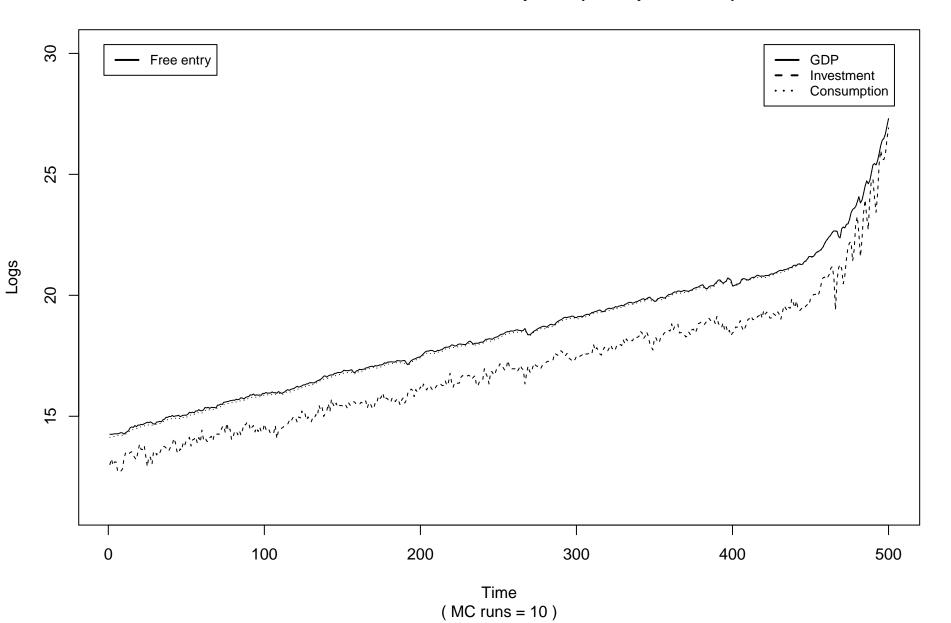
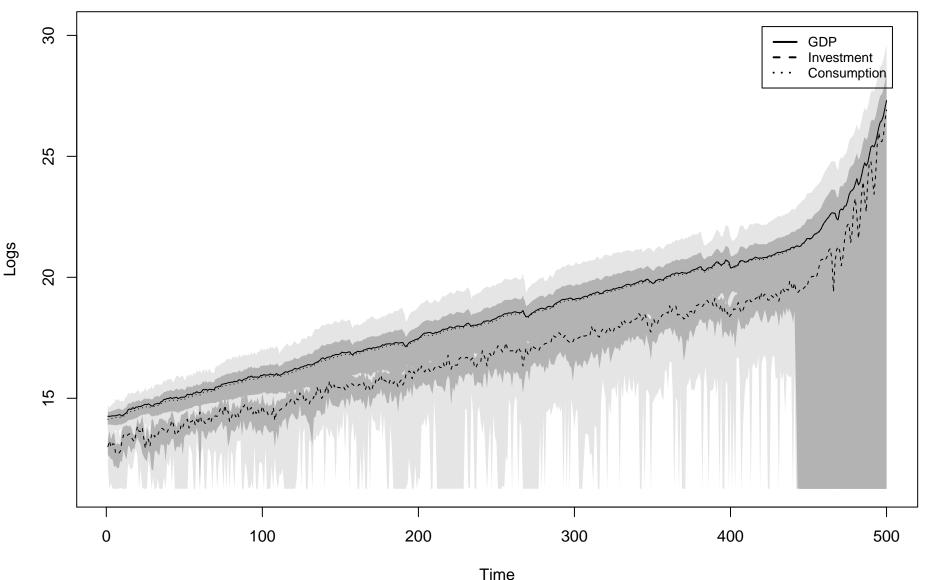
#### GDP, investment and consumption (all experiments)

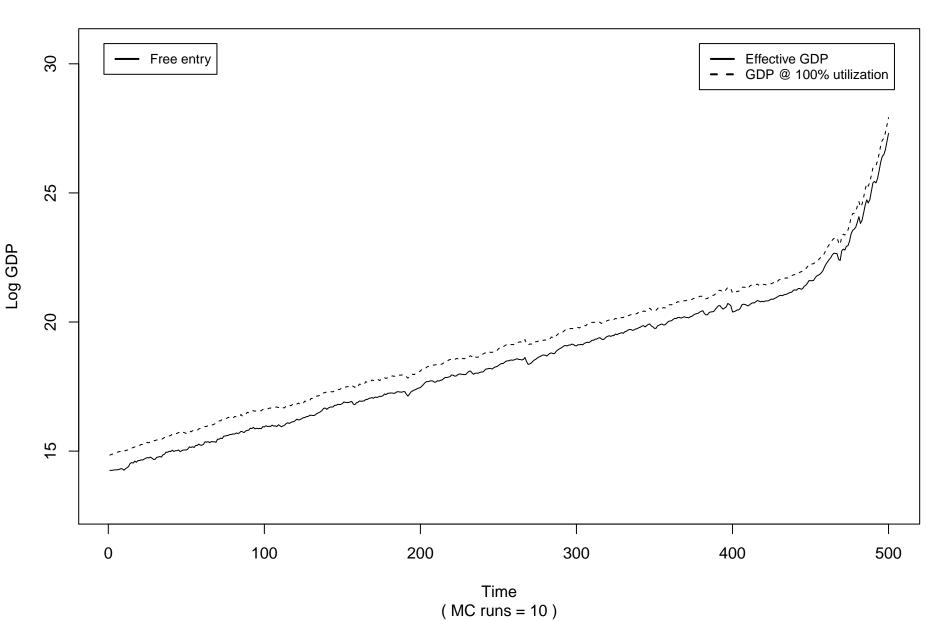


# **GDP**, investment and consumption ( Free entry )

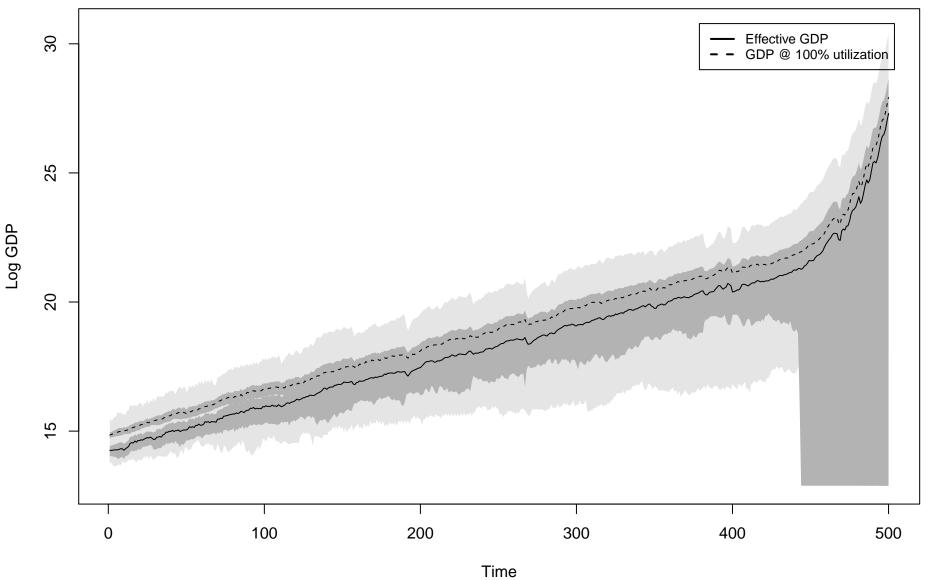


Time ( 95% confidence band in gray, min/max values in light gray / MC runs = 10 )

# GDP (all experiments)

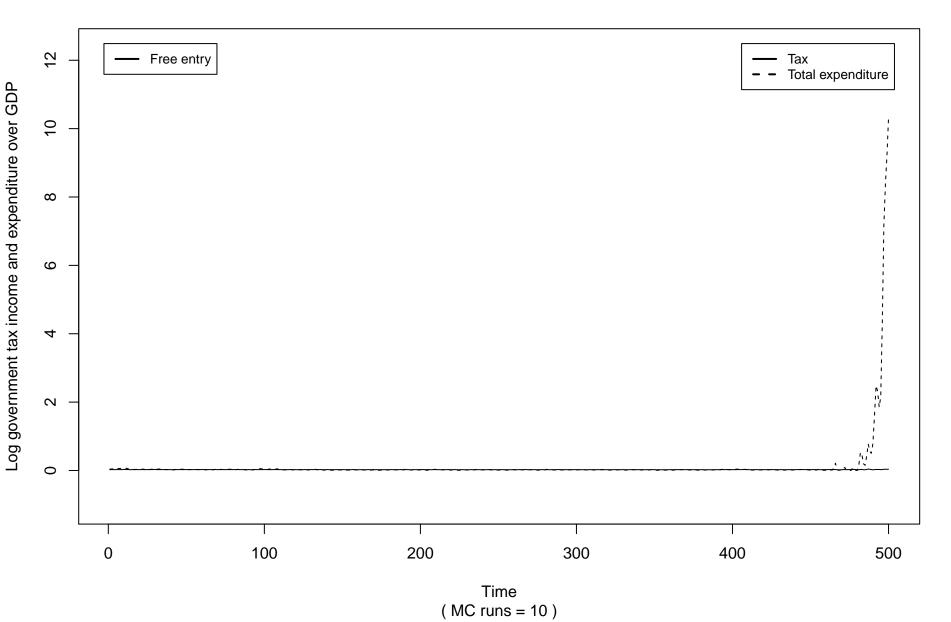


# GDP (Free entry)

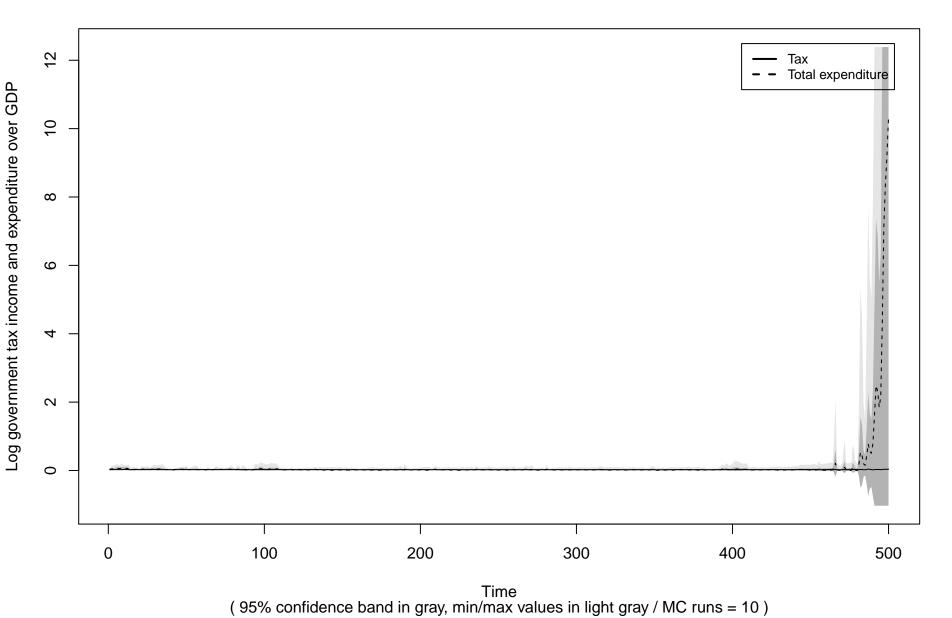


Time ( 95% confidence band in gray, min/max values in light gray / MC runs = 10 )

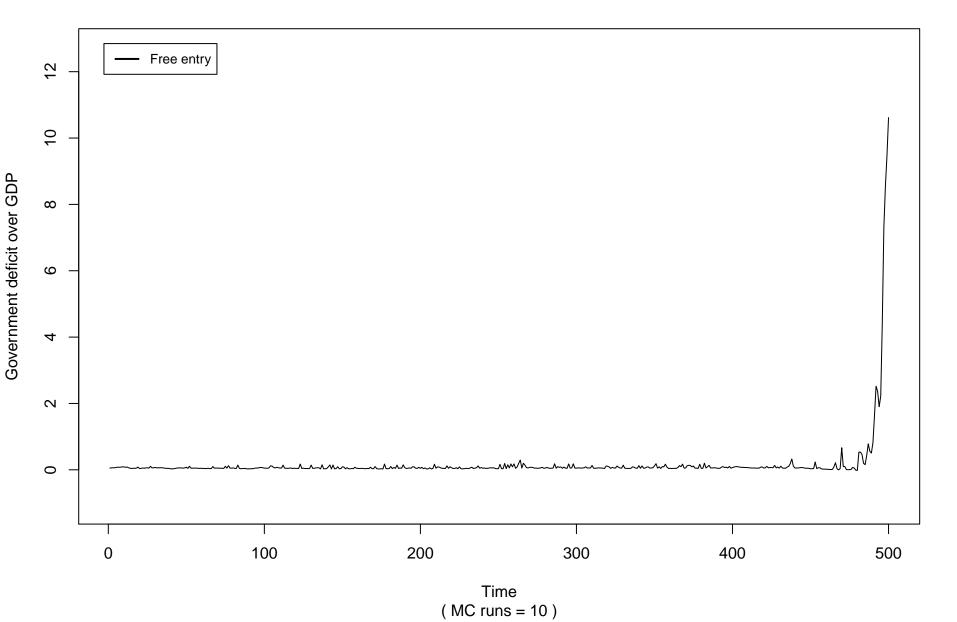
# Government income and expenditure on GDP (all experiments)



