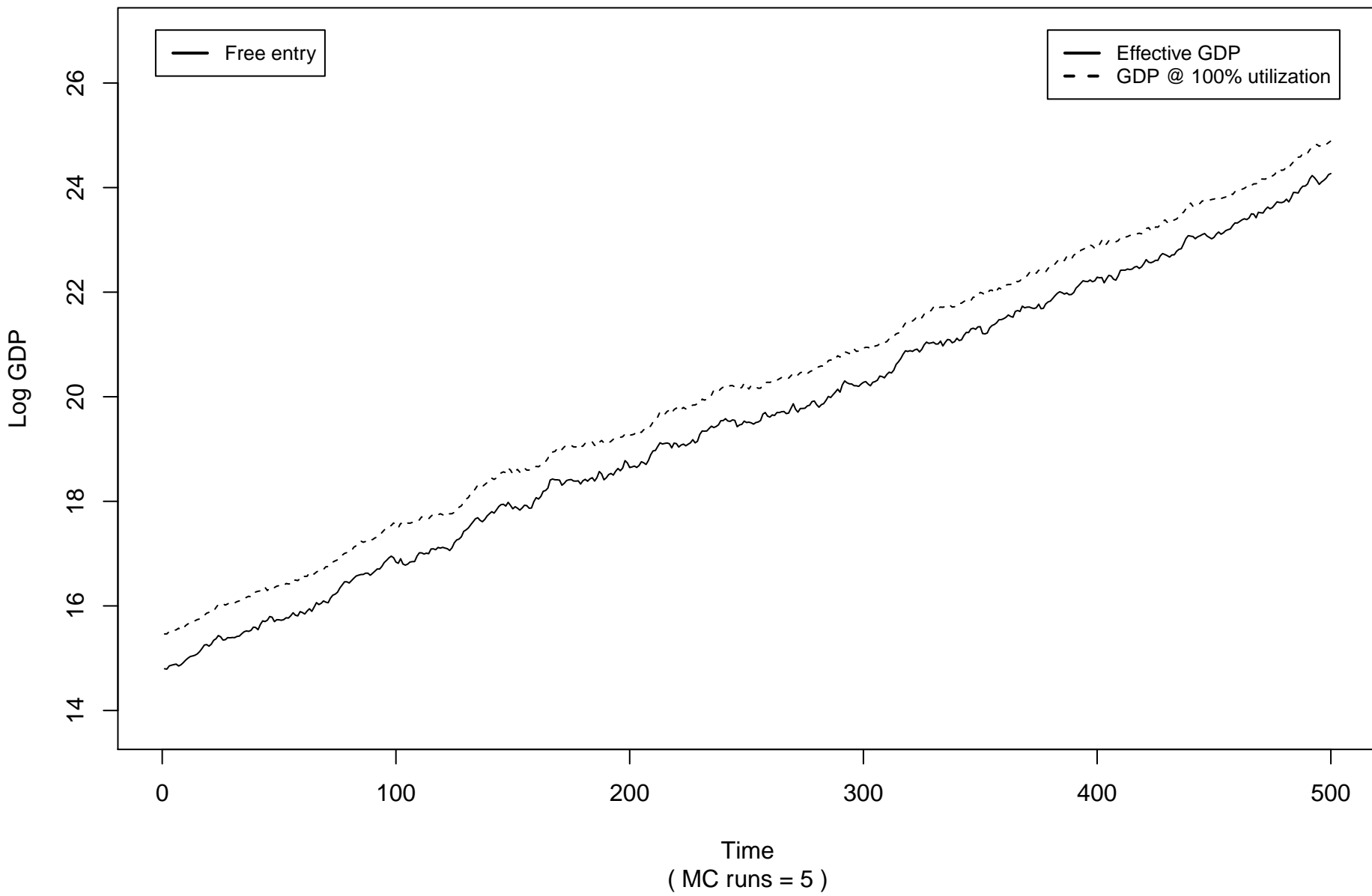
# GDP, investment and consumption ( all experiments )



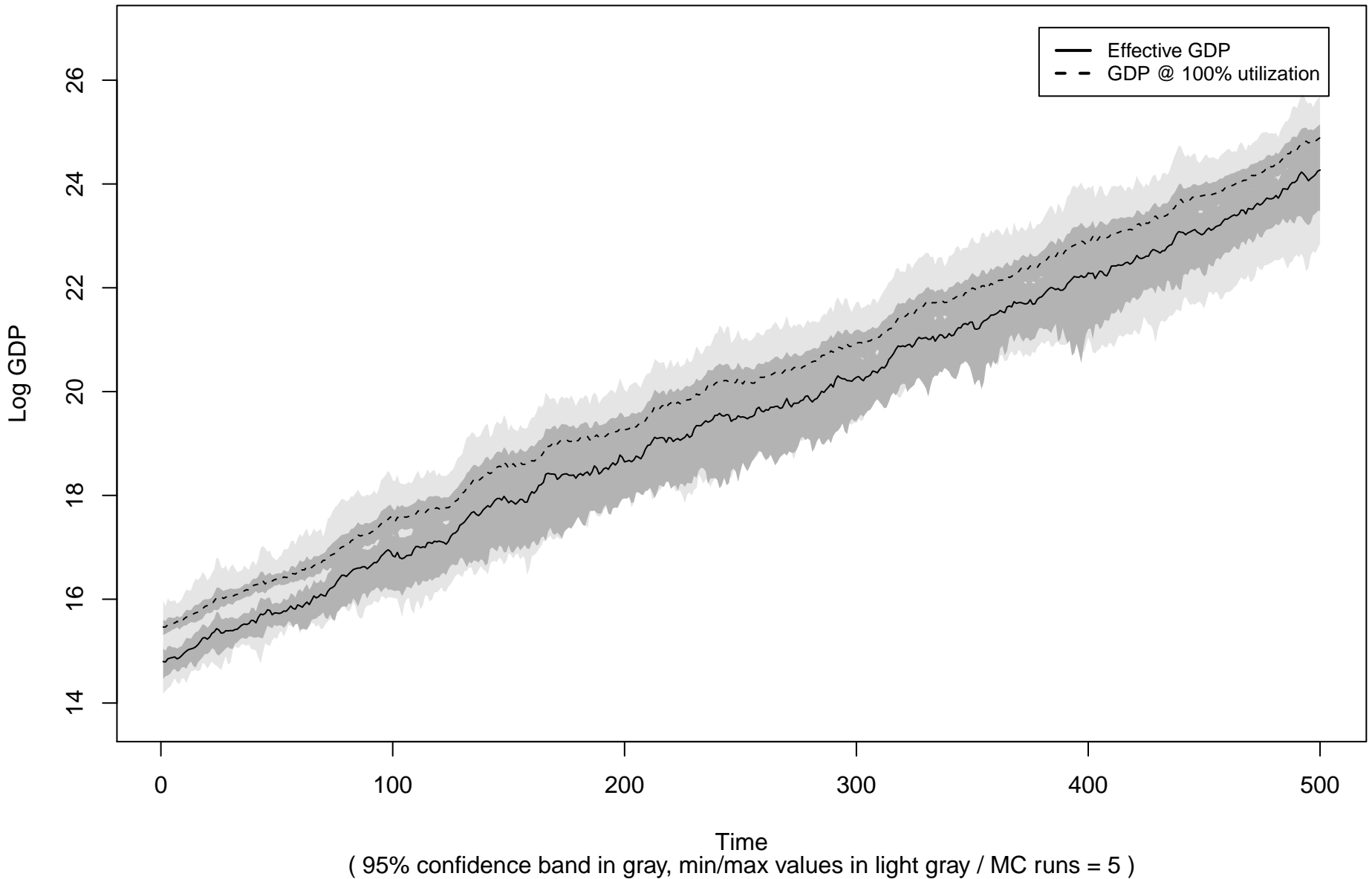
# GDP, investment and consumption ( Free entry )



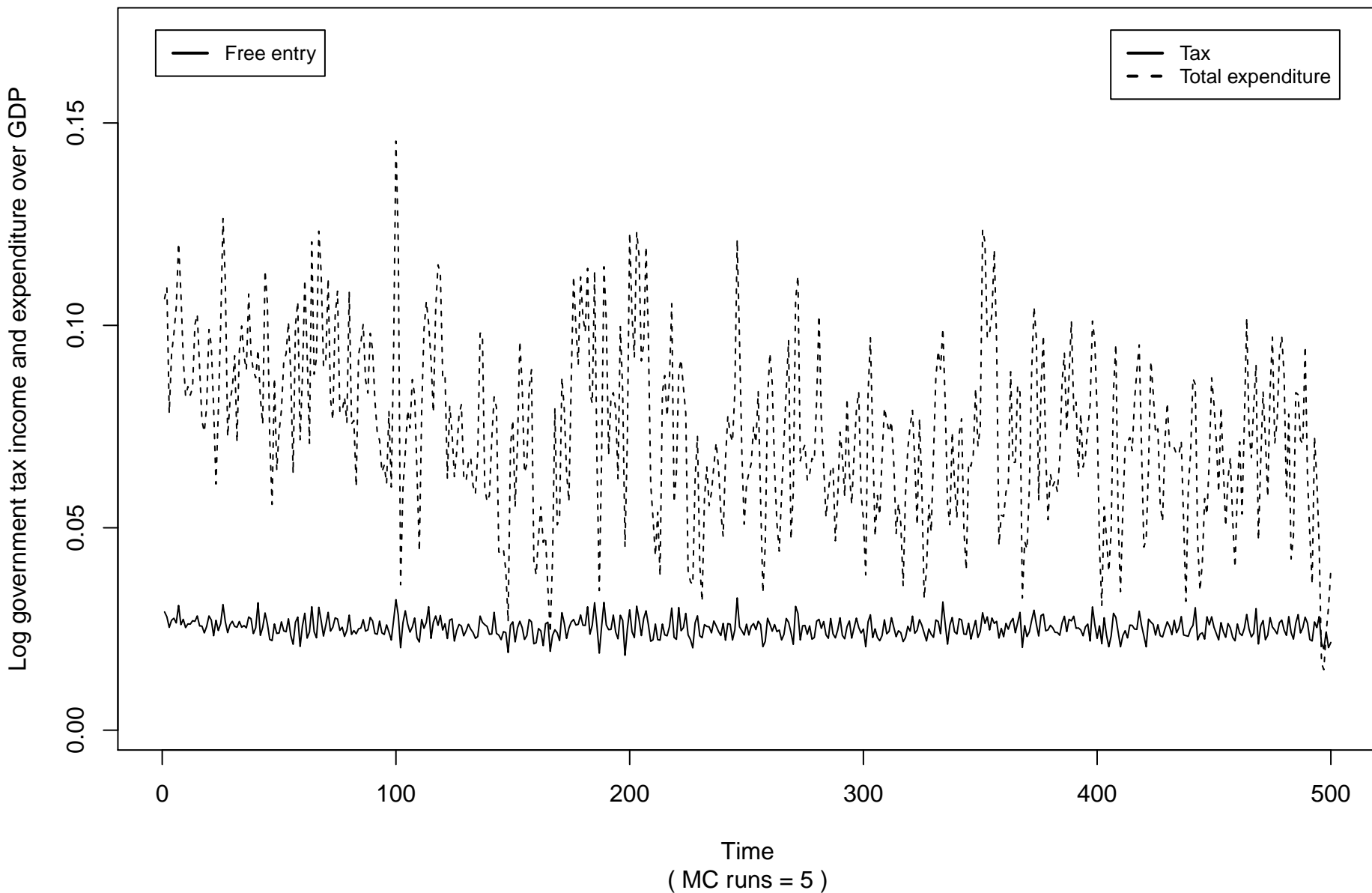
## GDP ( all experiments )



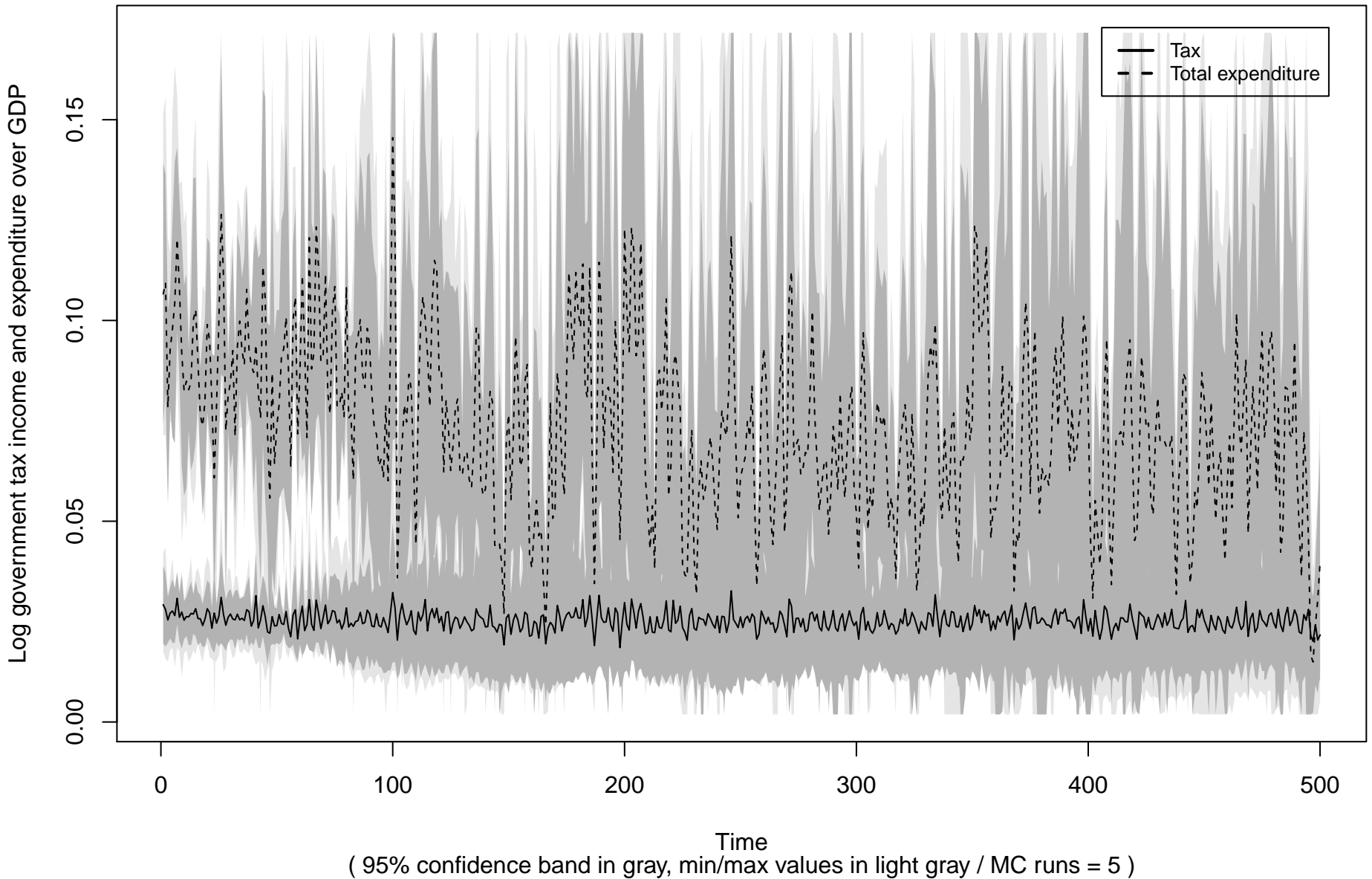
# GDP ( Free entry )



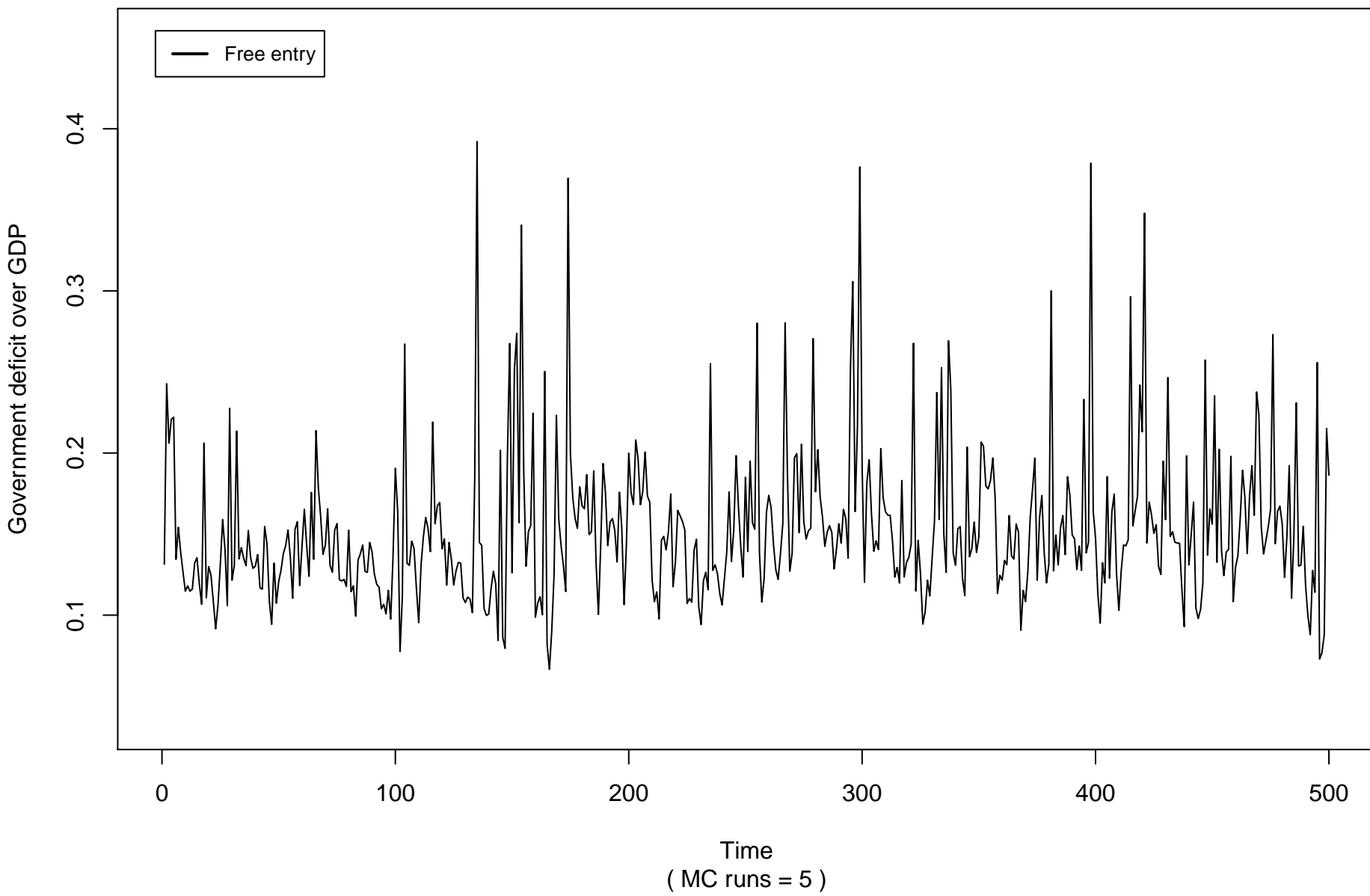
# Government income and expenditure on GDP ( all experiments )



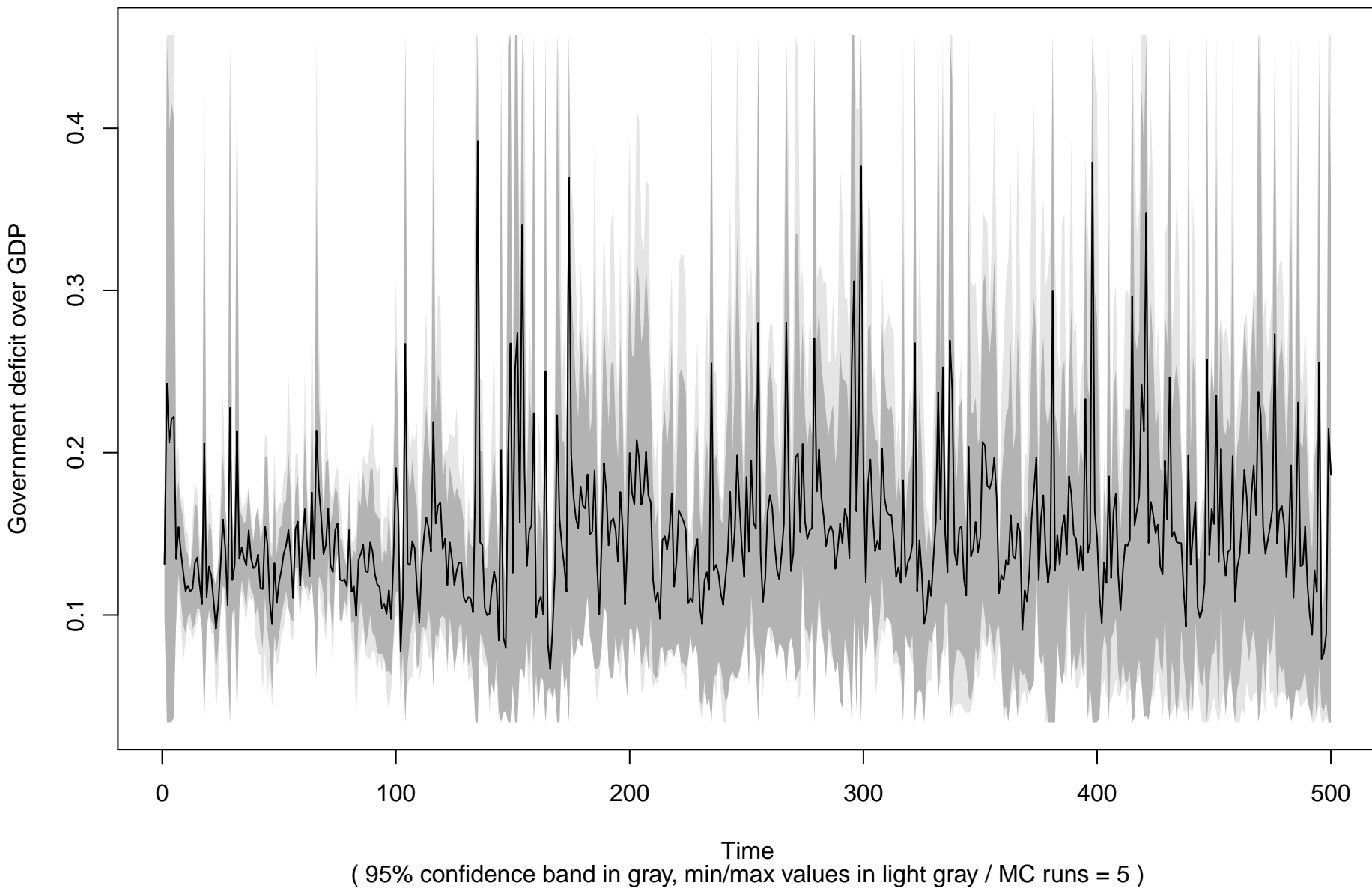
# Government income and expenditure on GDP ( Free entry )



