«Note»

Outline of Part III and Part IV in KEWT 3.09 by Sector: 3 Areas and 58 Countries, 1990–2007

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This paper shows the contents of Part III and Part IV in KEWT 3.09 from two aspects by using tables, figures, and illustrations. Part III measures the relationship between the real assets in endogenous equilibrium and the financial/market assets in price-equilibrium. Part IV measures, in equilibrium, the relationship between the inflation/deflation rate and the rates of employment. For the two aspects, several illustrations are preliminarily set up. The essence of these illustrations is shown by using four functions to the ratio of net investment to output, i = I/Y, and to the rate of change in population in equilibrium, n_E , each on the X axis: (1) The speed of convergence function to i = I/Y; $\left(\frac{1}{\lambda^*}\right)(i)$, and (2) The rate of return function to i = I/Y; $r^*(i)$. Also, (3) The

speed of convergence function to n_E ; $\left(\frac{1}{\lambda^*}\right)(n)$, and (4) The rate of return func-

tion to n_E ; $r^*(n)$, where the author starts with a situation of $n = n_E$, for convenience so that n_E is also shown by n. Each mechanism/structure of four functions is illustrated in Appendix A1 to A5 in Appendix.

Three functions, $\left(\frac{1}{\lambda^*}\right)(i)$, $r^*(i)$, and $\left(\frac{1}{\lambda^*}\right)(n)$, are hyperbolic in equilibrium.

 $r^*(n)$ is a linear function in equilibrium and connected with an endogenous Phillips line. The conventional Phillips curve is external, where actual data are used assuming that price-equilibrium holds behind the inflation rate and the natuPapers of the Research Society of Commerce and Economics, Vol. L No. 1 ral rate of unemployment.

Equilibrium and disequilibrium is essential in the data-sets of KEWT. The centre of disequilibrium is determined by each vertical asymptote (V.A.) of two functions, $\left(\frac{1}{\lambda^*}\right)(i)$ and $r^*(i)$. First, the V.A. of $\left(\frac{1}{\lambda^*}\right)(i)$ varies from a minus value to a plus value, depending on alpha > 0 or < 0 while the V.A. of $r^*(i)$ is equal to zero. When the V.A. of $\left(\frac{1}{\lambda^*}\right)(i)$ happens to be zero or alpha = 0, both values of the V.A. overlap. The effective range of equilibrium must avoid the range of disequilibrium whose middle point is each V.A. Second, each hyperbolic has its shape¹⁾ measured by i = I/Y on the X axis. This shape determines the degree of diminishing returns to capital. The border line of disequilibrium and equilibrium is more importantly related to the shape of the hyperbolic. Therefore, the disequilibrium range of i = I/Y is determined by two combinations: (1) the V.A. of $\left(\frac{1}{\lambda^*}\right)(i)$ less its shape and, (2) the V.A. of

 $r^*(i)$ less its shape. If (1) and (2) are overlapped, the disequilibrium range of i = I/Y is most narrow, where an effective range of i = I/Y is most wide, e.g., under a certain range of i = 2.5 to 20%. If (1) and (2) do not overlap at all, the disequilibrium range of i = I/Y is more wide, where an effective range of i = I/Y is more narrow, under the same range of i = 2.5 to 20%.

The above is the methodology of how to maintain the equilibrium range of i = I/Y by year. The determinants of this effective range are parameters such

The shape is measured by the distance between the origin and the curve's the intersection that crosses the diagonal. For example, in the case of r*(i), if this distance is close to zero, the situation is close to constant returns to capital (CRC) and if this distance is long, the situation is under extreme diminishing returns to capital (DRC). When this distance is measured on the X axis, the author calls it 'the shape of the hyperbolic.

as the rate of change in population n_E , the relative share of capital α , the three endogenous parameters (*beta*, *delta*, and *lambda*), the capital-output ratio $\Omega = K/Y$. Policy-makers by country aim at the improvement of these parameters by year, not to expand the balance of payments and deficit.

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Table 1 Amounts and ratios related to money supply by three areas (Part III-1 in KEWT 3.09)

(1) Money	M2	Y	K ₁ =ΔK+K	m = M/K	m=M/Y	m _M/H	r _(DEBT)	H -V W	$l_{EV} = D/(D+V)$
Thirteen E							Exogeneo		IEV-D/(D·V)
1990	2559	7438	5106	0.501	0.344	3.673	0.1278	697	(0.2119)
1991	2902	8558	6589	0.440	0.339	3.625	0.1260	800	(0.0848)
1992	3001	8990	7730	0.388	0.334	3.158	0.1203	950	(0.2624)
1993	3163	9355	8707	0.363	0.338	3.005	0.1023	1053	(0.9392)
1994	3388	10060	9813	0.345	0.337	3.000	0.1013	1129	(0.9032)
1995 1996	3702 3973	10014	9740 10806	0.380	0.370	3.935 3.869	0.1063	941	(0.3481)
1996	4378	10532 11285	12035	0.368 0.364	0.377 0.388	4.139	0.0900 0.0746	1027 1058	(0.3999) (0.2030)
1998	4818	11793	13333	0.361	0.409	4.210	0.0588	1144	(0.1512)
1999	4142	11096	12288	0.337	0.373	3.275	0.0519	1265	(0.0471)
2000	4300	11968	14300	0.301	0.359	2.872	0.0604	1497	(0.0287)
2001	4684	9512	12770	0.367	0.492	4.134	0.0578	1133	(0.0028)
2002	4981	9977	14209	0.351	0.499	4.150	0.0553	1200	(0.0048)
2003	5296	10235	15443	0.343	0.517	4.069	0.0425	1301	(0.0115)
2004 2005	5632 6153	10658 11038	16761 18062	0.336 0.341	0.528 0.557	3.782 3.414	0.0411 0.0339	1489 1802	(0.0138)
2005	6728	11530	19406	0.341	0.584	3.821	0.0339	1761	(0.0168) (0.0069)
2007	7425	13950	21381	0.347	0.532	4.889	0.0436	1519	(0.0037)
Agg. or Ave.	4513	10444	12693	0.3656	0.4517	3.9424	0.0740	1209	(0.2141)
38									
(1) Money_	M2	Ŷ	Kt=ΔK+K	$m_{\rm K}{=}M/K$	$m{=}M/\mathbf{Y}$	$m_\Pi{=}M/\Pi$	r _(DEBT)	$\Pi = Y - W$	$l_{EV} = D/(D+V)$
Fifteen No	n-Euro c	ountries i	n EU area				Exogenee	us	
1990	261	630	585	0.446	0.414	4.462	0.2557	58	(0.0062)
1991	299	727	647	0.462	0.411	4.073	0.1957	73	(0.0800)
1992	331	849	720	0.460	0.390	3.965	0.1930	83	(0.1407)
1993	371	997	805	0.462	0.373	2.876	0.1684	129	(0.4856)
1994	438	1299	917	0.478	0.337	3.188	0.1805	137	(0.3042)
1995	764	1943	1016	0.751	0.393	4.157	0.3247	184	(0.1101)
1996 1997	1114	2780	1404	0.794	0.401	4.212	0.3339	264 574	(0.0791)
1997	1938 2628	5640 8209	2081 3005	0.931 0.875	0.344 0.320	2,808	0.2178 0.1784	574 936	(0.1299) (0.1298)
1998	3539	11362	4165	0.875	0.320	2.631	0.1784	1345	(0.1298)
2000	4828	15853	5985	0.807	0.305	2.355	0.1381	2050	(0.2372)
2001	4957	25791	10949	0.453	0.192	1.121	0.1166	4424	(0.1120)
2002	6259	34483	17771	0.352	0.182	1.052	0.1025	5948	(0.1124)
2003	8011	44006	27709	0.289	0.182	1.030	0.0859	7777	(0.0570)
2004	10194	53587	41424	0.246	0.190	0.927	0.0793	10999	(0.0142)
2005 2006	19531	62507	49055 59914	0.398	0.312	2.642	0.0586	7393	0.0140
2008	24367 28649	73424 83742	76442	0.407 0.375	0.332 0.342	2.975 2.929	0.0621 0.0650	8189 9781	(0.0134) (0.0030)
Agg. or Ave.	6582	23768	16922	0.5464	0.3371	2.9869	0.1618	3353	(0.1237)
									(
(1) Money	M2	Y	Kt=∆K+K	$m_{\rm K}{=}M/K$	m=M/Y	$m_{=}M/\Pi$	r _(DEBT)	$\Pi = Y - W$	$l_{EV} = D/(D+V)$
30 countri	es (excep	t for euro			(less 18)		Exogeneo		
1990	24323	30347	48774	0.499	0.801	2.894	0.2440	8404	(0.0285)
1991	26700	35567	57821	0.462	0.751	2.714	0.2212	9839	(0.0287)
1992 1993	28686	40451	67771 77148	0.423	0.709	2.419	0.2034	11861 9105	(0.0318)
1993	31002 34154	44409 51607	88006	0.402	0.698 0.662	3.405 3.098	0.1896 0.1887	11025	(0.0175) (0.0142)
1995	35042	58114	96428	0.363	0.603	2.387	0.1857	14679	(0.0087)
1996	40168	66306	113313	0.354	0.606	2.428	0.1708	16545	(0.0093)
1997	45705	74233	132171	0.346	0.616	2.321	0.1530	19695	(0.0213)
1998	57461	86016	147094	0.391	0.668	3.643	0.1583	15771	(0.0565)
1999	65879	96239	161746	0.407	0.685	4.819	0.1404	13670	(0.0232)
2000	75664	114275	185637	0.408	0.662	2.372	0.1213	31901	(0.0512)
2001	86208	129485	213226	0.404	0.666	2.416	0.1213	35676	(0.0522)
2002 2003	92895 103138	147566 163853	245405 282189	0.379 0.365	0.630 0.629	2.378 2.404	0.1532 0.1067	39070 42902	(0.0341) (0.0561)
2003	114031	188432	328926	0.365	0.629	1.984	0.1067	574902	(0.0538)
2005	130483	169125	376879	0.346	0.772	3.723	0.1025	35049	(0.0123)
2006	123749	201393	434831	0.285	0.614	2.638	0.1057	46904	(0.0177)
2007	153617	270151	571940	0.269	0.569	2.535	0.0916	60606	(0.0093)
Agg. or Ave.	70495	109309	201628	0.3799	0.7026	2.9751	0.1533	26677	(0.0292)