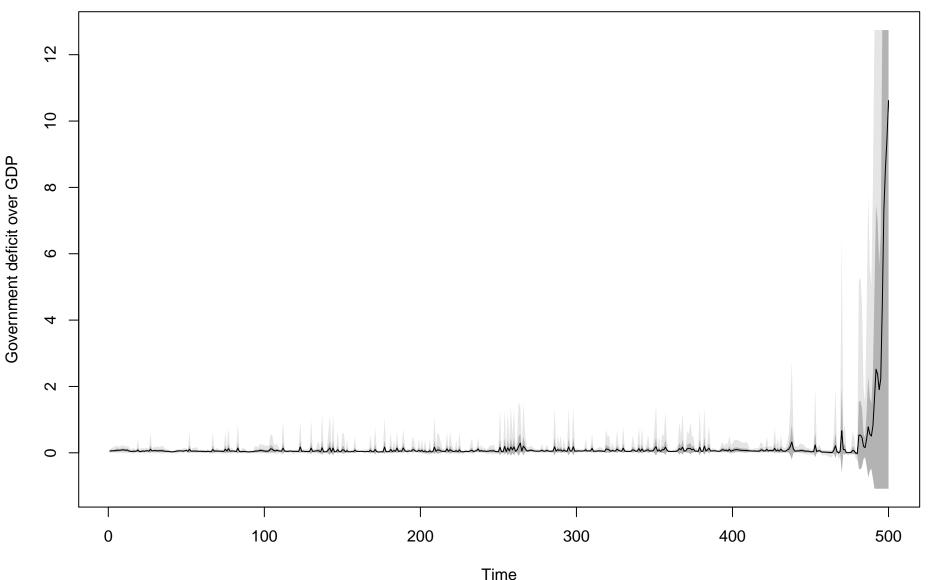
#### Government income and expenditure on GDP (Free entry)



# Government deficit on GDP (all experiments)

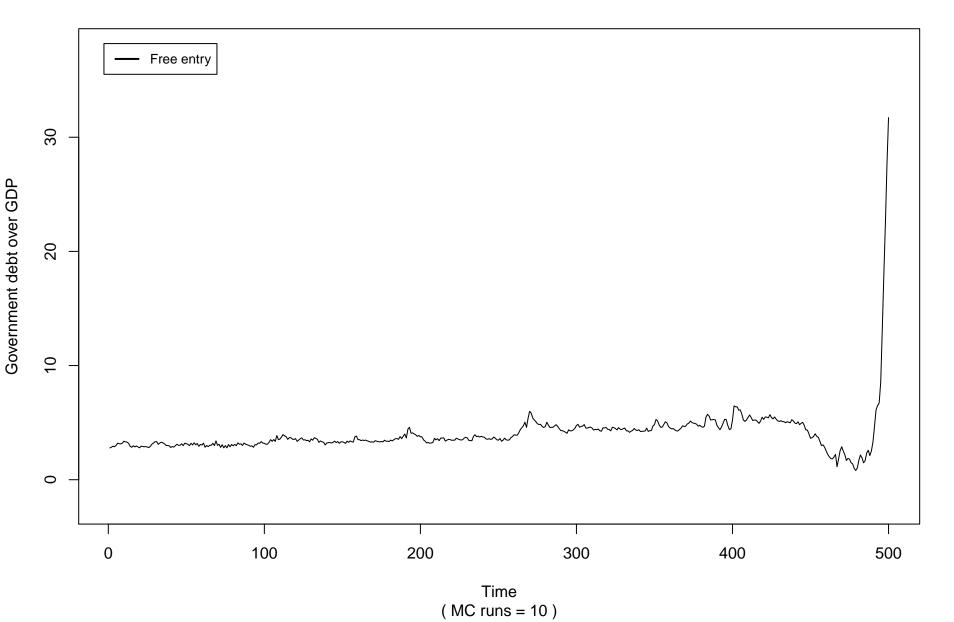


# Government deficit on GDP (Free entry)

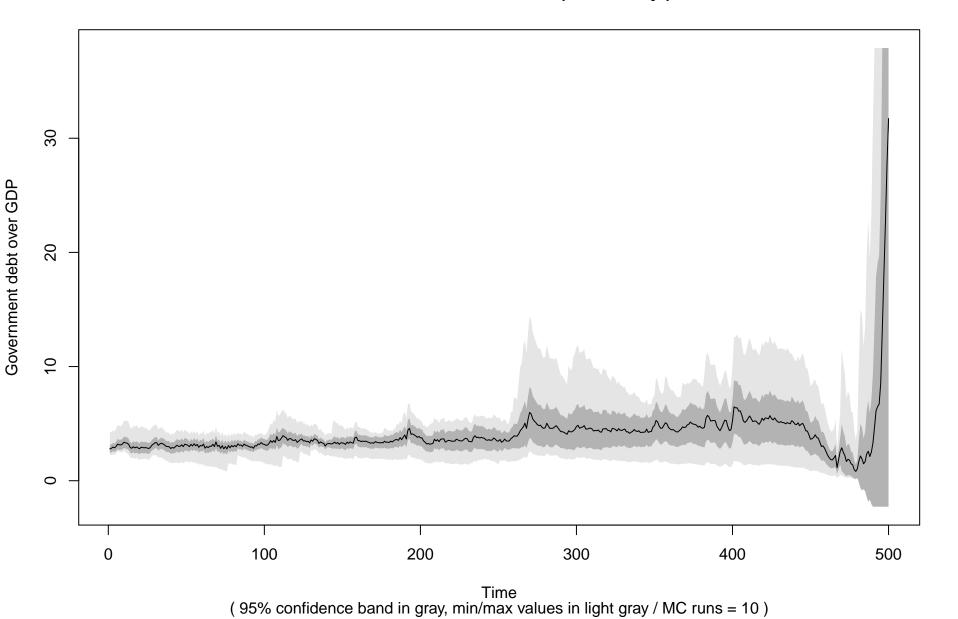


Time ( 95% confidence band in gray, min/max values in light gray / MC runs = 10 )

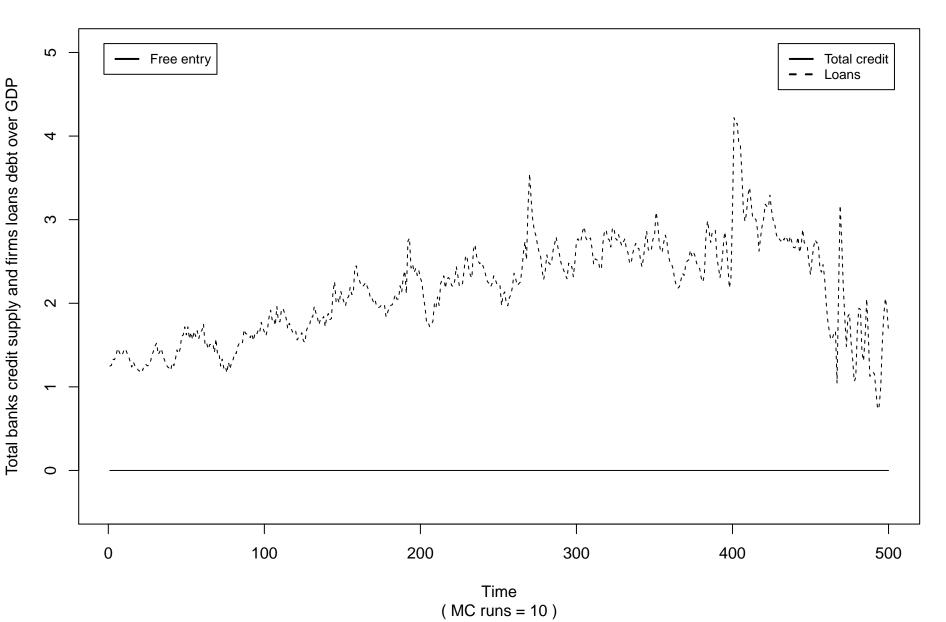
# Government debt on GDP (all experiments)



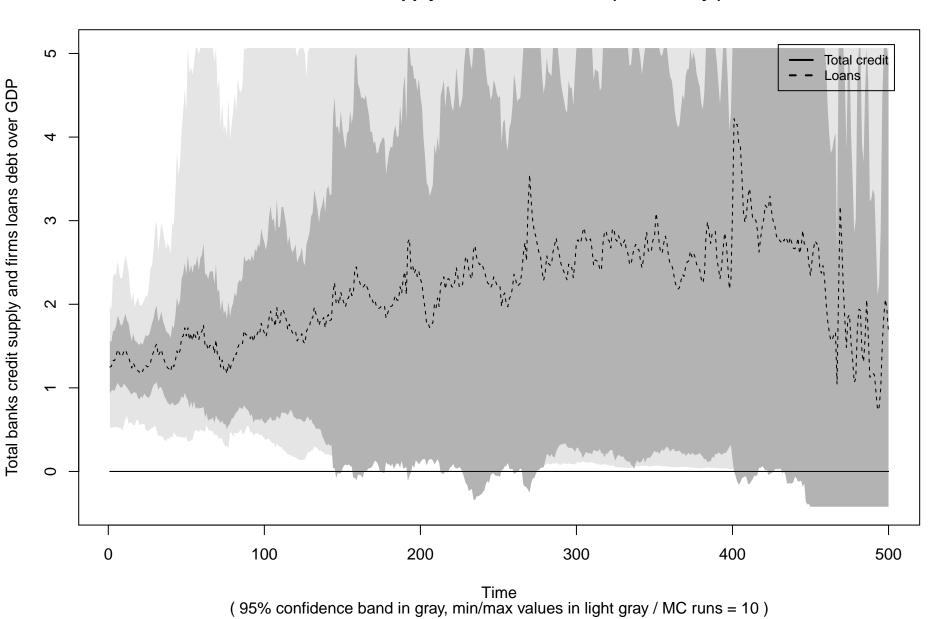
# Government debt on GDP (Free entry)



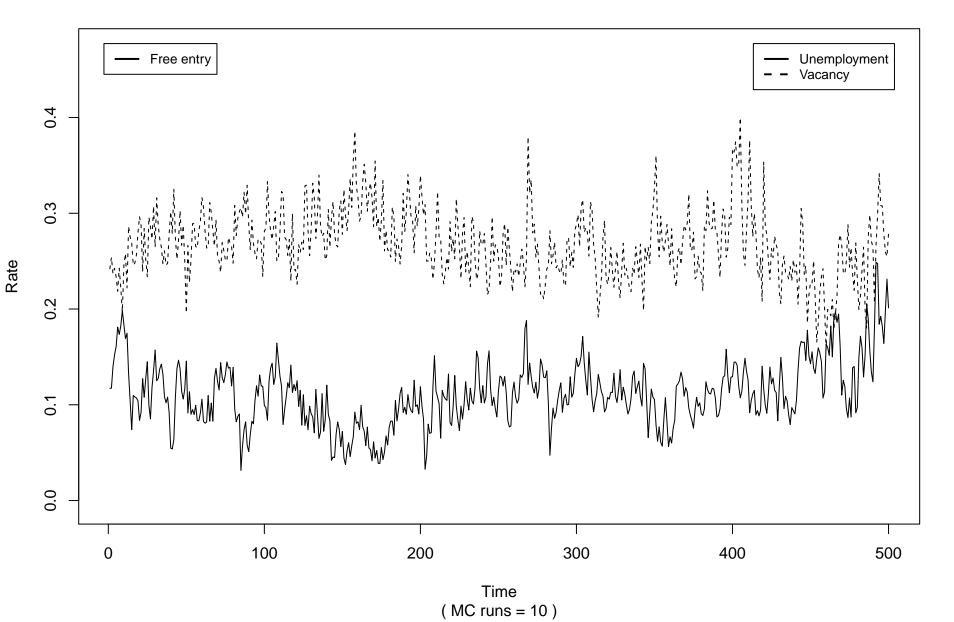
### Total credit supply and loans on GDP (all experiments)