# Government deficit on GDP ( all experiments )

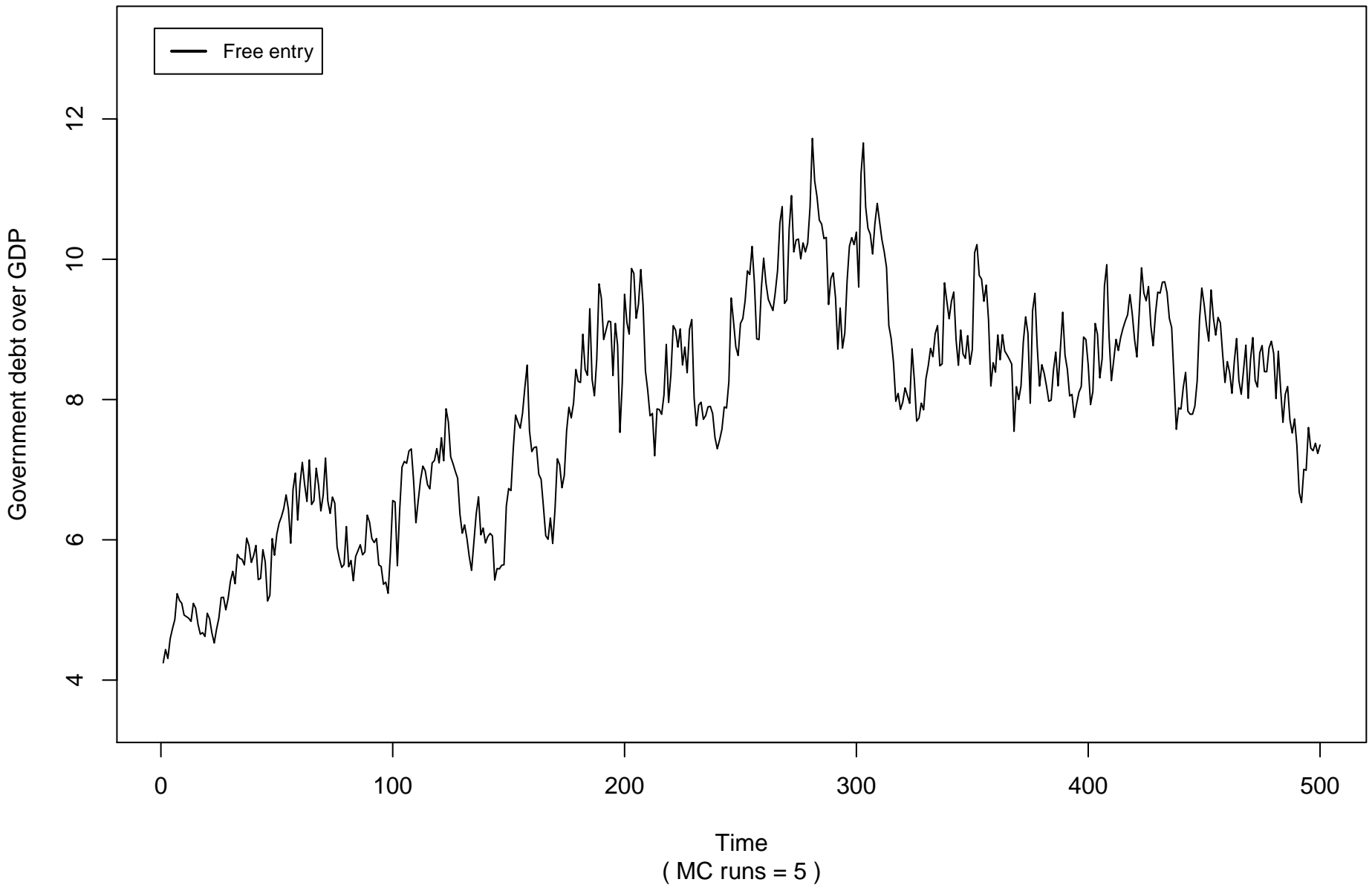


# Government deficit on GDP ( Free entry )

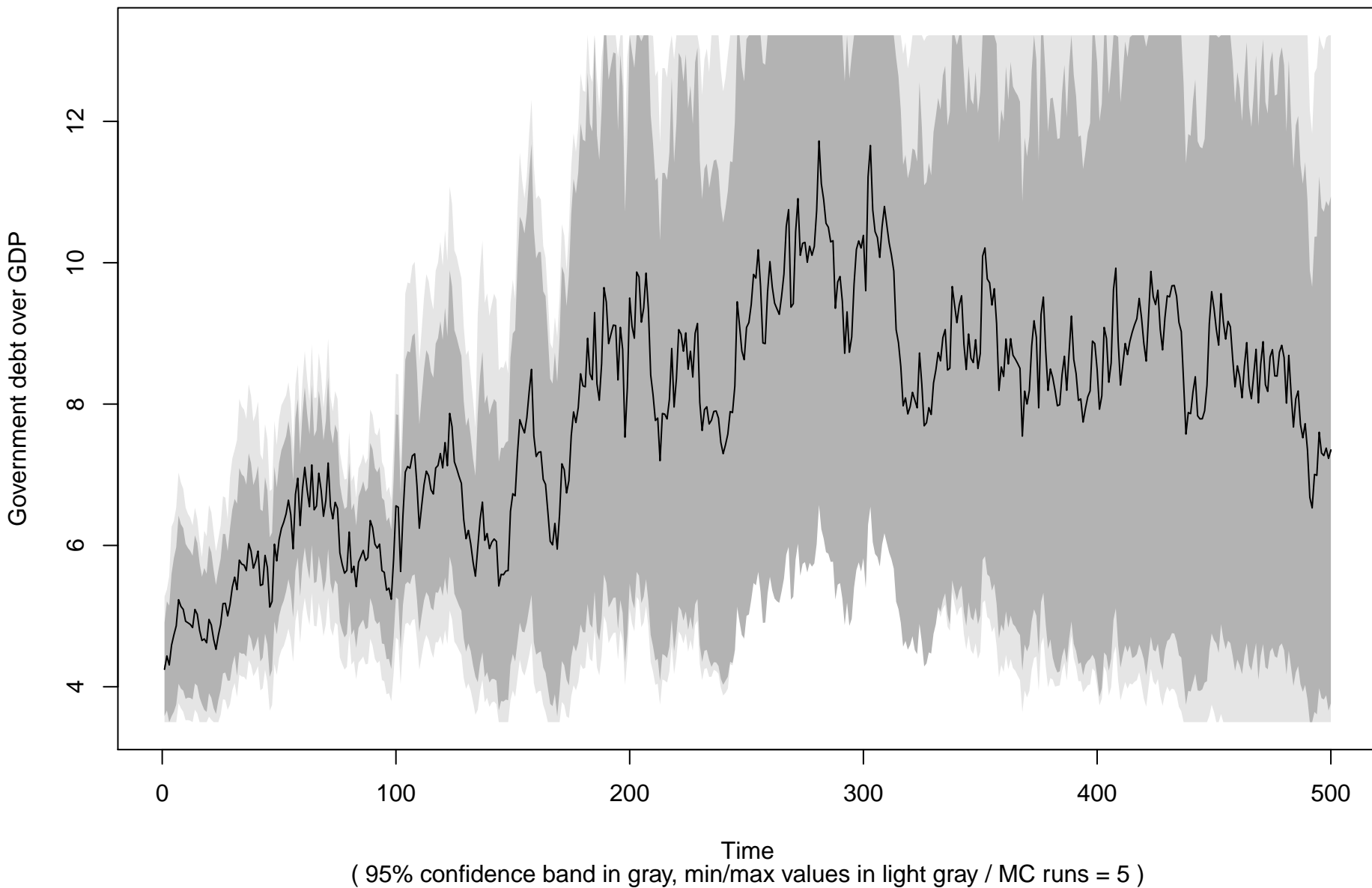




## Government debt on GDP ( all experiments )

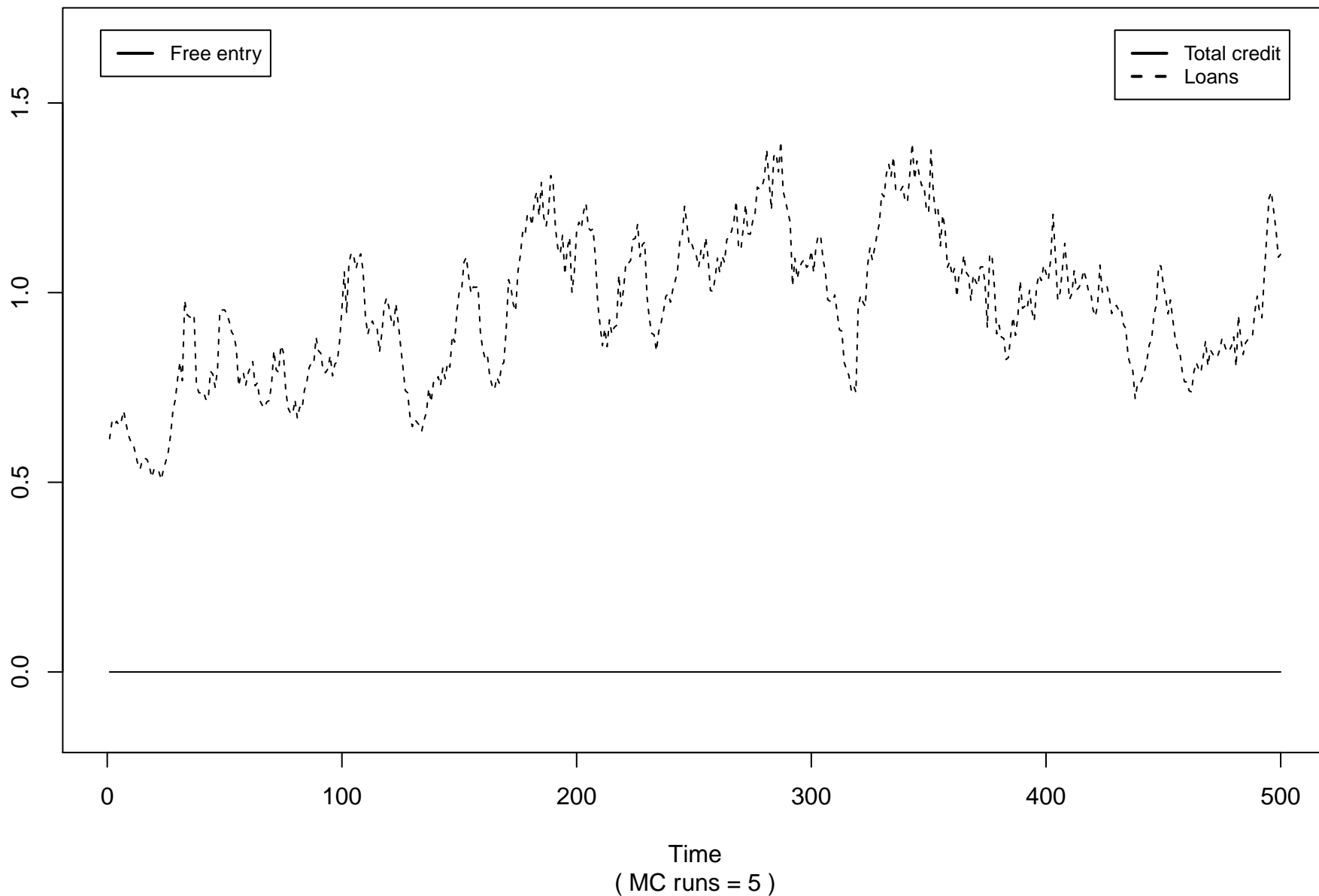


# Government debt on GDP ( Free entry )

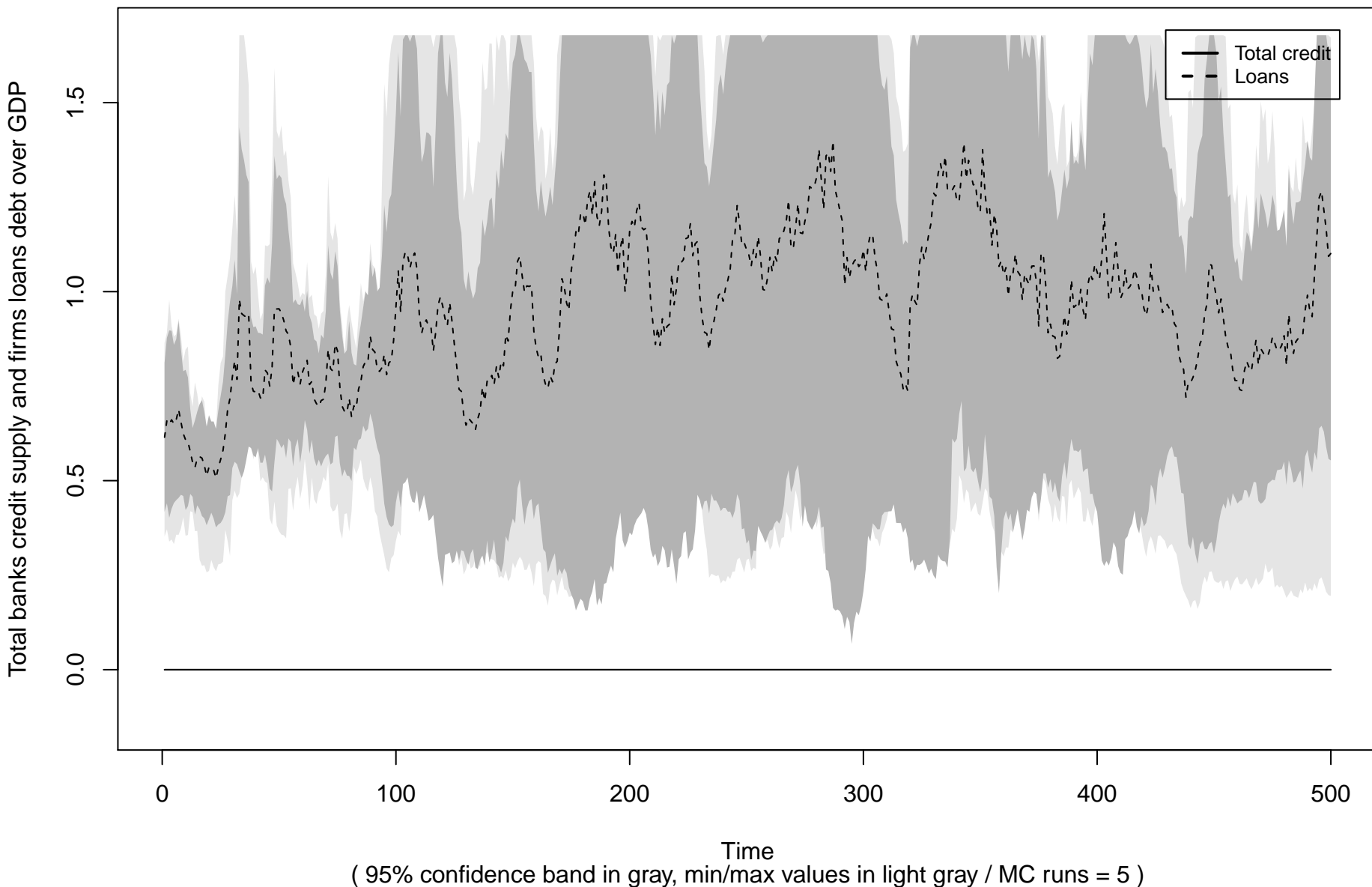


# Total credit supply and loans on GDP ( all experiments )

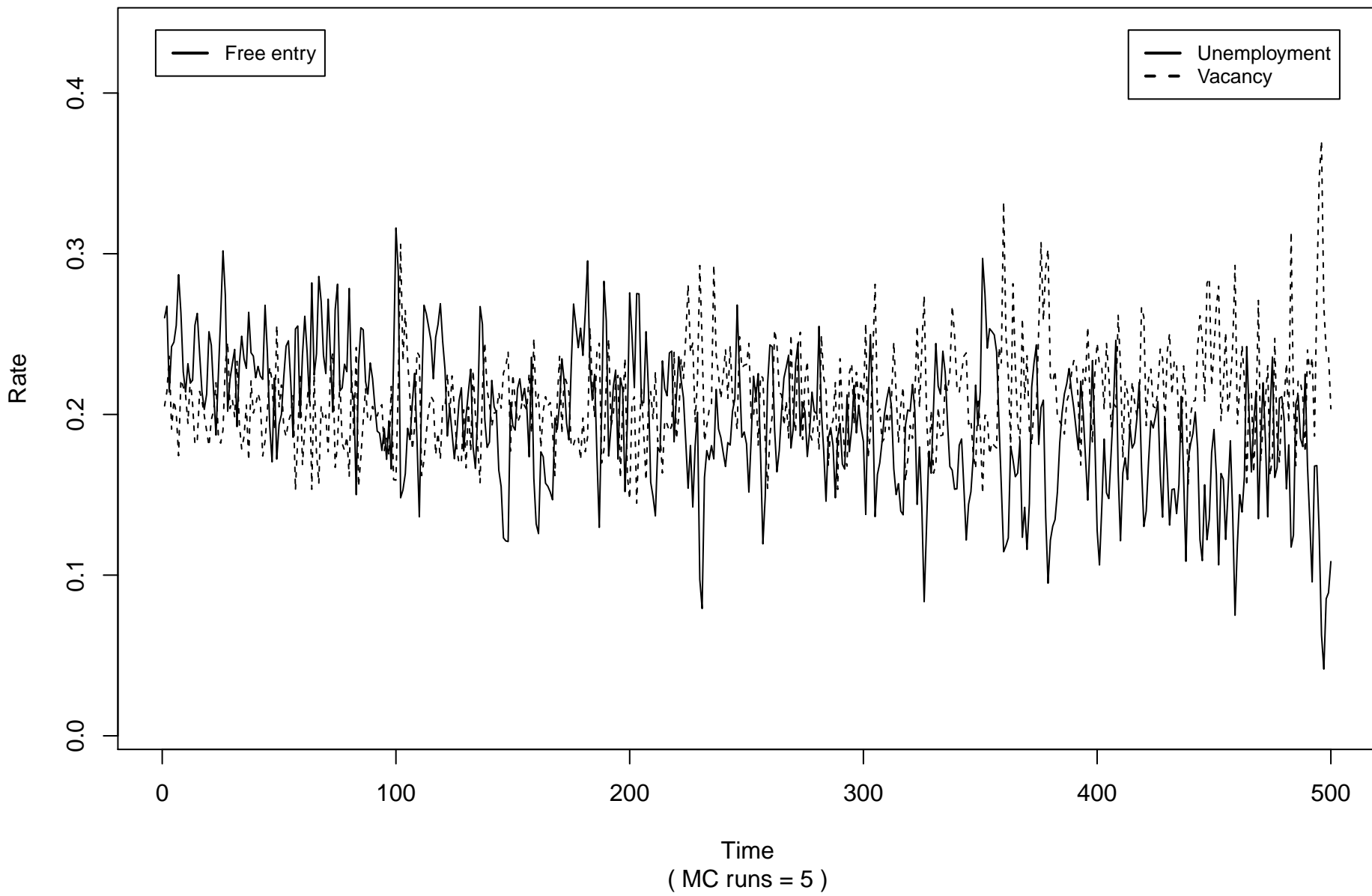
Total banks credit supply and firms loans debt over GDP



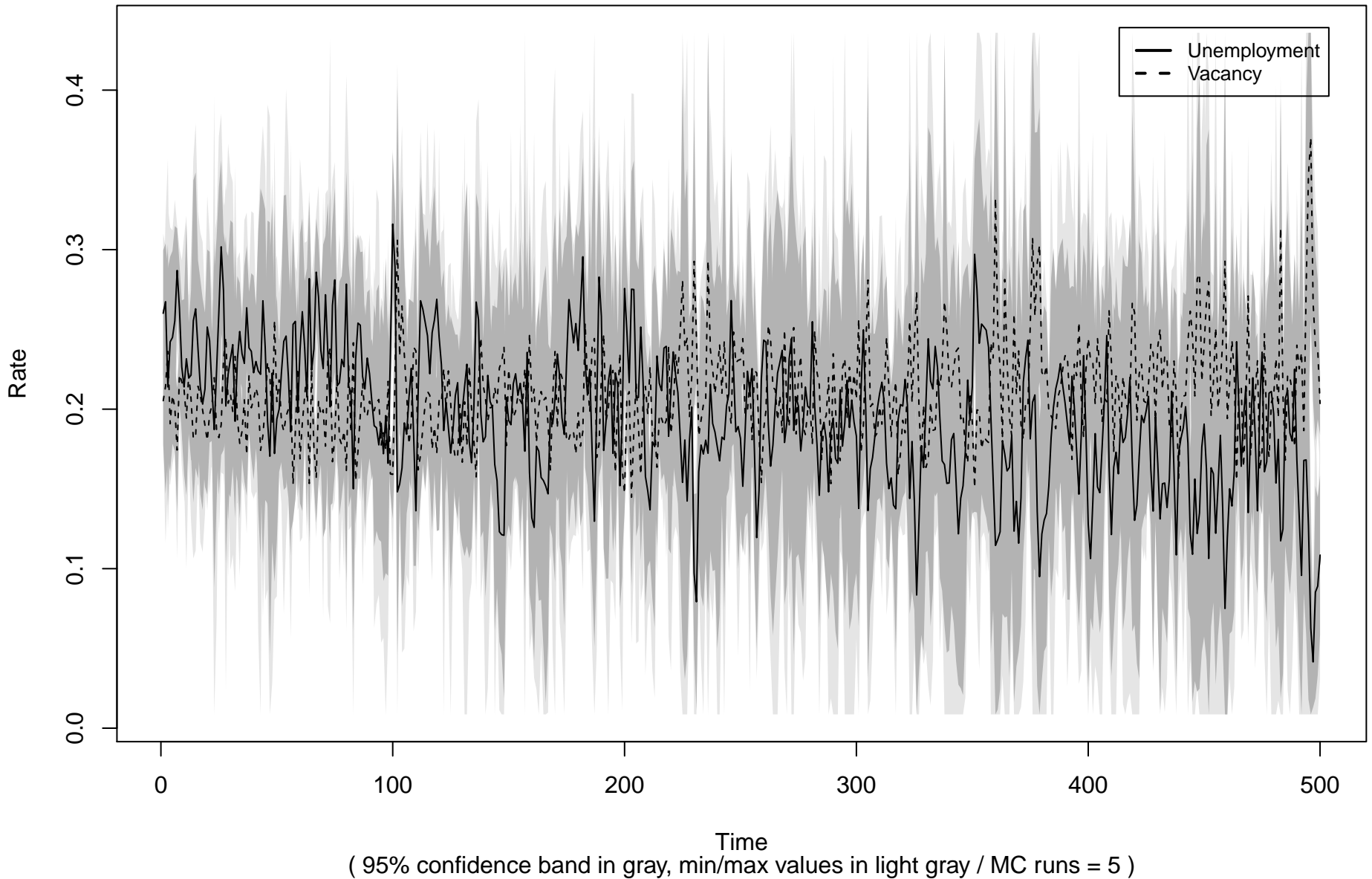
# Total credit supply and loans on GDP ( Free entry )



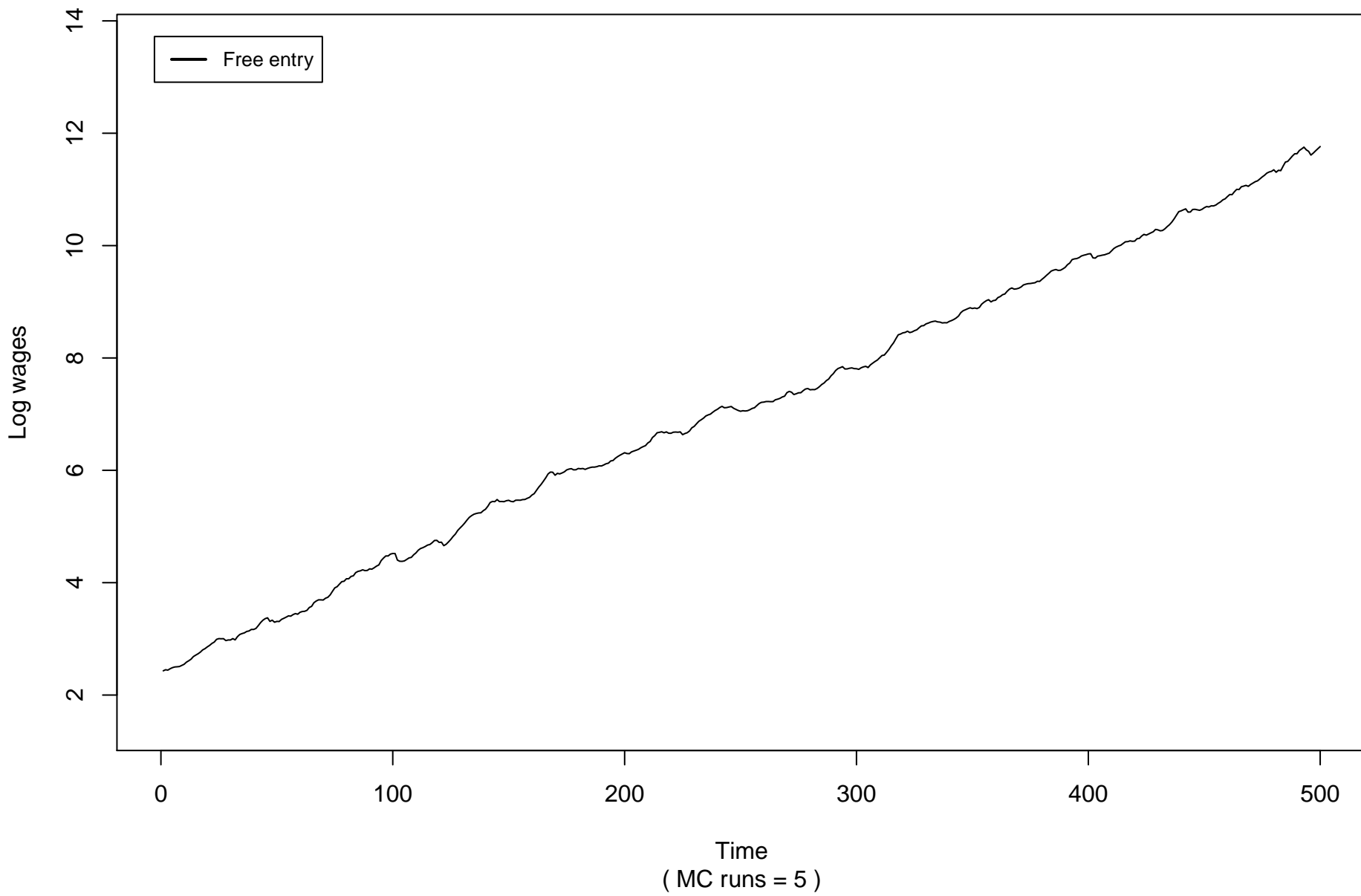
# Unemployment and vacancy rates ( all experiments )