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(2) Rate of	\mathbf{r}^*	$\mathbf{r}^{*}_{(US)}$	$r_{\rm (DEBT)}/r^*$	a•f: r [*] to i	H.A: r_G^* to i _c	r* _G =r* _{G(HA)}	$i_{VA(speed)}$	$i_{\rm GVA(speed)}$	δ_0/α
Thirteen H	Euro curf	Exogeneou	s	va of r [*] is	the line i=	0			
1990	0.1364	0.0654	0.9370	(0.00028)	(0.3658)	(0.0132)	(0.0047)	(0.0087)	(7.341)
1991 1992	0.1215	0.0598	1.0374	0.00029	(0.2866)	0.0116	(0.0014)	0.0103	(8.238)
1992	0.1230 0.1209	0.0653 0.0594	$0.9786 \\ 0.8462$	(0.00955) (0.00202)	(0.1289) (0.4998)	(0.1436) (0.0351)	0.0022 0.0188	0.0780 (0.0430)	(31.489) 20.850
1993	0.1209	0.0581	0.8799	(0.00202) (0.00579)	(0.4394)	(0.0551) (0.0692)	0.2722	0.4708	11.128
1995	0.0966	0.0586	1.1000	(0.00837)	(0.1498)	(0.0092) (0.0980)	0.0467	0.0879	14.513
1996	0.0950	0.0562	0.9473	(0.00190)	(0.2418)	(0.0482)	(0.0469)	(0.0315)	8.882
1997	0.0879	0.0521	0.8493	(0.00014)	(0.1214)	(0.0061)	(0.0164)	(0.0064)	7.404
1998	0.0858	0.0503	0.6845	(0.00045)	(0.0380)	(0.0177)	(0.0104)	0.0324	5.604
1999	0.1029	0.0492	0.5040	0.00019	0.0301	0.0070	(0.0140)	0.0224	5.313
2000 2001	0.1047	0.0501	0.5766	0.00260	0.0131	0.0465	(0.0155)	3.2416	4.037
2001	0.0887 0.0845	0.0592 0.0765	0.6509 0.6547	0.00190 0.00065	0.0032 0.0217	0.0495 0.0317	(0.0175) (0.0212)	$8.8196 \\ 0.2229$	3.328 3.186
2003	0.0843	0.0835	0.5045	0.00073	0.0256	0.0328	(0.0212) (0.0234)	0.2377	3.004
2004	0.0889	0.0870	0.4626	0.00120	0.0207	0.0416	(0.0222)	0.6351	2.630
2005	0.0998	0.0967	0.3402	0.00000	0.0433	0.0004	(0.0201)	(0.0003)	2.247
2006	0.0907	0.0827	0.4220	0.00009	0.0504	0.0072	(0.0159)	0.0015	2.162
2007	0.0710	0.0840	0.6133	0.00001	0.1150	0.0006	(0.0119)	(0.0003)	2.681
Average	0.0999	0.0663	0.7216	(0.0012)	(0.1083)	(0.0112)	0.0055	0.7650	2.7722
(2) Rate of	r°	r [*] (US)	$r_{(DEBT)}/r^*$	arf: r [*] to i	H.A: r* _G to i _c	r*o-r*ouro	i _{VA(speed)}	i _{GVA(speed)}	δ_0/α
Fifteen No				v.a. of r":		5 - G - G(HA)	* VA(speed)	AGVA(speed)	00.00
1990	0.0998	0.0654	2.5605	0.00029	0.0439	0.0112	(0.0677)	(0.0616)	43.689
1991	0.1135	0.0598	1.7236	0.00004	0.0055	0.0010	(0.0816)	(0.0432)	(249.074)
1992	0.1160	0.0653	1.6639	(0.00036)	(0.0420)	(0.0079)	(0.0809)	(0.0347)	(20.071)
1993	0.1605	0.0594	1.0493	(0.00171)	(0.1444)	(0.0233)	(0.0968)	(0.0210)	(16.205)
1994	0.1499	0.0581	1.2039	(0.00043)	(0.0749)	(0.0062)	(0.0405)	(0.0148)	(18.317)
1995 1996	0.1807	0.0586	1.7964	(0.00000)	(0.0024)	(0.0001)	(0.0045)	(0.0062)	(3.286)
1996	0.1884 0.2761	0.0562 0.0521	1.7723 0.7891	0.00047 0.00008	0.0604 0.2013	0.0096 0.0032	0.2943 (0.0023)	(0.0063) (0.0024)	(8.983) (1.506)
1998	0.3114	0.0503	0.5729	0.00008	0.1976	0.0032	(0.0023)	(0.0022)	(1.469)
1999	0.3230	0.0492	0.4812	0.00115	0.0867	0.0533	(0.0017)	(0.0098)	(1.469)
2000	0.3426	0.0501	0.4032	0.00071	0.0516	0.0318	(0.0013)	(0.0177)	(1.467)
2001	0.4041	0.0592	0.2886	0.00004	0.2395	0.0026	(0.0008)	(0.0014)	(1.747)
2002	0.3347	0.0765	0.3062	0.00082	0.2135	0.0351	0.1422	(0.0166)	(4.481)
2003 2004	0.2807	0.0835	0.3059	0.00003	0.1813	0.0020	(0.0051)	(0.0012)	(4.385)
2004	0.2655 0.1507	0.0870 0.0967	0.2988 0.3888	0.00005	0.2940 0.2495	0.0019 0.0021	(0.0034) (0.0033)	(0.0007) (0.0007)	(53.757) (11.361)
2005	0.1367	0.0827	0.4547	0.00048	0.1895	0.0021	(0.0045)	(0.0021)	(16.751)
2007	0.1280	0.0840	0.5079	0.00006	0.3954	0.0010	(0.0028)	(0.0021)	30.239
Average	0.2201	0.0663	0.9204	0.0001	0.1192	0.0077	0.0021	(0.0140)	(18.9112)
(2) Rate o	r*	r (US)	r _(DEBT) /r [*]		H.A: r* _G to i _c	; r ^w G ^{-rw} G(HA)	i _{VA(speed)}	i _{GVA(speed)}	δ_0/α
30 countrie 1990				v.a. of r [°] :		0.01001	(0.0702)	(0.1100)	1 0 1 4 2
1990	0.1723 0.1702	0.0654 0.0598	1.4159 1.2997	0.00097 (0.00135)	0.12893 0.15280	0.01081 (0.01512)	(0.0782) (0.0992)	(0.1123) 0.0473	1.8143 1.8558
1992	0.1750	0.0653	1.1622	0.00577	0.08727	0.04330	(0.0992)	(0.5116)	1.7115
1993	0.1180	0.0594	1.6063		(0.00062)	(0.00022)	(0.0872)	(0.0908)	2.1847
1994	0.1253	0.0581	1.5066	0.00024	(0.01863)	0.00643	0.0349	0.0154	2.2654
1995	0.1522	0.0586	1.2196	0.01398	0.04169	0.10179	(0.6505)	(3.3022)	2.0635
1996	0.1460	0.0562	1.1698	0.00071	0.10234	0.00787	(0.0779)	(0.0320)	1.9423
1997	0.1490	0.0521	1.0269	0.00165	0.15805	0.01494	(0.0775)	(0.0732)	1.7034
1998 1999	0.1072	0.0503	1.4760	(0.01044)	0.32861	(0.11376)	(0.0770)	0.1652	2.4375
2000	0.0845 0.1718	0.0492 0.0501	1.6612 0.7060	(0.00323) 0.02113	0.28598 0.13076	(0.03595) 0.16866	(0.0739) (0.0706)	0.1110 (3.9620)	3.0851 1.8062
2000	0.1673	0.0592	0.7249	0.00080	0.30237	0.10800	(0.0756)	(0.0455)	1.8082
2002	0.1592	0.0765	0.9620	(0.00156)	0.33582	(0.01922)	(0.0634)	0.0785	1.7944
2003	0.1520	0.0835	0.7019	0.00204	0.28225	0.02206	(0.0607)	(0.1267)	1.7333
2004	0.1748	0.0870	0.5865	0.00531	0.25613	0.05700	(0.0603)	(0.4268)	1.5430
2005	0.0930	0.0967	1.1027	0.00002	0.25314	0.00022	(0.0616)	(0.0011)	1.6437
2006	0.1079	0.0827	0.9798	0.00111	0.23078	0.01247	(0.0604)	(0.0673)	1.5524
2007 Average	0.1060	0.0840	0.8648	0.00003	0.25045	0.00033	(0.1514)	(0.0016)	1.9376
Average	0.1407	0.0663	1.1207	0.0021	0.1838	0.0150	(0.1042)	(0.4631)	1.9382

 Table 2
 Ratios related to rates of return by three areas (Part III-2 in KEWT 3.09)

Table 3 Exchange rates and related real assets by three areas (Part III-3 in KEWT 3.09)

(3) Exchai	per US\$, ae	gy*	$\mathbf{gy}^{*}_{(US)}$	gy**	(e _(US)) /gy**	gy/gy*	r*-r*(US)	e [*] (US)	$e_{(US)}/e_{(US)}^{*}$
Thirteen	$e_{(US)} \rightarrow e_{(EU)}$	05			e _(US) →e _{(EU}			- (03)	$e_{(US)} \rightarrow e_{(EU)}$
1990	1.3633	0.0949	0.0046	20.8440	0.0654	,	0.0711	1.4344	0.950
1991	1.3409	0.1027	0.0031	32.6250	0.0411	1.4501	0.0617	1.4026	0.956
1992	1.2109	0.0733	0.0026	28.5432	0.0424	0.6165	0.0577	1.2686	0.955
1993	1.1200	0.0556	0.0085	6.5493	0.1710	0.6359	0.0615	1.1815	0.948
1994	1.2300	0.0539	0.0130	4.1354	0.2974	4.7668	0.0570	1.2870	0.956
1995	1.3142	0.0589	0.0117	5.0346	0.2610	(0.1574)	0.0380	1.3522	0.972
1996	1.2530	0.0507	0.0145	3.4879	0.3592	0.9550	0.0388	1.2918	0.970
1997	1.1020	0.0538	0.0187	2.8753	0.3833	1.2794	0.0357	1.1377	0.969
1998	1.1668	0.0528	0.0237	2.2293	0.5234	0.8086	0.0356	1.2024	0.970
1999	0.9954	0.0812	0.0301	2.6992	0.3688	(0.7599)	0.0537	1.0491	0.949
2000	1.0747	0.0790	0.0332	2.3784	0.4519	0.9464	0.0546	1.1293	0.952
2001	1.1347	0.0710	0.0183	3.8851	0.2921	(2.9435)	0.0295	1.1642	0.975
2002	0.9536	0.0591	0.0167	3.5385	0.2695	0.7326	0.0080	0.9616	0.992
2003	0.7918	0.0469	0.0153	3.0713	0.2578	0.4288	0.0007	0.7925	0.999
2004	0.7342	0.0472	0.0176	2.6823	0.2737	0.7594	0.0019	0.7361	0.997
2005	0.8477	0.0443	0.0165	2.6848	0.3157	0.6906	0.0031	0.8508	0.996
2006	0.7593	0.0433	0.0248	1.7435	0.4355	0.9355	0.0080	0.7673	0.990
2007	0.6793	0.0562	0.0214	2.6319	0.2581	3.6622	(0.0129)	0.6664	1.019
Average	1.0595	0.0625	0.0163	7.3133	0.2815	0.8710	0.0335	1.0931	0.9730
(2) Erchor	per US\$, ac			gy**	(- /-*
		gy	gy (US)		(e _(US)) /gy	gy/gy	r -r (US)	e (US)	e _(US) /e [*] _(US)
1990	$e_{(US)} \rightarrow e_{(EU)}$	0.0500	gy =	=gy /gy (US)	$e_{(US)} \rightarrow e_{(EU)}$)	0.02.45	1 2070	$e_{(US)} \rightarrow e_{(EU)}$
1990	1.3633 1.3409	0.0589 0.0469	0.0046 0.0031	12.9364 14.9028	0.1054 0.0900	3.0724	0.0345 0.0537	1.3978	0.975 0.961
1992	1.2109	0.0489	0.0026	19.0641	0.0635	3.2138		$1.3946 \\ 1.2616$	0.961
1992	1.1200	0.0490	0.0020	5.9824	0.1872	3.22138	$0.0507 \\ 0.1011$	1.2211	0.980
1994	1.2300	0.0510	0.0130	3.9159	0.3141	1.2133	0.0919	1.3219	0.931
1995	1.3142	0.0808	0.0117	6.9028	0.1904	6.0550	0.1222	1.4364	0.915
1996	1.2530	0.0910	0.0145	6.2602	0.2002	4.6971	0.1322	1.3852	0.905
1997	1.1020	0.0941	0.0187	5.0278	0.2192	10.8924	0.2239	1.3259	0.831
1998	1.1668	0.0893	0.0237	3.7676	0.3097	5.0725	0.2612	1.4280	0.817
1999	0.9954	0.0812	0.0301	2.7012	0.3685	4.6976	0.2738	1.2692	0.784
2000	1.0747	0.0915	0.0332	2.7561	0.3899	4.2975	0.2924	1.3671	0.786
2001	1.1347	0.1531	0.0183	8.3845	0.1353	4.0807	0.3448	1.4795	0.767
2002	0.9536	0.1416	0.0167	8.4769	0.1125	2.3686	0.2582	1.2118	0.787
2003	0.7918	0.1549	0.0153	10.1506	0.0780	1.7743	0.1972	0.9890	0.801
2004	0.7342	0.1627	0.0176	9.2471	0.0794	1.3313	0.1786	0.9128	0.804
2005	0.8477	0.0728	0.0165	4.4087	0.1923	2.2718	0.0540	0.9017	0.940
2006	0.7593	0.0862	0.0248	3.4691	0.2189	2.0112	0.0540	0.8133	0.934
2007	0.6793	0.1097	0.0214	5.1375	0.1322	1.2738	0.0440	0.7233	0.939
Average	1.0595	0.0925	0.0163	7.4162	0.1881	3.6203	0.1538	1.2133	0.8752
	per US\$, ac	gy*	gy [°] (US)	gy**	(e _(US)) /gy ^{**}	gy/gy*	$r^{*}-r^{*}_{(US)}$	e [*] (US)	e _(US) /e [*] _(US)
30 countr	$=e_{(US)}$				$e_{(US)} \rightarrow e_{(US)}$	(less 18)			$e_{(US)} \rightarrow e_{(US)}$
1990	1.3633	0.0982	0.0046	21.56	0.0632		0.1070	1.4703	0.9273
1991	1.3409	0.0947	0.0031	30.07	0.0446	1.5981	0.1104	1.4513	0.9240
1992	1.2109	0.0912	0.0026	35.48	0.0341	1.3128	0.1097	1.3206	0.9169
1993	1.1200	0.0714	0.0085	8.40	0.1333	1.1238	0.0586	1.1786	0.9503
1994 1995	1.2300	0.0701	0.0130	5.38	0.2287	2.0831	0.0672	1.2972	0.9482
1995	1.3142	0.0845	0.0117	7.22	0.1821	1.2058	0.0937	1.4079	0.9335
1996	1.2530	0.0886	0.0145	6.095	0.2056	1.3417	0.0898	1.3428	0.9331
1997	1.1020 1.1668	0.0895 0.0584	0.0187 0.0237	4.782 2.465	0.2304 0.4734	1.1519 2.4377	0.0969 0.0570	1.1989 1.2238	0.9192 0.9535
1999	0.9954	0.0584	0.0237	1.676	0.5939	2.4377 2.0567	0.0353	1.0307	0.9535
2000	1.0747	0.0304	0.0301	2.386	0.5939	2.0567	0.1217	1.1964	0.8983
2000	1.1347	0.0792	0.0332	4.342	0.4504	1.4800	0.1217	1.2428	0.8983
2002	0.9536	0.0816	0.0167	4.883	0.1953	1.5397	0.0827	1.0363	0.9202
2003	0.7918	0.0821	0.0153	5.377	0.1472	1.1830	0.0685	0.8603	0.9202
2004	0.7342	0.0923	0.0176	5.247	0.1399	1.4781	0.0878	0.8220	0.8932
2005	0.8477	0.0625	0.0165	3.783	0.2241	(1.8065)	(0.0037)	0.8440	1.0044
2006	0.7593	0.0664	0.0248	2.672	0.2842	2.6688	0.0252	0.7845	0.9679
2007	0.6793	0.0647	0.0214	3.029	0.2243	4.8093	0.0220	0.7013	0.9686
Average	1.0595	0.0781	0.0163	8.6032	0.2287	1.6372	0.0743	1.1339	0.9365

