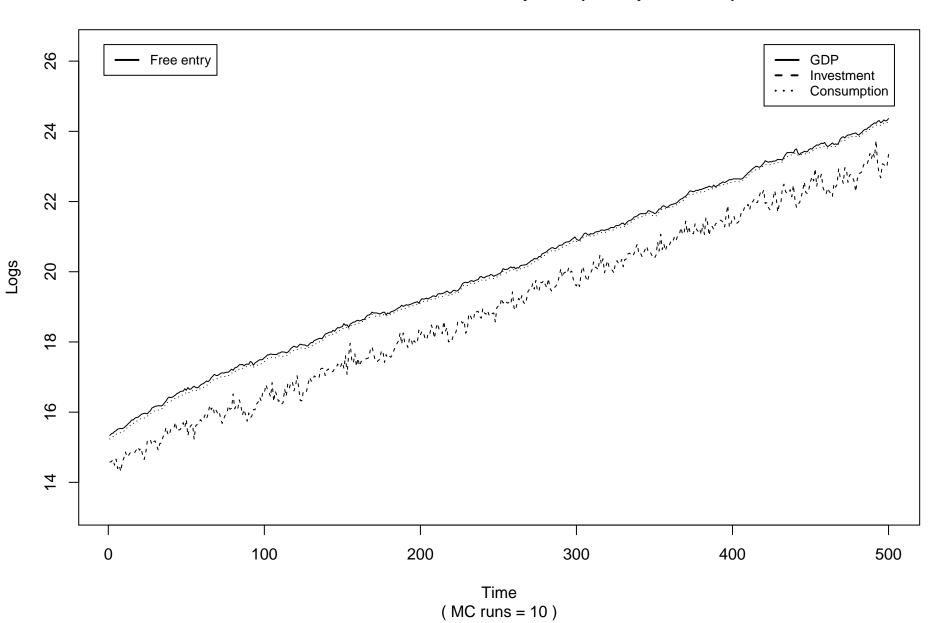
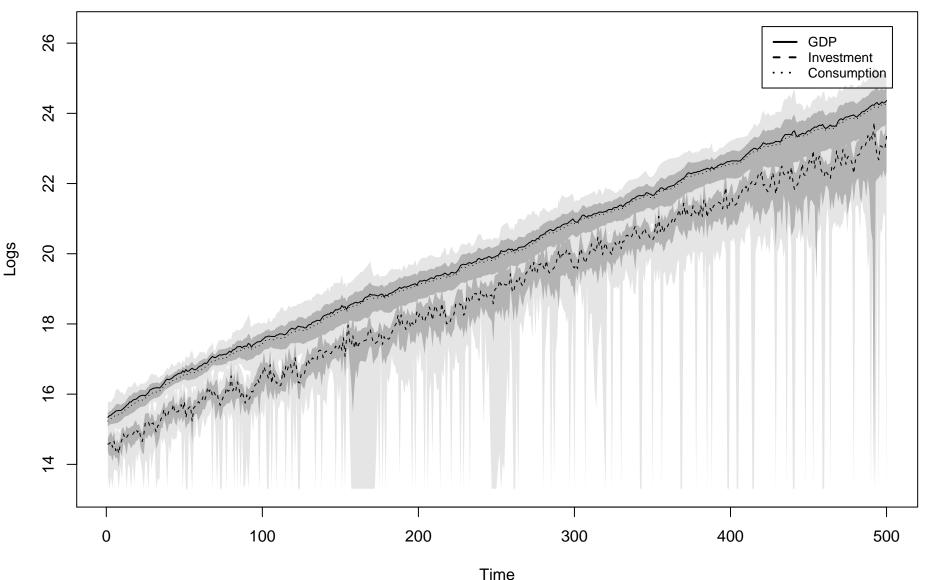
#### GDP, investment and consumption (all experiments)

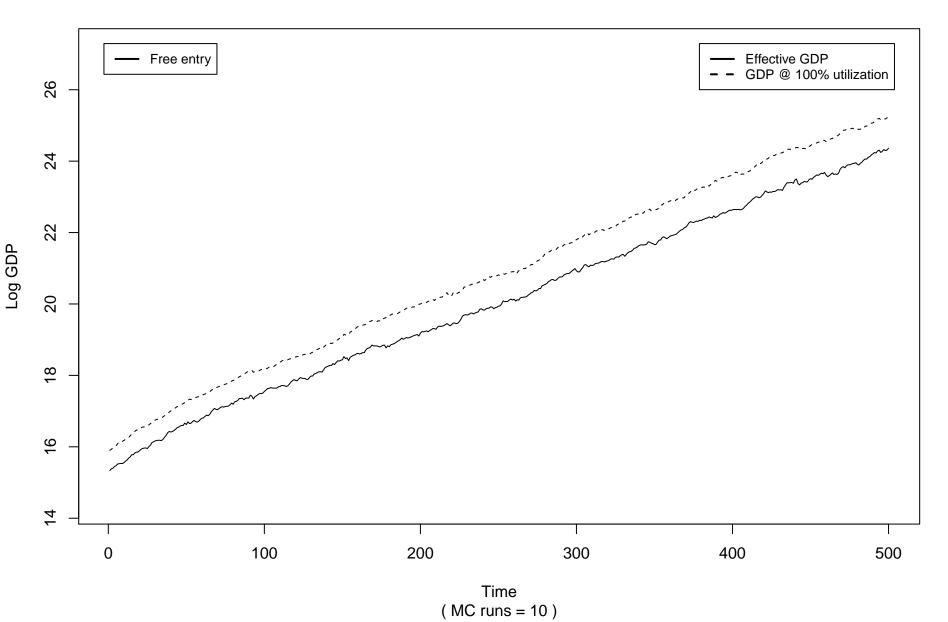


## **GDP**, investment and consumption ( Free entry )

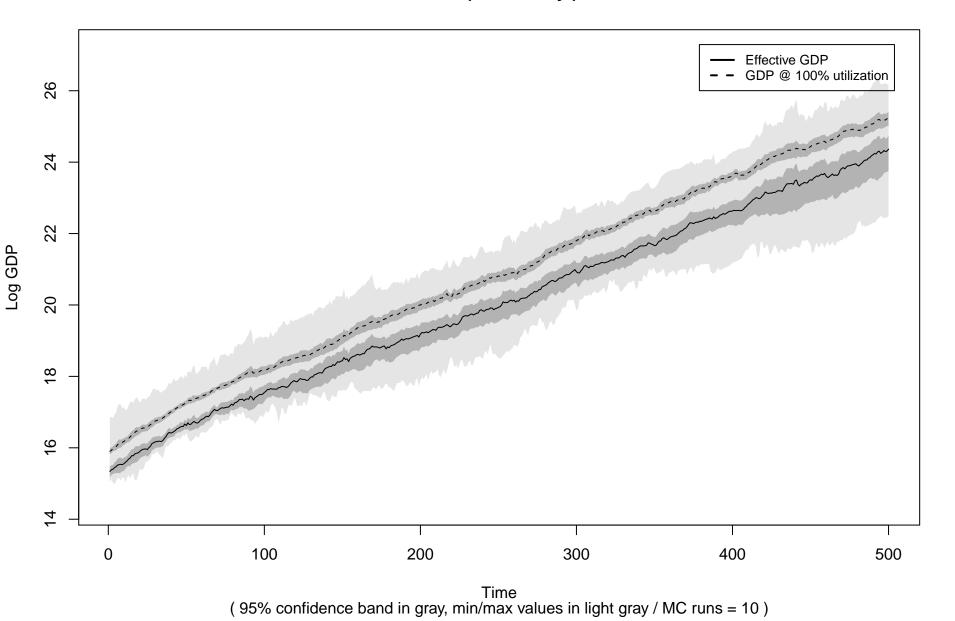


Time ( 95% confidence band in gray, min/max values in light gray / MC runs = 10 )

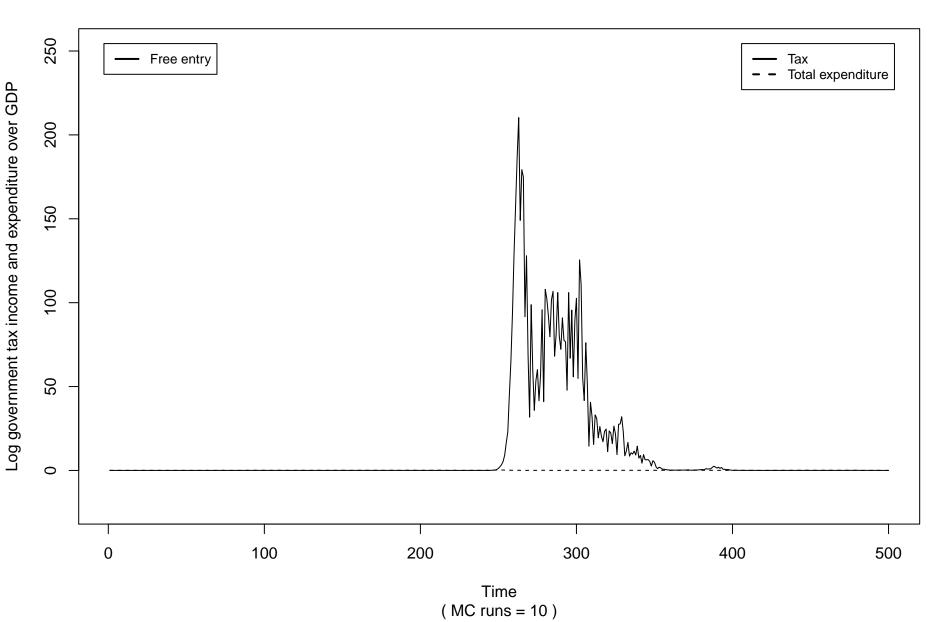
# GDP (all experiments)



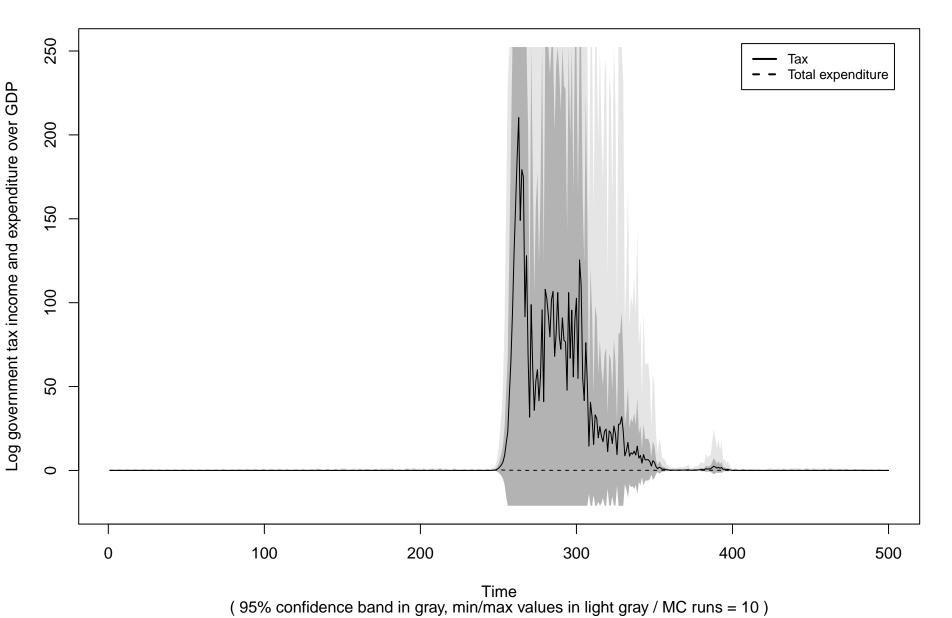
# **GDP (Free entry)**



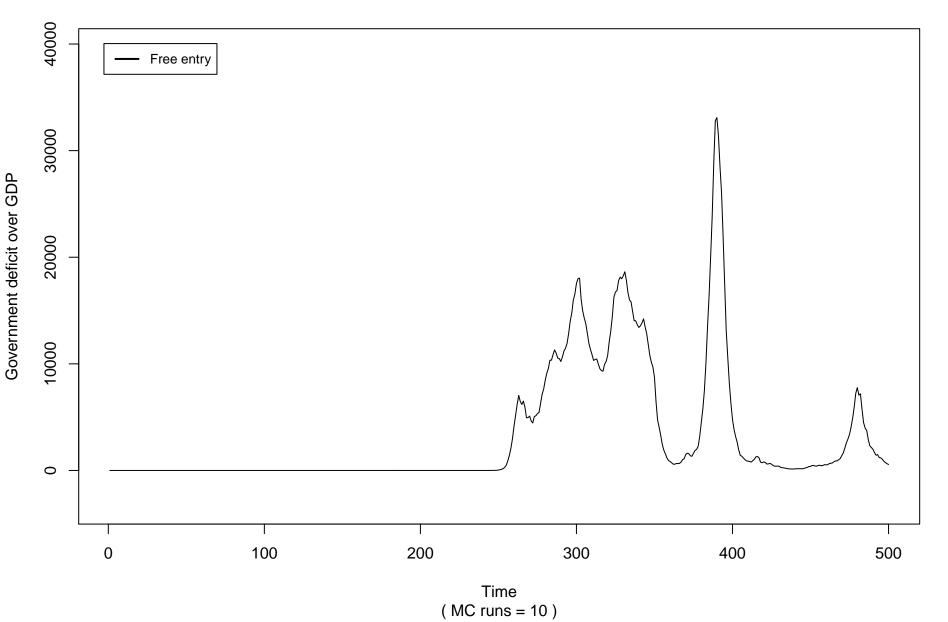
## Government income and expenditure on GDP (all experiments)