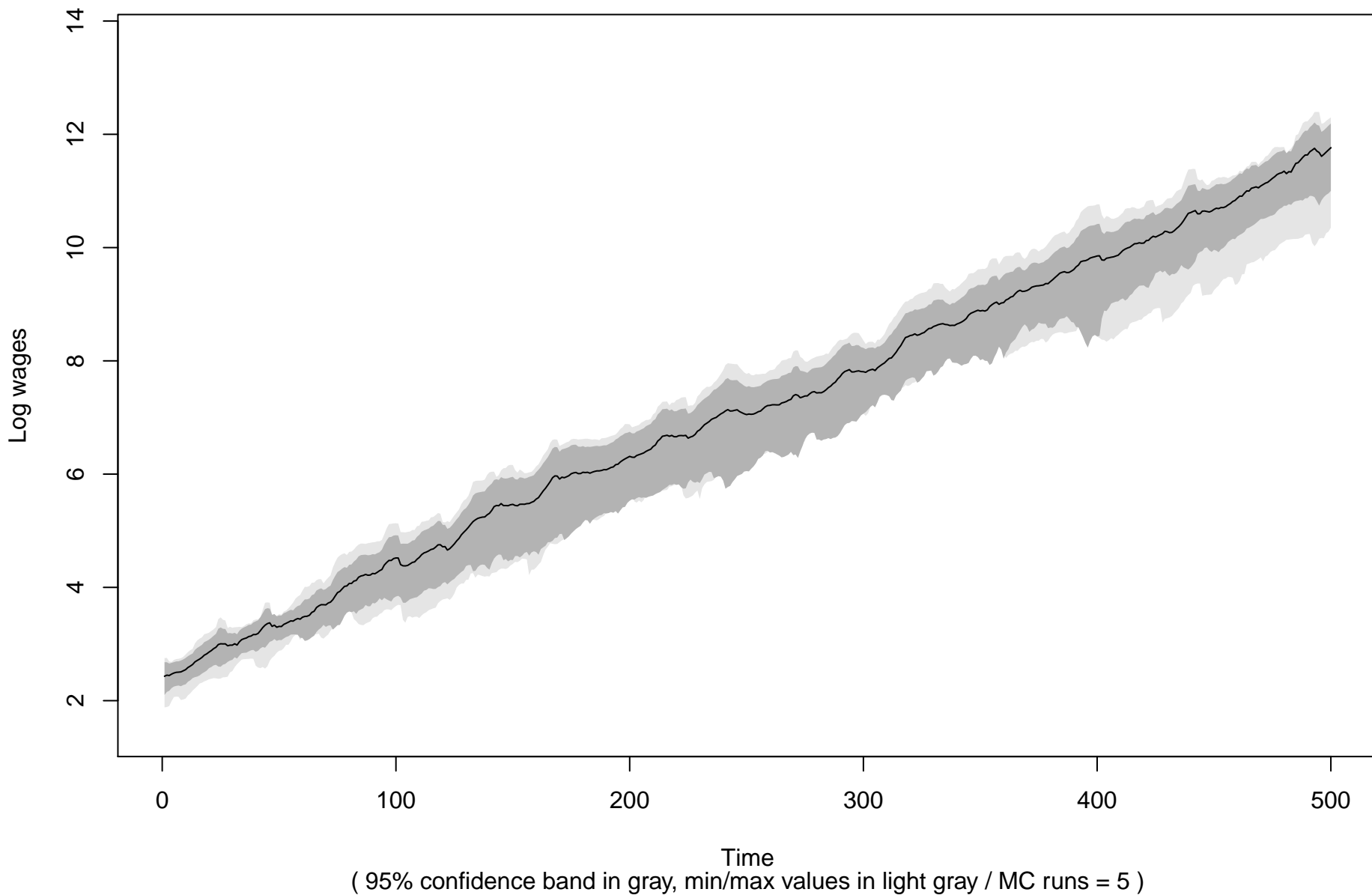
# Unemployment and vacancy rates ( Free entry )



**Real wages average ( all experiments )**

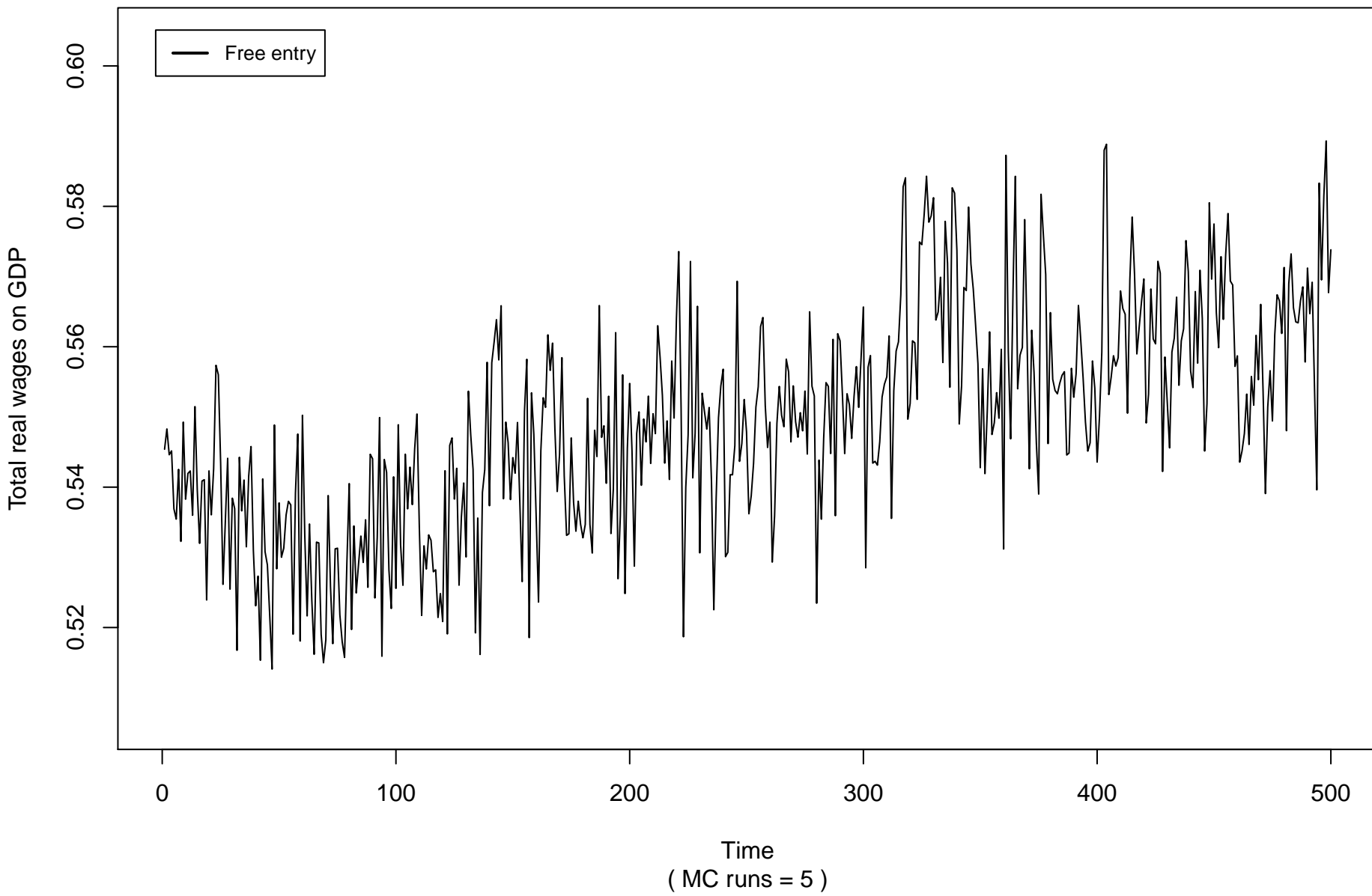


# Real wages average ( Free entry )

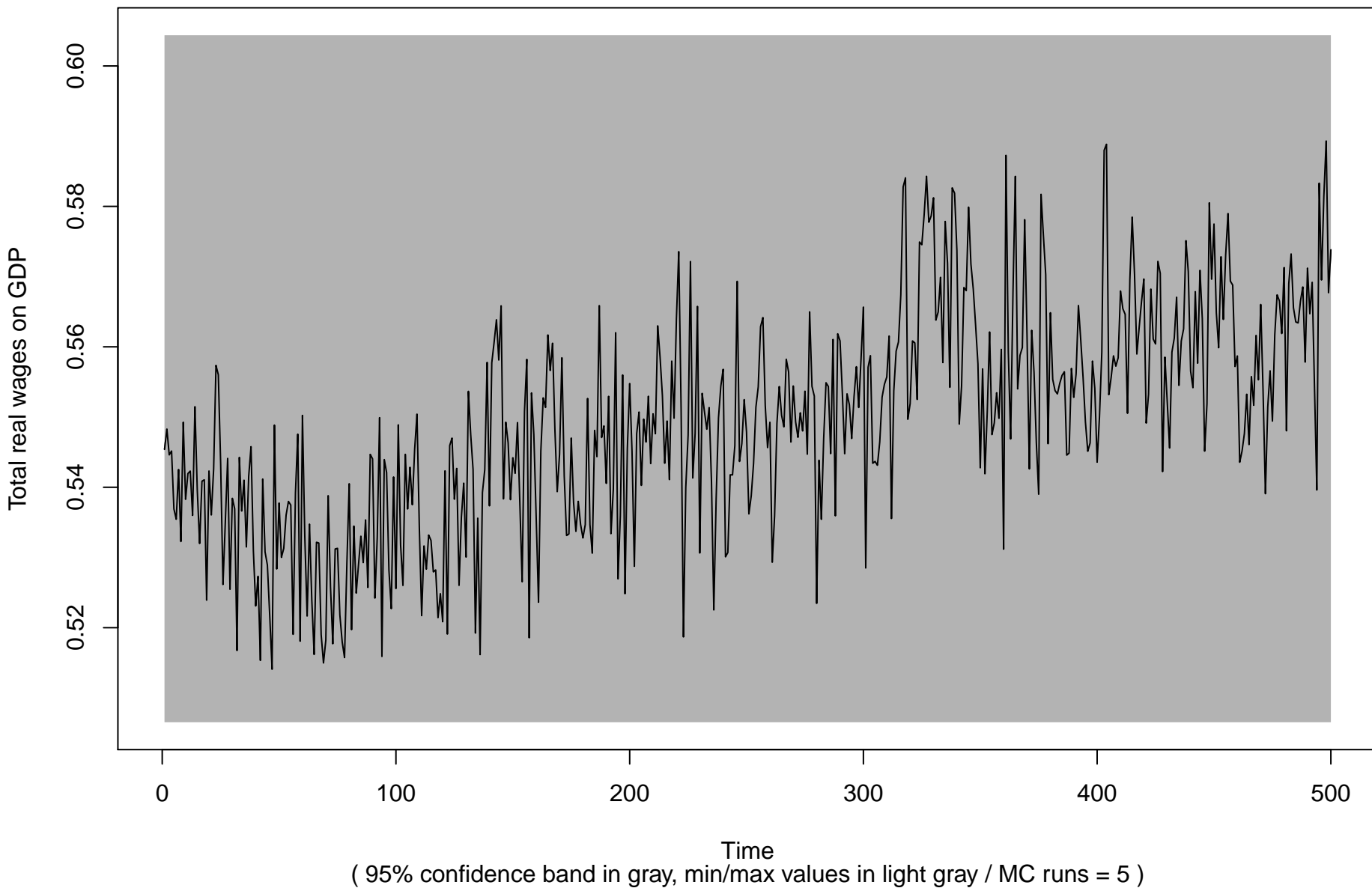




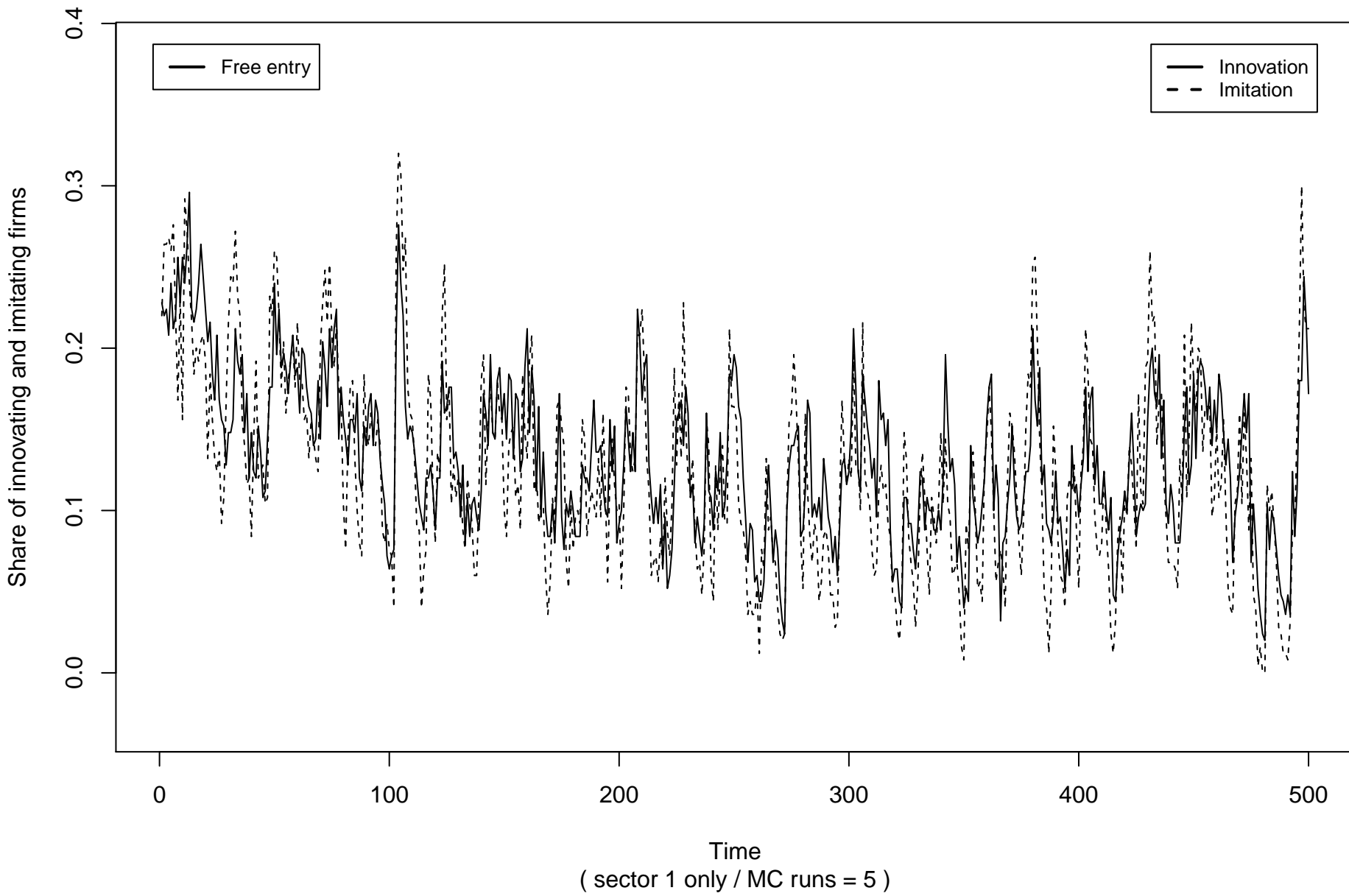
# Wage share ( all experiments )



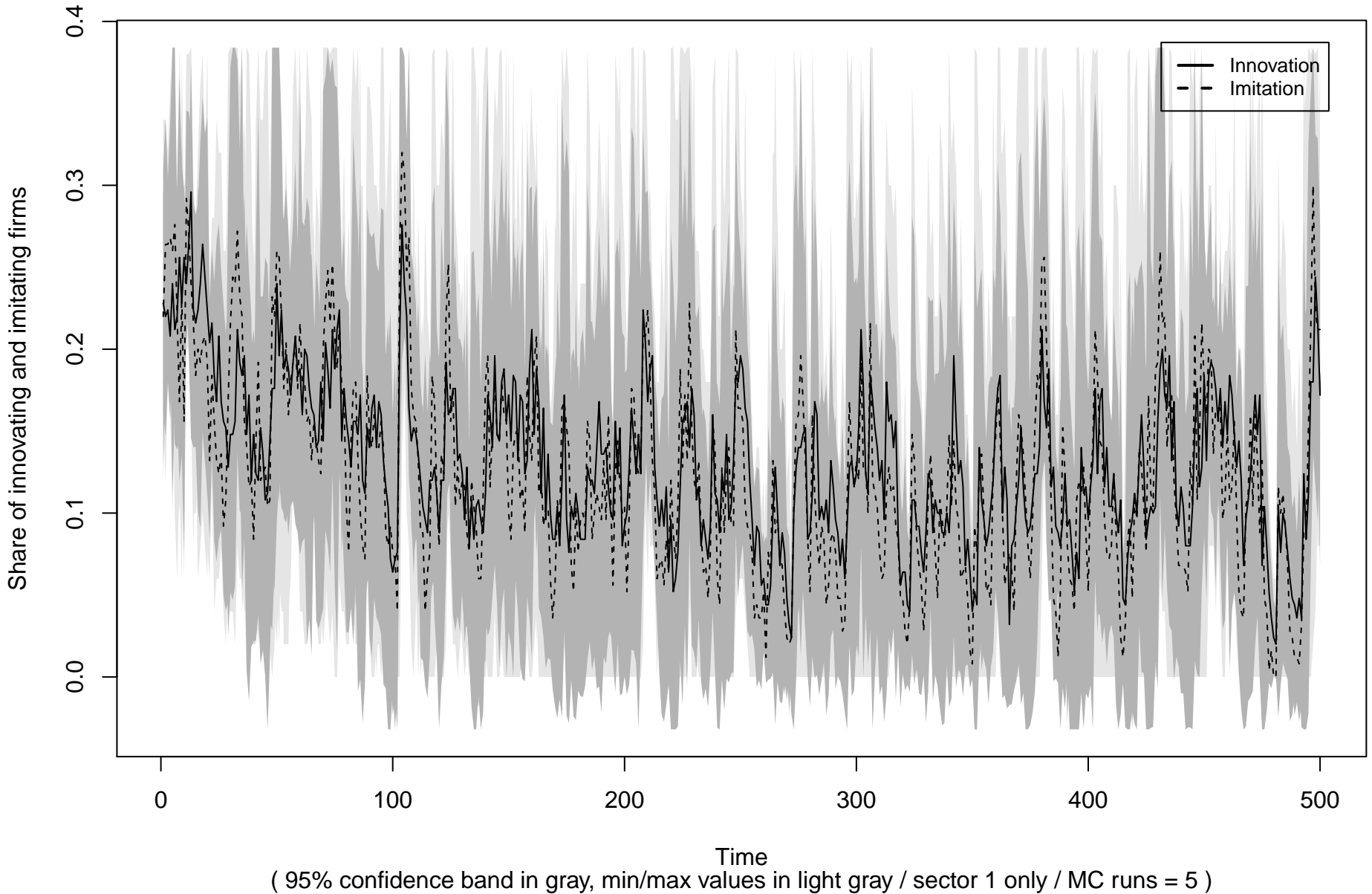
# Wage share ( Free entry )



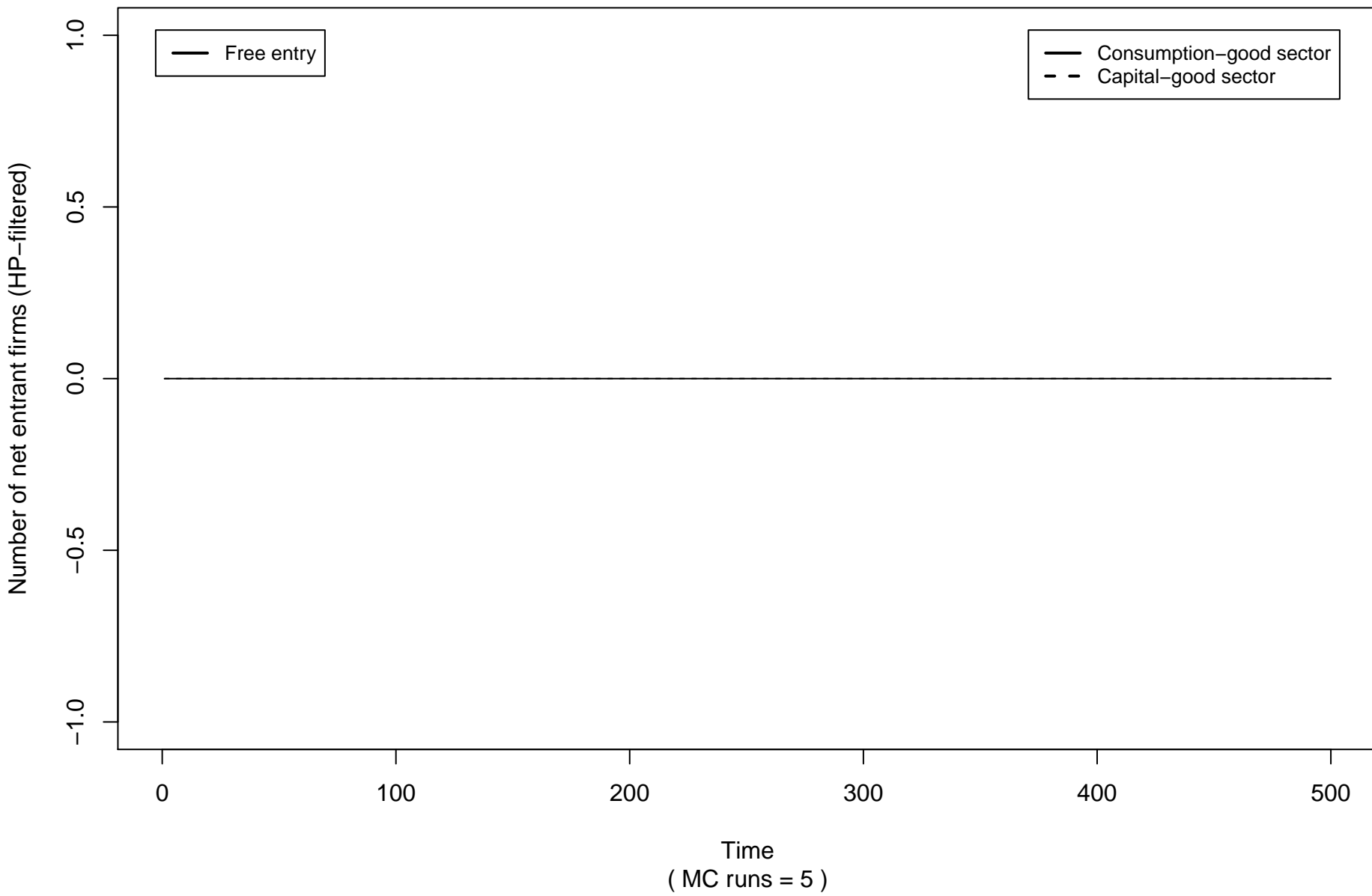
# Innovation and imitation ( all experiments )