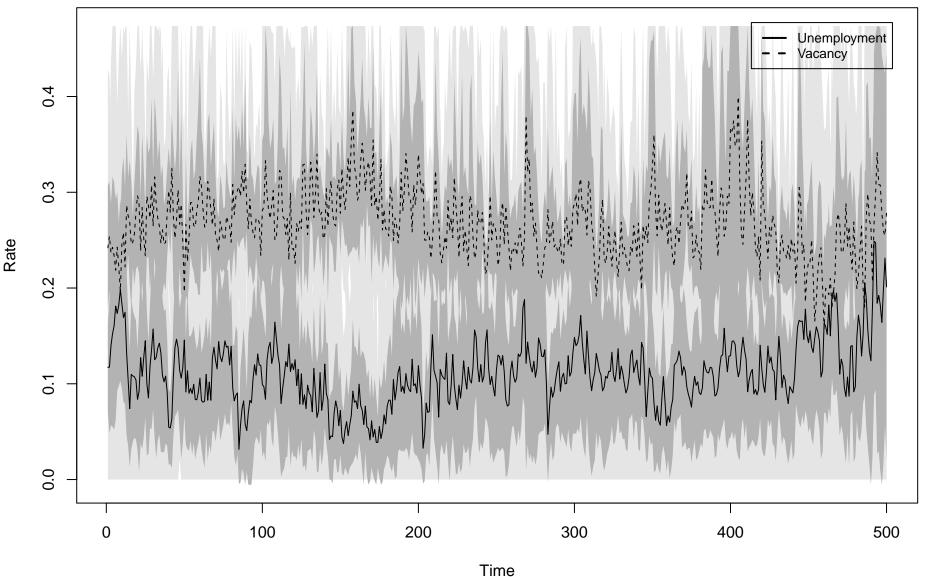
### Total credit supply and loans on GDP (Free entry)



# Unemployment and vacancy rates (all experiments)

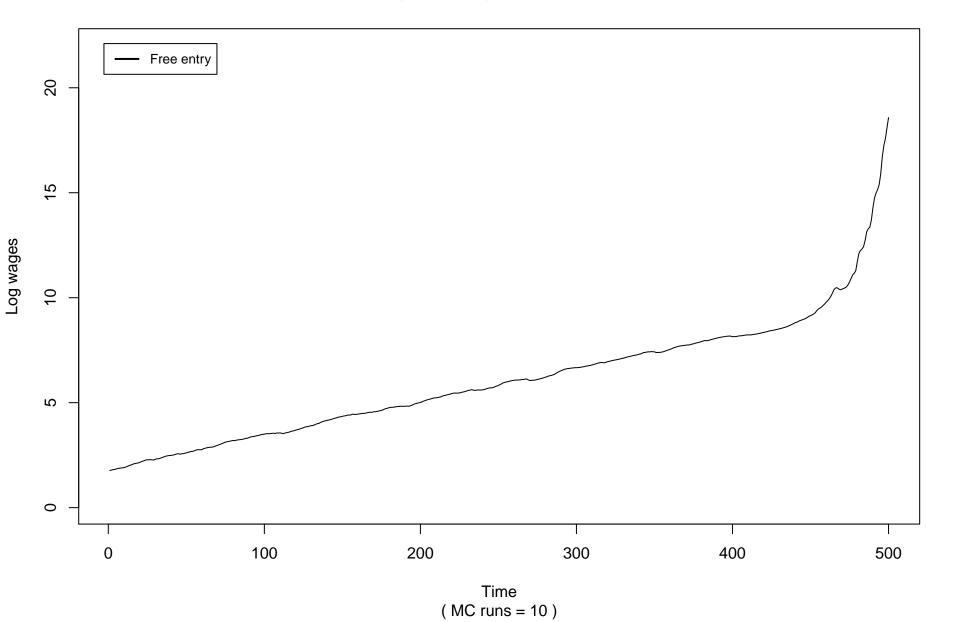


### Unemployment and vacancy rates (Free entry)

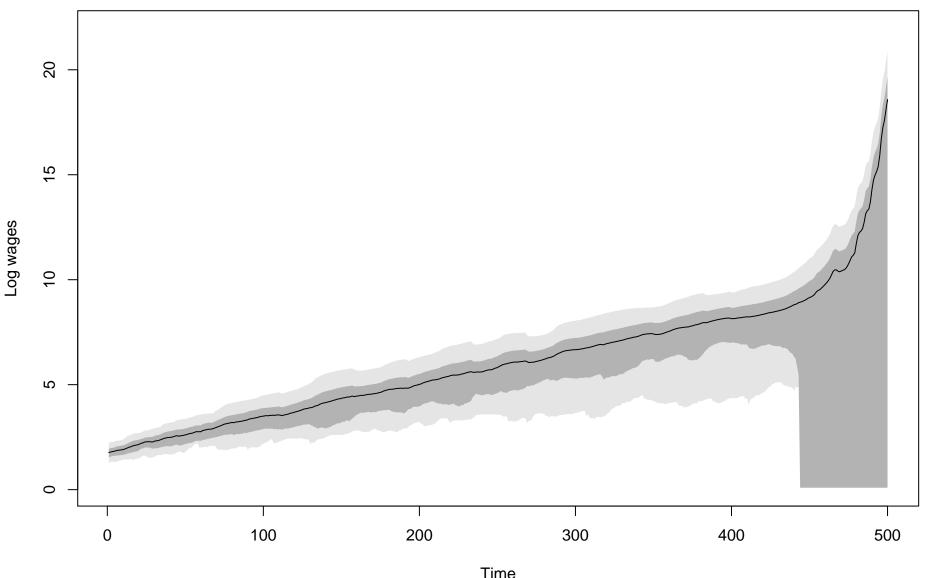


Time ( 95% confidence band in gray, min/max values in light gray / MC runs = 10 )

# Real wages average (all experiments)

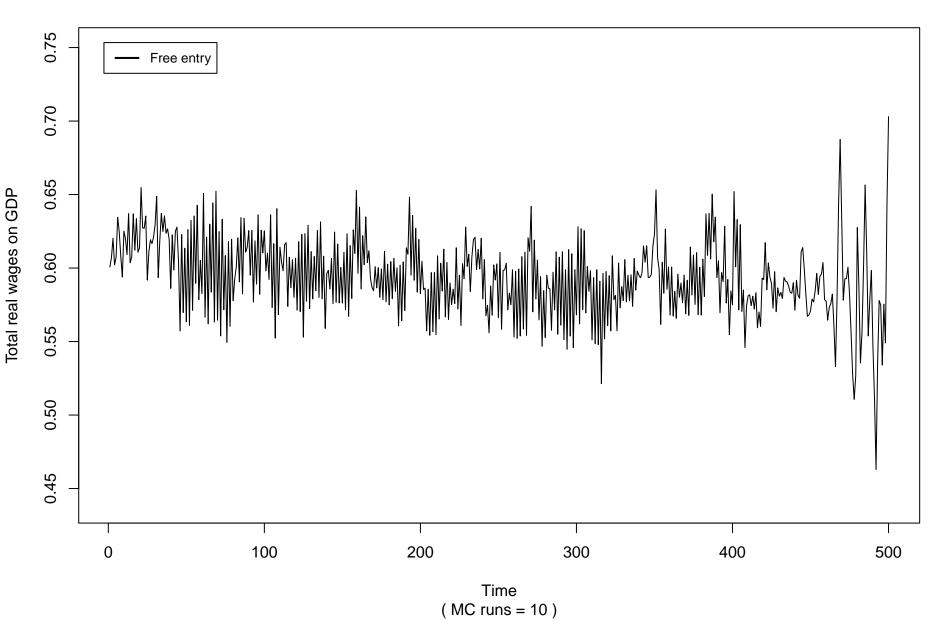


# Real wages average (Free entry)

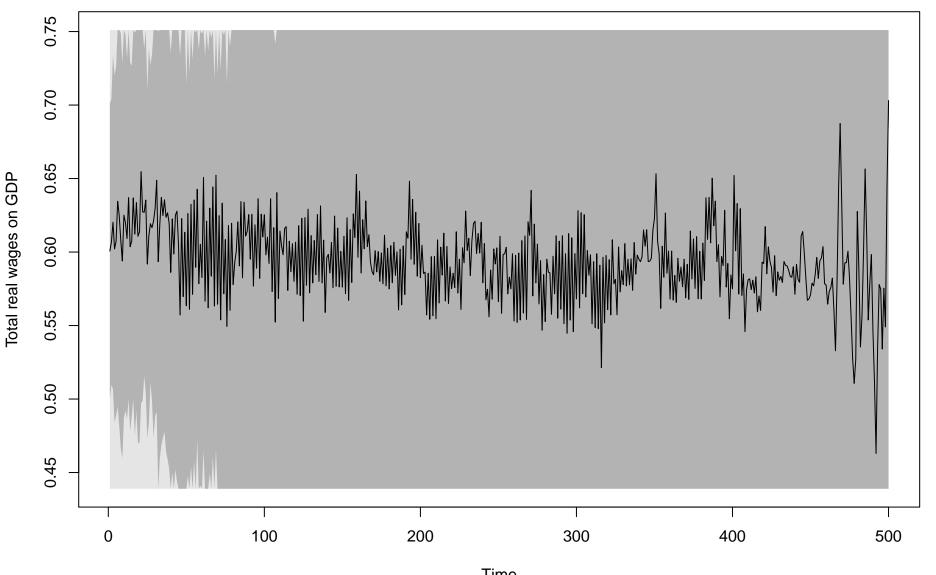


Time ( 95% confidence band in gray, min/max values in light gray / MC runs = 10 )

# Wage share (all experiments)

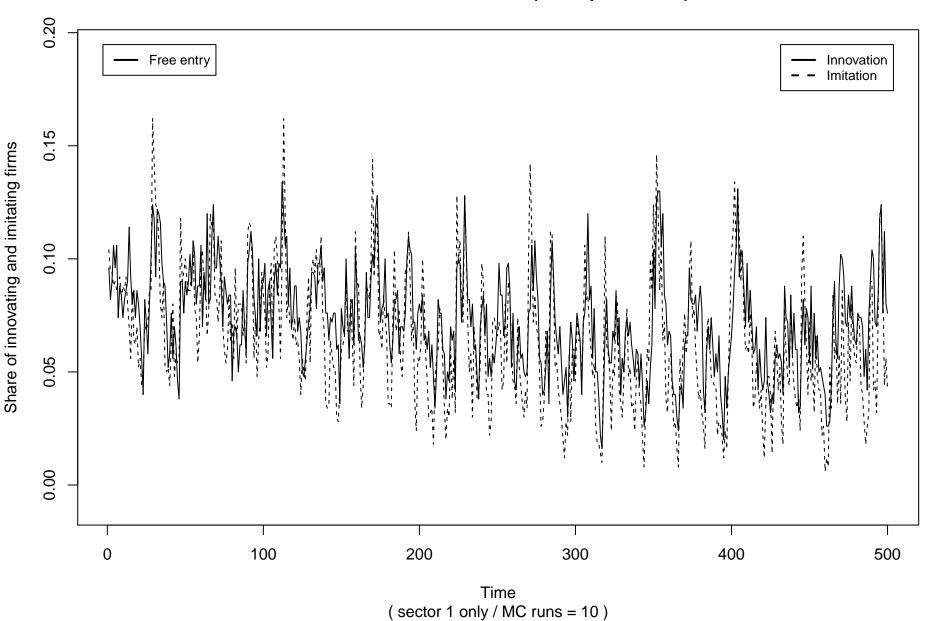


# Wage share (Free entry)

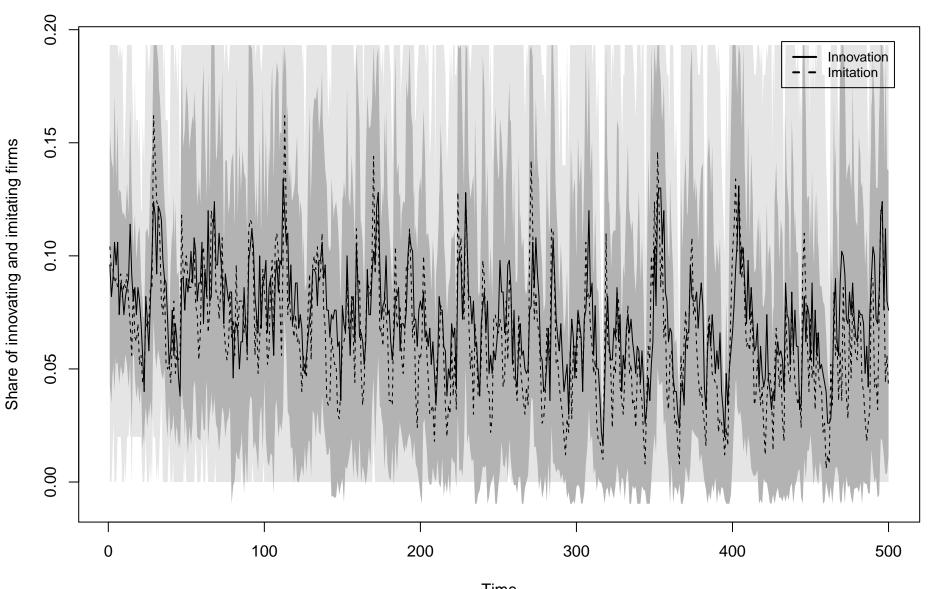


Time ( 95% confidence band in gray, min/max values in light gray / MC runs = 10 )