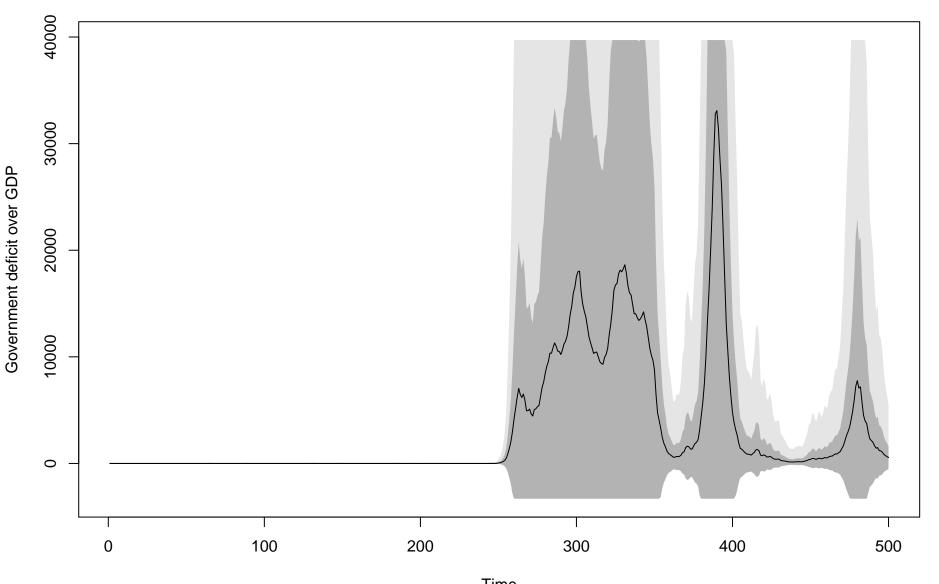
### Government income and expenditure on GDP (Free entry)



# Government deficit on GDP (all experiments)

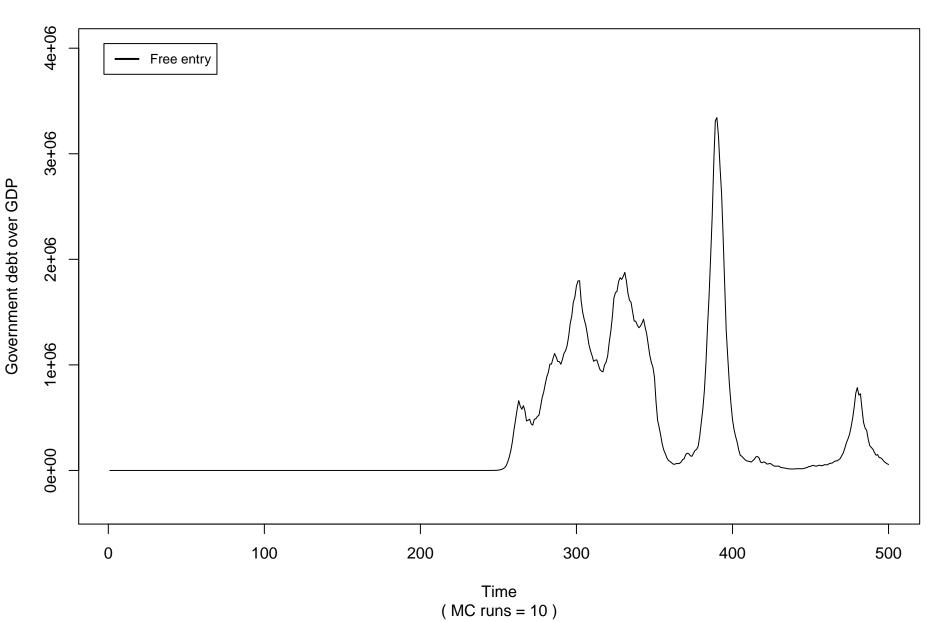


# Government deficit on GDP (Free entry)

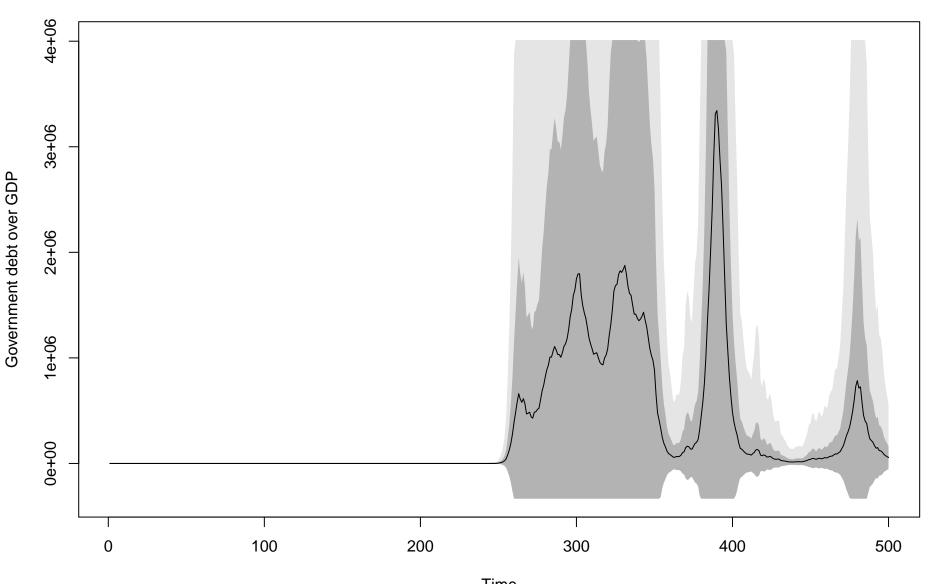


Time ( 95% confidence band in gray, min/max values in light gray / MC runs = 10 )

# Government debt on GDP (all experiments)

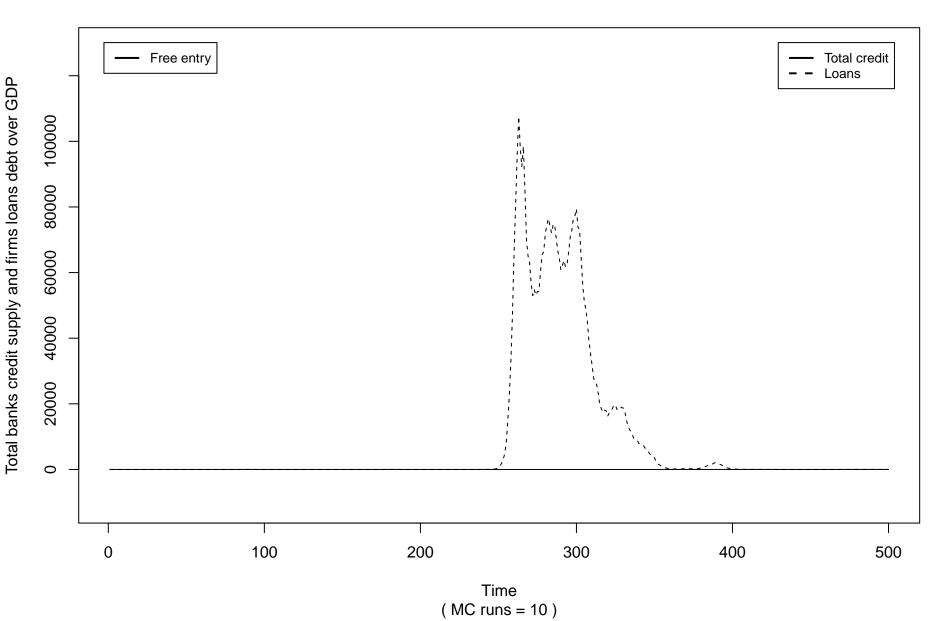


# Government debt on GDP (Free entry)

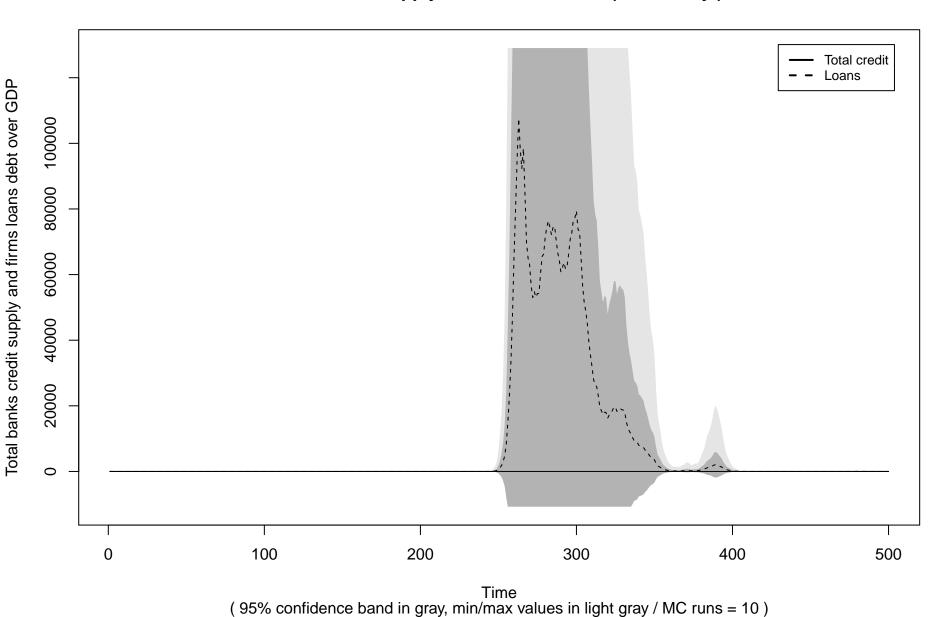


Time ( 95% confidence band in gray, min/max values in light gray / MC runs = 10 )

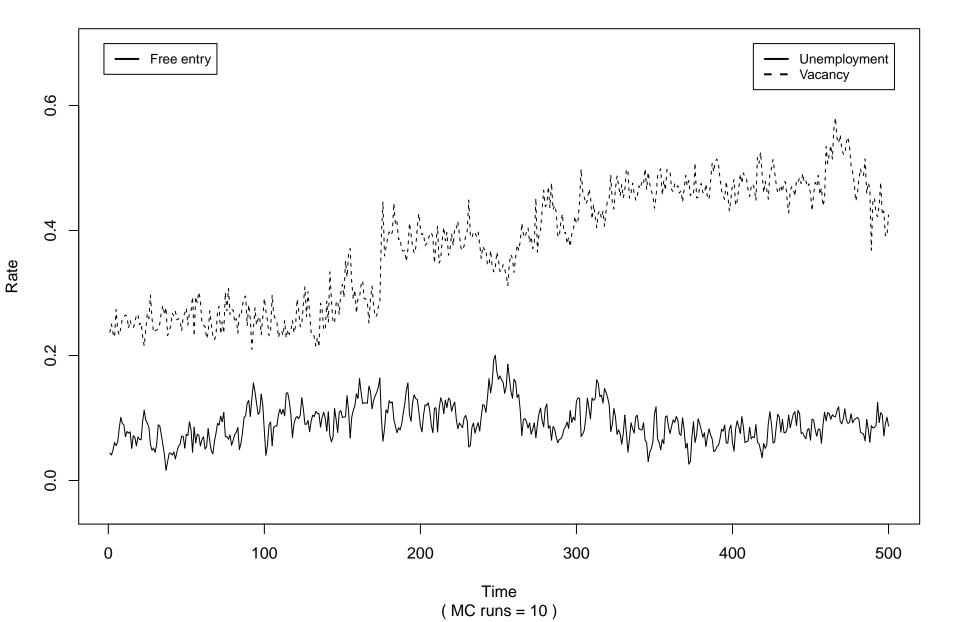
## Total credit supply and loans on GDP (all experiments)