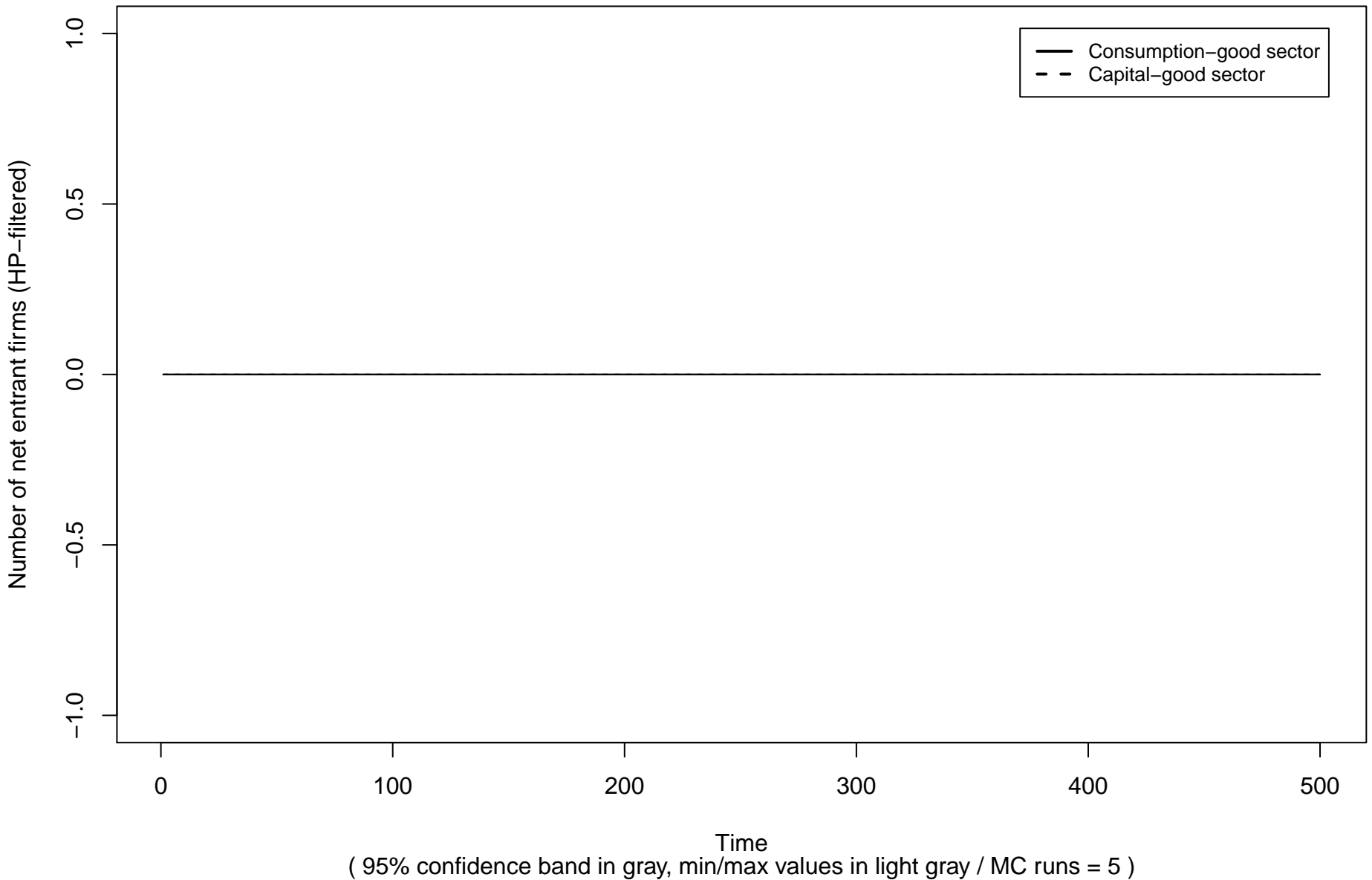
## Innovation and imitation ( Free entry )



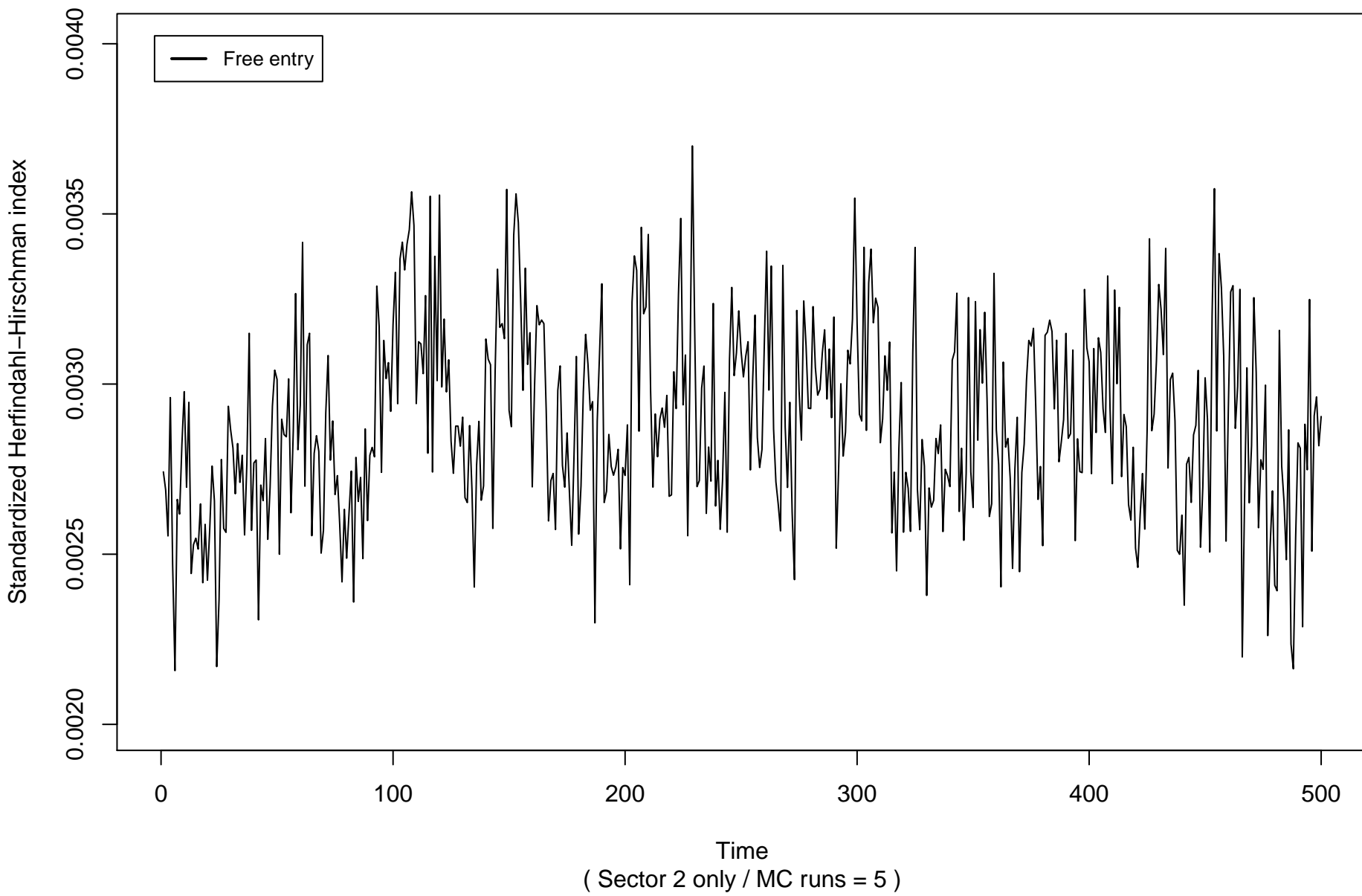
# Net entry of firms trend ( all experiments )



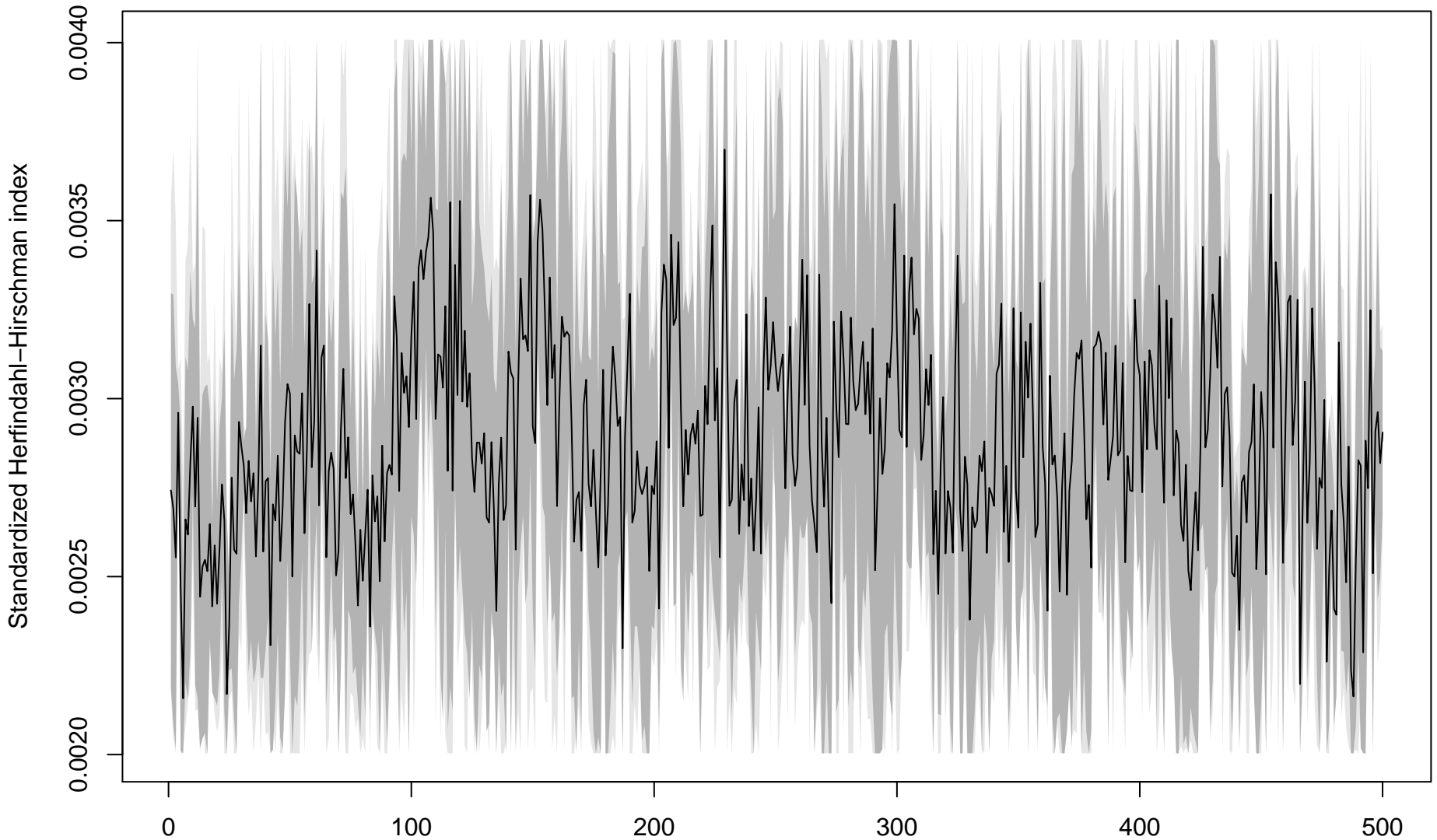
# Net entry of firms trend ( Free entry )



# Market concentration ( all experiments )



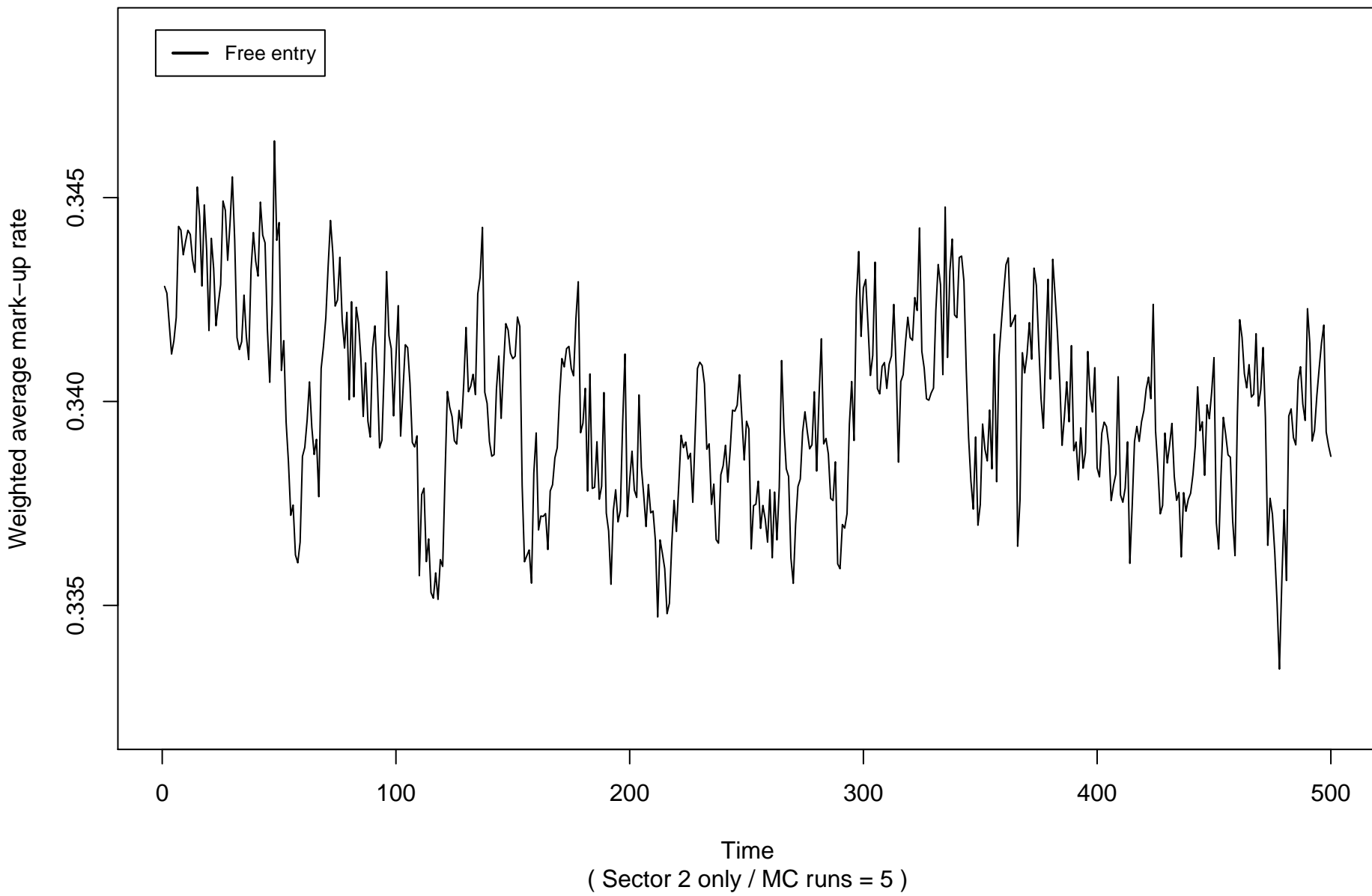
# Market concentration ( Free entry )



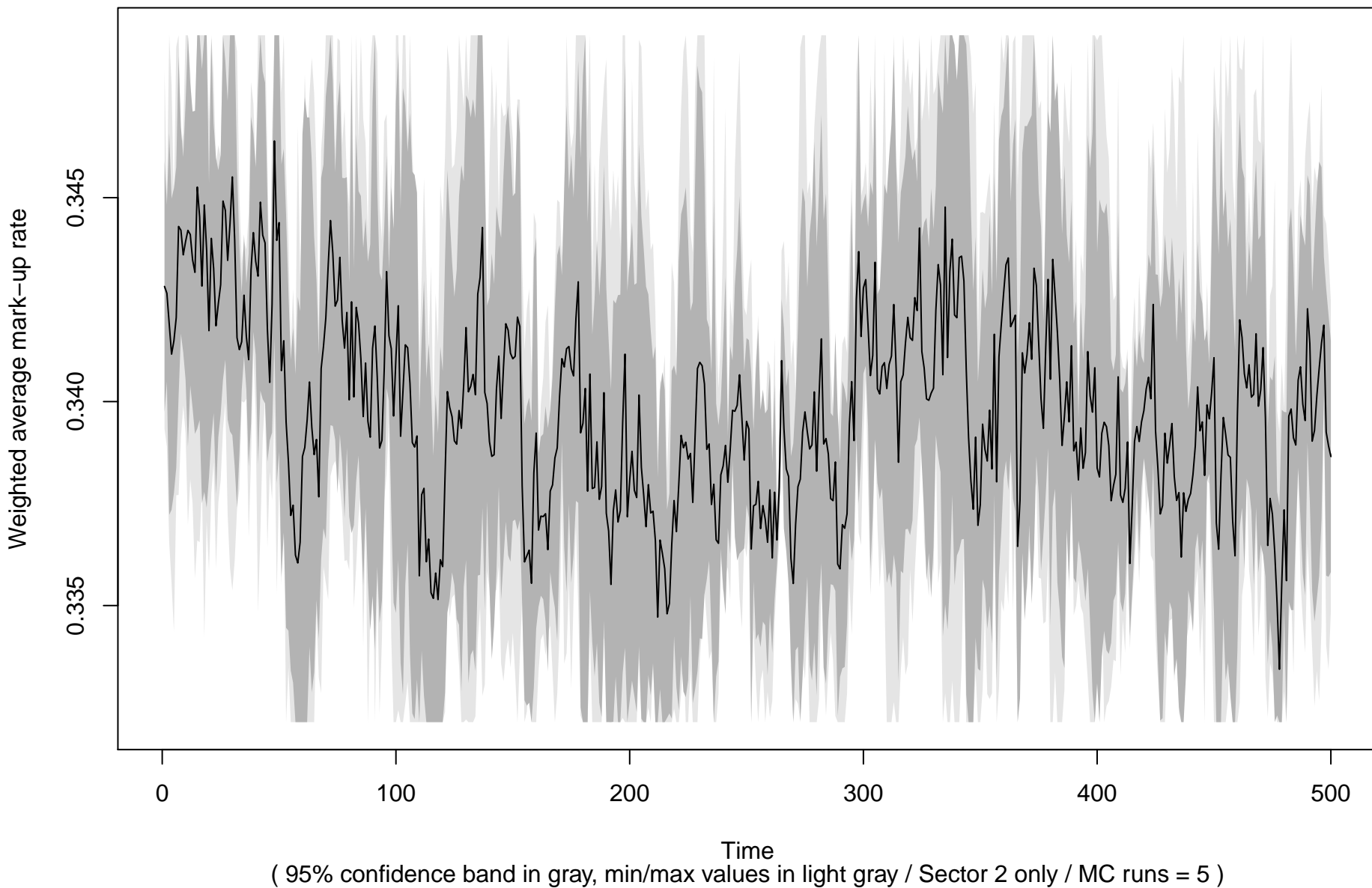
( 95% confidence band in gray, min/max values in light gray / Sector 2 only / MC runs = 5 )



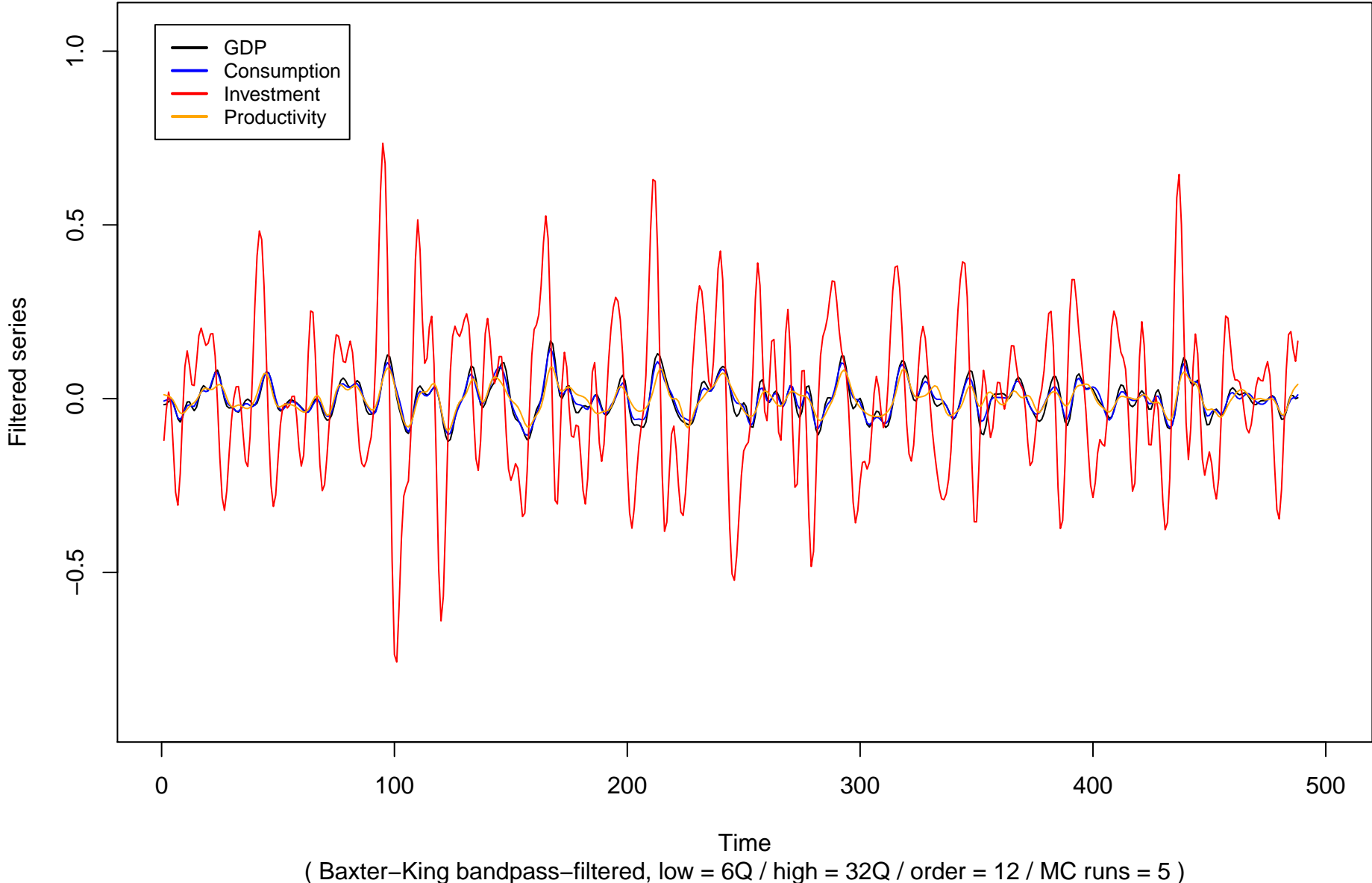
# Mark-up average ( all experiments )



