«**Material**»

Data and Analysis in Terms of Sustainable Growth in National Accounts: As a Supplement

Hideyuki Kamiryo

(Received on August 3, 1998)

The following data and analyses are those used in the author's presentation, "Compulsive policies for Sustainable Growth Using the Measurement of the Golden Age by Country," at the 50th Anniversary Conference of the International Association for Research in Income and Wealth, University of Cambridge, on 28th of August, 1998. (For notations, see 39 (1))

I. Table 1 for case studies on the rate of technological progress, g^e_m, and the rate of change in the capital-output ratio, $g^e_{\Omega P}$ in the endogenous growth model in discrete time: the balanced growth-state vs. the unbalanced growth-state

Diminishing constant increasing

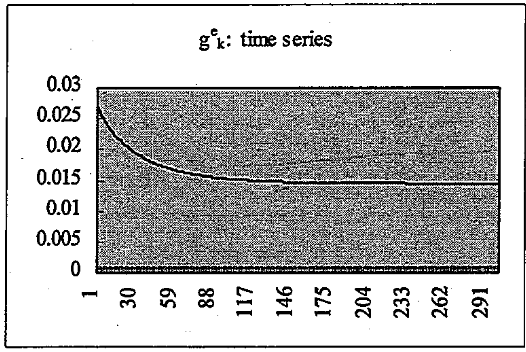
Table 1-1 Decreasing returns: a case study

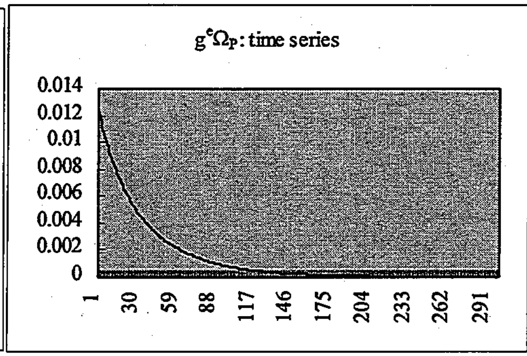
Case 1-1: $g^e_{Y}=g^e_{KP}=g_Y=g_{KP}$

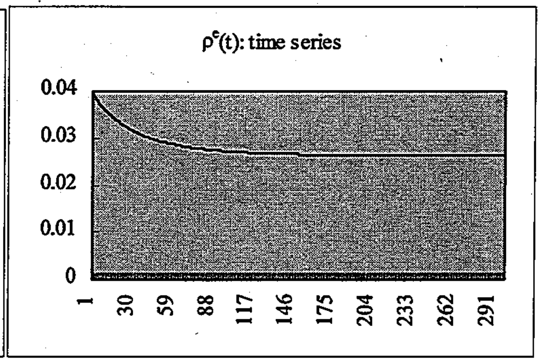
Balanced growth	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$			variables	y^0	ρ^0
	0.01	2	0.08	11	0.333333	0.026667	0.026667	0.025956	0.052622				5.5	0.04
period		$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y(t)$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
	1	0.027397	0.027397	0.017225	0.017225	6.82E-18	2	0.62871	0.04	11.18948	5.594738	0.054795	0.314356	
	2	0.027397	0.027397	0.017225	0.017225	6.82E-18	2	0.628713	0.04	11.38221	5.691107	0.054795	0.314356	0
	3	0.027397	0.027397	0.017225	0.017225	6.82E-18	2	0.628713	0.04	11.57827	5.789136	0.054795	0.314356	0

Case 1-2: $g^e_Y<g^e_{KP}$

Unbalanced growt	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$			variables	y^0	ρ^0
	0.01	2	0.08	11	0.3	0.024	0.05	0.0488	0.0728				5.5	0.04
period		$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
	1	0.02459	0.037295	0.027025	0.014446	0.0124	2.0248	0.587459	0.03951	11.29727	5.579451	0.07459	0.193668	
	2	0.02459	0.036838	0.026573	0.014446	0.011954	2.049005	0.587459	0.039043	11.59747	5.660051	0.07459	0.193668	-1.4E-16
	3	0.02459	0.036403	0.026142	0.014446	0.011529	2.072629	0.587459	0.038598	11.90065	5.741814	0.07459	0.193668	1.43E-16
	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
	280	0.02459	0.0246	0.014455	0.014446	9.32E-06	3.032185	0.587459	0.026384	925.0916	305.0908	0.07459	0.193668	-1.4E-16
	281	0.02459	0.024599	0.014455	0.014446	9.09E-06	3.032212	0.587459	0.026383	938.4637	309.498	0.07459	0.193668	0
	282	0.02459	0.024599	0.014455	0.014446	8.87E-06	3.032239	0.587459	0.026383	952.0289	313.969	0.07459	0.193668	1.43E-16







Diminishing constant increasing

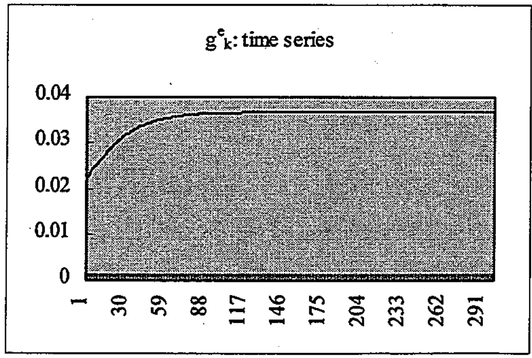
Table 1-2 Increaseing returns: a case study

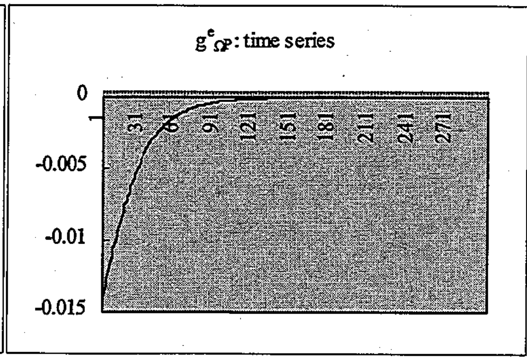
Case 2-1: $g^e_Y = g^e_{KP} = g_Y = g_{KP}$

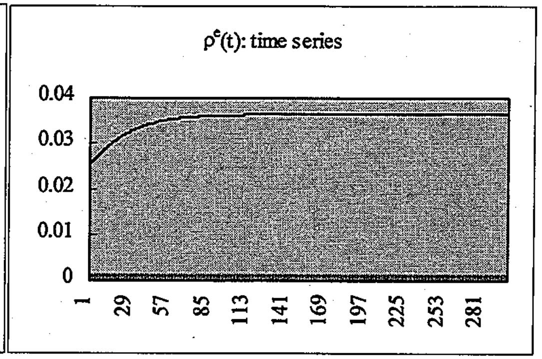
Balanced growth	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$		variables	y^0	ρ^0
	0.01	3	0.075	11	0.25	0.01875	0.0375	0.036797	0.055547			3.666667	0.025
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y(t)$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.019108	0.019108	0.009018	0.009018	0	3	0.471947	0.025	11.0992	3.699733	0.057325	0.157316	
2	0.019108	0.019108	0.009018	0.009018	0	3	0.471947	0.025	11.19929	3.733098	0.057325	0.157316	0
3	0.019108	0.019108	0.009018	0.009018	0	3	0.471947	0.025	11.30029	3.766763	0.057325	0.157316	0

Case 2-2: $g^e_Y < g^e_{KP}$

Unbalanced growt	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$		variables	y^0	ρ^0
	0.01	3	0.075	11	0.6	0.024	0.05	0.0488	0.0728			3.666667	0.025
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.04712	0.032373	0.022152	0.036753	-0.01408	2.95775	0.779978	0.025357	11.24367	3.801427	0.09712	0.378426	
2	0.04712	0.032836	0.02261	0.036753	-0.01364	2.917401	0.779978	0.025708	11.49789	3.941141	0.09712	0.378426	-1.5E-16
3	0.04712	0.03329	0.023059	0.036753	-0.01321	2.878868	0.779978	0.026052	11.76302	4.085989	0.09712	0.378426	1.47E-16
----	----	----	----	----	----	----	----	----	----	----	----	----	----
218	0.04712	0.047119	0.036752	0.036753	-9.4E-07	2.061152	0.779978	0.036387	19750.9	9582.458	0.09712	0.378426	0
219	0.04712	0.047119	0.036752	0.036753	-9E-07	2.06115	0.779978	0.036387	20476.79	9934.641	0.09712	0.378426	0
220	0.04712	0.04712	0.036752	0.036753	-8.6E-07	2.061149	0.779978	0.036387	21229.35	10299.77	0.09712	0.378426	0







Diminishing constant increasing

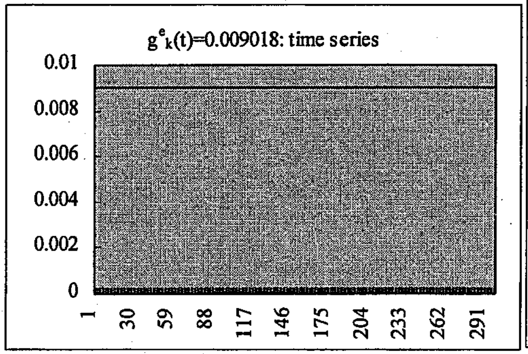
Table 1-3 Constant returns of the author: a case study

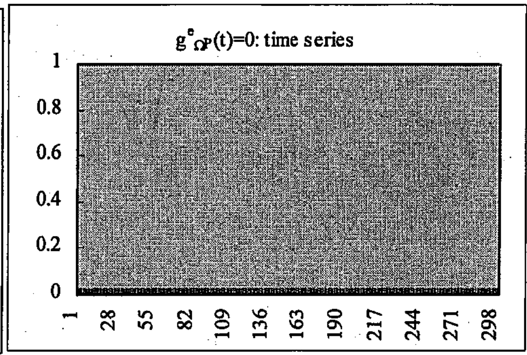
Case 3-1: $g^e_{Y}=g^e_{KP}=g_Y=g_{KP}$

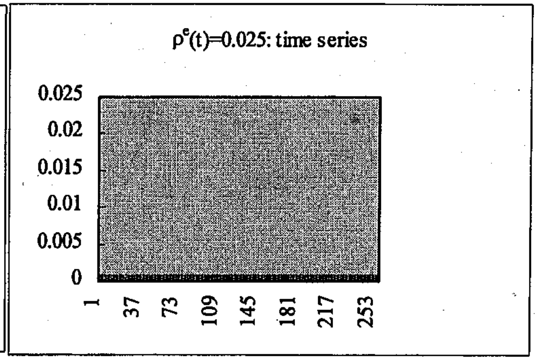
Balanced growth	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$		variables	y^0	ρ^0
	0.01	3	0.075	11	0.25	0.01875	0.0375	0.036797	0.055547			3.666667	0.025
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y(t)$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.019108	0.019108	0.009018	0.009018	0	3	0.471947	0.025	11.0992	3.699733	0.057325	0.157316	
2	0.019108	0.019108	0.009018	0.009018	0	3	0.471947	0.025	11.19929	3.733098	0.057325	0.157316	0
3	0.019108	0.019108	0.009018	0.009018	0	3	0.471947	0.025	11.30029	3.766763	0.057325	0.157316	0

Case 3-2: $g^e_{Y}=g^e_{KP}=g_Y=g_{KP}$

Unbalanced growt	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$		variables	y^0	ρ^0
	0.01	3	0.075	11	0.25	0.01875	0.0375	0.036797	0.055547			3.666667	0.025
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.019108	0.019108	0.009018	0.009018	0	3	0.471947	0.025	11.0992	3.699733	0.057325	0.157316	
2	0.019108	0.019108	0.009018	0.009018	0	3	0.471947	0.025	11.19929	3.733098	0.057325	0.157316	0
3	0.019108	0.019108	0.009018	0.009018	0	3	0.471947	0.025	11.30029	3.766763	0.057325	0.157316	0
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
298	0.019108	0.019108	0.009018	0.009018	0	3	0.471947	0.025	159.6915	53.23049	0.057325	0.157316	0
299	0.019108	0.019108	0.009018	0.009018	0	3	0.471947	0.025	161.1316	53.71053	0.057325	0.157316	0
300	0.019108	0.019108	0.009018	0.009018	0	3	0.471947	0.025	162.5847	54.19489	0.057325	0.157316	0







Diminishing constant increasing

Table 1-4 Constant returns using Phelps: a case study

Case 4-1: $g^e_{Y}=g^e_{KP}=g_Y=g_{KP}$

Balanced growth

n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	y^0	ρ^0
0.01	3	0.075	11	0.25	0.01875	0.0375	0.036797	0.055547		3.666667	0.025

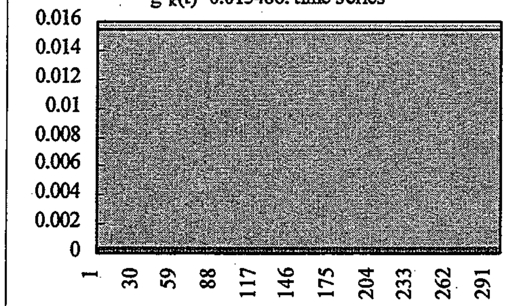
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y(t)$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.019108	0.019108	0.009018	0.009018	0	3	0.471947	0.025	11.0992	3.699733	0.057325	0.157316	
2	0.019108	0.019108	0.009018	0.009018	0	3	0.471947	0.025	11.19929	3.733098	0.057325	0.157316	0
3	0.019108	0.019108	0.009018	0.009018	0	3	0.471947	0.025	11.30029	3.766763	0.057325	0.157316	0

Case 4-2: $g^e_{Y}=g^e_{KP}=g_Y=g_{KP}$

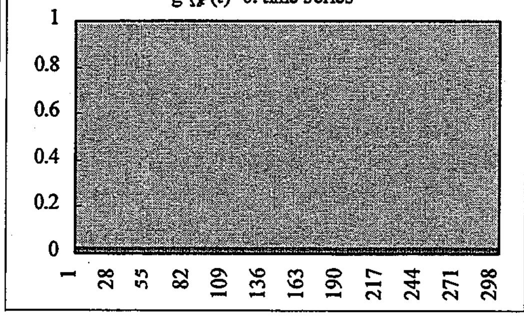
Unbalanced growt

n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	variables	y^0	ρ^0
0.01	3	0.075	11	0.333333	0.025	0.051282	0.05	0.075		3.666667	0.025

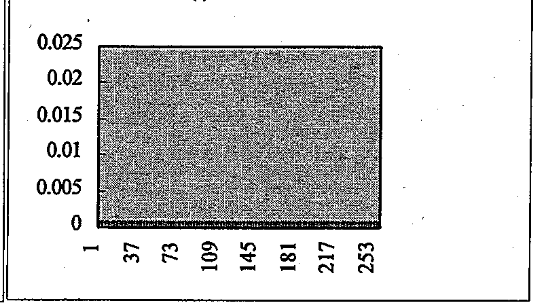
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.025641	0.025641	0.015486	0.015486	0	3	0.60396	0.025	11.17035	3.723449	0.076923	0.20132	
2	0.025641	0.025641	0.015486	0.015486	0	3	0.60396	0.025	11.34333	3.781111	0.076923	0.20132	0
3	0.025641	0.025641	0.015486	0.015486	0	3	0.60396	0.025	11.519	3.839666	0.076923	0.20132	0
----	----	----	----	----	----	----	----	----	----	----	----	----	----
298	0.025641	0.025641	0.015486	0.015486	0	3	0.60396	0.025	1072.131	357.377	0.076923	0.20132	0
299	0.025641	0.025641	0.015486	0.015486	0	3	0.60396	0.025	1088.734	362.9114	0.076923	0.20132	0
300	0.025641	0.025641	0.015486	0.015486	0	3	0.60396	0.025	1105.594	368.5315	0.076923	0.20132	0



$g^e_k(t)$=0.015486: time series



$g^e_{\Omega P}(t)$=0: time series



$\rho^e(t)$=0.025: time series

Table1-g^e_m-1

Case 1-1: $g^e_{Y}=g^e_{KP}=g_Y=g_{KP}$ gm=0: no technological change

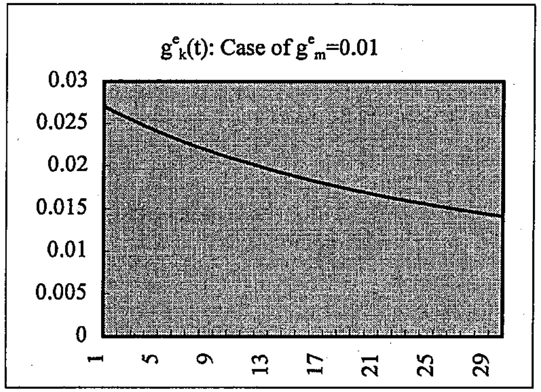
Balanced growth	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	gm	variables	y^0	ρ^0
	0.01	2	0.08	11	0.333333	0.026667	0.026667	0.025956	0.052622	0.01		5.5	0.04

period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y(t)$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.027397	0.027397	0.017225	0.017225	6.82E-18	2	0.62871	0.04	11.18948	5.594738	0.054795	0.314356	
2	0.027397	0.027397	0.017225	0.017225	6.82E-18	2	0.628713	0.04	11.38221	5.691107	0.054795	0.314356	0
3	0.027397	0.027397	0.017225	0.017225	6.82E-18	2	0.628713	0.04	11.57827	5.789136	0.054795	0.314356	0

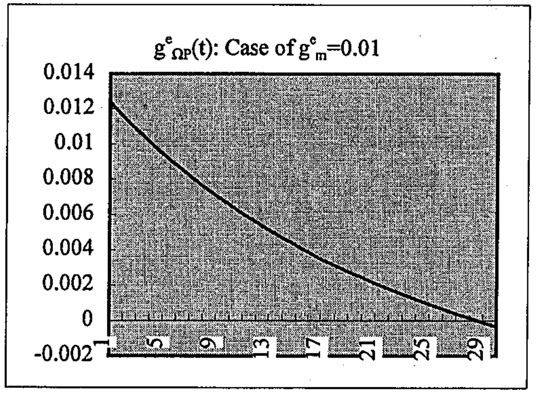
Case 1-2: $g^e_Y<g^e_{KP}$ 3 g^e_m= **0.01** $g^e_{KP}(1)=s^e_{S/Y}/((\Omega_P-1)(1-s^e_{SP/Y}))$ $g^e_{KP}(2)=I^e/Y^e(t)/\Omega_P(t-1)$ **2** **1**

Unbalanced growt	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$		variables	y^0	ρ^0
	0.01	2	0.08	11	0.3	0.024	0.05	0.0488	0.0728			5.5	0.04

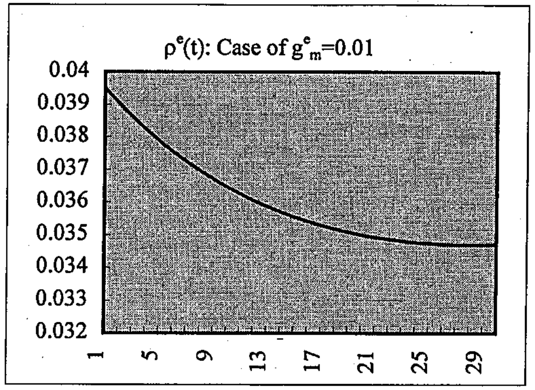
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_K$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.02459	0.037295	0.027025	0.014446	0.0124	2.0248	0.387335	0.03951	11.29727	5.579451	0.07459	0.193668	GIVEN
2	0.02459	0.036474	0.026211	0.014446	0.011598	2.048284	0.39606	0.039057	11.59339	5.660051	0.073852	0.195604	0.01
3	0.02459	0.035698	0.025444	0.014446	0.010842	2.070491	0.40466	0.038638	11.88837	5.741814	0.07312	0.19756	0.01
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
28	0.02459	0.024734	0.014588	0.014446	0.00014	2.305547	0.584046	0.034699	18.94712	8.21806	0.057017	0.253358	0.01
29	**0.02459**	**0.024486**	**0.014342**	**0.014446**	**-0.0001**	**2.305311**	0.58997	**0.034702**	**19.21886**	**8.336776**	**0.056452**	**0.255891**	**0.01**
30	0.02459	0.024246	0.014105	0.014446	-0.00034	2.304536	0.595808	0.034714	19.48993	8.457207	0.055894	0.25845	0.01



$g^e_k(t)$: Case of g^e_m=0.01



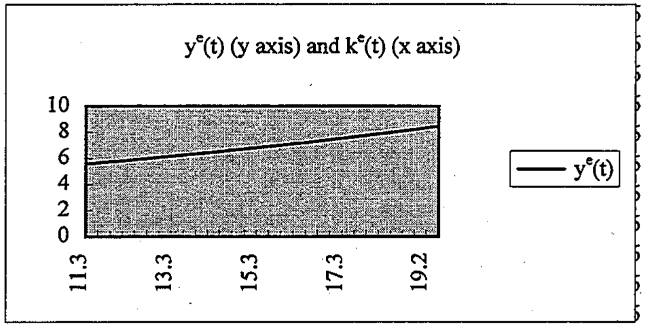
$g^e_{\Omega P}(t)$: Case of g^e_m=0.01

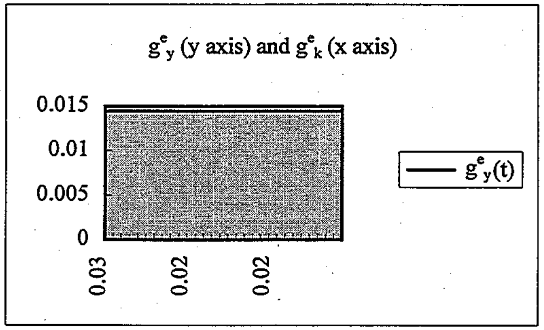


$\rho^e(t)$: Case of g^e_m=0.01

Table1-g^e_m-1

Case 1-2: g^e_Y<g^e_{KP}			3	g^e_m= 0.01	$g^e_{KP}(1)=s^e_{S/Y}/((\Omega_P-1)(1-s^e_{SP/Y}))$				$g^e_{KP}(2)=I^e/Y^e(t)/\Omega_P(t-1)$			2	1	
Unbalanced growt	n		Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	$1+g^e_Y$	variables	y^0	ρ^0
If g^e_m=0		0.01	2	0.08	11	0.3	0.024	0.05	0.0488	0.0728	1.02459		5.5	0.04
$g^e_{KP}(t)$	period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_K$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
0.037295	1	0.02459	0.037295	0.027025	0.014446	0.0124	2.0248	0.387335	0.03951	11.29727	5.579451	0.07459	0.193668	**GIVEN**
0.036838	2	0.02459	0.036474	0.026211	0.014446	0.011598	2.048284	0.39606	0.039057	11.59339	5.660051	0.073852	0.195604	0.01
0.036416	3	0.02459	0.035698	0.025444	0.014446	0.010842	2.070491	0.40466	0.038638	11.88837	5.741814	0.07312	0.19756	0.01
0.036025	4	0.02459	0.034966	0.024719	0.014446	0.010127	2.091458	0.413138	0.038251	12.18224	5.824758	0.072396	0.199536	0.01
0.035664	5	0.02459	0.034273	0.024032	0.014446	0.00945	2.111222	0.421494	0.037893	12.475	5.908901	0.07168	0.201531	0.01
0.03533	6	0.02459	0.033616	0.023382	0.014446	0.008809	2.12982	0.429732	0.037562	12.76669	5.99426	0.07097	0.203547	0.01
						0.0082						0.070267	0.205582	0.01
						0.007622						0.069572	0.207638	0.01
						0.007072						0.068883	0.209714	0.01
						0.006549						0.068201	0.211812	0.01
						0.006049						0.067526	0.21393	0.01
						0.005573						0.066857	0.216069	0.01
						0.005118						0.066195	0.21823	0.01
						0.004683						0.06554	0.220412	0.01
						0.004266						0.064891	0.222616	0.01
						0.003868						0.064248	0.224842	0.01
						0.003485						0.063612	0.227091	0.01
0.032907	18	0.02459	0.027786	0.01761	0.014446	0.003119	2.27379	0.519899	0.035184	16.18943	7.12002	0.062982	0.229362	0.01
0.032804	19	0.02459	0.027425	0.017252	0.014446	0.002767						0.062359	0.231655	0.01
0.032714	20	0.02459	0.027079	0.016909	0.014446	0.002429						0.061741	0.233972	0.01
0.032635	21	0.02459	0.026745	0.01658	0.014446	0.002104						0.06113	0.236311	0.01
0.032566	22	0.02459	0.026425	0.016262	0.014446	0.001791						0.060525	0.238675	0.01
0.032508	23	0.02459	0.026117	0.015957	0.014446	0.00149						0.059925	0.241061	0.01
0.032459	24	0.02459	0.02582	0.015663	0.014446	0.0012						0.059332	0.243472	0.01
0.032421	25	0.02459	0.025533	0.01538	0.014446	0.000921						0.058745	0.245907	0.01
0.032391	26	0.02459	0.025257	0.015106	0.014446	0.000651						0.058163	0.248366	0.01
0.03237	27	0.02459	0.024991	0.014843	0.014446	0.000391						0.057587	0.250849	0.01
0.032357	28	0.02459	0.024734	0.014588	0.014446	0.00014						0.057017	0.253358	0.01
0.032352	**29**	**0.02459**	**0.024486**	**0.014342**	**0.014446**	**-0.0001**	**2.305311**	0.58997	**0.034702**	**19.21886**	**8.336776**	**0.056452**	**0.255891**	**0.01**
0.032356	30	0.02459	0.024246	0.014105	0.014446	-0.00034	2.304536	0.595808	0.034714	19.48993	8.457207	0.055894	0.25845	0.01





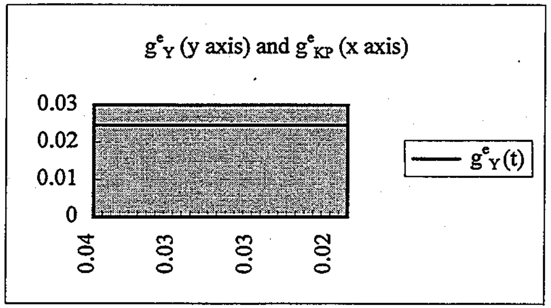


Table1-g^e_m-2

Case 1-1: $g^e_Y = g^e_{KP} = g_Y = g_{KP}$ gm=0: no technological change

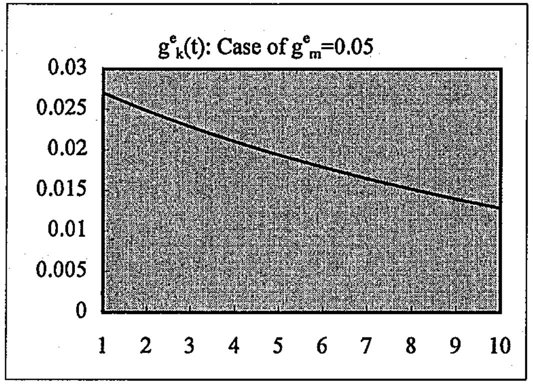
Balanced growth	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	gm	variables	y^0	ρ^0
	0.01	2	0.08	11	0.333333	0.026667	0.026667	0.025956	0.052622	0.01		5.5	0.04

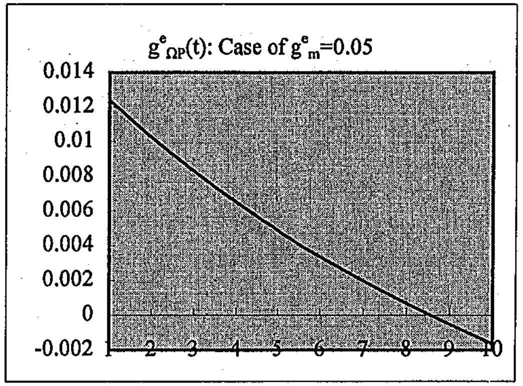
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y(t)$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.027397	0.027397	0.017225	0.017225	6.82E-18	2	0.62871	0.04	11.18948	5.594738	0.054795	0.314356	
2	0.027397	0.027397	0.017225	0.017225	6.82E-18	2	0.628713	0.04	11.38221	5.691107	0.054795	0.314356	0
3	0.027397	0.027397	0.017225	0.017225	6.82E-18	2	0.628713	0.04	11.57827	5.789136	0.054795	0.314356	0

Case 1-2: $g^e_Y < g^e_{KP}$ 3 g^e_m **= 0.05** $g^e_{KP}(1)=s^e_{S/Y}/((\Omega_P-1)(1-s^e_{SP/Y}))$ $g^e_{KP}(2)=I^e/Y^e(t)/\Omega_P(t-1)$ 2 **1**

Unbalanced growt	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$		variables	y^0	ρ^0
	0.01	2	0.08	11	0.3	0.024	0.05	0.0488	0.0728			5.5	0.04

period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_K$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.02459	0.037295	0.027025	0.014446	0.0124	2.0248	0.387335	0.03951	11.29727	5.579451	0.07459	0.193668	GIVEN
2	0.02459	0.035084	0.024836	0.014446	0.010242	2.045538	0.411745	0.03911	11.57785	5.660051	0.071038	0.203351	0.05
3	0.02459	0.033075	0.022846	0.014446	0.008281	2.062477	0.436761	0.038788	11.84236	5.741814	0.067655	0.213519	0.05
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
8	0.02459	0.025279	0.015128	0.014446	0.000672	2.098419	0.571456	0.038124	12.9445	6.168693	0.05301	0.27251	0.05
9	**0.02459**	**0.024059**	**0.01392**	**0.014446**	**-0.00052**	**2.097331**	0.600432	**0.038144**	**13.12469**	**6.257804**	**0.050486**	**0.286135**	**0.05**
10	0.02459	0.022925	0.012797	0.014446	-0.00163	2.093922	0.630127	0.038206	13.29264	6.348203	0.048081	0.300442	0.05





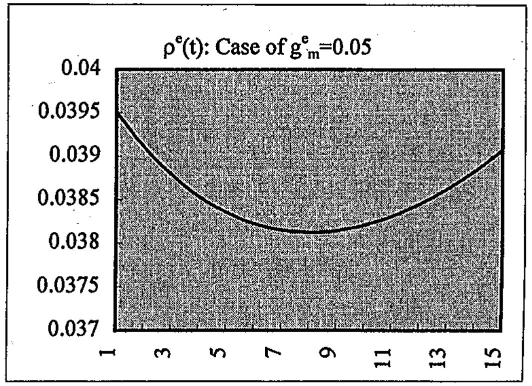
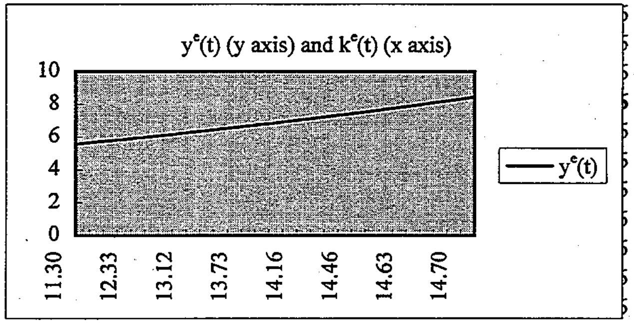
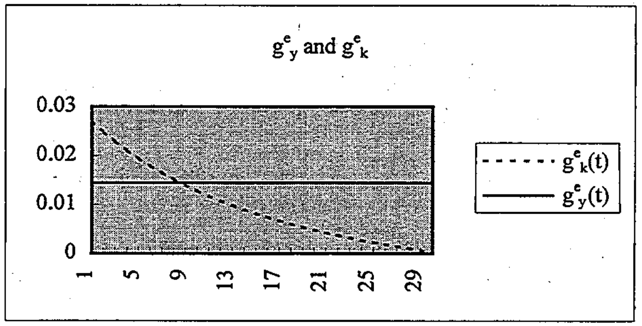


Table1-g^e_m-2

Case 1-2: $g^e_Y < g^e_{KP}$	$g^e_m = 0.05$		3									2	1	
Unbalanced growt	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	$1+g^e_Y$	variables	y^0	ρ^0	
If $g^e_m=0$		0.01	2	0.08	11	0.3	0.024	0.05	0.0488	0.0728	1.02459		5.5	0.04

$g^e_{KP}(t)$	period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_K$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
0.037295	1	0.02459	0.037295	0.027025	0.014446	0.0124	2.0248	0.387335	0.03951	11.30	5.579451	0.07459	0.193668	**GIVEN**
0.036838	2	0.02459	0.035084	0.024836	0.014446	0.010242	2.045538	0.411745	0.03911	11.58	5.660051	0.071038	0.203351	0.05
0.036465	3	0.02459	0.033075	0.022846	0.014446	0.008281	2.062477	0.436761	0.038788	11.84	5.741814	0.067655	0.213519	0.05
0.036165	4	0.02459	0.031241	0.021031	0.014446	0.006491	2.075865	0.462396	0.038538	12.09	5.824758	0.064434	0.224195	0.05
0.035932	5	0.02459	0.029561	0.019368	0.014446	0.004852	2.085937	0.488668	0.038352	12.33	5.908901	0.061366	0.235404	0.05
						0.003345							0.247175	0.05
						0.001956							0.259533	0.05
						0.000672							0.27251	0.05
						-0.00052							**0.286135**	**0.05**
						-0.00163							0.300442	0.05
						-0.00266							0.315464	0.05
						-0.00362							0.331238	0.05
						-0.00452							0.347799	0.05
						-0.00536							0.365189	0.05
						-0.00615							0.383449	0.05
						-0.0069							0.402621	0.05
0.036681	17	0.02459	0.016804	0.006737	0.014446	-0.0076							0.422752	0.05
0.036962	18	0.02459	0.016126	0.006066	0.014446	-0.00826							0.44389	0.05
0.03727	19	0.02459	0.015486	0.005432	0.014446	-0.00889							0.466084	0.05
0.037604	20	0.02459	0.014881	0.004833	0.014446	-0.00948							0.489389	0.05
0.037963	21	0.02459	0.014308	0.004265	0.014446	-0.01004							0.513858	0.05
0.038348	22	0.02459	0.013765	0.003728	0.014446	-0.01057							0.539551	0.05
0.038758	23	0.02459	0.013249	0.003217	0.014446	-0.01107							0.566529	0.05
0.039192	24	0.02459	0.01276	0.002732	0.014446	-0.01155							0.594855	0.05
0.039649	25	0.02459	0.012294	0.002271	0.014446	-0.012							0.624598	0.05
0.040131	26	0.02459	0.011851	0.001832	0.014446	-0.01243							0.655828	0.05
0.040636	27	0.02459	0.011429	0.001414	0.014446	-0.01285							0.688619	0.05
0.041165	28	0.02459	0.011026	0.001016	0.014446	-0.01324	1.787991	1.310151	0.044743	14.69	8.21806	0.019979	0.72305	0.05
0.041717	29	0.02459	0.010642	0.000635	0.014446	-0.01361	1.76365	1.357447	0.04536	14.70	8.336776	0.019027	0.759202	0.05
0.042293	30	0.02459	0.010275	0.000272	0.014446	-0.01397	1.739009	1.405916	0.046003	14.71	8.457207	0.018121	0.797163	0.05





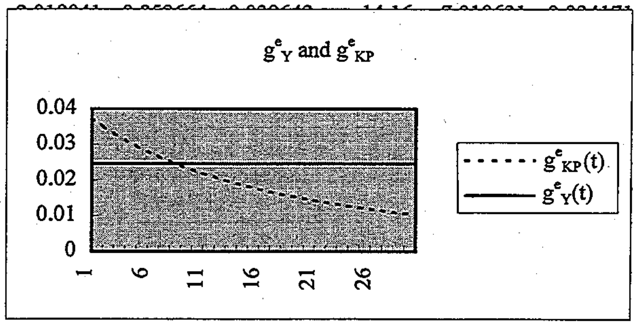


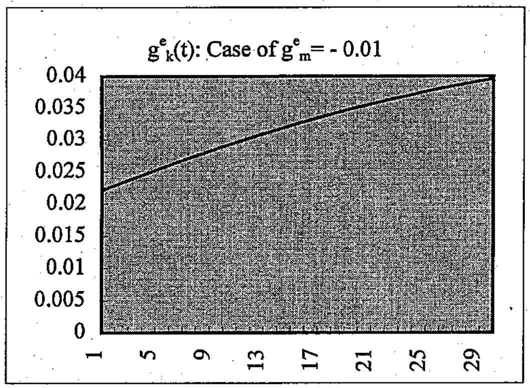
Table1-g^e_m-3

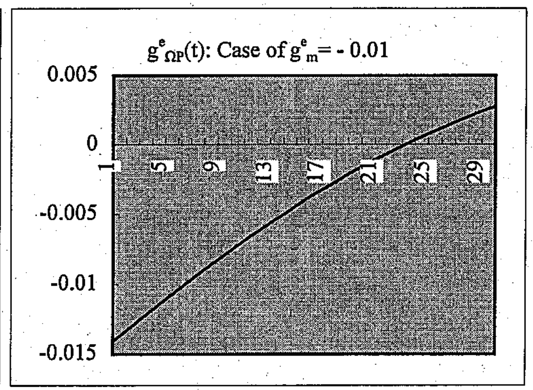
Case 2-1: $g^e_Y = g^e_{KP} = g_Y = g_{KP}$ **gm=0**: no technological change

Balanced growth	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$		variables	y^0	ρ^0
	0.01	3	0.075	11	0.25	0.01875	0.0375	0.036797	0.055547			3.666667	0.025
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y(t)$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.019108	0.019108	0.009018	0.009018	0	3	0.471947	0.025	11.0992	3.699733	0.057325	0.157316	
2	0.019108	0.019108	0.009018	0.009018	0	3	0.471947	0.025	11.19929	3.733098	0.057325	0.157316	0
3	0.019108	0.019108	0.009018	0.009018	0	3	0.471947	0.025	11.30029	3.766763	0.057325	0.157316	0

Case 2-2: $g^e_Y > g^e_{KP}$ **3**   **g^e_m = - 0.01** $g^e_{KP}(1)=s^e_{S/Y}/((\Omega_P-1)(1-s^e_{SP/Y}))$ $g^e_{KP}(2)=I^e/Y^e(t)/\Omega_P(t-1)$ **2**   **1**

Unbalanced growt	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$		variables	y^0	ρ^0
	0.01	3	0.075	11	0.6	0.024	0.05	0.0488	0.0728			3.666667	0.025
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_K$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.04712	0.032373	0.022152	0.036753	-0.01408	2.95775	1.135278	0.025357	11.24367	3.801427	0.09712	0.378426	GIVEN
2	0.04712	0.033168	0.022938	0.036753	-0.01332	2.918338	1.108097	0.0257	11.50158	3.941141	0.098101	0.374642	-0.01
3	0.04712	0.033955	0.023718	0.036753	-0.01257	2.881646	1.082398	0.026027	11.77437	4.085989	0.099092	0.370895	-0.01
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
23	0.04712	0.046996	0.036629	0.036753	-0.00012	2.57766	0.782047	0.029096	21.67844	8.410122	0.121154	0.303358	-0.01
24	**0.04712**	**0.047476**	**0.037105**	**0.036753**	**0.00034**	**2.578536**	0.774134	**0.029086**	**22.48282**	**8.719218**	**0.122377**	**0.300324**	**-0.01**
25	0.04712	0.047939	0.037564	0.036753	0.000782	2.580553	0.766653	0.029064	23.32736	9.039675	0.123613	0.297321	-0.01





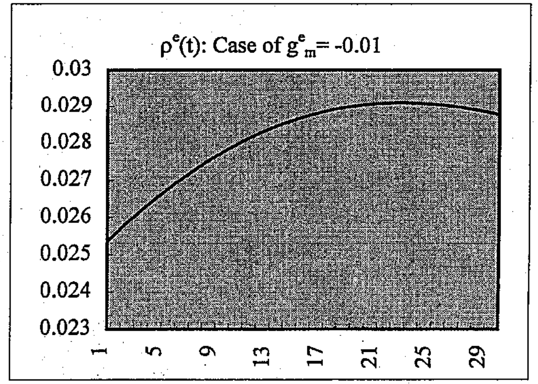
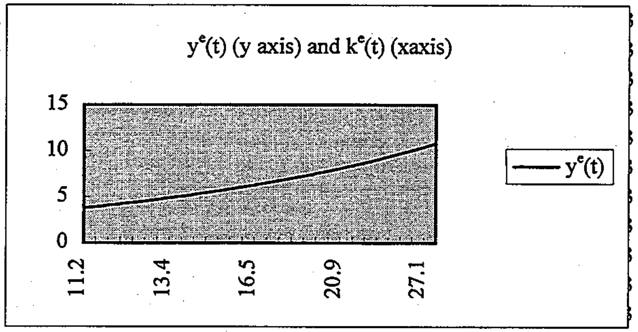


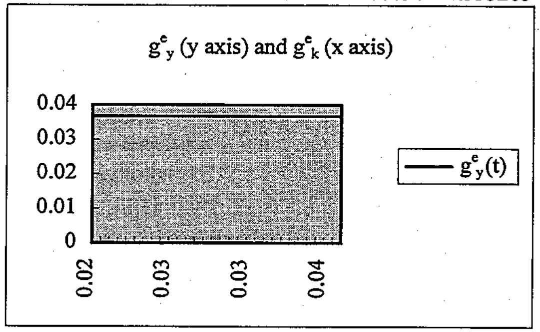
Table1-g^e_m-3

Case 2-2: $g^e_Y > g^e_{KP}$ g^e_m=**-0.01** **3** $g^e_{KP}(1)=s^e_{S/Y}/((\Omega_P-1)(1-s^e_{SP/Y}))$ $g^e_{KP}(2)=I^e/Y^e(t)/\Omega_P(t-1)$ **2** **1**