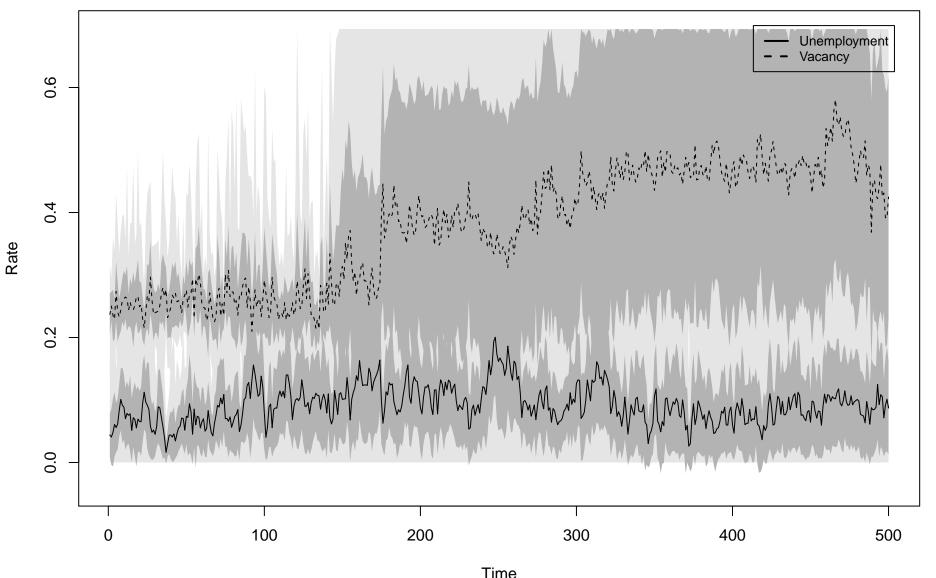
#### Total credit supply and loans on GDP (Free entry)



### **Unemployment and vacancy rates (all experiments)**

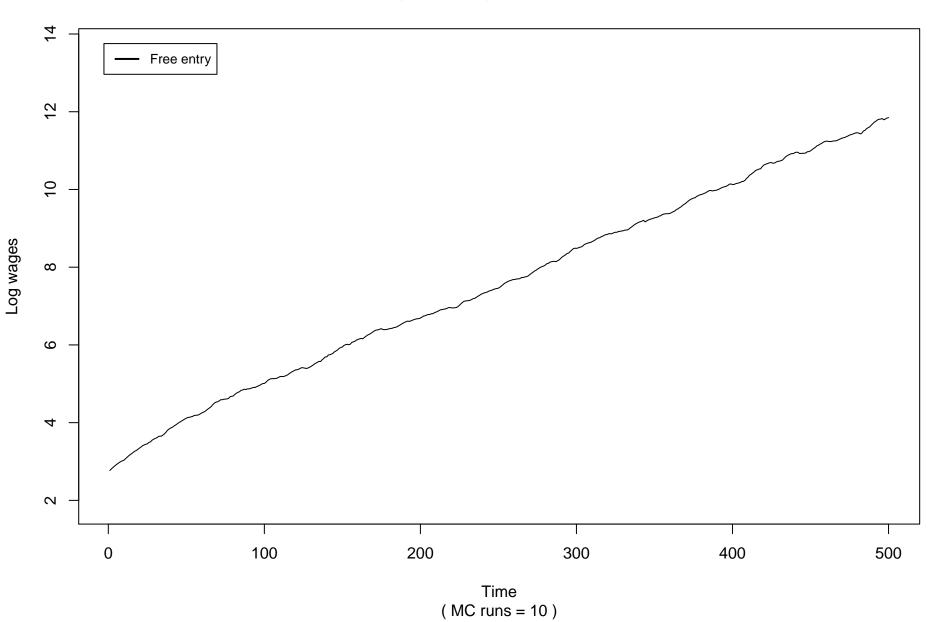


## Unemployment and vacancy rates (Free entry)

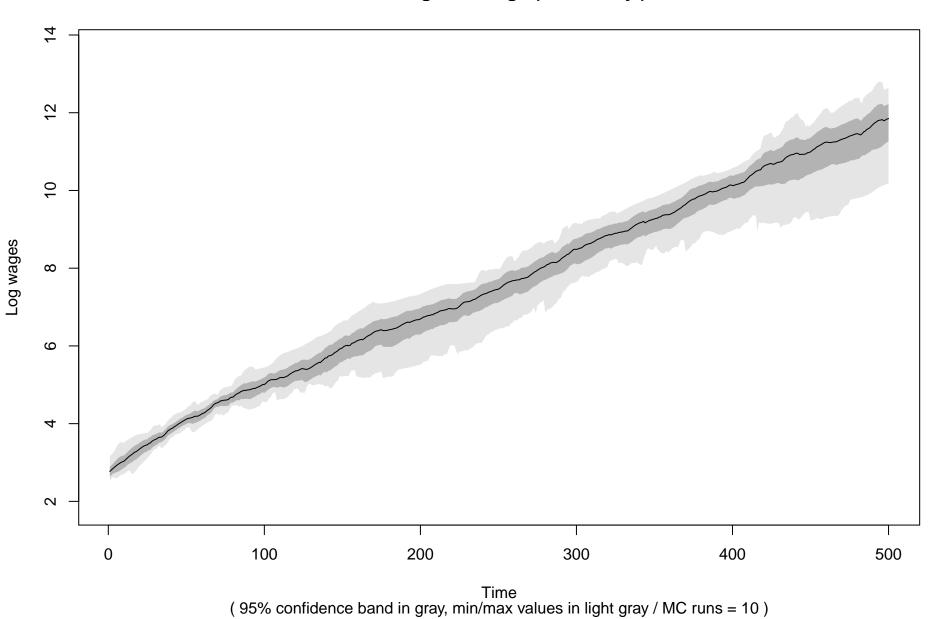


Time ( 95% confidence band in gray, min/max values in light gray / MC runs = 10 )

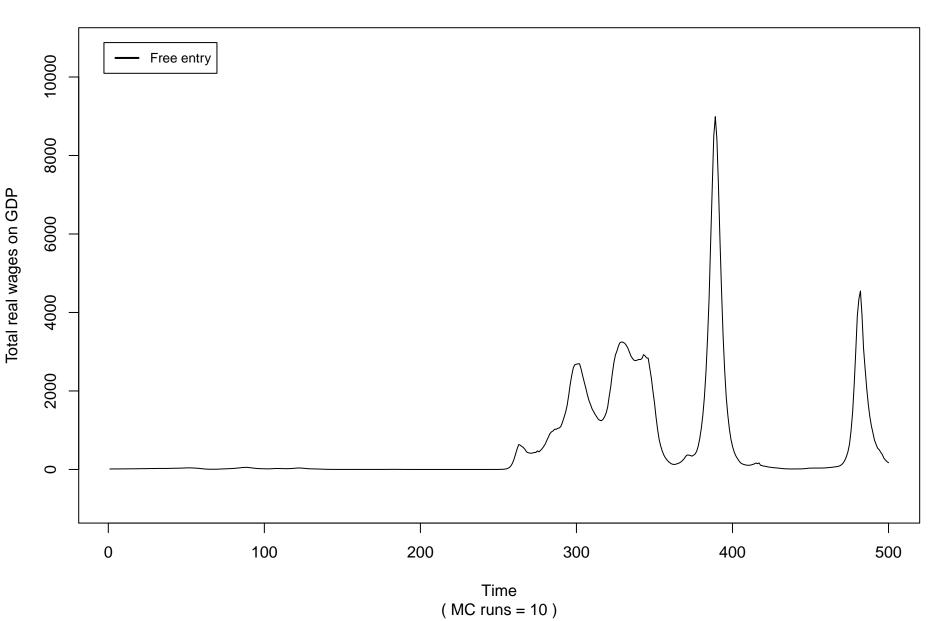
# Real wages average (all experiments)



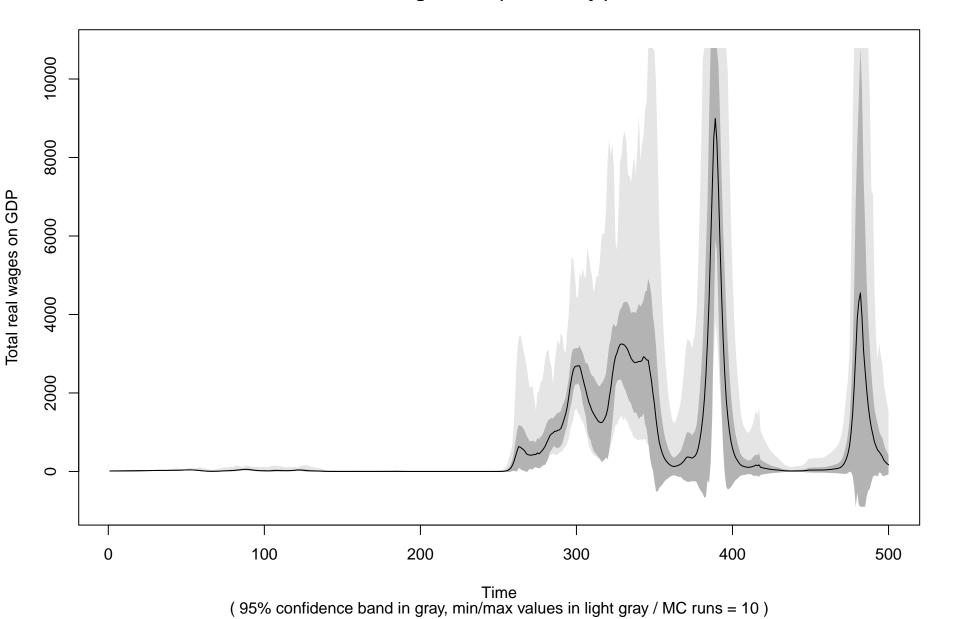
# Real wages average (Free entry)



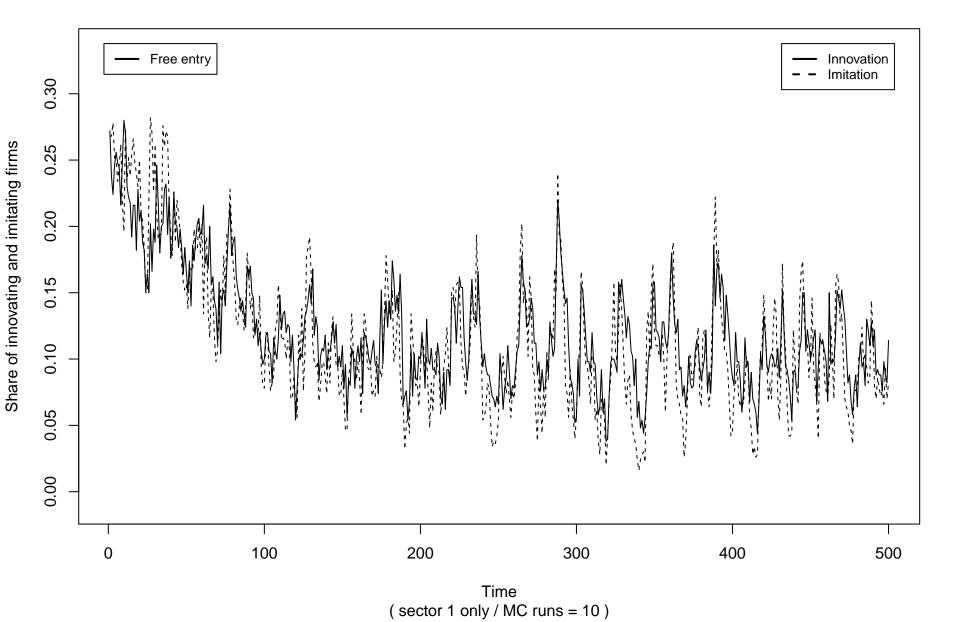
# Wage share (all experiments)



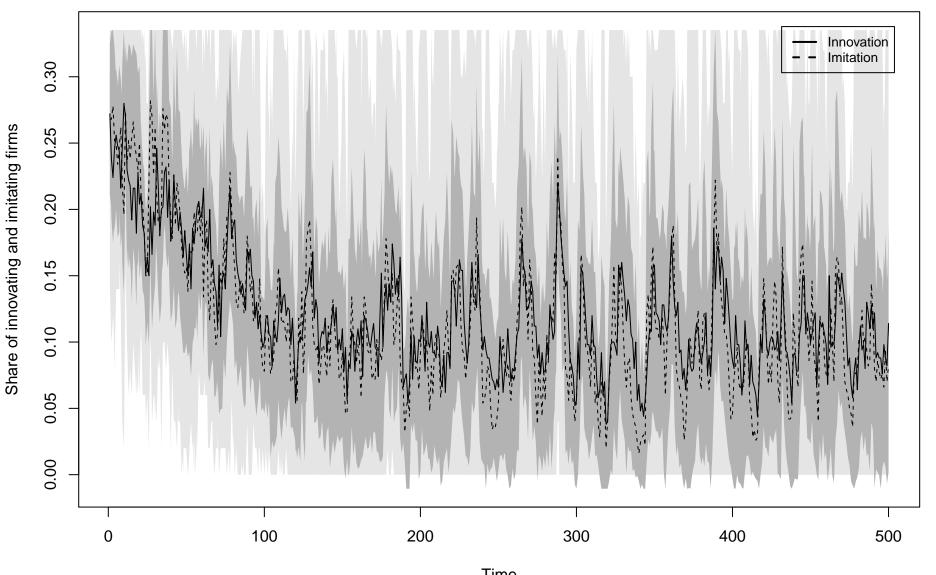
# Wage share (Free entry)