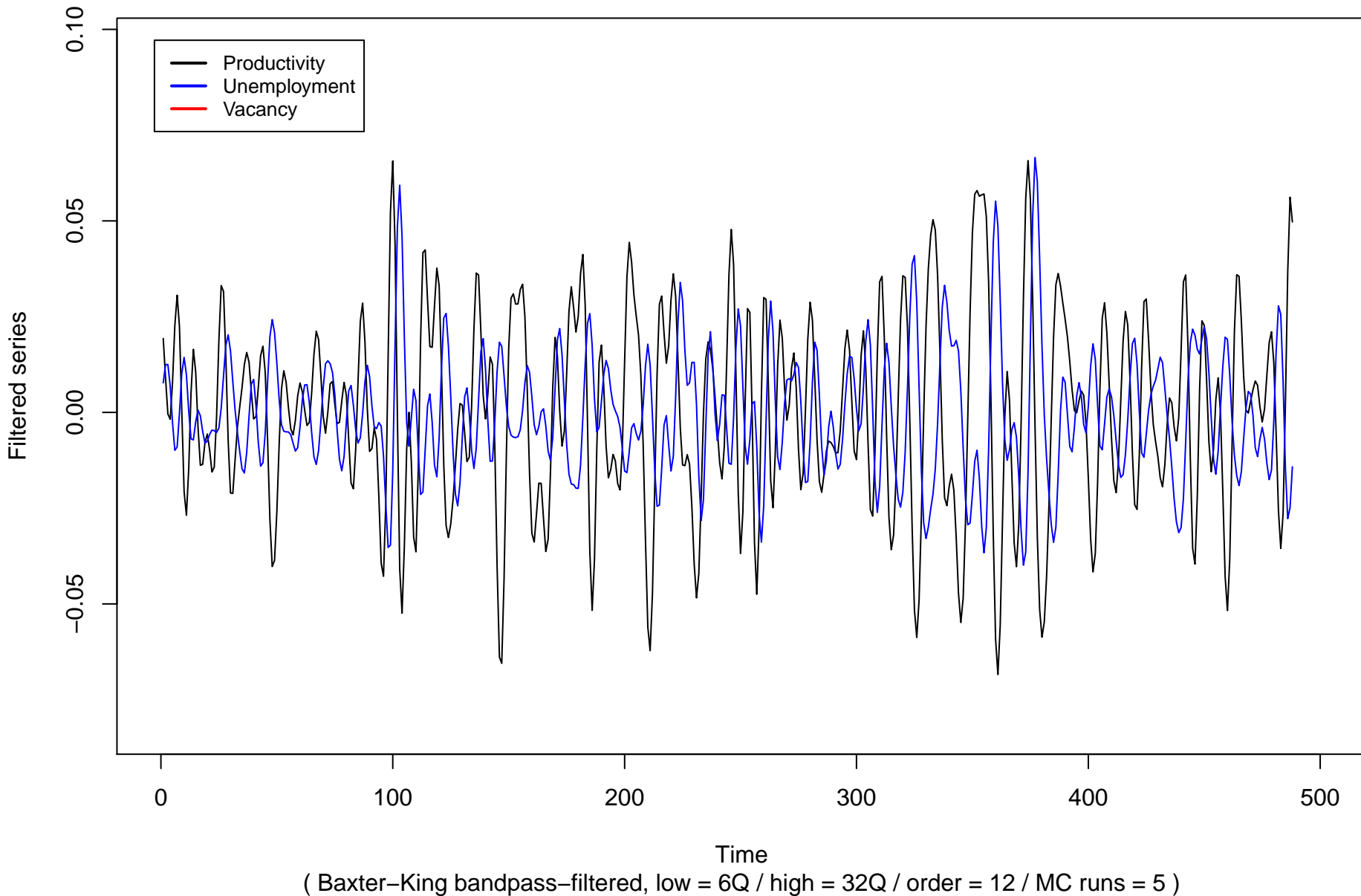
# Mark-up average ( Free entry )



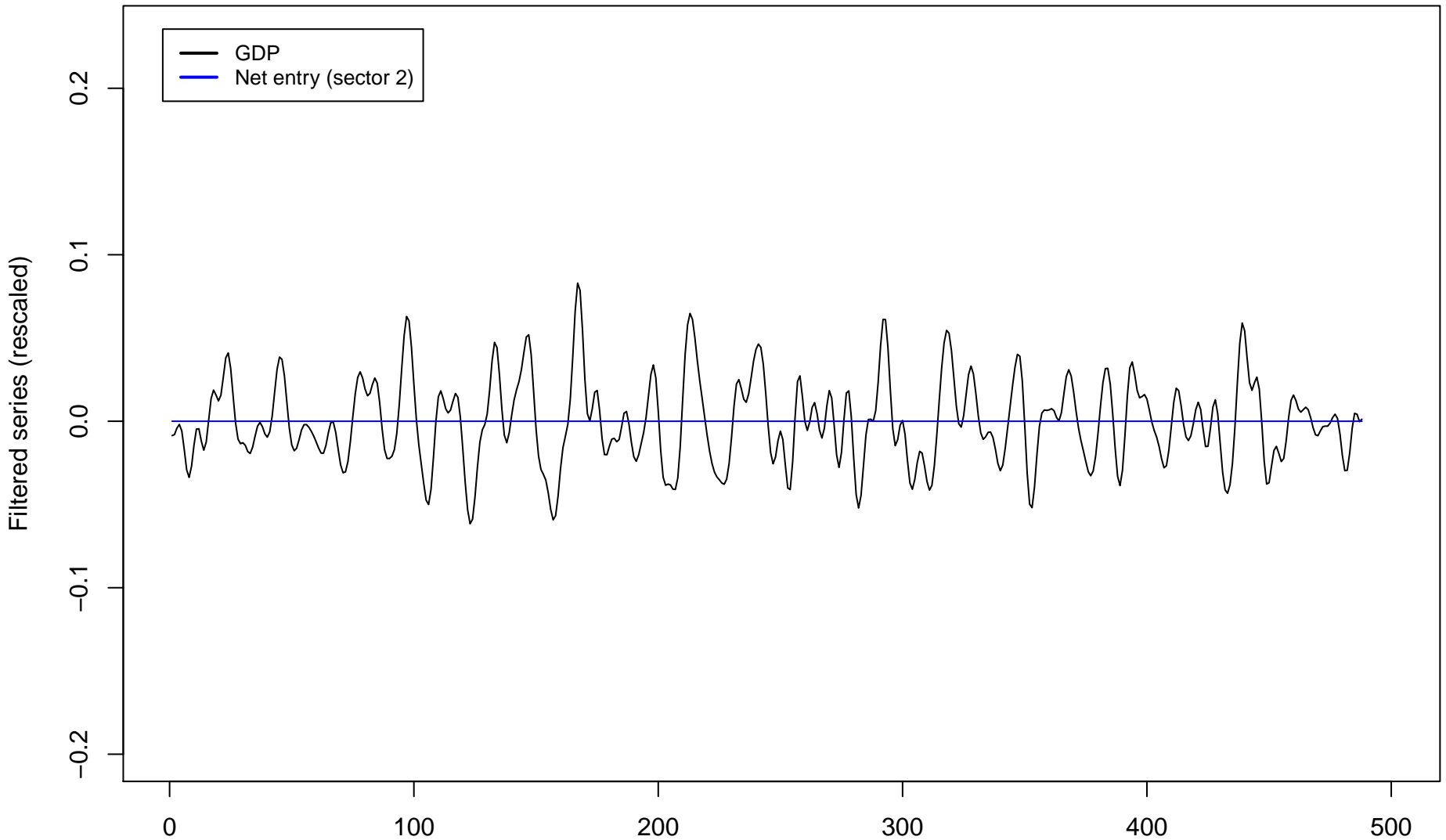
**GDP cycles ( Free entry )**



## Shimer puzzle ( Free entry )



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



Time  
( Baxter–King bandpass–filtered, low = 6Q / high = 32Q / order = 12 / MC runs = 5 )

## 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>	0.01844	0.01828	0.01846	0.01789	0.01797
<b>(s.e.)</b>	0.001263	0.00128	0.001377	0.001321	0.001358
<b>ADF test (logs)</b>	−3.24	−3.064	−7.067	−3.171	−3.243
<b>(s.e.)</b>	0.3434	0.3015	0.1119	0.2376	0.2331
<b>(p-val.)</b>	0.1695	0.1893	0.01	0.1471	0.1243
<b>(s.e.)</b>	0.09412	0.09865	0	0.0673	0.06827
<b>ADF test (bpf)</b>	−5.339	−5.196	−6.938	−6.42	−6.723
<b>(s.e.)</b>	0.1026	0.1422	0.2117	0.4176	0.3088
<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>	0.08435	0.07019	1.699	0.06125	0.07525
<b>(s.e.)</b>	0.004425	0.003325	0.06088	0.001651	0.003155
<b>relative s.d. (GDP)</b>	1	0.8322	20.14	0.7262	0.8922

( 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 )

	<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>	-0.05982	0.222	0.5752	0.8769	1	0.8769	0.5752	0.222	-0.05982
<b>(s.e.)</b>	0.03907	0.0292	0.01587	0.003912	0	0.003912	0.01587	0.0292	0.03907
<b>(p-val.)</b>	0.3022	0.004127	3.146e-06	1.743e-09	NA	1.743e-09	3.146e-06	0.004127	0.3022
<b>Consumption</b>	0.0821	0.3221	0.6075	0.8509	0.9547	0.8548	0.5942	0.267	-0.0221
<b>(s.e.)</b>	0.03704	0.02573	0.01453	0.0105	0.006967	0.00737	0.02127	0.03517	0.04406
<b>(p-val.)</b>	0.3849	0.0003557	1.718e-06	1.033e-07	1.207e-08	2.454e-08	8.688e-06	0.00301	0.5738
<b>Investment</b>	-0.316	-0.416	-0.4264	-0.3054	-0.07739	0.1708	0.3525	0.416	0.3729
<b>(s.e.)</b>	0.05048	0.02918	0.02624	0.04452	0.05458	0.05198	0.04664	0.04325	0.04334
<b>(p-val.)</b>	0.00474	0.0001625	9.519e-05	0.003583	0.0493	0.07787	0.00214	0.0007401	0.001251
<b>Net investment</b>	-0.251	-0.335	-0.3462	-0.248	-0.06036	0.1428	0.2903	0.3397	0.3029
<b>(s.e.)</b>	0.05839	0.03851	0.03058	0.04455	0.05441	0.05307	0.04989	0.0474	0.04467
<b>(p-val.)</b>	0.02144	0.00135	0.0004796	0.009793	0.05814	0.1511	0.006767	0.002701	0.003773
<b>Change in inventories</b>	-0.2649	-0.1518	0.05703	0.2623	0.3558	0.2922	0.1318	-0.02188	-0.09175
<b>(s.e.)</b>	0.02247	0.02372	0.02264	0.02678	0.03244	0.03821	0.04082	0.03474	0.02249
<b>(p-val.)</b>	0.000595	0.01946	0.8116	0.001217	0.0005253	0.002572	0.1367	0.7977	0.3147
<b>Unemployment rate</b>	0.2344	0.2822	0.2096	0.03641	-0.1517	-0.2487	-0.2256	-0.1187	-0.00668
<b>(s.e.)</b>	0.03887	0.03592	0.05908	0.07443	0.07748	0.07487	0.07	0.05913	0.04048
<b>(p-val.)</b>	0.008251	0.002449	0.0467	0.01635	0.1966	0.04366	0.05298	0.2743	0.6528
<b>Productivity</b>	0.1561	0.3527	0.5573	0.7165	0.7789	0.7115	0.5391	0.3103	0.08278
<b>(s.e.)</b>	0.06962	0.06361	0.04766	0.02736	0.04006	0.0705	0.08912	0.0894	0.07756
<b>(p-val.)</b>	0.0715	0.006387	0.0002796	1.012e-05	3.171e-05	0.0004297	0.00337	0.01903	0.02582
<b>Mark-up (sector 2)</b>	0.1512	0.04715	-0.0738	-0.1772	-0.2315	-0.224	-0.1737	-0.1111	-0.06219
<b>(s.e.)</b>	0.04263	0.04456	0.03878	0.02838	0.0268	0.04008	0.04807	0.04381	0.03433
<b>(p-val.)</b>	0.08506	0.4591	0.3826	0.01335	0.002417	0.01147	0.05678	0.1441	0.6368
<b>Total firm debt</b>	0.1798	0.09578	0.02491	-0.02558	-0.06443	-0.1036	-0.1491	-0.1917	-0.2136
<b>(s.e.)</b>	0.0384	0.05591	0.07405	0.08455	0.08513	0.07886	0.06861	0.05723	0.04725
<b>(p-val.)</b>	0.03011	0.1739	0.2911	0.1718	0.04955	0.01148	0.009422	0.02696	0.02375
<b>Liquidity-to-sales ratio</b>	0.124	-0.07449	-0.3177	-0.5529	-0.7076	-0.7143	-0.5876	-0.3814	-0.171
<b>(s.e.)</b>	0.04576	0.05174	0.04591	0.03081	0.01477	0.01187	0.02463	0.04614	0.06834
<b>(p-val.)</b>	0.1391	0.3133	0.00331	5.255e-05	9.174e-07	3.671e-07	1.638e-05	0.001419	0.1044
<b>Bankruptcy rate</b>	0.2968	0.215	0.05277	-0.124	-0.2341	-0.2366	-0.1582	-0.06772	-0.02285
<b>(s.e.)</b>	0.05969	0.0455	0.07123	0.09342	0.08676	0.05763	0.03426	0.03744	0.04334
<b>(p-val.)</b>	0.01106	0.02064	0.05873	0.08835	0.03182	0.02658	0.04224	0.4643	0.4239

( 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>	-0.05982	0.222	0.5752	0.8769	1	0.8769	0.5752	0.222	-0.05982
<b>(s.e.)</b>	0.03907	0.0292	0.01587	0.003912	0	0.003912	0.01587	0.0292	0.03907
<b>(p-val.)</b>	0.3022	0.004127	3.146e-06	1.743e-09	NA	1.743e-09	3.146e-06	0.004127	0.3022
<b>Consumption</b>	0.0821	0.3221	0.6075	0.8509	0.9547	0.8548	0.5942	0.267	-0.0221
<b>(s.e.)</b>	0.03704	0.02573	0.01453	0.0105	0.006967	0.00737	0.02127	0.03517	0.04406
<b>(p-val.)</b>	0.3849	0.0003557	1.718e-06	1.033e-07	1.207e-08	2.454e-08	8.688e-06	0.00301	0.5738
<b>Investment</b>	-0.316	-0.416	-0.4264	-0.3054	-0.07739	0.1708	0.3525	0.416	0.3729
<b>(s.e.)</b>	0.05048	0.02918	0.02624	0.04452	0.05458	0.05198	0.04664	0.04325	0.04334
<b>(p-val.)</b>	0.00474	0.0001625	9.519e-05	0.003583	0.0493	0.07787	0.00214	0.0007401	0.001251
<b>Productivity</b>	0.1561	0.3527	0.5573	0.7165	0.7789	0.7115	0.5391	0.3103	0.08278
<b>(s.e.)</b>	0.06962	0.06361	0.04766	0.02736	0.04006	0.0705	0.08912	0.0894	0.07756
<b>(p-val.)</b>	0.0715	0.006387	0.0002796	1.012e-05	3.171e-05	0.0004297	0.00337	0.01903	0.02582
<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>	-0.1219	0.04125	0.2371	0.4119	0.5126	0.5053	0.4086	0.2633	0.1149
<b>(s.e.)</b>	0.02704	0.01366	0.0258	0.03747	0.03463	0.03083	0.04504	0.06437	0.07106
<b>(p-val.)</b>	0.09834	0.9765	0.001841	0.0004483	0.000118	7.997e-05	0.0009384	0.02324	0.1238
<b>Wage</b>	0.2168	0.4558	0.6718	0.7972	0.7889	0.6441	0.4169	0.1737	-0.03189
<b>(s.e.)</b>	0.05818	0.03873	0.0208	0.02293	0.0337	0.04221	0.04749	0.04914	0.04764
<b>(p-val.)</b>	0.03924	0.0003158	4.538e-06	3.114e-06	1.508e-05	9.065e-05	0.001042	0.06462	0.5034
<b>Unemployment rate</b>	0.2344	0.2822	0.2096	0.03641	-0.1517	-0.2487	-0.2256	-0.1187	-0.00668
<b>(s.e.)</b>	0.03887	0.03592	0.05908	0.07443	0.07748	0.07487	0.07	0.05913	0.04048
<b>(p-val.)</b>	0.008251	0.002449	0.0467	0.01635	0.1966	0.04366	0.05298	0.2743	0.6528
<b>Vacancy rate</b>	0.23	0.01071	-0.2259	-0.3783	-0.3939	-0.2996	-0.1732	-0.0838	-0.05159
<b>(s.e.)</b>	0.02443	0.01298	0.02121	0.0335	0.03812	0.03943	0.04213	0.04271	0.03687
<b>(p-val.)</b>	0.001786	0.9992	0.001172	0.0004396	0.0005934	0.002547	0.04576	0.3769	0.622

( 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 )

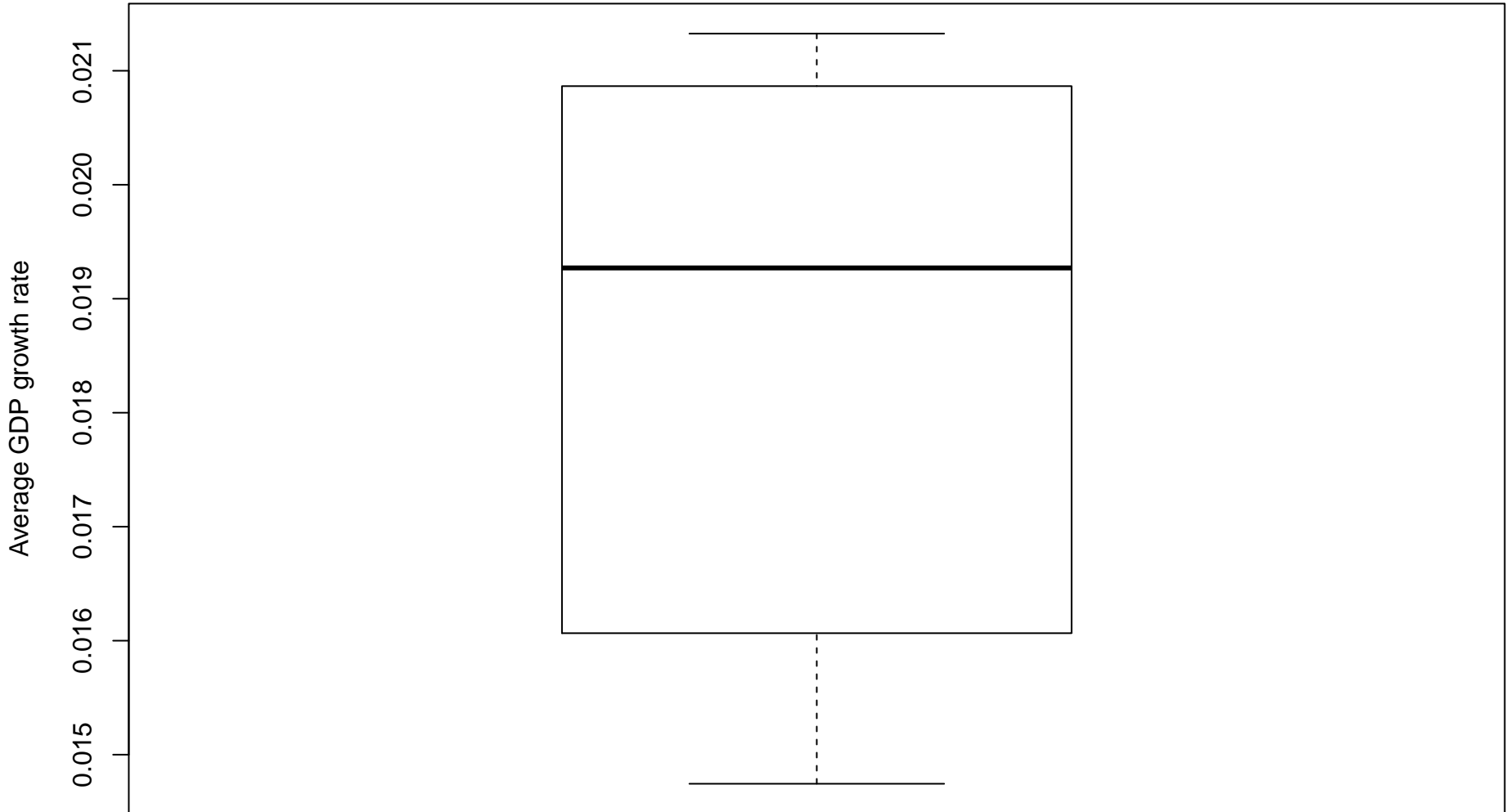
	avg.ADF	rej.ADF	avg.PP	rej.PP	avg.KPSS	rej.KPSS	avg.BDS	rej.BDS	avg.KS	rej.KS	AD	V
dGDP	0.01	1.00	0.01	1.00	0.10	0.00	0.21	0.20	0.75	0.00	0.88	C
dA	0.01	1.00	0.01	1.00	0.10	0.00	0.00	1.00	0.37	0.10	0.04	C
dw	0.01	1.00	0.01	1.00	0.10	0.00	0.00	1.00	0.39	0.10	0.04	C
V	0.01	1.00	0.01	1.00	0.08	0.20	0.05	0.80	0.20	0.50	0.00	C
U	0.01	1.00	0.01	1.00	0.05	0.60	0.00	1.00	0.00	1.00	0.00	C
mu2avg	0.02	0.80	0.01	1.00	0.08	0.20	0.00	1.00	0.08	0.80	0.00	C
HH1	0.01	1.00	0.01	1.00	0.10	0.00	0.00	1.00	0.26	0.40	0.00	C
HH2	0.01	1.00	0.01	1.00	0.04	0.60	0.05	0.80	0.28	0.30	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 )

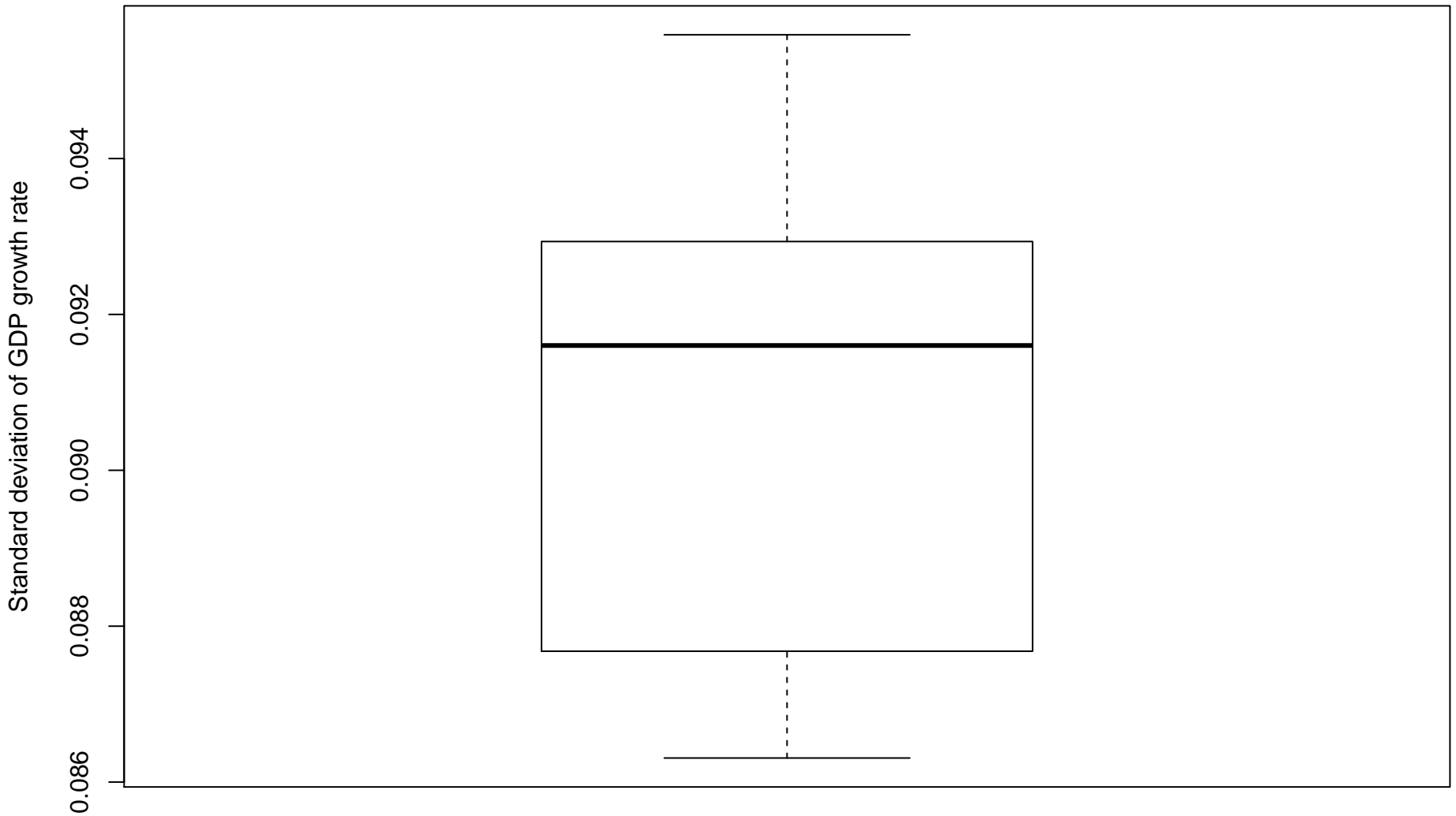
( significance = 0.05 )