Unbalanced growt n 0.01 | Ω^0_P 3 | π^0 0.075 | k^0 11 | $s^e_{SP/P}$ 0.6 | $s^e_{SP/Y}$ 0.045 | $s^e_{SWD/WD}$ 0.05 | $s^e_{SWD/Y}$ 0.04775 | $s^e_{S/Y}$ 0.09275 | variables | y^0 3.666667 | ρ^0 0.025

geKP(t)	geY(t)	period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_K$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
0.037295	0.02459	1	0.04712	0.032373	0.022152	0.036753	-0.01408	2.95775	1.135278	0.025357	11.24367	3.801427	0.09712	0.378426	**GIVEN**
0.036474	0.02459	2	0.04712	0.033168	0.022938	0.036753	-0.01332	2.918338	1.108097	0.0257	11.50158	3.941141	0.098101	0.374642	-0.01
0.035698	0.02459	3	0.04712	0.033955	0.023718	0.036753	-0.01257	2.881646	1.082398	0.026027	11.77437	4.085989	0.099092	0.370895	-0.01
0.034966	0.02459	4	0.04712	0.034735	0.02449	0.036753	-0.01183	2.847561	1.058101	0.026338	12.06273	4.236161	0.100093	0.367186	-0.01
0.034273	0.02459	5	0.04712	0.035506	0.025253	0.036753	-0.01109	2.815976	1.03513	0.026634	12.36735	4.391852	0.101104	0.363514	-0.01
0.033616	0.02459	6	0.04712	0.036267	0.026006	0.036753	-0.01037	2.786787	1.013411	0.026913	12.68898	4.553265	0.102126	0.359879	-0.01
0.032992							-0.00965						0.103157	0.356281	-0.01
0.0324							-0.00894						0.104199	0.352718	-0.01
0.031836							-0.00825						0.105252	0.349191	-0.01
0.0313							-0.00757						0.106315	0.345699	-0.01
0.030788							-0.0069						0.107389	0.342242	-0.01
0.0303							-0.00625						0.108473	0.338819	-0.01
0.029834							-0.00561						0.109569	0.335431	-0.01
0.029388							-0.00499						0.110676	0.332077	-0.01
0.028961							-0.00439						0.111794	0.328756	-0.01
0.028553							-0.00379						0.112923	0.325468	-0.01
0.028161							-0.00322						0.114064	0.322214	-0.01
0.027786	0.02459	18	0.04712	0.044334	0.033994	0.036753	-0.00266	2.591922	0.829008	0.028936	18.19902	7.021437	0.115216	0.318992	-0.01
0.027425	0.02459	19	0.04712	0.044901	0.034555	0.036753	-0.00212						0.11638	0.315802	-0.01
0.027079	0.02459	20	0.04712	0.045451	0.0351	0.036753	-0.00159						0.117555	0.312644	-0.01
0.026745	0.02459	21	0.04712	0.045983	0.035627	0.036753	-0.00109						0.118743	0.309517	-0.01
0.026425	0.02459	22	0.04712	0.046498	0.036137	0.036753	-0.00059						0.119942	0.306422	-0.01
0.026117	0.02459	23	0.04712	0.046996	0.036629	0.036753	-0.00012						0.121154	0.303358	-0.01
0.02582	0.02459	**24**	**0.04712**	**0.047476**	**0.037105**	**0.036753**	**0.00034**						**0.122377**	**0.300324**	**-0.01**
0.025533	0.02459	25	0.04712	0.047939	0.037564	0.036753	0.000782						0.123613	0.297321	-0.01
0.025257	0.02459	26	0.04712	0.048386	0.038006	0.036753	0.001208						0.124862	0.294348	-0.01
0.024991	0.02459	27	0.04712	0.048816	0.038431	0.036753	0.001619						0.126123	0.291404	-0.01
0.024734	0.02459	28	0.04712	0.049229	0.038841	0.036753	0.002014						0.127397	0.28849	-0.01
0.024486	0.02459	29	0.04712	0.049626	0.039234	0.036753	0.002393	2.59927	0.740593	0.028854	27.14596	10.44369	0.128684	0.285605	-0.01
0.024246	0.02459	30	0.04712	0.050008	0.039612	0.036753	0.002758	2.606438	0.734942	0.028775	28.22126	10.82752	0.129984	0.282749	-0.01





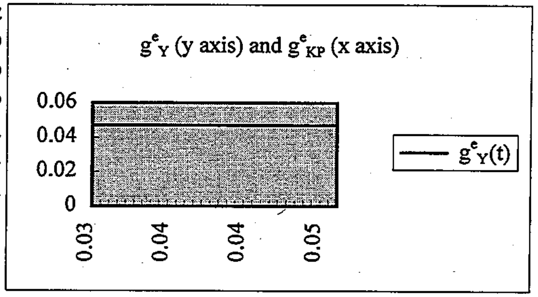


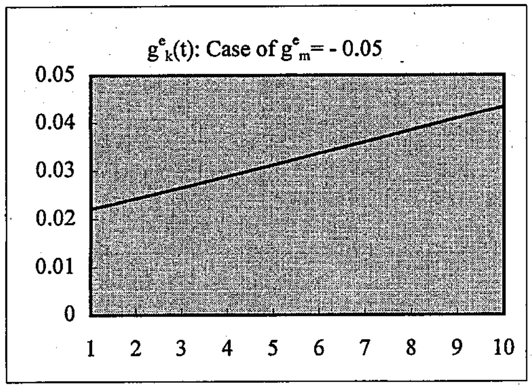
Table1-g^e_m-4

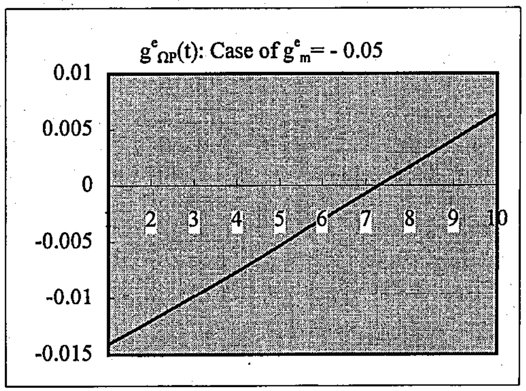
Case 2-1: $g^e_Y = g^e_{KP} = g_Y = g_{KP}$ gm=0: no technological change

Balanced growth	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$		variables	y^0	ρ^0
	0.01	3	0.075	11	0.25	0.01875	0.0375	0.036797	0.055547			3.666667	0.025
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y(t)$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.019108	0.019108	0.009018	0.009018	0	3	0.471947	0.025	11.0992	3.699733	0.057325	0.157316	
2	0.019108	0.019108	0.009018	0.009018	0	3	0.471947	0.025	11.19929	3.733098	0.057325	0.157316	0
3	0.019108	0.019108	0.009018	0.009018	0	3	0.471947	0.025	11.30029	3.766763	0.057325	0.157316	0

Case 2-2: $g^e_Y > g^e_{KP}$ 3 **g^e_m= - 0.05** $g^e_{KP}(1)=s^e_{S/Y}/((\Omega_P-1)(1-s^e_{SP/Y}))$ $g^e_{KP}(2)=I^e/Y^e(t)/\Omega_P(t-1)$ **2** **1**

Unbalanced growt	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$		variables	y^0	ρ^0
	0.01	3	0.075	11	0.6	0.024	0.05	0.0488	0.0728			3.666667	0.025
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_K$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.04712	0.032373	0.022152	0.036753	-0.01408	2.95775	1.135278	0.025357	11.24367	3.801427	0.09712	0.378426	GIVEN
2	0.04712	0.034564	0.024321	0.036753	-0.01199	2.922283	1.063325	0.025665	11.51713	3.941141	0.102232	0.359505	-0.05
3	0.04712	0.036825	0.026559	0.036753	-0.00983	2.89355	0.998046	0.02592	11.82301	4.085989	0.107613	0.341529	-0.05
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
7	0.04712	0.046398	0.036038	0.036753	-0.00069	2.845549	0.792115	0.026357	13.43273	4.720611	0.13212	0.278178	-0.05
8	**0.04712**	**0.048874**	**0.038489**	**0.036753**	**0.001675**	**2.850314**	**0.75199**	**0.026313**	**13.94974**	**4.894107**	**0.139074**	**0.264269**	**-0.05**
9	0.04712	0.05136	0.040951	0.036753	0.004049	2.861856	0.715587	0.026207	14.521	5.07398	0.146393	0.251056	-0.05





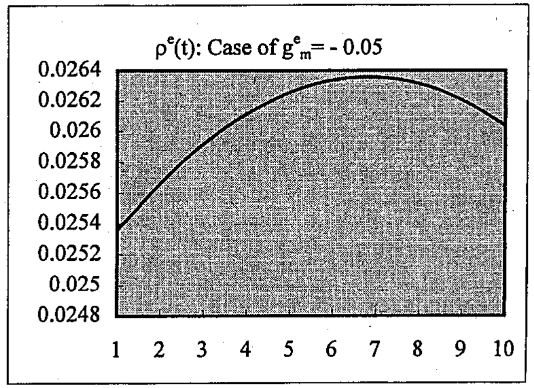
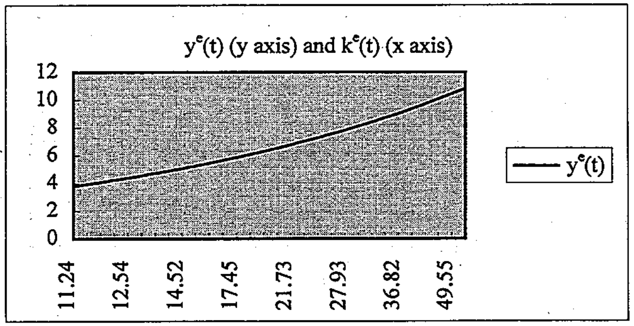
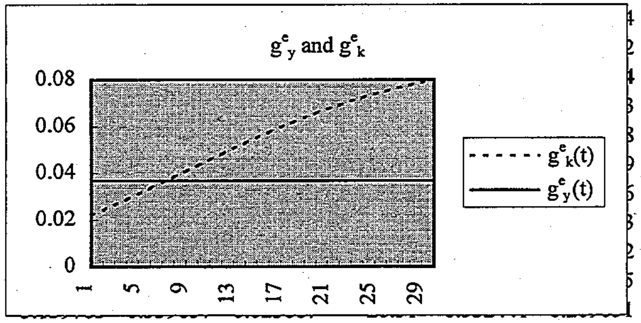


Table1-g^e_m-4

	Case 2-2: $g^e_Y > g^e_{KP}$		g^e_m=-0.05		3								2	1	
	Unbalanced growt	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$		variables	y^0	ρ^0	
			0.01	3	0.075	11	0.6	0.045	0.05	0.04775	0.09275			3.666667	0.025
geKP(t)	geY(t)	period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_K$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
0.037295	0.02459	1	0.04712	0.032373	0.022152	0.036753	-0.01408	2.95775	1.135278	0.025357	11.24	3.801427	0.09712	0.378426	**GIVEN**
0.035084	0.02459	2	0.04712	0.034564	0.024321	0.036753	-0.01199	2.922283	1.063325	0.025665	11.52	3.941141	0.102232	0.359505	-0.05
0.033075	0.02459	3	0.04712	0.036825	0.026559	0.036753	-0.00983	2.89355	0.998046	0.02592	11.82	4.085989	0.107613	0.341529	-0.05
0.031241	0.02459	4	0.04712	0.039148	0.028859	0.036753	-0.00761	2.871519	0.938821	0.026119	12.16	4.236161	0.113276	0.324453	-0.05
0.029561	0.02459	5	0.04712	0.041524	0.031212	0.036753	-0.00534	2.856174	0.885089	0.026259	12.54	4.391852	0.119238	0.30823	-0.05
0.028018							-0.00303							0.292819	-0.05
0.026595							-0.00069							0.278178	-0.05
0.025279							**0.001675**							**0.264269**	**-0.05**
0.024059							0.004049							0.251056	-0.05
0.022925							0.006423							0.238503	-0.05
0.021869							0.008784							0.226578	-0.05
0.020883							0.011121							0.215249	-0.05
0.019961							0.013425							0.204486	-0.05
0.019097							0.015686							0.194262	-0.05
0.018285							0.017893							0.184549	-0.05
0.017522							0.020039							0.175321	-0.05
0.016804	0.02459	17	0.04712	0.07028	0.059683	0.036753	0.022118							0.166555	-0.05
0.016126	0.02459	18	0.04712	0.072378	0.061761	0.036753	0.024121							0.158228	-0.05
0.015486	0.02459	19	0.04712	0.074393	0.063756	0.036753	0.026046							0.150316	-0.05
0.014881	0.02459	20	0.04712	0.076321	0.065664	0.036753	0.027886							0.1428	-0.05
0.014308	0.02459	21	0.04712	0.078158	0.067483	0.036753	0.029641							0.13566	-0.05
0.013765	0.02459	22	0.04712	0.079903	0.069211	0.036753	0.031308							0.128877	-0.05
0.013249	0.02459	23	0.04712	0.081556	0.070847	0.036753	0.032886							0.122433	-0.05
0.01276	0.02459	24	0.04712	0.083115	0.072391	0.036753	0.034374							0.116312	-0.05
0.012294	0.02459	25	0.04712	0.084582	0.073843	0.036753	0.035775							0.110496	-0.05
0.011851	0.02459	26	0.04712	0.085958	0.075206	0.036753	0.03709							0.104971	-0.05
0.011429	0.02459	27	0.04712	0.087246	0.076481	0.036753	0.03832	4.386127	0.421255	0.017099	42.62	9.716353	0.36855	0.099723	-0.05
0.011026	0.02459	28	0.04712	0.088449	0.077672	0.036753	0.039469	4.559242	0.415527	0.01645	45.93	10.07346	0.387948	0.094737	-0.05
0.010642	0.02459	29	0.04712	0.089569	0.078781	0.036753	0.040538	4.744065	0.410331	0.015809	49.55	10.44369	0.408366	0.09	-0.05
0.010275	0.02459	30	0.04712	0.09061	0.079812	0.036753	0.041532	4.941098	0.405617	0.015179	53.50	10.82752	0.429859	0.0855	-0.05





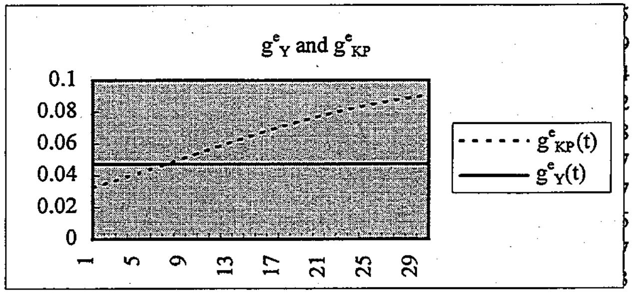


Table1-g^e_m-5

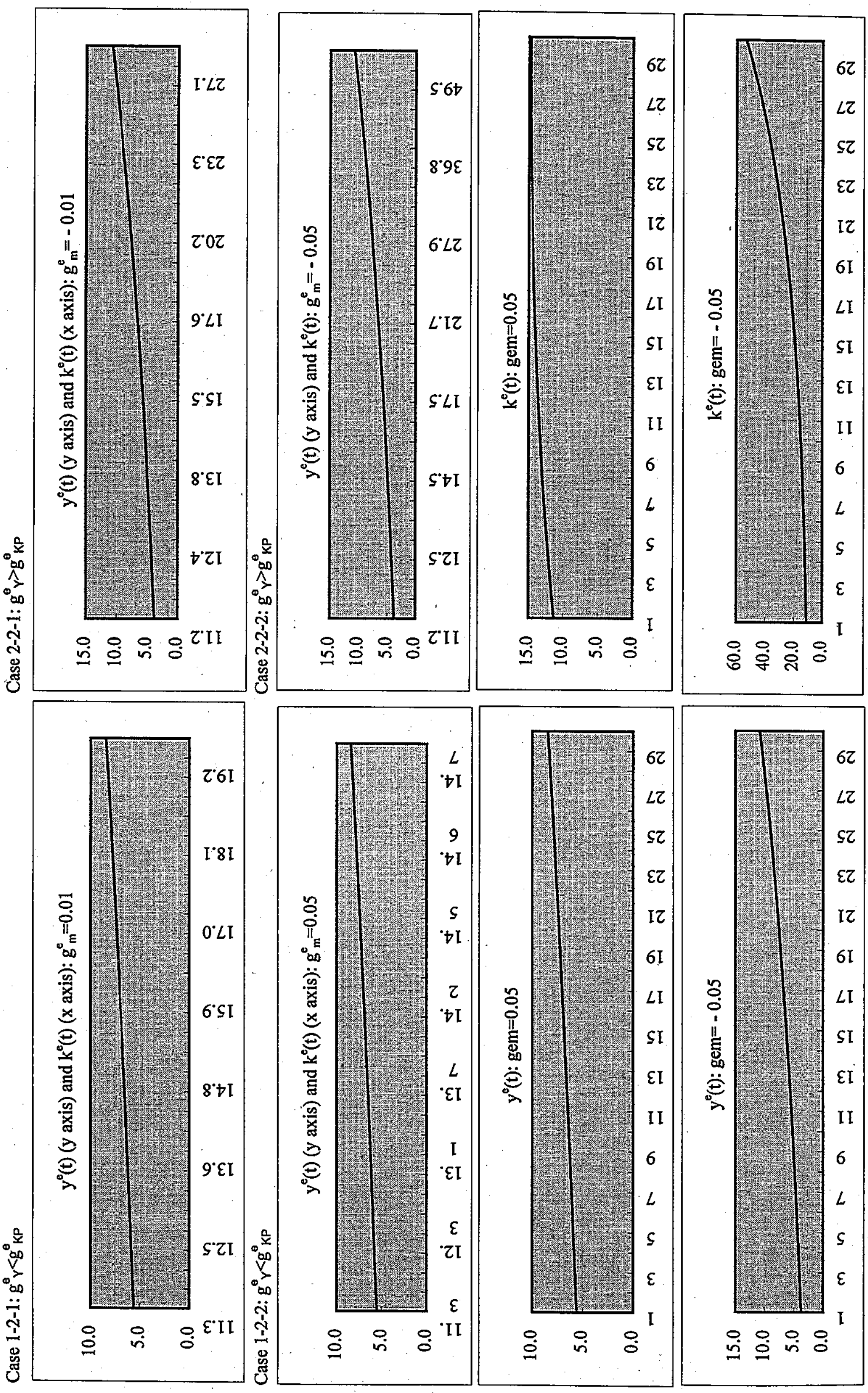

Case 1-2-1: $g^e_Y < g^e_{KP}$
$y^e(t)$ (y axis) and $k^e(t)$ (x axis): g^e_m=0.01
Case 1-2-2: $g^e_Y < g^e_{KP}$
$y^e(t)$ (y axis) and $k^e(t)$ (x axis): g^e_m=0.05
$y^e(t)$: gem=0.05
$y^e(t)$: gem= - 0.05
Case 2-2-1: $g^e_Y > g^e_{KP}$
$y^e(t)$ (y axis) and $k^e(t)$ (x axis): g^e_m= - 0.01
Case 2-2-2: $g^e_Y > g^e_{KP}$
$y^e(t)$ (y axis) and $k^e(t)$ (x axis): g^e_m= - 0.05
$k^e(t)$: gem=0.05
$k^e(t)$: gem= - 0.05

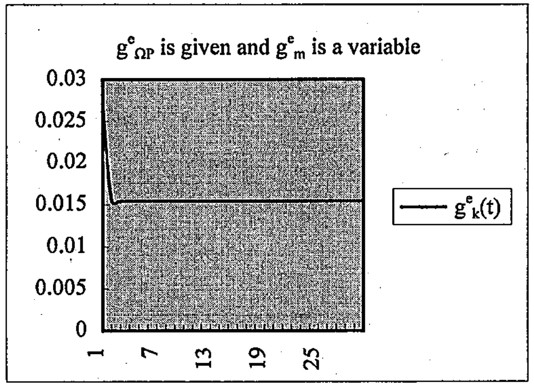
Table1-$g^e_{\Omega p}$-1

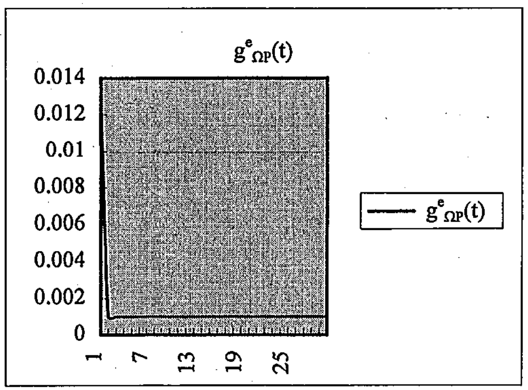
Case 1-1: $g^e_Y = g^e_{KP} = g_Y = g_{KP}$ gm=0: no technological change

Balanced growth	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	gm	variables	y^0	ρ^0
	0.01	2	0.08	11	0.333333	0.026667	0.026667	0.025956	0.052622	0.01		5.5	0.04
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y(t)$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.027397	0.027397	0.017225	0.017225	6.82E-18	2	0.628713	0.04	11.18948	5.594738	0.054795	0.314356	
2	0.027397	0.027397	0.017225	0.017225	6.82E-18	2	0.628713	0.04	11.38221	5.691107	0.054795	0.314356	0
3	0.027397	0.027397	0.017225	0.017225	6.82E-18	2	0.628713	0.04	11.57827	5.789136	0.054795	0.314356	0

Case 1-2: $g^e_Y < g^e_{KP}$ $g^e_{\Omega P}=0.001$ $g^e_{KP}(1)=s^e_{S/Y}/((\Omega_P-1)(1-s^e_{SP/Y}))$ $g^e_{KP}(2)=g_Y+g_{\Omega P}(1+g_Y)$

Unbalanced growt	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$		variables	y^0	ρ^0
	0.01	2	0.08	11	0.3	0.024	0.05	0.0488	0.0728			5.5	0.04
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.02459	0.037295	0.027025	0.014446	0.0124	2.0248	0.587459	0.03951	11.29727	5.579451	0.07459	0.193668	variable
2	0.02459	0.025615	0.01546	0.014446	0.001	2.026825	0.587459	0.039471	11.47193	5.660051	0.051865	0.278526	0.4381667
3	0.02459	0.025615	0.01546	0.014446	0.001	2.028852	0.587459	0.039431	11.64929	5.741814	0.051917	0.278248	-0.000999
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
28	0.02459	0.025615	0.01546	0.014446	0.001	2.080186	0.587459	0.038458	17.0951	8.21806	0.05323	0.271382	-0.000999
29	**0.02459**	**0.025615**	**0.01546**	**0.014446**	**0.001**	**2.082266**	**0.587459**	**0.03842**	**17.35939**	**8.336776**	**0.053283**	**0.271111**	**-0.000999**
30	0.02459	0.025615	0.01546	0.014446	0.001	2.084349	0.587459	0.038381	17.62777	8.457207	0.053337	0.27084	-0.000999





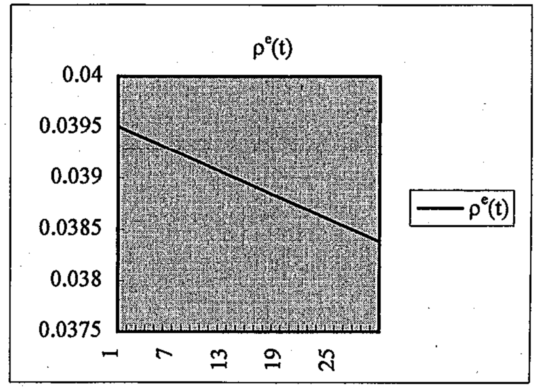


Table1-$g^e_{\Omega p}$-1

	Case 1-2: $g^e_Y<g^e_{KP}$			$g^e_{\Omega P}=0.001$		$g^e_{KP}(1)=s^e_{S/Y}/((\Omega_P-1)(1-s^e_{SP/Y}))$				$g^e_{KP}(2)=g_Y+g_{\Omega P}(1+g_Y)$					
	Unbalanced growt	n		Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	$1+g^e_Y$	variables	y^0	ρ^0
	If $g^e_m=0$		0.01	2	0.08	11	0.3	0.024	0.05	0.0488	0.0728	1.02459		5.5	0.04
$g^e_{\Omega P}(t)$	$g^e_{KP}(t)$	period	$g^e_Y(t)$	**$g^e_{KP}(t)$**	**$g^e_k(t)$**	$g^e_y(t)$	**$g^e_{\Omega P}(t)$**	**$\Omega^e_P(t)$**	$\chi^e(t)=g^e_y/g^e_Y$	**$\rho^e(t)$**	**$k^e(t)$**	**$y^e(t)$**	**$I^e/Y^{e0}(t)$**	**$m^e(t)$**	$g^e_m(t)$
parameter	0.037295	1	0.02459	0.037295	0.027025	0.014446	0.0124	2.0248	0.587459	0.03951	11.29727	5.579451	0.07459	0.193668	**variable**
=0.001	0.036838	2	0.02459	0.025615	0.01546	0.014446	0.001	2.026825	0.587459	0.039471	11.47193	5.660051	0.051865	0.278526	0.4381667
	0.036801	3	0.02459	0.025615	0.01546	0.014446	0.001	2.028852	0.587459	0.039431	11.64929	5.741814	0.051917	0.278248	-0.000999
$g^e_{KP}(t)$	0.036765	4	0.02459	0.025615	0.01546	0.014446	0.001	2.03088	0.587459	0.039392	11.82939	5.824758	0.051969	0.27797	-0.000999
calculation	0.036728	5	0.02459	0.025615	0.01546	0.014446	0.001	2.032911	0.587459	0.039352	12.01227	5.908901	0.052021	0.277693	-0.000999
differs	0.036691	6	0.02459	0.025615	0.01546	0.014446	0.001							0.277415	-0.000999
CONS.	0.036655	7	0.02459	0.025615	0.01546	0.014446	0.001							0.277138	-0.000999
never	0.036618	8	0.02459	0.025615	0.01546	0.014446	0.001							0.276861	-0.000999
converge	0.036581	9	0.02459	0.025615	0.01546	0.014446	0.001							0.276585	-0.000999
	0.036545	10	0.02459	0.025615	0.01546	0.014446	0.001							0.276308	-0.000999
	0.036508	11	0.02459	0.025615	0.01546	0.014446	0.001							0.276032	-0.000999
	0.036472	12	0.02459	0.025615	0.01546	0.014446	0.001							0.275756	-0.000999
	0.036435	13	0.02459	0.025615	0.01546	0.014446	0.001							0.275481	-0.000999
	0.036399	14	0.02459	0.025615	0.01546	0.014446	0.001							0.275206	-0.000999
	0.036363	15	0.02459	0.025615	0.01546	0.014446	0.001							0.274931	-0.000999
	0.036326	16	0.02459	0.025615	0.01546	0.014446	0.001							0.274656	-0.000999
	0.03629	17	0.02459	0.025615	0.01546	0.014446	0.001	2.057441	0.587459	0.038883	14.44042	7.018631	0.052648	0.274382	-0.000999
	0.036254	18	0.02459	0.025615	0.01546	0.014446	0.001	2.059498	0.587459	0.038844	14.66367	7.12002	0.052701	0.274108	-0.000999
	0.036218	19	0.02459	0.025615	0.01546	0.014446	0.001	2.061558	0.587459	0.038806	14.89037	7.222874	0.052754	0.273834	-0.000999
	0.036181	20	0.02459	0.025615	0.01546	0.014446	0.001	2.063619	0.587459	0.038767	15.12058	7.327214	0.052806	0.27356	-0.000999
	0.036145	21	0.02459	0.025615	0.01546	0.014446	0.001	2.065683	0.587459	0.038728	15.35435	7.433061	0.052859	0.273287	-0.000999
	0.036109	22	0.02459	0.025615	0.01546	0.014446	0.001	2.067749	0.587459	0.038689	15.59173	7.540436	0.052912	0.273014	-0.000999
	0.036073	23	0.02459	0.025615	0.01546	0.014446	0.001	2.069816	0.587459	0.038651	15.83278	7.649363	0.052965	0.272741	-0.000999
	0.036037	24	0.02459	0.025615	0.01546	0.014446	0.001	2.071886	0.587459	0.038612	16.07756	7.759864	0.053018	0.272469	-0.000999
	0.036001	25	0.02459	0.025615	0.01546	0.014446	0.001	2.073958	0.587459	0.038574	16.32612	7.87196	0.053071	0.272197	-0.000999
	0.035965	26	0.02459	0.025615	0.01546	0.014446	0.001	2.076032	0.587459	0.038535	16.57852	7.985676	0.053124	0.271925	-0.000999
	0.035929	27	0.02459	0.025615	0.01546	0.014446	0.001	2.078108	0.587459	0.038497	16.83483	8.101035	0.053177	0.271653	-0.000999
	0.035893	28	0.02459	0.025615	0.01546	0.014446	0.001	2.080186	0.587459	0.038458	17.0951	8.21806	0.05323	0.271382	-0.000999
	0.035857	**29**	**0.02459**	**0.025615**	**0.01546**	**0.014446**	**0.001**	**2.082266**	**0.587459**	**0.03842**	**17.35939**	**8.336776**	**0.053283**	**0.271111**	**-0.000999**
	0.035822	30	0.02459	0.025615	0.01546	0.014446	0.001	2.084349	0.587459	0.038381	17.62777	8.457207	0.053337	0.27084	-0.000999

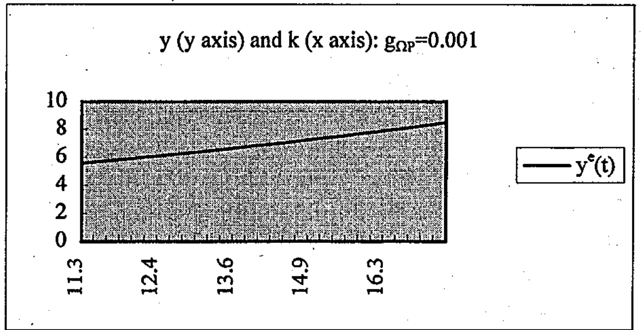


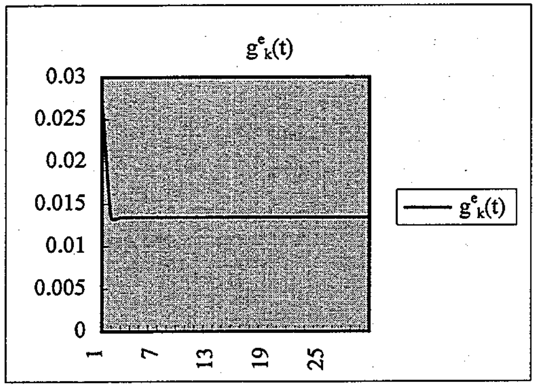
Table1-$g^e_{\Omega p}$-2

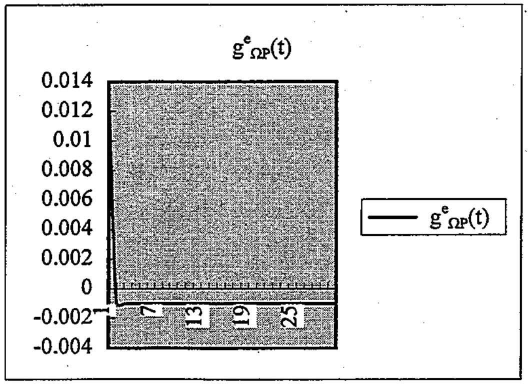
Case 1-1: $g^e_{Y}=g^e_{KP}=g_Y=g_{KP}$ **gm=0**: no technological change

Balanced growth	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	**gm**	variables	y^0	ρ^0
	0.01	2	0.08	11	0.333333	0.026667	0.026667	0.025956	0.052622	0.01		5.5	0.04
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y(t)$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.027397	0.027397	0.017225	0.017225	6.82E-18	2	0.62871	0.04	11.18948	5.594738	0.054795	0.314356	
2	0.027397	0.027397	0.017225	0.017225	6.82E-18	2	0.628713	0.04	11.38221	5.691107	0.054795	0.314356	0
3	0.027397	0.027397	0.017225	0.017225	6.82E-18	2	0.628713	0.04	11.57827	5.789136	0.054795	0.314356	0

Case 1-2: $g^e_Y<g^e_{KP}$ $g^e_{\Omega P}= -0.001$ $g^e_{KP}(1)=s^e_{S/Y}/((\Omega_P-1)(1-s^e_{SP/Y}))$ $g^e_{KP}(2)=g_Y+g_{\Omega P}(1+g_Y)$

Unbalanced growt	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$		variables	y^0	ρ^0
	0.01	2	0.08	11	0.3	0.024	0.05	0.0488	0.0728			5.5	0.04
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.02459	0.037295	0.027025	0.014446	0.0124	2.0248	0.587459	0.03951	11.29727	5.579451	0.07459	0.193668	variable
2	0.02459	0.023566	0.013431	0.014446	-0.001	2.022775	0.587459	0.03955	11.44901	5.660051	0.047716	0.302746	0.5632247
3	0.02459	0.023566	0.013431	0.014446	-0.001	2.020752	0.587459	0.039589	11.60278	5.741814	0.047668	0.303049	0.001001
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
8	0.02459	0.023566	0.013431	0.014446	-0.001	2.010669	0.587459	0.039788	12.4032	6.168693	0.04743	0.304569	0.001001
9	**0.02459**	**0.023566**	**0.013431**	**0.014446**	**-0.001**	**2.008658**	**0.587459**	**0.039828**	**12.56979**	**6.257804**	**0.047383**	**0.304874**	**0.001001**
10	0.02459	0.023566	0.013431	0.014446	-0.001	2.00665	0.587459	0.039867	12.73862	6.348203	0.047335	0.305179	0.001001





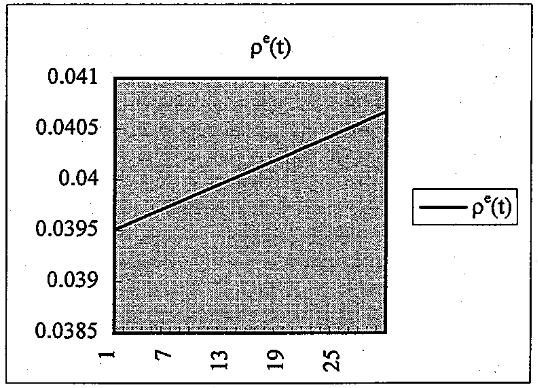


Table1-$g^e_{\Omega p}$-2

Case 1-2: $g^e_Y<g^e_{KP}$			$g^e_{\Omega P}$= - 0.001											
Unbalanced growt		n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	$1+g^e_Y$	variables	y^0	ρ^0
If g^e_m=0		0.01	2	0.08	11	0.3	0.024	0.05	0.0488	0.0728	1.02459		5.5	0.04
$g^e_{KP}(t)$	period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
0.037295	1	0.02459	0.037295	0.027025	0.014446	0.0124	2.0248	0.587459	0.03951	11.29727	5.579451	0.07459	0.193668	**variable**
0.036838	2	0.02459	0.023566	0.013431	0.014446	-0.001	2.022775	0.587459	0.03955	11.44901	5.660051	0.047716	0.302746	0.5632247
0.036875	3	0.02459	0.023566	0.013431	0.014446	-0.001	2.020752	0.587459	0.039589	11.60278	5.741814	0.047668	0.303049	0.001001
0.036912	4	0.02459	0.023566	0.013431	0.014446	-0.001	2.018732	0.587459	0.039629	11.75862	5.824758	0.04762	0.303353	0.001001
0.036949	5	0.02459	0.023566	0.013431	0.014446	-0.001	2.016713	0.587459	0.039669	11.91656	5.908901	0.047573	0.303656	0.001001
0.036986	6	0.02459	0.023566	0.013431	0.014446	-0.001	2.014696	0.587459	0.039708	12.07661	5.99426	0.047525	0.30396	0.001001
0.037023	7	0.02459	0.023566	0.013431	0.014446	-0.001	2.012682	0.587459	0.039748	12.23882	6.080851	0.047477	0.304264	0.001001
0.03706	8	0.02459	0.023566	0.013431	0.014446	-0.001	2.010669	0.587459	0.039788	12.4032	6.168693	0.04743	0.304569	0.001001
0.037097	**9**	**0.02459**	**0.023566**	**0.013431**	**0.014446**	**-0.001**	**2.008658**	**0.587459**	**0.039828**	**12.56979**	**6.257804**	**0.047383**	**0.304874**	**0.001001**
0.037134	10	0.02459	0.023566	0.013431	0.014446	-0.001	2.00665	0.587459	0.039867	12.73862	6.348203	0.047335	0.305179	0.001001
0.037171	11	0.02459	0.023566	0.013431	0.014446	-0.001	2.004643	0.587459	0.039907	12.90971	6.439907	0.047288	0.305485	0.001001
0.037209	12	0.02459	0.023566	0.013431	0.014446	-0.001	2.002638	0.587459	0.039947	13.08311	6.532936	0.047241	0.30579	0.001001
0.037246	13	0.02459	0.023566	0.013431	0.014446	-0.001	2.000636	0.587459	0.039987	13.25883	6.627309	0.047193	0.306096	0.001001
0.037283	14	0.02459	0.023566	0.013431	0.014446	-0.001	1.998635	0.587459	0.040027	13.43691	6.723045	0.047146	0.306403	0.001001
0.037321	15	0.02459	0.023566	0.013431	0.014446	-0.001								0.001001
0.037358	16	0.02459	0.023566	0.013431	0.014446	-0.001								0.001001
0.037395	17	0.02459	0.023566	0.013431	0.014446	-0.001								0.001001
0.037433	18	0.02459	0.023566	0.013431	0.014446	-0.001								0.001001
0.03747	19	0.02459	0.023566	0.013431	0.014446	-0.001								0.001001
0.037508	20	0.02459	0.023566	0.013431	0.014446	-0.001								0.001001
0.037545	21	0.02459	0.023566	0.013431	0.014446	-0.001								0.001001
0.037583	22	0.02459	0.023566	0.013431	0.014446	-0.001								0.001001
0.03762	23	0.02459	0.023566	0.013431	0.014446	-0.001								0.001001
0.037658	24	0.02459	0.023566	0.013431	0.014446	-0.001								0.001001
0.037696	25	0.02459	0.023566	0.013431	0.014446	-0.001								0.001001
0.037734	26	0.02459	0.023566	0.013431	0.014446	-0.001	1.974783	0.587459	0.040511	15.76998	7.985676	0.046583	0.310104	0.001001
0.037771	27	0.02459	0.023566	0.013431	0.014446	-0.001	1.972808	0.587459	0.040551	15.98179	8.101035	0.046537	0.310414	0.001001
0.037809	28	0.02459	0.023566	0.013431	0.014446	-0.001	1.970835	0.587459	0.040592	16.19644	8.21806	0.04649	0.310725	0.001001
0.037847	29	0.02459	0.023566	0.013431	0.014446	-0.001	1.968864	0.587459	0.040633	16.41398	8.336776	0.046444	0.311036	0.001001
0.037885	30	0.02459	0.023566	0.013431	0.014446	-0.001	1.966896	0.587459	0.040673	16.63444	8.457207	0.046397	0.311347	0.001001

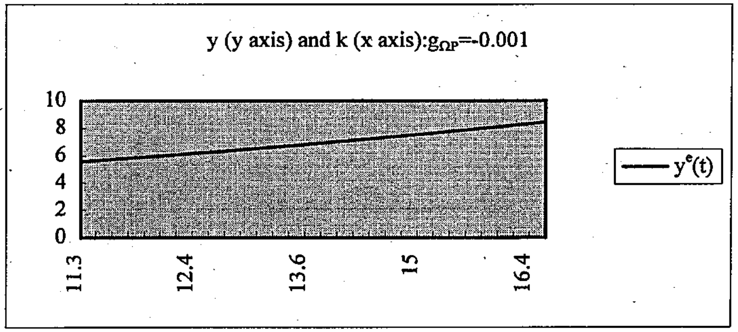
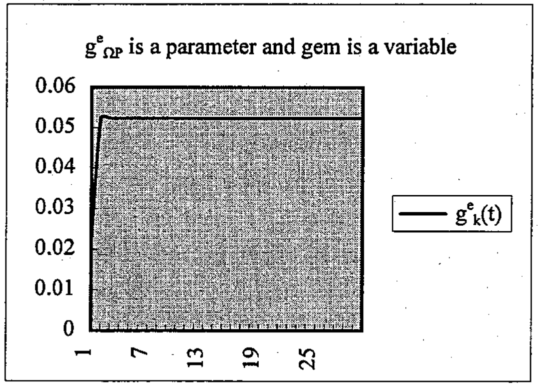
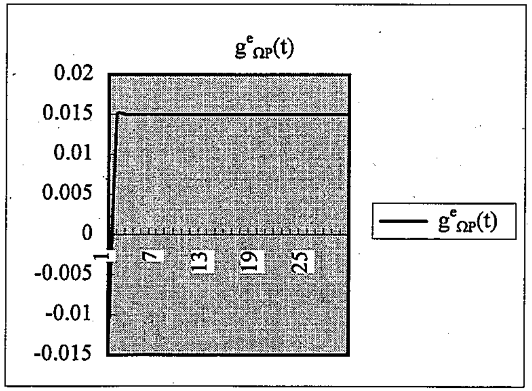


Table1-$g^e_{\Omega p}$-3

Case 2-1: $g^e_Y = g^e_{KP} = g_Y = g_{KP}$					gm=0: no technological change									
Balanced growth		n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$		variables	y^0	ρ^0
		0.01	3	0.075	11	0.25	0.01875	0.0375	0.036797	0.055547			3.666667	0.025
period		$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y(t)$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
	1	0.019108	0.019108	0.009018	0.009018	0	3	0.471947	0.025	11.0992	3.699733	0.057325	0.157316	
	2	0.019108	0.019108	0.009018	0.009018	0	3	0.471947	0.025	11.19929	3.733098	0.057325	0.157316	0
	3	0.019108	0.019108	0.009018	0.009018	0	3	0.471947	0.025	11.30029	3.766763	0.057325	0.157316	0
Case 2-2: $g^e_Y > g^e_{KP}$					$g^e_{\Omega P}$=0.015		$g^e_{KP}(1)=s^e_{S/Y}/((\Omega_P-1)(1-s^e_{SP/Y}))$			$g^e_{KP}(2)=g_Y+g_{\Omega P}(1+g_Y)$				
Unbalanced growt		n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$		variables	y^0	ρ^0
		0.01	3	0.075	11	0.6	0.024	0.05	0.0488	0.0728			3.666667	0.025
period		$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
	1	0.04712	0.032373	0.022152	0.036753	-0.01408	2.95775	0.779978	0.025357	11.24367	3.801427	0.09712	0.378426	variable
	2	0.04712	0.062827	0.052304	0.036753	0.015	3.002116	0.779978	0.024982	11.83176	3.941141	0.185827	0.19778	-0.47736
SAME as below	3	0.04712	0.062827	0.052304	0.036753	0.015	3.047148	0.779978	0.024613	12.45061	4.085989	0.188615	0.194857	-0.01478
	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
	23	0.04712	0.062827	0.052304	0.036753	0.015	4.104067	0.779978	0.018275	34.5157	8.410122	0.254037	0.144676	-0.01478
	24	**0.04712**	**0.062827**	**0.052304**	**0.036753**	**0.015**	**4.165628**	**0.779978**	**0.018004**	**36.32101**	**8.719218**	**0.257847**	**0.142538**	**-0.01478**
	25	0.04712	0.062827	0.052304	0.036753	0.015	4.228112	0.779978	0.017738	38.22076	9.039675	0.261715	0.140431	-0.01478