## Innovation and imitation (all experiments)

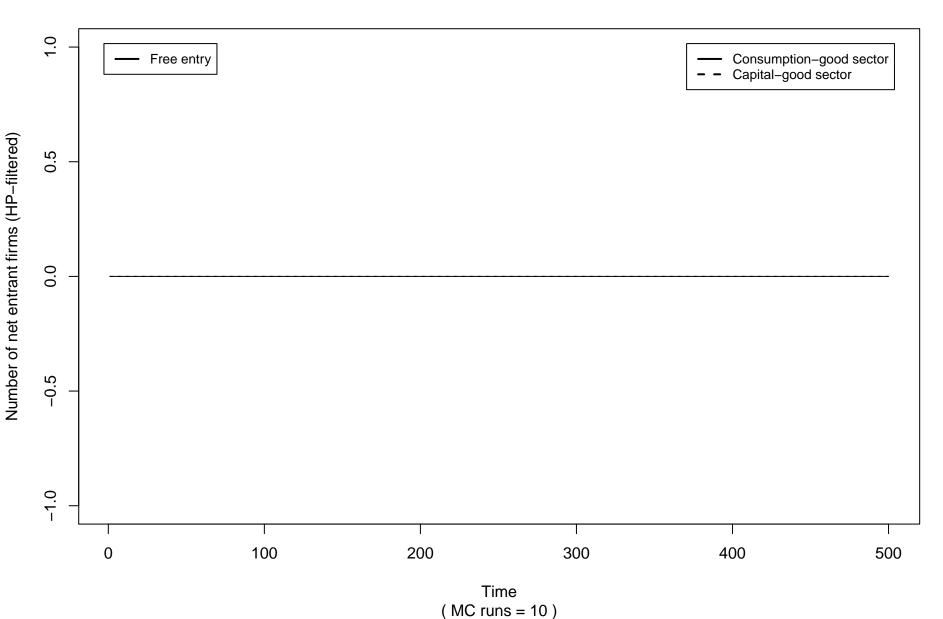


#### Innovation and imitation (Free entry)

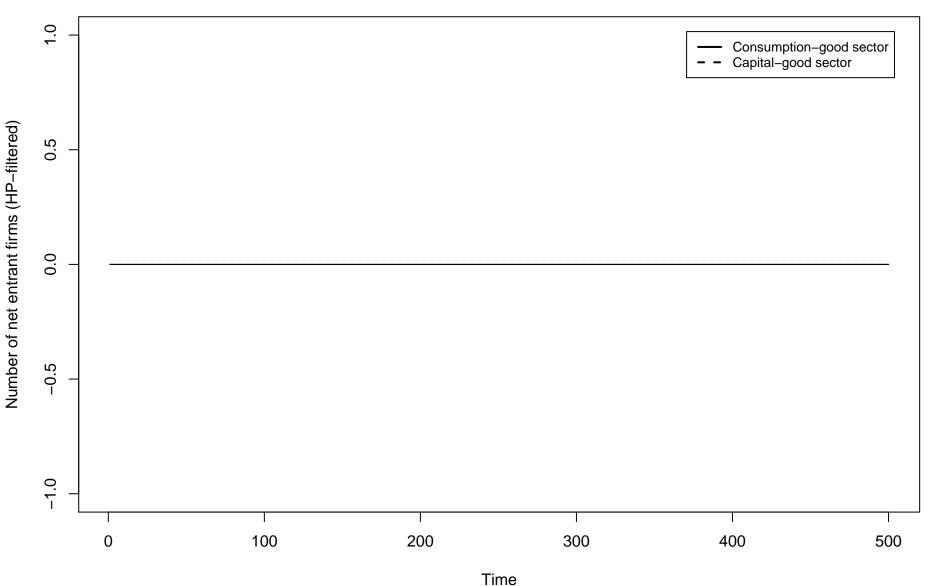


Time ( 95% confidence band in gray, min/max values in light gray / sector 1 only / MC runs = 10 )

# Net entry of firms trend (all experiments)

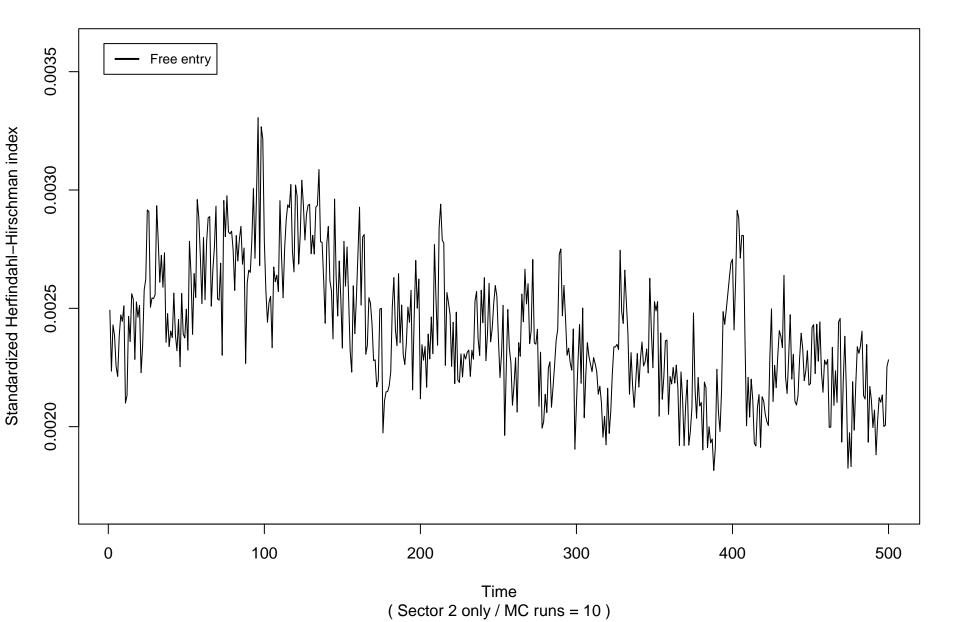


### Net entry of firms trend (Free entry)

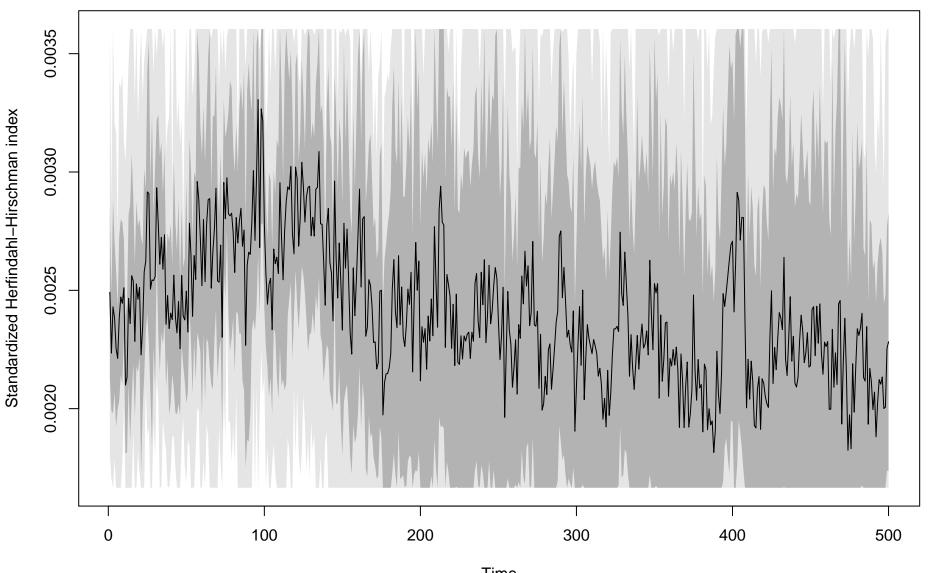


( 95% confidence band in gray, min/max values in light gray / MC runs = 10 )

## Market concentration (all experiments)

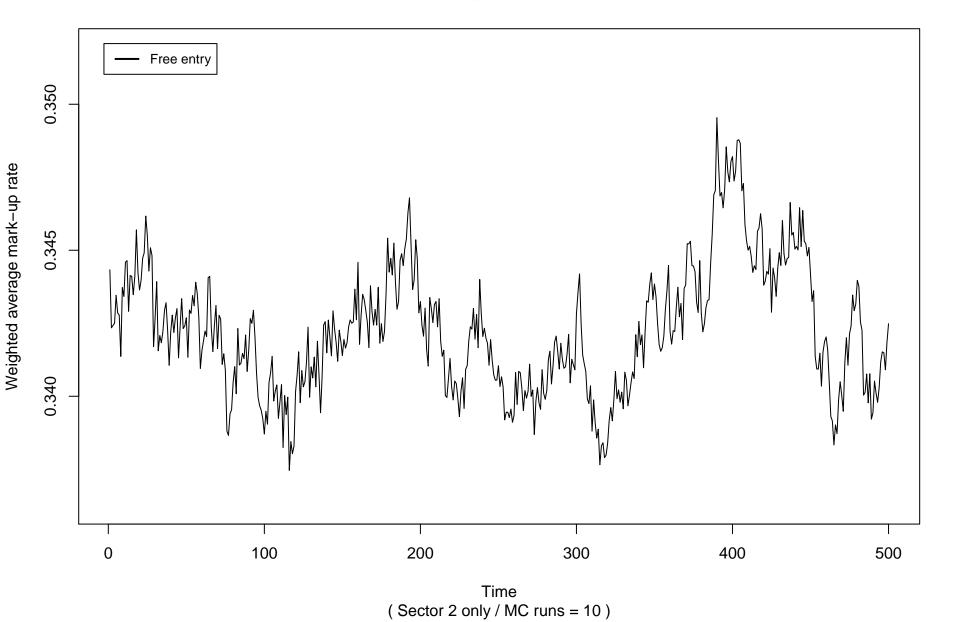


## Market concentration (Free entry)

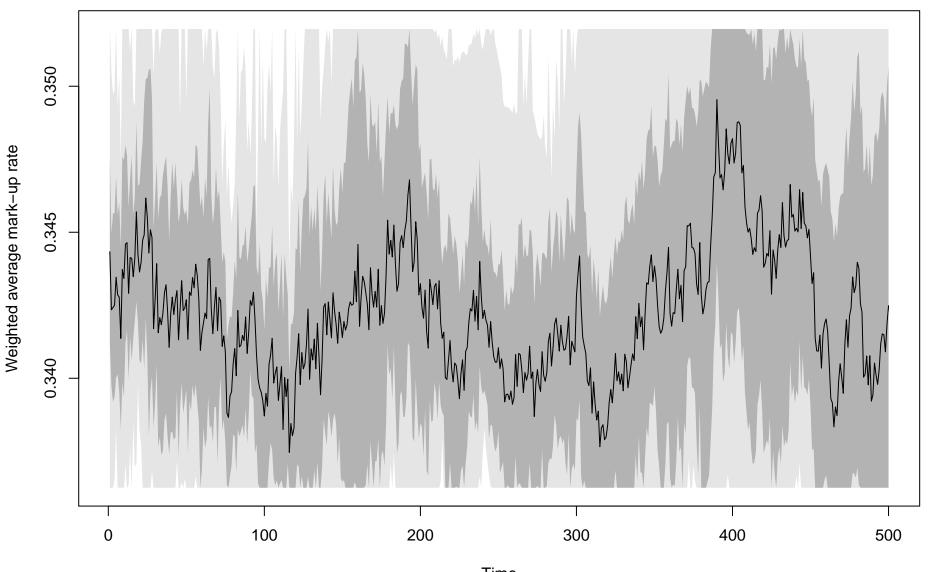


Time ( 95% confidence band in gray, min/max values in light gray / Sector 2 only / MC runs = 10 )