## GDP growth



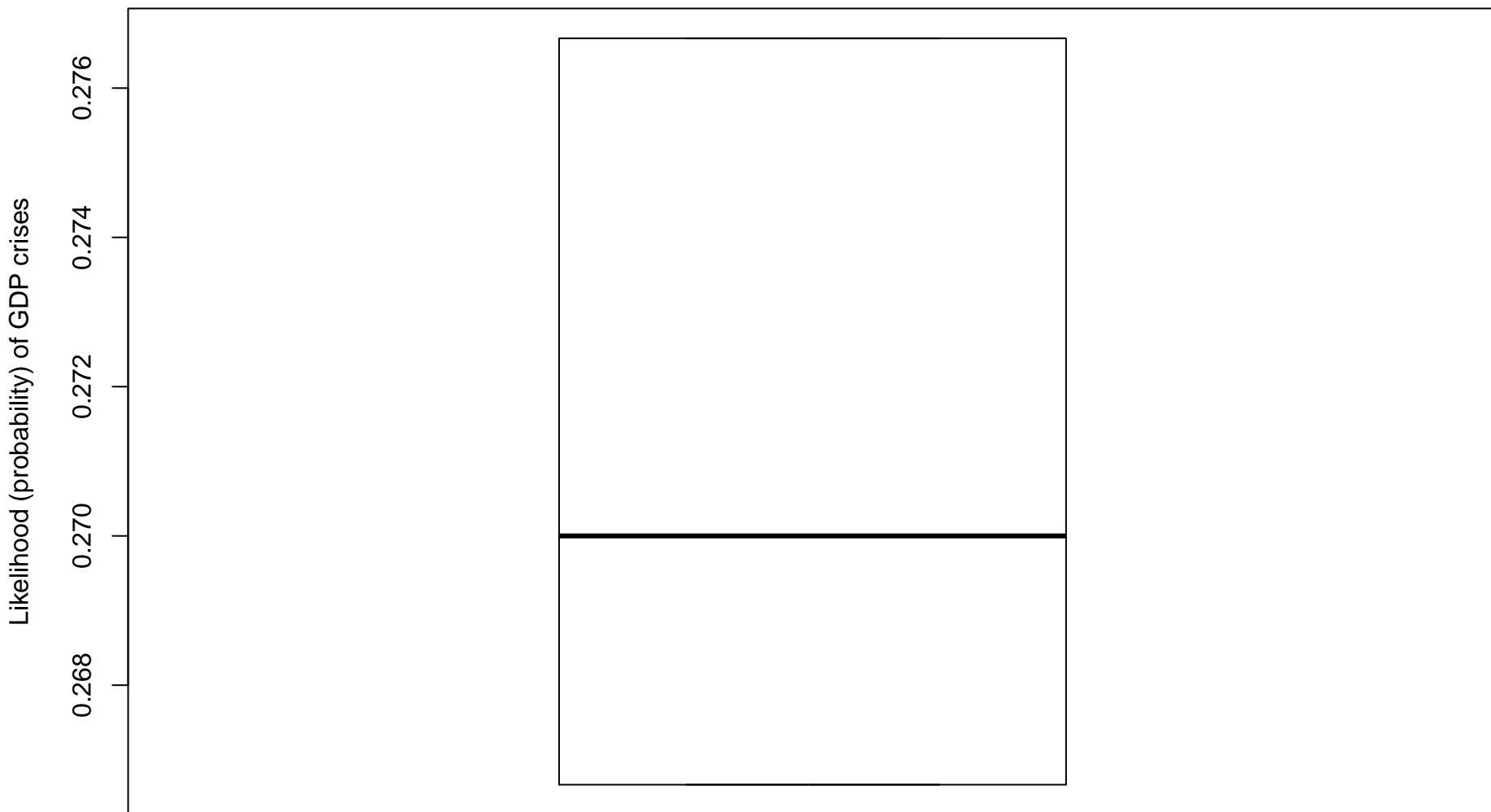
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600 )

## Volatility of GDP growth



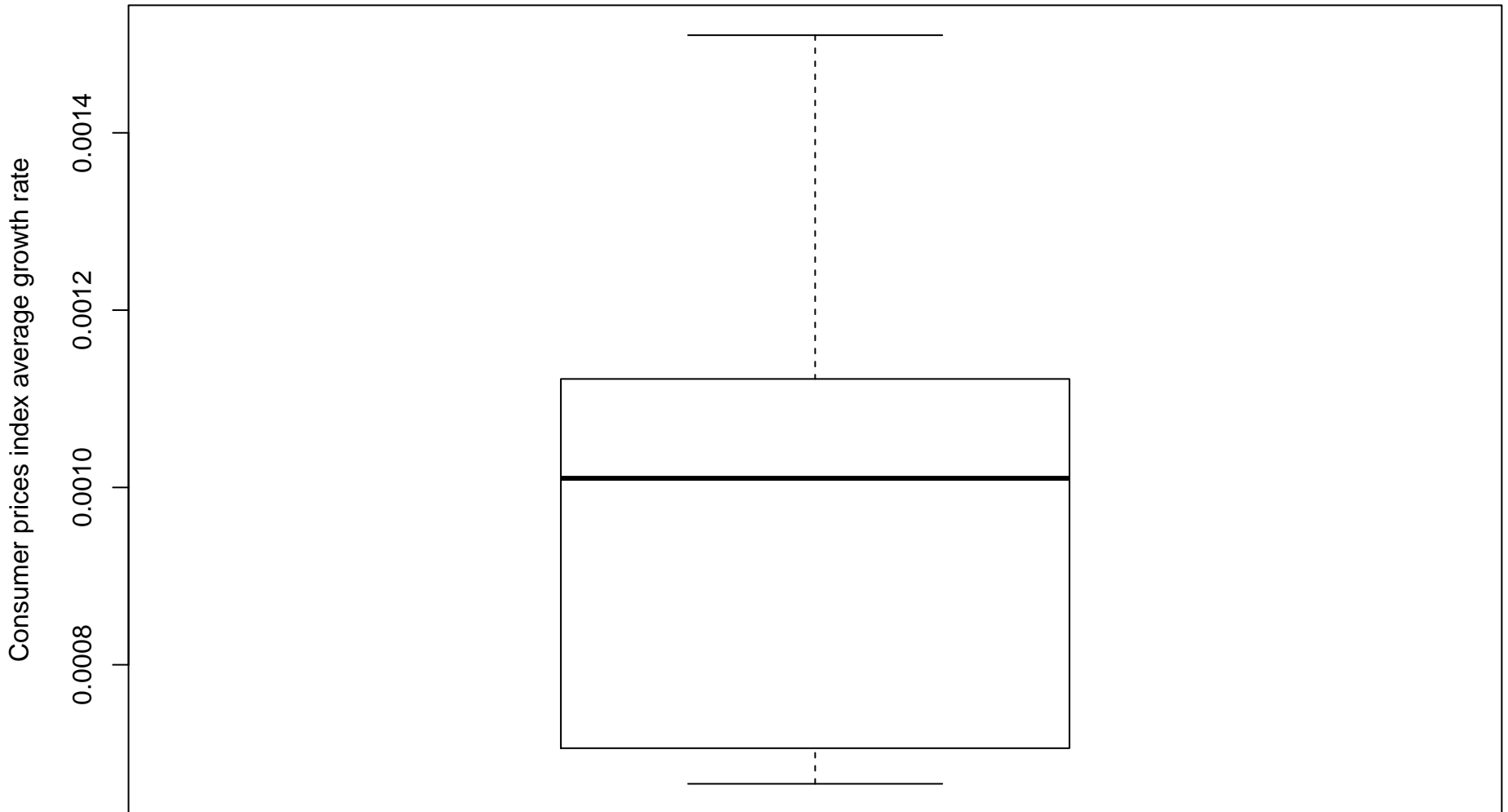
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600 )

## Likelihood of GDP crises



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

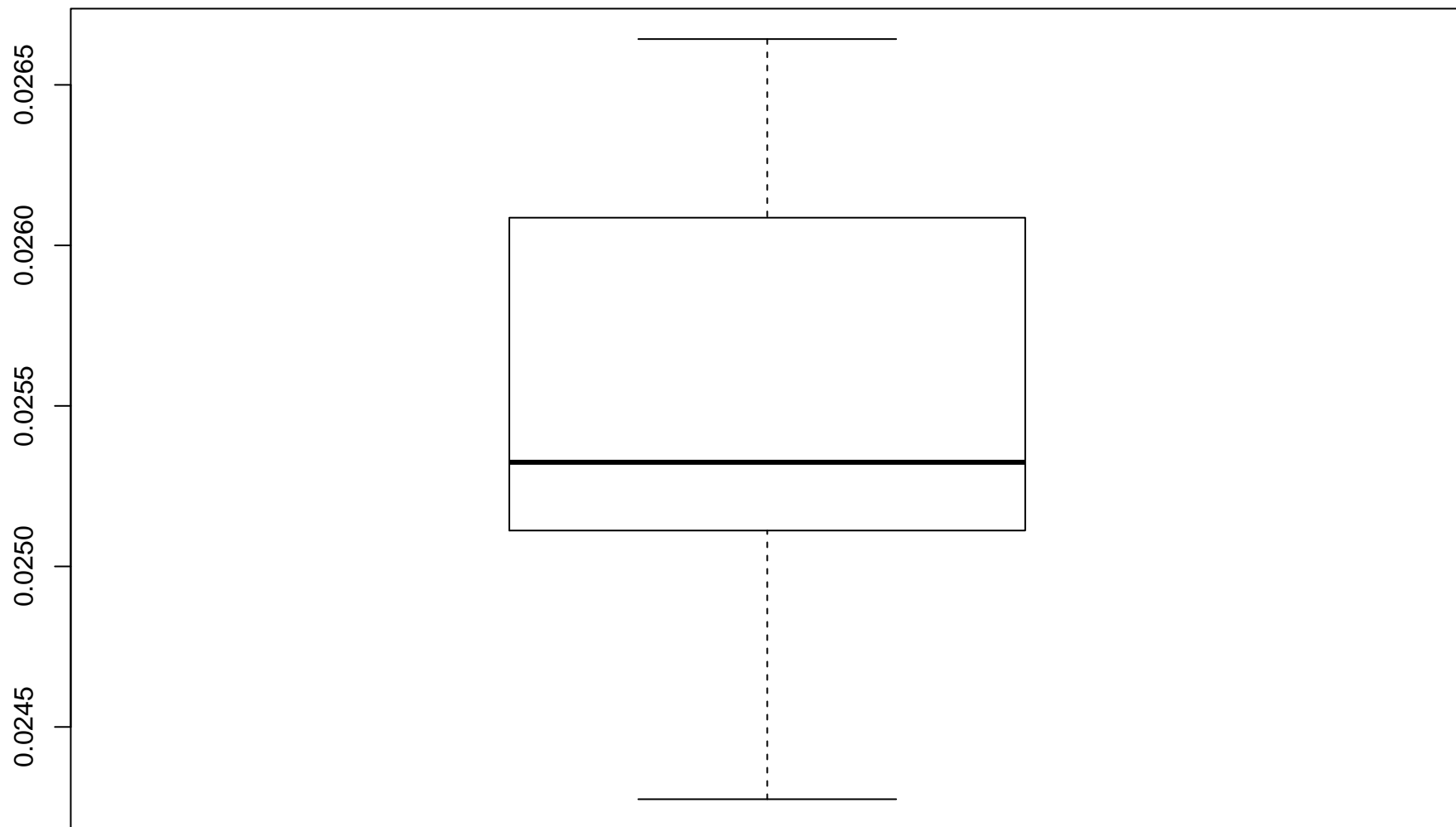
# Inflation



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

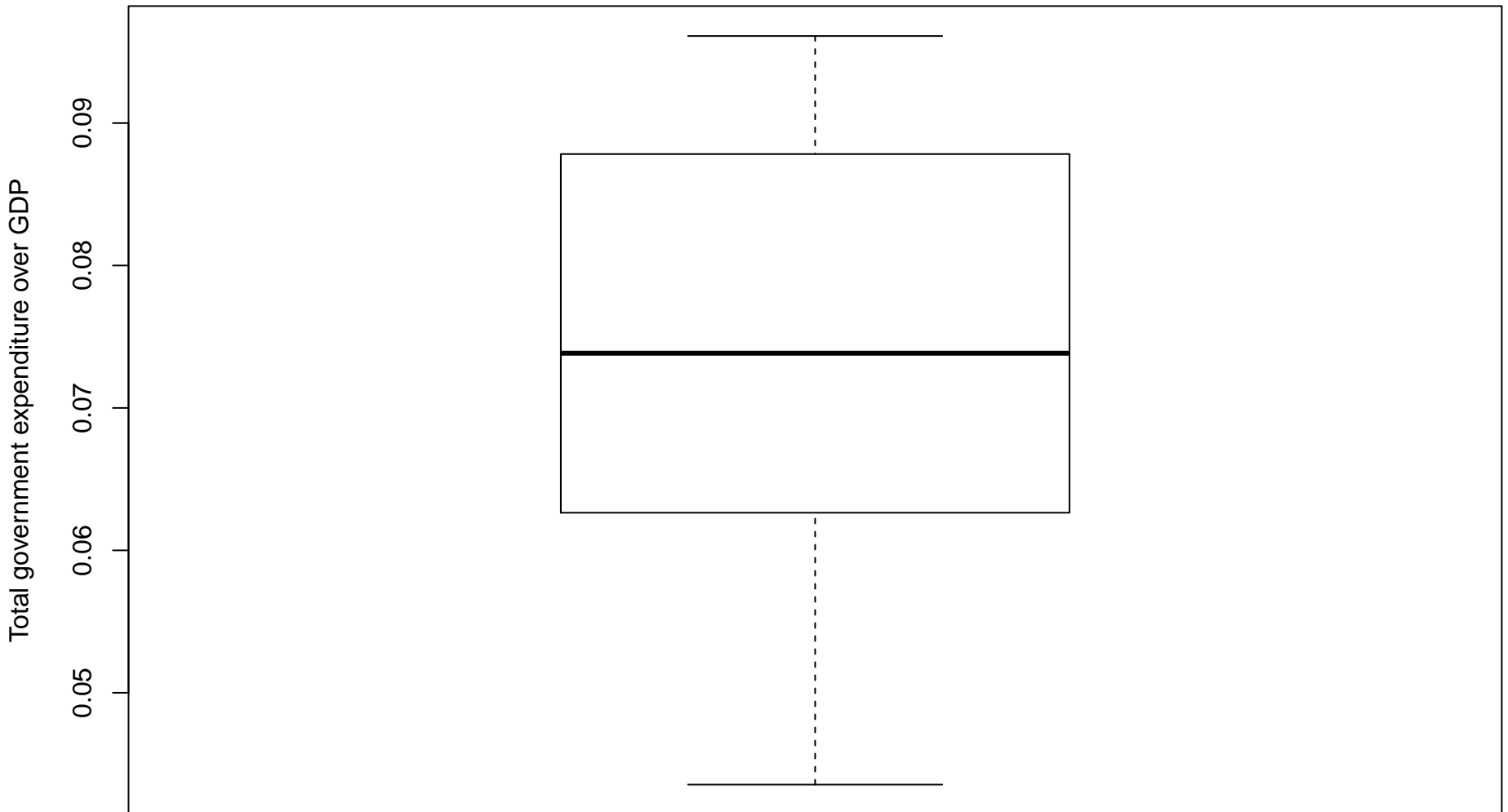
Government tax income over GDP

Tax



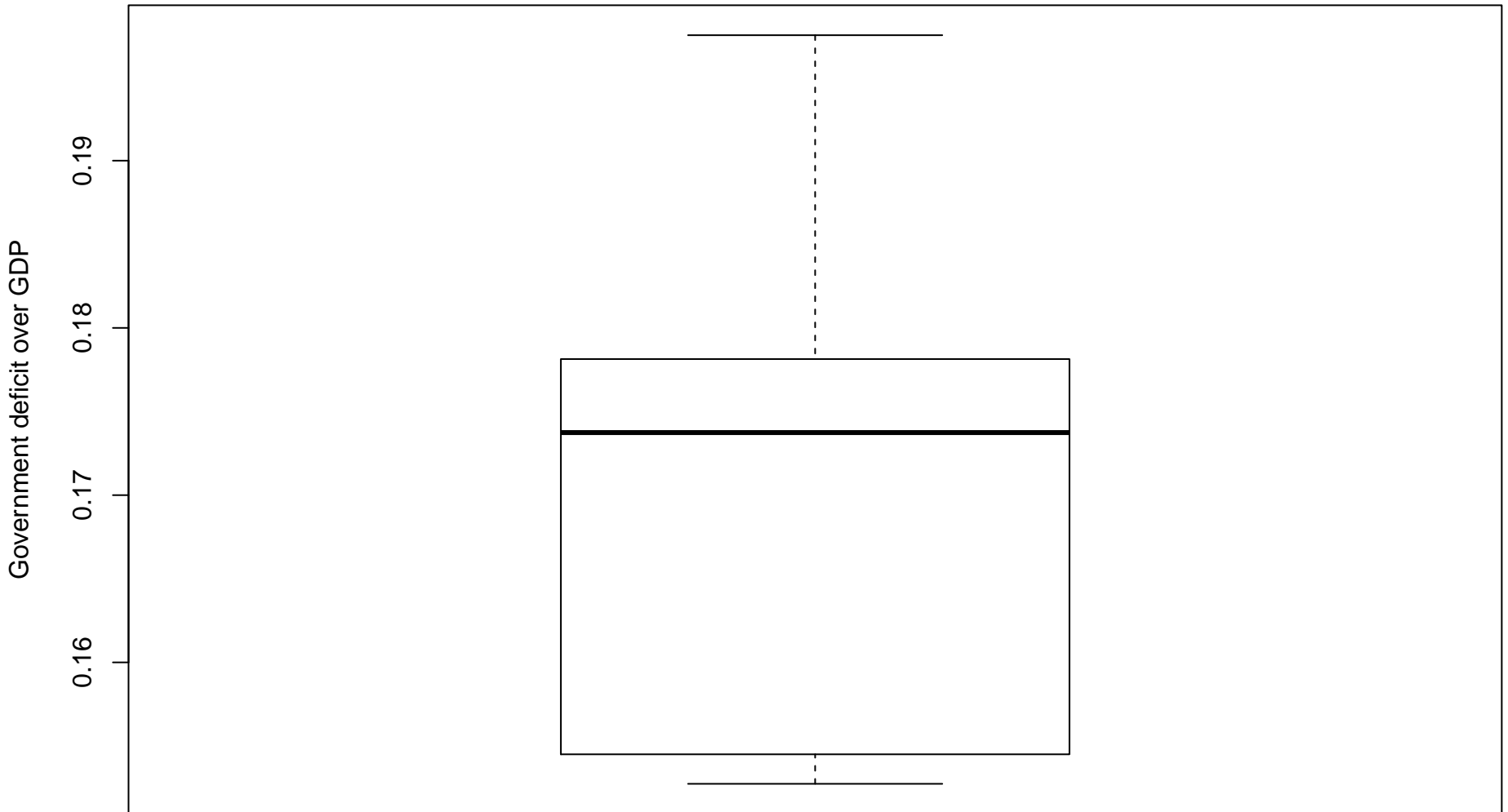
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600 )