### Innovation and imitation (all experiments)

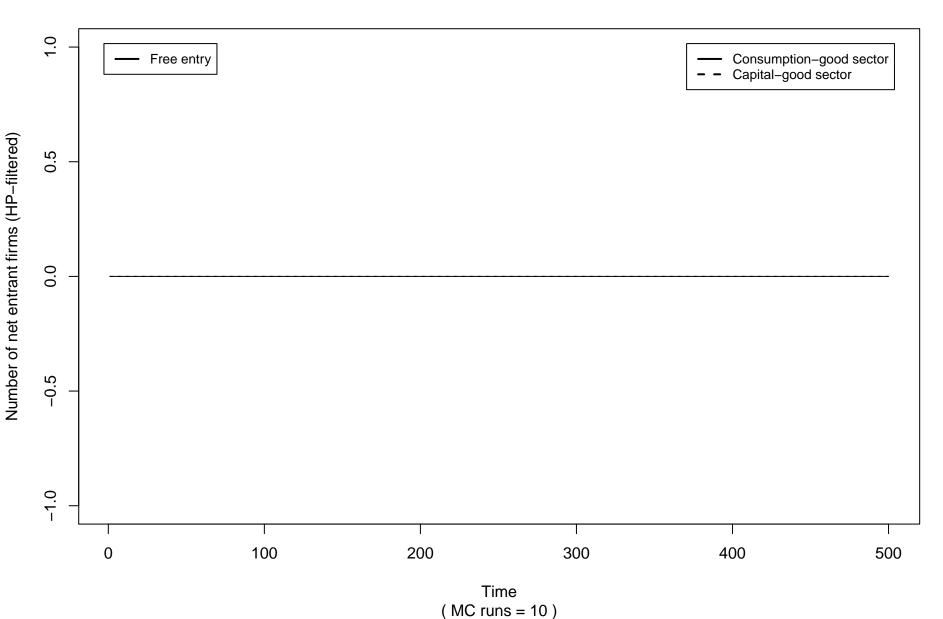


### Innovation and imitation (Free entry)

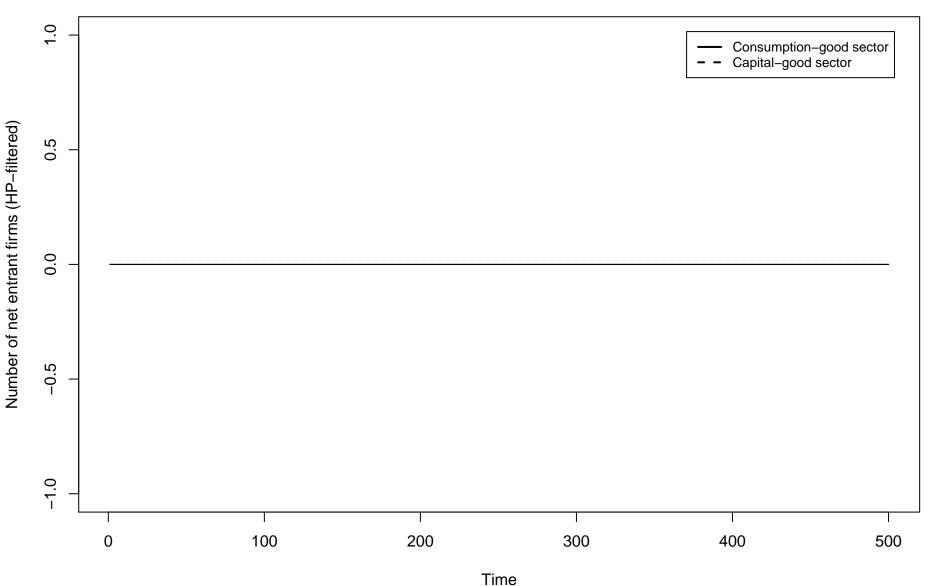


Time ( 95% confidence band in gray, min/max values in light gray / sector 1 only / MC runs = 10 )

# Net entry of firms trend (all experiments)

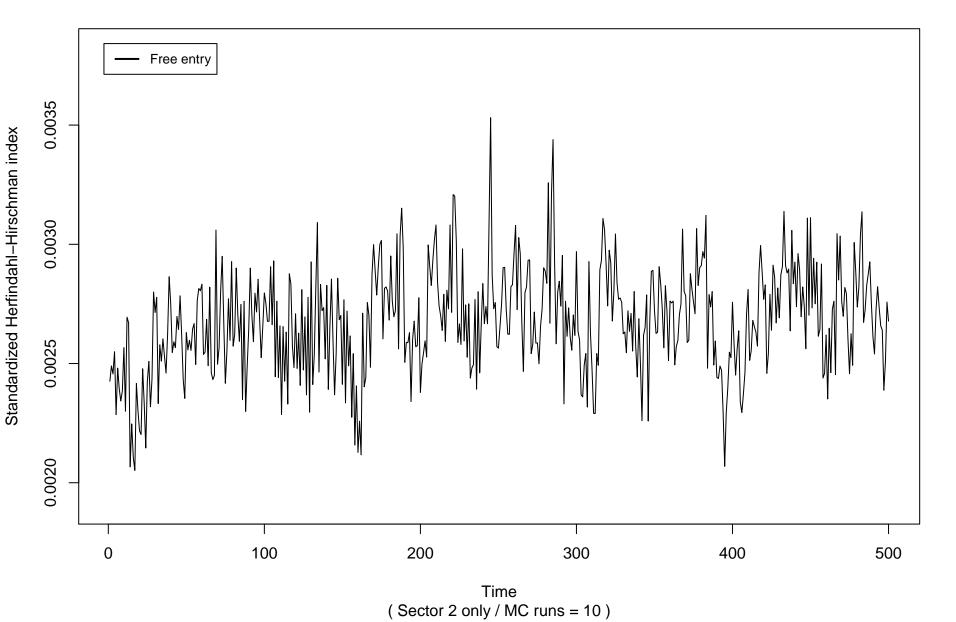


#### Net entry of firms trend (Free entry)

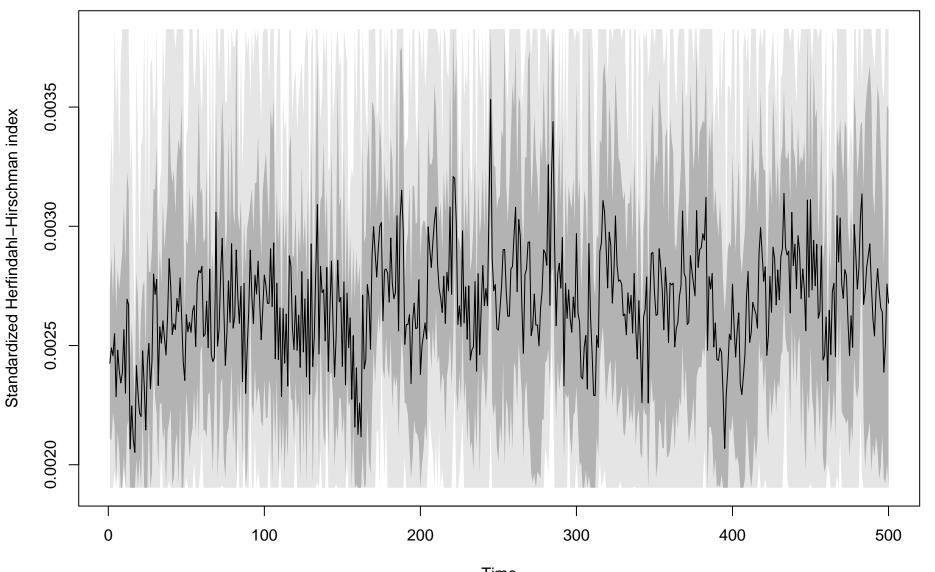


( 95% confidence band in gray, min/max values in light gray / MC runs = 10 )

### Market concentration (all experiments)

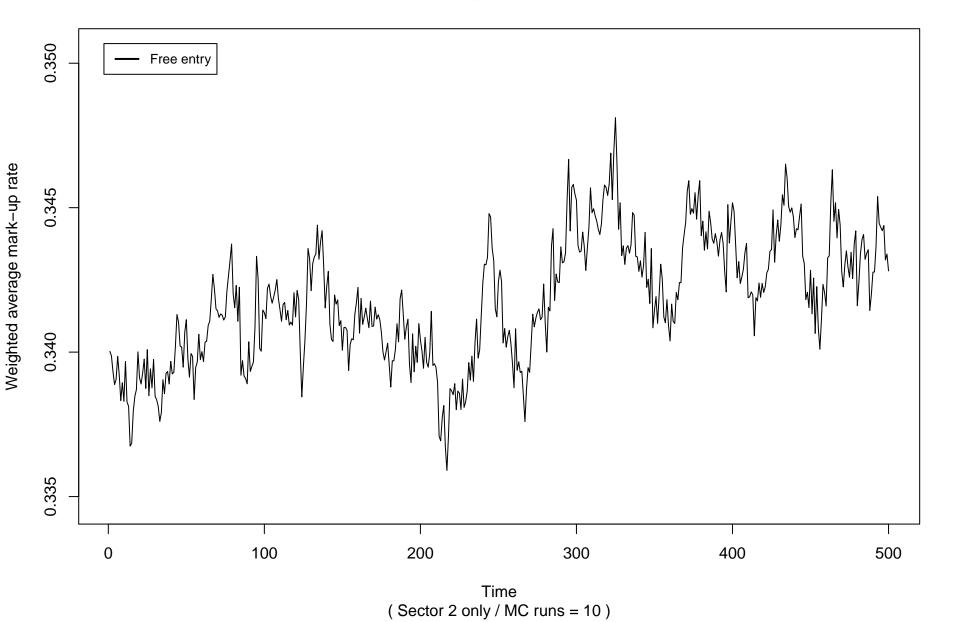


### Market concentration (Free entry)

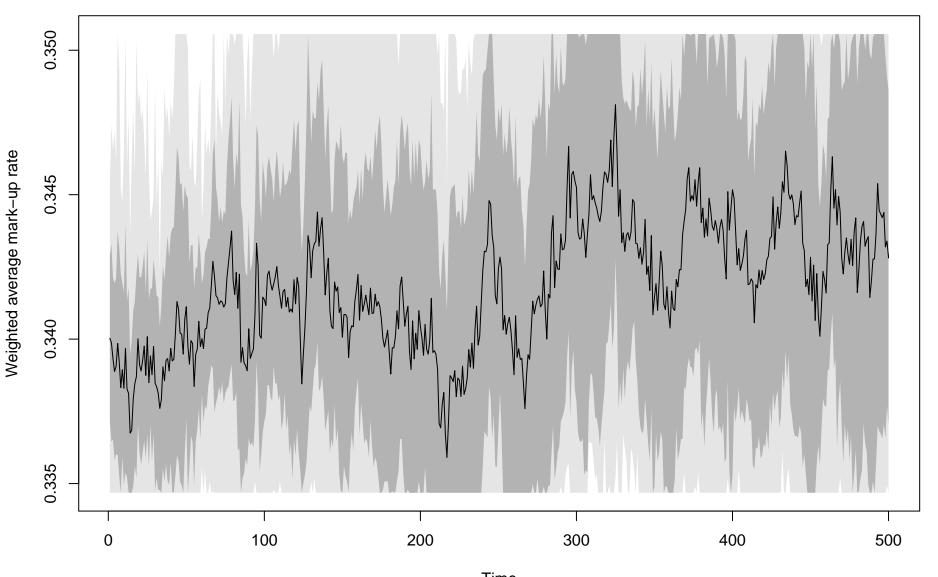


Time ( 95% confidence band in gray, min/max values in light gray / Sector 2 only / MC runs = 10 )