## Mark-up average (all experiments)

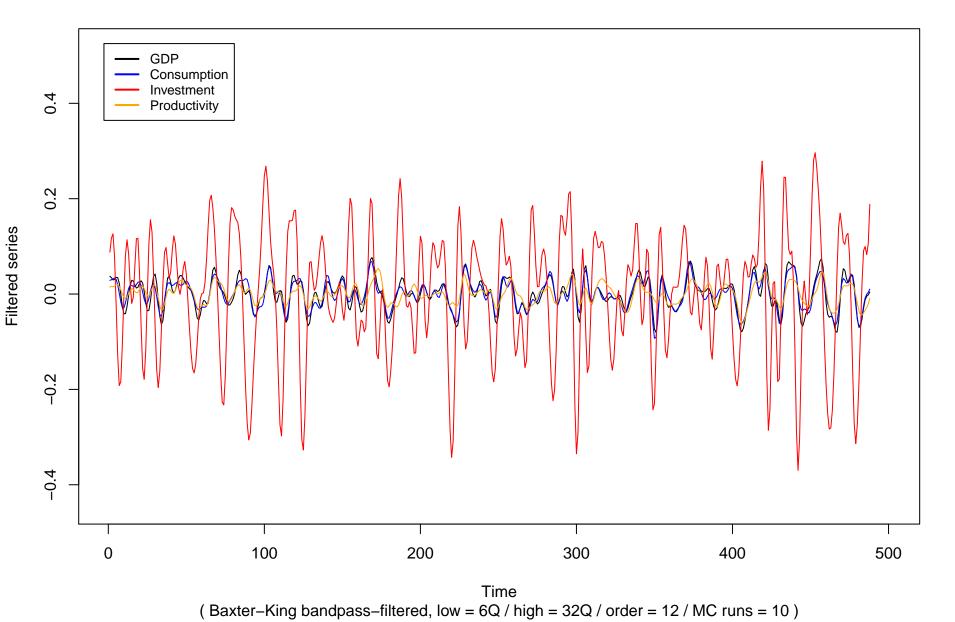


## Mark-up average (Free entry)

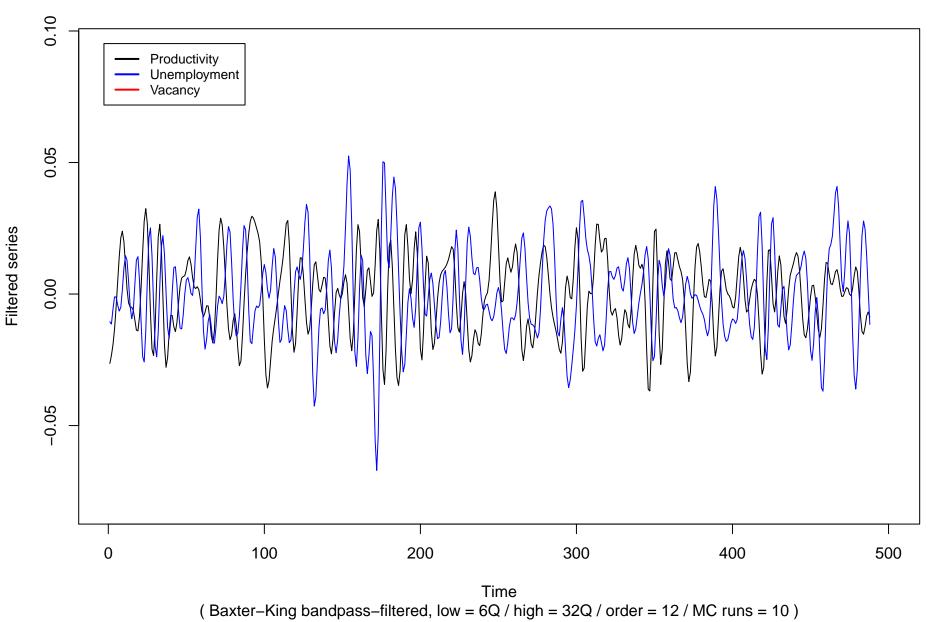


Time ( 95% confidence band in gray, min/max values in light gray / Sector 2 only / MC runs = 10 )

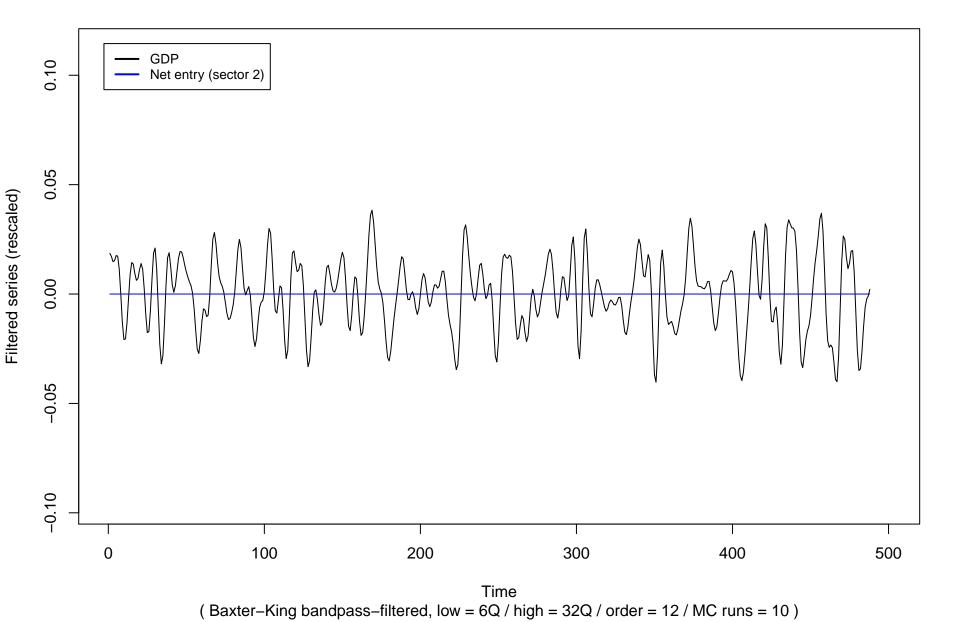
## **GDP cycles (Free entry)**



## Shimer puzzle (Free entry)



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



### Key statistics and unit roots tests for cycles (Free entry)

	GDP (output)	Consumption	Investment	Product.	Real wage
avg. growth rate	0.01653	0.0166	0.008847	0.01649	0.0166
(s.e.)	0.001184	0.001203	0.007761	0.00106	0.001107
ADF test (logs)	-2.473	-2.413	-5.867	-2.05	-2.049
(s.e.)	0.2837	0.2615	0.3376	0.3217	0.3066
(p-val.)	0.4134	0.4232	0.01078	0.5648	0.5218
(s.e.)	0.09779	0.09758	0.0007789	0.09716	0.1013
ADF test (bpf)	-6.207	-6.555	-6.344	-6.55	-6.991
(s.e.)	0.1846	0.2365	0.2927	0.1396	0.2803
(p-val.)	0.01	0.01	0.01	0.01	0.01
(s.e.)	0	0	0	0	0
s.d. (bpf)	0.09146	0.08243	1.252	0.05562	0.06041
(s.e.)	0.003703	0.003687	0.1856	0.002696	0.007068
relative s.d. (GDP)	1	0.9012	13.69	0.6082	0.6605

#### **Correlation structure for GDP (Free entry)**

	-4	-3	-2	-1	0	1	2	3	4
GDP (output)	0.00233	0.2659	0.5989	0.8847	1	0.8847	0.5989	0.2659	0.00233
(s.e.)	0.0336	0.03332	0.02162	0.006951	3.096e-17	0.006951	0.02162	0.03332	0.0336
(p-val.)	0.5641	0.0001716	9.059e-10	6.803e-16	NA	6.803e-16	9.059e-10	0.0001716	0.5641
Consumption	0.09543	0.3212	0.5975	0.8412	0.9548	0.8763	0.6386	0.3314	0.0552
(s.e.)	0.02615	0.02947	0.02592	0.01817	0.009897	0.008692	0.01928	0.02987	0.03338
(p-val.)	0.1812	9.215e-06	4.619e-09	6.264e-12	7.695e-15	5.573e-15	1.693e-10	7.367e-06	0.4859
Investment	-0.2309	-0.3238	-0.3577	-0.277	-0.08228	0.1602	0.3499	0.4172	0.3634
(s.e.)	0.03625	0.04234	0.05132	0.05286	0.04297	0.02502	0.0155	0.02363	0.03138
(p–val.)	0.00122	0.0001365	0.0002136	0.00236	0.09517	0.003676	1.534e-08	8.679e-08	4.149e-06
Net investment	-0.1657	-0.2217	-0.2385	-0.1731	-0.02416	0.1586	0.2985	0.3423	0.2926
(s.e.)	0.03256	0.04585	0.06343	0.06982	0.05863	0.03528	0.02499	0.03492	0.03973
(p–val.)	0.005915	0.00647	0.01027	0.01675	0.08096	0.003478	5.41e-06	1.829e-05	0.0002312
Change in inventories	-0.2139	-0.138	0.04736	0.2463	0.3438	0.2775	0.1118	-0.04947	-0.1224
(s.e.)	0.05467	0.05419	0.03496	0.01244	0.02304	0.02906	0.02529	0.0266	0.02893
(p–val.)	0.006421	0.02688	0.4458	0.0002846	0.0001586	0.0009222	0.05883	0.6576	0.07071
Unemployment rate	0.09275	0.1089	0.04164	-0.09771	-0.2485	-0.3335	-0.3233	-0.2314	-0.1112
(s.e.)	0.05195	0.05154	0.04304	0.03399	0.03905	0.04459	0.04109	0.04627	0.05643
(p-val.)	0.06651	0.06042	0.2765	0.2363	0.005126	0.001334	0.001187	0.005771	0.04155
Productivity	0.1318	0.3161	0.5328	0.7156	0.7898	0.7089	0.5017	0.2408	0.006373
(s.e.)	0.05775	0.06201	0.05719	0.04498	0.03146	0.02632	0.03442	0.04026	0.03663
(p-val.)	0.01214	0.001742	1.202e-05	9.462e-08	1.563e-09	9.406e-10	3.231e-07	0.001569	0.2959
Mark-up (sector 2)	0.2366	0.1551	0.03168	-0.1011	-0.2053	-0.2542	-0.253	-0.2228	-0.1865
(s.e.)	0.0681	0.06324	0.05366	0.04355	0.0376	0.03606	0.03606	0.03601	0.03722
(p-val.)	1.964e-05	0.0004124	0.1037	0.1149	0.004376	0.0004659	0.0004891	0.001597	0.006472
Total firm debt	-0.02534	-0.03418	-0.04202	-0.03636	-0.01347	0.0226	0.0561	0.07709	0.08376
(s.e.)	0.03843	0.03645	0.04044	0.04461	0.04358	0.03703	0.03201	0.03446	0.04141
(p-val.)	0.2895	0.2548	0.04751	0.04669	0.1367	0.3153	0.3507	0.279	0.1967
Liquidity-to-sales ratio	0.1742	0.162	0.109	0.03177	-0.04111	-0.08512	-0.09268	-0.07556	-0.05383
(s.e.)	0.04376	0.03969	0.04716	0.06062	0.07021	0.07062	0.06259	0.05094	0.04132
(p-val.)	0.004849	0.004827	0.03257	0.0009995	0.008011	0.01242	0.03231	0.1274	0.2074
Bankruptcy rate	0.2589	0.28	0.1965	0.03461	-0.1328	-0.2284	-0.2244	-0.1539	-0.07541
(s.e.)	0.0604	0.05573	0.05181	0.05095	0.04779	0.04324	0.04168	0.04114	0.03864
(p–val.)	0.007967	0.002929	0.01946	0.2051	0.02076	0.003745	0.003559	0.03328	0.1444

( non-rate/ratio series are Baxter-King bandpass-filtered, low = 6Q / high = 32Q / order = 12 / MC runs = 10 / period = 301 - 600 ) ( test H0: lag coefficient is not significant at 5% level )