## Government total expenditure



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

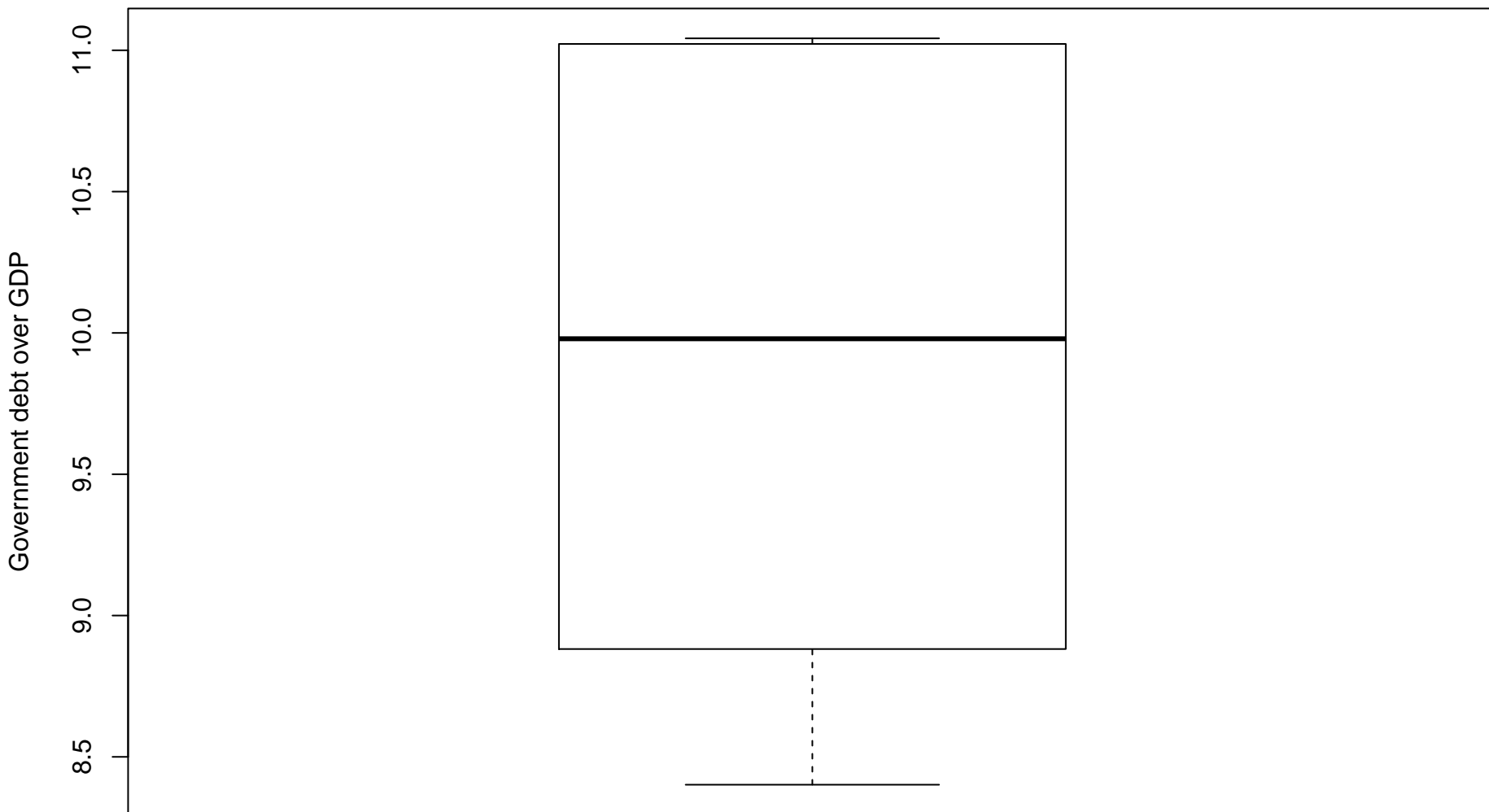
## Government deficit



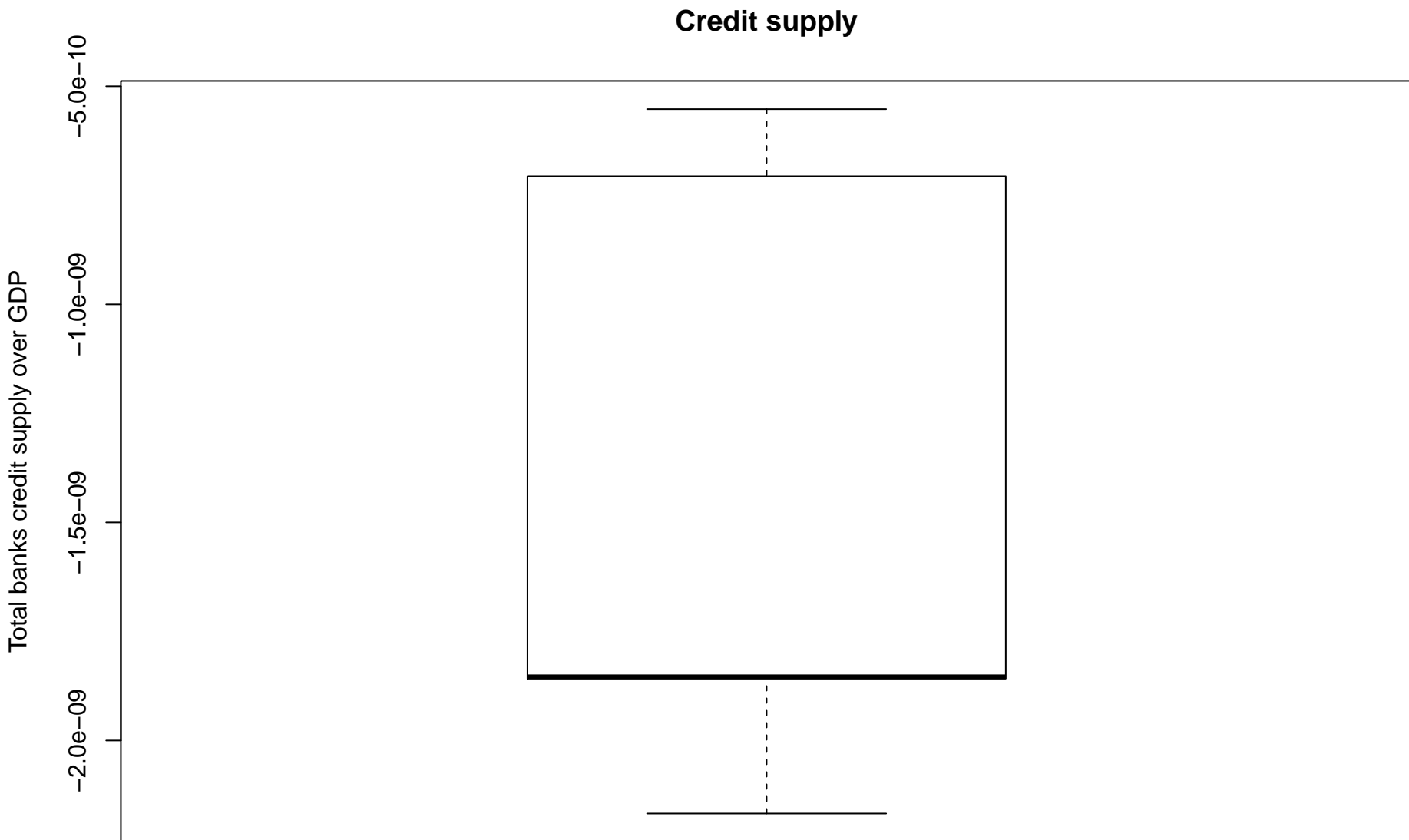
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600 )



# Government debt

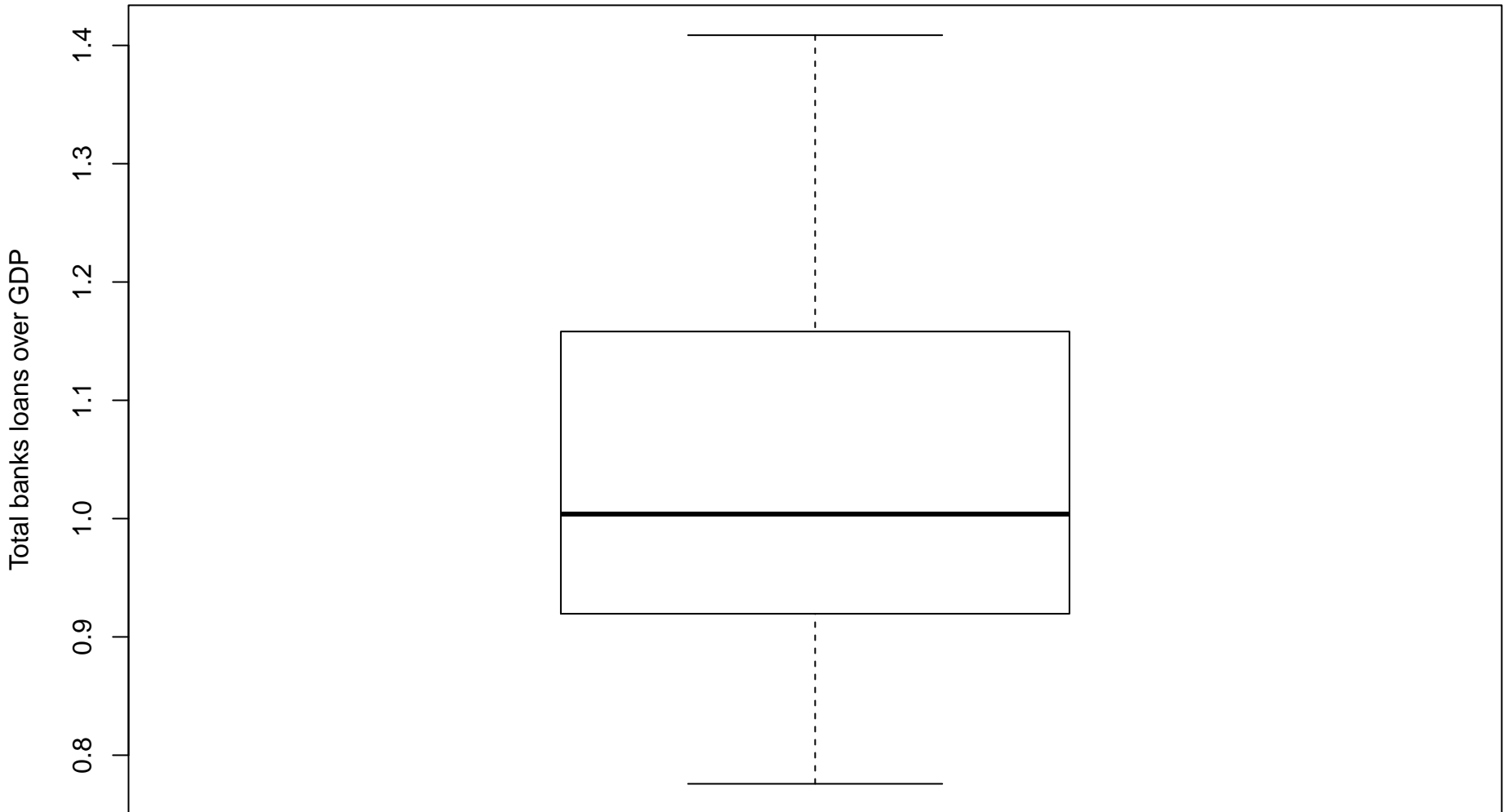


( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600 )



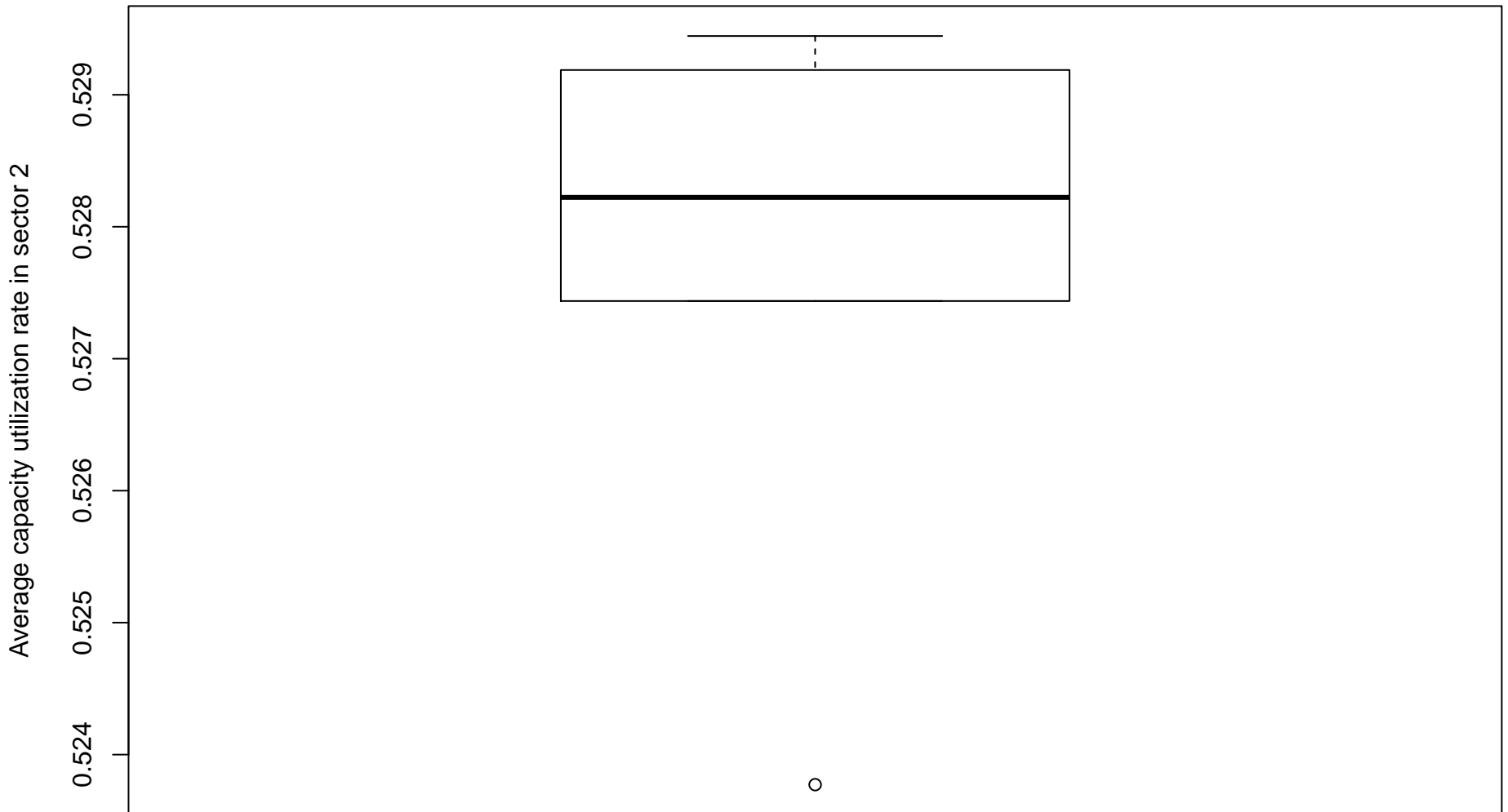
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600 )

## Loans



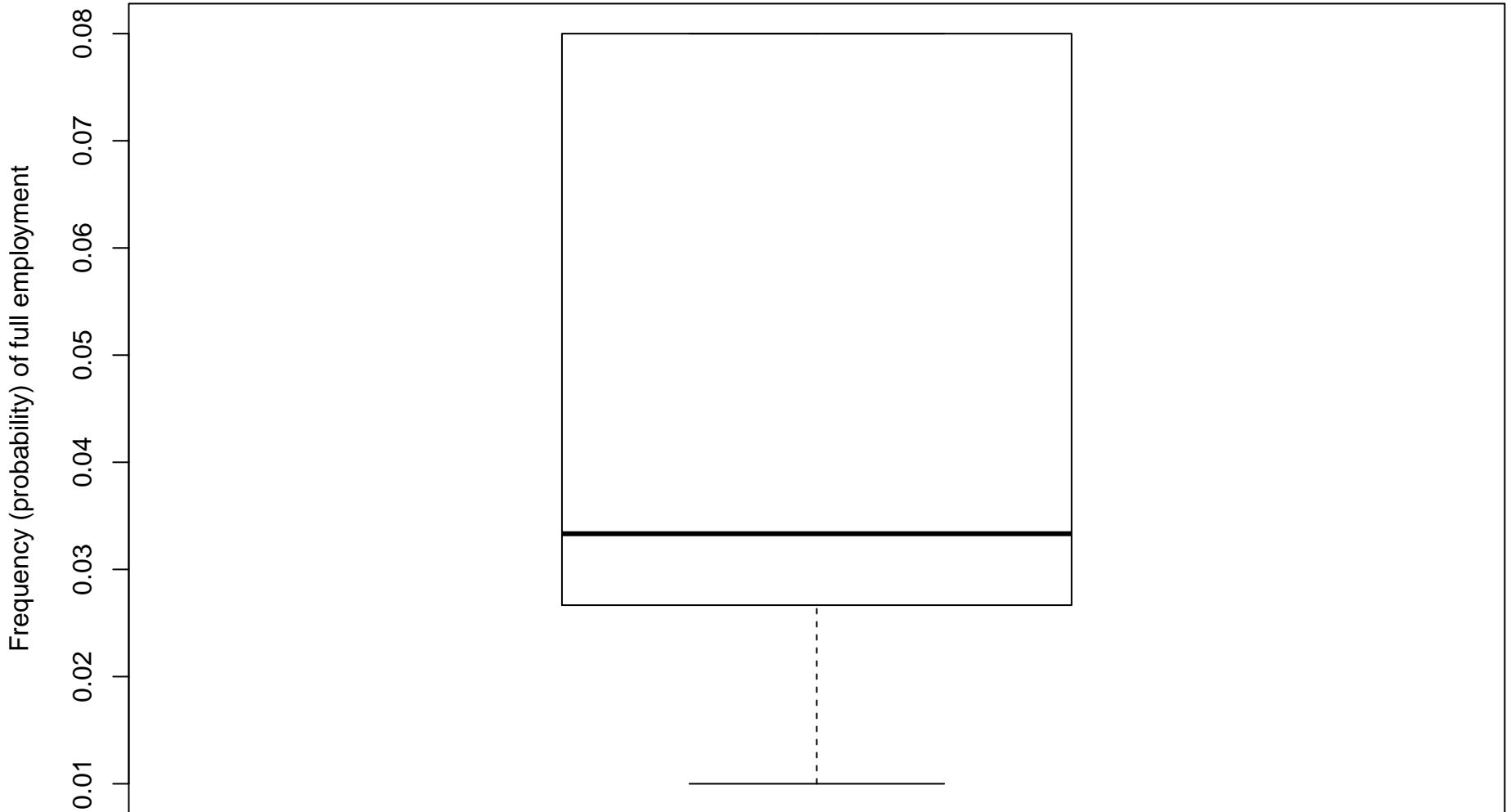
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600 )

## Capacity utilization



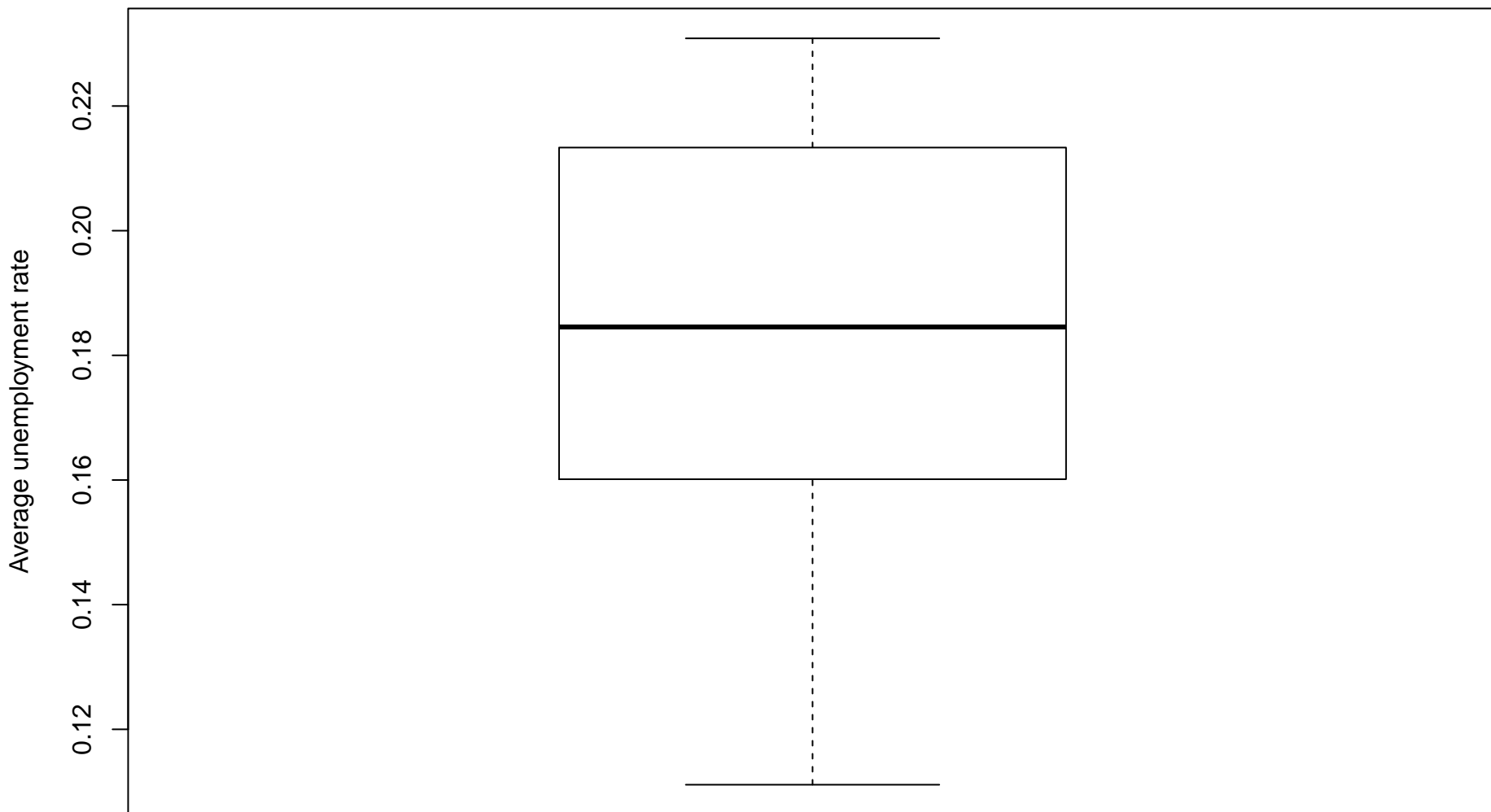
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600 )

## Full employment frequency



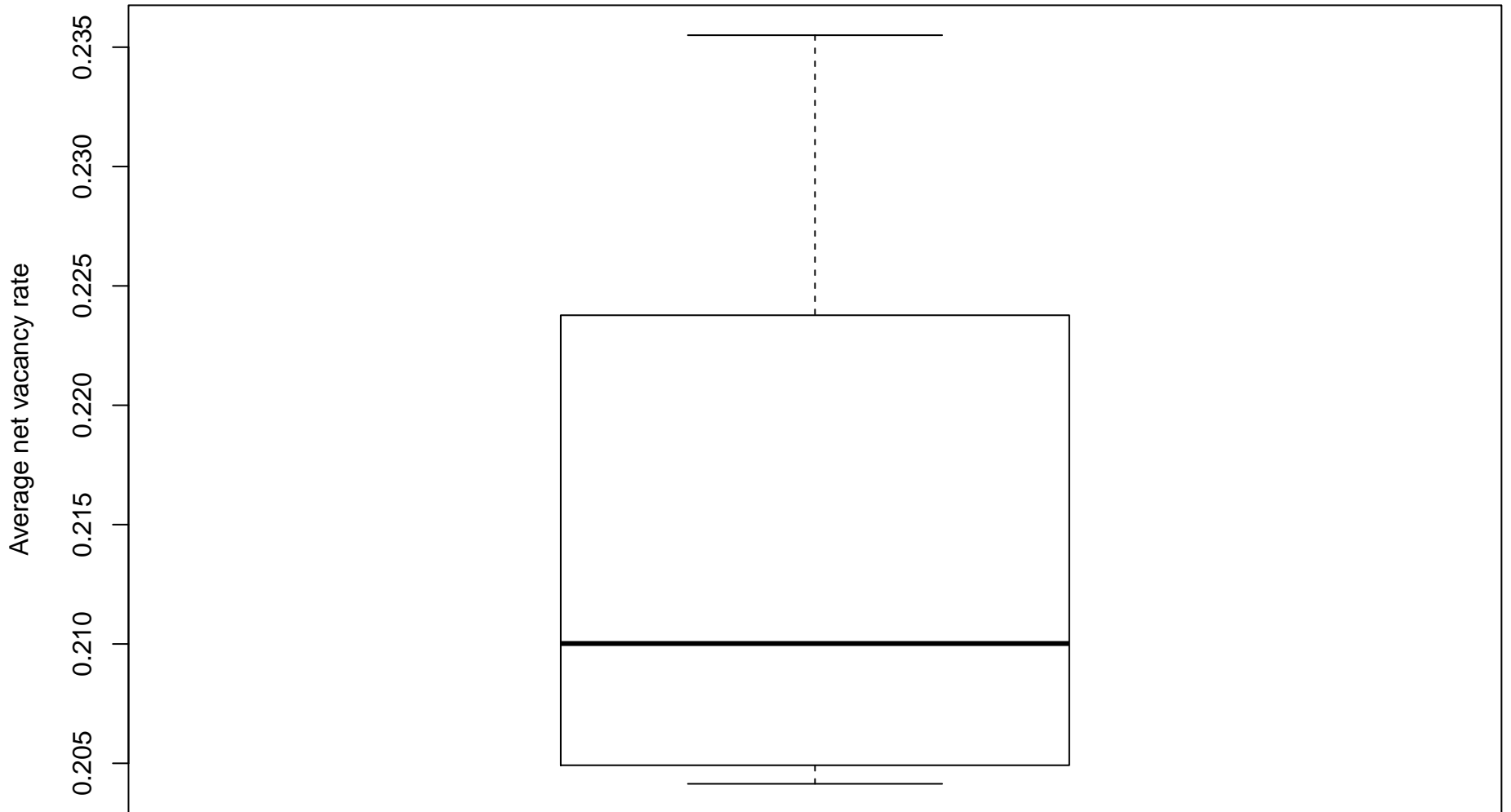
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600 )