### Mark-up average (all experiments)

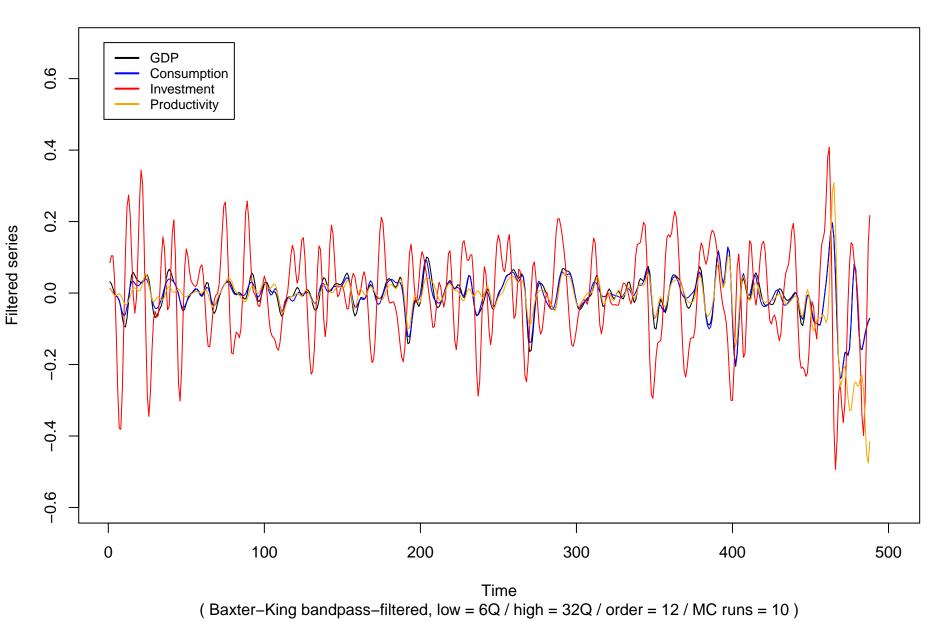


### Mark-up average (Free entry)

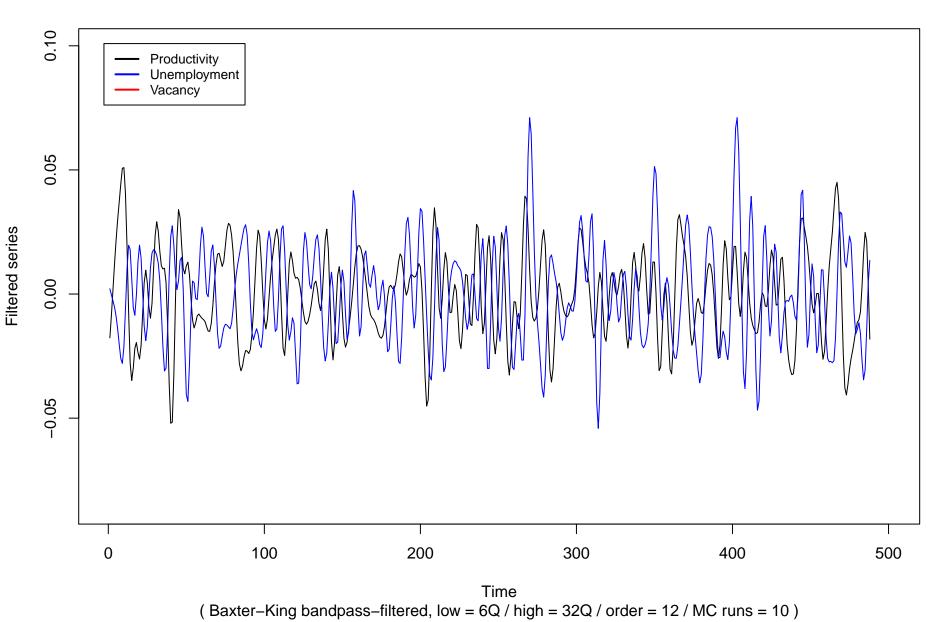


Time ( 95% confidence band in gray, min/max values in light gray / Sector 2 only / MC runs = 10 )

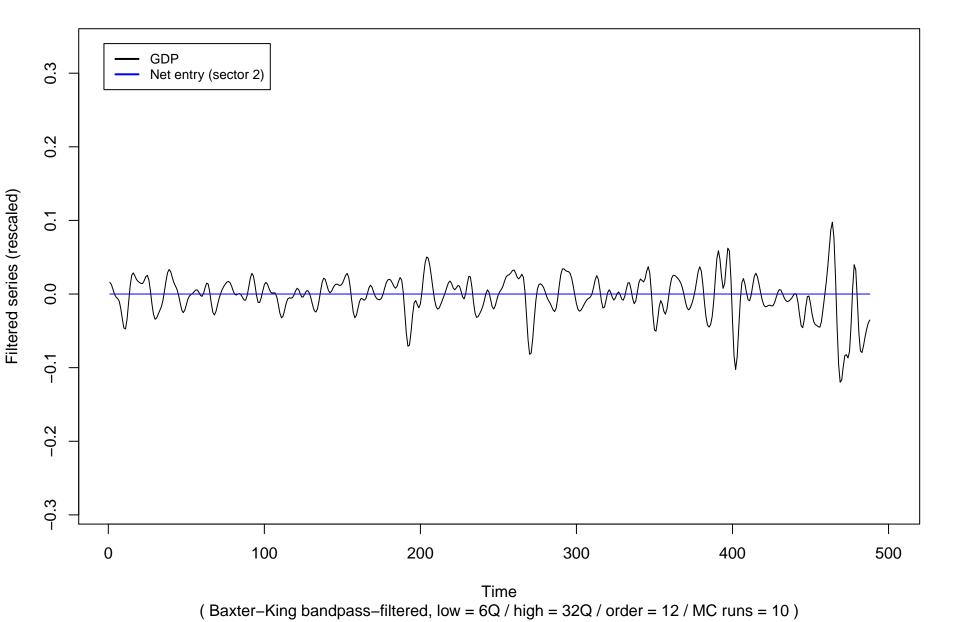
### **GDP cycles (Free entry)**



### 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	0.01571	0.01552	0.01796	0.01673	0.01687
(s.e.)	0.00241	0.00244	0.002903	0.003717	0.003648
ADF test (logs)	-2.01	-1.898	-5.802	-1.835	-2.189
(s.e.)	0.8176	0.8139	0.5459	1.003	0.8241
(p-val.)	0.3389	0.3711	0.07352	0.3819	0.2884
(s.e.)	0.1024	0.0963	0.06352	0.1105	0.1008
ADF test (bpf)	-6.289	-5.908	-6.633	-6.34	-6.054
(s.e.)	0.1784	0.1774	0.1587	0.3495	0.5506
(p-val.)	0.01	0.01	0.01	0.01	0.06789
(s.e.)	0	0	0	0	0.05789
s.d. (bpf)	0.08783	0.07313	1.487	0.0681	0.07335
(s.e.)	0.003509	0.003904	0.1979	0.006256	0.006145
relative s.d. (GDP)	1	0.8327	16.93	0.7754	0.8352

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

	-4	-3	-2	-1	0	1	2	3	4
GDP (output)	-0.02401	0.2452	0.5871	0.8808	1	0.8808	0.5871	0.2452	-0.02401
(s.e.)	0.02897	0.02753	0.01812	0.005987	1.17e-17	0.005987	0.01812	0.02753	0.02897
(p-val.)	0.555	0.0001013	2.304e-10	1.853e-16	NA	1.853e-16	2.304e-10	0.0001013	0.555
Consumption	0.08236	0.3077	0.5878	0.8327	0.9404	0.8495	0.5997	0.2871	0.01508
(s.e.)	0.05336	0.0503	0.0343	0.015	0.007577	0.006672	0.01436	0.02475	0.02732
(p-val.)	0.006721	0.000716	6.321e-08	1.246e-12	8.088e-16	7.032e-16	2.321e-11	7.731e-06	0.816
Investment	-0.2576	-0.3119	-0.3017	-0.1892	0.01524	0.2422	0.4027	0.441	0.3645
(s.e.)	0.04457	0.05365	0.06094	0.06245	0.05475	0.04001	0.03132	0.03291	0.03275
(p-val.)	0.0003588	0.0007188	0.000417	0.0003791	0.2297	0.001435	1.393e-06	8.255e-07	5.703e-06
Net investment	-0.2046	-0.2606	-0.2584	-0.1618	0.01873	0.2182	0.3547	0.3784	0.2992
(s.e.)	0.03697	0.05087	0.06579	0.07294	0.06652	0.0487	0.0354	0.03656	0.03729
(p-val.)	0.004138	0.0004385	1.307e-05	0.0005035	0.1212	0.009733	1.41e-05	9.435e-06	0.0001175
Change in inventories	-0.2874	-0.1854	0.02998	0.2615	0.3911	0.3525	0.1923	0.0169	-0.07988
(s.e.)	0.03352	0.03281	0.02406	0.01931	0.02534	0.02759	0.02298	0.01661	0.01364
(p–val.)	8.061e-05	0.0005995	0.8264	3.003e-06	3.17e-07	1.983e-06	0.0004316	0.9978	0.4738
Unemployment rate	0.2607	0.2773	0.2101	0.07128	-0.08771	-0.2036	-0.2377	-0.198	-0.1244
(s.e.)	0.05195	0.05403	0.06097	0.06587	0.06562	0.05999	0.05299	0.04643	0.03918
(p-val.)	0.002923	0.002653	0.008104	0.05247	0.1023	0.01489	0.002409	0.0008087	0.003975
Productivity	0.1594	0.3404	0.5529	0.7284	0.7907	0.6945	0.4781	0.2198	0.0004285
(s.e.)	0.07293	0.07208	0.05124	0.02989	0.03489	0.04008	0.0407	0.04606	0.04707
(p–val.)	0.01021	0.0007591	3.477e-06	2.218e-09	3.862e-09	4.664e-08	2.152e-06	0.007076	0.171
Mark-up (sector 2)	0.1429	0.1131	0.05035	-0.03349	-0.1125	-0.1616	-0.1673	-0.1402	-0.1032
(s.e.)	0.05356	0.04888	0.04844	0.04629	0.04291	0.04617	0.05183	0.04944	0.03897
(p–val.)	0.02487	0.03459	0.3111	0.1442	0.06245	0.02256	0.01759	0.02391	0.1231
Total firm debt	0.1059	-0.007452	-0.1171	-0.2	-0.2431	-0.2438	-0.221	-0.1886	-0.1533
(s.e.)	0.03699	0.03972	0.04465	0.04718	0.0422	0.03416	0.03789	0.0503	0.05903
(p–val.)	0.04338	0.05961	0.09996	0.01576	0.001912	0.0004905	0.002379	0.005586	0.002113
Liquidity-to-sales ratio	0.07212	-0.1321	-0.3641	-0.5618	-0.6649	-0.6401	-0.516	-0.3467	-0.1871
(s.e.)	0.04561	0.03666	0.03258	0.03461	0.03199	0.03356	0.04438	0.05247	0.05419
(p-val.)	0.07869	0.044	5.527e-06	1.079e-07	1e-08	2.227e-08	2.076e-06	0.0003306	0.00977
Bankruptcy rate	0.3148	0.3411	0.2775	0.1395	-0.01716	-0.1299	-0.172	-0.1611	-0.1352
(s.e.)	0.04662	0.06077	0.0709	0.07049	0.06705	0.06876	0.06812	0.05532	0.03602
(p-val.)	0.0003516	0.001001	0.01061	0.02327	0.04431	0.002963	0.001744	0.01103	0.07984

( 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)