Table 4Speed of convergence function to i = I/Y with vertical asymptote by sectorand area (Part IV-1 in KEWT 3.09)

PART IV-1				iVA(speed			alpha	alpha(G)	alpha(PRI)
				luding Slo					
1990	6.69	6.88	4.09	(0.0047)	(0.0087)	(0.0025)	0.0937	(0.1566)	0.1399
1991 1992	6.02 3.52	10.07 (10.52)	1.43 21.50	(0.0014) (0.0001)	$0.0103 \\ 0.0780$	(0.0006) 0.0221	0.0935 0.1057	(0.1476) (0.1696)	0.1381 0.1588
1993	(15.10)	7.19	(274.04)	0.0001)	(0.0009)	0.00221	0.1125	(0.1898) (0.1872)	0.1388
1994	(85.80)	6.78	579.80	0.0023	(0.0009)	(0.0077)	0.1123	(0.1550)	0.1651
1995	(52.26)	(11.01)	396.85	0.0016	0.0879	(0.0102)	0.0939	(0.1960)	0.1537
1996	111.37	16.88	106.47	(0.0469)	(0.0315)	(0.0111)	0.0975	(0.2592)	0.1668
1997	58.24	22.09	53.11	(0.0164)	(0.0064)	(0.0644)	0.0937	(0.1071)	0.1385
1998	42.01	(40.09)	33.08	(0.0104)	0.0324	0.0058	0.0970	(0.0461)	0.1317
1999 2000	32.48	(25.87)	25.11 11.76	(0.0140)	0.0224	(0.0007)	0.1140	0.0326	0.1355
2000	26.78 23.95	15.50 19.68	14.92	(0.0155) (0.0175)	(0.0016) (0.0009)	0.0262 0.0248	$0.1251 \\ 0.1191$	0.0507 0.0416	0.1466 0.1428
2002	27.18	53.82	21.56	(0.0212)	0.2230	0.0041	0.1203	0.0410	0.1448
2003	33.12	53.33	27.37	(0.0234)	0.2405	0.0044	0.1272	0.0473	0.1527
2004	33.00	32.72	26.07	(0.0222)	0.6427	0.0154	0.1397	0.0513	0.1688
2005	36.36	32.96	18.92	(0.0201)	(0.0003)	0.0325	0.1633	0.0359	0.2062
2006	35.80	(8.60)	32.26	(0.0159)	0.0017	(0.1853)	0.1527	0.0493	0.1868
2007	26.01	10.91	22.24	(0.0119)	(0.0003)	(0.4878)	0.1089	0.0911	0.1147
Average	19.4097	10.7069	62.3609	(0.0132)	0.0715	(0.0351)	0.1150	(0.0546)	0.1535
	$1/\lambda^*$	1/2(G*)	1/2 (PRD*	iVA(speed	iGVA(ene	iPRIVA(s	almha	alpha(G)	alpha(PRI)
Fifteen N		ountries i			10 m(spt				
1990	(6.13)	40.79	4.46	0.0000	(0.0001)	(0.0001)	0.0928	0.0640	0.1014
1991	0.91	21.40	8.69	(0.0000)	(0.0007)	(0.0002)	0.1009	0.0079	0.1263
1992	7.60	13.89	11.09	(0.0002)	(0.0005)	(0.0002)	0.0983	(0.0623)	0.1371
1993	7.28	4.81	9.44	(0.0002)	(0.0003)	(0.0002)	0.1296	(0.2280)	0.2035
1994	7.17	10.52	10.94	(0.0035)	(0.0141)	(0.0040)	0.1058	(0.1015)	0.1476
1995	10.03	8.15	10.89	(0.0046)	(0.0062)	(0.0044)	0.0946	(0.0020)	0.1155
1996	5.85	1.42	6.80	(0.0165)	(0.0063)	(0.0167)	0.0951	0.0536	0.1041
1997 1998	$10.06 \\ 10.64$	6.12 7.52	11.44 11.68	(0.0024) (0.0021)	(0.0024) (0.0022)	(0.0024) (0.0020)	0.1019 0.1140	0.1172 0.1083	0.0986
1999	11.68	2.23	13.95	(0.0021)	(0.0022)	0.0077	0.1184	0.0705	0.1290
2000	10.41	3.30	12.24	(0.0015)	(0.0178)	0.0089	0.1293	0.0400	0.1489
2001	6.03	7.99	5.71	(0.0012)	(0.0014)	(0.0012)	0.1715	0.1106	0.1842
2002	4.58	4.26	4.69	(0.0102)	(0.0174)	(0.0080)	0.1725	0.1297	0.1819
2003	4.40	9.38	3.65	(0.0008)	(0.0012)	(0.0007)	0.1767	0.1011	0.1938
2004	0.64	4.68	(0.40)	(0.0001)	(0.0007)	0.0000	0.2053	0.1806	0.2109
2005 2006	6.61	2.82	7.97 7.12	(0.0006)	(0.0004) 0.0093	(0.0007) 0.0007	0.1183 0.1115	0.1752 0.1577	0.1049 0.1008
2008	4.53 (4.08)	(7.20) 31.55	6.29	(0.0007) 0.0002	(0.0024)	(0.0026)	0.1115	0.1577	0.0430
Average	5.4558	9.6457	8.1475	(0.0026)	(0.0024)	(0.0015)	0.1252	0.0753	0.1359
5									
	$1/\lambda^*$			iVA(speed		iPRIVA(s	alpha	alpha(G)	alpha(PRI)
AGGREG				Euro 30 ec					
1990	21.67 21.59	18.61 9.40	24.48 23.59	(0.0782) (0.0992)	(0.1117) 0.0473	(0.0813) (0.1777)	0.2769 0.2766	$0.1544 \\ 0.1858$	0.2996 0.2934
1992	23.13	11.99	26.83	(0.0854)	(0.5118)	(0.0289)	0.2932	0.1838	0.3116
1993	22.58	21.29	21.25	(0.0872)	(0.0909)	(0.3048)	0.2050	(0.0017)	0.2367
1994	22.85	33.77	22.84	(0.1132)	(0.2159)	(0.1018)	0.2136	(0.0278)	0.2483
1995	21.04	13.50	22.01	(0.1402)	(1.0643)	(0.1432)	0.2526	0.2433	0.2545
1996	20.38	17.66	20.91	(0.1099)	(0.0546)	(0.1244)	0.2495	0.2086	0.2575
1997	21.27	14.42	24.18	(0.0775)	(0.0732)	(0.0956)	0.2653	0.3154	0.2541
1998 1999	26.26 27.71	5.14 14.22	55.44 46.16	(0.0770) (0.0739)	$0.1651 \\ 0.1110$	(0.1455) (0.7487)	0.1834 0.1420	$0.3790 \\ 0.4180$	0.1359 0.0692
2000	26.40	9.18	46.16	(0.0739)		(0.7487) (0.0887)	0.1420	0.4180	0.2242
2001	25.67	17.08	45.34	(0.0756)	(0.0460)	(0.1174)	0.2755	0.4929	0.2090
2002	24.60	18.20	41.68	(0.0634)	0.0786	(0.1601)	0.2648	0.5094	0.1881
2003	23.79	16.45	45.69	(0.0607)	(0.1293)	(0.0617)	0.2618	0.5114	0.1818
2004	23.68	15.69	39.68	(0.0603)	(0.4254)	(0.0156)	0.3051	0.5296	0.2313
2005	23.84	19.56	49.54	(0.0616)	(0.0011)	(0.0942)	0.2072	0.5517	0.0911
2006	24.16	18.94	45.40	(0.0604)	(0.0673)	(0.0203)	0.2329	0.5395	0.1320
2007 Average	21.59 23.4561	20.10 16.4007	29.44 34.9207	(0.1514) (0.0859)	(0.0016) (0.1370)	(0.5312) (0.1690)	0.2243	0.5557 0.3462	0.1153 0.2074
Average	23.4301	10.4007	34.9207	(0.0659)	(0.1370)	(0.1090)	0.2430	0.3402	0.2074

Table 5Rate of return function to i = I/Y with horizontal asymptote by sector and
area (Part IV-2 in KEWT 3.09)

PART IV-2	2 af of r*to i	HA: r* to i	r*-r*(HA)	af of r*G to i	HA: r*o to i	r*c=r*com	af of r*puto	H.A: r*put b	r*en-r*ena
		urrency cou							the line i–0
1990	0.00017	0.1298	0.0067	(0.00028)	(0.3658)	(0.0132)	0.00024	0.1798	0.0100
1991	0.00005	0.1198	0.0017	0.00029	(0.2866)	0.0116	0.00015	0.1649	0.0050
1992 1993	0.00001	0.1225	0.0005	(0.00955)	(0.1289)	(0.1436)	(0.00065)	0.2088	(0.0335)
1993	$0.00001 \\ 0.00001$	0.1202 0.1144	0.0006	(0.00012) (0.00014)	(0.5327) (0.5066)	(0.0022) (0.0020)	0.00002	0.2144 0.2077	0.0012 0.0013
1995	0.00001	0.0961	0.0005	(0.00837)	(0.1498)	(0.0980)	0.00002	0.1512	0.0009
1996	0.00014	0.0895	0.0055	(0.00190)	(0.2418)	(0.0482)	0.00007	0.1552	0.0035
1997	0.00011	0.0840	0.0039	(0.00014)	(0.1214)	(0.0061)	0.00050	0.1074	0.0166
1998	0.00010	0.0823	0.0035	(0.00045)	(0.0380)	(0.0177)	(0.00010)	0.1129	(0.0035)
1999 2000	0.00014	0.0996	0.0033	0.00019	0.0301 0.0131	0.0070	0.00001 (0.00095)	0.1158 0.1356	0.0002
2000	0.00020	0.0834	0.0045	0.00260 0.00190	0.0032	0.0465 0.0495	(0.00095)	0.1356	(0.0223) (0.0131)
2002	0.00032	0.0775	0.0070	0.00065	0.0217	0.0317	(0.00009)	0.0909	(0.0017)
2003	0.00036	0.0753	0.0090	0.00073	0.0256	0.0328	(0.00010)	0.0904	(0.0022)
2004	0.00037	0.0798	0.0090	0.00120	0.0207	0.0416	(0.00043)	0.1025	(0.0097)
2005 2006	0.00038	0.0901	0.0097	0.00000	0.0432	0.0004	(0.00159)	0.1532	(0.0452)
2008	0.00030	0.0832 0.0671	$0.0076 \\ 0.0040$	0.00009 0.00001	0.0503 0.1145	0.0072 0.0006	0.00216 0.00283	0.0584 0.0300	0.0371 0.0346
Average	0.00019	0.0953	0.0046	(0.00074)	(0.1139)	(0.0057)	0.0001	0.1326	(0.0012)
	0.0002	0.0755	0.0040	(0100074)	(0.1155))	(0.0057)	010001	0.1520	(0.0012)
		HA: r* to i			HA: r [*] _G to i	r* _G =r* _{G(HA)}			
		countries i							the line i−0
1990	0.00000	0.0998	0.0001	0.00000	0.0551	0.0000	0.00001	0.1176	0.0005
1991	0.00001	0.1128	0.0007	0.00000	0.0065	0.0000	0.00001	0.1559	0.0010
1992 1993	0.00001	0.1153	0.0007	(0.00001)	(0.0496)	(0.0003)	0.00001	0.1815	0.0011
1994	0.00001 0.00024	$0.1595 \\ 0.1340$	$0.0009 \\ 0.0159$	(0.00005) (0.00041)	(0.1669) (0.0751)	(0.0009) (0.0060)	0.00002	0.2917 0.2172	0.0018 0.0305
1995	0.00012	0.1719	0.0088	(0.00000)	(0.0024)	(0.0001)	0.00014	0.2348	0.0128
1996	0.00064	0.1550	0.0334	0.00047	0.0604	0.0096	0.00065	0.1871	0.0446
1997	0.00005	0.2698	0.0063	0.00008	0.2013	0.0032	0.00005	0.2946	0.0077
1998	0.00005	0.3049	0.0065	0.00006	0.1976	0.0033	0.00005	0.3441	0.0080
1999 2000	0.00005	0.3163 0.3373	0.0067	0.00115 0.00071	0.0867 0.0518	0.0533	(0.00017) (0.00024)	0.4169 0.4577	(0.0335) (0.0385)
2001	0.00004	0.4008	0.0033	0.00004	0.2388	0.0026	0.00005	0.4379	0.0034
2002	0.00063	0.3069	0.0278	0.00095	0.2130	0.0388	0.00049	0.3304	0.0224
2003	0.00005	0.2789	0.0018	0.00003	0.1718	0.0019	0.00006	0.3009	0.0018
2004	0.00006	0.2641	0.0014	0.00005	0.2711	0.0019	0.00000	0.2641	0.0000
2005 2006	0.00004	0.1489 0.1349	0.0018	0.00005	0.2271 0.1714	0.0019	0.00004	0.1311	0.0018
2007	0.00005 0.00001	0.1276	0.0018	0.00057 0.00003	0.3679	0.0174 0.0004	(0.00003) 0.00006	0.1252 0.0486	(0.0011) 0.0019
Average	0.0001	0.2133	0.0069	0.000	0.1126	0.0088	0.0001	0.2521	0.0037
LCCDEC		HA: r* to i AVERRA				r* _G -r* _{G(HA)} →r*G(RE			r* _{PRI} -r* _{PRI()} the line i=0
1990	0.00156	0.1498	0.0225	0.00098	0.1288	→F*G(RE 0.0108	0.00163	0.1506	0.0257
1991	0.00190	0.1434	0.0223	(0.00135)	0.1527	(0.0151)	0.00292	0.1316	0.0434
1992	0.00170	0.1496	0.0255	0.00577	0.0872	0.0433	0.00067	0.1706	0.0120
1993	0.00154	0.0964	0.0216	(0.00002)	(0.0006)	(0.0002)	0.00388	0.0901	0.0502
1994	0.00190	0.0984	0.0268	(0.00047)	(0.0058)	(0.0064)	0.00185	0.1257	0.0274
1995 1996	0.00242 0.00205	$0.1201 \\ 0.1199$	0.0322	0.00888 0.00113	0.0689 0.0980	0.0746 0.0122	0.00244 0.00225	0.1202	0.0339 0.0297
1997	0.00159	0.1279	$0.0262 \\ 0.0211$	0.00165	0.1581	0.0122	0.00180	$0.1242 \\ 0.1168$	0.0267
1998	0.00127	0.0863	0.0209	(0.01043)	0.3286	(0.1137)	0.00115	0.0428	0.0373
1999	0.00103	0.0666	0.0179	(0.00322)	0.2860	(0.0359)	0.00116	0.0093	0.0318
2000	0.00140	0.1475	0.0244	0.02108	0.1311	0.1684	0.00134	0.0993	0.0373
2001 2002	0.00149 0.00129	0.1424 0.1383	0.0249	0.00081	0.3024	0.0091	0.00152 0.00176	0.0828 0.0677	0.0426
2002	0.00129	0.1383	0.0209 0.0193	(0.00157) 0.00208	0.3352 0.2814	(0.0193) 0.0224	0.00176	0.0677	0.0444 0.0259
2003	0.00120	0.1551	0.0193	0.00530	0.2558	0.0569	0.00035	0.1218	0.0094
2005	0.00118	0.0785	0.0145	0.00002	0.2526	0.0002	0.00071	0.0248	0.0158
2006	0.00122	0.0920	0.0159	0.00111	0.2301	0.0125	0.00032	0.0536	0.0082
2007	0.00247	0.0785	0.0274	0.00003	0.2495	0.0003	0.00245	0.0207	0.0347
Average	0.0016	0.1180	0.0227	0.002	0.1856	0.0131	0.0016	0.0906	0.0298