## Unemployment



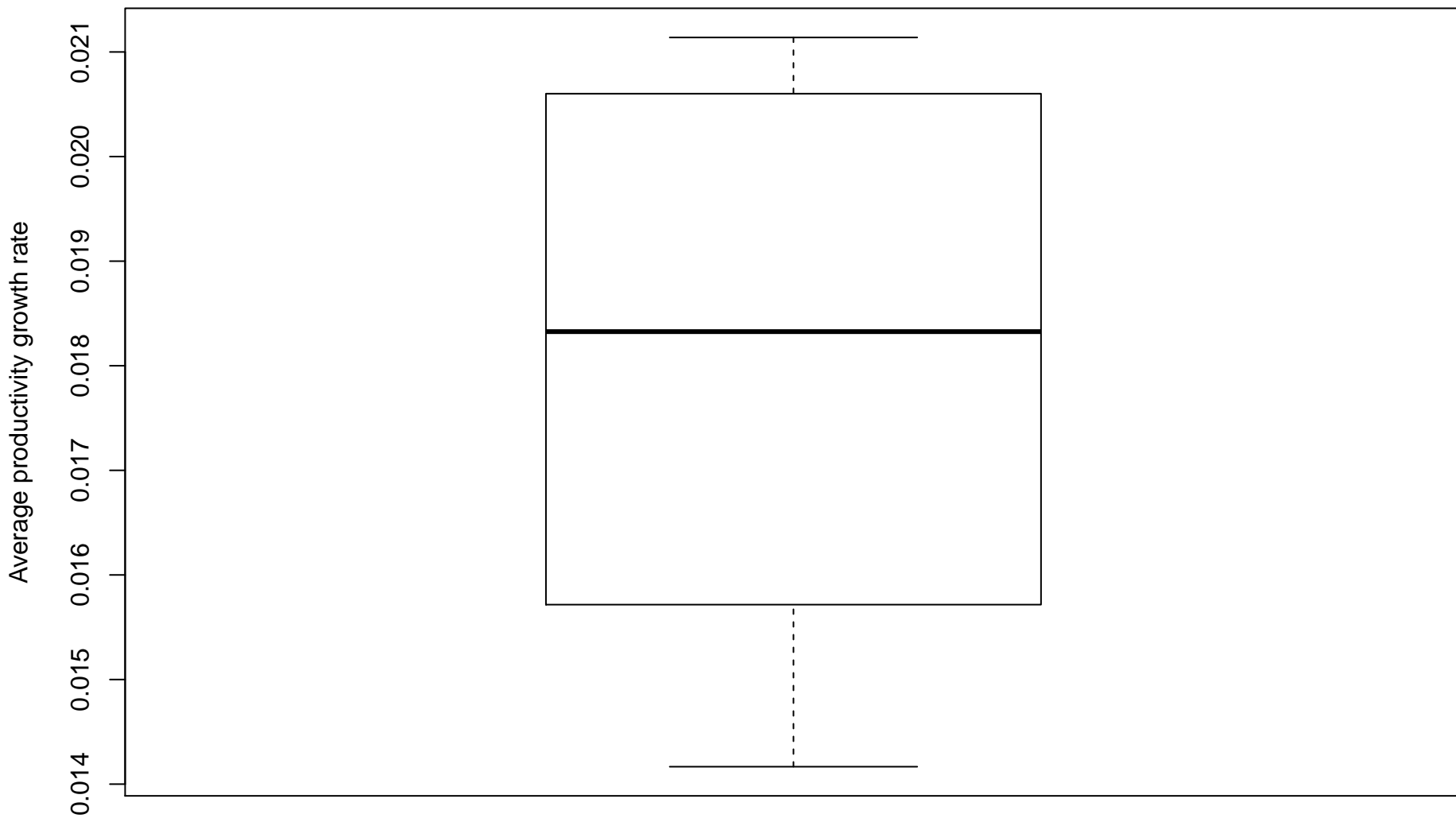
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600 )

# Vacancy



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

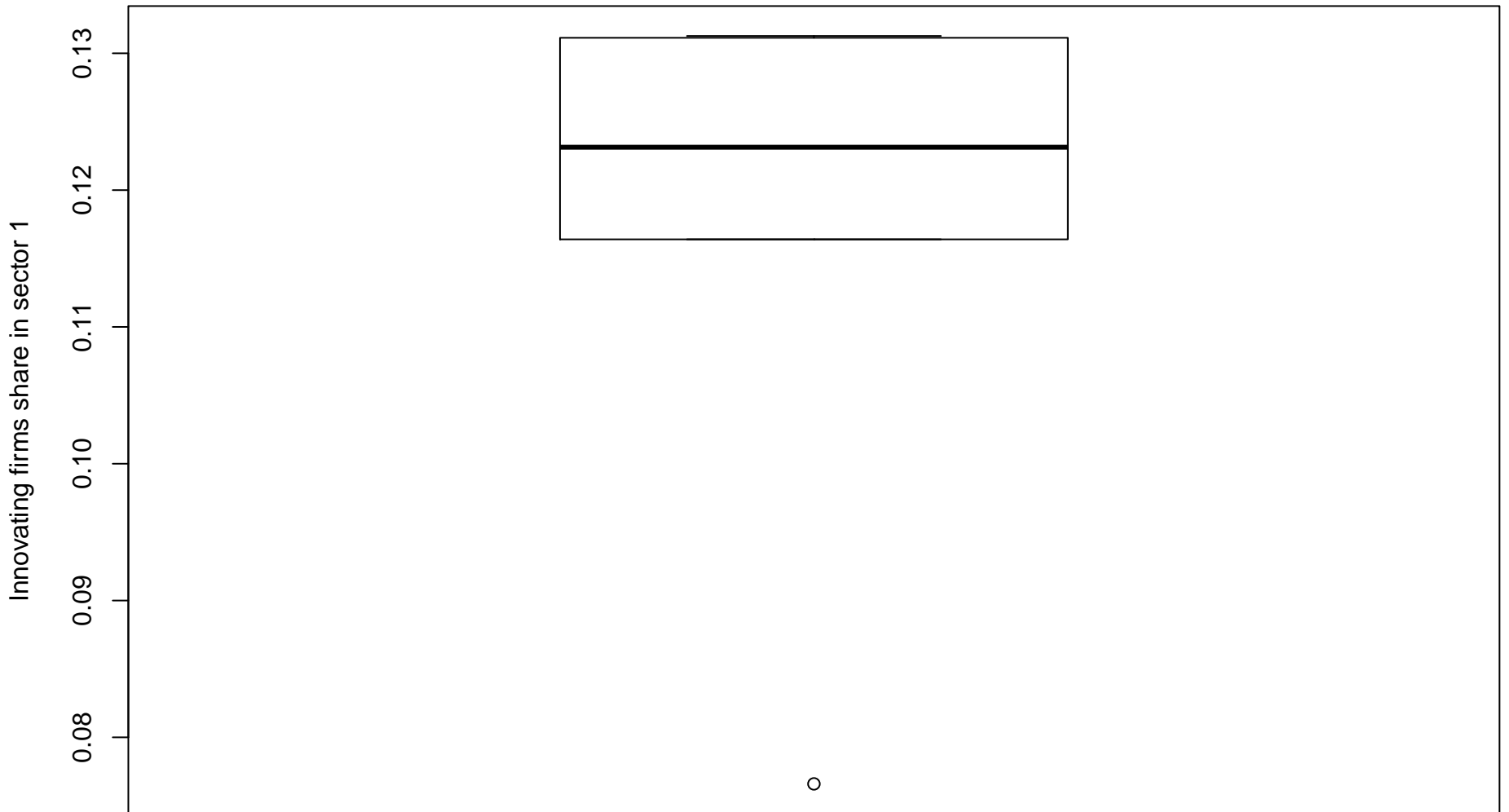
## Productivity growth



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

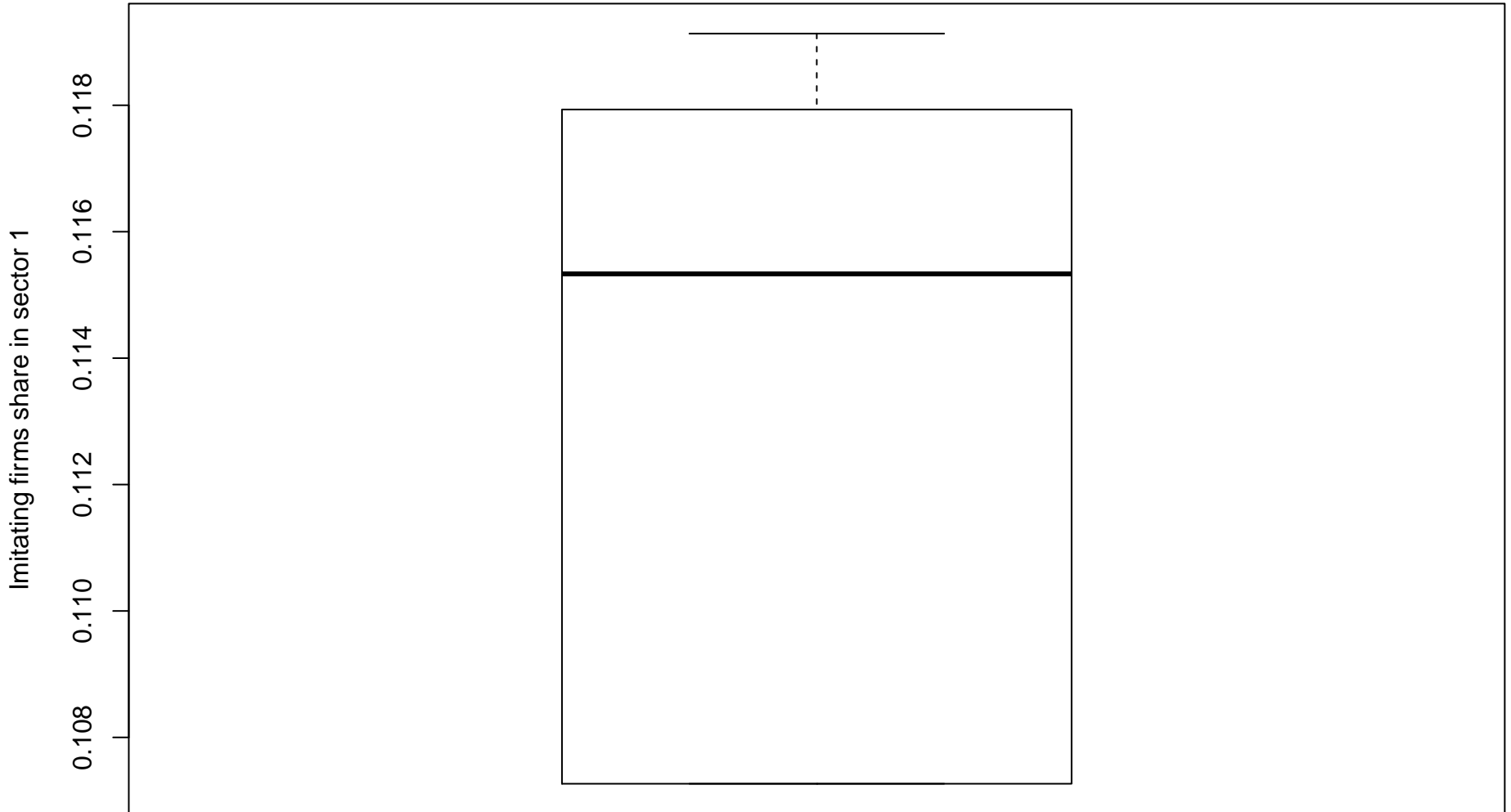


# Innovation



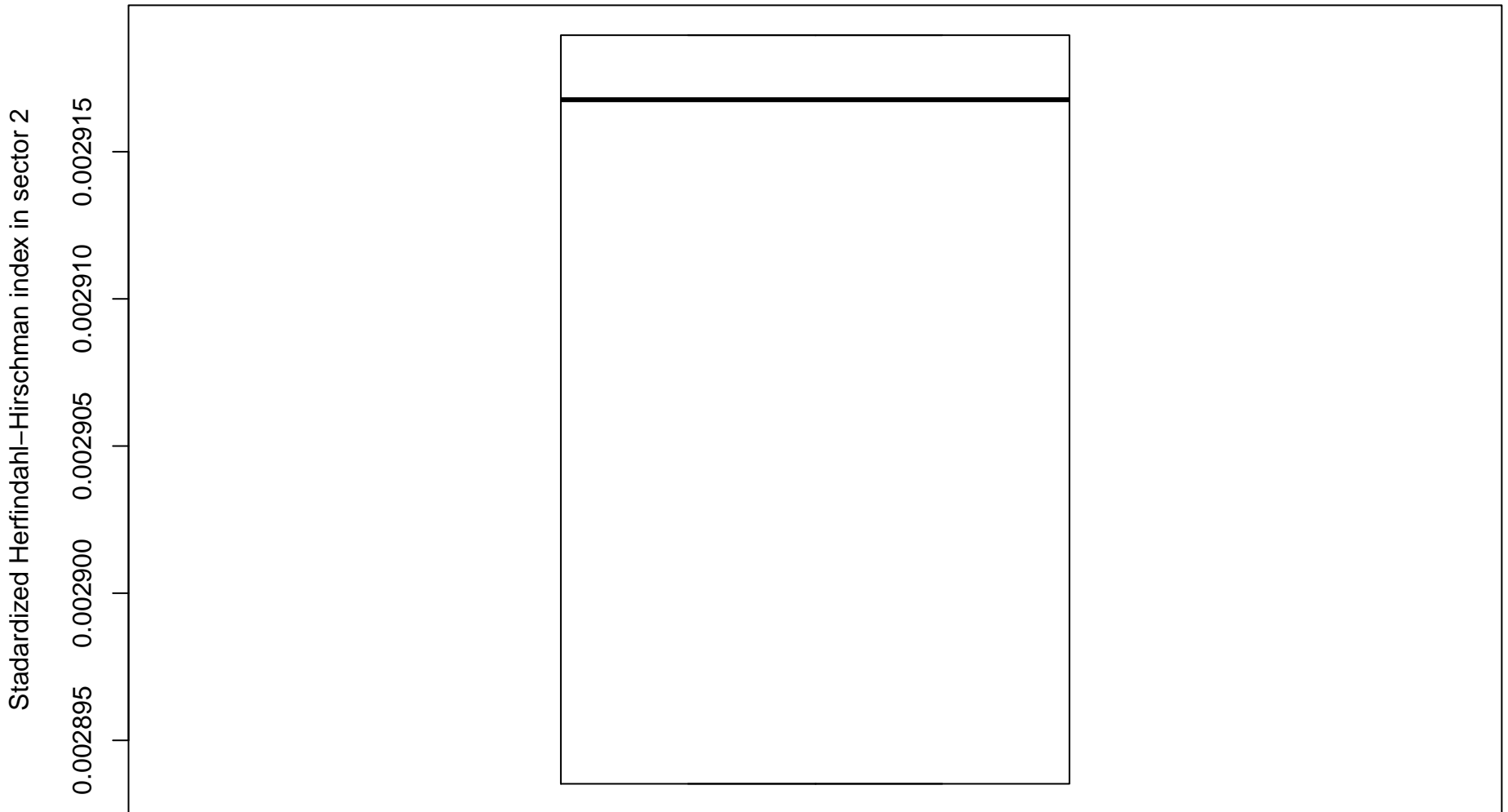
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600 )

## Imitation



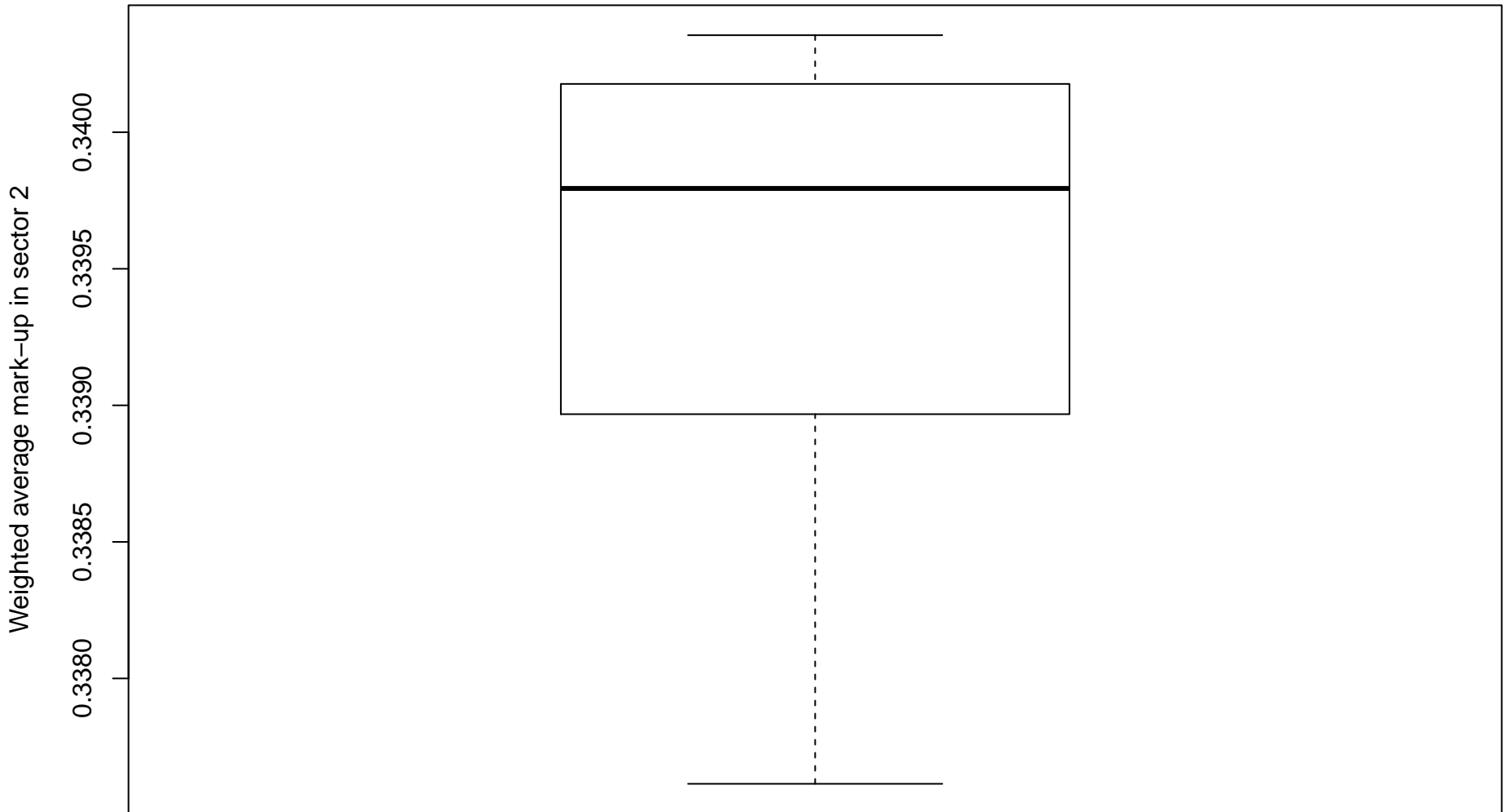
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600 )

## Market concentration



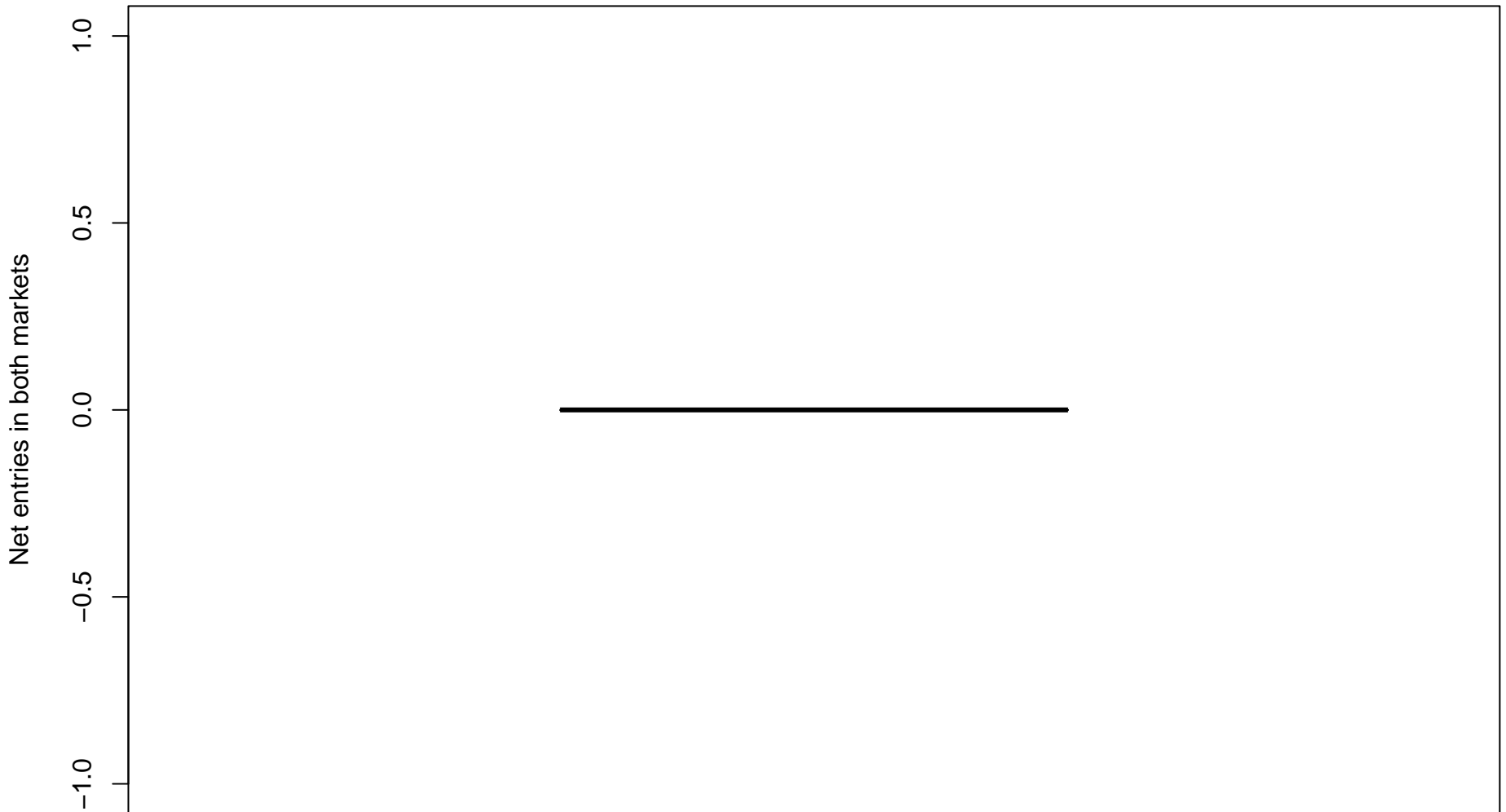
( bar: median / box: 2nd–3rd quartile / whiskers: max–min / points: outliers / MC runs = 5 / period = 301 – 600 )

## 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>	0.01845	0.002924	0.01474	0.02133
<b>Volatility of GDP growth</b>	0.09082	0.003809	0.08631	0.09559
<b>Likelihood of GDP crises</b>	0.276	0.01402	0.2667	0.3
<b>Inflation</b>	0.001003	0.000344	0.0006657	0.00151
<b>Tax</b>	0.02549	0.0009126	0.02427	0.02664
<b>Government total expenditure</b>	0.07279	0.02079	0.04355	0.09611
<b>Government deficit</b>	0.1713	0.01848	0.1527	0.1975
<b>Government debt</b>	9.865	1.209	8.401	11.04
<b>Credit supply</b>	-1.428e-09	7.417e-10	-2.167e-09	-5.524e-10
<b>Loans</b>	1.053	0.2422	0.7758	1.409
<b>Capacity utilization</b>	0.5276	0.002291	0.5238	0.5294
<b>Full employment frequency</b>	0.072	0.0814	0.01	0.21
<b>Unemployment</b>	0.18	0.04706	0.1111	0.2309
<b>Vacancy</b>	0.2157	0.0136	0.2041	0.2355
<b>Productivity growth</b>	0.01799	0.003026	0.01417	0.02114
<b>Innovation</b>	0.1157	0.02272	0.0766	0.1313
<b>Imitation</b>	0.1054	0.02186	0.06713	0.1191
<b>Market concentration</b>	0.002903	8.9e-05	0.002768	0.003017
<b>Mark-ups</b>	0.3394	0.001123	0.3376	0.3404
<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 )