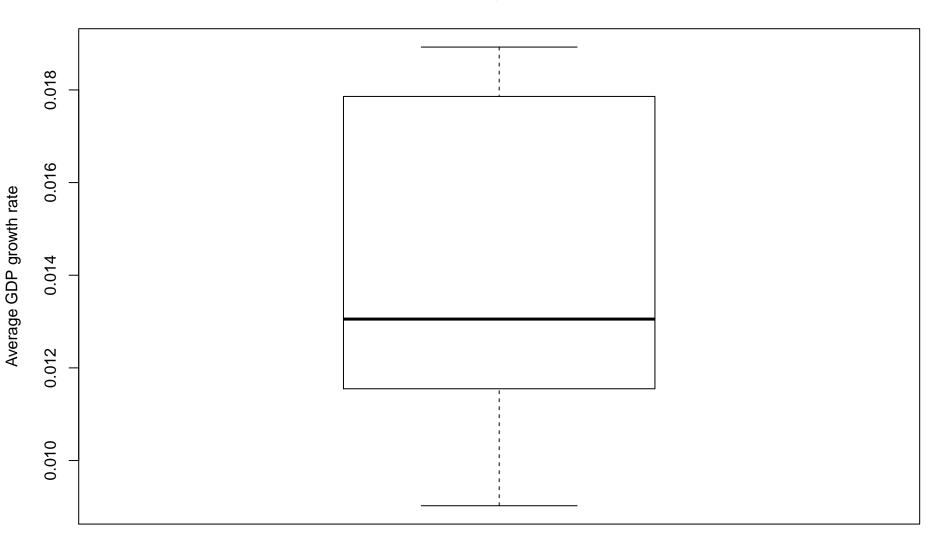
	-4	-3	-2	-1	0	1	2	3	4
GDP (output)	-0.02401	0.2452	0.5871	0.8808	1	0.8808	0.5871	0.2452	-0.02401
(s.e.)	0.02897	0.02753	0.01812	0.005987	1.17e-17	0.005987	0.01812	0.02753	0.02897
(p-val.)	0.555	0.0001013	2.304e-10	1.853e-16	NA	1.853e-16	2.304e-10	0.0001013	0.555
Consumption	0.08236	0.3077	0.5878	0.8327	0.9404	0.8495	0.5997	0.2871	0.01508
(s.e.)	0.05336	0.0503	0.0343	0.015	0.007577	0.006672	0.01436	0.02475	0.02732
(p–val.)	0.006721	0.000716	6.321e-08	1.246e-12	8.088e-16	7.032e-16	2.321e-11	7.731e-06	0.816
Investment	-0.2576	-0.3119	-0.3017	-0.1892	0.01524	0.2422	0.4027	0.441	0.3645
(s.e.)	0.04457	0.05365	0.06094	0.06245	0.05475	0.04001	0.03132	0.03291	0.03275
(p-val.)	0.0003588	0.0007188	0.000417	0.0003791	0.2297	0.001435	1.393e-06	8.255e-07	5.703e-06
Productivity	0.1594	0.3404	0.5529	0.7284	0.7907	0.6945	0.4781	0.2198	0.0004285
(s.e.)	0.07293	0.07208	0.05124	0.02989	0.03489	0.04008	0.0407	0.04606	0.04707
(p-val.)	0.01021	0.0007591	3.477e-06	2.218e-09	3.862e-09	4.664e-08	2.152e-06	0.007076	0.171
Net entry	NaN								
(s.e.)	NA								
(p–val.)	1	1	1	1	1	1	1	1	1
Entry	-0.09724	0.08179	0.2925	0.4778	0.5778	0.553	0.429	0.2563	0.09081
(s.e.)	0.04662	0.04331	0.03797	0.03422	0.0354	0.03688	0.03553	0.03319	0.03396
(p-val.)	0.005434	0.1699	0.0001677	5.042e-07	9.865e-08	2.18e-07	2.076e-06	0.0002432	0.07848
Wage	0.3384	0.5115	0.6518	0.7132	0.6695	0.5247	0.3283	0.1324	-0.02528
(s.e.)	0.03101	0.0291	0.03387	0.04192	0.04804	0.04893	0.04362	0.03356	0.02547
(p-val.)	7.991e-06	6.231e-08	2.013e-08	5.306e-08	3.181e-07	3.94e-06	0.0001484	0.05793	0.7345
Unemployment rate	0.2607	0.2773	0.2101	0.07128	-0.08771	-0.2036	-0.2377	-0.198	-0.1244
(s.e.)	0.05195	0.05403	0.06097	0.06587	0.06562	0.05999	0.05299	0.04643	0.03918
(p-val.)	0.002923	0.002653	0.008104	0.05247	0.1023	0.01489	0.002409	0.0008087	0.003975
Vacancy rate	0.2218	0.02486	-0.2167	-0.4047	-0.4623	-0.3744	-0.2127	-0.06523	0.01134
(s.e.)	0.03131	0.0371	0.05373	0.07926	0.09736	0.09098	0.06211	0.03411	0.0374
(p–val.)	0.000715	0.2376	0.01006	0.0004721	0.0001481	8.148e-05	3.707e-05	0.1407	0.2623

#### 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	0.09	0.10	0.10	0.40	0.28	0.31	0.00	C
dA	0.11	0.90	0.01	1.00	0.08	0.20	0.05	0.70	0.04	0.89	0.00	C
dw	0.09	0.90	0.01	1.00	0.09	0.10	0.06	0.80	0.04	0.89	0.00	C
V	0.02	0.90	0.01	1.00	0.05	0.60	0.00	1.00	0.05	0.84	0.00	C
U	0.11	0.90	0.11	0.90	0.02	0.90	0.00	1.00	0.01	0.96	0.00	C
mu2avg	0.11	0.50	0.02	0.90	0.05	0.60	0.00	1.00	0.03	0.89	0.00	C
HH1	0.01	1.00	0.01	1.00	0.09	0.10	0.00	1.00	0.10	0.64	0.00	C
HH2	0.01	1.00	0.01	1.00	0.09	0.10	0.00	1.00	0.06	0.82	0.00	C

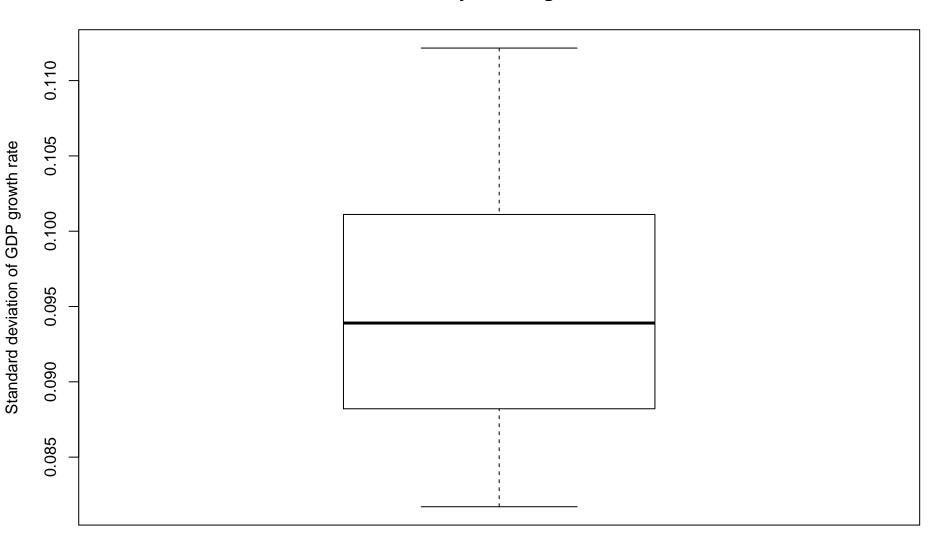
( average p-values for testing H0 and rate of rejection of H0 / MC runs = 10 / period = 301 - 600 ) ( ADF/PP H0: non-stationary, KPSS H0: stationary, BDS H0: i.i.d., KS/AD/WW H0: ergodic ) ( significance = 0.05 )





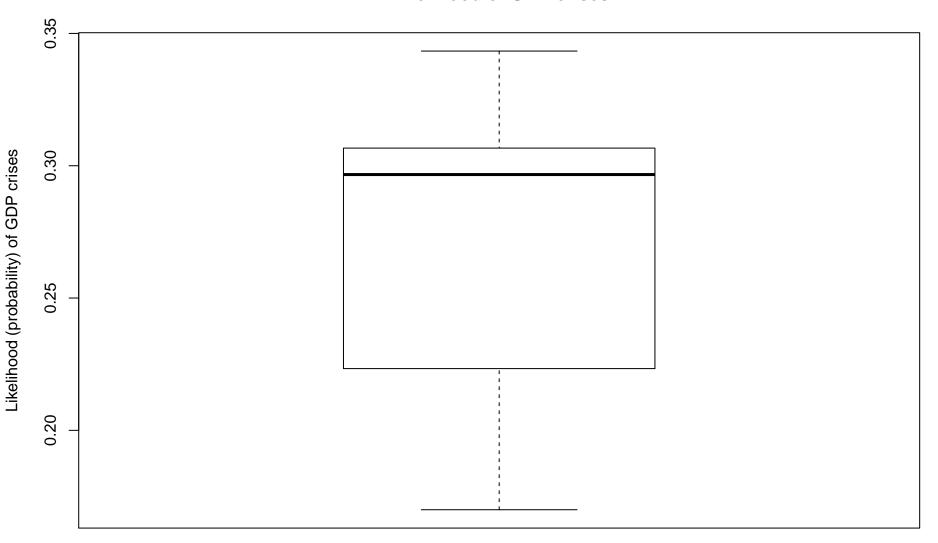
(bar: median / box: 2nd-3rd quartile / whiskers: max-min / points: outliers / MC runs = 10 / period = 301 - 600)

# **Volatility of GDP growth**



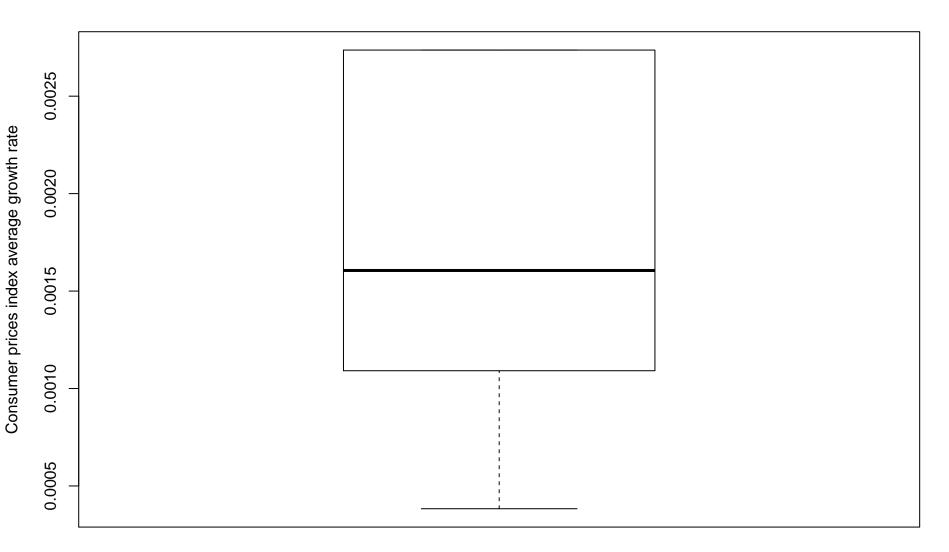
(bar: median / box: 2nd-3rd quartile / whiskers: max-min / points: outliers / MC runs = 10 / period = 301 - 600)

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

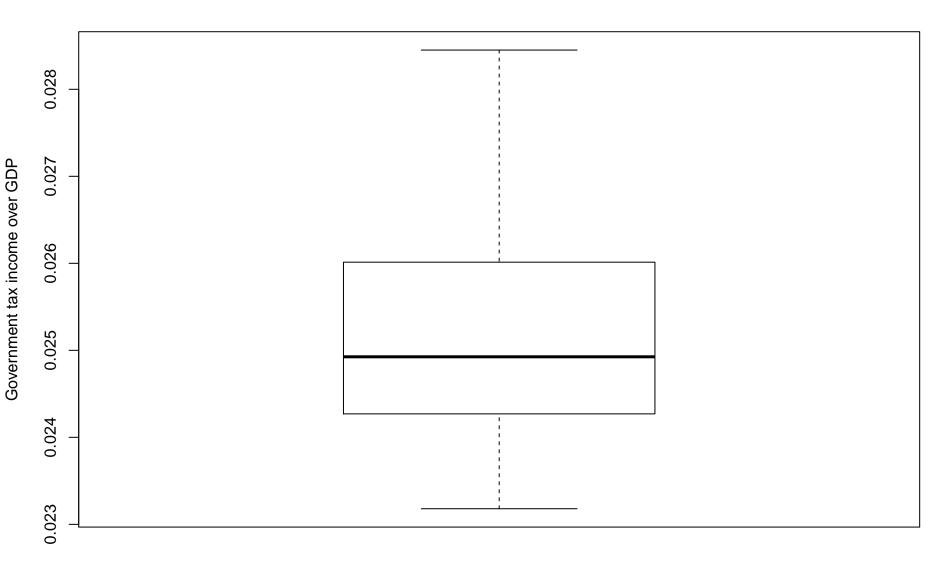


(bar: median / box: 2nd-3rd quartile / whiskers: max-min / points: outliers / MC runs = 10 / period = 301 - 600)