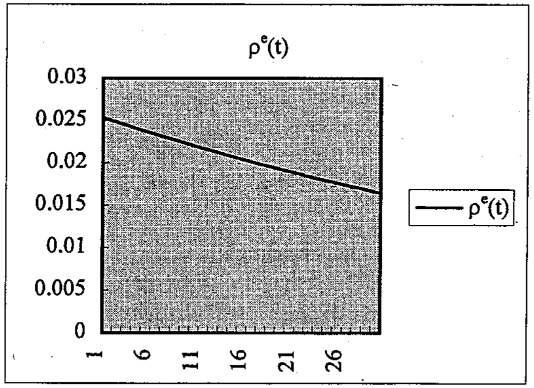


Table1-$g^e_{\Omega p}$-3

Case 2-2: $g^e_Y > g^e_{KP}$ $g^e_{\Omega P}=0.015$ $g^e_{KP}(1)=s^e_{S/Y}/((\Omega_P-1)(1-s^e_{SP/Y}))$ $g^e_{KP}(2)=g_Y+g_{\Omega P}(1+g_Y)$

Unbalanced growt

n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	variables	y^0	ρ^0
0.01	3	0.075	11	0.6	0.045	0.05	0.04775	0.09275		3.666667	0.025

geKP(t)	geY(t)	period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$l^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
0.037295	0.02459	1	0.04712	0.032373	0.022152	0.036753	-0.01408	2.95775	0.779978	0.025357	11.24367	3.801427	0.09712	0.378426	**variable**
0.036474	0.02459	2	0.04712	0.062827	0.052304	0.036753	0.015	3.002116	0.779978	0.024982	11.83176	3.941141	0.185827	0.19778	-0.47736
0.035698	0.02459	3	0.04712	0.062827	0.052304	0.036753	0.015	3.047148	0.779978	0.024613	12.45061	4.085989	0.188615	0.194857	-0.01478
0.034966	0.02459	4	0.04712	0.062827	0.052304	0.036753	0.015	3.092855	0.779978	0.024249	13.10183	4.236161	0.191444	0.191977	-0.01478
0.034273	0.02459	5	0.04712	0.062827	0.052304	0.036753	0.015	3.139248	0.779978	0.023891	13.78711	4.391852	0.194316	0.18914	-0.01478
0.033616	0.02459	6	0.04712	0.062827	0.052304	0.036753	0.015							0.186345	-0.01478
0.032992	0.02459	7	0.04712	0.062827	0.052304	0.036753	0.015							0.183591	-0.01478
0.0324	0.02459	8	0.04712	0.062827	0.052304	0.036753	0.015							0.180878	-0.01478
0.031836	0.02459	9	0.04712	0.062827	0.052304	0.036753	0.015							0.178205	-0.01478
0.0313	0.02459	10	0.04712	0.062827	0.052304	0.036753	0.015							0.175571	-0.01478
0.030788	0.02459	11	0.04712	0.062827	0.052304	0.036753	0.015							0.172977	-0.01478
0.0303	0.02459	12	0.04712	0.062827	0.052304	0.036753	0.015							0.17042	-0.01478
0.029834	0.02459	13	0.04712	0.062827	0.052304	0.036753	0.015							0.167902	-0.01478
0.029388	0.02459	14	0.04712	0.062827	0.052304	0.036753	0.015							0.165421	-0.01478
0.028961	0.02459	15	0.04712	0.062827	0.052304	0.036753	0.015							0.162976	-0.01478
0.028553	0.02459	16	0.04712	0.062827	0.052304	0.036753	0.015							0.160567	-0.01478
0.028161	0.02459	17	0.04712	0.062827	0.052304	0.036753	0.015	3.753342	0.779978	0.019982	25.41961	6.772527	0.232327	0.158195	-0.01478
0.027786	0.02459	18	0.04712	0.062827	0.052304	0.036753	0.015	3.809642	0.779978	0.019687	26.74916	7.021437	0.235812	0.155857	-0.01478
0.027425	0.02459	19	0.04712	0.062827	0.052304	0.036753	0.015	3.866787	0.779978	0.019396	28.14826	7.279495	0.239349	0.153553	-0.01478
0.027079	0.02459	20	0.04712	0.062827	0.052304	0.036753	0.015	3.924789	0.779978	0.019109	29.62053	7.547038	0.242939	0.151284	-0.01478
0.026745	0.02459	21	0.04712	0.062827	0.052304	0.036753	0.015	3.98366	0.779978	0.018827	31.16981	7.824413	0.246584	0.149048	-0.01478
0.026425	0.02459	22	0.04712	0.062827	0.052304	0.036753	0.015	4.043415	0.779978	0.018549	32.80012	8.111983	0.250282	0.146846	-0.01478
0.026117	0.02459	23	0.04712	0.062827	0.052304	0.036753	0.015	4.104067	0.779978	0.018275	34.5157	8.410122	0.254037	0.144676	-0.01478
0.02582	0.02459	**24**	**0.04712**	**0.062827**	**0.052304**	**0.036753**	**0.015**	**4.165628**	**0.779978**	**0.018004**	**36.32101**	**8.719218**	**0.257847**	**0.142538**	**-0.01478**
0.025533	0.02459	25	0.04712	0.062827	0.052304	0.036753	0.015	4.228112	0.779978	0.017738	38.22076	9.039675	0.261715	0.140431	-0.01478
0.025257	0.02459	26	0.04712	0.062827	0.052304	0.036753	0.015	4.291534	0.779978	0.017476	40.21986	9.371909	0.265641	0.138356	-0.01478
0.024991	0.02459	27	0.04712	0.062827	0.052304	0.036753	0.015	4.355907	0.779978	0.017218	42.32353	9.716353	0.269625	0.136311	-0.01478
0.024734	0.02459	28	0.04712	0.062827	0.052304	0.036753	0.015	4.421245	0.779978	0.016964	44.53723	10.07346	0.27367	0.134297	-0.01478
0.024486	**0.02459**	29	0.04712	0.062827	0.052304	0.036753	0.015	4.487564	0.779978	0.016713	46.86671	10.44369	0.277775	0.132312	-0.01478
0.024246	0.02459	30	0.04712	0.062827	0.052304	0.036753	0.015	4.554877	0.779978	0.016466	49.31803	10.82752	0.281941	0.130357	-0.01478

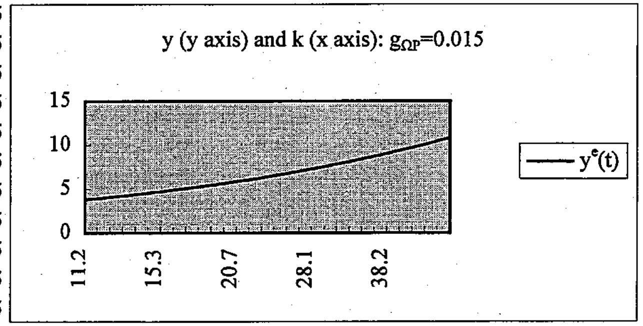


Table1-$g^{e}_{\Omega p}$-4

Case 2-1: $g^{e}_{Y}=g^{e}_{KP}=g_{Y}=g_{KP}$ **gm=0**: no technological change

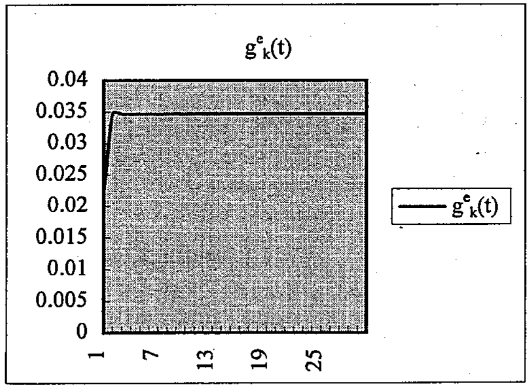
Balanced growth	n	Ω^{0}_{P}	π^{0}	k^{0}	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$		variables	y^{0}	ρ^{0}
	0.01	3	0.075	11	0.25	0.01875	0.0375	0.036797	0.055547			3.666667	0.025

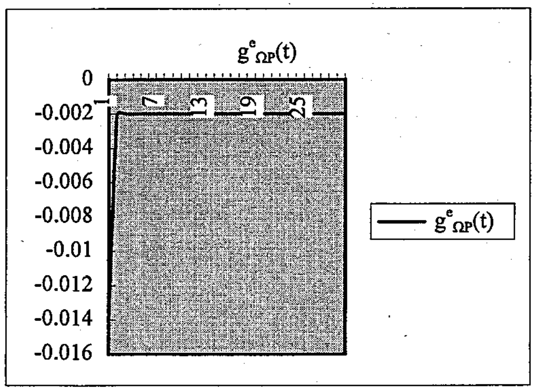
period	$g_{Y}(t)$	$g_{KP}(t)$	$g_{k}(t)$	$g_{y}(t)$	$g_{\Omega P}(t)$	$\Omega_{P}(t)$	$\chi(t)=g_{y}/g_{Y}(t)$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^{0}(t)$	$m^{*}(t)$	$g^{*}_{m}(t)$
1	0.019108	0.019108	0.009018	0.009018	0	3	0.471947	0.025	11.0992	3.699733	0.057325	0.157316	
2	0.019108	0.019108	0.009018	0.009018	0	3	0.471947	0.025	11.19929	3.733098	0.057325	0.157316	0
3	0.019108	0.019108	0.009018	0.009018	0	3	0.471947	0.025	11.30029	3.766763	0.057325	0.157316	0

Case 2-2: $g^{e}_{Y}>g^{e}_{KP}$ $g^{e}_{\Omega P}=-0.002$ $g^{e}_{KP}(1)=s^{e}_{S/Y}/((\Omega_{P}-1)(1-s^{e}_{SP/Y}))$ $g^{e}_{KP}(2)=g_{Y}+g_{\Omega P}(1+g_{Y})$

Unbalanced growt	n	Ω^{0}_{P}	π^{0}	k^{0}	$s^{e}_{SP/P}$	$s^{e}_{SP/Y}$	$s^{e}_{SWD/WD}$	$s^{e}_{SWD/Y}$	$s^{e}_{S/Y}$		variables	y^{0}	ρ^{0}
	0.01	3	0.075	11	0.6	0.024	0.05	0.0488	0.0728			3.666667	0.025

period	$g^{e}_{Y}(t)$	$g^{e}_{KP}(t)$	$g^{e}_{k}(t)$	$g^{e}_{y}(t)$	$g^{e}_{\Omega P}(t)$	$\Omega^{e}_{P}(t)$	$\chi^{e}(t)=g^{e}_{y}/g^{e}_{Y}$	$\rho^{e}(t)$	$k^{e}(t)$	$y^{e}(t)$	$I^{e}/Y^{e0}(t)$	$m^{e}(t)$	$g^{e}_{m}(t)$
1	0.04712	0.032373	0.022152	0.036753	-0.01408	2.95775	0.779978	0.025357	11.24367	3.801427	0.09712	0.378426	variable
2	0.04712	0.045026	0.034679	0.036753	-0.002	2.951835	0.779978	0.025408	11.6336	3.941141	0.133176	0.275972	-0.27074
3	0.04712	0.045026	0.034679	0.036753	-0.002	2.945931	0.779978	0.025459	12.03704	4.085989	0.13291	0.276525	0.002004
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
7	0.04712	0.045026	0.034679	0.036753	-0.002	2.922434	0.779978	0.025664	13.79567	4.720611	0.13185	0.278748	0.002004
8	**0.04712**	**0.045026**	**0.034679**	**0.036753**	**-0.002**	**2.916589**	**0.779978**	**0.025715**	**14.2741**	**4.894107**	**0.131586**	**0.279307**	**0.002004**
9	0.04712	0.045026	0.034679	0.036753	-0.002	2.910756	0.779978	0.025767	14.76912	5.07398	0.131323	0.279867	0.002004





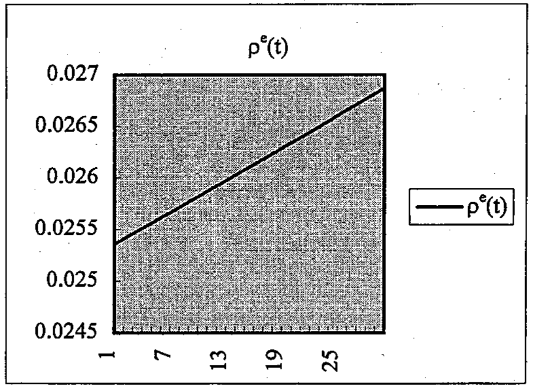
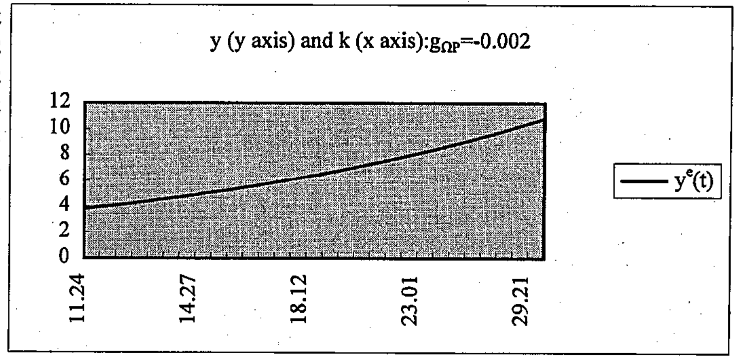


Table1-$g^e_{\Omega p}$-4

Case 2-2: $g^e_Y > g^e_{KP}$ $g^e_{\Omega P}$= - 0.002

Unbalanced growt n: 0.01; Ω^0_P: 3; π^0: 0.075; k^0: 11; $s^e_{SP/P}$: 0.6; $s^e_{SP/Y}$: 0.045; $s^e_{SWD/WD}$: 0.05; $s^e_{SWD/Y}$: 0.04775; $s^e_{S/Y}$: 0.09275; variables y^0: 3.666667; ρ^0: 0.025

geKP(t)	geY(t)	period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
0.037295	0.02459	1	0.04712	0.032373	0.022152	0.036753	-0.01408	2.95775	0.779978	0.025357	11.24367	3.801427	0.09712	0.378426	**variable**
0.035084	0.02459	2	0.04712	0.045026	0.034679	0.036753	-0.002	2.951835	0.779978	0.025408	11.6336	3.941141	0.133176	0.275972	-0.27074
0.033075	0.02459	3	0.04712	0.045026	0.034679	0.036753	-0.002	2.945931	0.779978	0.025459	12.03704	4.085989	0.13291	0.276525	0.002004
0.031241	0.02459	4	0.04712	0.045026	0.034679	0.036753	-0.002	2.940039	0.779978	0.02551	12.45448	4.236161	0.132644	0.277079	0.002004
0.029561	0.02459	5	0.04712	0.045026	0.034679	0.036753	-0.002	2.934159	0.779978	0.025561	12.88639	4.391852	0.132379	0.277634	0.002004
0.028018	0.02459	6	0.04712	0.045026	0.034679	0.036753	-0.002	2.928291	0.779978	0.025612	13.33328	4.553265	0.132114	0.278191	0.002004
0.026595	0.02459	7	0.04712	0.045026	0.034679	0.036753	-0.002	2.922434	0.779978	0.025664	13.79567	4.720611	0.13185	0.278748	0.002004
0.025279	0.02459	**8**	**0.04712**	0.045026	**0.034679**	**0.036753**	-0.002	**2.916589**	**0.779978**	**0.025715**	**14.2741**	**4.894107**	0.131586	0.279307	0.002004
0.024059	0.02459	9	0.04712	0.045026	0.034679	0.036753	-0.002	2.910756	0.779978	0.025767	14.76912	5.07398	0.131323	0.279867	0.002004
0.022925	0.02459	10	0.04712	0.045026	0.034679	0.036753	-0.002	2.904934	0.779978	0.025818	15.2813	5.260463	0.13106	0.280428	0.002004
0.021869	0.02459	11	0.04712	0.045026	0.034679	0.036753	-0.002	2.899125	0.779978	0.02587	15.81125	5.4538	0.130798	0.280989	0.002004
0.020883	0.02459	12	0.04712	0.045026	0.034679	0.036753	-0.002	2.893326	0.779978	0.025922	16.35957	5.654243	0.130536	0.281553	0.002004
0.019961	0.02459	13	0.04712	0.045026	0.034679	0.036753	-0.002	2.88754	0.779978	0.025974	16.92691	5.862053	0.130275	0.282117	0.002004
0.019097	0.02459	14	0.04712	0.045026	0.034679	0.036753	-0.002								0.002004
0.018285	0.02459	15	0.04712	0.045026	0.034679	0.036753	-0.002								0.002004
0.017522	0.02459	16	0.04712	0.045026	0.034679	0.036753	-0.002								0.002004
0.016804	0.02459	17	0.04712	0.045026	0.034679	0.036753	-0.002								0.002004
0.016126	0.02459	18	0.04712	0.045026	0.034679	0.036753	-0.002								0.002004
0.015486	0.02459	19	0.04712	0.045026	0.034679	0.036753	-0.002								0.002004
0.014881	0.02459	20	0.04712	0.045026	0.034679	0.036753	-0.002								0.002004
0.014308	0.02459	21	0.04712	0.045026	0.034679	0.036753	-0.002								0.002004
0.013765	0.02459	22	0.04712	0.045026	0.034679	0.036753	-0.002								0.002004
0.013249	0.02459	23	0.04712	0.045026	0.034679	0.036753	-0.002								0.002004
0.01276	0.02459	24	0.04712	0.045026	0.034679	0.036753	-0.002								0.002004
0.012294	0.02459	25	0.04712	0.045026	0.034679	0.036753	-0.002								0.002004
0.011851	0.02459	26	0.04712	0.045026	0.034679	0.036753	-0.002	2.813358	0.779978	0.026659	26.36653	9.371909	0.126929	0.289556	0.002004
0.011429	0.02459	27	0.04712	0.045026	0.034679	0.036753	-0.002	2.807731	0.779978	0.026712	27.28091	9.716353	0.126675	0.290136	0.002004
0.011026	0.02459	28	0.04712	0.045026	0.034679	0.036753	-0.002	2.802116	0.779978	0.026765	28.22699	10.07346	0.126421	0.290717	0.002004
0.010642	0.02459	29	0.04712	0.045026	0.034679	0.036753	-0.002	2.796512	0.779978	0.026819	29.20589	10.44369	0.126169	0.2913	0.002004
0.010275	0.02459	30	0.04712	0.045026	0.034679	0.036753	-0.002	2.790919	0.779978	0.026873	30.21873	10.82752	0.125916	0.291884	0.002004



Compulpoli casestudy not copied

Table 2-1 Changing each parameter under the **unbalanced** growth state: a case study in the **short** run **CASE STUDY (1)**

Balanced growth	n		Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$		variables	y^0	ρ^0
	0.01		2	0.08	11	0.333333	0.026667	0.027397	0.026667	0.053333			5.5	0.04
period		$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y(t)$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
	1	0.02740	0.02740	0.01723	0.01723	0.00000	2.00000	0.62871	0.04000	11.18948	5.59474	0.05479	0.31436	
	2	0.02740	0.02740	0.01723	0.01723	0.00000	2.00000	0.62871	0.04000	11.38221	5.69111	0.05479	0.31436	0.00000
	3	0.02740	0.02740	0.01723	0.01723	0.00000	2.00000	0.62871	0.04000	11.57827	5.78914	0.05479	0.31436	0.00000
A parameter changes														
0. Before changing	n		Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$		variables	y^0	ρ^0
Unbalanced growth stat	0.01		2	0.08	11	0.3	0.024	0.05	0.0488	0.0728			5.5	0.04
period		$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y(t)$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
	1	0.02459	0.03730	0.02702	0.01445	0.01240	2.02480	0.58746	0.03951	11.29727	5.57945	0.07459	0.19367	
	2	0.02459	0.03684	0.02657	0.01445	0.01195	2.04900	0.58746	0.03904	11.59747	5.66005	0.07459	0.19367	0.00000
	3	0.02459	0.03640	0.02614	0.01445	0.01153	2.07263	0.58746	0.03860	11.90065	5.74181	0.07459	0.19367	0.00000
1. By changing Ω_P	n		Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$		variables	y^0	ρ^0
	0.01		3	0.08	11	0.3	0.024	0.05	0.0488	0.0728			3.6666667	0.0266667
period		$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y(t)$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
	1	0.02459	0.02486	0.01472	0.01445	0.00027	3.00080	0.58746	0.02666	11.16188	3.71963	0.07459	0.19367	
	2	0.02459	0.02486	0.01471	0.01445	0.00026	3.00158	0.58746	0.02665	11.32607	3.77337	0.07459	0.19367	0.00000
	3	0.02459	0.02485	0.01470	0.01445	0.00025	3.00234	0.58746	0.02665	11.49260	3.82788	0.07459	0.19367	0.00000
2. By changing Ω_P	n		Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$		variables	y^0	ρ^0
	0.01		1.5	0.08	11	0.3	0.024	0.05	0.0488	0.0728			7.3333333	0.0533333
period		$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y(t)$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
	1	0.02459	0.04973	0.03933	0.01445	0.02453	1.53680	0.58746	0.05206	11.43267	7.43927	0.07459	0.19367	
	2	0.02459	0.04854	0.03815	0.01445	0.02337	1.57272	0.58746	0.05087	11.86888	7.54673	0.07459	0.19367	0.00000
	3	0.02459	0.04743	0.03706	0.01445	0.02229	1.60777	0.58746	0.04976	12.30870	7.65575	0.07459	0.19367	0.00000
3. By changing π	n		Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$		variables	y^0	ρ^0
	0.01		2	0.05	11	0.3	0.015	0.05	0.04925	0.06425			5.5	0.025
period		$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y(t)$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
	1	0.01523	0.03261	0.02239	0.00518	0.01713	2.03425	0.33993	0.02458	11.24629	5.52847	0.06523	0.07936	
	2	0.01523	0.03207	0.02185	0.00518	0.01658	2.06799	0.33993	0.02418	11.49199	5.55709	0.06523	0.07936	0.00000
	3	0.01523	0.03154	0.02133	0.00518	0.01607	2.10122	0.33993	0.02380	11.73710	5.58586	0.06523	0.07936	0.00000

Compulpoli casestudy not copied

CASE STUDY (2)

4. By changing π

n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	variables	y^0	ρ^0
0.01	2	0.12	11	0.3	0.036	0.05	0.0482	0.0842		5.5	0.06

period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y(t)$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.03734	0.04367	0.03334	0.02707	0.00610	2.01220	0.72497	0.05964	11.36673	5.64891	0.08734	0.30996	
2	0.03734	0.04341	0.03308	0.02707	0.00584	2.02396	0.72497	0.05929	11.74270	5.80184	0.08734	0.30996	0.00000
3	0.03734	0.04316	0.03283	0.02707	0.00560	2.03530	0.72497	0.05896	12.12818	5.95892	0.08734	0.30996	0.00000

5.By changing $s^e_{SP/P}$

n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	variables	y^0	ρ^0
0.01	2	0.08	11	0.7	0.056	0.02	0.01888	0.07488		5.5	0.04

period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y(t)$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.05932	0.03966	0.02937	0.04883	-0.01856	1.96288	0.82320	0.04076	11.32304	5.76859	0.07932	0.61564	
2	0.05932	0.04041	0.03011	0.04883	-0.01785	1.92784	0.82320	0.04150	11.66398	6.05029	0.07932	0.61564	0.00000
3	0.05932	0.04115	0.03084	0.04883	-0.01716	1.89476	0.82320	0.04222	12.02366	6.34574	0.07932	0.61564	0.00000

6.By changing $s^e_{SP/P}$

n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	variables	y^0	ρ^0
0.01	2	0.08	11	0.15	0.012	0.02	0.01976	0.03176		5.5	0.04

period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y(t)$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.01215	0.01607	0.00601	0.00212	0.00388	2.00776	0.17492	0.03985	11.06614	5.51168	0.03215	0.06609	
2	0.01215	0.01601	0.00595	0.00212	0.00382	2.01543	0.17492	0.03969	11.13200	5.52339	0.03215	0.06609	0.00000
3	0.01215	0.01595	0.00589	0.00212	0.00376	2.02300	0.17492	0.03955	11.19758	5.53513	0.03215	0.06609	0.00000

7. By $s^e_{SWD/WD}$

n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	variables	y^0	ρ^0
0.01	2	0.08	11	0.3	0.024	0.08	0.07808	0.10208		5.5	0.04

period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y(t)$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.02459	0.05230	0.04188	0.01445	0.02704	2.05408	0.58746	0.03895	11.46064	5.57945	0.10459	0.13812	
2	0.02459	0.05092	0.04051	0.01445	0.02570	2.10686	0.58746	0.03797	11.92495	5.66005	0.10459	0.13812	0.00000
3	0.02459	0.04964	0.03925	0.01445	0.02445	2.15838	0.58746	0.03706	12.39300	5.74181	0.10459	0.13812	0.00000

8. By $s^e_{SWD/WD}$

n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	variables	y^0	ρ^0
0.01	2	0.08	11	0.3	0.024	0.02	0.01952	0.04352		5.5	0.04

period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y(t)$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.02459	0.02230	0.01217	0.01445	-0.00224	1.99552	0.58746	0.04009	11.13391	5.57945	0.04459	0.32397	
2	0.02459	0.02235	0.01222	0.01445	-0.00219	1.99115	0.58746	0.04018	11.27000	5.66005	0.04459	0.32397	0.00000
3	0.02459	0.02239	0.01227	0.01445	-0.00214	1.98688	0.58746	0.04026	11.40830	5.74181	0.04459	0.32397	0.00000

Compulsive policies case study

Parameters change at the same time

CASE STUDY (3)

0. Before changing

	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$		variables	y^0	ρ^0
	0.01	3	0.05	11	0.15	0.0075	-0.01	-0.009925	-0.002425			3.666667	0.016667
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y(t)$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.00756	-0.00081	-0.01071	-0.00242	-0.00831	2.97508	-0.32013	0.01681	10.88222	3.65780	-0.00244	0.99010	
2	0.00756	-0.00082	-0.01071	-0.00242	-0.00832	2.95034	-0.32013	0.01695	10.76563	3.64895	-0.00244	0.99010	0.00000
3	0.00756	-0.00083	-0.01072	-0.00242	-0.00832	2.92578	-0.32013	0.01709	10.65021	3.64012	-0.00244	0.99010	0.00000

1.By π

	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$		variables	y^0	ρ^0
	0.01	3	0.06	11	0.15	0.009	-0.01	-0.00991	-0.00091			3.6666667	0.02
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y(t)$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.00908	-0.00031	-0.01020	-0.00091	-0.00930	2.97209	-0.10011	0.02019	10.88776	3.66333	-0.00092	0.99010	
2	0.00908	-0.00031	-0.01021	-0.00091	-0.00931	2.94443	-0.10011	0.02038	10.77663	3.66000	-0.00092	0.99010	0.00000
3	0.00908	-0.00031	-0.01021	-0.00091	-0.00931	2.91702	-0.10011	0.02057	10.66660	3.65667	-0.00092	0.99010	0.00000

2.By π & $s^e_{SP/P}$

	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$		variables	y^0	ρ^0
	0.01	3	0.06	11	0.4	0.024	-0.01	-0.00976	0.01424			3.6666667	0.02
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y(t)$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.02459	0.00486	-0.00509	0.01445	-0.01925	2.94224	0.58746	0.02039	10.94406	3.71963	0.01459	0.99010	
2	0.02459	0.00496	-0.00499	0.01445	-0.01916	2.88587	0.58746	0.02079	10.88943	3.77337	0.01459	0.99010	0.00000
3	0.02459	0.00506	-0.00490	0.01445	-0.01907	2.83085	0.58746	0.02120	10.83613	3.82788	0.01459	0.99010	0.00000

3.By π, $s^e_{SP/P}$, $s^e_{SWD/W}$

	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$		variables	y^0	ρ^0
	0.01	3	0.06	11	0.4	0.024	0.01	0.00976	0.03376			3.6666667	0.02
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y(t)$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.02459	0.01153	0.00151	0.01445	-0.01275	2.96176	0.58746	0.02026	11.01666	3.71963	0.03459	0.41762	
2	0.02459	0.01168	0.00166	0.01445	-0.01260	2.92444	0.58746	0.02052	11.03498	3.77337	0.03459	0.41762	0.00000
3	0.02459	0.01183	0.00181	0.01445	-0.01246	2.88801	0.58746	0.02078	11.05495	3.82788	0.03459	0.41762	0.00000

4.By π, Ω_P, $s^e_{SP/P}$, s^e_S

	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$		variables	y^0	ρ^0
	0.01	2.5	0.06	11	0.4	0.024	0.01	0.00976	0.03376			4.4	0.024
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y(t)$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.02459	0.01384	0.00380	0.01445	-0.01050	2.47376	0.58746	0.02425	11.04178	4.46356	0.03459	0.41762	
2	0.02459	0.01398	0.00394	0.01445	-0.01035	2.44815	0.58746	0.02451	11.08532	4.52804	0.03459	0.41762	0.00000
3	0.02459	0.01413	0.00409	0.01445	-0.01021	2.42315	0.58746	0.02476	11.13064	4.59345	0.03459	0.41762	0.00000

Compulsive policies case study

Assume that the above case 4. is **after** using the surplus of the nation, $s_{NBP/Y}$, and budget deficit, $G_{DEF/Y}$

CASE STUDY (4)

The cases of $s_{NBP/Y}=0$ *and* $G_{DEF/Y}=0$ *are as follows:*

5. By surplus of natio		n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$		variables	y^0	ρ^0
export>import		0.01	2.5	0.06	11	0.37	0.0222	-0.019617	-0.019182	0.003018			4.4	0.024
$s^e_{SP/Y}-s_{NBP/Y}*\pi$		$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y(t)$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
$s^e_{SWD/Y}-s_{NBP/Y}*(1-\pi)$		0.02270	0.00123	-0.00868	0.01258	-0.02099	2.44752	0.55401	0.02451	10.90454	4.45534	0.00309	4.07455	
$s_{NBP/Y}=0.03$		0.02270	0.00126	-0.00865	0.01258	-0.02097	2.39620	0.55401	0.02504	10.81019	4.51138	0.00309	4.07455	0.00000
	3	0.02270	0.00129	-0.00863	0.01258	-0.02094	2.34602	0.55401	0.02558	10.71695	4.56813	0.00309	4.07455	0.00000

6. By surplus of natio		n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$		variables	y^0	ρ^0
export<import		0.01	2.5	0.06	11	0.43	0.0258	0.040383	0.039341	0.065141			4.4	0.024
$s_{NBP/Y}=-0.03$		$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y(t)$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
	1	0.02648	0.02675	0.01658	0.01632	0.00026	2.50064	0.61624	0.02399	11.18239	4.47181	0.06687	0.24407	
	2	0.02648	0.02674	0.01657	0.01632	0.00025	2.50127	0.61624	0.02399	11.36772	4.54479	0.06687	0.24407	0.00000
	3	0.02648	0.02673	0.01657	0.01632	0.00024	2.50187	0.61624	0.02398	11.55606	4.61896	0.06687	0.24407	0.00000

7.By budget deficit		n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$		variables	y^0	ρ^0
Budget deficit		0.01	2.5	0.06	11	0.365	0.0219	0.012617	0.012341	0.034241			4.4	0.024
$s^e_{SP/Y}-G_{DEF/Y}*\pi$		$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y(t)$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
$s^e_{SWD/Y}+G_{DEF/Y}*\pi$		0.02239	0.01400	0.00396	0.01227	-0.00820	2.47949	0.54790	0.02420	11.04360	4.45398	0.03501	0.35043	
$G_{DEF/Y}=0.035$		0.02239	0.01412	0.00408	0.01227	-0.00809	2.45943	0.54790	0.02440	11.08863	4.50862	0.03501	0.35043	0.00000
	3	0.02239	0.01423	0.00419	0.01227	-0.00798	2.43981	0.54790	0.02459	11.13512	4.56393	0.03501	0.35043	0.00000

8.By budget deficit		n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$		variables	y^0	ρ^0
Budget surplus		0.01	2.5	0.06	11	0.435	0.0261	0.008149	0.007936	0.034036			4.4	0.024
$G_{DEF/Y}=-0.035$		$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$ -	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y(t)$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
	1	0.02680	0.01398	0.00394	0.01663	-0.01249	2.46879	0.62065	0.02430	11.04334	4.47319	0.03495	0.47593	
	2	0.02680	0.01416	0.00411	0.01663	-0.01231	2.43839	0.62065	0.02461	11.08878	4.54759	0.03495	0.47593	0.00000
	3	0.02680	0.01433	0.00429	0.01663	-0.01214	2.40878	0.62065	0.02491	11.13635	4.62323	0.03495	0.47593	0.00000

9.By surplus & deficit		n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$		variables	y^0	ρ^0
$s_{NBP/Y}=0.03$		0.01	2.5	0.06	11	0.335	0.0201	-0.017383	-0.017034	0.003066			4.4	0.024
$G_{DEF/Y}=0.035$		$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y(t)$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
	1	0.02051	0.00125	-0.00866	0.01041	-0.01887	2.45282	0.50741	0.02446	10.90472	4.44580	0.00313	3.32606	
	2	0.02051	0.00128	-0.00864	0.01041	-0.01885	2.40658	0.50741	0.02493	10.81053	4.49207	0.00313	3.32606	0.00000
	3	0.02051	0.00130	-0.00861	0.01041	-0.01883	2.36128	0.50741	0.02541	10.71741	4.53882	0.00313	3.32606	0.00000

Compulpoli casestudy not copied

Table 2-2 Changing each parameter under the **balanced** growth state: a case study in the **long run** **CASE STUDY (5)**

0. Before changing	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$		variables	y^0	ρ^0
Balanced gorwth state	0.01	2	0.08	11	0.333333	0.026667	0.027397	0.026667	0.053333			5.5	0.04
period	$g_Y(t)$	$g_{KP}(t)$	$g_K(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y(t)$	$\rho(t)$	$k(t)$	$y(t)$	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.02740	0.02740	0.01723	0.01723	0.00000	2.00000	0.62871	0.04000	11.18948	5.59474	0.05479	0.31436	
2	0.02740	0.02740	0.01723	0.01723	0.00000	2.00000	0.62871	0.04000	11.38221	5.69111	0.05479	0.31436	0.00000
3	0.02740	0.02740	0.01723	0.01723	0.00000	2.00000	0.62871	0.04000	11.57827	5.78914	0.05479	0.31436	0.00000
1. By the increase in π													
parameters	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
	0.01	2	0.06	11	0.3333333	0.02	0.0204082	0.02	0.04			5.5	0.03
period	$g_Y(t)$	$g_{KP}(t)$	$g_K(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y(t$	$\rho(t)$	$k(t)$	$y(t)$	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.02041	0.02041	0.01031	0.01031	0.00000	2.00000	0.50495	0.03000	11.11336	5.55668	0.04082	0.25248	
2	0.02041	0.02041	0.01031	0.01031	0.00000	2.00000	0.50495	0.03000	11.22788	5.61394	0.04082	0.25248	0.00000
3	0.02041	0.02041	0.01031	0.01031	0.00000	2.00000	0.50495	0.03000	11.34359	5.67179	0.04082	0.25248	0.00000
2. By the decrease in π													
parameters	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
	0.01	2	0.1	11	0.3333333	0.0333333	0.0344828	0.0333333	0.0666667			5.5	0.05
period	$g_Y(t)$	$g_{KP}(t)$	$g_K(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y(t$	$\rho(t)$	$k(t)$	$y(t)$	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.03448	0.03448	0.02424	0.02424	0.00000	2.00000	0.70297	0.05000	11.26664	5.63332	0.06897	0.35149	
2	0.03448	0.03448	0.02424	0.02424	0.00000	2.00000	0.70297	0.05000	11.53975	5.76988	0.06897	0.35149	0.00000
3	0.03448	0.03448	0.02424	0.02424	0.00000	2.00000	0.70297	0.05000	11.81948	5.90974	0.06897	0.35149	0.00000
3. By the increase in Ω_P													
parameters	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
	0.01	2.5	0.08	11	0.2857143	0.0228571	0.0350877	0.0342857	0.0571429			4.4	0.032
period	$g_Y(t)$	$g_{KP}(t)$	$g_K(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y(t$	$\rho(t)$	$k(t)$	$y(t)$	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.02339	0.02339	0.01326	0.01326	0.00000	2.50000	0.56683	0.03200	11.14585	4.45834	0.05848	0.22673	
2	0.02339	0.02339	0.01326	0.01326	0.00000	2.50000	0.56683	0.03200	11.29364	4.51745	0.05848	0.22673	0.00000
3	0.02339	0.02339	0.01326	0.01326	0.00000	2.50000	0.56683	0.03200	11.44338	4.57735	0.05848	0.22673	0.00000
4. By the decrease in Ω_P													
parameters	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
	0.01	1.5	0.08	11	0.4	0.032	0.0165289	0.016	0.048			7.3333333	0.0533333
period	$g_Y(t)$	$g_{KP}(t)$	$g_K(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y(t$	$\rho(t)$	$k(t)$	$y(t)$	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.03306	0.03306	0.02283	0.02283	0.00000	1.50000	0.69059	0.05333	11.25113	7.50075	0.04959	0.46040	
2	0.03306	0.03306	0.02283	0.02283	0.00000	1.50000	0.69059	0.05333	11.50798	7.67199	0.04959	0.46040	0.00000
3	0.03306	0.03306	0.02283	0.02283	0.00000	1.50000	0.69059	0.05333	11.77071	7.84714	0.04959	0.46040	0.00000

Japan 94

Table 3-1 Compulsive policies by country **JAPAN (1)**

Balanced Growth State Japan 1994: $g^e_Y = g^e_{KP} = g_Y = g_{KP}$

parameter	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
	0.001156	2.72746	0.058736	16.66879	0.268279	0.015758	0.027221	0.026792	0.04255		0.01601	6.11147	0.021535
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.01601	0.01601	0.014836	0.014836	0	2.72746	0.9267	0.021535	16.91609	6.202142	0.043667	0.339765	
2	0.01601	0.01601	0.014836	0.014836	0	2.72746	0.926695	0.021535	17.16707	6.29416	0.043667	0.339765	0
3	0.01601	0.01601	0.014836	0.014836	0	2.72746	0.926695	0.021535	17.42177	6.387543	0.043667	0.339765	0

Unbalanced Growth State Japan 1994: $g^e_Y > ^e_{KP}$ g^a_Y=0.019886 g^a_{KP}= - 0.018030

parameter	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.001156	2.72746	0.058736	16.66879	0.33304	0.019562	-0.07011	-0.06874	-0.04918	0.045593		6.11147	0.021535
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.019952	-0.01839	-0.01952	0.018774	-0.03759	2.62493	0.94095	0.022376	16.34335	6.226205	-0.05016	-0.37429	
2	0.019952	-0.01911	-0.02024	0.018774	-0.0383	2.524405	0.94095	0.023267	16.01254	6.343094	-0.05016	-0.37429	1.48E-16
3	0.019952	-0.01987	-0.021	0.018774	-0.03904	2.425847	0.94095	0.024213	15.67625	6.462177	-0.05016	-0.37429	-1.5E-16
						Surplus of the nation			0.0330	Budget deficit		-0.0310	

COMPULSIVE POLICIES in the short run: by changing $s^e_{SP/P}$ or $s^e_{SWD/WD}$

1. By changing $s^e_{SP/P}$

Japan 1994: $g^e_Y > ^e_{KP}$ g^a_Y=0.019886 g^a_{KP}= - 0.018030

parameter	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.001156	2.72746	0.058736	16.66879	0.268279	0.015758	-0.07011	-0.06901	-0.05325	0.045593		6.11147	0.021535
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.01601	-0.01984	-0.02097	0.014836	-0.03901	2.621065	0.926695	0.022409	16.31929	6.226205	-0.0541	-0.27424	
2	0.01601	-0.02064	-0.02177	0.014836	-0.0398	2.516751	0.926695	0.023338	15.96399	6.343094	-0.0541	-0.27424	0
3	0.01601	-0.0215	-0.02263	0.014836	-0.04064	2.414478	0.926695	0.024327	15.60279	6.462177	-0.0541	-0.27424	0

2. By changing $s^e_{SWD/WD}$

Japan 1994: $g^e_Y > ^e_{KP}$ g^a_Y=0.019886 g^a_{KP}= - 0.018030

parameter	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.001156	2.72746	0.058736	16.66879	0.33304	0.019562	0.027221	0.026689	0.04625	0.045593		6.11147	0.021535
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.019952	0.017296	0.01612	0.018774	-0.0026	2.720357	0.94095	0.021591	16.9375	6.226205	0.047173	0.397977	
2	0.019952	0.017341	0.016166	0.018774	-0.00256	2.713392	0.94095	0.021647	17.2113	6.343094	0.047173	0.397977	0
3	0.019952	0.017385	0.01621	0.018774	-0.00252	2.706564	0.94095	0.021701	17.4903	6.462177	0.047173	0.397977	0

Japan 94

JAPAN (2)

3. By changing both $s^e_{SP/P}$ and $s^e_{SWD/WD}$

Japan 1994: $g^e_Y > {}^e_{KP}$ g^a_Y=0.019886 g^a_{KP}= - 0.018030

parameter	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.001156	2.72746	0.058736	16.66879	0.268279	0.015758	0.027221	0.026792	0.04255	0.045593		6.11147	0.021535
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.01601	0.01585	0.014677	0.014836	-0.00016	2.727031	0.926695	0.021539	16.91343	6.202142	0.043231	0.343189	
2	0.01601	0.015853	0.014679	0.014836	-0.00015	2.726609	0.926695	0.021542	17.16171	6.29416	0.043231	0.343189	0
3	0.01601	0.015855	0.014682	0.014836	-0.00015	2.726194	0.926695	0.021545	17.41368	6.387542	0.043231	0.343189	0

COMPULSIVE POLICIES in the short run: by changing each parameter: π, Ω_P, $s^e_{SP/P}$, $s^e_{SWD/WD}$, and n