Table 6Speed of convergence function to the rate of change in population n with
vertical asymptote and the gradient of intercept by sector and area (Part
IV-3 in KEWT 3.09)

PART IV-3	speed VA o	speedG VA	speedPRI V	gra of r*to n	its intercept	graG of r*G	its intercept	graGPRI of	its intercept
E0. Thirt	een Euro	currency o	ountries	(including	Slovenia	in 2007)			
1990	(0.1601)	(0.1207)	(0.2796)	1.490	0.1291	(2.194)	(0.3640)	2.222	0.1789
1991	(0.1818)	(0.0913)	(0.8072)	1.284	0.1196	(1.993)	(0.2880)	1.819	0.1644
1992	(0.3175)	0.1565	(0.0675)	1.792	0.1224	(1.488)	(0.1199)	2.959	0.2114
1993	0.0749	(0.0180)	0.0198	2.280	0.1202	(4.613)	(0.5326)	4.339	0.2143
1994	0.0134	0.0029	0.0076	2.237	0.1144	(4.149)	(0.5064)	4.387	0.2077
1995	0.0214	0.1316	(0.0027)	1.727	0.0961	(1.307)	(0.1419)	3.245	0.1512
1996	(0.0068)	(0.0370)	(0.0101)	1.848	0.0892	(3.614)	(0.2394)	3.168	0.1550
1997	(0.0165)	(0.0384)	(0.0138)	1.642	0.0838	(2.114)	(0.1211)	2.178	0.1066
1998	(0.0241)	0.0403	(0.0366)	1.637	0.0821	(0.984)	(0.0374)	2.069	0.1131
1999	(0.0320)	0.0514	(0.0459)	1.323	0.0993	0.598	0.0298	1.409	0.1157
2000	(0.0391)	0.0020	(0.1157)	1.364	0.0998	0.647	0.0122	1.531	0.1378
2001	(0.0428)	0.0003	(0.0893)	1.253	0.0830	0.926	0.0030	1.290	0.1088
2002	(0.0365)	0.0054	(0.0555)	1.381	0.0771	1.288	0.0212	1.369	0.0910
2003	(0.0290)	0.0059	(0.0445)	1.672	0.0749	1.297	0.0249	1.713	0.0905
2004	(0.0299)	0.0033	(0.0517)	1.761	0.0794	1.179	0.0200	1.863	0.1031
2005	(0.0281)	(0.0313)	(0.0862)	2.112	0.0896	1.829	0.0432	2.465	0.1563
2006	(0.0290)	0.1262	(0.0162)	1.996	0.0828	1.871	0.0501	1.754	0.0571
2007	(0.0398)	(0.1006)	(0.0123)		0.0668	2.104	0.1145	0.927	0.0289
Average	(0.0502)	0.0049	(0.0949)	1.670	0.0950	(0.5954)	(0.1129)	2.2614	0.1329
	speed VA o	speedG VA	speedPRI V	gra of r*to n	its intercept	graG of r*G	its intercept	graGPRI of	its intercept
Fifteen N	on-Euro c	ountries i	n EU area					1	
1990	0.1797	(0.0262)	(0.2490)	1.794	0.0998	1.486	0.0551	1.890	0.1175
1991	(1.2264)	(0.0468)	(0.1314)	2.517	0.1128	0.123	0.0065	3.570	0.1559
1992	(0.1456)	(0.0675)	(0.1042)	2,468	0.1153	(0.857)	(0.0496)	3,938	0.1814
1993	(0.1576)	(0.1689)	(0.1327)	3.297	0.1595	(2.122)	(0.1668)	6.375	0.2916
1994	(0.1500)	(0.0802)	(0.1011)	2.744	0.1332	(0.807)	(0.0747)	5.230	0.2159
1995	(0.1059)	(0.1183)	(0.0997)	2.290	0.1712	(0.023)	(0.0024)	3.305	0.2338
1996	(0.1688)	(0.7231)	(0.1441)	1.822	0.1520	0.452	0.0593	2.414	0.1834
1997	(0.1085)	(0.1828)	(0.0948)	3.131	0.2692	1.542	0.2009	3.808	0.2940
1998	(0.1042)	(0.1472)	(0.0948)	3.714	0.3043	1.793	0.1972	4.515	0.3434
1999	(0.0954)	(0.4434)	(0.0891)	4.202	0.3157	1.373	0.0834	5.347	0.4197
2000	(0.1089)	(0.2739)	(0.1041)	4.018	0.3368	0.744	0.0497	5.193	0.4614
2001	(0.1990)	(0.1394)	(0.2134)	3.015	0.4003	2.180	0.2385	3.145	0.4373
2002	(0.2511)	(0.2464)	(0.2504)	2.442	0.3029	1.777	0.2082	2.568	0.3271
2003 2004	(0.2750)	(0.1176)	(0.3385)	2.077	0.2786	1.967	0.1717	2.074	0.3006
2004	(1.9584)	(0.2599)	3.1507	1.885	0.2639	2.330	0.2708	1.814	0.2641
2005	(0.1706)	(0.4291)	(0.1394)	2.192	0.1488	2.395	0.2269	2.129	0.1310
2000	(0.2472) 0.2778	0.1745 (0.0555)	(0.1569) (0.1633)	1.698 1.290	0.1348 0.1276	1.943 1.810	0.1698 0.3678	1.615 0.683	0.1253 0.0485
Average	(0.2786)	(0.1862)	0.0302	2.589	0.1276	1.0059	0.3678	3.3118	0.2518
Average	(0.2780)	(0.1802)	0.0302	2.369	0.2120	1.0039	0.1118	3.3118	0.2518
	speed VA o	speedG VA	speedPRI V	gra of r*to n	its intercept	graG of r*G	its intercept	graGPRI of	its intercept
				Euro 30 co				1	
1990	(0.0488)	(0.0486)	(0.0433)		0.1476	0.671	0.1269	1.863	0.1483
1991	(0.0461)	(0.1491)	(0.0339)	1.629	0.1409	0.777	0.1556	1.792	0.1282
1992	(0.0454)	(0.0435)	(0.0479)	1.762	0.1472	0.646	0.0822	2.096	0.1696
1993	(0.0394)	(0.0306)	(0.0257)	1.423	0.0948	(0.012)	(0.0006)	1.482	0.0870
1994	(0.0362)	(0.0093)	(0.0401)	1.474	0.0966	(0.290)	(0.0057)	1.635	0.1235
1995	(0.0405)	(0.0215)	(0.0378)	1.506	0.1174	0.968	0.0640	1.580	0.1175
1996 1997	(0.0457)	(0.0597)	(0.0430)	1.444	0.1175	1.042	0.0968	1.510	0.1216
1997	(0.0490)	(0.0863)	(0.0385)	1.535	0.1260	0.998	0.1558	1.685	0.1149
1998	(0.0323)	(0.4279)	(0.0065)	1.543 1.369	0.0851	0.984	0.3713 0.2955	2.641 1.474	0.0422
2000	(0.0283) (0.0393)	(0.1530) (0.0257)	(0.0015) (0.0160)	1.983	0.0657 0.1455	1.201 0.882	0.2955	2.911	0.0091 0.0980
2000	(0.0393)	(0.0257) (0.1071)	(0.0160) (0.0127)	1.983	0.1455	1.183	0.2999	2.881	0.0980
2001	(0.0397) (0.0428)	(0.1071) (0.1290)	(0.0127) (0.0113)	1.811	0.1404 0.1366	1.183	0.2999	2.881	0.0816
2002	(0.0428) (0.0448)	(0.1290) (0.1029)	(0.0113) (0.0164)	1.729	0.1366	1.090	0.3410	2.584	0.0781
2003	(0.0448)	(0.0805)	(0.0291)	1.813	0.1532	1.072	0.2424	2.719	0.1213
2005	(0.0412)	(0.1138)	(0.0105)	1.319	0.0775	1.208	0.2525	1.369	0.0245
2006	(0.0412)	(0.1031)	(0.0210)	1.461	0.0909	1.165	0.2274	1.900	0.0534
2007	(0.0366)	(0.1117)	(0.0071)		0.0767	1.242	0.2495	1.129	0.0200
Average	(0.0415)		(0.0246)	1.590	0.1162	0.8946	0.1856	1.9862	0.0892

Table 7 Endogenous inflation/deflation rates compared with external inflation rate by area (Part IV-4 in KEWT 3.09)