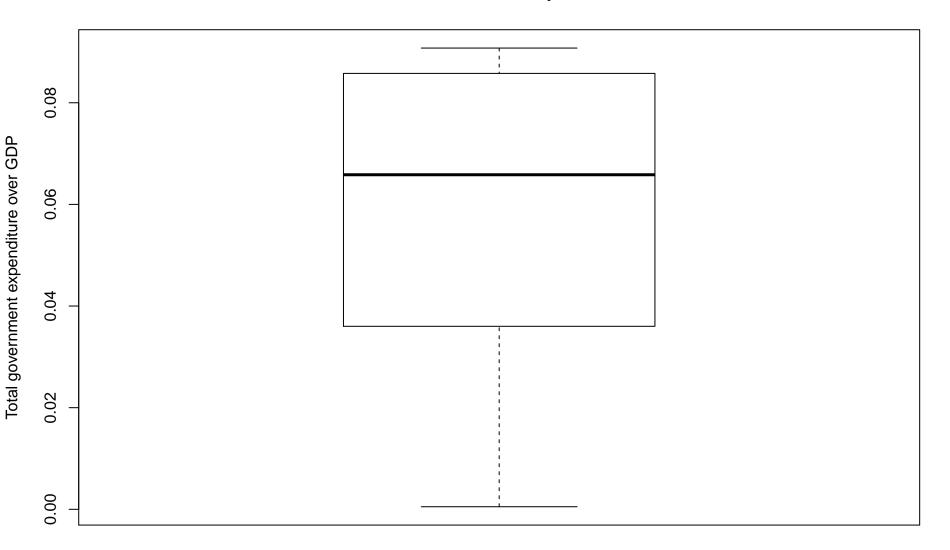




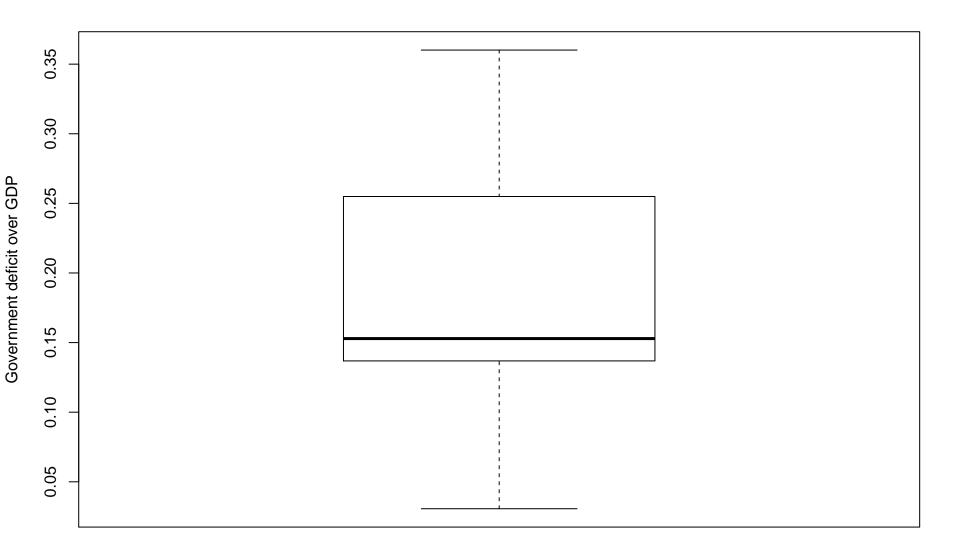




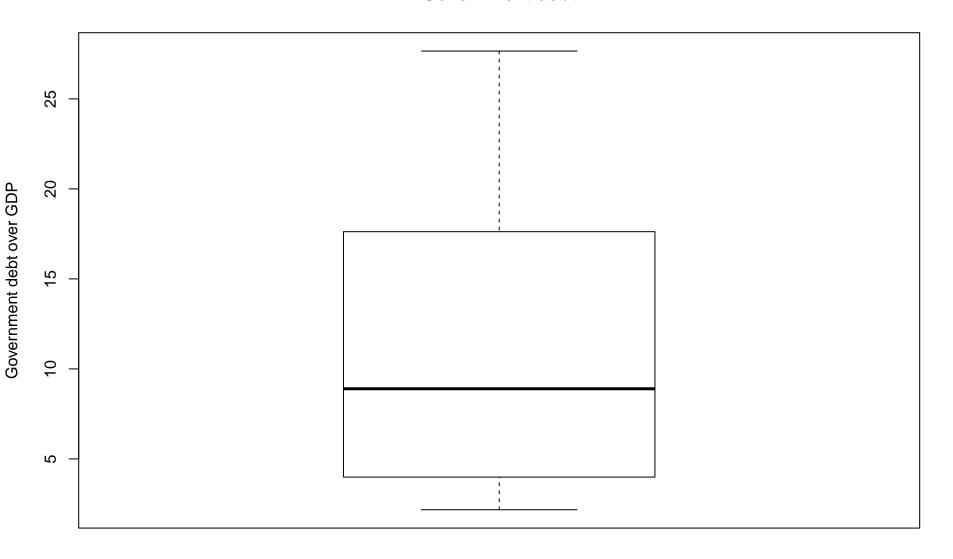
## **Government total expenditure**



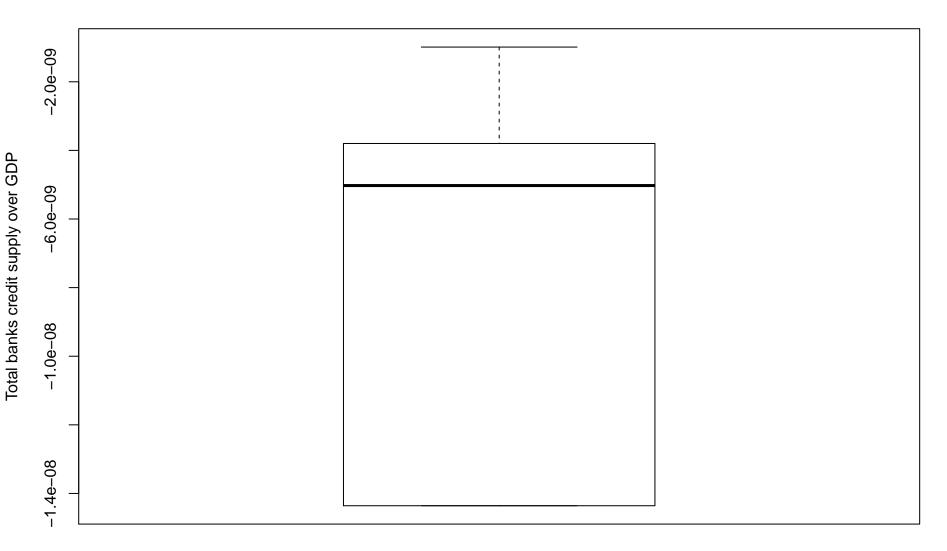
### **Government deficit**



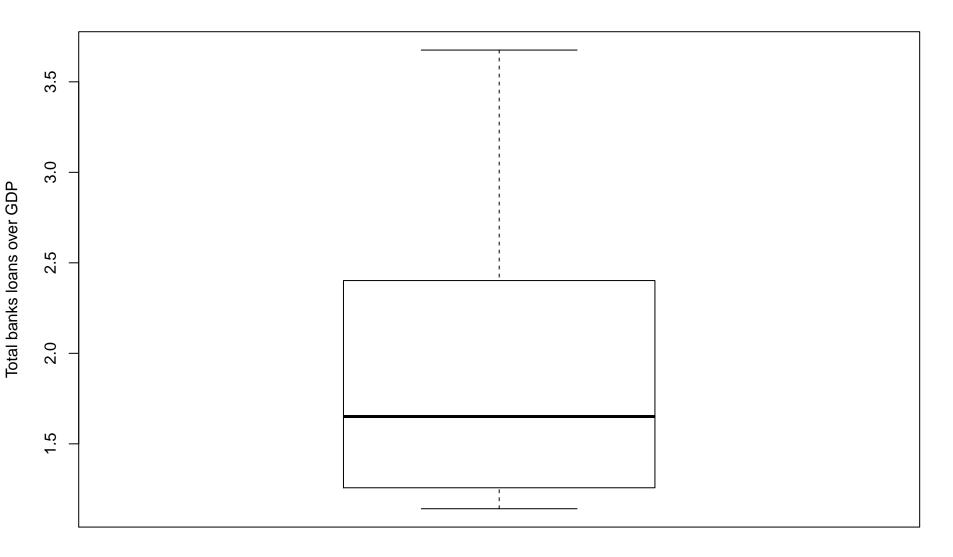
### **Government debt**



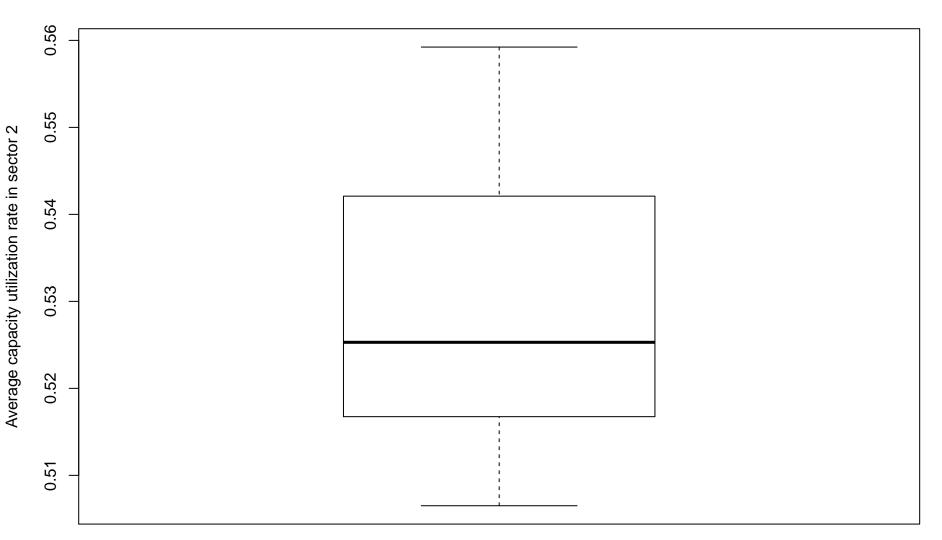




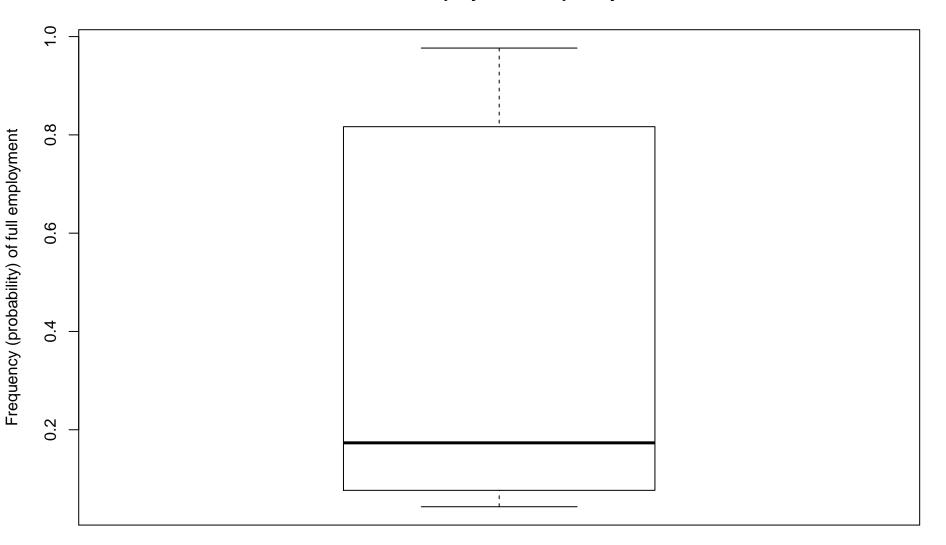




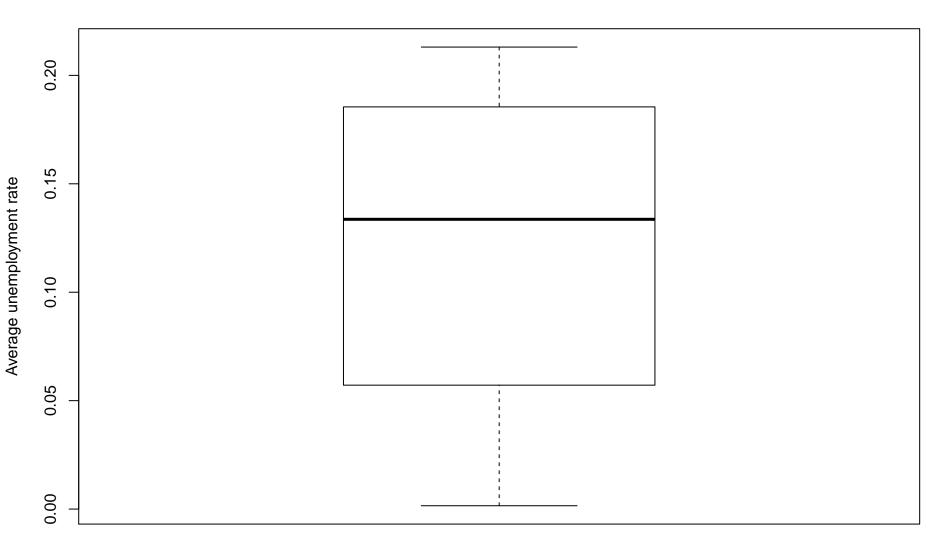
# **Capacity utilization**



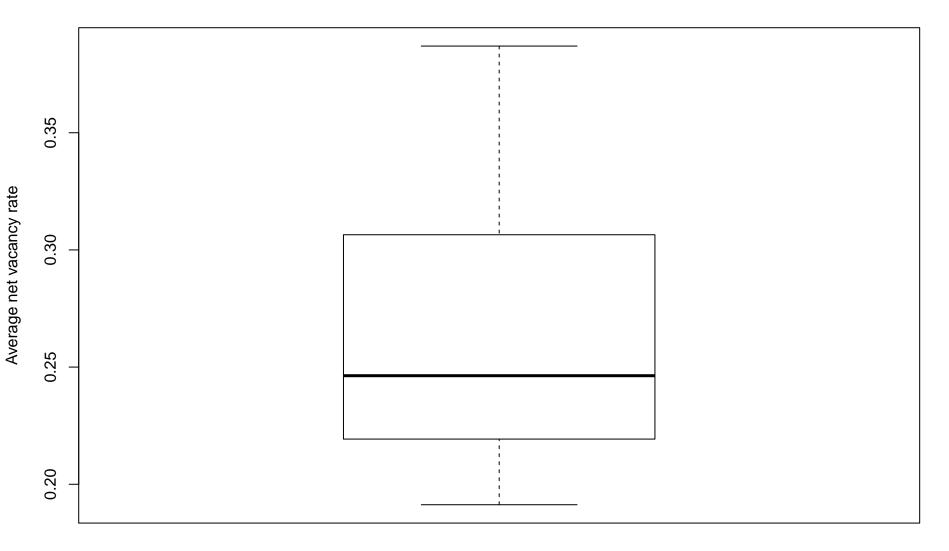
# Full employment frequency



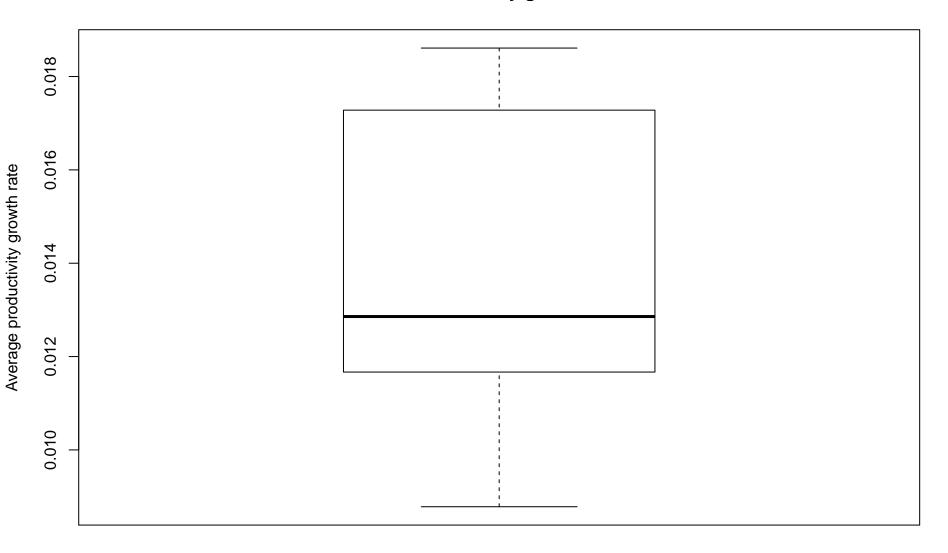




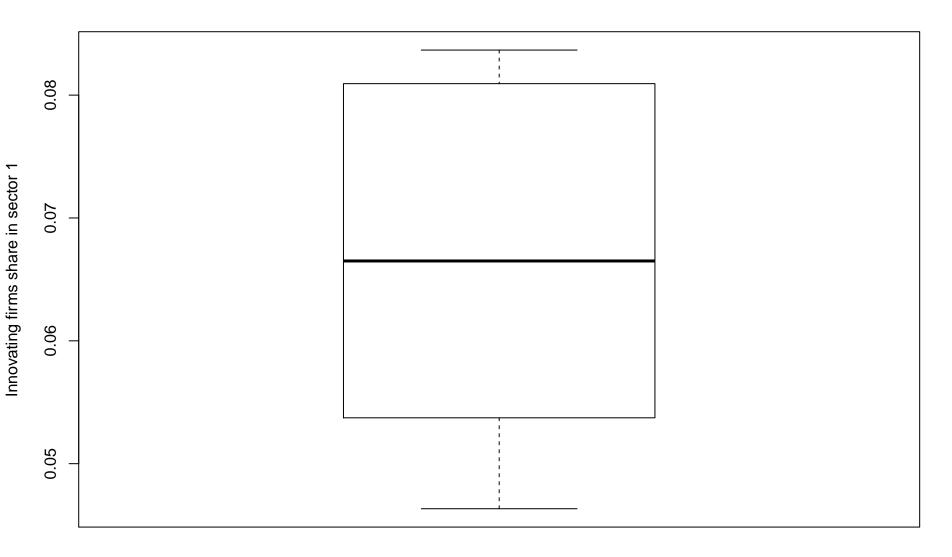




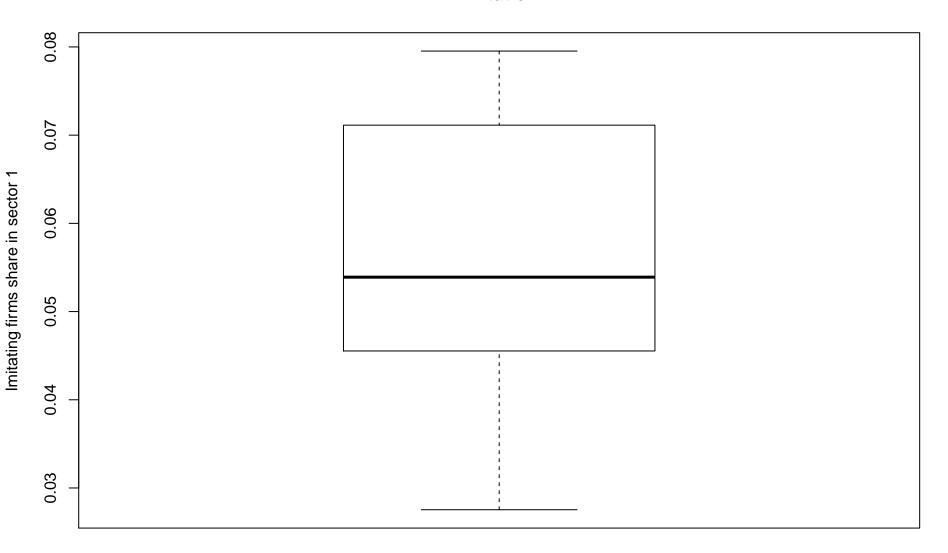
# **Productivity growth**



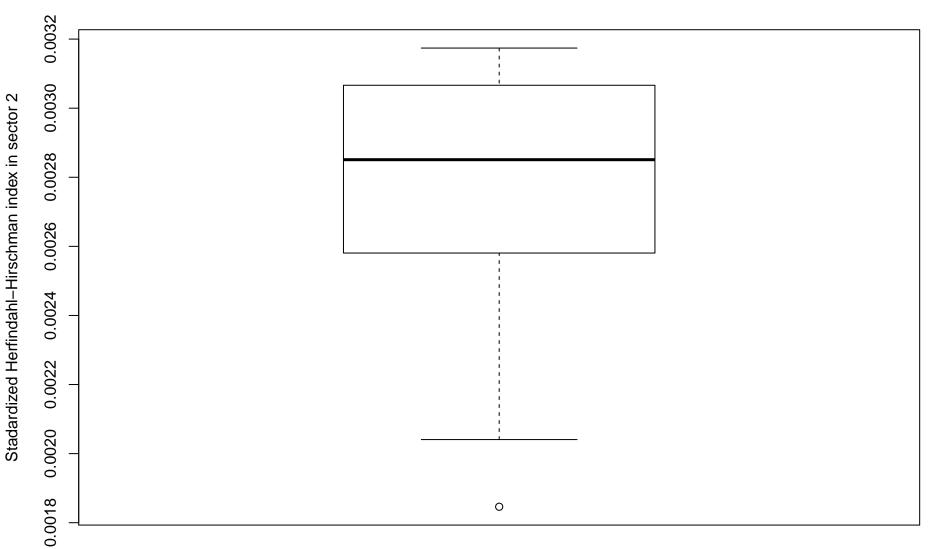




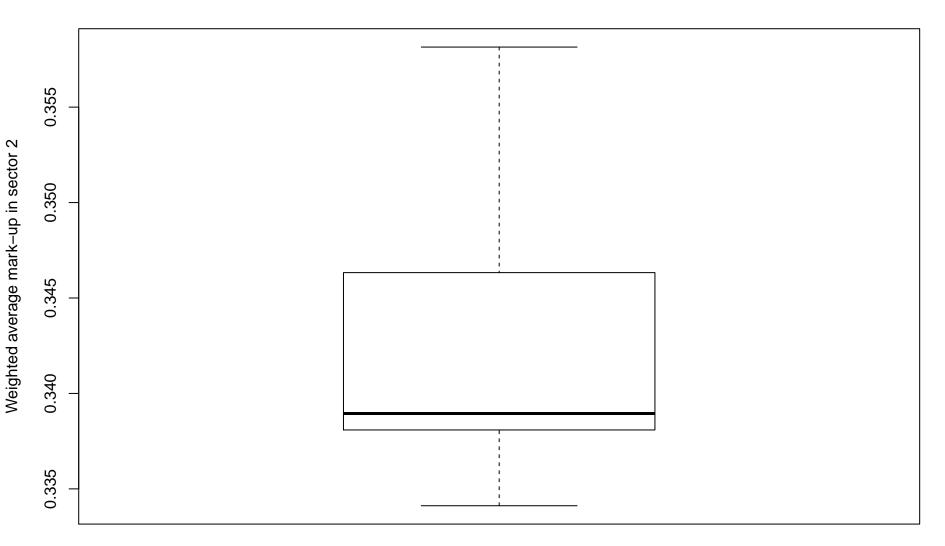




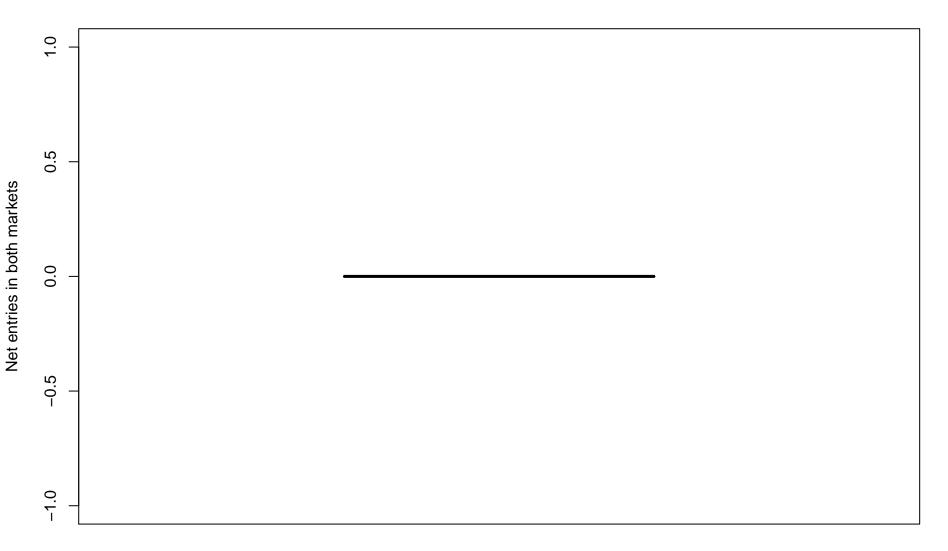












## Monte Carlo descriptive statistics (all experiments)

	Avg[1]	SD[1]	Min[1]	Max[1]