4. By changing π: using tax policies

Japan 1994: $g^e_Y > {}^e_{KP}$ g^a_Y=0.019886 g^a_{KP}= - 0.018030

parameter	n	Ω^0_P	π	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.001156	2.72746	0.07	16.66879	0.33304	0.023313	-0.07011	-0.06848	-0.04516	0.045593		6.11147	0.025665
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.023869	-0.01695	-0.01809	0.022687	-0.03987	2.618713	0.950452	0.026731	16.36726	6.250118	-0.04624	-0.49062	
2	0.023869	-0.01766	-0.01879	0.022687	-0.04056	2.512501	0.950452	0.027861	16.05968	6.391912	-0.04624	-0.49062	0
3	0.023869	-0.0184	-0.01954	0.022687	-0.04129	2.408765	0.950452	0.029061	15.74591	6.536923	-0.04624	-0.49062	0

5. By changing Ω_P: using tax policies

Japan 1994: $g^e_Y > {}^e_{KP}$ g^a_Y=0.019886 g^a_{KP}= - 0.018030

parameter	n	Ω_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.001156	3	0.058736	16.66879	0.33304	0.019562	-0.07011	-0.06874	-0.04918	0.045593		5.556263	0.019579
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.019952	-0.01672	-0.01786	0.018774	-0.03595	2.892139	0.94095	0.020309	16.37117	5.660575	-0.05016	-0.37429	
2	0.019952	-0.01734	-0.01848	0.018774	-0.03657	2.786387	0.94095	0.02108	16.06866	5.766845	-0.05016	-0.37429	0
3	0.019952	-0.018	-0.01914	0.018774	-0.03721	2.682704	0.94095	0.021894	15.76118	5.87511	-0.05016	-0.37429	0

6. By changing Ω_P and $s^e_{SP/P}$: using tax policies

Japan 1994: $g^e_Y > {}^e_{KP}$ g^a_Y=0.019886 g^a_{KP}= - 0.018030 $s^e_{SP/P}=1/(\Omega_P+1)$

parameter	n	Ω_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.001156	3	0.058736	16.66879	0.25	0.014684	-0.07011	-0.06908	-0.0544	0.045593		5.556263	0.019579
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.014903	-0.0184	-0.01954	0.013731	-0.03282	2.901551	0.921336	0.020243	16.34314	5.632554	-0.05521	-0.24871	
2	0.014903	-0.01903	-0.02016	0.013731	-0.03343	2.804548	0.921336	0.020943	16.01367	5.709892	-0.05521	-0.24871	0
3	0.014903	-0.01968	-0.02082	0.013731	-0.03408	2.70897	0.921336	0.021682	15.68031	5.788292	-0.05521	-0.24871	1.12E-16

Japan 94

Corresponding with the golden age of Phelps [1961] **JAPAN (3)**

7. By changing Ω_P and $s^e_{SWD/WD}$: using tax policies

Japan 1994: $g^e_Y > g^e_{KP}$ 2.72746 g^a_Y=0.019886 g^a_{KP}= - 0.018030 Use $s^e_{SWD/WD}=s^e_{SP/Y}(\Omega_P-1)/(1-s^e_{SP/Y})$, then, $g^e_Y=g^e_{KP}$

paramete	n	Ω_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.001156	3	0.058736	16.66879	0.33304	0.019562	0.03990	0.039123	0.058685	0.045593		5.556263	0.019579
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.019952	0.019952	0.018774	0.018774	-3.4E-18	3	0.94095	0.019579	16.98172	5.660575	0.059856	**0.31365**	
2	0.019952	0.019952	0.018774	0.018774	-3.4E-18	3	0.94095	0.019579	17.30053	5.766845	0.059856	**0.31365**	0
3	0.019952	0.019952	0.018774	0.018774	-3.4E-18	3	0.94095	0.019579	17.62533	5.87511	0.059856	**0.31365**	0

8. By changing Ω_P, and $s^e_{SWD/WD}$: using tax policies

Japan 1994: $g^e_Y > g^e_{KP}$ 2.72746 g^a_Y=0.019886 g^a_{KP}= - 0.018030 Use $s^e_{SWD/WD}=s^e_{SP/Y}(\Omega_P-1)/(1-s^e_{SP/Y})$, then, $g^e_Y=g^e_{KP}$

paramete	n	Ω_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.001156	2	0.058736	16.66879	0.33304	0.019562	0.01995	0.019562	0.039123	0.045593		8.334395	0.029368
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.019952	0.019952	0.018774	0.018774	0	2	0.94095	0.029368	16.98172	8.490862	0.039904	**0.470475**	
2	0.019952	0.019952	0.018774	0.018774	0	2	0.94095	0.029368	17.30053	8.650267	0.039904	**0.470475**	0
3	0.019952	0.019952	0.018774	0.018774	0	2	0.94095	0.029368	17.62533	8.812665	0.039904	**0.470475**	0

9. By changing n, Ω_P and $s^e_{SWD/WD}$: using tax policies

Japan 1994: $g^e_Y > g^e_{KP}$ 2.72746 g^a_Y=0.019886 g^a_{KP}= - 0.018030 Use $s^e_{SWD/WD}=s^e_{SP/Y}(\Omega_P-1)/(1-s^e_{SP/Y})$, then, $g^e_Y=g^e_{KP}$

paramete	n	Ω_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	-0.01	2	0.058736	16.66879	0.33304	0.019562	0.01995	0.019562	0.039123	0.045593		8.334395	0.029368
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.019952	0.019952	0.030254	0.030254	0	2	1.51637	0.029368	17.17309	8.586547	0.039904	0.758185	
2	0.019952	0.019952	0.030254	0.030254	0	2	1.51637	0.029368	17.69266	8.846328	0.039904	0.758185	0
3	0.019952	0.019952	0.030254	0.030254	0	2	1.51637	0.029368	18.22794	9.113968	0.039904	0.758185	0

10. By changing n, Ω_P and $s^e_{SWD/WD}$: using tax policies

Japan 1994: $g^e_Y > g^e_{KP}$ g^a_Y=0.019886 g^a_{KP}= - 0.018030 Use $s^e_{SWD/WD}=s^e_{SP/Y}(\Omega_P-1)/(1-s^e_{SP/Y})$, then, $g^e_Y=g^e_{KP}$

paramete	n	Ω_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.01	2	0.058736	16.66879	0.33304	0.019562	0.01995	0.019562	0.039123	0.045593		8.334395	0.029368
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.019952	0.019952	0.009853	0.009853	0	2	0.493855	0.029368	16.83303	8.416516	0.039904	0.246928	
2	0.019952	0.019952	0.009853	0.009853	0	2	0.493855	0.029368	16.99889	8.499447	0.039904	0.246928	0
3	0.019952	0.019952	0.009853	0.009853	0	2	0.493855	0.029368	17.16639	8.583195	0.039904	0.246928	0

Japan 94

COMPULSIVE POLICIES in the long run: by changing each parameter: π, Ω_P and n **JAPAN (4)**

Balanced	paramete	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
Growth		0.001156	2.72746	0.058736	16.66879	0.268279	0.015758	0.027221	0.026792	0.04255		0.01601	6.11147	0.021535
State	period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
	1	0.01601	0.01601	0.014836	0.014836	0	2.72746	0.926695	0.021535	16.91609	6.202142	0.043667	0.339765	
	2	0.01601	0.01601	0.014836	0.014836	0	2.72746	0.926695	0.021535	17.16707	6.29416	0.043667	0.339765	0

1. By changing π: by using tax rate and adjusting wage level and others

paramete	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
	0.001156	2.72746	0.058736	16.66879	0.268279	0.015758	0.027221	0.026792	0.04255		0.01601	6.11147	0.021535
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.01601	0.01601	0.014836	0.014836	0	2.72746	0.926695	0.021535	16.91609	6.202142	0.043667	0.339765	
2	0.01601	0.01601	0.014836	0.014836	0	2.72746	0.926695	0.021535	17.16707	6.29416	0.043667	0.339765	0

2. By changing π: by using tax rate and adjusting wage level and others

paramete	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
	0.001156	2.72746	0.058736	16.66879	0.268279	0.015758	0.027221	0.026792	0.04255		0.01601	6.11147	0.021535
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.01601	0.01601	0.014836	0.014836	0	2.72746	0.926695	0.021535	16.91609	6.202142	0.043667	0.339765	
2	0.01601	0.01601	0.014836	0.014836	0	2.72746	0.926695	0.021535	17.16707	6.29416	0.043667	0.339765	0

3. By changing Ω_P: using tax rate and depreciation ratio and others

paramete	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
	0.001156	2.72746	0.058736	16.66879	0.268279	0.015758	0.027221	0.026792	0.04255		0.01601	6.11147	0.021535
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.01601	0.01601	0.014836	0.014836	0	2.72746	0.926695	0.021535	16.91609	6.202142	0.043667	0.339765	
2	0.01601	0.01601	0.014836	0.014836	0	2.72746	0.926695	0.021535	17.16707	6.29416	0.043667	0.339765	0

4. By changing Ω_P: using tax rate and depreciation ratio and others

paramete	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
	0.001156	2.72746	0.058736	16.66879	0.268279	0.015758	0.027221	0.026792	0.04255		0.01601	6.11147	0.021535
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.01601	0.01601	0.014836	0.014836	0	2.72746	0.926695	0.021535	16.91609	6.202142	0.043667	0.339765	
2	0.01601	0.01601	0.014836	0.014836	0	2.72746	0.926695	0.021535	17.16707	6.29416	0.043667	0.339765	0

5. By changing n as the growth rate of workers

paramete	**n**	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
	0.001156	2.72746	0.058736	16.66879	0.268279	0.015758	0.027221	0.026792	0.04255		0.01601	6.11147	0.021535
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.01601	0.01601	0.014836	0.014836	0	2.72746	0.926695	0.021535	16.91609	6.202142	0.043667	0.339765	

Sweden 94

Table 3-2 Compulsive policies by country

SWEDEN (1)

Balanced Growth State — Sweden 1994: $g^e_{Y}=g^e_{KP}=g_Y=g_{KP}$

parameters	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
	0.015211	1.492879	0.114159	470.8148	0.401143	0.045794	0.022571	0.021537	0.067331		0.047992	315.3738	0.076469
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.047992	0.047992	0.03229	0.03229	0	1.492879	0.67282	0.076469	486.0173	325.5571	0.071646	0.450687	
2	0.047992	0.047992	0.03229	0.03229	0	1.492879	0.67282	0.076469	501.7107	336.0693	0.071646	0.450687	0
3	0.047992	0.047992	0.03229	0.03229	0	1.492879	0.67282	0.076469	517.9108	346.9209	0.071646	0.450687	0

Unbalanced Growth State — Swden 1994: $g^e_Y>g^e_{KP}$ — $g^a_Y=0.082029$ — $g^a_{KP}=0.0046$

parameters	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.015211	1.492879	0.114159	470.8148	0.423727	0.048372	-0.04355	-0.04144	0.006933	0.073374		315.3738	0.076469
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.050831	0.00488	-0.01018	0.035086	-0.04373	1.427598	0.690259	0.079966	466.024	326.4392	0.007286	4.815663	
2	0.050831	0.005104	-0.00996	0.035086	-0.04352	1.365476	0.690259	0.083604	461.3844	337.8928	0.007286	4.815663	0
3	0.050831	0.005336	-0.00973	0.035086	-0.04329	1.306358	0.690259	0.087387	456.8966	349.7482	0.007286	4.815663	0
						Surplus of the nation			0.0145	Budget deficit		-0.1248	

COMPULSIVE POLICIES in the short run: by changing $s^e_{SP/P}$ or $s^e_{SWD/WD}$

1. By changing $s^e_{SP/P}$

Swden 1994: $g^e_Y>g^e_{KP}$ — $g^a_Y=0.082029$ — $g^a_{KP}=0.0046$

parameters	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.015211	1.492879	0.114159	470.8148	0.401143	0.045794	-0.04355	-0.04155	0.004243	0.073374		315.3738	0.076469
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.047992	0.002979	-0.01205	0.03229	-0.04554	1.424897	0.672821	0.080117	465.142	326.4392	0.004447	7.261579	
2	0.047992	0.003121	-0.01191	0.03229	-0.0454	1.360203	0.672821	0.083928	459.6027	337.8928	0.004447	7.261579	0
3	0.047992	0.003269	-0.01176	0.03229	-0.04526	1.298639	0.672821	0.087906	454.1965	349.7482	0.004447	7.261579	1.22E-16

2. By changing $s^e_{SWD/WD}$

Swden 1994: $g^e_Y>g^e_{KP}$ — $g^a_Y=0.082029$ — $g^a_{KP}=0.0046$

parameters	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.015211	1.492879	0.114159	470.8148	0.423727	0.048372	0.022571	0.021479	0.069851	0.073374		315.3738	0.076469
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.050831	0.049168	0.033449	0.035086	-0.00158	1.490516	0.690259	0.07659	486.5629	326.4392	0.073402	0.478005	
2	0.050831	0.049246	0.033525	0.035086	-0.00151	1.488268	0.690259	0.076706	502.875	337.8928	0.073402	0.478005	-2.3E-16
3	0.050831	0.04932	0.033599	0.035086	-0.00144	1.486129	0.690259	0.076816	519.7709	349.7482	0.073402	0.478005	0

Sweden 94

SWEDEN (2)

3. By changing both $s^e_{SP/P}$ and $s^e_{SWD/WD}$

Swden 1994: $g^e_Y > g^e_{KP}$ $g^a_Y = 0.082029$ $g^a_{KP} = 0.0046$

parameters	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.015211	1.492879	0.114159	470.8148	0.401143	0.045794	0.022571	0.021537	0.067331	0.073374		315.3738	0.076469
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.047992	0.047266	0.031575	0.03229	-0.00069	1.491845	0.672822	0.076522	485.6809	325.5572	0.070563	0.457606	
2	0.047992	0.047299	0.031608	0.03229	-0.00066	1.490859	0.672822	0.076573	501.0321	336.0694	0.070563	0.457606	0
3	0.047992	0.04733	0.031638	0.03229	-0.00063	1.489918	0.672822	0.076621	516.8839	346.9211	0.070563	0.457606	0

COMPULSIVE POLICIES in the short run: by changing each parameter: π, Ω_P, $s^e_{SP/P}$, $s^e_{SWD/WD}$, and n

4. By changing π: using tax policies

Swden 1994: $g^e_Y > g^e_{KP}$ $g^a_Y = 0.082029$ $g^a_{KP} = 0.0046$

parameters	n	Ω^0_P	π	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.015211	1.492879	0.125	470.8148	0.423727	0.052966	-0.04355	-0.04124	0.011727	0.073374		315.3738	0.083731
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.055928	0.008295	-0.00681	0.040107	-0.04511	1.425534	0.717123	0.087686	467.6075	328.0226	0.012383	3.238859	
2	0.055928	0.008687	-0.00643	0.040107	-0.04474	1.361757	0.717123	0.091793	464.6025	341.1787	0.012383	3.238859	-1.4E-16
3	0.055928	0.009094	-0.00603	0.040107	-0.04435	1.301358	0.717123	0.096054	461.803	354.8625	0.012383	3.238859	0

5. By changing Ω_P: using tax policies

Swden 1994: $g^e_Y > g^e_{KP}$ $g^a_Y = 0.082029$ $g^a_{KP} = 0.0046$

parameters	n	Ω_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.015211	1.75	0.114159	470.8148	0.423727	0.048372	-0.04355	-0.04144	0.006933	0.073374		269.037	0.065233
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.050831	0.004163	-0.01088	0.035086	-0.04441	1.672282	0.690259	0.068265	465.6915	278.4766	0.007286	4.815663	
2	0.050831	0.004357	-0.01069	0.035086	-0.04423	1.598324	0.690259	0.071424	460.7127	288.2474	0.007286	4.815663	0
3	0.050831	0.004558	-0.01049	0.035086	-0.04403	1.527943	0.690259	0.074714	455.8786	298.3609	0.007286	4.815663	0

6. By changing Ω_P and $s^e_{SP/P}$: using tax policies

Swden 1994: $g^e_Y > g^e_{KP}$ $g^a_Y = 0.082029$ $g^a_{KP} = 0.0046$ $s^e_{SP/P} = 1/(\Omega_P + 1)$

parameters	n	Ω_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.015211	1.75	0.114159	470.8148	0.363636	0.041512	-0.04355	-0.04174	-0.00023	0.073374		269.037	0.065233
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.04331	-0.00013	-0.01512	0.027678	-0.04164	1.677128	0.639074	0.068068	463.6984	276.4835	-0.00023	-117.844	
2	0.04331	-0.00014	-0.01512	0.027678	-0.04165	1.607282	0.639074	0.071026	456.6869	284.1362	-0.00023	-117.844	0
3	0.04331	-0.00015	-0.01513	0.027678	-0.04165	1.540335	0.639074	0.074113	449.7787	292.0006	-0.00023	-117.844	-1.2E-16

Sweden 94

Corresponding with the golden age of Phelps [1961] **SWEDEN (3)**

7. By changing Ω_P and $s^e_{SWD/WD}$: using tax policies

Swden 1994: $g^e_Y > g^e_{KP}$ g^a_Y=0.082029 g^a_{KP}=0.0046 Use $s^e_{SWD/WD}=s^e_{SP/Y}(\Omega_P-1)/(1-s^e_{SP/Y})$, then, $g^e_Y=g^e_{KP}$

parameters	n	Ω_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.015211	1.75	0.114159	470.8148	0.423727	0.048372	0.03812	0.036279	0.084651	0.073374		269.037	0.065233
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.050831	0.050831	0.035086	0.035086	-6.7E-18	1.75	0.690259	0.065233	487.334	278.4766	0.088954	**0.394434**	
2	0.050831	0.050831	0.035086	0.035086	-6.7E-18	1.75	0.690259	0.065233	504.4329	288.2474	0.088954	**0.394434**	0
3	0.050831	0.050831	0.035086	0.035086	-6.7E-18	1.75	0.690259	0.065233	522.1317	298.3609	0.088954	**0.394434**	0

8. By changing Ω_P and $s^e_{SWD/WD}$: using tax policies

Swden 1994: $g^e_Y > g^e_{KP}$ g^a_Y=0.082029 g^a_{KP}=0.0046 Use $s^e_{SWD/WD}=s^e_{SP/Y}(\Omega_P-1)/(1-s^e_{SP/Y})$, then, $g^e_Y=g^e_{KP}$

parameters	n	Ω_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.015211	1.25	0.114159	470.8148	0.423727	0.048372	0.01271	0.012093	0.060465	0.073374		376.6518	0.091327
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.050831	0.050831	0.035086	0.035086	0	1.25	0.690259	0.091327	487.334	389.8672	0.063539	**0.552207**	
2	0.050831	0.050831	0.035086	0.035086	0	1.25	0.690259	0.091327	504.4329	403.5463	0.063539	**0.552207**	0
3	0.050831	0.050831	0.035086	0.035086	0	1.25	0.690259	0.091327	522.1317	417.7053	0.063539	**0.552207**	0

9. By changing n, Ω_P and $s^e_{SWD/WD}$: using tax policies

Swden 1994: $g^e_Y > g^e_{KP}$ g^a_Y=0.082029 g^a_{KP}=0.0046 Use $s^e_{SWD/WD}=s^e_{SP/Y}(\Omega_P-1)/(1-s^e_{SP/Y})$, then, $g^e_Y=g^e_{KP}$

parameters	**n**	Ω_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	-0.01	1.25	0.114159	470.8148	0.423727	0.048372	0.01271	0.012093	0.060465	0.073374		376.6518	0.091327
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.050831	0.050831	0.061445	0.061445	0	1.25	1.208819	0.091327	499.7442	399.7954	0.063539	0.967055	
2	0.050831	0.050831	0.061445	0.061445	0	1.25	1.208819	0.091327	530.4512	424.3609	0.063539	0.967055	0
3	0.050831	0.050831	0.061445	0.061445	0	1.25	1.208819	0.091327	563.0449	450.4359	0.063539	0.967055	0

10. By changing n, Ω_P and $s^e_{SWD/WD}$: using tax policies

Swden 1994: $g^e_Y > g^e_{KP}$ g^a_Y=0.082029 g^a_{KP}=0.0046 Use $s^e_{SWD/WD}=s^e_{SP/Y}(\Omega_P-1)/(1-s^e_{SP/Y})$, then, $g^e_Y=g^e_{KP}$

parameters	**n**	Ω_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.01	1.25	0.114159	470.8148	0.423727	0.048372	0.01271	0.012093	0.060465	0.073374		376.6518	0.091327
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.050831	0.050831	0.040427	0.040427	0	1.25	0.795316	0.091327	489.8483	391.8786	0.063539	0.636253	
2	0.050831	0.050831	0.040427	0.040427	0	1.25	0.795316	0.091327	509.6512	407.721	0.063539	0.636253	0
3	0.050831	0.050831	0.040427	0.040427	0	1.25	0.795316	0.091327	530.2547	424.2037	0.063539	0.636253	0

Sweden 94

COMPULSIVE POLICIES in the long run: by changing each parameter: π, Ω_P, and n

SWEDEN (4)

Balanced	parameter	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
Growth		0.015211	1.492879	0.114159	470.8148	0.401143	0.045794	0.022571	0.021537	0.067331		0.047992	315.3738	0.076469
State	period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
	1	0.047992	0.047992	0.03229	0.03229	0	1.492879	0.67282	0.076469	486.0173	325.5571	0.071646	0.450687	
	2	0.047992	0.047992	0.03229	0.03229	0	1.492879	0.67282	0.076469	501.7107	336.0693	0.071646	0.450687	0
1. By changing π: by using tax rate and adjusting wage level and others														
	parameter	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
		0.015211	1.492879	0.114159	470.8148	0.401143	0.045794	0.022571	0.021537	0.067331		0.047992	315.3738	0.076469
	period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
	1	0.047992	0.047992	0.03229	0.03229	0	1.492879	0.67282	0.076469	486.0173	325.5571	0.071646	0.450687	
	2	0.047992	0.047992	0.03229	0.03229	0	1.492879	0.67282	0.076469	501.7107	336.0693	0.071646	0.450687	0
2. By changing π: by using tax rate and adjusting wage level and others														
	parameter	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
		0.015211	1.492879	0.114159	470.8148	0.401143	0.045794	0.022571	0.021537	0.067331		0.047992	315.3738	0.076469
	period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
	1	0.047992	0.047992	0.03229	0.03229	0	1.492879	0.67282	0.076469	486.0173	325.5571	0.071646	0.450687	
	2	0.047992	0.047992	0.03229	0.03229	0	1.492879	0.67282	0.076469	501.7107	336.0693	0.071646	0.450687	0
3. By changing Ω_P: using tax rate and depreciation ratio and others														
	parameter	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
		0.015211	1.492879	0.114159	470.8148	0.401143	0.045794	0.022571	0.021537	0.067331		0.047992	315.3738	0.076469
	period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
	1	0.047992	0.047992	0.03229	0.03229	0	1.492879	0.67282	0.076469	486.0173	325.5571	0.071646	0.450687	
	2	0.047992	0.047992	0.03229	0.03229	0	1.492879	0.67282	0.076469	501.7107	336.0693	0.071646	0.450687	0
4. By changing Ω_P: using tax rate and depreciation ratio and others														
	parameter	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
		0.015211	1.492879	0.114159	470.8148	0.401143	0.045794	0.022571	0.021537	0.067331		0.047992	315.3738	0.076469
	period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
	1	0.047992	0.047992	0.03229	0.03229	0	1.492879	0.67282	0.076469	486.0173	325.5571	0.071646	0.450687	
	2	0.047992	0.047992	0.03229	0.03229	0	1.492879	0.67282	0.076469	501.7107	336.0693	0.071646	0.450687	0
5. By changing n as the growth rate of workers														
	parameter	**n**	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
		0	1.492879	0.114159	470.8148	0.401143	0.045794	0.022571	0.021537	0.067331		0.047992	315.3738	0.076469
	period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
	1	0.047992	0.047992	0.047992	0.047992	0	1.492879	1	0.076469	493.41	330.5091	0.071646	0.669847	

UK 94

Table 3-3 Compulsive policies by country **UK (1)**

Balanced Growth State UK 1994: $g^e_Y = g^e_{KP} = g_Y = g_{KP}$

parameters	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta = g_Y$	y^0	ρ^0
	0.009251	1.290521	0.118259	30.01058	0.436582	0.05163	0.014999	0.014225	0.065855		0.05444	23.25464	0.091637
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y(t)$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.05444	0.05444	0.044775	0.044775	-6.6E-18	1.290521	0.82246	0.091637	31.35432	24.29587	0.070257	0.637312	
2	0.05444	0.05444	0.044775	0.044775	-6.6E-18	1.290521	0.822464	0.091637	32.75822	25.38373	0.070257	0.637312	0
3	0.05444	0.05444	0.044775	0.044775	-6.6E-18	1.290521	0.822464	0.091637	34.22498	26.52029	0.070257	0.637312	0

Unbalanced Growth State UK 1994: $g^e_Y > g^e_{KP}$ $g^a_Y=0.041644$ $g^a_{KP}=0.0137$

parameters	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.009251	1.290521	0.118259	30.01058	0.541728	0.064064	-0.04954	-0.04637	0.017699	0.052296		23.25464	0.091637
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.068449	0.014653	0.005353	0.058656	-0.05035	1.225544	0.856923	0.096495	30.17123	24.61865	0.018911	3.101739	
2	0.068449	0.01543	0.006123	0.058656	-0.04962	1.164729	0.856923	0.101533	30.35597	26.06268	0.018911	3.101739	0
3	0.068449	0.016236	0.006921	0.058656	-0.04887	1.107811	0.856923	0.10675	30.56606	27.59141	0.018911	3.101739	1.43E-16
						Surplus of the nation			-0.0232	Budget deficit		-0.0768	

COMPULSIVE POLICIES in the short run: by changing $s^e_{SP/P}$ or $s^e_{SWD/WD}$

1. By changing $s^e_{SP/P}$

UK 1994: $g^e_Y > g^e_{KP}$ $g^a_Y=0.041644$ $g^a_{KP}=0.0137$

parameters	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.009251	1.290521	0.118259	30.01058	0.436582	0.05163	-0.04954	-0.04698	0.004649	0.052296		23.25464	0.091637
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.05444	0.003798	-0.0054	0.044775	-0.06051	1.212432	0.822464	0.097539	29.84845	24.61865	0.004902	9.134521	
2	0.05444	0.004043	-0.00516	0.044775	-0.06028	1.139346	0.822464	0.103795	29.69442	26.06268	0.004902	9.134521	0
3	0.05444	0.004302	-0.0049	0.044775	-0.06004	1.070943	0.822464	0.110425	29.54882	27.59141	0.004902	9.134521	-1.9E-16

2. By changing $s^e_{SWD/WD}$

UK 1994: $g^e_Y > g^e_{KP}$ $g^a_Y=0.041644$ $g^a_{KP}=0.0137$

parameters	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.009251	1.290521	0.118259	30.01058	0.541728	0.064064	0.014999	0.014038	0.078102	0.052296		23.25464	0.091637
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.068449	0.064663	0.054904	0.058656	-0.00354	1.285947	0.856923	0.091963	31.65828	24.61865	0.083448	0.7029	
2	0.068449	0.064893	0.055132	0.058656	-0.00333	1.281666	0.856923	0.09227	33.40365	26.06268	0.083448	0.7029	0
3	0.068449	0.065109	0.055346	0.058656	-0.00313	1.277659	0.856923	0.092559	35.25242	27.59141	0.083448	0.7029	1.58E-16

UK 94

UK (2)

3. By changing both $s^e_{SP/P}$ and $s^e_{SWD/WD}$

UK 1994: $g^e_Y > g^e_{KP}$ g^a_Y=0.041644 g^a_{KP}=0.0137

parameters	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.009251	1.290521	0.118259	30.01058	0.436582	0.05163	0.014999	0.014225	0.065854	0.052296		23.25464	0.091637
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.05444	0.053807	0.044148	0.044775	-0.0006	1.289746	0.822464	0.091692	31.33549	24.29587	0.069439	0.644811	
2	0.05444	0.05384	0.04418	0.044775	-0.00057	1.289011	0.822464	0.091744	32.71989	25.38373	0.069439	0.644811	0
3	0.05444	0.05387	0.04421	0.044775	-0.00054	1.288314	0.822464	0.091794	34.16646	26.52029	0.069439	0.644811	0

COMPULSIVE POLICIES in the short run: by changing each parameter: π, Ω_P, $s^e_{SP/P}$, $s^e_{SWD/WD}$, and n

4. By changing π: using tax policies

UK 1994: $g^e_Y > g^e_{KP}$ g^a_Y=0.041644 g^a_{KP}=0.0137

parameters	n	Ω^0_P	π	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.009251	1.290521	0.125	30.01058	0.541728	0.067716	-0.04954	-0.04618	0.021532	0.052296		23.25464	0.09686
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.072634	0.017896	0.008566	0.062803	-0.05103	1.224663	0.864639	0.102069	30.26766	24.71509	0.023096	2.719222	
2	0.072634	0.018859	0.00952	0.062803	-0.05013	1.163266	0.864639	0.107456	30.55581	26.26726	0.023096	2.719222	1.63E-16
3	0.072634	0.019854	0.010506	0.062803	-0.04921	1.106026	0.864639	0.113017	30.87683	27.91691	0.023096	2.719222	0

5. By changing Ω_P: using tax policies

UK 1994: $g^e_Y > g^e_{KP}$ g^a_Y=0.041644 g^a_{KP}=0.0137

parameters	n	Ω_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.009251	1.5	0.118259	30.01058	0.541728	0.064064	-0.04954	-0.04637	0.017699	0.052296		20.00706	0.078839
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.068449	0.012607	0.003325	0.058656	-0.05226	1.421603	0.856923	0.083187	30.11038	21.18059	0.018911	3.101739	
2	0.068449	0.013302	0.004014	0.058656	-0.05161	1.348228	0.856923	0.087714	30.23125	22.42295	0.018911	3.101739	0
3	0.068449	0.014026	0.004732	0.058656	-0.05094	1.279554	0.856923	0.092422	30.37429	23.73818	0.018911	3.101739	0

6. By changing Ω_P and $s^e_{SP/P}$: using tax policies

UK 1994: $g^e_Y > g^e_{KP}$ g^a_Y=0.041644 g^a_{KP}=0.0137 $s^e_{SP/P}=1/(\Omega_P+1)$

parameters	n	Ω_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.009251	1.5	0.118259	30.01058	0.4	0.047304	-0.04954	-0.0472	0.000108	0.052296		20.00706	0.078839
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.049652	7.57E-05	-0.00909	0.040031	-0.04723	1.429153	0.806228	0.082748	29.73776	20.80796	0.000114	352.3574	
2	0.049652	7.95E-05	-0.00909	0.040031	-0.04723	1.361657	0.806228	0.086849	29.46752	21.64092	0.000114	352.3574	0
3	0.049652	8.34E-05	-0.00908	0.040031	-0.04722	1.297354	0.806228	0.091154	29.19985	22.50723	0.000114	352.3574	0

UK 94

Corresponding with the golden age of Phelps [1961] **UK (3)**

7. By changing Ω_P and $s^e_{SWD/WD}$: using tax policies

UK 1994: $g^e_Y > g^e_{KP}$ $g^a_Y=0.041644$ $g^a_{KP}=0.0137$ **Use $s^e_{SWD/WD}=s^e_{SP/Y}(\Omega_P-1)/(1-s^e_{SP/Y})$,** then, $g^e_Y=g^e_{KP}$

parameters	n	Ω_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.009251	1.5	0.118259	30.01058	0.541728	0.064064	0.03422	0.032032	0.096096	0.052296		20.00706	0.078839
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.068449	0.068449	0.058656	0.058656	0	1.5	0.856923	0.078839	31.77088	21.18059	0.102674	**0.571282**	
2	0.068449	0.068449	0.058656	0.058656	0	1.5	0.856923	0.078839	33.63442	22.42295	0.102674	**0.571282**	0
3	0.068449	0.068449	0.058656	0.058656	0	1.5	0.856923	0.078839	35.60728	23.73818	0.102674	**0.571282**	0

8. By changing Ω_P and $s^e_{SWD/WD}$: using tax policies

UK 1994: $g^e_Y > g^e_{KP}$ $g^a_Y=0.041644$ $g^a_{KP}=0.0137$ **Use $s^e_{SWD/WD}=s^e_{SP/Y}(\Omega_P-1)/(1-s^e_{SP/Y})$,** then, $g^e_Y=g^e_{KP}$

parameters	n	Ω_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.009251	1.125	0.118259	30.01058	0.541728	0.064064	0.00856	0.008008	0.072072	0.052296		26.67607	0.105119
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.068449	0.068449	0.058656	0.058656	1.31E-17	1.125	0.856923	0.105119	31.77088	28.24078	0.077005	**0.761709**	
2	0.068449	0.068449	0.058656	0.058656	1.31E-17	1.125	0.856923	0.105119	33.63442	29.89727	0.077005	**0.761709**	0
3	0.068449	0.068449	0.058656	0.058656	1.31E-17	1.125	0.856923	0.105119	35.60728	31.65091	0.077005	**0.761709**	0

9. By changing n, Ω_P and $s^e_{SWD/WD}$: using tax policies

UK 1994: $g^e_Y > g^e_{KP}$ $g^a_Y=0.041644$ $g^a_{KP}=0.0137$ **Use $s^e_{SWD/WD}=s^e_{SP/Y}(\Omega_P-1)/(1-s^e_{SP/Y})$,** then, $g^e_Y=g^e_{KP}$

parameters	**n**	Ω_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	-0.01	1.125	0.118259	30.01058	0.541728	0.064064	0.00856	0.008008	0.072072	0.052296		26.67607	0.105119
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.068449	0.068449	0.079242	0.079242	1.29E-17	1.125	1.15767	0.105119	32.38867	28.78993	0.077005	1.02904	
2	0.068449	0.068449	0.079242	0.079242	1.29E-17	1.125	1.15767	0.105119	34.95521	31.0713	0.077005	1.02904	0
3	0.068449	0.068449	0.079242	0.079242	1.29E-17	1.125	1.15767	0.105119	37.72512	33.53344	0.077005	1.02904	0

10. By changing n, Ω_P and $s^e_{SWD/WD}$: using tax policies

UK 1994: $g^e_Y > g^e_{KP}$ $g^a_Y=0.041644$ $g^a_{KP}=0.0137$ **Use $s^e_{SWD/WD}=s^e_{SP/Y}(\Omega_P-1)/(1-s^e_{SP/Y})$,** then, $g^e_Y=g^e_{KP}$

parameters	**n**	Ω_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.0125	1.125	0.118259	30.01058	0.541728	0.064064	0.00856	0.008008	0.072072	0.052296		26.67607	0.105119
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.068449	0.068449	0.055259	0.055259	1.32E-17	1.125	0.807292	0.105119	31.66893	28.15016	0.077005	0.717593	
2	0.068449	0.068449	0.055259	0.055259	1.32E-17	1.125	0.807292	0.105119	33.41891	29.70569	0.077005	0.717593	0
3	0.068449	0.068449	0.055259	0.055259	1.32E-17	1.125	0.807292	0.105119	35.26559	31.34719	0.077005	0.717593	0

UK 94

COMPULSIVE POLICIES in the long run: by changing each parameter: π, Ω_P and n **UK (4)**

Balanced	parameter	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
Growth		0.009251	1.290521	0.118259	30.01058	0.436582	0.05163	0.014999	0.014225	0.065855		0.05444	23.25464	0.091637
State	period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
	1	0.05444	0.05444	0.044775	0.044775	-6.6E-18	1.290521	0.822464	0.091637	31.35432	24.29587	0.070257	0.637312	
	2	0.05444	0.05444	0.044775	0.044775	-6.6E-18	1.290521	0.822464	0.091637	32.75822	25.38373	0.070257	0.637312	0

1. By changing π: by using tax rate and adjusting wage level and others

parameter	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
	0.009251	1.290521	0.118259	30.01058	0.436582	0.05163	0.014999	0.014225	0.065855		0.05444	23.25464	0.091637
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.05444	0.05444	0.044775	0.044775	-6.6E-18	1.290521	0.822464	0.091637	31.35432	24.29587	0.070257	0.637312	
2	0.05444	0.05444	0.044775	0.044775	-6.6E-18	1.290521	0.822464	0.091637	32.75822	25.38373	0.070257	0.637312	0

2. By changing π: by using tax rate and adjusting wage level and others

parameter	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
	0.009251	1.290521	0.118259	30.01058	0.436582	0.05163	0.014999	0.014225	0.065855		0.05444	23.25464	0.091637
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.05444	0.05444	0.044775	0.044775	-6.6E-18	1.290521	0.822464	0.091637	31.35432	24.29587	0.070257	0.637312	
2	0.05444	0.05444	0.044775	0.044775	-6.6E-18	1.290521	0.822464	0.091637	32.75822	25.38373	0.070257	0.637312	0

3. By changing Ω_P: using tax rate and depreciation ratio and others

parameter	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
	0.009251	1.290521	0.118259	30.01058	0.436582	0.05163	0.014999	0.014225	0.065855		0.05444	23.25464	0.091637
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.05444	0.05444	0.044775	0.044775	-6.6E-18	1.290521	0.822464	0.091637	31.35432	24.29587	0.070257	0.637312	
2	0.05444	0.05444	0.044775	0.044775	-6.6E-18	1.290521	0.822464	0.091637	32.75822	25.38373	0.070257	0.637312	0

4. By changing Ω_P: using tax rate and depreciation ratio and others

parameter	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
	0.009251	1.290521	0.118259	30.01058	0.436582	0.05163	0.014999	0.014225	0.065855		0.05444	23.25464	0.091637
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.05444	0.05444	0.044775	0.044775	-6.6E-18	1.290521	0.822464	0.091637	31.35432	24.29587	0.070257	0.637312	
2	0.05444	0.05444	0.044775	0.044775	-6.6E-18	1.290521	0.822464	0.091637	32.75822	25.38373	0.070257	0.637312	0

5. By changing n as the growth rate of workers

parameter	**n**	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
	0	1.290521	0.118259	30.01058	0.436582	0.05163	0.014999	0.014225	0.065855		0.05444	23.25464	0.091637
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.05444	0.05444	0.05444	0.05444	-6.6E-18	1.290521	1	0.091637	31.64437	24.52063	0.070257	0.774881	

Germany 94

Table 3-4 Compulsive policies by country **GERMANY (1)**

Balanced Growth State Germany 1994: $g^e_Y = g^e_{KP} = g_Y = g_{KP}$

parameters	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta = g_Y$	y^0	ρ^0
	0.006	2.195003	0.039629	196.7621	0.312989	0.012403	0.014822	0.014638	0.027042		0.012559	89.64089	0.018054
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y(t)$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.012559	0.012559	0.00652	0.00652	-1.7E-18	2.195003	0.51915	0.018054	198.045	90.22536	0.027568	0.236514	
2	0.012559	0.012559	0.00652	0.00652	-1.7E-18	2.195003	0.519149	0.018054	199.3362	90.81363	0.027568	0.236514	0
3	0.012559	0.012559	0.00652	0.00652	-1.7E-18	2.195003	0.519149	0.018054	200.6359	91.40575	0.027568	0.236514	0

Unbalanced Growth State Germany 1994: $g^e_Y > g^e_{KP}$ $g^a_Y=0.023916$ $g^a_{KP}=0.0323$

parameters	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.006	2.195003	0.039629	196.7621	0.115827	0.00459	0.066259	0.065955	0.070545	0.06423		89.64089	0.018054
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.004611	0.032287	0.02613	-0.00138	0.027549	2.255473	-0.29936	0.01757	201.9035	89.51714	0.07087	-0.01948	
2	0.004611	0.031421	0.02527	-0.00138	0.026687	2.315665	-0.29936	0.017113	207.0055	89.39357	0.07087	-0.01948	1.78E-16
3	0.004611	0.030605	0.024458	-0.00138	0.025874	2.37558	-0.29936	0.016682	212.0684	89.27017	0.07087	-0.01948	1.78E-16

Surplus of the nation 0.0235 Budget deficit -0.0229

COMPULSIVE POLICIES in the short run: by changing $s^e_{SP/P}$ or $s^e_{SWD/WD}$

1. By changing $s^e_{SP/P}$

Germany 1994: $g^e_Y > g^e_{KP}$ $g^a_Y=0.023916$ $g^a_{KP}=0.0323$

parameters	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.006	2.195003	0.039629	196.7621	0.312989	0.012403	0.066259	0.065437	0.07784	0.06423		89.64089	0.018054
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.012559	0.035908	0.029729	0.00652	0.031153	2.263384	0.519149	0.017509	202.6117	89.51714	0.078818	0.082724	
2	0.012559	0.034823	0.028651	0.00652	0.030073	2.331451	0.519149	0.016998	208.4167	89.39357	0.078818	0.082724	-1.7E-16
3	0.012559	0.033806	0.027641	0.00652	0.029061	2.399206	0.519149	0.016518	214.1775	89.27017	0.078818	0.082724	0

2. By changing $s^e_{SWD/WD}$

Germany 1994: $g^e_Y > g^e_{KP}$ $g^a_Y=0.023916$ $g^a_{KP}=0.0323$

parameters	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.006	2.195003	0.039629	196.7621	0.115827	0.00459	0.014822	0.014754	0.019344	0.06423		89.64089	0.018054
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.004611	0.008853	0.002836	-0.00138	0.004223	2.204272	-0.29936	0.017978	197.3202	89.51714	0.019433	-0.07104	
2	0.004611	0.008816	0.002799	-0.00138	0.004186	2.213498	-0.29936	0.017903	197.8725	89.39357	0.019433	-0.07104	0
3	0.004611	0.008779	0.002763	-0.00138	0.004149	2.222682	-0.29936	0.017829	198.4192	89.27017	0.019433	-0.07104	0

Germany 94

GERMANY (2)

3. By changing both $s^e_{SP/P}$ and $s^e_{SWD/WD}$

Germany 1994: $g^e_Y > g^e_{KP}$ $g^a_Y = 0.023916$ $g^a_{KP} = 0.0323$

parameters	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.006	2.195003	0.039629	196.7621	0.312989	0.012403	0.014822	0.014638	0.027042	0.06423		89.64089	0.018054
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.012559	0.012474	0.006436	0.00652	-8.4E-05	2.194819	0.519149	0.018056	198.0284	90.22536	0.027381	0.238123	
2	0.012559	0.012475	0.006437	0.00652	-8.3E-05	2.194638	0.519149	0.018057	199.303	90.81364	0.027381	0.238123	-2.3E-16
3	0.012559	0.012476	0.006438	0.00652	-8.2E-05	2.194458	0.519149	0.018059	200.5861	91.40575	0.027381	0.238123	1.17E-16