					/				
PART IV-4	r* _{BE} =r*-r*	Inflation ra	GCPI	g _{CPI} /Inf ra	g _{w(EXT)}	gw(EXT)/gw*g	auturov/g	(Sween/Swe)/C	gα
E0. Thirte							sy(THEO) by		2
1990	0.0067	0.1212	0.0627	0.5175	0.0630	0.6644		0.5926	
1991	0.0017	0.1212	0.0608	0.4893	0.0643	0.6257	1.4517	0.5565	(0.0014)
1992	0.0005	0.1198	0.0550	0.4592	0.0599	0.8170	0.4248	0.7296	0.1304
1993	0.0006	0.1016	0.0478	0.4698	0.0472	0.8478	0.4945	0.7696	0.0643
1994	0.0006	0.1006	0.0615	0.6115	0.0322	0.5969	4.7739	0.5423	(0.0024)
1995	0.0005	0.1058	0.0369	0.3488	0.0078	0.1322	0.1892	0.1196	(0.1630)
1996	0.0055	0.0845	0.0299	0.3543	0.0456	0.8991	0.8740	0.8290	0.0378
1997	0.0039	0.0708	0.0230	0.3247	0.0423	0.7862	1.3625	0.7342	(0.0387)
1998	0.0035	0.0552	0.0208	0.3768	0.0361	0.6844	0.7363	0.6485	0.0354
1999	0.0033	0.0485	0.0182	0.3749	0.0063	0.0773	(0.9767)	0.0737	0.1746
2000	0.0045	0.0558	0.0328	0.5877	0.0390	0.4940	0.7758	0.4679	0.0974
2001	0.0053	0.0524	0.0361	0.6883	0.0443	0.6240	(2.8675)	0.5929	(0.0476)
2002	0.0070	0.0483	0.0301	0.6239	0.0434	0.7333	0.7090	0.6995	0.0099
2003	0.0090	0.0335	0.0255	0.7608	0.0497	1.0609	0.2594	1.0265	0.0569
2004	0.0090	0.0321	0.0218	0.6793	0.0355	0.7526	0.4435	0.7293	0.0988
2005	0.0097	0.0242	0.0231	0.9532	0.0266	0.5990	0.0541	0.5848	0.1686
2006	0.0076	0.0307	0.0235	0.7635	0.0289	0.6664	1.2392	0.6465	(0.0648)
2007	0.0040	0.0396	0.0257	0.6502	0.0320	0.5689	4.7720	0.5472	(0.2870)
Average	0.0046	0.0694	0.0353	0.5574	0.0391	0.6461	0.8175	0.6050	0.0149
				<i>a</i> a 1					
		Inflation ra		g _{CPI} /Inf ra	gw(EXT)	gw(EXT)/gw g	3√(THEO)/S√	$(g_{w(EX)}/g_w)/C$	gα
Fifteen No	on-Euro o	countries i	n EU are:	1					
1990	0.0001	0.2556	0.2633	1.0302	(0.1611)	(2.7366)		(2.1795)	
1991	0.0007	0.1950	0.2336	1.1979	0.0920	1.9601	2.8523	1.6403	0.088288
1992	0.0007	0.1923	0.2226	1.1573	(0.0634)	(1.2941)	3.2831	(1.0854)	(0.0261)
1993	0.0009	0.1675	0.2484	1.4831	(0.0541)	(1.0652)	2.4274	(0.9124)	0.3180
1994	0.0159	0.1646	0.1881	1.1425	0.1335	2.6146	1.7810	2.2451	(0.1833)
1995	0.0088	0.3159	0.2929	0.9273	(0.0334)	(0.4132)	6.2869	(0.3140)	(0.1063)
1996	0.0334	0.3005	0.0837	0.2785	(0.0678)	(0.7446)	4.6870	(0.5725)	0.0062
1997	0.0063	0.2116	0.1506	0.7118	0.0547	0.5817	10.7330	0.4801	0.0705
1998	0.0065	0.1719	0.0909	0.5292	0.0589	0.6604	4.8527	0.5635	0.1191
1999	0.0067	0.1487	0.1007	0.6769	0.1130	1.3913	4.6132	1.2111	0.0386
2000	0.0052	0.1329	0.1048	0.7887	0.0720	0.7870	4.1084	0.6947	0.0925
2001	0.0033	0.1133	0.1093	0.9646	0.0800	0.5222	3.5663	0.4690	0.3264
2002	0.0278	0.0747	0.0925	1.2393	0.0694	0.4898	2.3578	0.4558	0.0055
2003	0.0018	0.0841	0.0742	0.8827	0.0782	0.5049	1.7320	0.4658	0.0247
2004	0.0014	0.0779	0.0601	0.7717	0.0707	0.4344	1.0723	0.4030	0.1614
2005	0.0018	0.0568	0.0544	0.9580	0.0962	1.3216	4.0236	1.2506	(0.4237)
2006	0.0018	0.0604	0.0560	0.9272	0.0896	1.0394	2.1154	0.9802	(0.0570)
2007	0.0003	0.0646	0.0528	0.8175	0.1052	0.9591	1.2122	0.9009	0.0472
Average	0.0069	0.1549	0.1377	0.9158	0.0408	0.4125	3.4280	0.3720	0.0295
	ata ata ata	x . a		- /T C	_	. +			
		Inflation ra		g _{CPI} /Inf ra		gw(EXT)/gw g	Sv(THEO) gv	(g _{w(EX)} /g _w)/(.	gα
AGGREG.									
1990	0.0225	0.2215	0.0960	0.4336	0.3882	3.9553		3.2382	
1991	0.0267	0.1944	(0.0317)	(0.1628)	(0.1689)	(1.7838)	1.6033	(1.4935)	(0.0011)
1992	0.0255	0.1779	0.0802	0.4505	0.0432	0.4743	1.0311	0.4026	0.0600
1993 1994	0.0216	0.1679	0.0767	0.4566 1.1234	0.0619	0.8670	3.0116	0.7423	(0.3008)
1994	0.0268 0.0322	0.1619	0.1819 0.1932	1.2589	(0.0116) 0.0393	(0.1657) 0.4654	1.9059 0.5599	(0.1426) 0.4035	0.0420 0.1823
1995	0.0322	0.1535 0.1446	0.1932	0.5557	(0.1096)	(1.2370)	1.3936	(1.0807)	(0.0121)
1997	0.0202	0.1319	0.0593	0.4496	0.0428	0.4780	0.8924	0.4223	0.0633
1998	0.0209	0.1319	0.0686	0.4995	0.0302	0.5175	4.6203	0.4550	(0.3089)
1999	0.0179	0.1225	0.0460	0.3757	0.0497	0.9852	3.1641	0.8777	(0.2253)
2000	0.0244	0.0970	0.0422	0.4354	0.0567	0.7158	(0.1946)	0.6525	0.9653
2000	0.0244	0.0970	0.0449	0.4554	0.0549	0.6922	1.5511	0.6313	(0.0130)
2002	0.0209	0.1323	0.0498	0.3767	0.0559	0.6855	1.7446	0.6054	(0.0390)
2003	0.0193	0.0874	0.0534	0.6111	0.0504	0.6138	1.2362	0.5645	(0.0111)
2004	0.0197	0.0828	0.0520	0.6275	0.0611	0.6613	0.7568	0.6107	0.1652
2005	0.0145	0.0880	0.0627	0.7129	0.0640	1.0244	0.1933	0.9415	(0.3207)
2006	0.0159	0.0898	0.0385	0.4289	0.0634	0.9555	2.0948	0.8768	0.1238
2007	0.0274	0.0642	0.0229	0.3562	0.0382	0.5901	5.0354	0.5545	(0.0367)
Average	0.0227	0.1306	0.0676	0.5253	0.0450	0.5830	1.7000	0.5146	0.0185
9									

Table 8 Rates of return and growth rates of output by sector with government shares of output, net investment, and capital by area (Part IV-5 in KEWT 2.00)

	1191	
J.	v)	

PART IV-5	r*=П/К	$r*_{G/K} = \Pi_G/F$	r*pp1/k=Пp	g*y	g [*] _{G/Y} =g [*] _G (Y	$\sigma^*_{nn} = \sigma^*_{nn} O$	Y_G/Y	I_G/I	K _G /K
		currency c					0		0
1990	0.1364	(0.0356)	0.1720	0.1004	0.0219	0.0784	0.1559	0.2159	0.0938
1991	0.1215	(0.0299)	0.1514	0.1043	0.0176	0.0867	0.1561	0.1768	0.1088
1992	0.1230	(0.0319)	0.1548	0.0766	0.0231	0.0535	0.1617	0.2034	0.1170
1993	0.1209	(0.0675)	0.1884	0.0551	0.0098	0.0453	0.1330	0.2268	0.1262
1994 1995	0.1151 0.0966	(0.0666) (0.0344)	$0.1816 \\ 0.1310$	0.0531 0.0648	0.0094 0.0241	0.0437 0.0408	0.1257 0.1709	0.2353 0.3200	0.1309 0.1390
1996	0.0950	(0.0344) (0.0411)	0.1361	0.0539	0.0098	0.0408	0.1628	0.1874	0.1418
1997	0.0879	(0.0183)	0.1062	0.0585	0.0095	0.0490	0.1824	0.1651	0.1436
1998	0.0858	(0.0080)	0.0938	0.0551	0.0101	0.0450	0.1951	0.1404	0.1427
1999	0.1029	0.0061	0.0968	0.0837	0.0127	0.0710	0.2088	0.1270	0.1655
2000	0.1047	0.0095	0.0952	0.0831	0.0201	0.0631	0.2240	0.1248	0.1594
2001 2002	0.0887 0.0845	0.0073 0.0071	0.0815 0.0774	0.0746 0.0631	0.0133 0.0100	0.0613 0.0531	0.2342 0.2386	0.0683 0.0809	0.1377 0.1319
2003	0.0843	0.0076	0.0767	0.0522	0.0110	0.0411	0.2380	0.1116	0.1305
2004	0.0889	0.0081	0.0808	0.0529	0.0132	0.0397	0.2475	0.1201	0.1297
2005	0.0998	0.0055	0.0942	0.0411	0.0061	0.0350	0.2522	0.0922	0.1270
2006	0.0907	0.0072	0.0835	0.0501	0.0078	0.0424	0.2476	0.1126	0.1260
2007	0.0710	0.0147	0.0563	0.0683	0.0142	0.0541	0.2476	0.1703	0.1279
Average	0.0999	(0.0145)	0.1143	0.066	0.0135	0.0526	0.1993	0.1599	0.1322
	r*−∏/K	$r_{G/K}^* = \Pi_G/F$	r* _{PRI/K} =П _P	g'y	g [*] _{G/Y} =g [*] _G (Y	$g_{P/Y}^*=g_P^*$	Y_G/Y	I_G/I	K_G/K
Fifteen No		countries ii							
1990	0.0998	0.0160	0.0839	0.0600	0.0088	0.0512	0.2315	0.1700	0.2896
1991	0.1135	0.0019	0.1116	0.0470	0.0109	0.0361	0.2141	0.2821	0.2887
1992	0.1160	(0.0143)	0.1303	0.0491	0.0100	0.0392	0.1944	0.2674	0.2864
1993	0.1605	(0.0484)	0.2089	0.0501	0.0101	0.0400	0.1713	0.3060	0.2885
1994 1995	$0.1499 \\ 0.1807$	(0.0241) (0.0007)	$0.1741 \\ 0.1814$	0.0549 0.0844	$0.0138 \\ 0.0181$	0.0411 0.0662	$0.1678 \\ 0.1785$	0.3613 0.2679	0.2973 0.2673
1996	0.1884	0.0188	0.1697	0.1113	0.0257	0.0855	0.1768	0.2891	0.2678
1997	0.2761	0.0550	0.2210	0.0951	0.0240	0.0711	0.1731	0.2873	0.2689
1998	0.3114	0.0540	0.2574	0.0905	0.0215	0.0690	0.1826	0.2701	0.2690
1999	0.3230	0.0348	0.2882	0.0825	0.0188	0.0637	0.1808	0.1947	0.2483
2000 2001	0.3426	$0.0191 \\ 0.0449$	0.3235 0.3592	0.0926 0.1552	0.0199 0.0203	0.0727 0.1349	0.1799 0.1723	0.1823 0.1409	0.2282
2001	0.4041 0.3347	0.0449	0.3392	0.1552	0.0203	0.1349	0.1723	0.1685	$0.1860 \\ 0.1796$
2003	0.2807	0.0296	0.2511	0.1564	0.0171	0.1392	0.1845	0.1116	0.1704
2004	0.2655	0.0437	0.2218	0.1630	0.0244	0.1385	0.1870	0.1407	0.1601
2005	0.1507	0.0425	0.1082	0.0741	0.0203	0.0539	0.1903	0.2626	0.1855
2006	0.1367	0.0366	0.1001	0.0875	0.0199	0.0676	0.1894	0.2145	0.1938
2007 Average	0.1280 0.2201	0.0897 0.0247	0.0382 0.1954	0.1123 0.096	0.0478 0.0199	0.0645 0.0758	0.1894 0.1858	0.4215 0.2410	0.2436 0.2399
Average	0.2201	0.0247	0.1934	0.096	0.0199	0.0758	0.1858	0.2410	0.2399
	$r^{*}{=}\Pi/K$	$r*_{G/K} = \Pi_G/F$	$*_{PRI/K} = \Pi_P$	g*y	g [*] _{G/Y} -g [*] _G (Y	$g_{P/Y}^*=g_P^*C$	$\mathbf{Y}_{\mathbf{G}}/\mathbf{Y}$	I_G/I	K_G/K
		AVERRAG							
1990 1991	0.1723	0.0150 0.0178	0.1573 0.1523	0.1169 0.1150	0.0301	$0.0868 \\ 0.0888$	0.1559 0.1561	0.2215 0.2344	0.1072 0.1297
1991	0.1702	0.0178	0.1523	0.1150	0.0262 0.0295	0.0888	0.1561	0.2344	0.1297
1993	0.1180	(0.0001)	0.1182	0.0954	0.0082	0.0872	0.1330	0.1076	0.1580
1994	0.1253	(0.0021)	0.1273	0.0932	0.0047	0.0885	0.1257	0.0618	0.1682
1995	0.1522	0.0251	0.1272	0.1125	0.0251	0.0873	0.1709	0.2085	0.1747
1996	0.1460	0.0199	0.1261	0.1102	0.0174	0.0928	0.1628	0.1765	0.1804
1997 1998	0.1490	0.0323	0.1167	0.1063	0.0316	0.0747	0.1824	0.3034	0.1867
1998	0.1072 0.0845	0.0432 0.0519	0.0640 0.0326	0.0671 0.0690	0.0423 0.0467	0.0248 0.0222	$0.1951 \\ 0.2088$	0.6921 0.7243	0.2012 0.2076
2000	0.1718	0.0647	0.1071	0.1092	0.0715	0.0377	0.2240	0.6037	0.2161
2001	0.1673	0.0701	0.0972	0.1011	0.0668	0.0343	0.2342	0.6488	0.2251
2002	0.1592	0.0731	0.0861	0.1015	0.0665	0.0350	0.2386	0.6529	0.2313
2003	0.1520	0.0721	0.0799	0.1023	0.0707	0.0317	0.2427	0.6693	0.2372
2004 2005	$0.1748 \\ 0.0930$	0.0751 0.0624	0.0997 0.0306	0.1128 0.0809	0.0748 0.0583	0.0380 0.0226	0.2475 0.2522	0.6210 0.7086	0.2401 0.2469
2005	0.0930	0.0624 0.0619	0.0306	0.0809	0.0583	0.0226	0.2522 0.2476	0.7086	0.2469
2007	0.1060	0.0650	0.0410	0.0934	0.0559	0.0376	0.2476	0.6228	0.2601
Average	0.1407	0.0426	0.0981	0.099	0.0435	0.0553	0.1993	0.4539	0.1985