GDP growth	0.01572	0.007793	0.009024	0.03607
Volatility of GDP growth	0.09536	0.009748	0.08171	0.1122
Likelihood of GDP crises	0.2727	0.05604	0.17	0.3433
Inflation	0.006883	0.01551	0.0003831	0.05073
Tax	0.02521	0.001509	0.02318	0.02845
Government total expenditure	0.06581	0.05276	0.0005086	0.1859
Government deficit	0.1991	0.1334	0.03065	0.4713
Government debt	13.04	12.44	2.177	40.87
Credit supply	-1.357e-08	1.731e-08	-4.857e-08	-9.879e-10
Loans	1.907	0.8673	1.141	3.675
Capacity utilization	0.5339	0.02419	0.5065	0.5868
Full employment frequency	0.3607	0.3752	0.04333	0.9767
Unemployment	0.1189	0.07609	0.001545	0.2131
Vacancy	0.2593	0.06077	0.1913	0.387
Productivity growth	0.01691	0.01175	0.008783	0.04931
Innovation	0.0662	0.01411	0.04633	0.08367
Imitation	0.05607	0.01704	0.02753	0.07953
Market concentration	0.002725	0.0004531	0.001846	0.003174
Mark-ups	0.3426	0.008193	0.3341	0.3581
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 )