COMPULSIVE POLICIES in the short run: by changing each parameter: π, Ω_P, $s^e_{SP/P}$, $s^e_{SWD/WD}$, and n

4. By changing π: using tax policies

Germany 1994: $g^e_Y > g^e_{KP}$ $g^a_Y = 0.023916$ $g^a_{KP} = 0.0323$

parameters	n	Ω^0_P	π	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.006	2.195003	0.05	196.7621	0.115827	0.005791	0.066259	0.065875	0.071666	0.06423		89.64089	0.022779
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.005825	0.03284	0.02668	-0.00017	0.026858	2.253958	-0.02985	0.022183	202.0116	89.6253	0.072084	-0.00241	
2	0.005825	0.031981	0.025826	-0.00017	0.026004	2.312571	-0.02985	0.021621	207.2288	89.60972	0.072084	-0.00241	0
3	0.005825	0.03117	0.02502	-0.00017	0.025199	2.370844	-0.02985	0.02109	212.4137	89.59413	0.072084	-0.00241	1.8E-16

5. By changing Ω_P: using tax policies

Germany 1994: $g^e_Y > g^e_{KP}$ $g^a_Y = 0.023916$ $g^a_{KP} = 0.0323$

parameters	n	Ω_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.006	2.5	0.039629	196.7621	0.115827	0.00459	0.066259	0.065955	0.070545	0.06423		78.70482	0.015852
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.004611	0.028348	0.022215	-0.00138	0.023628	2.559069	-0.29936	0.015486	201.1331	78.59618	0.07087	-0.01948	
2	0.004611	0.027694	0.021564	-0.00138	0.022976	2.617868	-0.29936	0.015138	205.4703	78.48768	0.07087	-0.01948	0
3	0.004611	0.027072	0.020946	-0.00138	0.022357	2.676396	-0.29936	0.014807	209.7741	78.37933	0.07087	-0.01948	0

6. By changing Ω_P and $s^e_{SP/P}$: using tax policies

Germany 1994: $g^e_Y > g^e_{KP}$ $g^a_Y = 0.023916$ $g^a_{KP} = 0.0323$ $s^e_{SP/P} = 1/(\Omega_P + 1)$

parameters	n	Ω_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.006	2.5	0.039629	196.7621	0.285714	0.011323	0.066259	0.065508	0.076831	0.06423		78.70482	0.015852
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.011452	0.031084	0.024935	0.00542	0.01941	2.548525	0.473246	0.01555	201.6683	79.13138	0.077711	0.069742	
2	0.011452	0.030493	0.024346	0.00542	0.018825	2.5965	0.473246	0.015262	206.5782	79.56025	0.077711	0.069742	0
3	0.011452	0.029929	0.023786	0.00542	0.018268	2.643932	0.473246	0.014989	211.4919	79.99145	0.077711	0.069742	0

Germany 94

Corresponding with the golden age of Phelps [1961] **GERMANY (3)**

7. By changing Ω_P and $s^e_{SWD/WD}$: using tax policies

Germany 1994: $g^e_Y > g^e_{KP}$ $g^a_Y=0.023916$ $g^a_{KP}=0.0323$ Use $s^e_{SWD/WD}=s^e_{SP/Y}(\Omega_P-1)/(1-s^e_{SP/Y})$, then, $g^e_Y=g^e_{KP}$

parameters	n	Ω_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.006	2.5	0.039629	196.7621	0.115827	0.00459	0.00692	0.006885	0.011475	0.06423		78.70482	0.015852

period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.004611	0.004611	-0.00138	-0.00138	8.69E-19	2.5	-0.29936	0.015852	196.4904	78.59618	0.011528	**-0.11975**	
2	0.004611	0.004611	-0.00138	-0.00138	8.69E-19	2.5	-0.29936	0.015852	196.2192	78.48768	0.011528	**-0.11975**	0
3	0.004611	0.004611	-0.00138	-0.00138	8.69E-19	2.5	-0.29936	0.015852	195.9483	78.37933	0.011528	**-0.11975**	0

8. By changing Ω_P and $s^e_{SWD/WD}$: using tax policies

Germany 1994: $g^e_Y > g^e_{KP}$ $g^a_Y=0.023916$ $g^a_{KP}=0.0323$ Use $s^e_{SWD/WD}=s^e_{SP/Y}(\Omega_P-1)/(1-s^e_{SP/Y})$, then, $g^e_Y=g^e_{KP}$

parameters	n	Ω_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.006	2	0.039629	196.7621	0.115827	0.00459	0.00461	0.00459	0.00918	0.06423		98.38103	0.019815

period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.004611	0.004611	-0.00138	-0.00138	0	2	-0.29936	0.019815	196.4904	98.24522	0.009223	**-0.14968**	
2	0.004611	0.004611	-0.00138	-0.00138	0	2	-0.29936	0.019815	196.2192	98.1096	0.009223	**-0.14968**	0
3	0.004611	0.004611	-0.00138	-0.00138	0	2	-0.29936	0.019815	195.9483	97.97416	0.009223	**-0.14968**	0

9. By changing n, Ω_P and $s^e_{SWD/WD}$: using tax policies

Germany 1994: $g^e_Y > g^e_{KP}$ $g^a_Y=0.023916$ $g^a_{KP}=0.0323$ Use $s^e_{SWD/WD}=s^e_{SP/Y}(\Omega_P-1)/(1-s^e_{SP/Y})$, then, $g^e_Y=g^e_{KP}$

parameters	**n**	Ω_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	-0.01	2	0.039629	196.7621	0.115827	0.00459	0.00461	0.00459	0.00918	0.06423		98.38103	0.019815

period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.004611	0.004611	0.014759	0.014759	0	2	3.200607	0.019815	199.666	99.83302	0.009223	1.600303	
2	0.004611	0.004611	0.014759	0.014759	0	2	3.200607	0.019815	202.6129	101.3064	0.009223	1.600303	0
3	0.004611	0.004611	0.014759	0.014759	0	2	3.200607	0.019815	205.6032	102.8016	0.009223	1.600303	0

10. By changing n, Ω_P and $s^e_{SWD/WD}$: using tax policies

Germany 1994: $g^e_Y > g^e_{KP}$ $g^a_Y=0.023916$ $g^a_{KP}=0.0323$ Use $s^e_{SWD/WD}=s^e_{SP/Y}(\Omega_P-1)/(1-s^e_{SP/Y})$, then, $g^e_Y=g^e_{KP}$

parameters	**n**	Ω_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.01	2	0.039629	196.7621	0.115827	0.00459	0.00461	0.00459	0.00918	0.06423		98.38103	0.019815

period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.004611	0.004611	-0.00534	-0.00534	0	2	-1.15703	0.019815	195.7123	97.85613	0.009223	-0.57852	
2	0.004611	0.004611	-0.00534	-0.00534	0	2	-1.15703	0.019815	194.6681	97.33403	0.009223	-0.57852	0
3	0.004611	0.004611	-0.00534	-0.00534	0	2	-1.15703	0.019815	193.6294	96.81472	0.009223	-0.57852	0

Germany 94

COMPULSIVE POLICIES in the long run: by changing each parameter: π, Ω_P and n

GERMANY (4)

Balanced	parameter	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
Growth		0.006	2.195003	0.039629	196.7621	0.312989	0.012403	0.014822	0.014638	0.027042		0.012559	89.64089	0.018054
State	period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
	1	0.012559	0.012559	0.00652	0.00652	-1.7E-18	2.195003	0.519149	0.018054	198.045	90.22536	0.027568	0.236514	
	2	0.012559	0.012559	0.00652	0.00652	-1.7E-18	2.195003	0.519149	0.018054	199.3362	90.81363	0.027568	0.236514	0

1. By changing π: by using tax rate and adjusting wage level and others

parameter	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
	0.006	2.195003	0.039629	196.7621	0.312989	0.012403	0.014822	0.014638	0.027042		0.012559	89.64089	0.018054
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.012559	0.012559	0.00652	0.00652	-1.7E-18	2.195003	0.519149	0.018054	198.045	90.22536	0.027568	0.236514	
2	0.012559	0.012559	0.00652	0.00652	-1.7E-18	2.195003	0.519149	0.018054	199.3362	90.81363	0.027568	0.236514	0

2. By changing π: by using tax rate and adjusting wage level and others

parameter	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
	0.006	2.195003	0.039629	196.7621	0.312989	0.012403	0.014822	0.014638	0.027042		0.012559	89.64089	0.018054
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.012559	0.012559	0.00652	0.00652	-1.7E-18	2.195003	0.519149	0.018054	198.045	90.22536	0.027568	0.236514	
2	0.012559	0.012559	0.00652	0.00652	-1.7E-18	2.195003	0.519149	0.018054	199.3362	90.81363	0.027568	0.236514	0

3. By changing Ω_P: using tax rate and depreciation ratio and others

parameter	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
	0.006	2.195003	0.039629	196.7621	0.312989	0.012403	0.014822	0.014638	0.027042		0.012559	89.64089	0.018054
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.012559	0.012559	0.00652	0.00652	-1.7E-18	2.195003	0.519149	0.018054	198.045	90.22536	0.027568	0.236514	
2	0.012559	0.012559	0.00652	0.00652	-1.7E-18	2.195003	0.519149	0.018054	199.3362	90.81363	0.027568	0.236514	0

4. By changing Ω_P: using tax rate and depreciation ratio and others

parameter	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
	0.006	2.195003	0.039629	196.7621	0.312989	0.012403	0.014822	0.014638	0.027042		0.012559	89.64089	0.018054
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.012559	0.012559	0.00652	0.00652	-1.7E-18	2.195003	0.519149	0.018054	198.045	90.22536	0.027568	0.236514	
2	0.012559	0.012559	0.00652	0.00652	-1.7E-18	2.195003	0.519149	0.018054	199.3362	90.81363	0.027568	0.236514	0

5. By changing n as the growth rate of workers

parameter	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
	0	2.195003	0.039629	196.7621	0.312989	0.012403	0.014822	0.014638	0.027042		0.012559	89.64089	0.018054
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.012559	0.012559	0.012559	0.012559	-1.7E-18	2.195003	1	0.018054	199.2332	90.76671	0.027568	0.45558	

USA 94

Table 3-5 Compulsive policies by country **USA (1)**

Balanced Growth State USA 1994: $g^e_Y=g^e_{KP}=g_Y=g_{KP}$

parameters	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
	0.014476	2.01032	0.083343	96.54203	0.332191	0.027686	0.027971	0.027197	0.054883		0.028474	48.02322	0.041458
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y(t)$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.028474	0.028474	0.013799	0.013799	0	2.01032	0.484608	0.041458	97.8742	48.68588	0.057242	0.24106	
2	0.028474	0.028474	0.013799	0.013799	0	2.01032	0.484608	0.041458	99.22474	49.35769	0.057242	0.24106	0
3	0.028474	0.028474	0.013799	0.013799	0	2.01032	0.484608	0.041458	100.5939	50.03876	0.057242	0.24106	0

Unbalanced Growth State USA 1994: $g^e_Y<g^e_{KP}$ $g^a_Y=0.047849$ $g^a_{KP}=0.0428$

parameters	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.014476	2.01032	0.083343	96.54203	0.369274	0.030776	0.05704	0.055284	0.086061	0.036241		48.02322	0.041458
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.031754	0.044169	0.029269	0.017032	0.012033	2.03451	0.536365	0.040965	99.36777	48.84113	0.088793	0.191811	
2	0.031754	0.043644	0.028752	0.017032	0.011524	2.057956	0.536365	0.040498	102.2248	49.67297	0.088793	0.191811	-2.9E-16
3	0.031754	0.043146	0.028262	0.017032	0.011042	2.08068	0.536365	0.040056	105.1138	50.51898	0.088793	0.191811	2.89E-16
						Surplus of the nation			-0.0227	Budget deficit		-0.0367	

COMPULSIVE POLICIES in the short run: by changing $s^e_{SP/P}$ or $s^e_{SWD/WD}$

1. By changing $s^e_{SP/P}$

USA 1994: $g^e_Y<g^e_{KP}$ $g^a_Y=0.047849$ $g^a_{KP}=0.0428$

parameters	n	Ω^0_P	π^0	k^0	$\mathbf{s^e_{SP/P}}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.014476	2.01032	0.083343	96.54203	0.332191	0.027686	0.05704	0.05546	0.083146	0.036241		48.02322	0.041458
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.028474	0.042537	0.027661	0.013799	0.010452	2.031331	0.484609	0.041029	99.21252	48.84113	0.085514	0.161364	
2	0.028474	0.042097	0.027228	0.013799	0.010025	2.051696	0.484609	0.040622	101.9138	49.67297	0.085514	0.161364	-1.7E-16
3	0.028474	0.04168	0.026816	0.013799	0.00962	2.071434	0.484609	0.040234	104.6467	50.51898	0.085514	0.161364	1.72E-16

2. By changing $s^e_{SWD/WD}$

USA 1994: $g^e_Y<g^e_{KP}$ $g^a_Y=0.047849$ $g^a_{KP}=0.0428$

parameters	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$\mathbf{s^e_{SWD/WD}}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.014476	2.01032	0.083343	96.54203	0.369274	0.030776	0.027971	0.02711	0.057887	0.036241		48.02322	0.041458
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.031754	0.029709	0.015016	0.017032	-0.00198	2.006336	0.536365	0.04154	97.99172	48.84113	0.059725	0.285168	
2	0.031754	0.029768	0.015074	0.017032	-0.00192	2.002475	0.536365	0.04162	99.46887	49.67297	0.059725	0.285168	0
3	0.031754	0.029825	0.015131	0.017032	-0.00187	1.998732	0.536365	0.041698	100.9739	50.51898	0.059725	0.285168	0

USA 94

USA (2)

3. By changing both $s^e_{SP/P}$ and $s^e_{SWD/WD}$

USA 1994: $g^e_Y<g^e_{KP}$ $g^a_Y=0.047849$ $g^a_{KP}=0.0428$

parameters	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.014476	2.01032	0.083343	96.54203	0.332191	0.027686	0.027971	0.027197	0.054882	0.036241		48.02322	0.041458
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.028474	0.028078	0.013408	0.013799	-0.00039	2.009545	0.484609	0.041474	97.83647	48.68588	0.056445	0.244464	
2	0.028474	0.028089	0.013419	0.013799	-0.00037	2.008792	0.484609	0.041489	99.14931	49.35769	0.056445	0.244464	-1.1E-16
3	0.028474	0.028099	0.013429	0.013799	-0.00036	2.008059	0.484609	0.041504	100.4808	50.03877	0.056445	0.244464	1.14E-16

COMPULSIVE POLICIES in the short run: by changing each parameter: π, Ω_P, $s^e_{SP/P}$, $s^e_{SWD/WD}$, and n

4. By changing π: using tax policies

USA 1994: $g^e_Y<g^e_{KP}$ $g^a_Y=0.047849$ $g^a_{KP}=0.0428$

parameters	n	Ω^0_P	π	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.014476	2.01032	0.1	96.54203	0.369274	0.036927	0.05704	0.054933	0.091861	0.036241		48.02322	0.049743
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.038343	0.047447	0.032501	0.023527	0.008767	2.027945	0.613592	0.049311	99.67971	49.15307	0.095383	0.24666	
2	0.038343	0.047034	0.032094	0.023527	0.00837	2.044919	0.613592	0.048902	102.8788	50.3095	0.095383	0.24666	-1.1E-16
3	0.038343	0.046644	0.031709	0.023527	0.007994	2.061266	0.613592	0.048514	106.1411	51.49314	0.095383	0.24666	0

5. By changing Ω_P: using tax policies

USA 1994: $g^e_Y<g^e_{KP}$ $g^a_Y=0.047849$ $g^a_{KP}=0.0428$

parameters	n	Ω_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.014476	2.375	0.083343	96.54203	0.369274	0.030776	0.05704	0.055284	0.086061	0.036241		40.64928	0.035092
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.031754	0.037387	0.022584	0.017032	0.00546	2.387967	0.536365	0.034901	98.72235	41.3416	0.088793	0.191811	
2	0.031754	0.037184	0.022384	0.017032	0.005263	2.400534	0.536365	0.034719	100.9322	42.04571	0.088793	0.191811	-2.9E-16
3	0.031754	0.036989	0.022192	0.017032	0.005074	2.412715	0.536365	0.034543	103.1721	42.76181	0.088793	0.191811	0

6. By changing Ω_P and $s^e_{SP/P}$: using tax policies

USA 1994: $g^e_Y<g^e_{KP}$ $g^a_Y=0.047849$ $g^a_{KP}=0.0428$ $s^e_{SP/P}=1/(\Omega_P+1)$

parameters	n	Ω_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.014476	2.375	0.083343	96.54203	0.296296	0.024694	0.05704	0.055631	0.080325	0.036241		40.64928	0.035092
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.025319	0.034678	0.019914	0.010689	0.009127	2.396676	0.422172	0.034774	98.46454	41.08378	0.082359	0.129787	
2	0.025319	0.034364	0.019605	0.010689	0.008821	2.417818	0.422172	0.03447	100.3949	41.52294	0.082359	0.129787	0
3	0.025319	0.034063	0.019308	0.010689	0.008528	2.438437	0.422172	0.034179	102.3333	41.96678	0.082359	0.129787	0

USA 94

Corresponding with the golden age of Phelps [1961] **USA (3)**

7. By changing Ω_P and $s^e_{SWD/WD}$: using tax policies

USA 1994: $g^e_Y<g^e_{KP}$ $g^a_Y=0.047849$ $g^a_{KP}=0.0428$ **Use $s^e_{SWD/WD}=s^e_{SP/Y}(\Omega_P-1)/(1-s^e_{SP/Y})$,** then, $g^e_Y=g^e_{KP}$

parameters	n	Ω_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.014476	2.375	0.083343	96.54203	0.369274	0.030776	0.04366	0.042318	0.073094	0.036241		40.64928	0.035092
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_K(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.031754	0.031754	0.017032	0.017032	0	2.375	0.536365	0.035092	98.18629	41.3416	0.075415	**0.225838**	
2	0.031754	0.031754	0.017032	0.017032	0	2.375	0.536365	0.035092	99.85856	42.04571	0.075415	**0.225838**	0
3	0.031754	0.031754	0.017032	0.017032	0	2.375	0.536365	0.035092	101.5593	42.76181	0.075415	**0.225838**	0

8. By changing Ω_P and $s^e_{SWD/WD}$: using tax policies

USA 1994: $g^e_Y<g^e_{KP}$ $g^a_Y=0.047849$ $g^a_{KP}=0.0428$ **Use $s^e_{SWD/WD}=s^e_{SP/Y}(\Omega_P-1)/(1-s^e_{SP/Y})$,** then, $g^e_Y=g^e_{KP}$

parameters	n	Ω_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.014476	1.8	0.083343	96.54203	0.369274	0.030776	0.02540	0.024621	0.055398	0.036241		53.63446	0.046302
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_K(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.031754	0.031754	0.017032	0.017032	0	1.8	0.536365	0.046302	98.18629	54.54794	0.057157	**0.29798**	
2	0.031754	0.031754	0.017032	0.017032	0	1.8	0.536365	0.046302	99.85856	55.47698	0.057157	**0.29798**	0
3	0.031754	0.031754	0.017032	0.017032	0	1.8	0.536365	0.046302	101.5593	56.42184	0.057157	**0.29798**	0

9. By changing n, Ω_P and $s^e_{SWD/WD}$: using tax policies

USA 1994: $g^e_Y<g^e_{KP}$ $g^a_Y=0.047849$ $g^a_{KP}=0.0428$ **Use $s^e_{SWD/WD}=s^e_{SP/Y}(\Omega_P-1)/(1-s^e_{SP/Y})$,** then, $g^e_Y=g^e_{KP}$

parameters	**n**	Ω_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	-0.01	1.8	0.083343	96.54203	0.369274	0.030776	0.02540	0.024621	0.055398	0.036241		53.63446	0.046302
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_K(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.031754	0.031754	0.042175	0.042175	0	1.8	1.328206	0.046302	100.6137	55.89652	0.057157	0.737892	
2	0.031754	0.031754	0.042175	0.042175	0	1.8	1.328206	0.046302	104.8572	58.25398	0.057157	0.737892	0
3	0.031754	0.031754	0.042175	0.042175	0	1.8	1.328206	0.046302	109.2796	60.71087	0.057157	0.737892	0

10. By changing n, Ω_P and $s^e_{SWD/WD}$: using tax policies

USA 1994: $g^e_Y<g^e_{KP}$ $g^a_Y=0.047849$ $g^a_{KP}=0.0428$ **Use $s^e_{SWD/WD}=s^e_{SP/Y}(\Omega_P-1)/(1-s^e_{SP/Y})$,** then, $g^e_Y=g^e_{KP}$

parameters	**n**	Ω_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.01	1.8	0.083343	96.54203	0.369274	0.030776	0.02540	0.024621	0.055398	0.036241		53.63446	0.046302
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_K(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.031754	0.031754	0.021538	0.021538	0	1.8	0.678293	0.046302	98.62138	54.78966	0.057157	0.376829	
2	0.031754	0.031754	0.021538	0.021538	0	1.8	0.678293	0.046302	100.7455	55.96973	0.057157	0.376829	0
3	0.031754	0.031754	0.021538	0.021538	0	1.8	0.678293	0.046302	102.9154	57.17523	0.057157	0.376829	0

USA 94

COMPULSIVE POLICIES in the long run: by changing each parameter: π, Ω_P and n **USA (4)**

Balanced	paramete	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
Growth		0.014476	2.01032	0.083343	96.54203	0.332191	0.027686	0.027971	0.027197	0.054883		0.028474	48.02322	0.041458
State	period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
	1	0.028474	0.028474	0.013799	0.013799	0	2.01032	0.484608	0.041458	97.8742	48.68588	0.057242	0.24106	
	2	0.028474	0.028474	0.013799	0.013799	0	2.01032	0.484608	0.041458	99.22474	49.35769	0.057242	0.24106	0

1. By changing π: by using tax rate and adjusting wage level and others

paramete	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
	0.014476	2.01032	0.083343	96.54203	0.332191	0.027686	0.027971	0.027197	0.054883		0.028474	48.02322	0.041458
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.028474	0.028474	0.013799	0.013799	0	2.01032	0.484608	0.041458	97.8742	48.68588	0.057242	0.24106	
2	0.028474	0.028474	0.013799	0.013799	0	2.01032	0.484608	0.041458	99.22474	49.35769	0.057242	0.24106	0

2. By changing π: by using tax rate and adjusting wage level and others

paramete	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
	0.014476	2.01032	0.083343	96.54203	0.332191	0.027686	0.027971	0.027197	0.054883		0.028474	48.02322	0.041458
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.028474	0.028474	0.013799	0.013799	0	2.01032	0.484608	0.041458	97.8742	48.68588	0.057242	0.24106	
2	0.028474	0.028474	0.013799	0.013799	0	2.01032	0.484608	0.041458	99.22474	49.35769	0.057242	0.24106	0

3. By changing Ω_P: using tax rate and depreciation ratio and others

paramete	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
	0.014476	2.01032	0.083343	96.54203	0.332191	0.027686	0.027971	0.027197	0.054883		0.028474	48.02322	0.041458
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.028474	0.028474	0.013799	0.013799	0	2.01032	0.484608	0.041458	97.8742	48.68588	0.057242	0.24106	
2	0.028474	0.028474	0.013799	0.013799	0	2.01032	0.484608	0.041458	99.22474	49.35769	0.057242	0.24106	0

4. By changing Ω_P: using tax rate and depreciation ratio and others

paramete	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
	0.014476	2.01032	0.083343	96.54203	0.332191	0.027686	0.027971	0.027197	0.054883		0.028474	48.02322	0.041458
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.028474	0.028474	0.013799	0.013799	0	2.01032	0.484608	0.041458	97.8742	48.68588	0.057242	0.24106	
2	0.028474	0.028474	0.013799	0.013799	0	2.01032	0.484608	0.041458	99.22474	49.35769	0.057242	0.24106	0

5. By changing n as the growth rate of workers

paramete	**n**	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
	0	2.01032	0.083343	96.54203	0.332191	0.027686	0.027971	0.027197	0.054883		0.028474	48.02322	0.041458
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.028474	0.028474	0.028474	0.028474	0	2.01032	1	0.041458	99.29098	49.39064	0.057242	0.497433	

Australia 94

Table 3-6 Compulsive policies by country

AUSTRALIA (1)

Balanced Growth State

Australia 1994: $g^e_{Y}=g^e_{KP}=g_Y=g_{KP}$

parameters	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
	0.04	2.222986	0.056276	108.0729	0.310271	0.017461	0.021355	0.020982	0.038443		0.017771	48.6161	0.025316
period	$g_Y(t)$	$g_{KP}(t)$	$g_K(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y(t)$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.017771	0.017771	-0.02137	-0.02137	0	2.222986	-1.20272	0.025316	105.763	47.57699	0.039505	-0.54104	
2	0.017771	0.017771	-0.02137	-0.02137	0	2.222986	-1.20272	0.025316	103.5024	46.56009	0.039505	-0.54104	0
3	0.017771	0.017771	-0.02137	-0.02137	0	2.222986	-1.20272	0.025316	101.2902	45.56492	0.039505	-0.54104	0

Unbalanced Growth State

Australia 1994: $g^e_Y<g^e_{KP}$ $g^a_Y=0.074304$ $g^a_{KP}=0.0447$

parameters	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.04	2.222986	0.056276	108.0729	0.427437	0.024055	0.052953	0.051679	0.075734	0.040363		48.6161	0.025316
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.024648	0.034908	-0.0049	-0.01476	0.010014	2.245246	-0.59892	0.025065	107.5438	47.89843	0.0776	-0.19023	
2	0.024648	0.034562	-0.00523	-0.01476	0.009676	2.266971	-0.59892	0.024824	106.9814	47.19135	0.0776	-0.19023	0
3	0.024648	0.034231	-0.00555	-0.01476	0.009353	2.288174	-0.59892	0.024594	106.388	46.49471	0.0776	-0.19023	0
						Surplus of the nation			-0.0672	Budget deficit		-0.0336	

COMPULSIVE POLICIES in the short run: by changing $s^e_{SP/P}$ or $s^e_{SWD/WD}$

1. By changing $s^e_{SP/P}$

Australia 1994: $g^e_Y<g^e_{KP}$ $g^a_Y=0.074304$ $g^a_{KP}=0.0447$

parameters	n	Ω^0_P	π^0	k^0	$\mathbf{s^e_{SP/P}}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.04	2.222986	0.056276	108.0729	0.310271	0.017461	0.052953	0.052028	0.069489	0.040363		48.6161	0.025316
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.017771	0.031815	-0.00787	-0.02137	0.006995	2.238535	-1.20272	0.02514	107.2223	47.89843	0.070724	-0.30221	
2	0.017771	0.031594	-0.00808	-0.02137	0.006779	2.253711	-1.20272	0.024971	106.3557	47.19135	0.070724	-0.30221	0
3	0.017771	0.031381	-0.00829	-0.02137	0.006572	2.268521	-1.20272	0.024808	105.4743	46.49471	0.070724	-0.30221	0

2. By changing $s^e_{SWD/WD}$

Australia 1994: $g^e_Y<g^e_{KP}$ $g^a_Y=0.074304$ $g^a_{KP}=0.0447$

parameters	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$\mathbf{s^e_{SWD/WD}}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.04	2.222986	0.056276	108.0729	0.427437	0.024055	0.021355	0.020841	0.044896	0.040363		48.6161	0.025316
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.024648	0.020694	-0.01856	-0.01476	-0.00386	2.214409	-0.59892	0.025414	106.0667	47.89843	0.046003	-0.3209	
2	0.024648	0.020774	-0.01849	-0.01476	-0.00378	2.206038	-0.59892	0.02551	104.1059	47.19135	0.046003	-0.3209	0
3	0.024648	0.020853	-0.01841	-0.01476	-0.0037	2.197868	-0.59892	0.025605	102.1893	46.49471	0.046003	-0.3209	0

Australia 94

AUSTRALIA (2)

3. By changing both $s^e_{SP/P}$ and $s^e_{SWD/WD}$

Australia 1994: $g^e_Y<g^e_{KP}$ g^a_Y=0.074304 g^a_{KP}=0.0447

parameters	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.04	2.222986	0.056276	108.0729	0.310271	0.017461	0.021355	0.020982	0.038443	0.040363		48.6161	0.025316
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.017771	0.017601	-0.02154	-0.02137	-0.00017	2.222613	-1.20272	0.02532	105.7452	47.57699	0.039126	-0.54628	
2	0.017771	0.017604	-0.02153	-0.02137	-0.00016	2.222247	-1.20272	0.025324	103.468	46.56009	0.039126	-0.54628	0
3	0.017771	0.017607	-0.02153	-0.02137	-0.00016	2.221888	-1.20272	0.025328	101.2402	45.56492	0.039126	-0.54628	0

COMPULSIVE POLICIES in the short run: by changing each parameter: π, Ω_P, $s^e_{SP/P}$, $s^e_{SWD/WD}$, and n

4. By changing π: using tax policies

Australia 1994: $g^e_Y<g^e_{KP}$ g^a_Y=0.074304 g^a_{KP}=0.0447

parameters	n	Ω^0_P	π	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.04	2.222986	0.065	108.0729	0.427437	0.027783	0.052953	0.051481	0.079265	0.040363		48.6161	0.02924
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.028577	0.036676	-0.0032	-0.01098	0.007874	2.240488	-0.38433	0.029012	107.7275	48.08214	0.08153	-0.13471	
2	0.028577	0.036389	-0.00347	-0.01098	0.007595	2.257505	-0.38433	0.028793	107.3535	47.55404	0.08153	-0.13471	-4.1E-16
3	0.028577	0.036115	-0.00374	-0.01098	0.007328	2.274049	-0.38433	0.028583	106.9525	47.03174	0.08153	-0.13471	0

5. By changing Ω_P: using tax policies

Australia 1994: $g^e_Y<g^e_{KP}$ g^a_Y=0.074304 g^a_{KP}=0.0447

parameters	n	Ω_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.04	2.5	0.056276	108.0729	0.427437	0.024055	0.052953	0.051679	0.075734	0.040363		43.22916	0.022511
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.024648	0.03104	-0.00862	-0.01476	0.006239	2.515597	-0.59892	0.022371	107.1418	42.59101	0.0776	-0.19023	
2	0.024648	0.030848	-0.0088	-0.01476	0.006051	2.530819	-0.59892	0.022236	106.1989	41.96228	0.0776	-0.19023	-2.9E-16
3	0.024648	0.030662	-0.00898	-0.01476	0.00587	2.545674	-0.59892	0.022107	105.2454	41.34283	0.0776	-0.19023	2.92E-16

6. By changing Ω_P and $s^e_{SP/P}$: using tax policies

Australia 1994: $g^e_Y<g^e_{KP}$ g^a_Y=0.074304 g^a_{KP}=0.0447 **$s^e_{SP/P}=1/(\Omega_P+1)$**

parameters	n	Ω_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.04	2.5	0.056276	108.0729	0.285714	0.016079	0.052953	0.052101	0.06818	0.040363		43.22916	0.022511
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.016342	0.027718	-0.01181	-0.02275	0.011193	2.527983	-1.39204	0.022261	106.7966	42.24577	0.069294	-0.32829	
2	0.016342	0.027411	-0.0121	-0.02275	0.010891	2.555516	-1.39204	0.022022	105.5038	41.28475	0.069294	-0.32829	0
3	0.016342	0.027116	-0.01239	-0.02275	0.010601	2.582606	-1.39204	0.021791	104.1967	40.34559	0.069294	-0.32829	-1.7E-16

Australia 94

Corresponding with the golden age of Phelps [1961] **AUSTRALIA (3)**

7. By changing Ω_P and $s^e_{SWD/WD}$: using tax policies

Australia 1994: $g^e_Y < g^e_{KP}$ $g^a_Y=0.074304$ $g^a_{KP}=0.0447$ Use $s^e_{SWD/WD}=s^e_{SP/Y}(\Omega_P-1)/(1-s^e_{SP/Y})$, then, $g^e_Y=g^e_{KP}$

parameters	n	Ω_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.04	2.5	0.056276	108.0729	0.427437	0.024055	0.03697	0.036082	0.060137	0.040363		43.22916	0.022511
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.024648	0.024648	-0.01476	-0.01476	0	2.5	-0.59892	0.022511	106.4775	42.59101	0.061619	**-0.23957**	
2	0.024648	0.024648	-0.01476	-0.01476	0	2.5	-0.59892	0.022511	104.9057	41.96228	0.061619	**-0.23957**	0
3	0.024648	0.024648	-0.01476	-0.01476	0	2.5	-0.59892	0.022511	103.3571	41.34283	0.061619	**-0.23957**	0

8. By changing Ω_P and $s^e_{SWD/WD}$: using tax policies

Australia 1994: $g^e_Y < g^e_{KP}$ $g^a_Y=0.074304$ $g^a_{KP}=0.0447$ Use $s^e_{SWD/WD}=s^e_{SP/Y}(\Omega_P-1)/(1-s^e_{SP/Y})$, then, $g^e_Y=g^e_{KP}$

parameters	n	Ω_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.04	2	0.056276	108.0729	0.427437	0.024055	0.02465	0.024055	0.048109	0.040363		54.03645	0.028138
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.024648	0.024648	-0.01476	-0.01476	0	2	-0.59892	0.028138	106.4775	53.23876	0.049295	**-0.29946**	
2	0.024648	0.024648	-0.01476	-0.01476	0	2	-0.59892	0.028138	104.9057	52.45285	0.049295	**-0.29946**	0
3	0.024648	0.024648	-0.01476	-0.01476	0	2	-0.59892	0.028138	103.3571	51.67854	0.049295	**-0.29946**	0

9. By changing n, Ω_P and $s^e_{SWD/WD}$: using tax policies

Australia 1994: $g^e_Y < g^e_{KP}$ $g^a_Y=0.074304$ $g^a_{KP}=0.0447$ Use $s^e_{SWD/WD}=s^e_{SP/Y}(\Omega_P-1)/(1-s^e_{SP/Y})$, then, $g^e_Y=g^e_{KP}$

parameters	**n**	Ω_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	-0.01	2	0.056276	108.0729	0.427437	0.024055	0.02465	0.024055	0.048109	0.040363		54.03645	0.028138
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.024648	0.024648	0.034997	0.034997	0	2	1.41992	0.028138	111.8552	55.92759	0.049295	0.70996	
2	0.024648	0.024648	0.034997	0.034997	0	2	1.41992	0.028138	115.7698	57.88491	0.049295	0.70996	0
3	0.024648	0.024648	0.034997	0.034997	0	2	1.41992	0.028138	119.8215	59.91074	0.049295	0.70996	0

10. By changing n, Ω_P and $s^e_{SWD/WD}$: using tax policies

Australia 1994: $g^e_Y < g^e_{KP}$ $g^a_Y=0.074304$ $g^a_{KP}=0.0447$ Use $s^e_{SWD/WD}=s^e_{SP/Y}(\Omega_P-1)/(1-s^e_{SP/Y})$, then, $g^e_Y=g^e_{KP}$

parameters	**n**	Ω_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.02	2	0.056276	108.0729	0.427437	0.024055	0.02465	0.024055	0.048109	0.040363		54.03645	0.028138
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.024648	0.024648	0.004556	0.004556	0	2	0.184862	0.028138	108.5653	54.28266	0.049295	0.092431	
2	0.024648	0.024648	0.004556	0.004556	0	2	0.184862	0.028138	109.06	54.52999	0.049295	0.092431	0
3	0.024648	0.024648	0.004556	0.004556	0	2	0.184862	0.028138	109.5569	54.77845	0.049295	0.092431	0

Australia 94

COMPULSIVE POLICIES in the long run: by changing each parameter: π, Ω_P, and n

AUSTRALIA (4)

Balanced Growth State

paramete	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
	0.04	2.222986	0.056276	108.0729	0.310271	0.017461	0.021355	0.020982	0.038443		0.017771	48.6161	0.025316
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.017771	0.017771	-0.02137	-0.02137	0	2.222986	-1.20272	0.025316	105.763	47.57699	0.039505	-0.54104	
2	0.017771	0.017771	-0.02137	-0.02137	0	2.222986	-1.20272	0.025316	103.5024	46.56009	0.039505	-0.54104	0

1. By changing π: by using tax rate and adjusting wage level and others

paramete	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
	0.04	2.222986	0.056276	108.0729	0.310271	0.017461	0.021355	0.020982	0.038443		0.017771	48.6161	0.025316
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.017771	0.017771	-0.02137	-0.02137	0	2.222986	-1.20272	0.025316	105.763	47.57699	0.039505	-0.54104	
2	0.017771	0.017771	-0.02137	-0.02137	0	2.222986	-1.20272	0.025316	103.5024	46.56009	0.039505	-0.54104	0

2. By changing π: by using tax rate and adjusting wage level and others

paramete	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
	0.04	2.222986	0.056276	108.0729	0.310271	0.017461	0.021355	0.020982	0.038443		0.017771	48.6161	0.025316
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.017771	0.017771	-0.02137	-0.02137	0	2.222986	-1.20272	0.025316	105.763	47.57699	0.039505	-0.54104	
2	0.017771	0.017771	-0.02137	-0.02137	0	2.222986	-1.20272	0.025316	103.5024	46.56009	0.039505	-0.54104	0

3. By changing Ω_P: using tax rate and depreciation ratio and others

paramete	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
	0.04	2.222986	0.056276	108.0729	0.310271	0.017461	0.021355	0.020982	0.038443		0.017771	48.6161	0.025316
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.017771	0.017771	-0.02137	-0.02137	0	2.222986	-1.20272	0.025316	105.763	47.57699	0.039505	-0.54104	
2	0.017771	0.017771	-0.02137	-0.02137	0	2.222986	-1.20272	0.025316	103.5024	46.56009	0.039505	-0.54104	0

4. By changing Ω_P: using tax rate and depreciation ratio and others

paramete	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
	0.04	2.222986	0.056276	108.0729	0.310271	0.017461	0.021355	0.020982	0.038443		0.017771	48.6161	0.025316
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.017771	0.017771	-0.02137	-0.02137	0	2.222986	-1.20272	0.025316	105.763	47.57699	0.039505	-0.54104	
2	0.017771	0.017771	-0.02137	-0.02137	0	2.222986	-1.20272	0.025316	103.5024	46.56009	0.039505	-0.54104	0

5. By changing n as the growth rate of workers

paramete	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
	0	2.222986	0.056276	108.0729	0.310271	0.017461	0.021355	0.020982	0.038443		0.017771	48.6161	0.025316
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.017771	0.017771	0.017771	0.017771	0	2.222986	1	0.025316	109.9935	49.48007	0.039505	0.449845	

J 94 89 82

Table 4-1 Balanced and unbalanced growth state by period: Japan

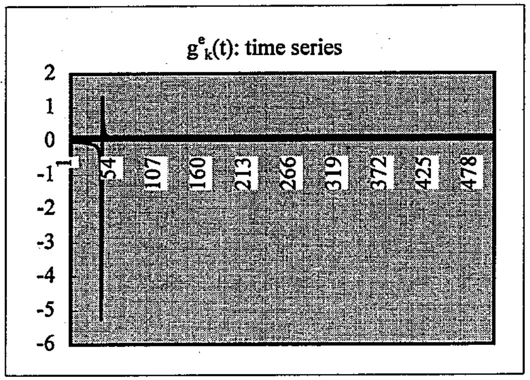
JAPAN (1)

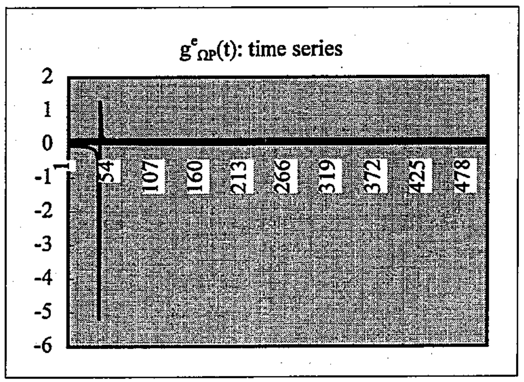
Japan 1994: $g^e_Y = g^e_{KP} = g_Y = g_{KP}$

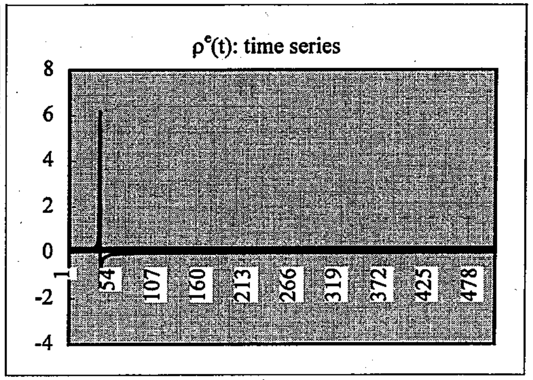
Balanced growth	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta = g_Y$	y^0	ρ^0
	0.001156	2.72746	0.058736	16.66879	0.268279	0.015758	0.027221	0.026792	0.04255		0.01601	6.11147	0.021535
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y(t)$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.01601	0.01601	0.014836	0.014836	0	2.72746	0.9267	0.021535	16.91609	6.202142	0.043667	0.339765	
2	0.01601	0.01601	0.014836	0.014836	0	2.72746	0.926695	0.021535	17.16707	6.29416	0.043667	0.339765	0
3	0.01601	0.01601	0.014836	0.014836	0	2.72746	0.926695	0.021535	17.42177	6.387543	0.043667	0.339765	0

Japan 1994: $g^e_Y > {}^e_{KP}$ $\quad g^a_Y = 0.019886 \quad g^a_{KP} = -0.018030$