Table 9The growth rates of population in equilibrium $n_{\rm E}$ by sector whose middle
point is full employment, with the external unemployment rate (Part IV-6
in KEWT 3.09)

		5.09)						
PART IN	V-6 n \neq n _{EOUI}	n _{EQUI(G)}	DEGUNDAD	u.r. (EXT)	n _{EQUI} -n	n _{EQUI(G)} -n	Brouwpap-F	Inf./u.r.(EXT
	irteen Euro						EQUI(FRI)	
1990	0.0049	0.0049	0.0049	(0.1086)	0.0000	0.0000	0.000	(1.116)
1991	0.0015	(0.0048)	0.0030	(0.1157)	0.0000	(0.0062)	0.002	(1.075)
1992	0.0063	0.0752	(0.0122)	(0.1129)	0.0012	0.0701	(0.017)	(1.061)
1993	0.0003	0.0003	0.0003	(0.0959)	(0.0047)	(0.0047)	(0.005)	(0.885)
1994 1995	0.0003	0.0003	0.0003	(0.1202)	(0.0027)	(0.0027)	(0.003)	(0.837)
1995	0.0128 0.0032	$0.0557 \\ 0.0100$	0.0003 0.0011	(0.1148) (0.1146)	$0.0081 \\ 0.0000$	$0.0510 \\ 0.0069$	(0.004) (0.002)	(0.921) (0.737)
1997	0.0068	0.0025	0.0080	(0.1112)	0.0043	0.0009	0.002	(0.636)
1998	0.0023	0.0165	(0.0018)	(0.1026)	0.0001	0.0142	(0.004)	(0.538)
1999	0.0027	0.0115	0.0002	(0.0925)	0.0000	0.0087	(0.003)	(0.525)
2000	0.0049	0.0700	(0.0160)	(0.0826)	0.0013	0.0664	(0.020)	(0.676)
2001	0.0053	0.0533	(0.0111)	(0.0782)	0.0008	0.0487	(0.016)	(0.670)
2002 2003	0.0055 0.0058	0.0248 0.0256	(0.0013)	(0.0772) (0.0782)	0.0001 0.0001	$0.0195 \\ 0.0199$	(0.007)	(0.626)
2003	0.0058	0.0256	(0.0014) (0.0055)	(0.0782) (0.0816)	0.0001	0.0302	(0.007) (0.011)	(0.429) (0.393)
2005	(0.0138)	0.0002	(0.0196)	(0.0793)	(0.0186)	(0.0046)	(0.024)	(0.306)
2006	0.0169	0.0039	0.0219	(0.0730)	0.0130	0.0000	0.018	(0.421)
2007	0.0288	0.0003	0.0385	(0.0678)	0.0255	(0.0030)	0.035	(0.584)
	0.0056	0.0214	0.0005	(0.0948)	0.0016	0.0175	(0.0034)	(0.6909)
	$n \neq n_{EQUI}$	$n_{EQUI(G)}$		u.r. (EXT)	n _{EQUI} -n	n _{EQUI(G)} =n	n _{EQUI(PRI)} =r	Inf./u.r.(EXT
	Non-Euro c							
1990	0.00024	0.00003	0.0003	(0.1086)	(0.0083)	(0.0085)	(0.008)	(5.737)
1991	0.0003	0.0003	0.0003	(0.1157)	(0.0084)	(0.0084)	(0.008)	(3.052)
1992	0.0003	0.0003	0.0003	(0.1129)	(0.0085)	(0.0085)	(0.008)	(3.746)
1993 1994	0.0003 0.0061	0.0003 0.0061	0.0003 0.0061	(0.0959) (0.1202)	(0.0085) 0.0000	(0.0085) 0.0000	(0.009) 0.000	(1.889) (1.868)
1994	0.0081	0.0042	0.0042	(0.1202) (0.1148)	0.0000	0.0000	0.000	(3.736)
1996	0.0200	0.0200	0.0200	(0.1146)	0.0176	0.0176	0.018	(3.747)
1997	0.0022	0.0022	0.0022	(0.1112)	0.0000	0.0000	0.000	(2.699)
1998	0.0019	0.0019	0.0019	(0.1026)	0.0000	0.0000	0.000	(2.234)
1999	0.0020	0.0396	(0.0068)	(0.0925)	0.0003	0.0378	(0.009)	(1.732)
2000 2001	0.0018	0.0420	(0.0081)	(0.0826)	0.0004	0.0406	(0.010)	(1.629)
2001	0.0012 0.0125	0.0012 0.0232	$0.0012 \\ 0.0100$	(0.0782) (0.0772)	$0.0000 \\ 0.0114$	0.0000	0.000 0.009	(1.403) (0.888)
2002	0.00123	0.0010	0.0010	(0.0782)	0.0000	0.0000	0.000	(1.011)
2004	0.0002	0.0009	0.0000	(0.0816)	(0.0007)	0.0000	(0.001)	(1.040)
2005	0.0009	0.0009	0.0009	(0.0793)	0.0000	0.0000	0.000	(0.687)
2006	0.0011	0.0097	(0.0007)	(0.0730)	0.0000	0.0086	(0.002)	(0.817)
2007	0.0027	0.0003	0.0030	(0.0678)	0.0020	(0.0004)	0.002	(1.280)
	0.0033	0.0086	0.0020	(0.0948)	(0.0001)	0.0051	(0.0014)	(2.1775)
	$n \neq n_{EQUI}$	n _{EQUI(G)}	B EOLIGPRD	u.r. (EXT)	n _{EQUI} -n	n _{EQUI(G)} -n	BEOLIKPRD-E	Inf./u.r.(EXT
AGGRI	EGATION &					DQCA(O)	52010107	
1990	0.0150	0.0150	0.0150	(0.0375)	0.0000	0.0000	0.000	(5.900)
1991	0.0183	(0.0185)	0.0261	(0.0411)	0.0003	(0.0364)	0.008	(4.725)
1992	0.0162	0.0604	0.0062	(0.0429)	0.0004	0.0447	(0.010)	(4.149)
1993	0.0327	0.0163	0.0360	(0.0430)	0.0164	0.0000	0.020	(3.906)
1994 1995	0.0183 0.0324	$0.0195 \\ 0.0764$	0.0181 0.0231	(0.0453) (0.0445)	(0.0011) 0.0092	0.0000 0.0533	(0.001) 0.000	(3.576) (3.452)
1995	0.0324	0.0784	0.0231	(0.0443) (0.0440)	0.0092	(0.0533)	0.000	(3.285)
1997	0.0166	0.0150	0.0170	(0.0463)	0.0017	0.0000	0.002	(2.848)
1998	(0.0048)	(0.1148)	0.0143	(0.0494)	(0.0192)	(0.1292)	0.000	(2.780)
1999	0.0141	(0.0321)	0.0217	(0.0599)	0.0004	(0.0459)	0.008	(2.045)
2000	0.0407	0.1796	0.0133	(0.0600)	0.0274	0.1663	0.000	(1.617)
2001	0.0141	0.0083	0.0152	(0.0579)	0.0000	(0.0057)	0.001	(1.664)
2002 2003	0.0126 0.0121	(0.0170) 0.0215	$0.0182 \\ 0.0103$	(0.0741) (0.0596)	0.0002	(0.0294) 0.0094	0.006	(1.785)
2003	0.0121	0.0215	0.0036	(0.0396) (0.0551)	0.0004	0.0094	(0.002) (0.008)	(1.466) (1.503)
2005	0.0122	0.0002	0.0117	(0.0331) (0.0489)	(0.0016)	(0.0115)	0.000	(1.748)
2006	0.0055	0.0116	0.0044	(0.0430)	(0.0061)	0.0000	(0.007)	(2.017)
2007	0.0269	0.0003	0.0313	(0.0367)	0.0038	(0.0228)	0.008	(1.682)
	0.0174	0.0171	0.0171	(0.0494)	0.0018	0.0015	0.0015	(2.7860)

Table 10Mechanism of inflation/deflation rates: using labor and wages, ten year
debt yield, and theoretical labor share of government (Part IV-7 in
KEWT 3.09)