## Correlation structure for GDP (Free entry)

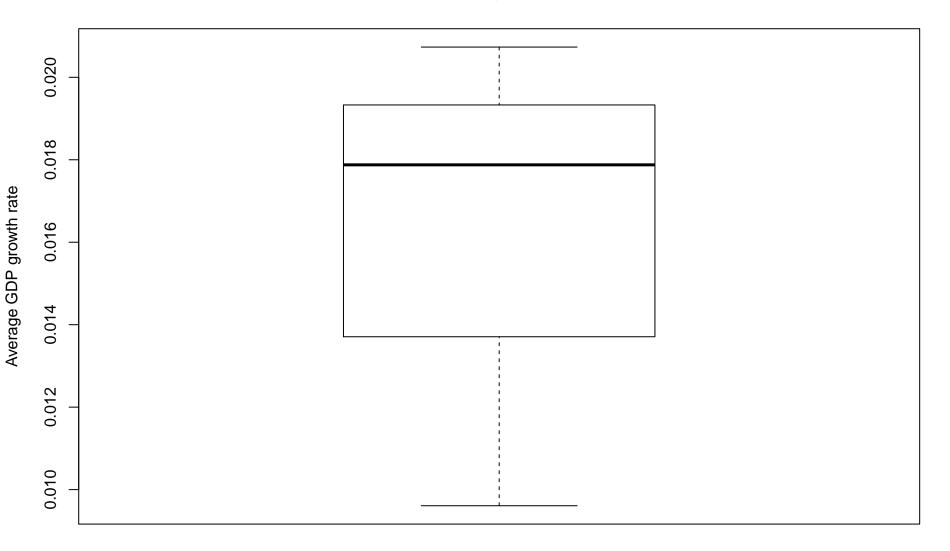
	-4	-3	-2	-1	0	1	2	3	4
GDP (output)	0.00233	0.2659	0.5989	0.8847	1	0.8847	0.5989	0.2659	0.00233
(s.e.)	0.0336	0.03332	0.02162	0.006951	3.096e-17	0.006951	0.02162	0.03332	0.0336
(p-val.)	0.5641	0.0001716	9.059e-10	6.803e-16	NA	6.803e-16	9.059e-10	0.0001716	0.5641
Consumption	0.09543	0.3212	0.5975	0.8412	0.9548	0.8763	0.6386	0.3314	0.0552
(s.e.)	0.02615	0.02947	0.02592	0.01817	0.009897	0.008692	0.01928	0.02987	0.03338
(p–val.)	0.1812	9.215e-06	4.619e-09	6.264e-12	7.695e-15	5.573e-15	1.693e-10	7.367e-06	0.4859
Investment	-0.2309	-0.3238	-0.3577	-0.277	-0.08228	0.1602	0.3499	0.4172	0.3634
(s.e.)	0.03625	0.04234	0.05132	0.05286	0.04297	0.02502	0.0155	0.02363	0.03138
(p-val.)	0.00122	0.0001365	0.0002136	0.00236	0.09517	0.003676	1.534e-08	8.679e-08	4.149e-06
Productivity	0.1318	0.3161	0.5328	0.7156	0.7898	0.7089	0.5017	0.2408	0.006373
(s.e.)	0.05775	0.06201	0.05719	0.04498	0.03146	0.02632	0.03442	0.04026	0.03663
(p-val.)	0.01214	0.001742	1.202e-05	9.462e-08	1.563e-09	9.406e-10	3.231e-07	0.001569	0.2959
Net entry	NaN								
(s.e.)	NA								
(p_val.)	1	1	1	1	1	1	1	1	1
Entry	-0.248	-0.09058	0.1242	0.3373	0.4801	0.509	0.4324	0.2989	0.1673
(s.e.)	0.02902	0.04454	0.05323	0.04726	0.02833	0.02291	0.04437	0.05865	0.05833
(p_val.)	0.0001316	0.03217	0.02675	0.0002043	9.515e-08	8.115e-09	1.173e-05	0.002339	0.03139
Wage	0.2226	0.4242	0.6077	0.7135	0.7008	0.5672	0.3601	0.1419	-0.03871
(s.e.)	0.0352	0.02688	0.03732	0.05356	0.06309	0.062	0.05507	0.04688	0.04033
(p-val.)	0.0005513	2.211e-07	9.404e-08	4.353e-07	2.045e-06	1.277e-05	0.0003283	0.0008026	0.2435
Unemployment rate	0.09275	0.1089	0.04164	-0.09771	-0.2485	-0.3335	-0.3233	-0.2314	-0.1112
(s.e.)	0.05195	0.05154	0.04304	0.03399	0.03905	0.04459	0.04109	0.04627	0.05643
(p-val.)	0.06651	0.06042	0.2765	0.2363	0.005126	0.001334	0.001187	0.005771	0.04155
Vacancy rate	0.2784	0.1297	-0.05676	-0.1886	-0.2066	-0.1175	0.003763	0.08359	0.08967
(s.e.)	0.06822	0.05311	0.04376	0.05312	0.06542	0.06732	0.05806	0.04969	0.04915
(p–val.)	0.003444	0.01604	0.1713	0.00887	0.005401	0.01186	0.1079	0.1417	0.05311

### 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	0.13	0.60	0.33	0.51	0.00	C
dA	0.01	1.00	0.01	1.00	0.10	0.00	0.00	1.00	0.13	0.71	0.00	C
dw	0.04	0.80	0.07	0.90	0.08	0.10	0.00	1.00	0.07	0.71	0.00	C
V	0.18	0.67	0.03	0.89	0.03	0.80	0.00	1.00	0.05	0.89	0.00	C
U	0.03	0.89	0.01	1.00	0.03	0.78	0.11	0.89	0.04	0.89	0.00	C
mu2avg	0.18	0.60	0.19	0.80	0.05	0.60	0.00	1.00	0.04	0.89	0.00	C
HH1	0.01	1.00	0.01	1.00	0.09	0.10	0.00	1.00	0.12	0.67	0.00	C
HH2	0.14	0.60	0.05	0.80	0.06	0.50	0.00	1.00	0.02	0.91	0.00	C

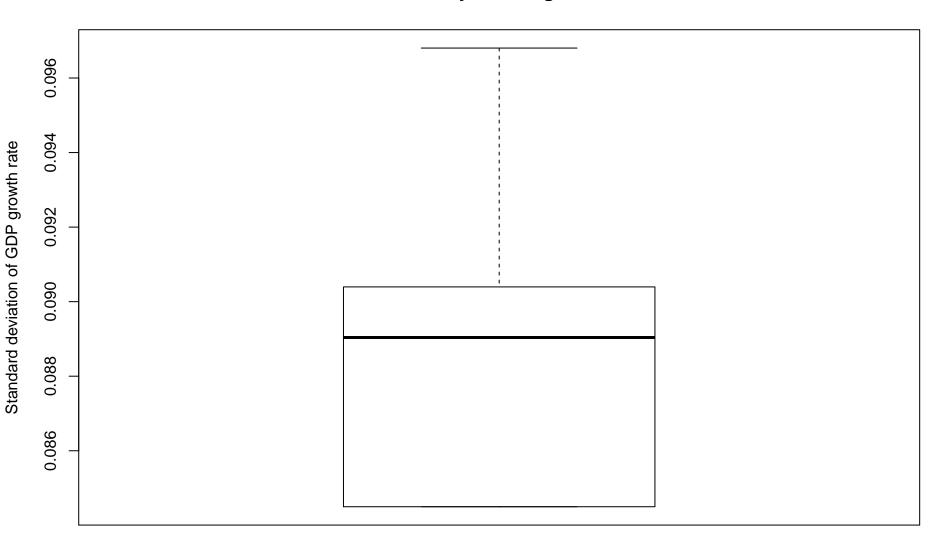
( average p-values for testing H0 and rate of rejection of H0 / MC runs = 10 / period = 301 - 600 ) ( ADF/PP H0: non-stationary, KPSS H0: stationary, BDS H0: i.i.d., KS/AD/WW H0: ergodic ) ( significance = 0.05 )





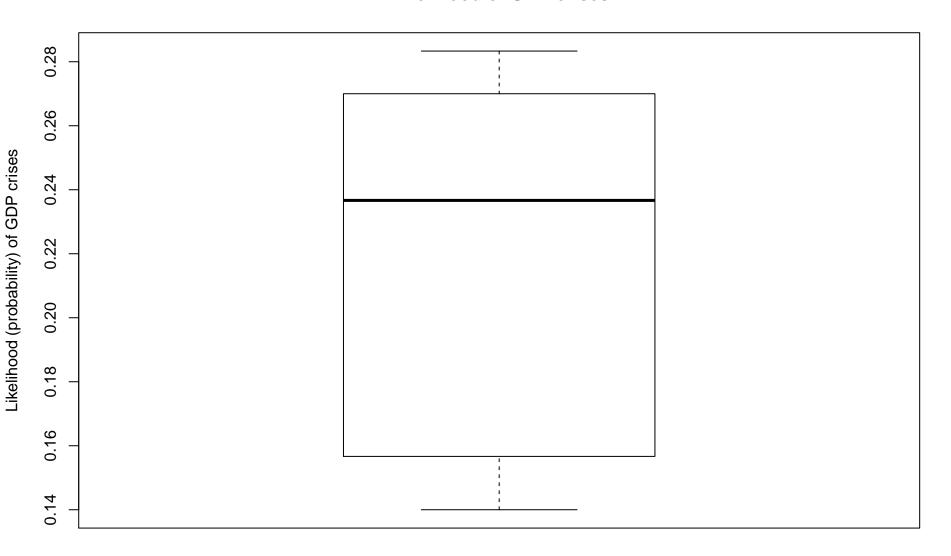
(bar: median / box: 2nd-3rd quartile / whiskers: max-min / points: outliers / MC runs = 10 / period = 301 - 600)

# **Volatility of GDP growth**



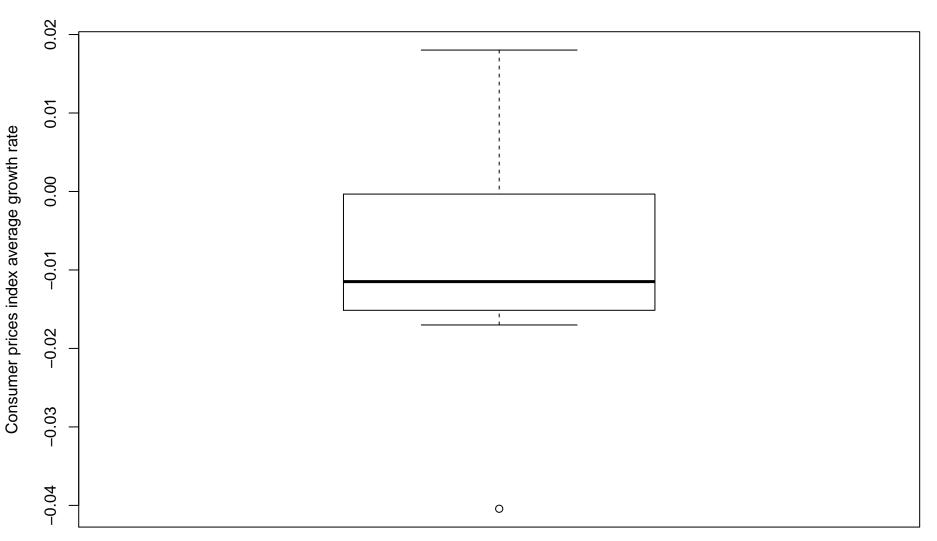
(bar: median / box: 2nd-3rd quartile / whiskers: max-min / points: outliers / MC runs = 10 / period = 301 - 600)

#### **Likelihood of GDP crises**

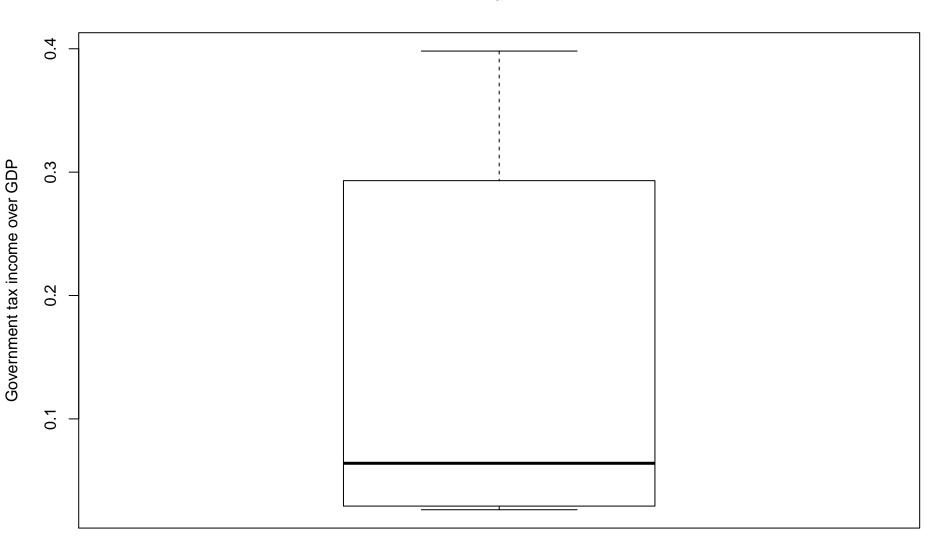


(bar: median / box: 2nd-3rd quartile / whiskers: max-min / points: outliers / MC runs = 10 / period = 301 - 600)