Unbalanced growt	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.001156	2.72746	0.058736	16.66879	0.33304	0.019562	-0.07011	-0.06874	-0.04918	0.045593		6.11147	0.021535
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.019952	-0.01839	-0.01952	0.018774	-0.03759	2.62493	0.94095	0.022376	16.34335	6.226205	-0.05016	-0.37429	
2	0.019952	-0.01911	-0.02024	0.018774	-0.0383	2.524405	0.94095	0.023267	16.01254	6.343094	-0.05016	-0.37429	0
3	0.019952	-0.01987	-0.021	0.018774	-0.03904	2.425847	0.94095	0.024213	15.67625	6.462177	-0.05016	-0.37429	0
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
498	0.019952	0.019954	0.018776	0.018774	2.22E-06	-2.51367	0.94095	-0.02337	-161869	64395.48	-0.05016	-0.37429	-1.5E-16
499	0.019952	0.019954	0.018776	0.018774	2.18E-06	-2.51367	0.94095	-0.02337	-164908	65604.42	-0.05016	-0.37429	2.97E-16
500	0.019952	0.019954	0.018776	0.018774	2.13E-06	-2.51368	0.94095	-0.02337	-168004	66836.06	-0.05016	-0.37429	0







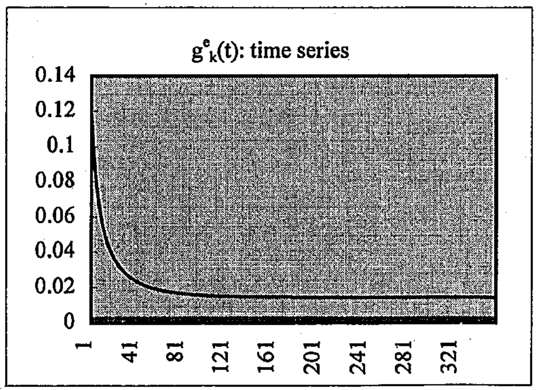
J 94 89 82

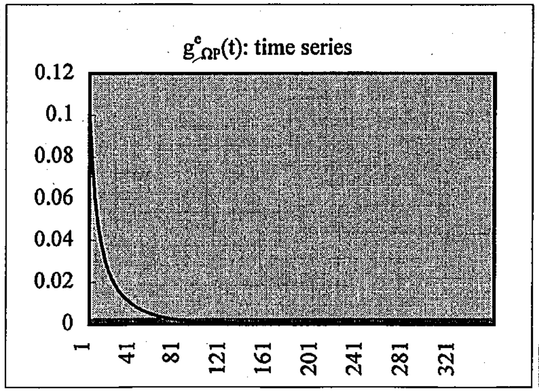
Japan 1989: $g^e_Y = g^e_{KP} = g_Y = g_{KP}$ **JAPAN (2)**

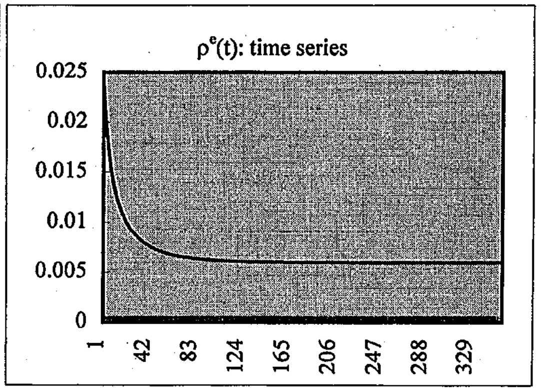
Balanced growth		n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta = g_Y$	y^0	ρ^0
		0.016657	3.047995	0.08111	16.66417	0.247036	0.020037	0.041036	0.040213	0.060251		0.020447	5.467255	0.026611
period		$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y(t)$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
	1	0.020447	0.020447	0.003727	0.003727	3.46E-18	3.047995	0.1823	0.026611	16.72628	5.487634	0.062321	0.05981	
	2	0.020447	0.020447	0.003727	0.003727	3.46E-18	3.047995	0.1823	0.026611	16.78863	5.508089	0.062321	0.05981	0
	3	0.020447	0.020447	0.003727	0.003727	3.46E-18	3.047995	0.1823	0.026611	16.85121	5.52862	0.062321	0.05981	0

Japan 1989: $g^e_Y < g^e_{KP}$ $g^a_Y = 0.069982$ $g^a_{KP} = 0.135129$

Unbalanced growt		n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
		0.016657	3.047995	0.08111	16.66417	0.3732	0.03027	0.393517	0.381605	0.411875	0.036366		5.467255	0.026611
period		$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
	1	0.031215	0.139348	0.120681	0.014319	0.10486	3.367607	0.458732	0.024085	18.67521	5.545543	0.424732	0.033714	
	2	0.031215	0.126123	0.107672	0.014319	0.092035	3.677544	0.458732	0.022055	20.68601	5.624951	0.424732	0.033714	0
	3	0.031215	0.115493	0.097217	0.014319	0.081727	3.9781	0.458732	0.020389	22.69704	5.705497	0.424732	0.033714	0
	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
	354	0.031215	0.031216	0.01432	0.014319	4.56E-07	13.60644	0.458732	0.005961	11412.03	838.7225	0.424732	0.033714	0
	355	0.031215	0.031216	0.01432	0.014319	4.42E-07	13.60645	0.458732	0.005961	11575.45	850.7325	0.424732	0.033714	0
	356	0.031215	0.031215	0.01432	0.014319	4.28E-07	13.60645	0.458732	0.005961	11741.21	862.9144	0.424732	0.033714	0







J 94 89 82

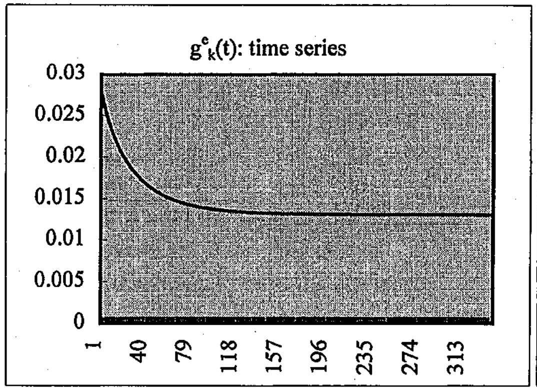
JAPAN (3)

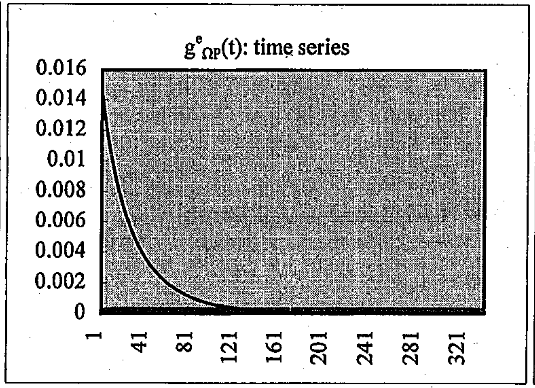
Japan 1982: $g^e_Y = g^e_{KP} = g_Y = g_{KP}$

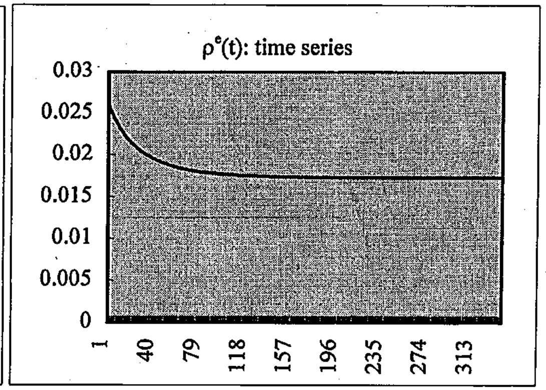
Balanced growth	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta = g_Y$	y^0	ρ^0
	0.015137	2.129554	0.056292	8.374771	0.319534	0.017987	0.020317	0.019952	0.037939		0.018317	3.932641	0.026434
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y(t)$	$\rho(t)$	$k(t)$	$y(t)$	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.018317	0.018317	0.003133	0.003133	0	2.129554	0.17103	0.026434	8.401007	3.944961	0.039006	0.080313	
2	0.018317	0.018317	0.003133	0.003133	0	2.129554	0.17103	0.026434	8.427325	3.957319	0.039006	0.080313	0
3	0.018317	0.018317	0.003133	0.003133	0	2.129554	0.17103	0.026434	8.453726	3.969716	0.039006	0.080313	0

Japan 1982: $g^e_Y < g^e_{KP}$ $g^a_Y = 0.039317$ $g^a_{KP} = 0.042207$

Unbalanced growt	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.015137	2.129554	0.056292	8.374771	0.490828	0.02763	0.064022	0.062253	0.089883	0.044644		3.932641	0.026434
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.028415	0.043407	0.027849	0.01308	0.014578	2.160598	0.460332	0.026054	8.607997	3.984081	0.092437	0.141504	
2	0.028415	0.042783	0.027234	0.01308	0.013971	2.190784	0.460332	0.025695	8.842428	4.036193	0.092437	0.141504	0
3	0.028415	0.042193	0.026653	0.01308	0.013398	2.220136	0.460332	0.025355	9.07811	4.088987	0.092437	0.141504	0
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
336	0.028415	0.028416	0.013081	0.01308	8E-07	3.253038	0.460332	0.017304	1007.626	309.7491	0.092437	0.141504	0
337	0.028415	0.028416	0.013081	0.01308	7.78E-07	3.25304	0.460332	0.017304	1020.806	313.8007	0.092437	0.141504	0
338	0.028415	0.028415	0.013081	0.01308	7.57E-07	3.253043	0.460332	0.017304	1034.159	317.9053	0.092437	0.141504	0







Sw 94 89 82

Table 4-2 Balanced and unbalanced growth state by period: Sweden

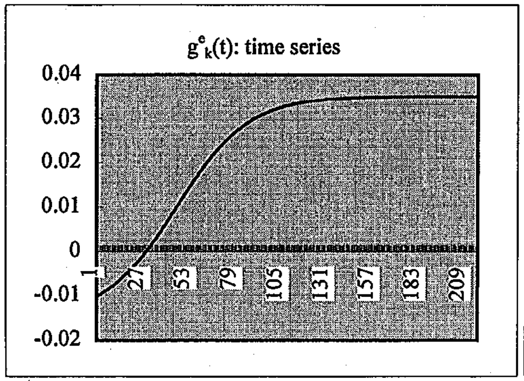
SWEDEN (1)

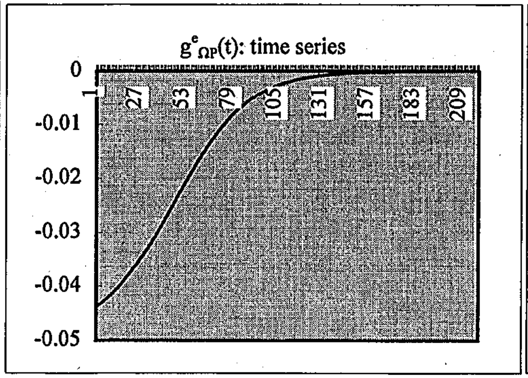
Sweden 1994: $g^e_Y = g^e_{KP} = g_Y = g_{KP}$

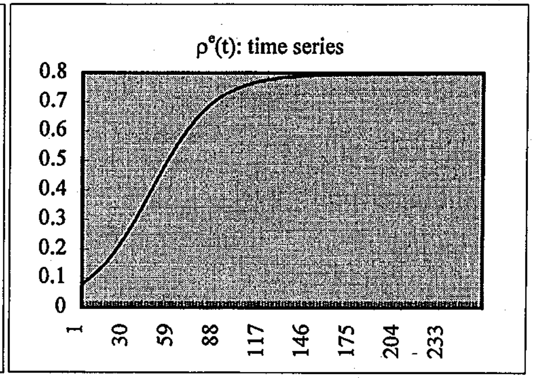
Balanced growth	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta = g_Y$	y^0	ρ^0
	0.015211	1.492879	0.114159	470.8148	0.401143	0.045794	0.022571	0.021537	0.067331		0.047992	315.3738	0.076469
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y(t)$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.047992	0.047992	0.03229	0.03229	0	1.492879	0.67282	0.076469	486.0173	325.5571	0.071646	0.450687	
2	0.047992	0.047992	0.03229	0.03229	0	1.492879	0.67282	0.076469	501.7107	336.0693	0.071646	0.450687	0
3	0.047992	0.047992	0.03229	0.03229	0	1.492879	0.67282	0.076469	517.9108	346.9209	0.071646	0.450687	0

Swden 1994: $g^e_Y < g^e_{KP}$ $g^a_Y = 0.082029$ $g^a_{KP} = 0.0046$

Unbalanced growt	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.015211	1.492879	0.114159	470.8148	0.423727	0.048372	-0.04355	-0.04144	0.006933	0.073374		315.3738	0.076469
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.050831	0.00488	-0.01018	0.035086	-0.04373	1.427598	0.690259	0.079966	466.024	326.4392	0.007286	4.815663	
2	0.050831	0.005104	-0.00996	0.035086	-0.04352	1.365476	0.690259	0.083604	461.3844	337.8928	0.007286	4.815663	0
3	0.050831	0.005336	-0.00973	0.035086	-0.04329	1.306358	0.690259	0.087387	456.8966	349.7482	0.007286	4.815663	0
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
256	0.050831	0.050829	0.035085	0.035086	-1.5E-06	0.14334	0.690259	0.796417	308470.3	2152013	0.007286	4.815663	1.84E-16
257	0.050831	0.050829	0.035085	0.035086	-1.4E-06	0.14334	0.690259	0.796418	319293	2227519	0.007286	4.815663	0
258	0.050831	0.05083	0.035085	0.035086	-1.3E-06	0.14334	0.690259	0.796419	330495.4	2305675	0.007286	4.815663	0







Sw 94 89 82

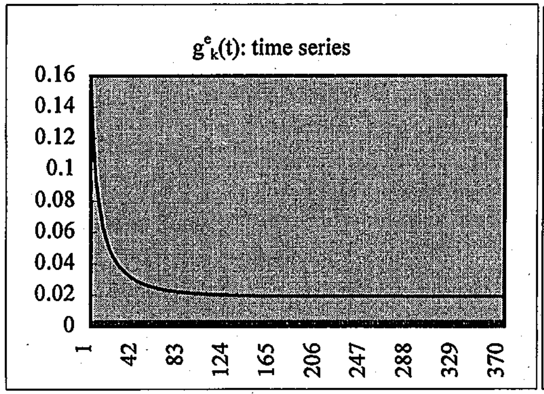
SWEDEN (2)

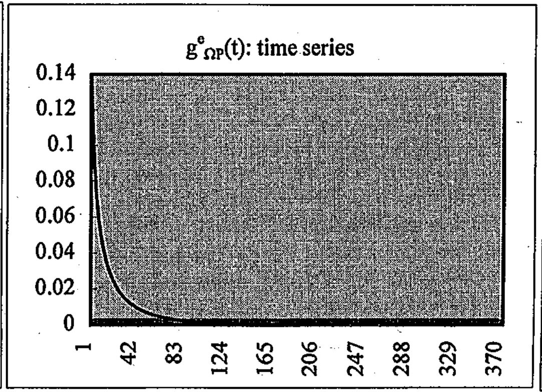
Sweden 1989: $g^e_Y = g^e_{KP} = g_Y = g_{KP}$

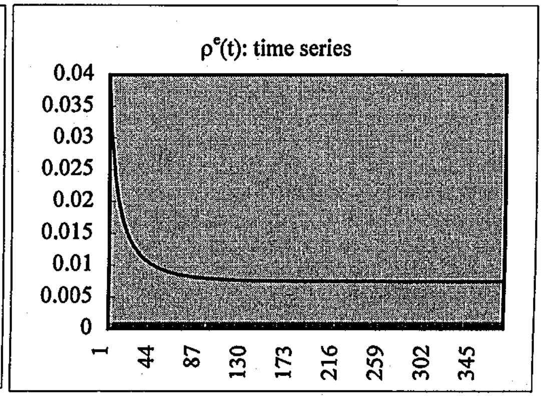
Balanced growth	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta = g_Y$	y^0	ρ^0
	0.009228	1.41286	0.062352	327.0626	0.414446	0.025841	0.010669	0.010393	0.036235		0.026527	231.4898	0.044132
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y(t)$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.026527	0.026527	0.017141	0.017141	0	1.41286	0.64617	0.044132	332.6688	235.4577	0.037479	0.457349	
2	0.026527	0.026527	0.017141	0.017141	0	1.41286	0.64617	0.044132	338.371	239.4937	0.037479	0.457349	0
3	0.026527	0.026527	0.017141	0.017141	0	1.41286	0.64617	0.044132	344.171	243.5988	0.037479	0.457349	0

Sweden 1989: $g^e_Y < g^e_{KP}$ $\quad g^a_Y=0.09271$ $\quad g^a_{KP}=0.1646$

Unbalanced growt	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.009228	1.41286	0.062352	327.0626	0.4449	0.02774	0.210638	0.204795	0.232535	0.069738		231.4898	0.044132
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.028532	0.169281	0.158589	0.019127	0.136844	1.606202	0.670391	0.038819	378.9313	235.9176	0.23917	0.079974	
2	0.028532	0.148904	0.138399	0.019127	0.117033	1.794181	0.670391	0.034752	431.375	240.4301	0.23917	0.079974	0
3	0.028532	0.133303	0.122941	0.019127	0.101865	1.976945	0.670391	0.031539	484.4085	245.0289	0.23917	0.079974	0
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
369	0.028532	0.028533	0.019128	0.019127	7.36E-07	8.382358	0.670391	0.007438	2109664	251679.1	0.23917	0.079974	0
370	0.028532	0.028533	0.019128	0.019127	7.16E-07	8.382364	0.670391	0.007438	2150018	256493.1	0.23917	0.079974	0
371	0.028532	0.028532	0.019128	0.019127	6.96E-07	8.382369	0.670391	0.007438	2191144	261399.2	0.23917	0.079974	1.74E-16







Sw 94 89 82

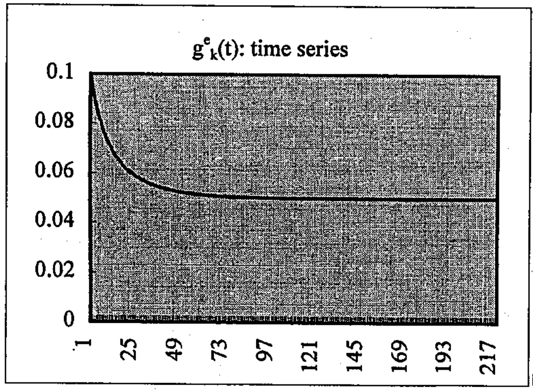
SWEDEN (3)

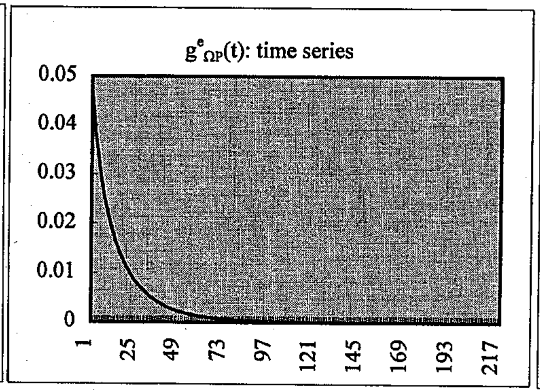
Sweden 1982: $g^e_Y = g^e_{KP} = g_Y = g_{KP}$

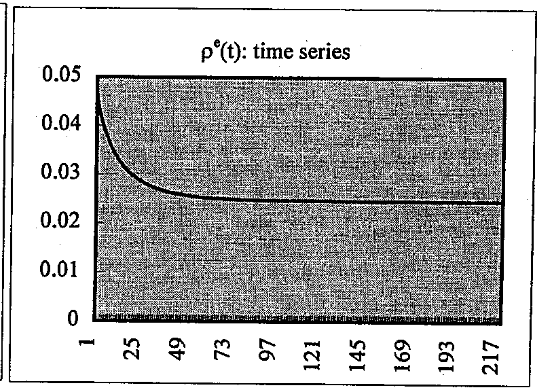
Balanced growth	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta = g_Y$	y^0	ρ^0
	0.002292	1.355973	0.065294	174.0628	0.424453	0.027714	0.009866	0.009592	0.037306		0.028504	128.3674	0.048153
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y(t)$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.028504	0.028504	0.026152	0.026152	3.38E-18	1.355973	0.9175	0.048153	178.6149	131.7246	0.038651	0.676634	
2	0.028504	0.028504	0.026152	0.026152	3.38E-18	1.355973	0.9175	0.048153	183.2862	135.1695	0.038651	0.676634	0
3	0.028504	0.028504	0.026152	0.026152	3.38E-18	1.355973	0.9175	0.048153	188.0795	138.7045	0.038651	0.676634	0

Sweden 1982: $g^e_Y < g^e_{KP}$ $g^a_Y=0.11288$ $g^a_{KP}=0.0972$

Unbalanced growt	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.002292	1.355973	0.065294	174.0628	0.7629	0.049813	0.086237	0.081941	0.131754	0.044644		128.3674	0.048153
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.052424	0.102259	0.099739	0.050018	0.047353	1.420182	0.954098	0.045976	191.4236	134.7881	0.138661	0.36072	
2	0.052424	0.097636	0.095126	0.050018	0.04296	1.481193	0.954098	0.044082	209.633	141.5299	0.138661	0.36072	0
3	0.052424	0.093614	0.091114	0.050018	0.039139	1.539165	0.954098	0.042422	228.7335	148.6089	0.138661	0.36072	0
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
216	0.052424	0.052425	0.050018	0.050018	4.11E-07	2.644965	0.954098	0.024686	12863163	4863264	0.138661	0.36072	1.54E-16
217	0.052424	0.052425	0.050018	0.050018	3.91E-07	2.644966	0.954098	0.024686	13506554	5106513	0.138661	0.36072	0
218	0.052424	0.052424	0.050018	0.050018	3.71E-07	2.644967	0.954098	0.024686	14182127	5361929	0.138661	0.36072	-1.5E-16







UK 94 89 82

Table 4-3 Balanced and unbalanced growth state by period: UK

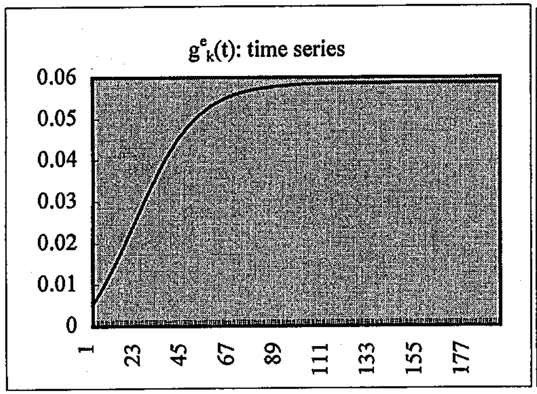
UK (1)

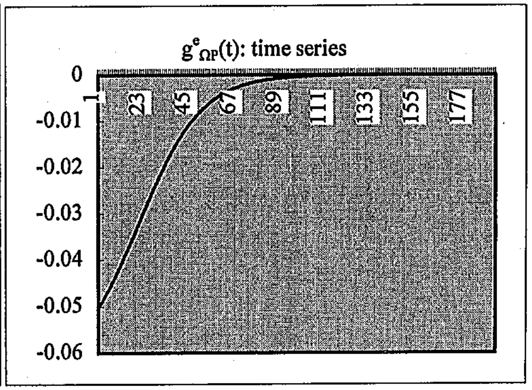
UK 1994: $g^e_Y = g^e_{KP} = g_Y = g_{KP}$

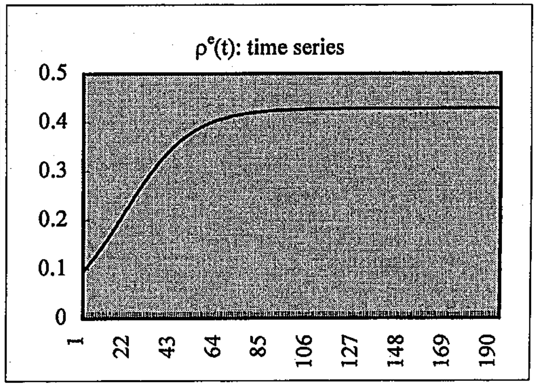
Balanced growth	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
	0.009251	1.290521	0.118259	30.01058	0.436582	0.05163	0.014999	0.014225	0.065855		0.05444	23.25464	0.091637
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y(t)$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.05444	0.05444	0.044775	0.044775	-6.6E-18	1.290521	0.82246	0.091637	31.35432	24.29587	0.070257	0.637312	
2	0.05444	0.05444	0.044775	0.044775	-6.6E-18	1.290521	0.822464	0.091637	32.75822	25.38373	0.070257	0.637312	0
3	0.05444	0.05444	0.044775	0.044775	-6.6E-18	1.290521	0.822464	0.091637	34.22498	26.52029	0.070257	0.637312	0

UK 1994: $g^e_Y < g^e_{KP}$ $g^a_Y=0.041644$ $g^a_{KP}=0.0137$

Unbalanced growt	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.009251	1.290521	0.118259	30.01058	0.541728	0.064064	-0.04954	-0.04637	0.017699	0.052296		23.25464	0.091637
period	$g^e_Y(t)$	**$g^e_{KP}(t)$**	**$g^e_k(t)$**	$g^e_y(t)$	**$g^e_{\Omega P}(t)$**	**$\Omega^e_P(t)$**	$\chi^e(t)=g^e_y/g^e_Y$	**$\rho^e(t)$**	**$k^e(t)$**	**$y^e(t)$**	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.068449	0.014653	0.005353	0.058656	-0.05035	1.225544	0.856923	0.096495	30.17123	24.61865	0.018911	3.101739	
2	0.068449	0.01543	0.006123	0.058656	-0.04962	1.164729	0.856923	0.101533	30.35597	26.06268	0.018911	3.101739	0
3	0.068449	0.016236	0.006921	0.058656	-0.04887	1.107811	0.856923	0.10675	30.56606	27.59141	0.018911	3.101739	1.43E-16
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
190	0.068449	0.068448	0.058655	0.058656	-8.6E-07	0.276275	0.856923	0.428048	324532.5	1174671	0.018911	3.101739	0
191	0.068449	0.068448	0.058655	0.058656	-8.1E-07	0.276275	0.856923	0.428048	343568	1243572	0.018911	3.101739	0
192	0.068449	0.068449	0.058655	0.058656	-7.6E-07	0.276275	0.856923	0.428048	363719.9	1316515	0.018911	3.101739	1.43E-16







UK 94 89 82

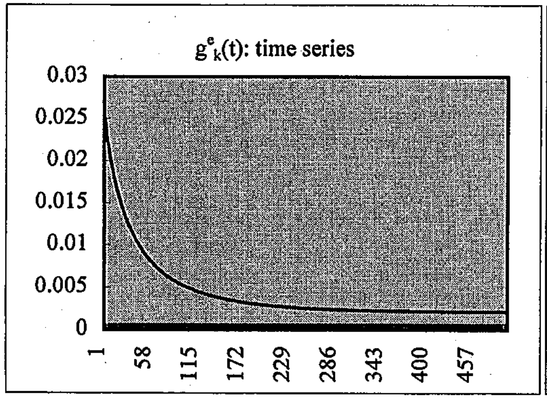
UK 1989: $g^e_Y = g^e_{KP} = g_Y = g_{KP}$

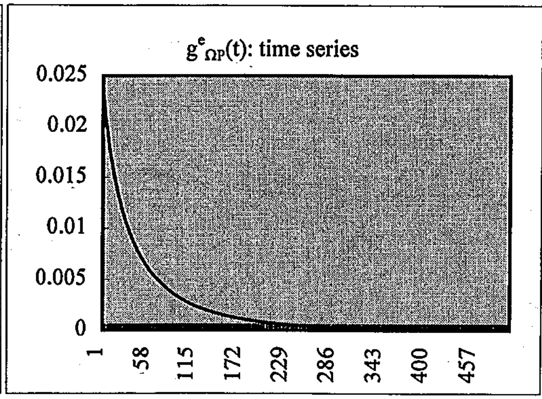
UK (2)

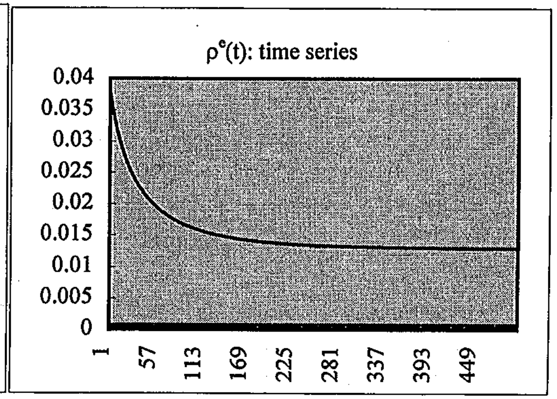
Balanced growth	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta = g_Y$	y^0	ρ^0
	0.009767	1.523692	0.059158	25.7093	0.396245	0.023441	0.012276	0.011988	0.035429		0.024004	16.87303	0.038826
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y(t)$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.024004	0.024004	0.014099	0.014099	0	1.523692	0.58738	0.038826	26.07178	17.11093	0.036574	0.385497	
2	0.024004	0.024004	0.014099	0.014099	0	1.523692	0.58738	0.038826	26.43938	17.35218	0.036574	0.385497	0
3	0.024004	0.024004	0.014099	0.014099	0	1.523692	0.58738	0.038826	26.81216	17.59684	0.036574	0.385497	0

UK 1989: $g^e_Y < g^e_{KP}$ $g^a_Y = 0.058315$ $g^a_{KP} = 0.0352$

Unbalanced growt	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.009767	1.523692	0.059158	25.7093	0.1985	0.011743	0.042459	0.04196	0.053703	0.051296		16.87303	0.038826
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.011882	0.035664	0.025647	0.002095	0.023503	1.559502	0.176328	0.037934	26.36867	16.90838	0.054341	0.038556	
2	0.011882	0.034845	0.024836	0.002095	0.022693	1.594893	0.176328	0.037092	27.02356	16.94381	0.054341	0.038556	-1.8E-16
3	0.011882	0.034072	0.02407	0.002095	0.021929	1.629867	0.176328	0.036296	27.67403	16.97931	0.054341	0.038556	1.8E-16
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
498	0.011882	0.011905	0.002117	0.002095	2.21E-05	4.564748	0.176328	0.01296	218.4167	47.84858	0.054341	0.038556	0
499	0.011882	0.011905	0.002117	0.002095	2.19E-05	4.564848	0.176328	0.01296	218.8792	47.94884	0.054341	0.038556	-1.8E-16
500	0.011882	0.011904	0.002117	0.002095	2.16E-05	4.564947	0.176328	0.012959	219.3425	48.0493	0.054341	0.038556	0







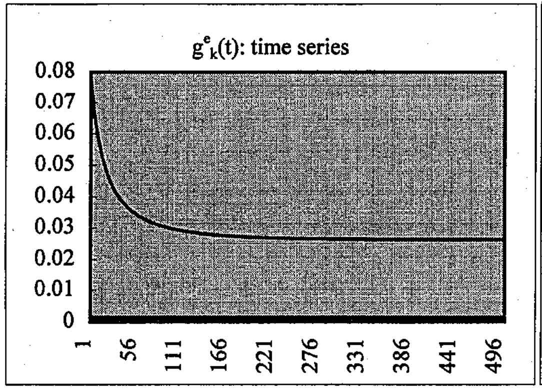
UK 94 89 82

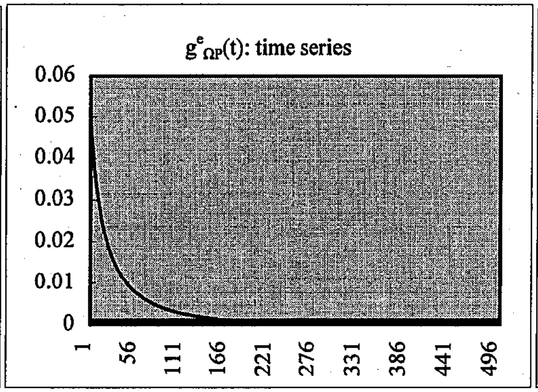
UK 1982: $g^e_Y = g^e_{KP} = g_Y = g_{KP}$ **UK (3)**

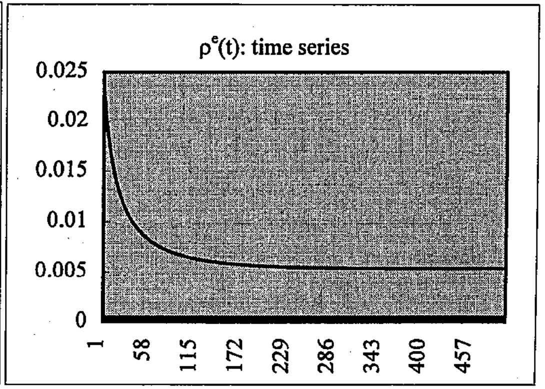
Balanced growth	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta = g_Y$	y^0	ρ^0
	-0.01181	1.032773	0.025426	10.53266	0.491939	0.012508	0.00041	0.000405	0.012913		0.012666	10.19843	0.024619
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y(t)$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.012666	0.012666	0.024768	0.024768	0	1.032773	1.95542	0.024619	10.79354	10.45102	0.013082	1.893367	
2	0.012666	0.012666	0.024768	0.024768	0	1.032773	1.95542	0.024619	11.06087	10.70988	0.013082	1.893367	0
3	0.012666	0.012666	0.024768	0.024768	0	1.032773	1.95542	0.024619	11.33483	10.97514	0.013082	1.893367	0

UK 1982: $g^e_Y < g^e_{KP}$ $g^a_Y = 0.096546$ $g^a_{KP} = 0.0647$

Unbalanced growt	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	-0.01181	1.032773	0.025426	10.53266	0.551	0.01401	0.053609	0.052858	0.066868	0.044644		10.19843	0.024619
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.014209	0.065666	0.078401	0.026329	0.050736	1.085172	1.853008	0.02343	11.35843	10.46694	0.067818	0.38823	
2	0.014209	0.062495	0.075192	0.026329	0.04761	1.136837	1.853008	0.022365	12.21249	10.74252	0.067818	0.38823	0
3	0.014209	0.059655	0.072318	0.026329	0.044809	1.187778	1.853008	0.021406	13.09568	11.02536	0.067818	0.38823	0
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
498	0.014209	0.014219	0.026339	0.026329	9.9E-06	4.769644	1.853008	0.005331	20310323	4258247	0.067818	0.38823	0
499	0.014209	0.014219	0.026339	0.026329	9.76E-06	4.76969	1.853008	0.005331	20845274	4370362	0.067818	0.38823	2.86E-16
500	0.014209	0.014218	0.026339	0.026329	9.62E-06	4.769736	1.853008	0.005331	21394312	4485429	0.067818	0.38823	0







Ge 94 89 83

Table 4-4 Balanced and unbalanced growth state by period: Germany

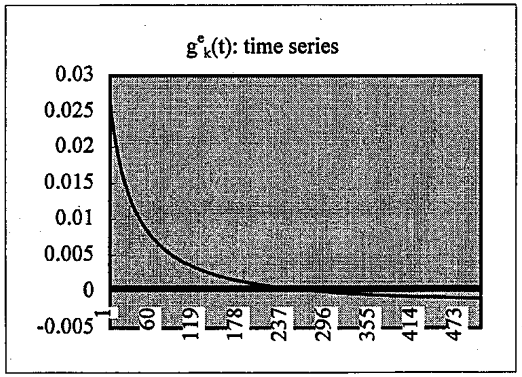
Germany (1)

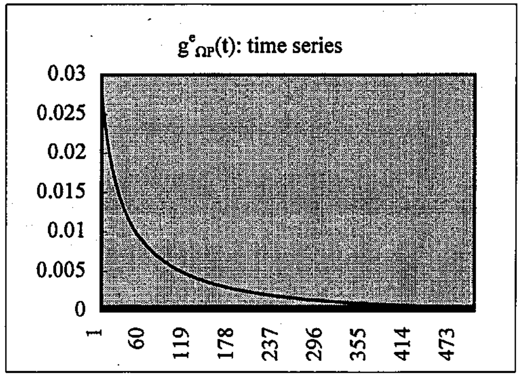
Germany 1994: $g^e_Y = g^e_{KP} = g_Y = g_{KP}$

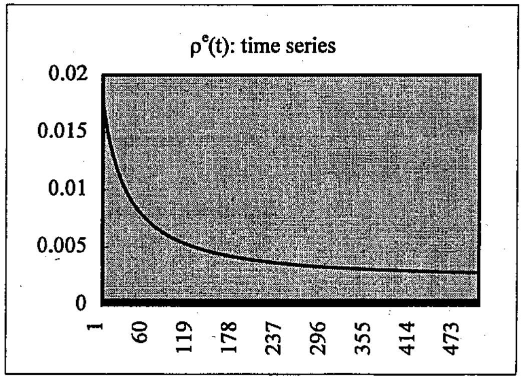
Balanced growth	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta = g_Y$	y^0	ρ^0
	0.006	2.195003	0.039629	196.7621	0.312989	0.012403	0.014822	0.014638	0.027042		0.012559	89.64089	0.018054
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y(t)$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.012559	0.012559	0.00652	0.00652	-1.7E-18	2.195003	0.51915	0.018054	198.045	90.22536	0.027568	0.236514	
2	0.012559	0.012559	0.00652	0.00652	-1.7E-18	2.195003	0.519149	0.018054	199.3362	90.81363	0.027568	0.236514	0
3	0.012559	0.012559	0.00652	0.00652	-1.7E-18	2.195003	0.519149	0.018054	200.6359	91.40575	0.027568	0.236514	0

Germany 1994: $g^e_Y < g^e_{KP}$ $g^a_Y = 0.023916$ $g^a_{KP} = 0.0323$

Unbalanced growt	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.006	2.195003	0.039629	196.7621	0.115827	0.00459	0.066259	0.065955	0.070849	0.06423		89.64089	0.018054
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.004611	0.032426	0.026269	-0.00138	0.027687	2.255777	-0.29936	0.017568	201.9307	89.51714	0.071175	-0.0194	
2	0.004611	0.031553	0.0254	-0.00138	0.026818	2.316271	-0.29936	0.017109	207.0598	89.39357	0.071175	-0.0194	0
3	0.004611	0.030728	0.024581	-0.00138	0.025997	2.376488	-0.29936	0.016675	212.1495	89.27017	0.071175	-0.0194	1.79E-16
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
498	0.004611	0.00505	-0.00094	-0.00138	0.000437	14.10062	-0.29936	0.00281	602.1093	42.7009	0.071175	-0.0194	0
499	0.004611	0.005048	-0.00095	-0.00138	0.000434	14.10675	-0.29936	0.002809	601.5393	42.64196	0.071175	-0.0194	0
500	0.004611	0.005045	-0.00095	-0.00138	0.000432	14.11285	-0.29936	0.002808	600.9686	42.58309	0.071175	-0.0194	-1.8E-16







Ge 94 89 83

Germany (2)

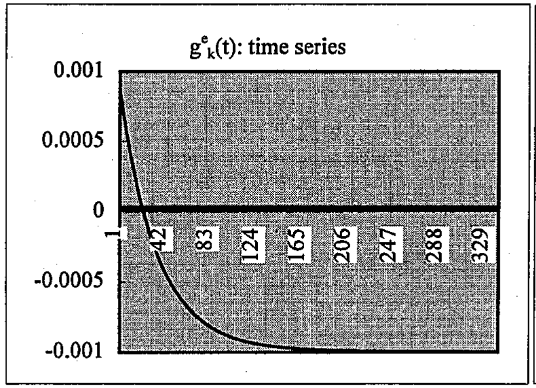
Germany 1989: $g^e_Y = g^e_{KP} = g_Y = g_{KP}$

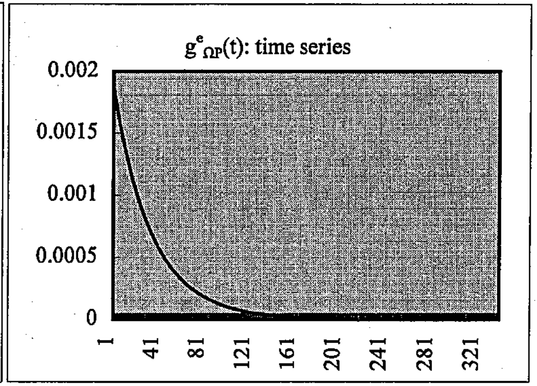
Balanced growth	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta = g_Y$	y^0	ρ^0
	0.029684	2.458848	0.059153	175.1056	0.289114	0.017102	0.024949	0.024522	0.041624		0.017399	71.21448	0.024057
period	$g_Y(t)$	$g_{KP}(t)$	$g_K(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y(t)$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.017399	0.017399	-0.01193	-0.01193	0	2.458848	**-0.68568**	0.024057	173.0165	70.36486	0.042782	-0.27886	
2	0.017399	0.017399	-0.01193	-0.01193	0	2.458848	**-0.68568**	0.024057	170.9523	69.52537	0.042782	-0.27886	0
3	0.017399	0.017399	-0.01193	-0.01193	0	2.458848	**-0.68568**	0.024057	168.9128	68.6959	0.042782	-0.27886	0

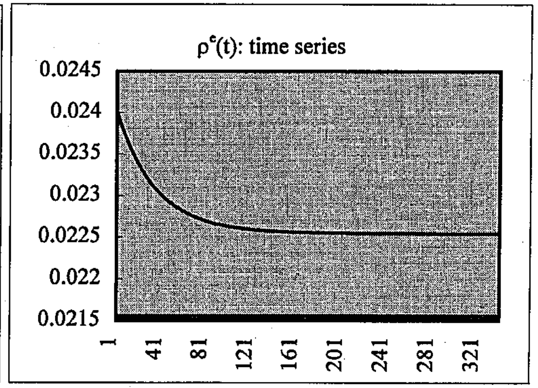
Germany 1989: $g^e_Y < g^e_{KP}$ $g^a_Y = 0.089326$ $g^a_{KP} = 0.0297$

Unbalanced growt	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.029684	2.458848	0.059153	175.1056	0.471	0.027861	0.046543	0.045247	0.073108	0.053664		71.21448	0.024057
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.028659	0.030585	0.000875	-0.001	0.001872	2.46345	-0.03472	0.024012	175.2587	71.14361	0.075203	-0.01323	
2	0.028659	0.030527	0.000819	-0.001	0.001816	2.467924	-0.03472	0.023969	175.4023	71.07282	0.075203	-0.01323	0
3	0.028659	0.030472	0.000765	-0.001	0.001762	2.472273	-0.03472	0.023926	175.5365	71.00209	0.075203	-0.01323	2.62E-16
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
337	0.028659	0.02866	-0.00099	-0.001	1.32E-07	2.624008	-0.03472	0.022543	133.6049	50.91635	0.075203	-0.01323	0
338	0.028659	0.02866	-0.00099	-0.001	1.28E-07	2.624009	-0.03472	0.022543	133.472	50.86568	0.075203	-0.01323	-2.6E-16
339	0.028659	0.028659	-0.00099	-0.001	1.25E-07	2.624009	-0.03472	0.022543	133.3392	50.81506	0.075203	-0.01323	0