KE W 1 5.07)									
PART IV-7	Inflation rat	Inf rate/g.	a	aP=ouar+(1	a/a.	Inf+Real(r*	DifofrDEE	new (WAVE	LG/L
							BII OF IBEL	AEQUICTO THE	EG/E
1990	teen Euro 0.1212	currency c	countries (menuamg	Slovenia	0.1278	0.0000	0.0049	0.1989
1991	0.1212	0.9954	1.1937	0.1249	0.4871	0.1260	0.0000	0.0015	0.1977
1992	0.1198	4.1111	1.0690	0.0291	1.8879	0.1203	0.0000	0.0063	0.2114
1993	0.1016	4.5119	1.2214	0.0225	2.1196	0.1023	0.0000	0.0003	0.2207
1994	0.1006	0.4511	1.1537	0.2231	0.2759	0.1013	0.0000	0.0003	0.2147
1995	0.1058	(21.1797)	(2.2326)	(0.0050)	(7.3875)	0.1063	0.0000	0.0128	0.2256
1996	0.0845	2.1984	1.1535	0.0384	0.7788	0.0900	0.0000	0.0032	0.2271
1997	0.0708	1.1919	1.2344	0.0594	0.3870	0.0746	0.0000	0.0068	0.2229
1998	0.0552	1.6811	1.1836	0.0329	0.6334	0.0588	0.0000	0.0023	0.2260
1999	0.0485	(1.0207)	1.6673	(0.0476)	(0.3827)	0.0519	0.0000	0.0027	0.2280
2000	0.0558	1.0015	1.0990	0.0557	0.5886	0.0604	0.0000	0.0049	0.2431
2001 2002	0.0524	(0.2655)	1.0308	(0.1974)	(0.1828)	0.0578	0.0000	0.0053	0.2549
2002	0.0483 0.0335	1.5538 3.2524	1.3480 1.1792	0.0311 0.0103	0.9694 2.4746	0.0553 0.0425	0.0000 0.0000	0.0055 0.0058	0.2598 0.2649
2003	0.0321	1.2527	0.8178	0.0256	0.8509	0.0423	0.0000	0.0057	0.2729
2005	0.0242	1.0975	0.1085	0.0221	1.0461	0.0339	0.0000	(0.0138)	0.2905
2006	0.0307	0.9715	1.6969	0.0316	0.7418	0.0383	0.0000	0.0169	0.2779
2007	0.0396	0.1838	1.2453	0.2154	0.1195	0.0436	0.0000	0.0288	0.2526
	0.0694	0.1105	0.8983	0.0373	0.3004	0.0740	0.0000	0.0056	0.2383
	Inflation rat	Inf rate/g _P	gw(TH)/gP(T	gP=a·gr+(1·	g _{CPI} /g _P	Inf+Real(r*	Dif of rDEE	n _{EQUI} (W.Ave	LG/L
Fifteen N	ion-Euro d	ountries in	n EU area						
1990	0.2556					0.2557	0.0000	0.0002	0.2389
1991	0.1950	1.4535	0.9975	0.1341	1.7412	0.1957	0.0000	0.0003	0.2362
1992	0.1923	1.3069	1.0929	0.1472	1.5125	0.1930	0.0000	0.0003	0.2290
1993	0.1675	1.0662	0.7855	0.1571	1.5812	0.1684	0.0000	0.0003	0.2417
1994	0.1646	2.2148	1.2230	0.0743	2.5303	0.1805	0.0000	0.0061	0.2068
1995	0.3159	0.6590	1.0597	0.4793	0.6111	0.3247	0.0000	0.0042	0.1976
1996	0.3005	0.7704	1.0937	0.3901	0.2146	0.3339	0.0000	0.0200	0.1849
1997	0.2116	0.2218	1.0581	0.9541	0.1579	0.2178	0.0000	0.0022	0.1701
1998	0.1719	0.4314	1.0873	0.3984	0.2283	0.1784	0.0000	0.0019	0.1837
1999	0.1487	0.4442	1.1194	0.3348	0.3006	0.1554	0.0000	0.0020	0.1907
2000	0.1329	0.3965	1.1216	0.3352	0.3127	0.1381	0.0000	0.0018	0.1984
2001 2002	0.1133	0.2346	1.1301 1.3535	0.4832	0.2263	0.1166	0.0000	0.0012	0.1850
2002	0.0747 0.0841	0.3027 0.4369	1.3947	0.2467 0.1924	0.3751 0.3857	0.1025 0.0859	0.0000	0.0125 0.0010	0.1890 0.2014
2003	0.0779	0.4389	1.3675	0.1276	0.3837	0.0793	0.0000	0.0002	0.1928
2005	0.0568	0.2741	1.4142	0.2071	0.2626	0.0586	0.0000	0.0002	0.1780
2006	0.0604	0.3983	1.2026	0.1516	0.3693	0.0621	0.0000	0.0011	0.1795
2007	0.0646	0.5876	1.2090	0.1100	0.4803	0.0650	0.0000	0.0027	0.1217
	0.1549	0.6561	1.0950	0.2735	0.6534	0.1618	0.0000	0.0033	0.1959
		-						-	
	Inflation rat	Inf rate/g _P	$g_{w(TH)}/g_{P(T)}$	$gP = \alpha \cdot gr + (1 \cdot$	g_{CPI}/g_P	Inf+Real(r*-	Dif of rDEE	n _{EQUI} (W.Ave	LG/L
AGGRE	GATION	& AVERR	AGE of n	on-Euro 3	0 counrie	s			
1990	0.2215					0.2440	0.0000	0.0150	0.1823
1991	0.1944	1.8282	1.4274	0.1063	(0.2976)	0.2212	0.0000	0.0183	0.1757
1992	0.1779	2.3788	1.2567	0.0748	1.0715	0.2034	0.0000	0.0162	0.1835
1993	0.1679	1.6118	2.0640	0.1042	0.7359	0.1896	0.0000	0.0327	0.1676
1994	0.1619	1.3696	1.1303	0.1182	1.5386	0.1887	0.0000	0.0183	0.1643
1995 1996	0.1535	1.7116	0.5274	0.0897	2.1547	0.1857	0.0000	0.0324 0.0197	0.1730
1996	$0.1446 \\ 0.1319$	1.7534 2.0579	1.4971 1.2452	$0.0825 \\ 0.0641$	0.9743 0.9252	0.1708 0.1530	0.0000 0.0000	0.0197	0.1717 0.1700
1998	0.1374	0.8133	1.5974	0.1689	0.4062	0.1583	0.0000	(0.0048)	0.1484
1999	0.1225	1.1471	1.4939	0.1068	0.4002	0.1404	0.0000	0.0141	0.1416
2000	0.0970	0.3496	(0.0556)	0.2773	0.1522	0.1213	0.0000	0.0407	0.1649
2001	0.0964	1.1773	1.5028	0.0818	0.5481	0.1213	0.0000	0.0141	0.1640
2002	0.1323	1.4409	1.5502	0.0918	0.5427	0.1532	0.0000	0.0126	0.1592
2003	0.0874	1.3847	1.6079	0.0631	0.8463	0.1067	0.0000	0.0121	0.1607
2004	0.0828	0.8788	0.7418	0.0942	0.5514	0.1025	0.0000	0.0122	0.1675
2005	0.0880	(1.0070)	(0.1382)	(0.0874)	(0.7178)	0.1025	0.0000	0.0101	0.1426
2006	0.0898	0.6242	0.9663	0.1439	0.2677	0.1057	0.0000	0.0055	0.1487
2007	0.0642	0.2581	1.3097	0.2487	0.0919	0.0916	0.0000		0.1419
	0.1306	1.0988	1.0958	0.1016	0.5679	0.1533	0.0000	0.0174	0.1626

Table 11 Mechanism of the rate of return function to n: intercept/its VA and gradient/its VA by sector, with the rate of saving and (taxes+deficit)/Y (Part IV-8 in KEWT 3.09)

PART IV-8	inter/spev	in _G /spe _{VA} , i	ntp/speva	grad/spee	grad _G /spe	grad _P /spe	s=S/Y	$s_{G/Y} = S_G/Y$	S _{PRI/Y}	(TAX+∆D)/1
	teen Euro e									
1990	(0.81)	3.01	(0.64)	(9.31)	18.17	(7.95)	0.0984	(0.0244)	0.1228	0.2137
1991	(0.66)	3.15	(0.20)	(7.06)	21.83	(2.25)	0.1184	(0.0230)	0.1414	0.2098
1992	(0.39)	(0.77)	(3.13)	(5.64)	(9.51)	(43.86)	0.0749	(0.0274)	0.1023	0.2153
1993 1994	1.60	29.61	10.85	30.45	256.47	219.66	0.0668	(0.0628)	0.1297	0.2189
1994	8.52 4.49	(173.77) (1.08)	27.34 (56.47)	166.57 80.60	(1423.75)	577.52 (1211.90)	0.0671 0.0973	(0.0649) (0.0335)	0.1320	0.2143 0.2399
1996	(13.12)	6.47	(15.31)	(271.80)	97.63	(312.95)	0.0880	(0.0422)	0.1308	0.2239
1997	(5.09)	3.15	(7.70)	(99.72)	55.03	(157.29)	0.0982	(0.0195)	0.1177	0.2199
1998	(3.41)	(0.93)	(3.09)	(67.95)	(24.41)	(56.49)	0.0890	(0.0090)	0.0980	0.2195
1999	(3.10)	0.58	(2.52)	(41.30)	11.63	(30.69)	0.0653	0.0068	0.0585	0.2230
2000 2001	(2.55)	6.04	(1.19)	(34.88)	320.00	(13.24)	0.0546	0.0113	0.0433	0.2336
2001	(1.94) (2.11)	10.46 3.89	(1.22)	(29.26) (37.87)	3201.63 236.38	(14.45) (24.65)	0.0601 0.0590	0.0097 0.0100	0.0503 0.0489	0.2357 0.2402
2002	(2.58)	4.23	(1.64) (2.03)	(57.72)	220.38	(38.49)	0.0528	0.0115	0.0489	0.2402
2004	(2.66)	6.02	(2.00)	(58.99)	355.23	(36.06)	0.0427	0.0127	0.0300	0.2496
2005	(3.19)	(1.38)	(1.81)	(75.21)	(58.50)	(28.60)	0.0260	0.0090	0.0170	0.2540
2006	(2.86)	0.40	(3.52)	(68.78)	14.82	(108.08)	0.0332	0.0122	0.0210	0.2486
2007	(1.68)	(1.14)	(2.35)	(31.56)	(20.92)	(75.25)	0.0710	0.0226	0.0484	0.2492
	(1.75)	(5.67)	(3.70)	(34.41)	181.23	(75.83)	0.0702	(0.0112)	0.0813	0.2308
		in _G ∕spe _{VA} , i			grad _G /spe	grad _p /spe _l	s=S/Y	$s_{G/Y}{=}S_G/Y$	$\mathbf{s}_{\mathbf{PRI/Y}}$	(TAX+∆D)/Y
	lon-Euro c									
1990	0.56	(2.10)	(0.47)	9.98	(56.80)	(7.59)	0.1142	0.0148	0.0994	0.2351
1991	(0.09)	(0.14)	(1.19)	(2.05)	(2.62)	(27.16)	0.0818	0.0017	0.0801	0.2361
1992 1993	(0.79)	0.73	(1.74)	(16.95)	12.70	(37.79)	0.0864	(0.0121)	0.0985	0.2295
1993	(1.01) (0.89)	0.99 0.93	(2.20) (2.14)	(20.93) (18.29)	12.56 10.06	(48.03) (51.72)	0.0508 0.0748	(0.0391) (0.0170)	0.0898	0.2365 0.2160
1995	(1.62)	0.02	(2.35)	(21.63)	0.19	(33.15)	0.0953	(0.0004)	0.0918	0.2105
1996	(0.90)	(0.08)	(1.27)	(10.79)	(0.62)	(16.75)	0.0936	0.0095	0.0841	0.2076
1997	(2.48)	(1.10)	(3.10)	(28.86)	(8.43)	(40.16)	0.0804	0.0203	0.0601	0.1873
1998	(2.92)	(1.34)	(3.62)	(35.64)	(12.18)	(47.61)	0.0653	0.0198	0.0455	0.1932
1999	(3.31)	(0.19)	(4.71)	(44.06)	(3.10)	(60.04)	0.0608	0.0127	0.0481	0.1880
2000 2001	(3.09) (2.01)	(0.18) (1.71)	(4.43) (2.05)	(36.91) (15.15)	(2.72) (15.64)	(49.89) (14.74)	0.0510	0.0072 0.0191	0.0438	0.1937 0.1804
2002	(1.21)	(0.84)	(1.31)	(9.72)	(7.21)	(10.26)	0.1893	0.0233	0.1660	0.1898
2003	(1.01)	(1.46)	(0.89)	(7.55)	(16.72)	(6.13)	0.1916	0.0186	0.1729	0.1910
2004	(0.13)	(1.04)	0.08	(0.96)	(8.97)	0.58	0.2054	0.0338	0.1716	0.1892
2005	(0.87)	(0.53)	(0.94)	(12.85)	(5.58)	(15.28)	0.0609	0.0333	0.0276	0.1890
2006	(0.55)	0.97	(0.80)	(6.87)	11.14	(10.29)	0.0679	0.0299	0.0381	0.1912
2007	0.46 (1.22)	(6.62) (0.76)	(0.30) (1.86)	4.64 (15.25)	(32.58) (7.03)	(4.19) (26.68)	0.1528 0.1062	0.0819 0.0143	0.0709 0.0919	0.1907 0.2030
	(1.22)	(0.70)	(1.00)	(15.25)	(7.05)	(20.00)	0.1002	0.0145	0.0717	0.2050
LCCDE	inter/spe _V SATION &	in _G /spe _{VA} i				grad _P /spe _l	s=S/Y	$s_{G/Y}{=}S_G/Y$	$\mathbf{s}_{\mathbf{PRI/Y}}$	(TAX+∆D)/Y
1990	(3.02)	(2.61)	(3.42)	(33.81)	(13.81)	(42.98)	0.2358	0.0241	0.2118	0.1883
1991	(3.06)	(1.04)	(3.78)	(35.36)	(5.21)	(52.88)	0.2357	0.0290	0.2067	0.1867
1992	(3.24)	(1.89)	(3.54)	(38.80)	(14.86)	(43.75)	0.2423	0.0320	0.2103	0.1892
1993	(2.41)	0.02	(3.39)	(36.09)	0.39	(57.75)	0.2053	(0.0002)	0.2055	0.1560
1994	(2.67)	0.61	(3.08)	(40.73)	31.13	(40.75)	0.2092	(0.0035)	0.2127	0.1422
1995 1996	(2.90)	(2.98)	(3.11)	(37.24)	(45.11)	(41.81)	0.2260	0.0416	0.1844	0.1804
1996	(2.57) (2.57)	(1.62) (1.80)	(2.83) (2.99)	(31.61) (31.31)	(17.44) (11.57)	(35.09) (43.80)	0.2247 0.2312	0.0340 0.0575	0.1907 0.1736	0.1738 0.2020
1998	(2.64)	(0.87)	(6.46)	(47.77)	(2.30)	(403.87)	0.1949	0.0739	0.1730	0.2412
1999	(2.32)	(1.93)	(5.91)	(48.34)	(7.85)	(956.67)	0.1717	0.0873	0.0845	0.2318
2000	(3.71)	(4.33)	(6.14)	(50.47)	(34.36)	(182.33)	0.2367	0.1051	0.1316	0.2451
2001	(3.54)	(2.80)	(6.44)	(48.14)	(11.05)	(227.47)	0.2353	0.1155	0.1198	0.2570
2002	(3.19)	(2.64)	(5.87)	(42.30)	(9.87)	(220.95)	0.2309	0.1215	0.1094	0.2594
2003 2004	(2.92) (3.14)	(2.68) (3.01)	(4.76) (4.16)	(38.56) (37.09)	(10.58) (13.33)	(157.39) (93.31)	0.2297 0.2469	0.1242 0.1311	0.1056 0.1159	0.2688 0.2704
2004	(1.88)	(2.22)	(2.34)	(32.02)	(13.33) (10.61)	(130.46)	0.2469	0.1391	0.0672	0.2664
2006	(2.15)	(2.21)	(2.55)	(34.47)	(11.30)	(90.64)	0.2177	0.1336	0.0841	0.2623
2007	(2.10)	(2.23)	(2.83)	(34.54)	(11.13)	(159.61)	0.2140	0.1376	0.0764	0.2590
	(2.78)	(2.01)	(4.09)	(38.81)	(11.05)	(165.64)	0.2219	0.0768	0.1451	0.2211