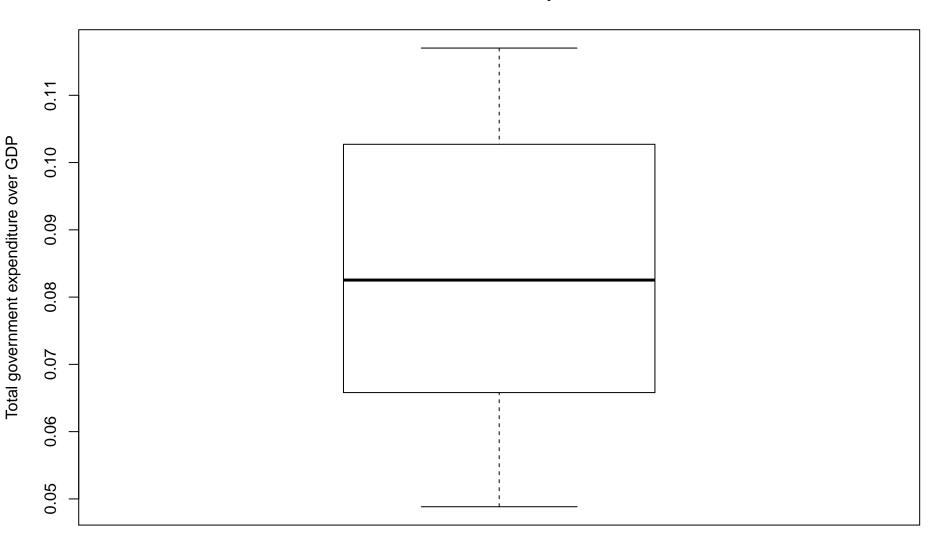




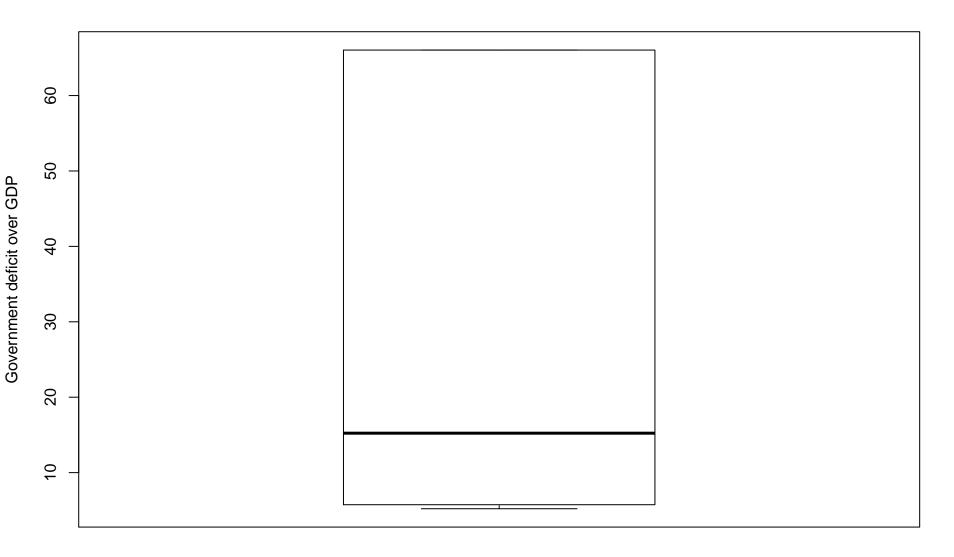




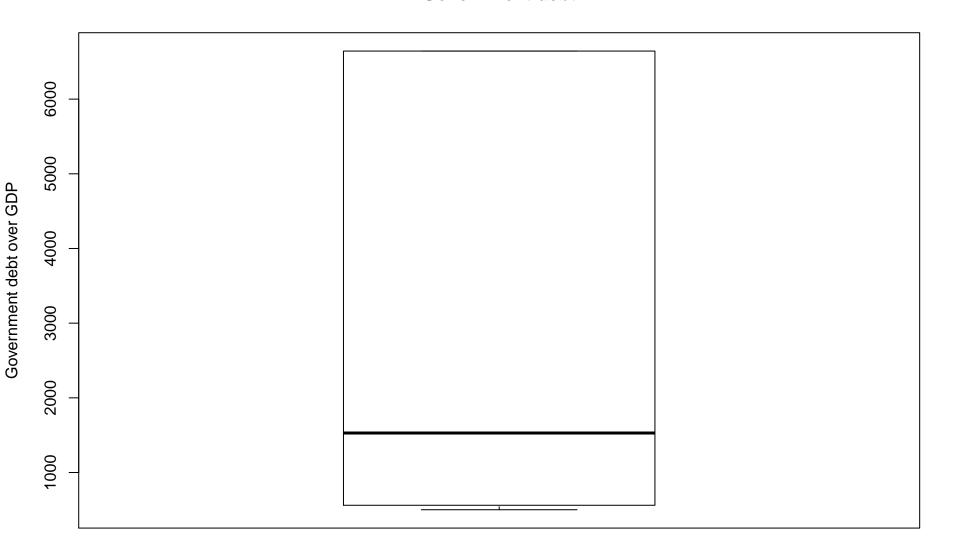
## **Government total expenditure**



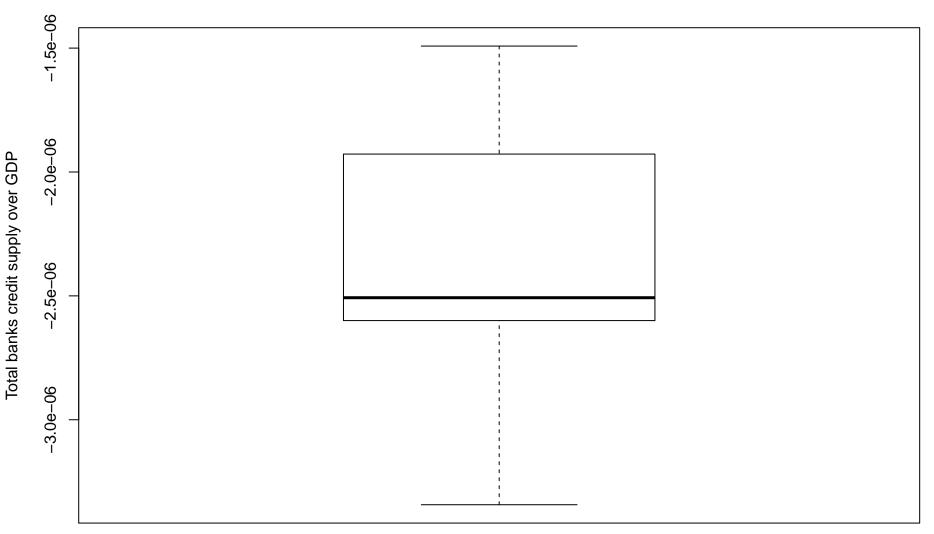
### **Government deficit**



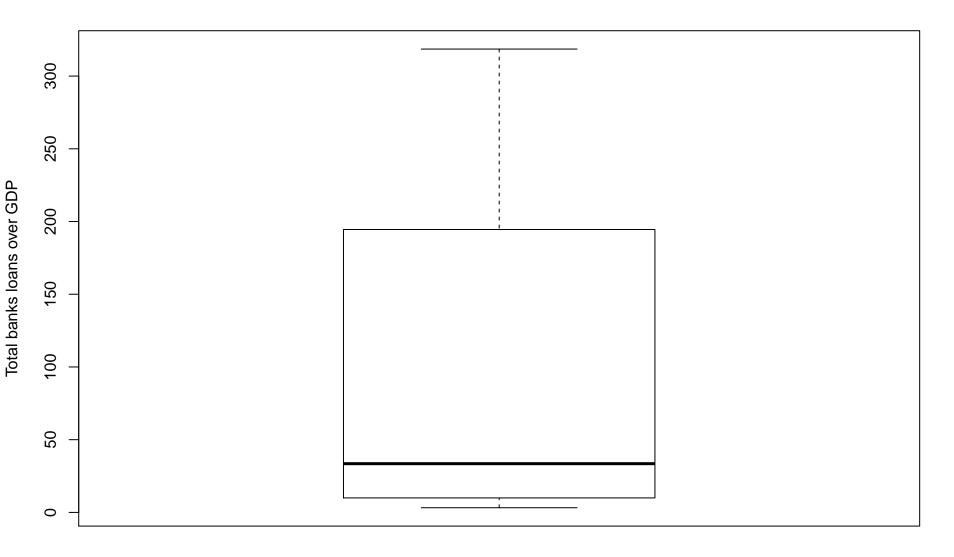
### **Government debt**



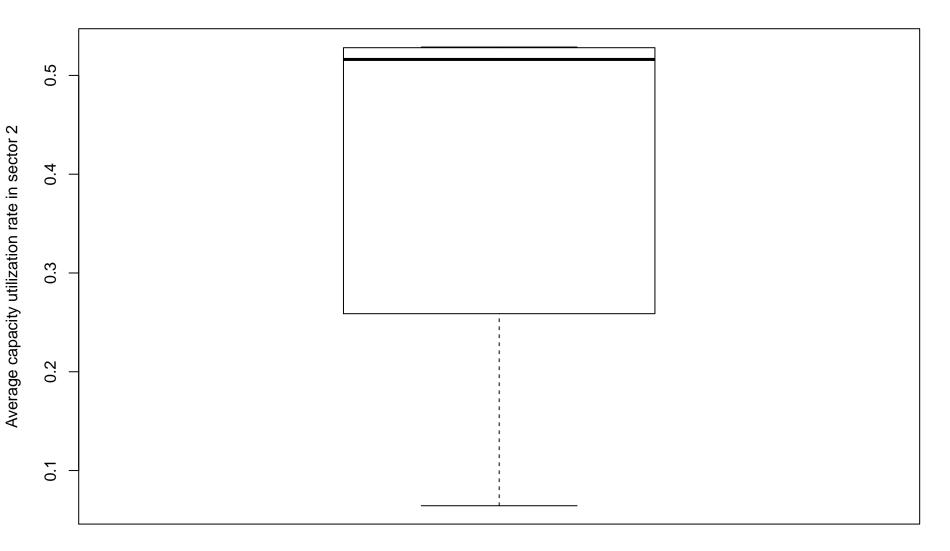




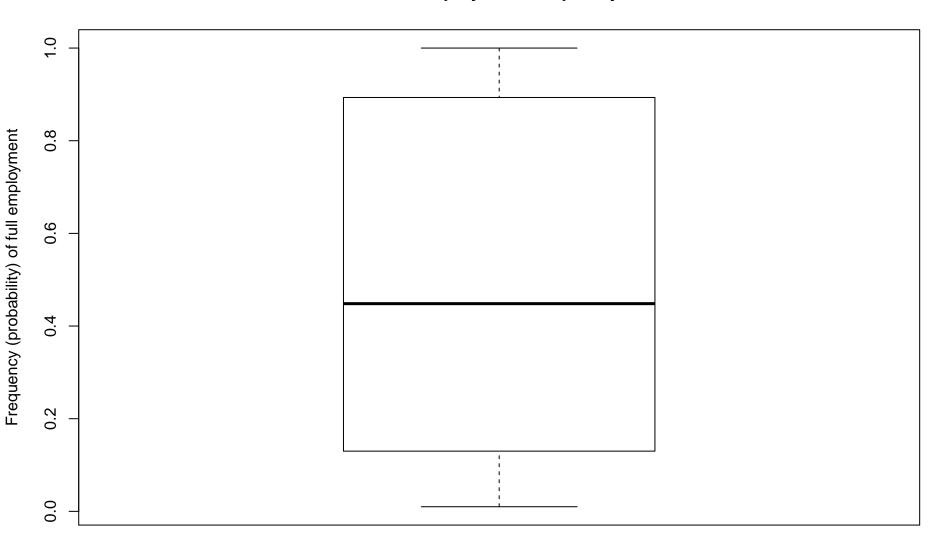




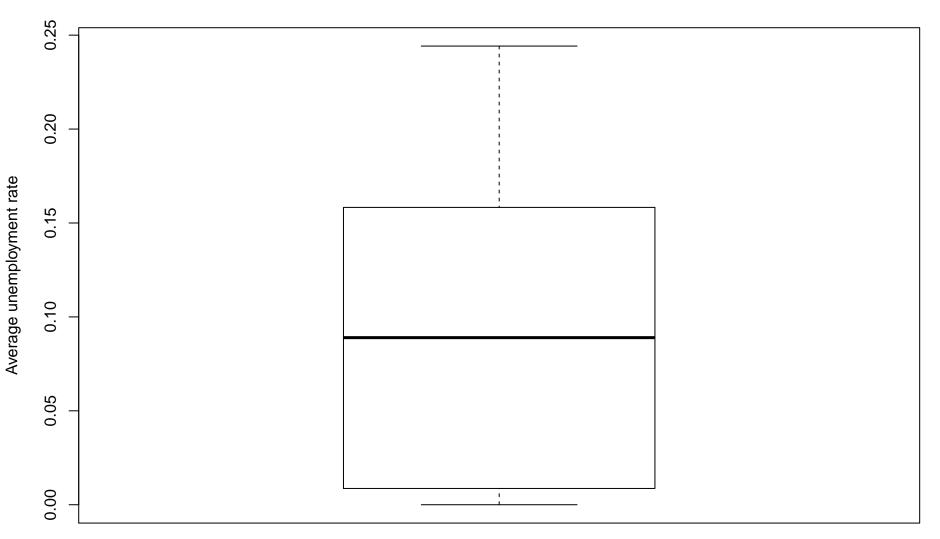
# **Capacity utilization**



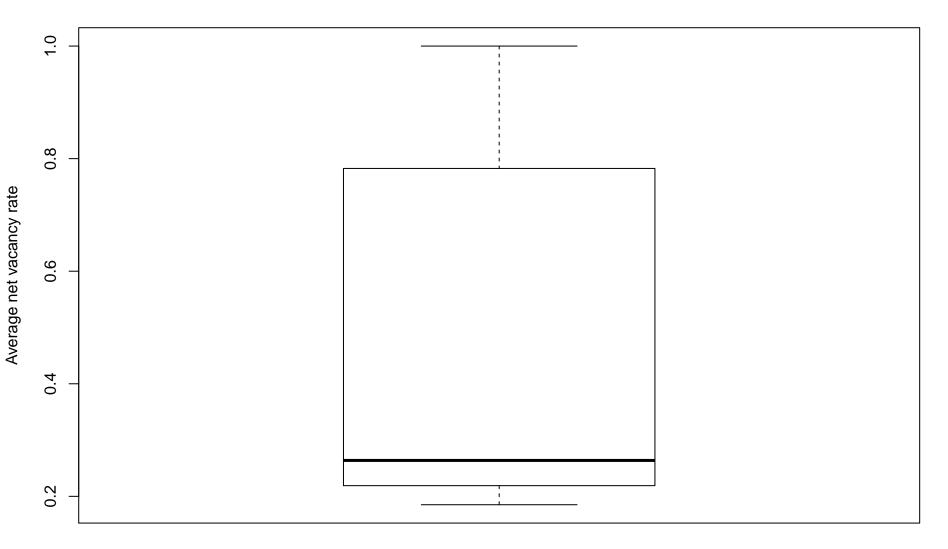
# Full employment frequency



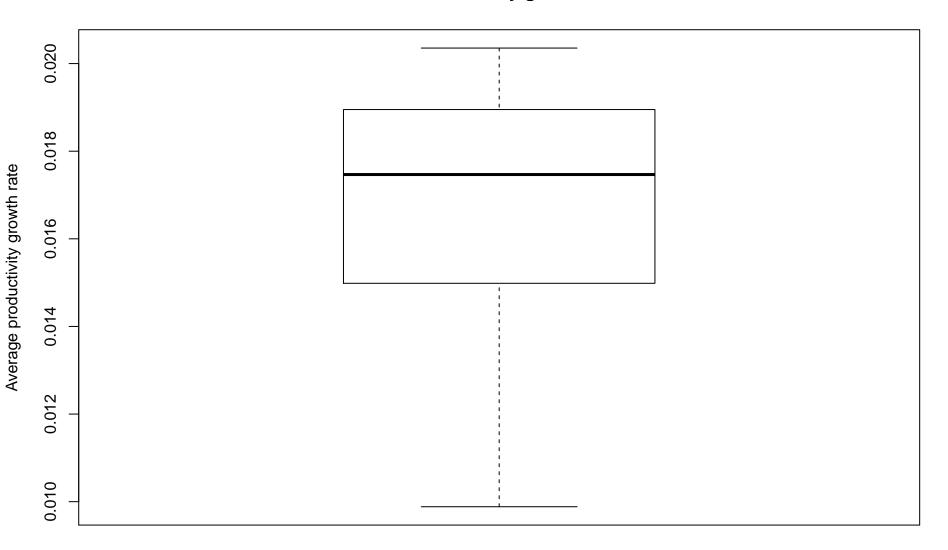




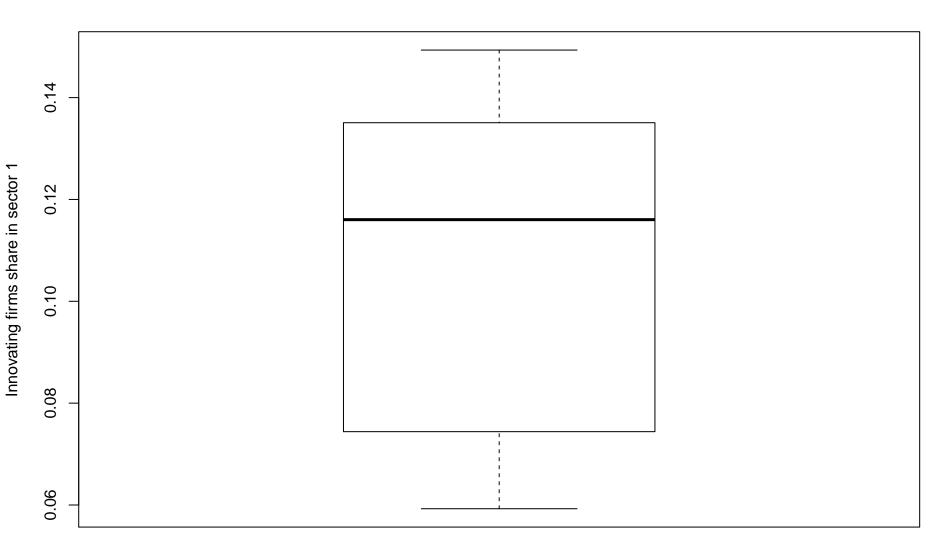




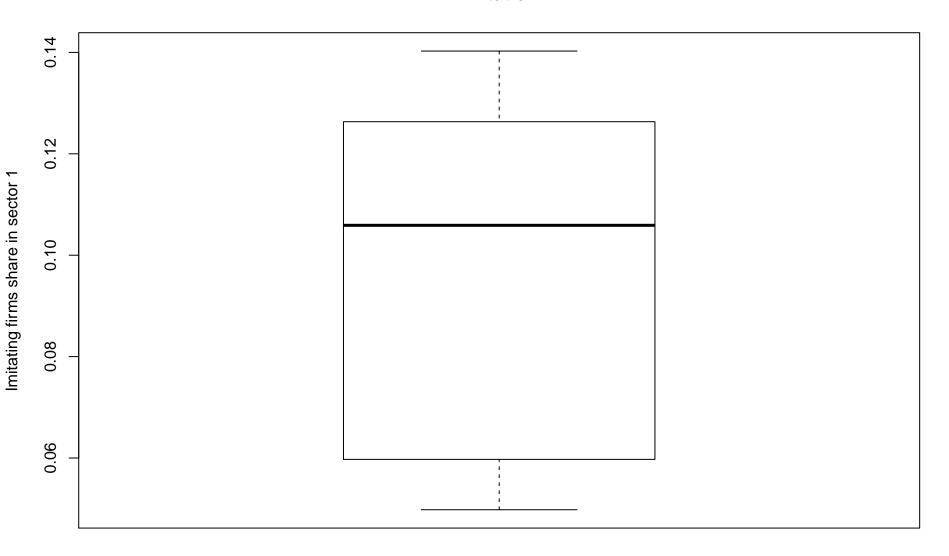
# **Productivity growth**



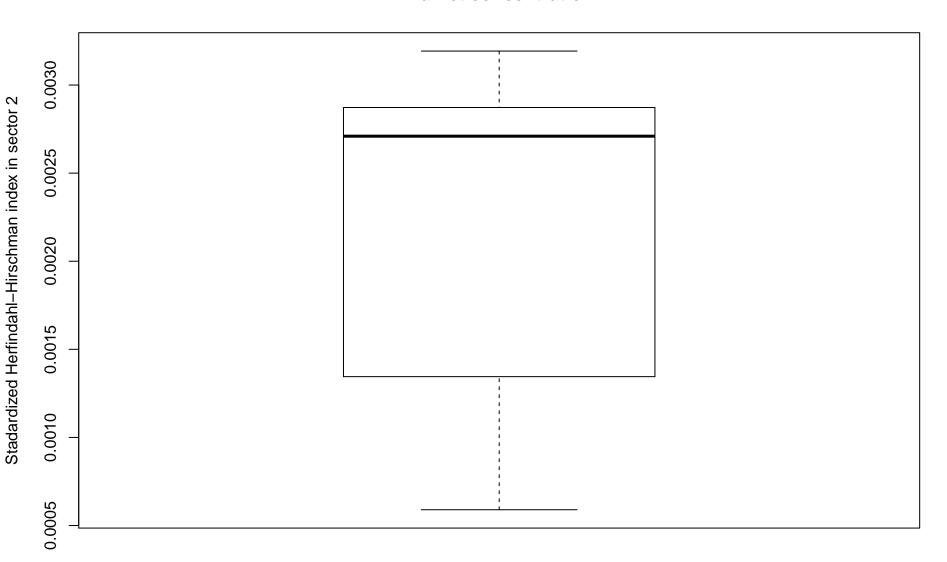




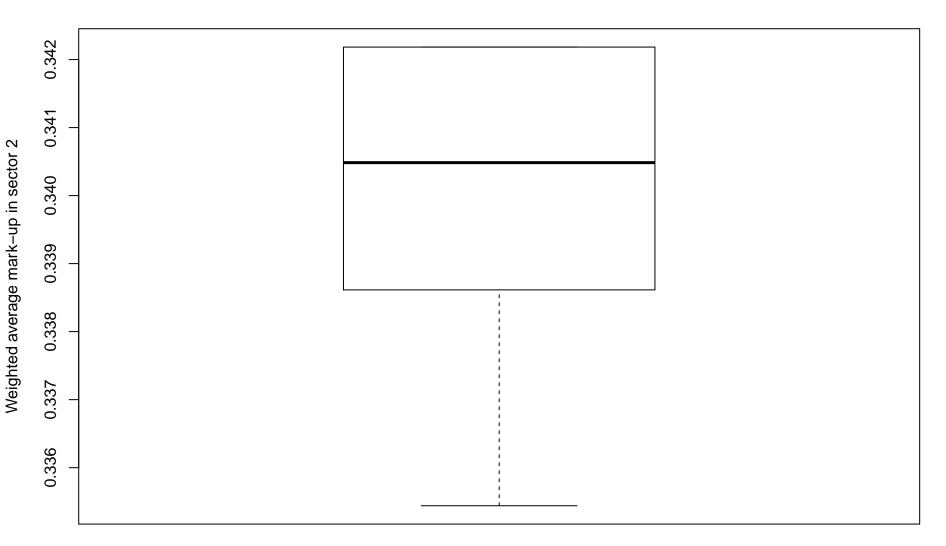




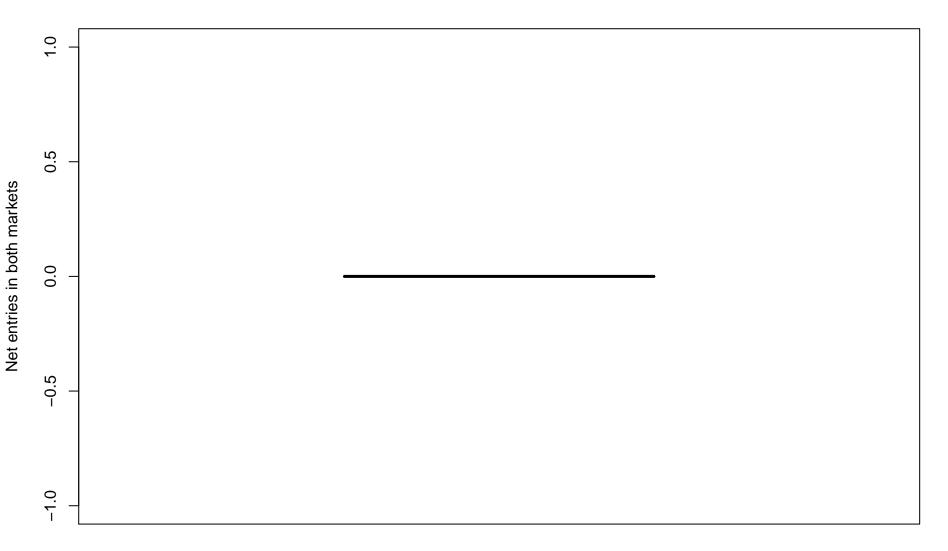
## **Market concentration**











## Monte Carlo descriptive statistics (all experiments)

	Avg[1]	SD[1]	Min[1]	Max[1]
GDP growth	0.01665	0.003803	0.009609	0.02073