NONO







Ge 94 89 83

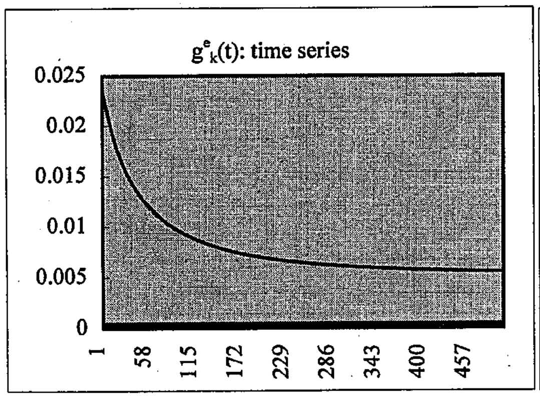
Germany (3)

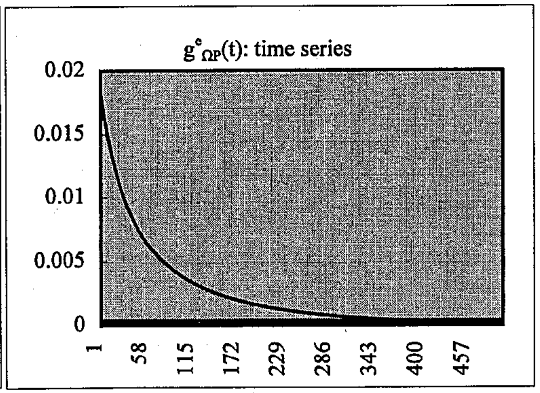
Germany 1983: $g^e_Y = g^e_{KP} = g_Y = g_{KP}$

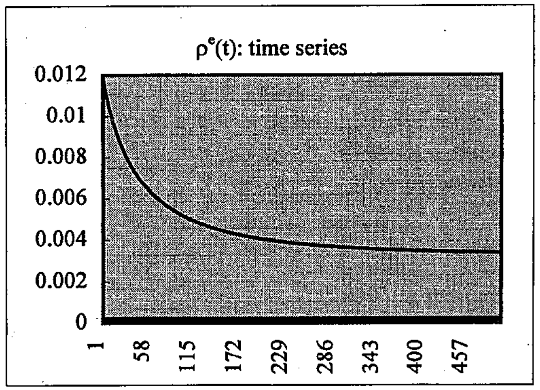
Balanced growth	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta = g_Y$	y^0	ρ^0
	0.0016	2.857472	0.034345	159.0077	0.259237	0.008903	0.016538	0.016391	0.025294		0.008983	55.64626	0.012019
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y(t)$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.008983	0.008983	0.007372	0.007372	0	2.857472	0.82059	0.012019	160.1798	56.05647	0.02567	0.287173	
2	0.008983	0.008983	0.007372	0.007372	0	2.857472	0.82059	0.012019	161.3606	56.4697	0.02567	0.287173	0
3	0.008983	0.008983	0.007372	0.007372	0	2.857472	0.82059	0.012019	162.5501	56.88598	0.02567	0.287173	0

Germany 1983: $g^e_Y < g^e_{KP}$ $g^a_Y = 0.052137$ $g^a_{KP} = 0.0252$

Unbalanced growt	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.0016	2.857472	0.034345	159.0077	0.2029	0.006969	0.065622	0.065164	0.072133	0.047831		55.64626	0.012019
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.007017	0.025421	0.023783	0.005409	0.018275	2.909693	0.770773	0.011804	162.7893	55.94725	0.072639	0.074463	
2	0.007017	0.024965	0.023327	0.005409	0.017822	2.961549	0.770773	0.011597	166.5867	56.24986	0.072639	0.074463	0
3	0.007017	0.024527	0.022891	0.005409	0.017388	3.013044	0.770773	0.011399	170.4	56.55411	0.072639	0.074463	0
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
498	0.007017	0.007178	0.005569	0.005409	0.00016	10.12088	0.770773	0.003393	8266.639	816.7909	0.072639	0.074463	0
499	0.007017	0.007177	0.005568	0.005409	0.000159	10.12248	0.770773	0.003393	8312.67	821.2088	0.072639	0.074463	0
500	0.007017	0.007176	0.005567	0.005409	0.000157	10.12407	0.770773	0.003392	8358.948	825.6507	0.072639	0.074463	0







USA 94 89 82

Table 4-5 Balanced and unbalanced growth state by period: USA

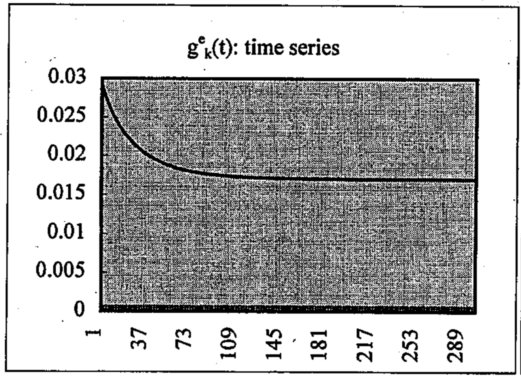
USA (1)

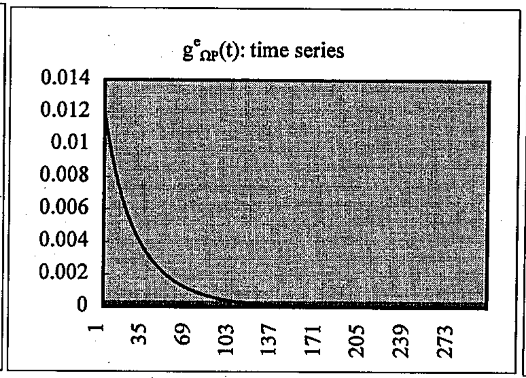
USA 1994: $g^e_Y = g^e_{KP} = g_Y = g_{KP}$

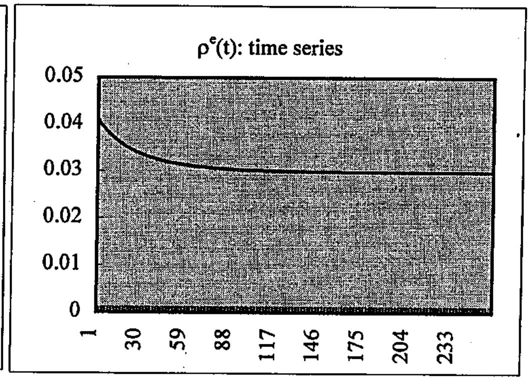
Balanced growth	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta = g_Y$	y^0	ρ^0
	0.014476	2.01032	0.083343	96.54203	0.332191	0.027686	0.027971	0.027197	0.054883		0.028474	48.02322	0.041458
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y(t)$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.028474	0.028474	0.013799	0.013799	0	2.01032	0.48461	0.041458	97.8742	48.68588	0.057242	0.24106	
2	0.028474	0.028474	0.013799	0.013799	0	2.01032	0.484608	0.041458	99.22474	49.35769	0.057242	0.24106	0
3	0.028474	0.028474	0.013799	0.013799	0	2.01032	0.484608	0.041458	100.5939	50.03876	0.057242	0.24106	0

USA 1994: $g^e_Y < g^e_{KP}$ $g^a_Y = 0.047849$ $g^a_{KP} = 0.0428$

Unbalanced growt	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.014476	2.01032	0.083343	96.54203	0.369274	0.030776	0.05704	0.055284	0.086061	0.036241		48.02322	0.041458
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.031754	0.044169	0.029269	0.017032	0.012033	2.03451	0.536365	0.040965	99.36777	48.84113	0.088793	0.191811	
2	0.031754	0.043644	0.028752	0.017032	0.011524	2.057956	0.536365	0.040498	102.2248	49.67297	0.088793	0.191811	-2.9E-16
3	0.031754	0.043146	0.028262	0.017032	0.011042	2.08068	0.536365	0.040056	105.1138	50.51898	0.088793	0.191811	2.89E-16
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
297	0.031754	0.031755	0.017032	0.017032	8.29E-07	2.796242	0.536365	0.029805	20246.55	7240.629	0.088793	0.191811	0
298	0.031754	0.031755	0.017032	0.017032	8.03E-07	2.796244	0.536365	0.029805	20591.4	7363.948	0.088793	0.191811	0
299	0.031754	0.031754	0.017032	0.017032	7.79E-07	2.796246	0.536365	0.029805	20942.12	7489.367	0.088793	0.191811	0







USA 94 89 82

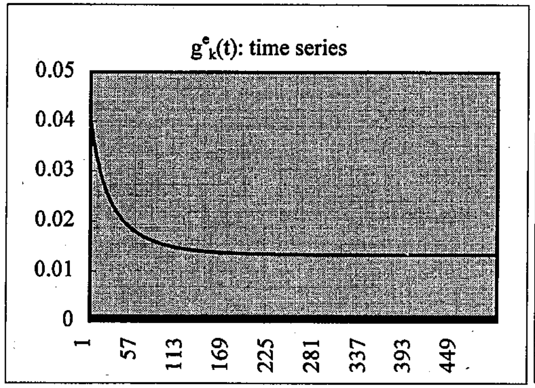
USA (2)

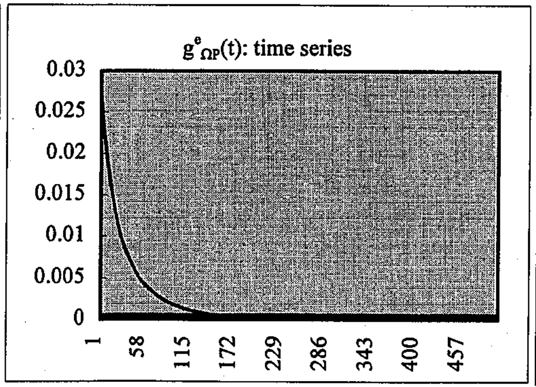
USA 1989: $g^e_Y = g^e_{KP} = g_Y = g_{KP}$

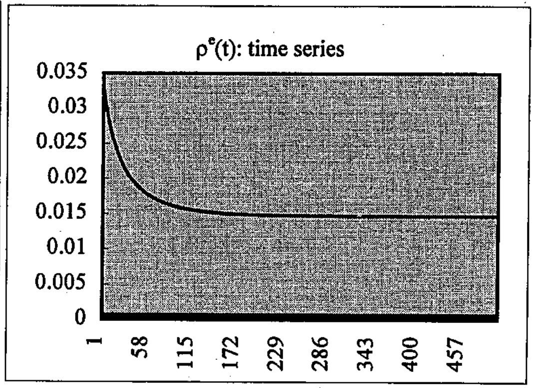
Balanced growth	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
	0.007864	2.113744	0.072172	84.51534	0.321157	0.023178	0.025815	0.025217	0.048395		0.023728	39.98371	0.034144
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y(t)$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.023728	0.023728	0.01574	0.01574	3.42E-18	2.113744	0.66335	0.034144	85.84563	40.61306	0.050156	0.313825	
2	0.023728	0.023728	0.01574	0.01574	3.42E-18	2.113744	0.66335	0.034144	87.19685	41.25231	0.050156	0.313825	0
3	0.023728	0.023728	0.01574	0.01574	3.42E-18	2.113744	0.66335	0.034144	88.56934	41.90163	0.050156	0.313825	0

USA 1989: $g^e_Y < g^e_{KP}$ $g^a_Y=0.058394$ $g^a_{KP}=0.0428$

Unbalanced growt	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.007864	2.113744	0.072172	84.51534	0.2883	0.020807	0.083033	0.081305	0.102112	0.03861		39.98371	0.034144
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.021249	0.049335	0.041147	0.01328	0.027502	2.171876	0.624978	0.03323	87.99291	40.51471	0.104282	0.12735	
2	0.021249	0.048015	0.039837	0.01328	0.026209	2.228798	0.624978	0.032381	91.49829	41.05275	0.104282	0.12735	2.18E-16
3	0.021249	0.046789	0.03862	0.01328	0.025008	2.284535	0.624978	0.031591	95.03198	41.59795	0.104282	0.12735	-2.2E-16
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
498	0.021249	0.02125	0.013281	0.01328	3.43E-07	4.907495	0.624978	0.014706	139985.7	28524.87	0.104282	0.12735	2.18E-16
499	0.021249	0.02125	0.013281	0.01328	3.36E-07	4.907497	0.624978	0.014706	141844.8	28903.69	0.104282	0.12735	-2.2E-16
500	0.021249	0.02125	0.013281	0.01328	3.29E-07	4.907499	0.624978	0.014706	143728.5	29287.54	0.104282	0.12735	0







USA 94 89 82

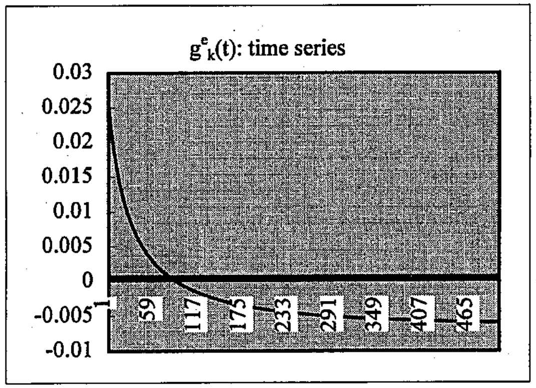
USA (3)

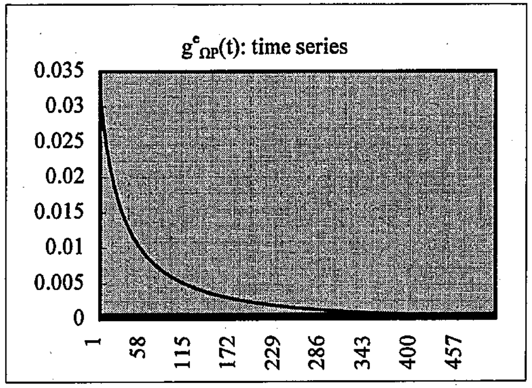
USA 1982: $g^e_Y = g^e_{KP} = g_Y = g_{KP}$

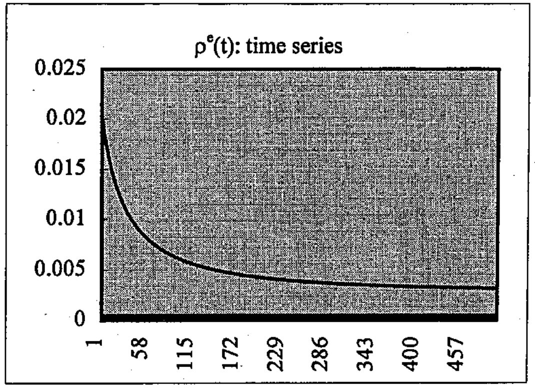
Balanced growth	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta = g_Y$	y^0	ρ^0
	0.011602	2.469925	0.052005	70.61271	0.288191	0.014987	0.02203	0.0217	0.036688		0.015215	28.58901	0.021055
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y(t)$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.015215	0.015215	0.003572	0.003572	0	2.469925	0.23474	0.021055	70.86492	28.69112	0.037581	0.095039	
2	0.015215	0.015215	0.003572	0.003572	0	2.469925	0.23474	0.021055	71.11802	28.7936	0.037581	0.095039	0
3	0.015215	0.015215	0.003572	0.003572	0	2.469925	0.23474	0.021055	71.37203	28.89644	0.037581	0.095039	0

USA 1982: $g^e_Y < g^e_{KP}$ $\quad g^a_Y = 0.081143 \quad g^a_{KP} = 0.0371$

Unbalanced growt	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.011602	2.469925	0.052005	70.61271	0.1004	0.005221	0.086774	0.086321	0.091542	0.044644		28.58901	0.021055
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.005249	0.037257	0.025361	-0.00628	0.031841	2.54857	-1.19662	0.020406	72.40349	28.40945	0.092022	-0.06825	
2	0.005249	0.036107	0.024224	-0.00628	0.030698	2.626805	-1.19662	0.019798	74.1574	28.23102	0.092022	-0.06825	-2E-16
3	0.005249	0.035032	0.023161	-0.00628	0.029628	2.704632	-1.19662	0.019228	75.87496	28.05371	0.092022	-0.06825	0
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
498	0.005249	0.005606	-0.00593	-0.00628	0.000355	16.42147	-1.19662	0.003167	20.36757	1.240302	0.092022	-0.06825	-2E-16
499	0.005249	0.005604	-0.00593	-0.00628	0.000353	16.42727	-1.19662	0.003166	20.2468	1.232512	0.092022	-0.06825	0
500	0.005249	0.005602	-0.00593	-0.00628	0.000351	16.43304	-1.19662	0.003165	20.1267	1.224771	0.092022	-0.06825	2.03E-16







Aus 94 88 83

Table 4-6 Balanced and unbalanced growth state by period: Australia

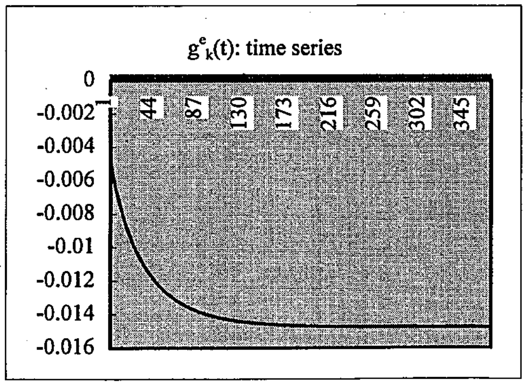
AUSTRALIA (1)

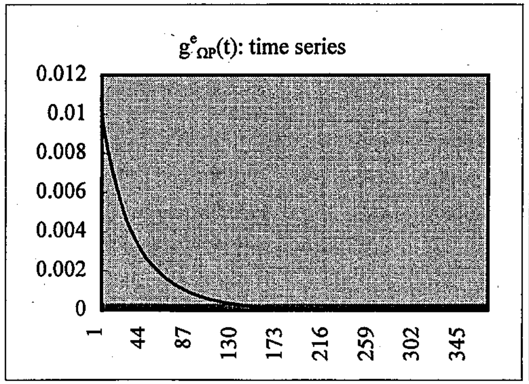
Australia 1994: $g^e_Y = g^e_{KP} = g_Y = g_{KP}$

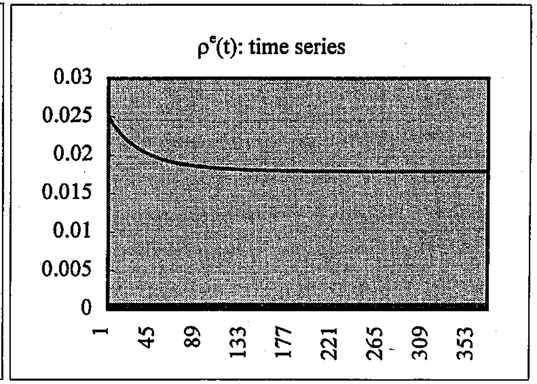
Balanced growth	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
	0.04	2.222986	0.056276	108.0729	0.310271	0.017461	0.021355	0.020982	0.038443		0.017771	48.6161	0.025316
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y(t)$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.017771	0.017771	-0.02137	-0.02137	0	2.222986	-1.20272	0.025316	105.763	47.57699	0.039505	-0.54104	
2	0.017771	0.017771	-0.02137	-0.02137	0	2.222986	-1.20272	0.025316	103.5024	46.56009	0.039505	-0.54104	0
3	0.017771	0.017771	-0.02137	-0.02137	0	2.222986	-1.20272	0.025316	101.2902	45.56492	0.039505	-0.54104	0

Australia 1994: $g^e_Y < g^e_{KP}$ $g^a_Y=0.074304$ $g^a_{KP}=0.0447$

Unbalanced growt	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.04	2.222986	0.056276	108.0729	0.427437	0.024055	0.052953	0.051679	0.075734	0.040363		48.6161	0.025316
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.024648	0.034908	-0.0049	-0.01476	0.010014	2.245246	-0.59892	0.025065	107.5438	47.89843	0.0776	-0.19023	
2	0.024648	0.034562	-0.00523	-0.01476	0.009676	2.266971	-0.59892	0.024824	106.9814	47.19135	0.0776	-0.19023	0
3	0.024648	0.034231	-0.00555	-0.01476	0.009353	2.288174	-0.59892	0.024594	106.388	46.49471	0.0776	-0.19023	0
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
365	0.024648	0.024649	-0.01476	-0.01476	1E-06	3.148271	-0.59892	0.017875	0.672006	0.213453	0.0776	-0.19023	0
366	0.024648	0.024649	-0.01476	-0.01476	9.77E-07	3.148274	-0.59892	0.017875	0.662087	0.210302	0.0776	-0.19023	0
367	0.024648	0.024648	-0.01476	-0.01476	9.53E-07	3.148277	-0.59892	0.017875	0.652314	0.207197	0.0776	-0.19023	-2.9E-16







Aus 94 88 83

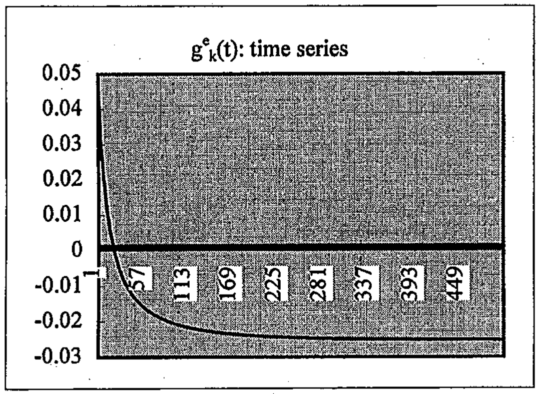
AUSTRALIA (2)

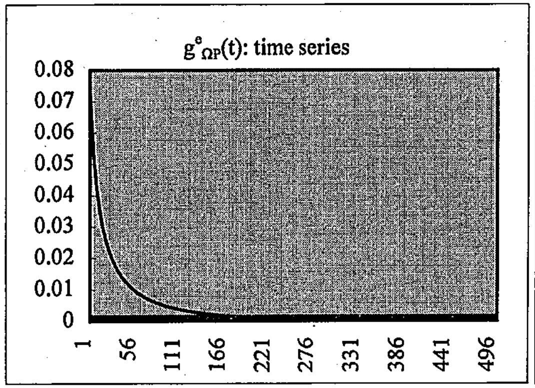
Australia 1988: $g^e_{Y}=g^e_{KP}=g_Y=g_{KP}$

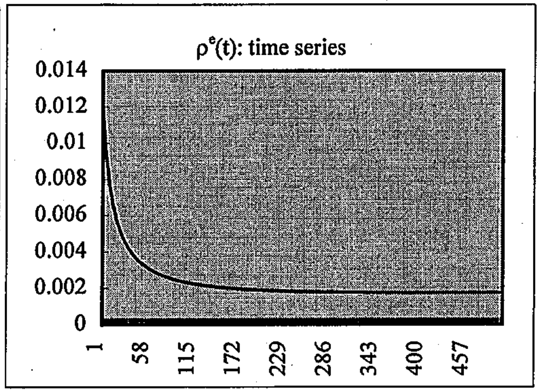
Balanced growth	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
	0.037676	2.422512	0.031565	88.08809	0.292183	0.009223	0.01312	0.012999	0.022221		0.009309	36.3623	0.01303
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y(t)$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.009309	0.009309	-0.02734	-0.02734	0	2.422512	-2.93674	0.01303	85.68001	35.36826	0.02255	-1.21227	
2	0.009309	0.009309	-0.02734	-0.02734	0	2.422512	-2.93674	0.01303	83.33776	34.40139	0.02255	-1.21227	0
3	0.009309	0.009309	-0.02734	-0.02734	0	2.422512	-2.93674	0.01303	81.05955	33.46095	0.02255	-1.21227	0

Australia 1988: $g^e_Y<g^e_{KP}$ $g^a_Y=0.082364$ $g^a_{KP}=0.0861$

Unbalanced growt	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.037676	2.422512	0.031565	88.08809	0.35997	0.011363	0.199259	0.196995	0.208357	0.036366		36.3623	0.01303
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.011493	0.086997	0.047531	-0.02523	0.074646	2.603343	-2.1954	0.012125	92.27499	35.4448	0.210752	-0.11972	
2	0.011493	0.080954	0.041707	-0.02523	0.068672	2.78212	-2.1954	0.011346	96.12353	34.55046	0.210752	-0.11972	1.16E-16
3	0.011493	0.075752	0.036694	-0.02523	0.063529	2.958866	-2.1954	0.010668	99.65069	33.67868	0.210752	-0.11972	-1.2E-16
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
498	0.011493	0.011527	-0.0252	-0.02523	3.38E-05	18.28349	-2.1954	0.001726	0.001975	0.000108	0.210752	-0.11972	1.16E-16
499	0.011493	0.011527	-0.0252	-0.02523	3.34E-05	18.2841	-2.1954	0.001726	0.001925	0.000105	0.210752	-0.11972	0
500	0.011493	0.011527	-0.0252	-0.02523	3.3E-05	18.28471	-2.1954	0.001726	0.001877	0.000103	0.210752	-0.11972	0







Aus 94 88 83

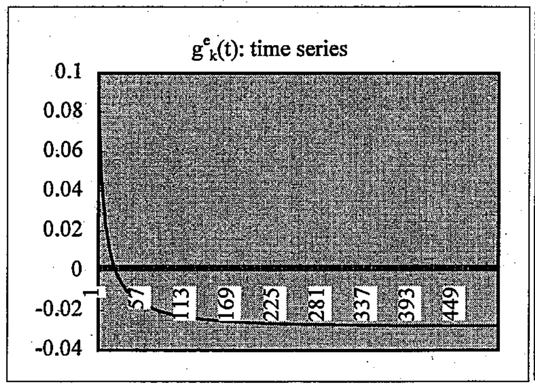
AUSTRALIA (3)

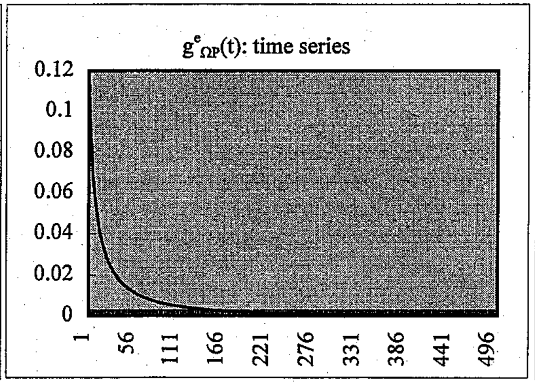
Australia 1983: $g^e_{Y}=g^e_{KP}=g_Y=g_{KP}$

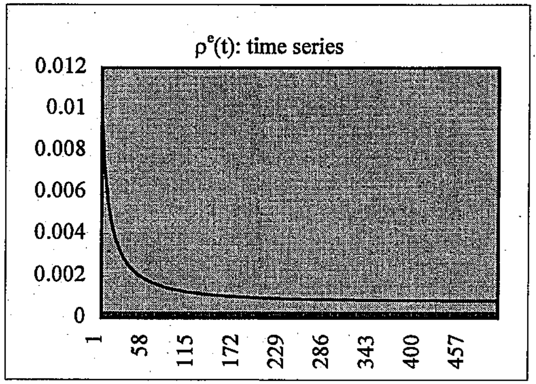
Balanced growth	n	Ω^0_P	π^0	k^0	$s_{SP/P}$	$s_{SP/Y}$	$s_{SWD/WD}$	$s_{SWD/Y}$	$s_{S/Y}$	variables	$\delta=g_Y$	y^0	ρ^0
	0.037997	2.248681	0.025395	56.93233	0.307817	0.007817	0.009761	0.009685	0.017502		0.007879	25.3181	0.011293
period	$g_Y(t)$	$g_{KP}(t)$	$g_k(t)$	$g_y(t)$	$g_{\Omega P}(t)$	$\Omega_P(t)$	$\chi(t)=g_y/g_Y(t)$	$\rho(t)$	**k(t)**	**y(t)**	$I/Y^0(t)$	$m^*(t)$	$g^*_m(t)$
1	0.007879	0.007879	-0.02902	-0.02902	0	2.248681	-3.68278	0.011293	55.28041	24.58349	0.017717	-1.63775	
2	0.007879	0.007879	-0.02902	-0.02902	0	2.248681	-3.68278	0.011293	53.67643	23.87019	0.017717	-1.63775	0
3	0.007879	0.007879	-0.02902	-0.02902	0	2.248681	-3.68278	0.011293	52.11899	23.17759	0.017717	-1.63775	0

Australia 1983: $g^e_{Y}<g^e_{KP}$ $g^a_{Y}=0.104347$ $g^a_{KP}=0.1253$

Unbalanced growt	n	Ω^0_P	π^0	k^0	$s^e_{SP/P}$	$s^e_{SP/Y}$	$s^e_{SWD/WD}$	$s^e_{SWD/Y}$	$s^e_{S/Y}$	δ^e	variables	y^0	ρ^0
	0.037997	2.248681	0.025395	56.93233	0.357	0.009066	0.275225	0.27273	0.281796	0.044644		25.3181	0.011293
period	$g^e_Y(t)$	$g^e_{KP}(t)$	$g^e_k(t)$	$g^e_y(t)$	$g^e_{\Omega P}(t)$	$\Omega^e_P(t)$	$\chi^e(t)=g^e_y/g^e_Y$	$\rho^e(t)$	$k^e(t)$	$y^e(t)$	$I^e/Y^{e0}(t)$	$m^e(t)$	$g^e_m(t)$
1	0.009149	0.126463	0.085228	-0.02779	0.11625	2.51009	-3.03765	0.010117	61.78454	24.61447	0.284374	-0.09773	
2	0.009149	0.113292	0.07254	-0.02779	0.103199	2.769129	-3.03765	0.009171	66.26636	23.9304	0.284374	-0.09773	0
3	0.009149	0.102694	0.06233	-0.02779	0.092697	3.02582	-3.03765	0.008393	70.39672	23.26534	0.284374	-0.09773	0
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
498	0.009149	0.009242	-0.0277	-0.02779	9.19E-05	30.77328	-3.03765	0.000825	0.000625	2.03E-05	0.284374	-0.09773	-1.4E-16
499	0.009149	0.009241	-0.0277	-0.02779	9.11E-05	30.77609	-3.03765	0.000825	0.000608	1.97E-05	0.284374	-0.09773	1.42E-16
500	0.009149	0.00924	-0.0277	-0.02779	9.02E-05	30.77886	-3.03765	0.000825	0.000591	1.92E-05	0.284374	-0.09773	0

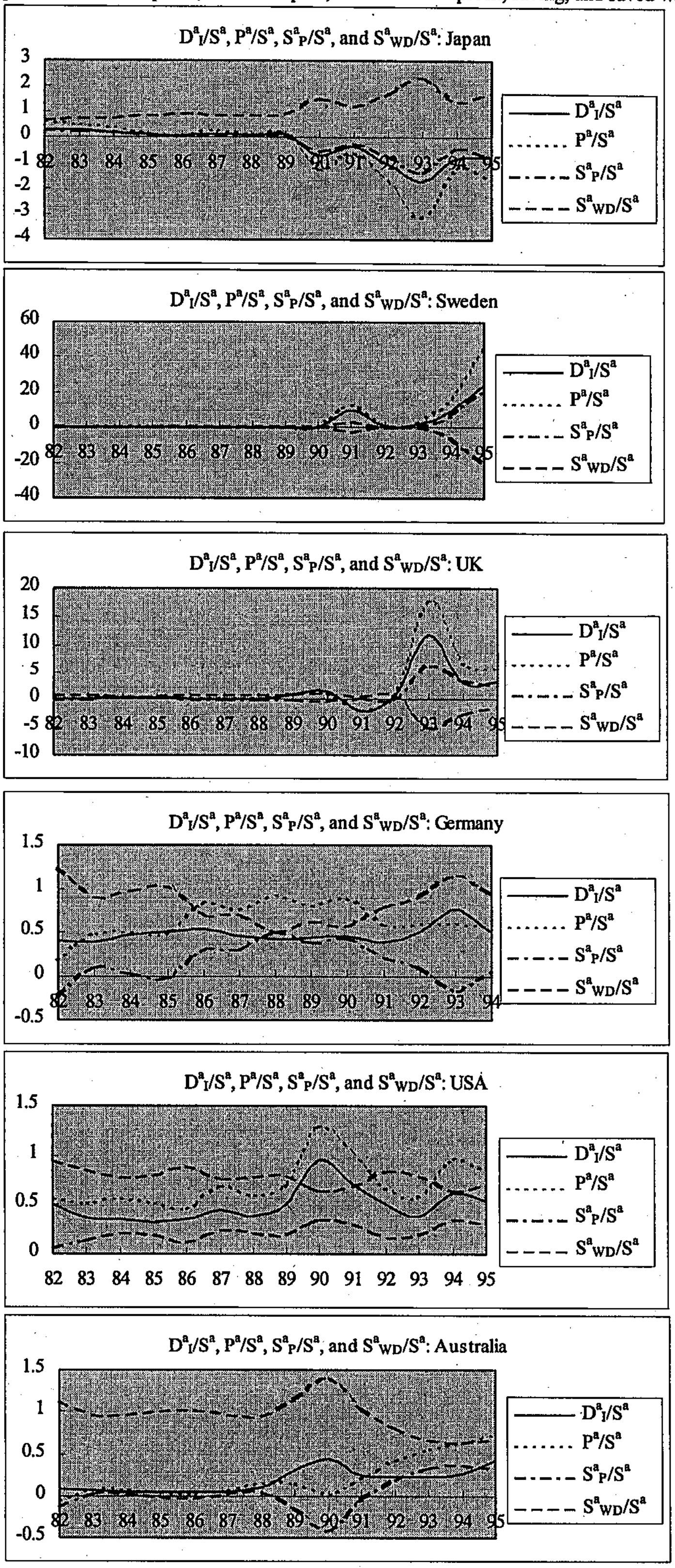






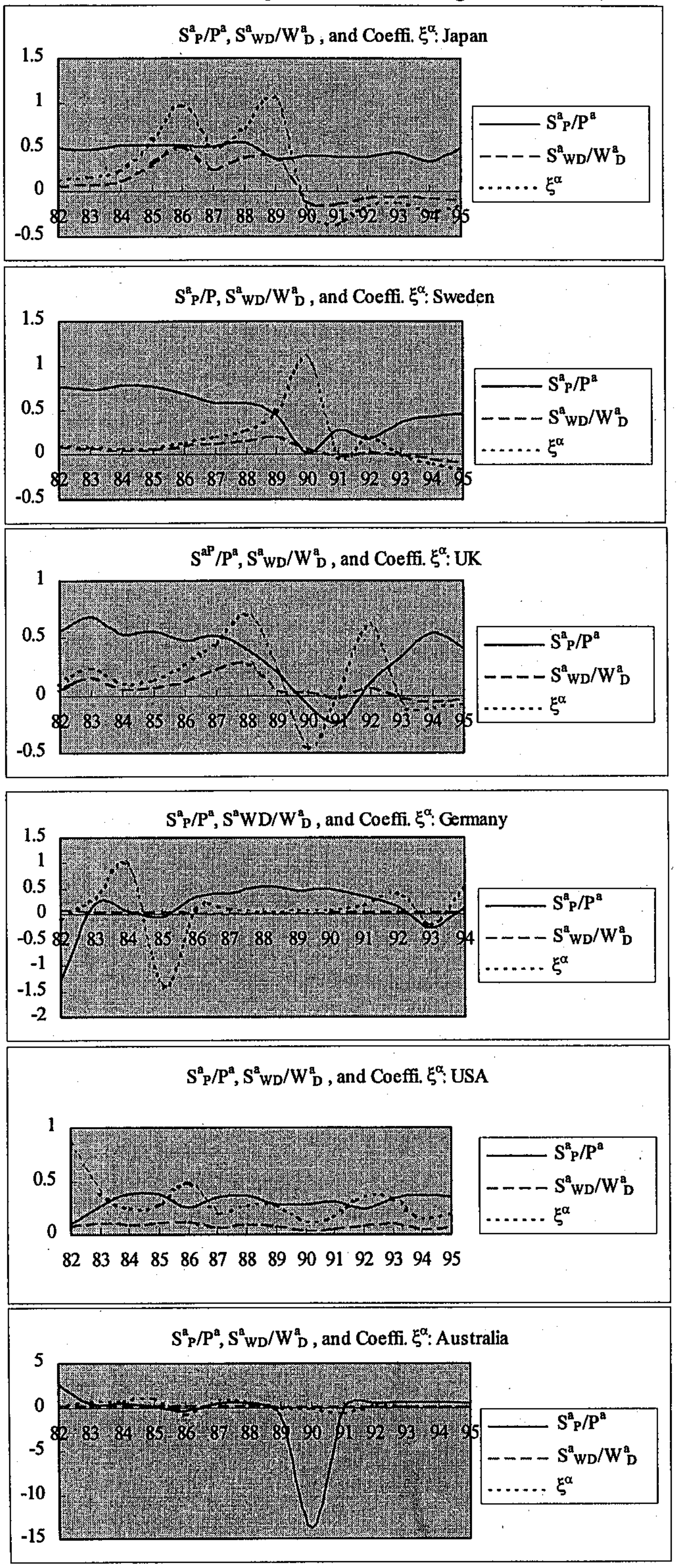
Time series 82-95

Figure 1-1 Relationships between actual profit, dividends paid, undistreibuted profit, saving, and saved wages and dividends



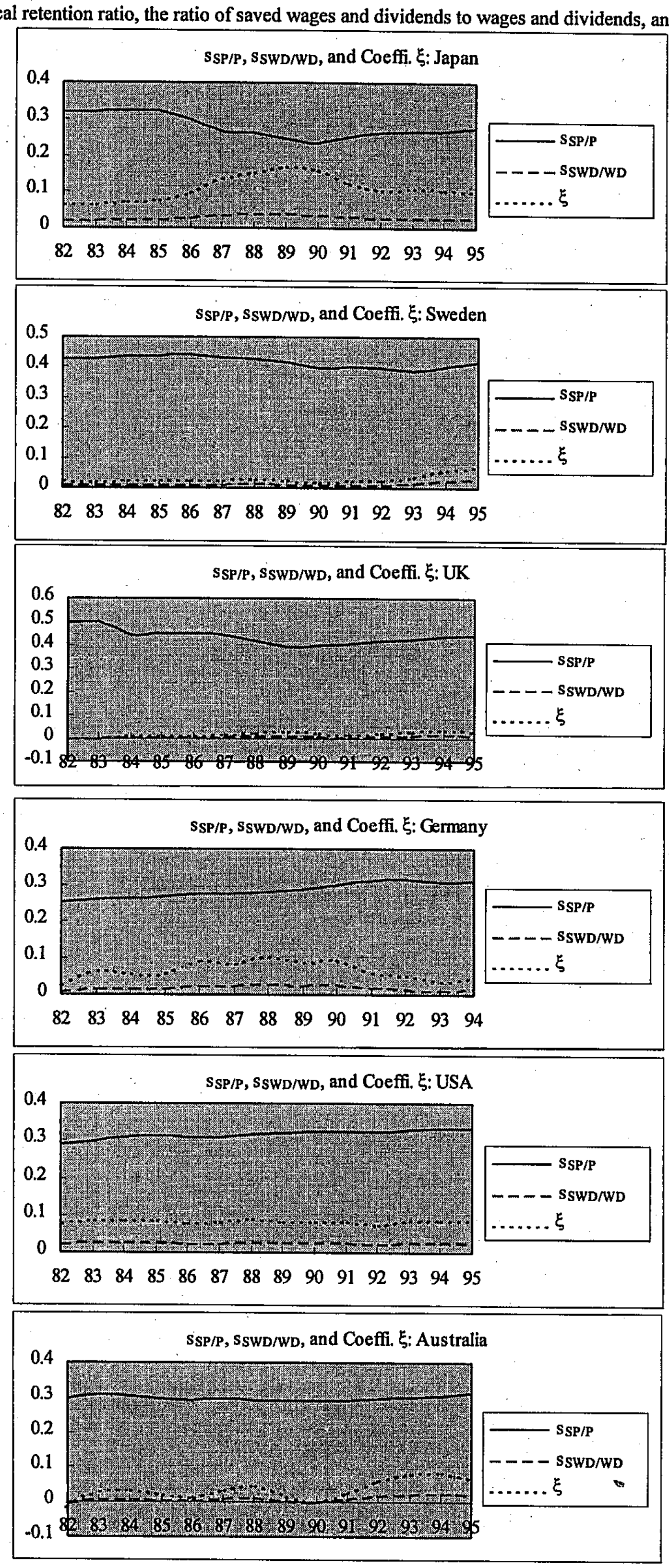
Time series 82-95

Figure 1-2 Actual retention ratio, the ratio of saved wages and dividends to wages and dividends, and the leverage



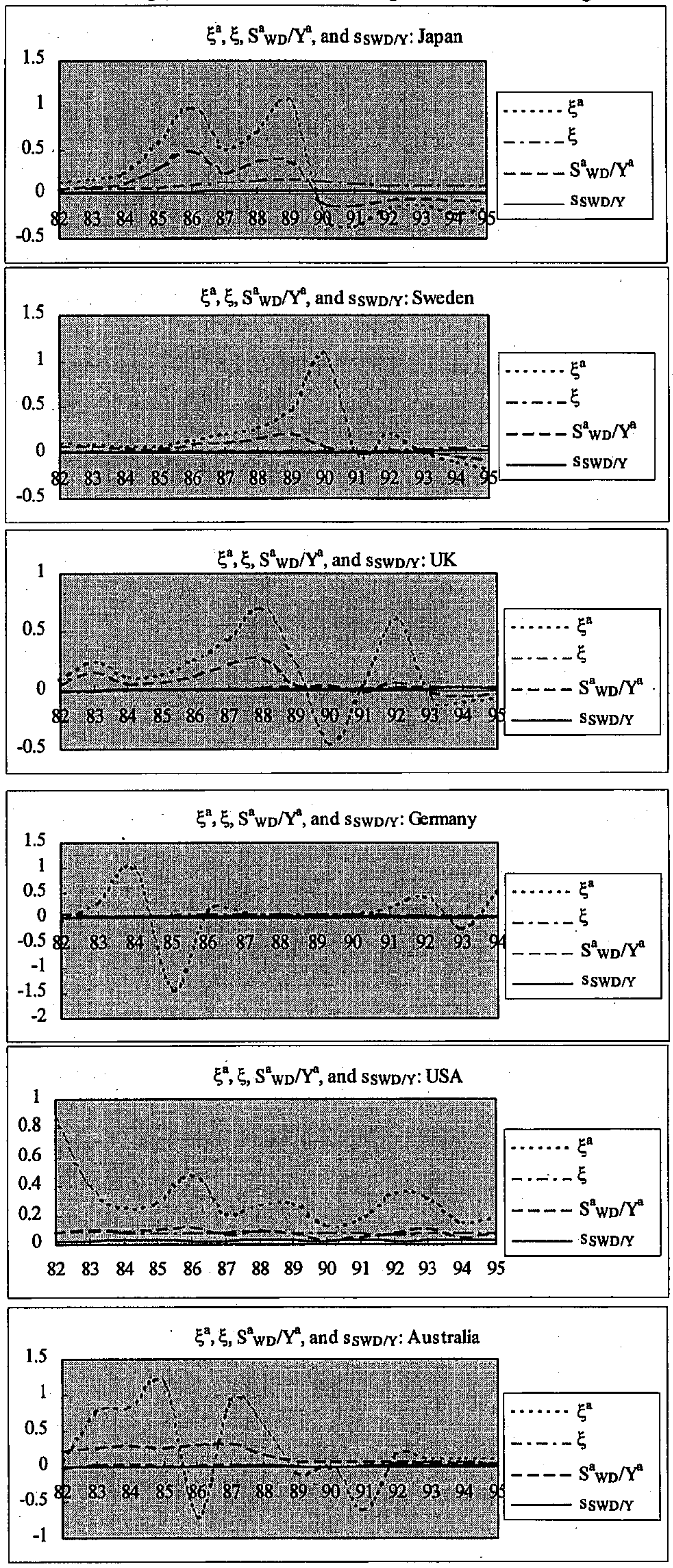
Time series 82-95

Figure 1-3 Theoretical retention ratio, the ratio of saved wages and dividends to wages and dividends, and the leverage



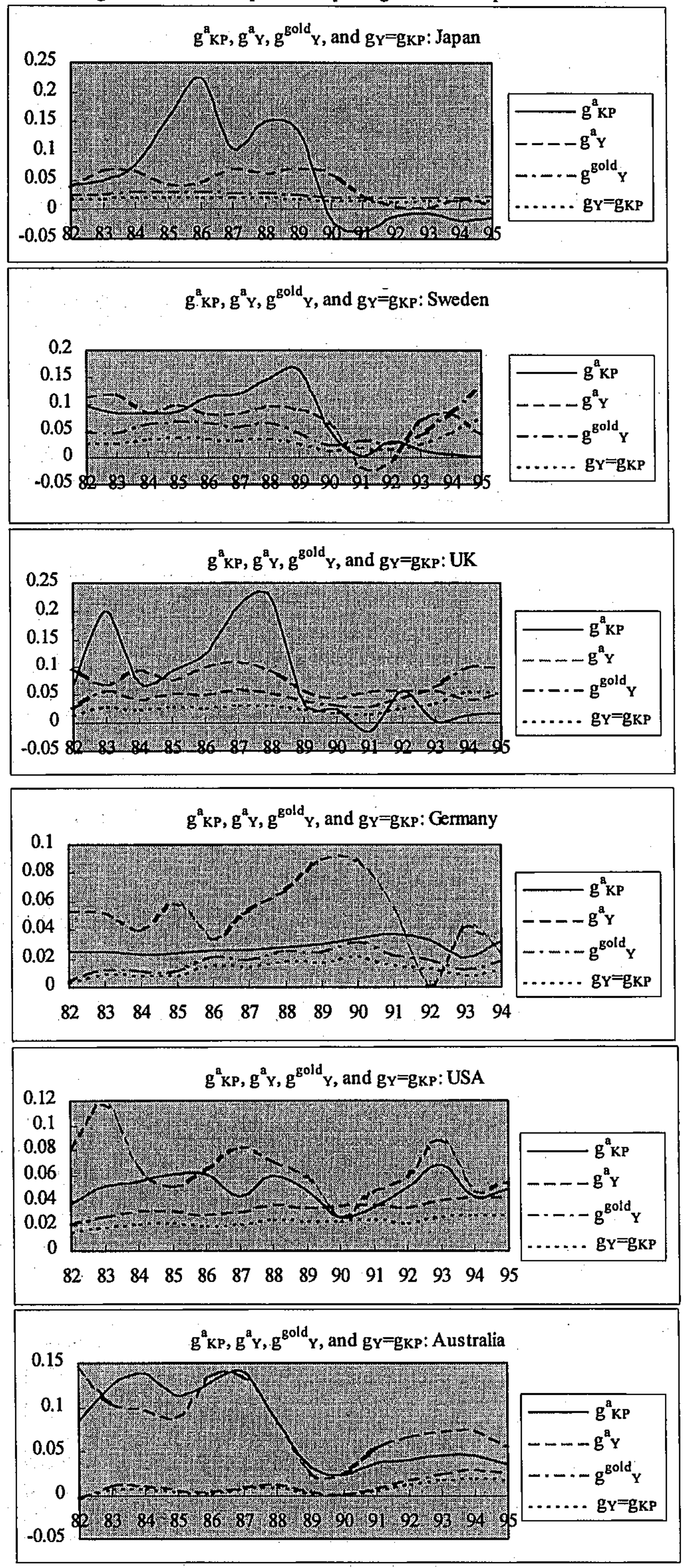
Time series 82-95

Figure 1-4 Actual and theoretical leverage, and each ratio of saved wages and dividends to wages and dividends



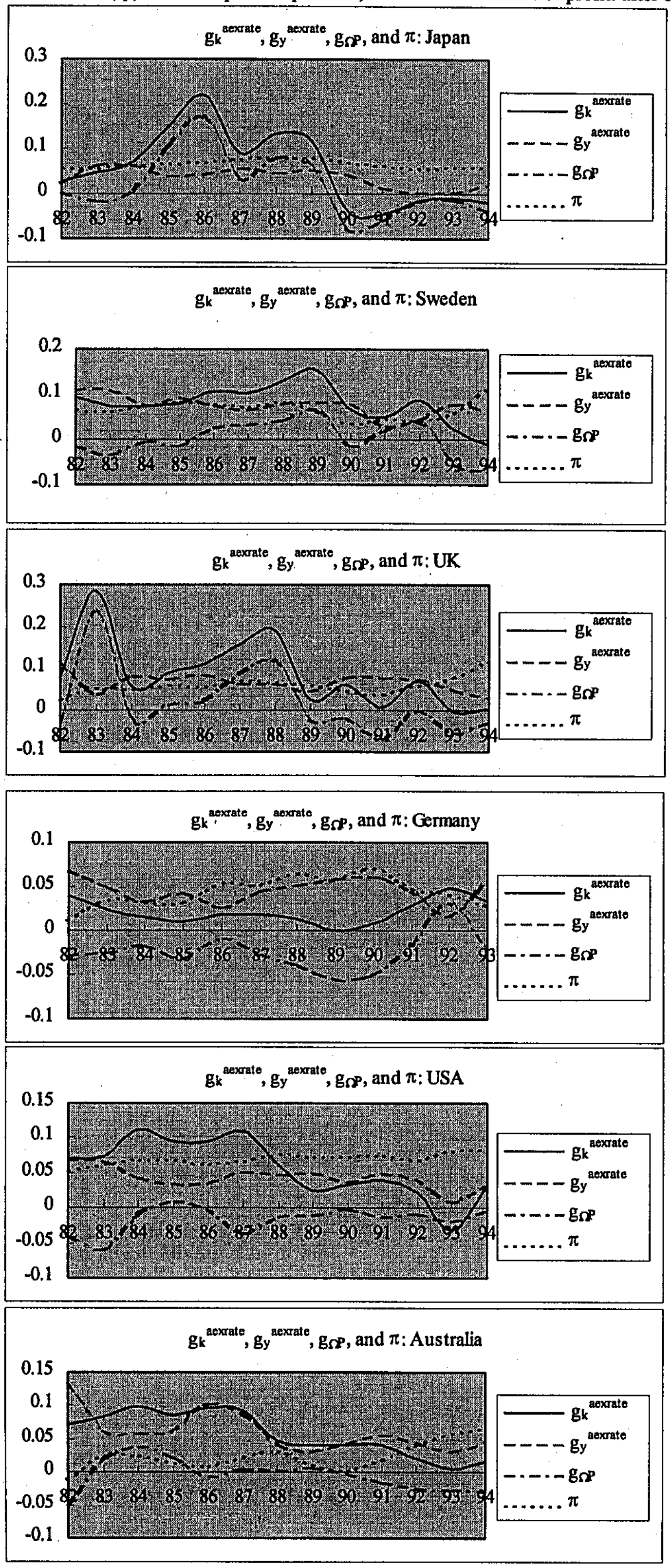
Time series 82-95

Figure 1-5 Actual and theoretical growth rates of output and capital: golden is Phelps'



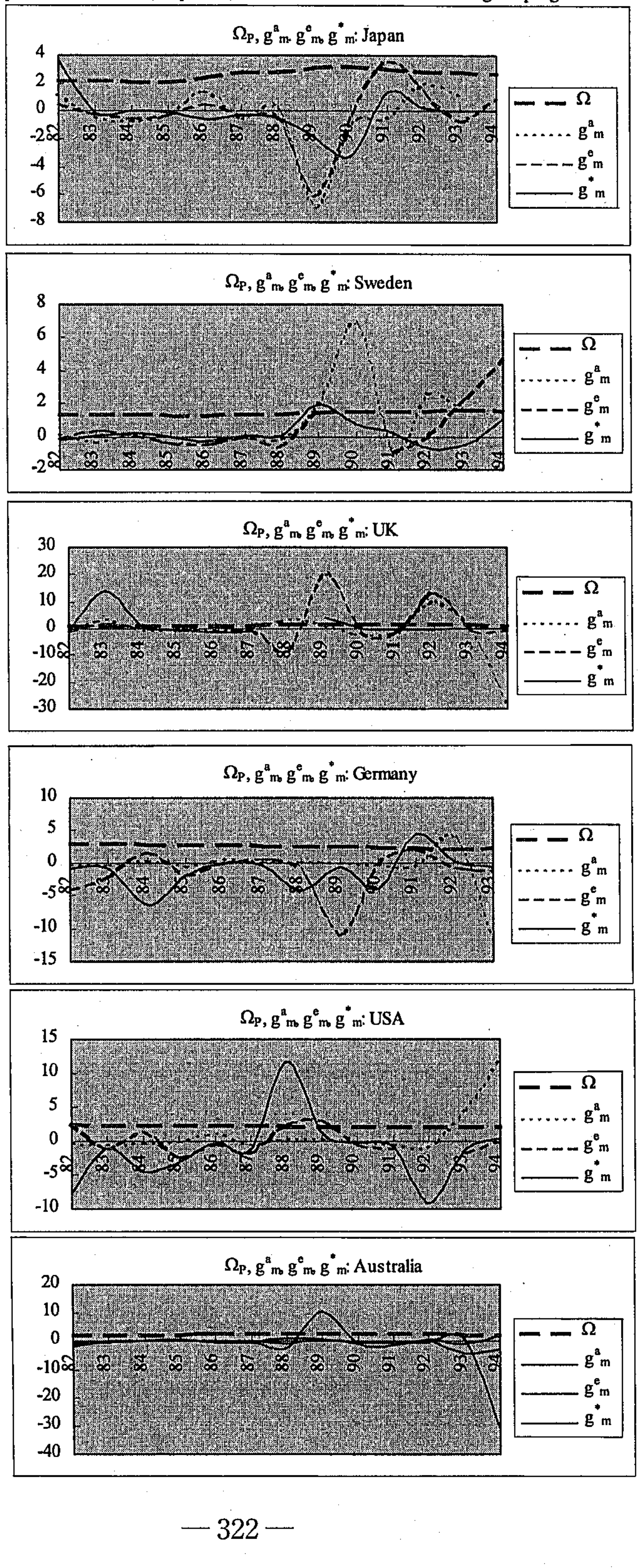
Time series 82-95

Figure 1-6 Actual growth rates of k, y, and the capital-output ratio, and the relative share of profit: after exchange rate adjusted



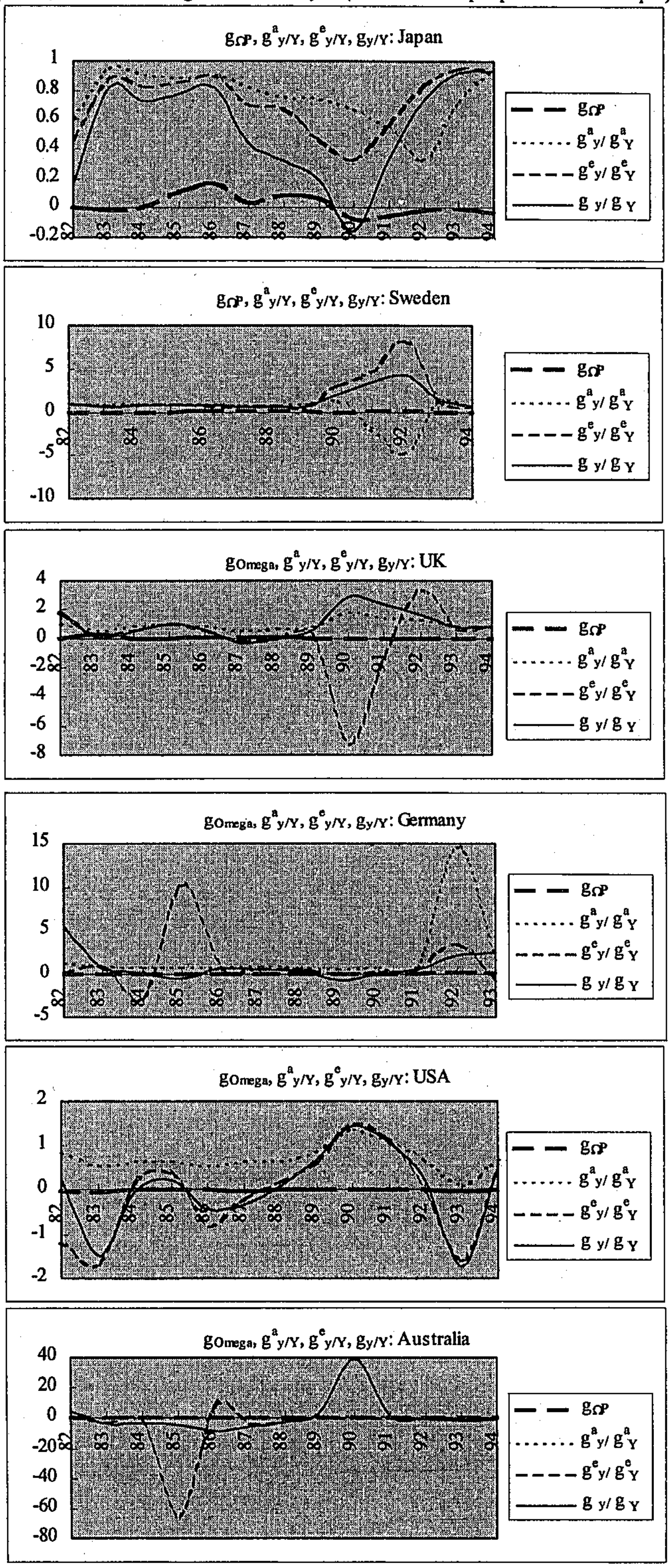
Time series 82-95

Figure 1-7 Capital-output ratio and actual, expected, and theoretical rates of technological progress



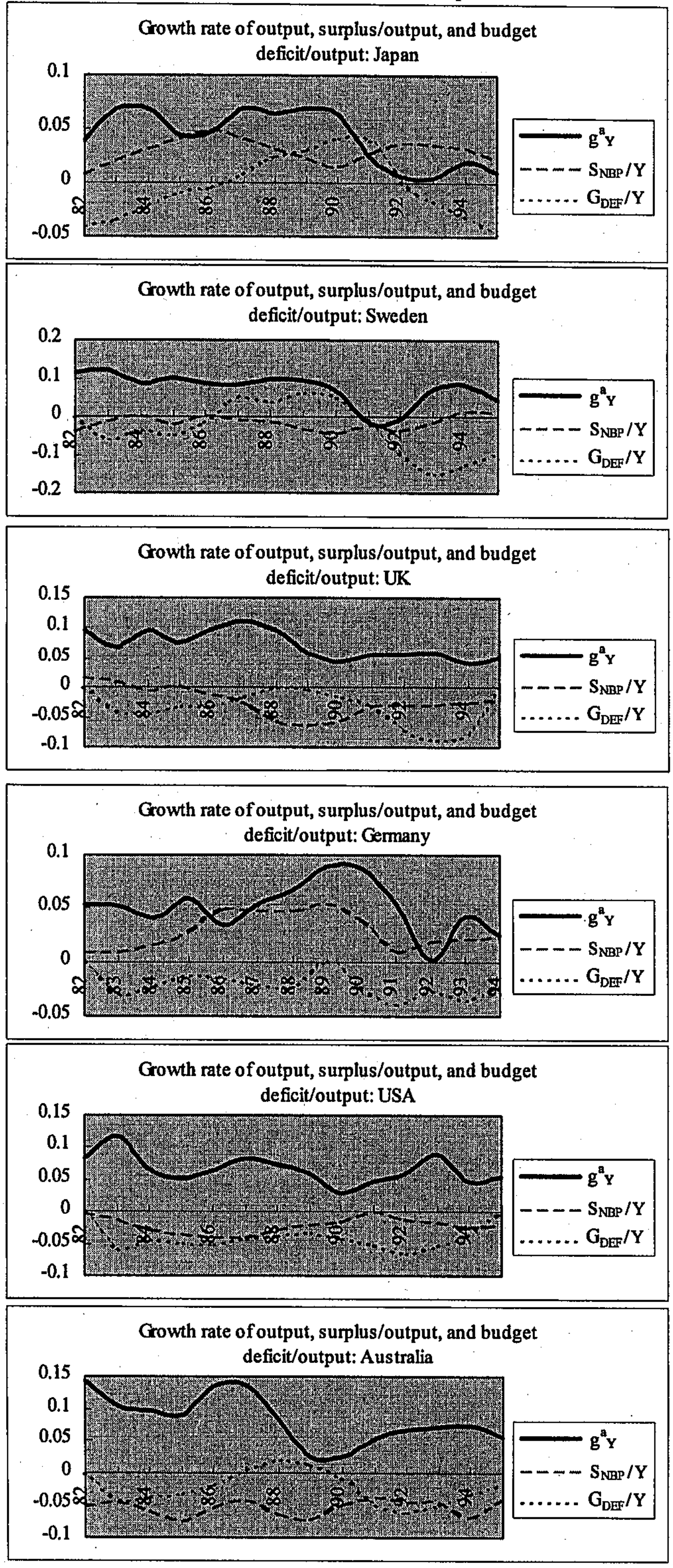
Time series 82-95

Figure 1-8 Actual, expected, and theoretical growth rates of y/Y (the ratio of output per worker to output): compared with $g\Omega_P$



Time series 82-95

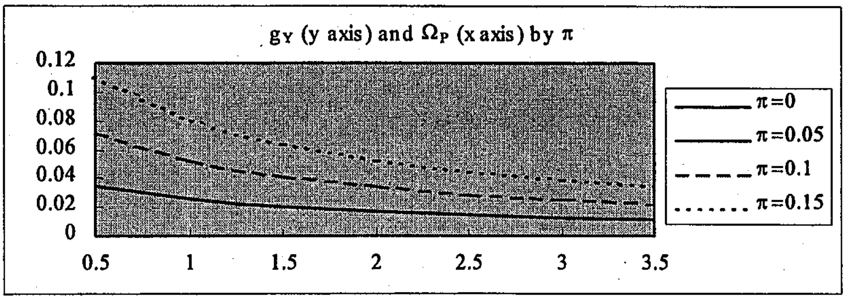
Figure 1-9 Actual growth rate of output, surplus/output, and budget deficit/output

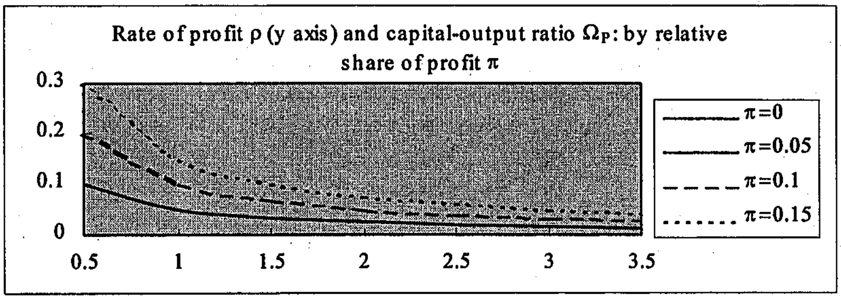


Figures of discrete functions

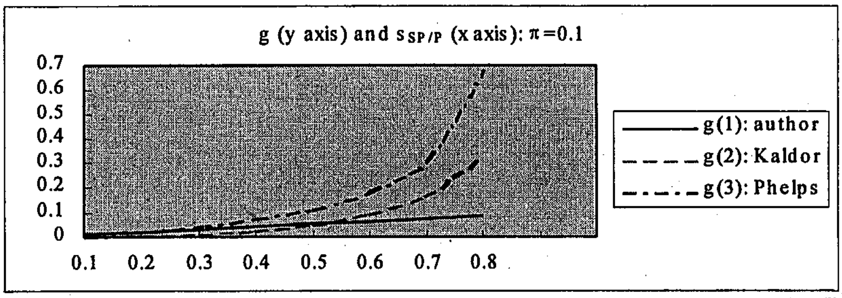
Figure 2-1 Fundamental relationships in terms of the growth rate of output/capital by the relative share of profit

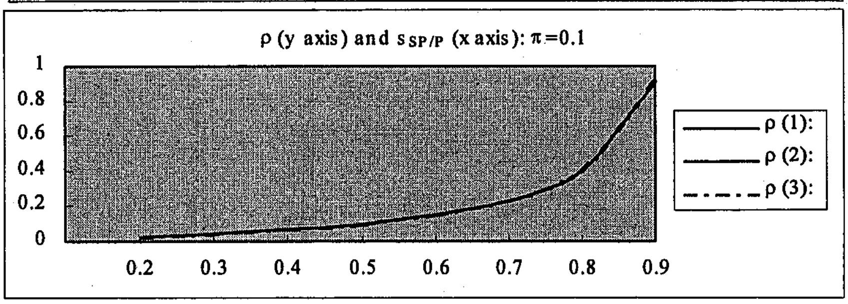
Fundamental relationships





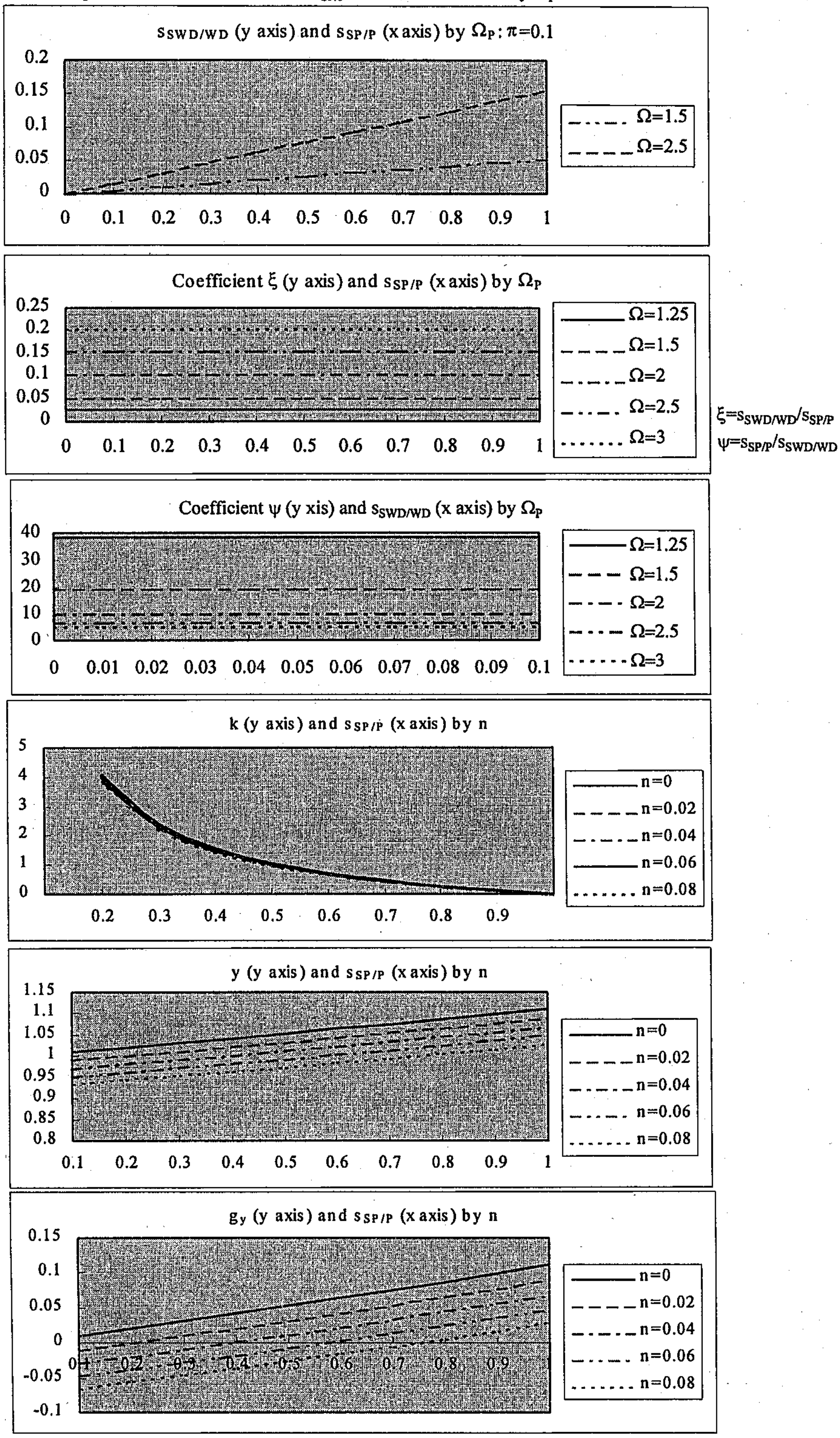
Comparison of models: the author, Kaldor, and Phelps





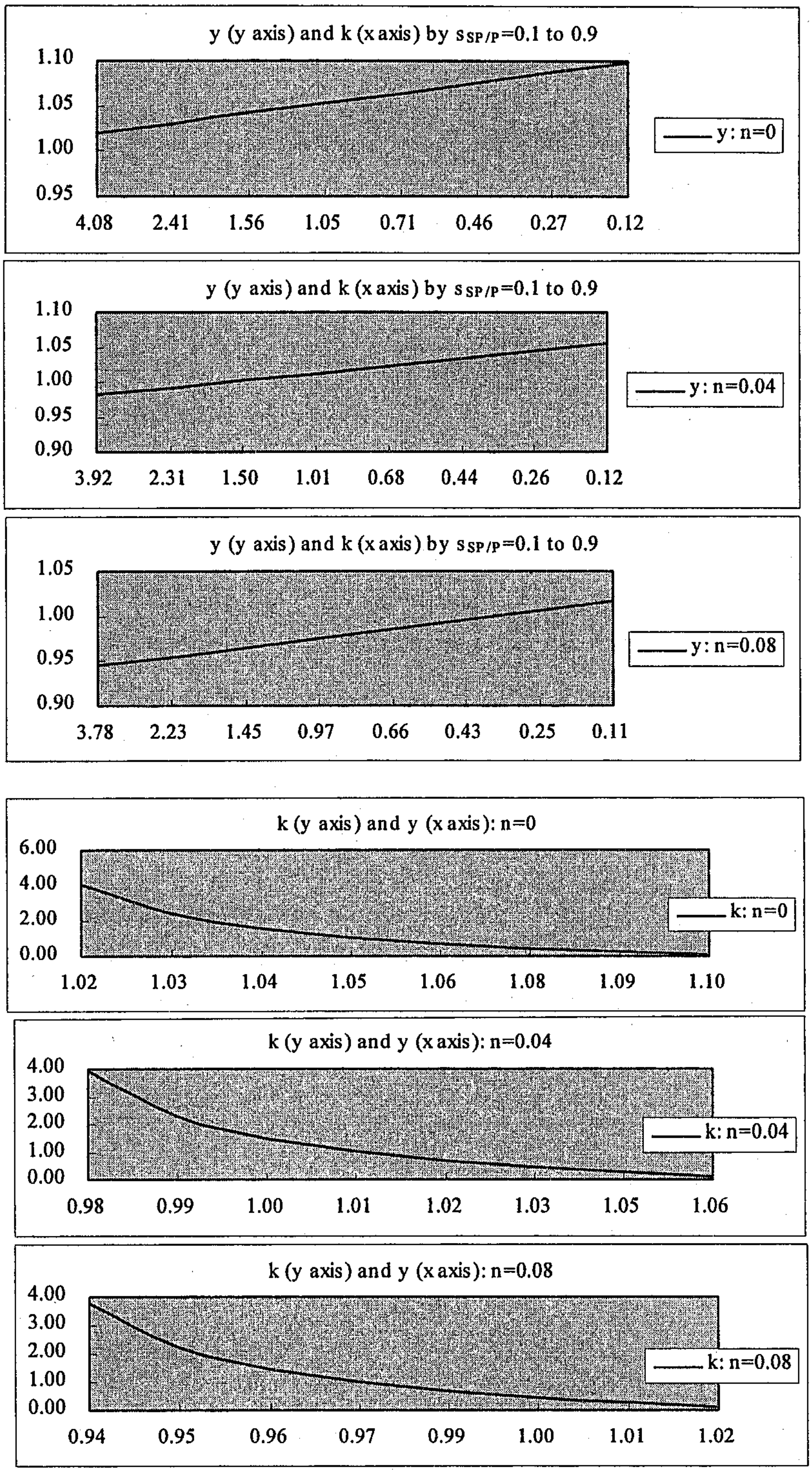
Figures of discrete functions

Figure 2-2 Relationship between the retentuion ratio $s_{SP/P}$ and related variables by Ω_P and n



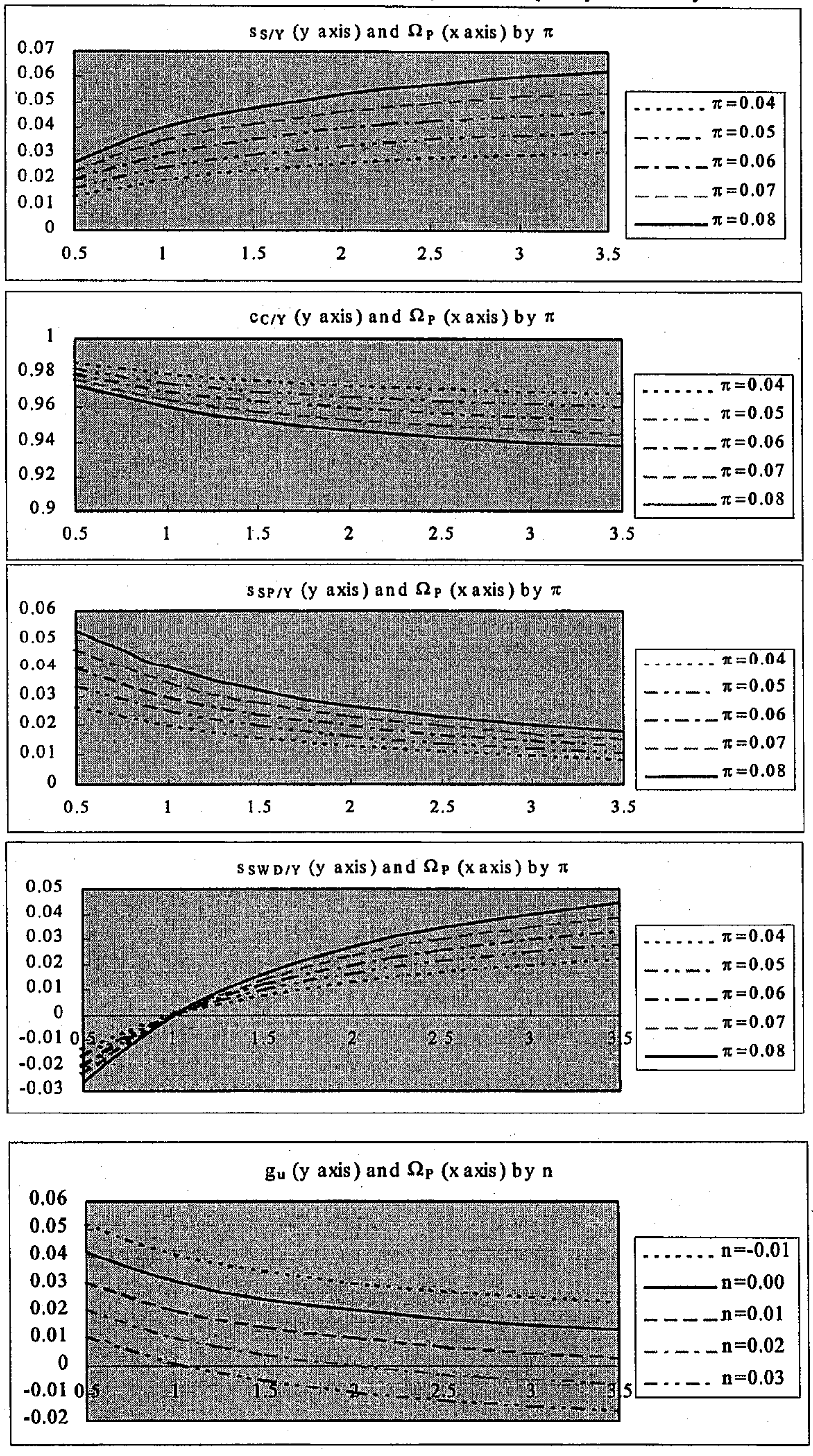
Figures of discrete functions

Figure 2-3 Relationship between capital per worker, y, and output per worker, k, by the retention ratio



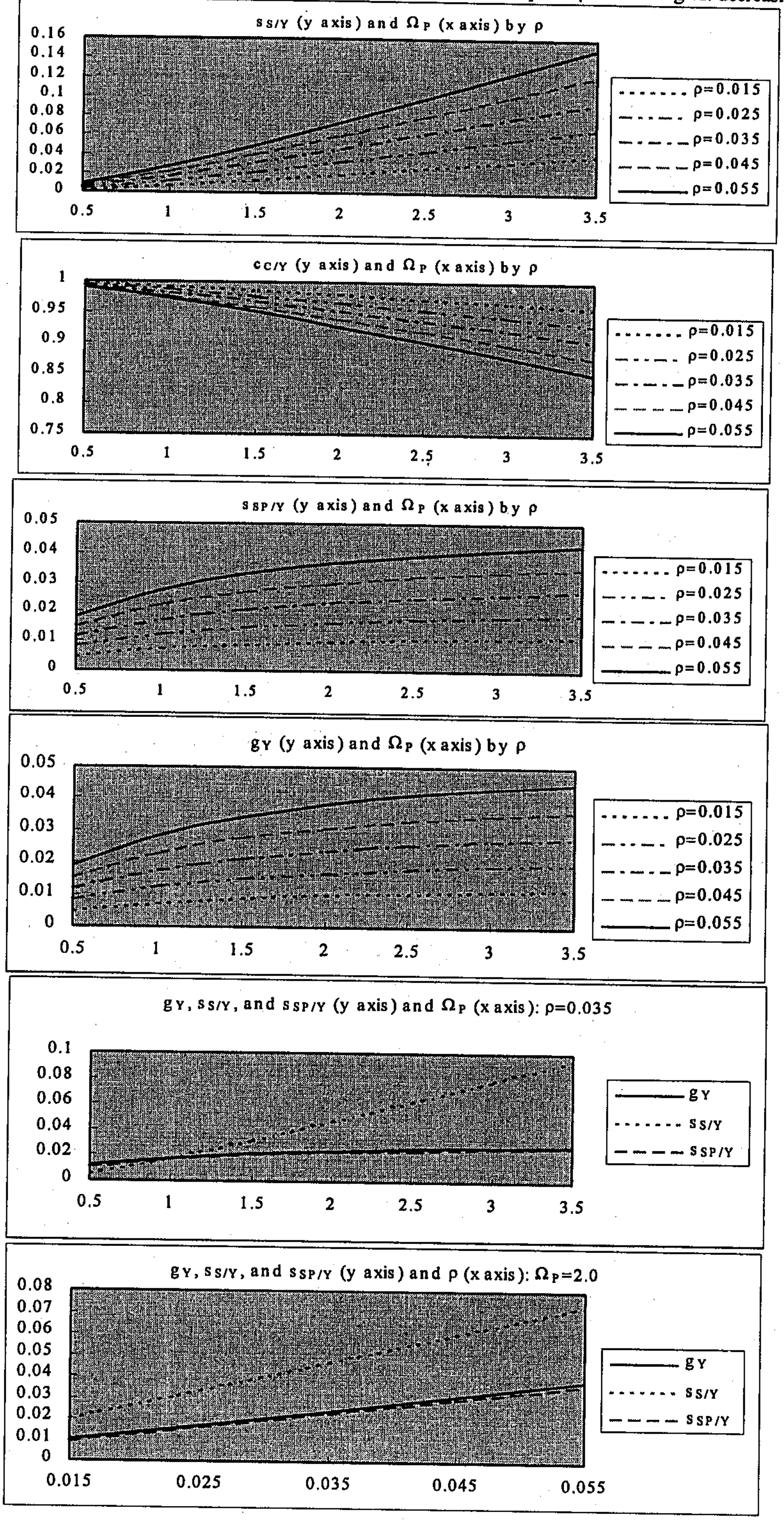
Figures of discrete functions

Figure 2-4 $s_{S/Y}$, $s_{SP/Y}$, $s_{SWD/Y}$, $c_{C/Y}$, and the growth rate of utility as consumption per worker by π



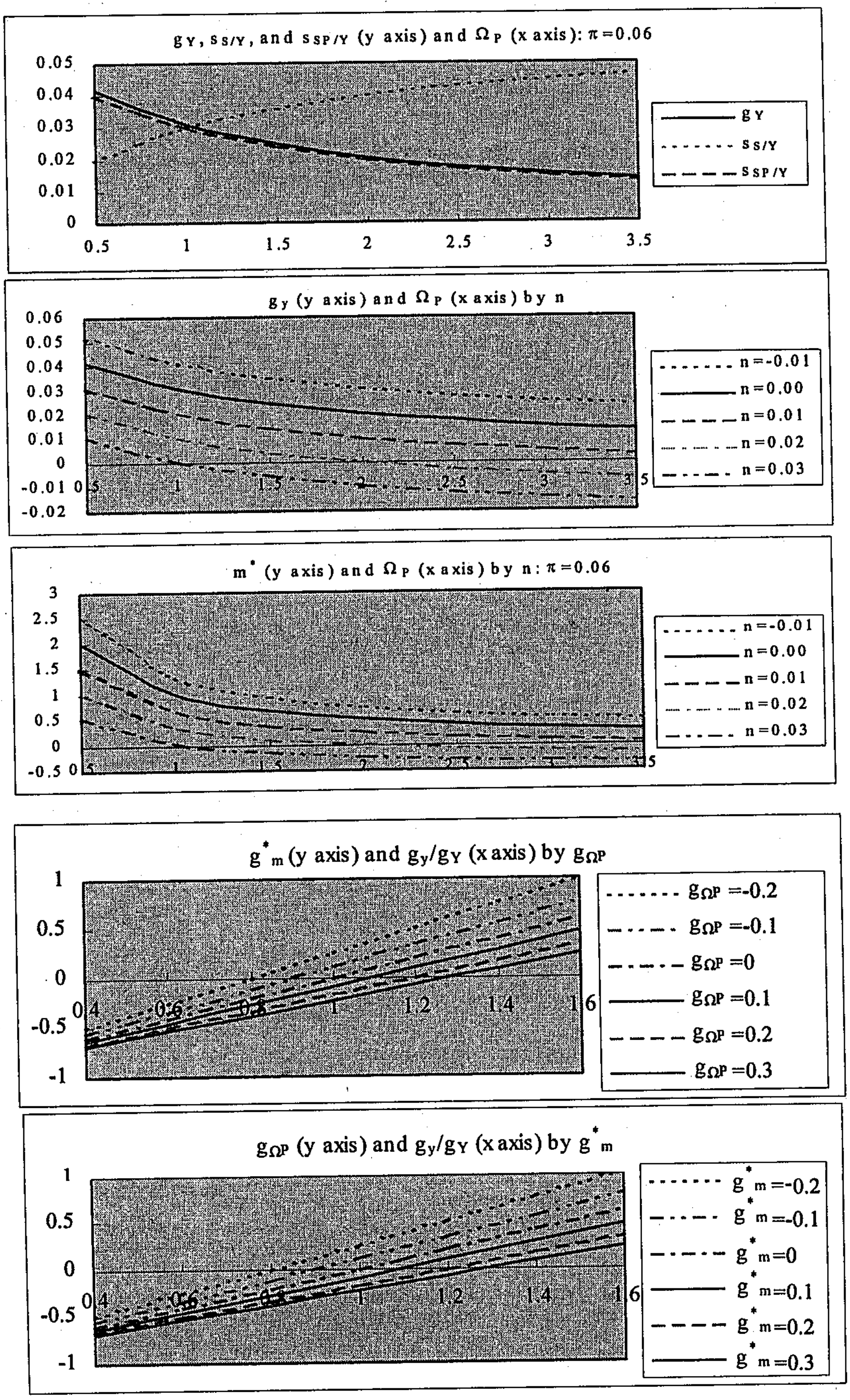
Figures of discrete functions

Figure 2-5 Propensities to save/consume and other variables by the rate of profit ρ: increasing vs. decreasing



Figures of discrete functions

Figure 2-6 Growth rate of output per worker and other variables in terms of technological progress, m^* and g^*_m



$\chi = g_y/g_Y$

If n=0, χ=1