Volatility of GDP growth	0.08542	0.0115	0.05821	0.0968
Likelihood of GDP crises	0.222	0.05455	0.14	0.2833
Inflation	-0.009464	0.01558	-0.04043	0.01802
Tax	28.32	89.19	0.02637	282.2
Government total expenditure	0.08457	0.02326	0.04884	0.117
Government deficit	2.287e+04	7.186e+04	5.212	2.274e+05
Government debt	2.301e+06	7.229e+06	501.6	2.288e+07
Credit supply	-2.376e-06	5.329e-07	-3.343e-06	-1.492e-06
Loans	2.25e+04	7.09e+04	3.213	2.243e+05
Capacity utilization	0.4086	0.1891	0.06438	0.5287
Full employment frequency	0.4753	0.3874	0.01	1
Unemployment	0.09349	0.08278	0	0.2442
Vacancy	0.4429	0.3353	0.1851	1
Productivity growth	0.01657	0.003356	0.009885	0.02035
Innovation	0.1053	0.0341	0.05927	0.1493
Imitation	0.09557	0.03411	0.0498	0.1403
Market concentration	0.002277	0.0009676	0.0005897	0.003193
Mark-ups	0.3423	0.005926	0.3354	0.3557
Net entry of firms	0	0	0	0

Experiments: [1] Free entry ( numbers in brackets indicate the experiment number / MC runs = 10 / period = 301 - 600 )