Table 12Inflation/deflation rate by sector and the rate of change in population in
equilibrium: towards endogenous Phillips Curve/line (Part IV-9 in KEWT
3.09)

PART IV-9		whi which the	X 67 4	r* _G -r* _G (HA)		ليت مع مع						
							Infla rate(F	n _{EQUI(G)} -n	n _{EQUI(PRI)} -n			
E0. Thirte 1990	0.1278	0.0067	0.1212	(0.0132)	0.1410	0.0100	0.1178	0.0000	0.0000			
1991	0.1278	0.0017	0.1212	0.0116	(0.11410)	0.0050	0.1210	(0.0062)	0.0015			
1992	0.1203	0.0005	0.1198	(0.1436)	0.2640	(0.0335)	0.1538	0.0701	(0.0173)			
1993	0.1023	0.0006	0.1016	(0.0022)	(0.1045)	0.0012	0.1011	(0.0047)	(0.0047)			
1994 1995	0.1013	0.0006	0.1006	(0.0020)	(0.1033)	0.0013	0.1000	(0.0027)	(0.0027)			
1995	0.1063 0.0900	0.0005	0.1058 0.0845	(0.0980) (0.0482)	0.2042 0.1382	0.0009 0.0035	0.1053 0.0866	0.0510 0.0069	(0.0044) (0.0020)			
1997	0.0900	0.0033	0.0843	(0.0482)	0.0807	0.0166	0.0888	0.0009	0.0055			
1998	0.0588	0.0035	0.0552	(0.0177)	(0.0765)	(0.0035)	0.0623	0.0142	(0.0041)			
1999	0.0519	0.0033	0.0485	0.0070	(0.0449)	0.0002	0.0517	0.0087	(0.0026)			
2000	0.0604	0.0045	0.0558	0.0465	0.0139	(0.0223)	0.0827	0.0664	(0.0196)			
2001	0.0578	0.0053	0.0524	0.0495	0.0082	(0.0131)	0.0708	0.0487	(0.0156)			
2002 2003	0.0553 0.0425	0.0070	0.0483 0.0335	0.0317 0.0328	(0.0236) 0.0097	(0.0017) (0.0022)	$0.0570 \\ 0.0448$	$0.0195 \\ 0.0199$	(0.0067) (0.0070)			
2003	0.0423	0.0090	0.0333	0.0416	(0.0005)	(0.0022)	0.0508	0.0302	(0.0109)			
2005	0.0339	0.0097	0.0242	0.0004	0.0336	(0.0452)	0.0792	(0.0046)	(0.0244)			
2006	0.0383	0.0076	0.0307	0.0072	0.0311	0.0371	0.0012	0.0000	0.0179			
2007	0.0436		0.0396	0.0006	0.0430	0.0346	0.0090	(0.0030)	0.0351			
	0.0740	0.0046	0.0694	(0.0057)	0.0278	(0.0012)	0.0752	0.0175	(0.0034)			
D)/Y $r_{(DEBT)} = r^* - r^* (HA)$ Infla rate $r^* - r^* - c(HA)$ Infla rate $(\mathbf{q} r^*_{PRI} - r^*_{PRI})$ Infla rate $(\mathbf{q} r^*_{PRI} - r^*_{PRI})$												
Fifteen No								LQCI(G)	LQUITIO			
1990	0.2557	0.0001	0.2556	0.0000	0.2556	0.0005	0.2551	(0.0085)	(0.0082)			
1991	0.1957	0.0007	0.1950	0.0000	0.1957	0.0010	0.1947	(0.0084)	(0.0084)			
1992	0.1930	0.0007	0.1923	(0.0003)	(0.1933)	0.0011	0.1919	(0.0085)	(0.0085)			
1993	0.1684	0.0009	0.1675	(0.0009)	(0.1693)	0.0018	0.1666	(0.0085)	(0.0085)			
1994	0.1805	0.0159	0.1646	(0.0060)	(0.1865)	0.0305	0.1500	0.0000	0.0000			
1995 1996	0.3247 0.3339	0.0088 0.0334	0.3159 0.3005	(0.0001) 0.0096	(0.3248) 0.3243	$0.0128 \\ 0.0446$	0.3119 0.2893	0.0000 0.0176	0.0000 0.0176			
1990	0.2178	0.0063	0.2116	0.0032	0.2146	0.0077	0.2893	0.0000	0.0000			
1998	0.1784	0.0065	0.1719	0.0033	0.1751	0.0080	0.1704	0.0000	0.0000			
1999	0.1554	0.0067	0.1487	0.0533	0.1021	(0.0335)	(0.1889)	0.0378	(0.0085)			
2000	0.1381	0.0052	0.1329	0.0317	0.1065	(0.0385)	(0.1766)	0.0406	(0.0096)			
2001 2002	0.1166 0.1025	0.0033	0.1133 0.0747	0.0026 0.0388	0.1140 0.0637	0.0034 0.0224	0.1132 0.0801	0.0000	0.0000 0.0089			
2002	0.1025	0.0278	0.0747	0.0388	0.0837	0.0224	0.0801	0.0220	0.0089			
2004	0.0793	0.0014	0.0779	0.0019	0.0775	0.0000	0.0793	0.0000	(0.0009)			
2005	0.0586	0.0018	0.0568	0.0019	0.0567	0.0018	0.0568	0.0000	0.0000			
2006	0.0621	0.0018	0.0604	0.0174	0.0447	(0.0011)	(0.0632)	0.0086	(0.0019)			
2007	0.0650		0.0646	0.0004	0.0645	0.0019	0.0631	(0.0004)	0.0023			
	0.1618	0.0069	0.1549	0.0088	0.0558	0.0037	0.1104	0.0051	(0.0014)			
D)/Y	r _(DEBT)	r*-r*(HA	Infla rate	r* _G -r* _G (HA)	Infla rate(r* _{PRI} -r* _{PRI} (Hz	Infla rate(I	n _{EOUI(G)} -n	n _{EOUI(PRD} -n			
AGGREGA	TION &	AVERRA	GE of non	Euro 30 co	unries							
1990	0.2440	0.0225	0.2215	0.0108	0.2332	0.0257	0.2183	0.0000	0.0000			
1991 1992	0.2212	0.0267	0.1944	(0.0151)	(0.2363)	0.0434	0.1777	(0.0364)	0.0081			
1992	0.2034 0.1896	0.0255 0.0216	$0.1779 \\ 0.1679$	0.0433	0.1601 (0.1898)	0.0120 0.0502	$0.1914 \\ 0.1394$	0.0447 0.0000	(0.0095) 0.0197			
1994	0.1890	0.0268	0.1619	(0.0064)	(0.1353)	0.0274	0.1614	0.0000	(0.0014)			
1995	0.1857	0.0322	0.1535	0.0746	0.1111	0.0339	0.1518	0.0533	0.0000			
1996	0.1708	0.0262	0.1446	0.0122	0.1586	0.0297	0.1411	(0.0079)	0.0017			
1997	0.1530	0.0211	0.1319	0.0149	0.1381	0.0267	0.1264	0.0000	0.0020			
1998 1999	0.1583	0.0209	0.1374	(0.1137)	(0.2720)	0.0373	0.1210	(0.1292)	0.0000			
2000	0.1404 0.1213	0.0179 0.0244	0.1225 0.0970	(0.0359) 0.1684	(0.1763) (0.0470)	0.0318 0.0373	$0.1086 \\ 0.0840$	(0.0459) 0.1663	0.0080 0.0000			
2001	0.1213	0.0249	0.0964	0.0091	0.1122	0.0426	0.0787	(0.0057)	0.0011			
2002	0.1532	0.0209	0.1323	(0.0193)	(0.1724)	0.0444	0.1088	(0.0294)	0.0058			
2003	0.1067	0.0193	0.0874	0.0224	0.0843	0.0259	0.0808	0.0094	(0.0018)			
2004	0.1025	0.0197	0.0828	0.0569	0.0456	0.0094	0.0931	0.0431	(0.0083)			
2005 2006	0.1025 0.1057	0.0145 0.0159	0.0880 0.0898	0.0002 0.0125	0.1023 0.0932	0.0158 0.0082	0.0868 0.0975	(0.0115) 0.0000	0.0000			
2008	0.0916	0.0159	0.0898	0.0003	0.0932	0.0082	0.0975	(0.0228)	(0.0072) 0.0082			
	0.1533	0.0227	0.1306	0.0131	0.0023	0.0298	0.1235	0.0015	0.0015			

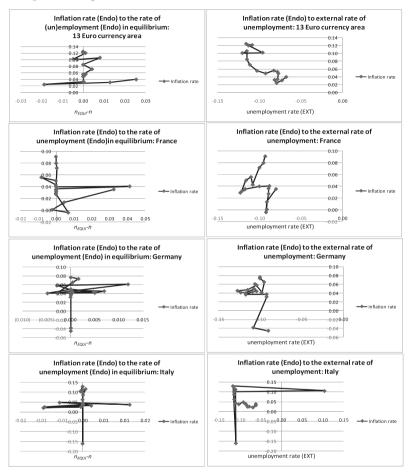
Table 13Theoretical wages and labor by sector with the rate of change in popula-
tion in equilibrium by sector (Part IV-10 in KEWT 3.09)

PART IV-10	s W	W _G	W _{PRI}	L	L _G	L _{PRI}	n	n _{EQUI}	n _{EQUI(G)}	n _{EQUI(PRI)}	n _{EQUI(WA)}
E0. Thi	rteen Euro	currency	countries	(including	g Slovenia	in 2007)		-			
1990	6741	1341	5400	26.71	5.31	21.40	0.0049	0.0049	0.0049	0.0049	0.0049
1991 1992	7757	1533	6224	26.75	5.29	21.46	0.0015	0.0015	(0.0048)	0.0030	0.0015
1992	8040 8303	1700 1833	6340 6470	26.88 27.02	5.68 5.96	21.20 21.06	0.0051 0.0050	0.0003	0.0752 0.0003	(0.0122) 0.0003	0.0063 0.0003
1994	8931	1917	7014	23.12	4.96	18.15	0.0030	0.0003	0.0003	0.0003	0.0003
1995	9073	2047	7027	23.22	5.24	17.99	0.0047	0.0003	0.0557	0.0003	0.0128
1996	9505	2159	7346	23.30	5.29	18.01	0.0032	0.0032	0.0100	0.0011	0.0032
1997	10227	2279	7948	23.36	5.20	18.15	0.0025	0.0025	0.0025	0.0080	0.0068
1998 1999	10649 9831	2407 2241	8242 7590	23.41 23.47	5.29 5.35	18.12 18.12	0.0023	0.0023	0.0165	(0.0018) 0.0002	0.0023
2000	10471	2545	7926	23.47	5.73	17.83	0.0027	0.0027	0.00115	(0.0160)	
2001	8379	2135	6243	23.66	6.03	17.63	0.0046	0.0046	0.0046	(0.0111)	(0.0071)
2002	8777	2280	6496	23.79	6.18	17.61	0.0054	0.0054	0.0248	(0.0013)	0.0055
2003	8933	2367	6566	23.93	6.34	17.59	0.0056	0.0056	0.0256	(0.0014)	0.0058
2004 2005	9169 9235	2502 2683	6667 6552	24.05 24.17	6.56 7.02	17.49 17.15	0.0054 0.0048	0.0054 0.0048	0.0355 0.0002	(0.0055) (0.0196)	0.0057 (0.0138)
2005	9235 9769	2683	7055	24.17	6.74	17.15	0.0048	0.0048	0.0002	0.0219	0.0158)
2007	12431	3140	9291	24.35	6.15	18.20	0.0033		0.0003	0.0385	
	9235	2212	7022	24.39	5.7967	18.59	0.0040	0.0030	0.0150	0.0005	0.0040
	W	W _G	W _{PRI}	L	L _G	L _{PRI}	n	n _{EQUI}	n _{EQUI(G)}	n _{EQUI(PRI)}	n _{EQUI(WA)}
	Non-Euro										
1990	572	137	435	20.75	4.96	15.79	0.0085	0.0000	0.0000	0.0003	0.0002
1991	654	154	499	20.93	4.94	15.98	0.0087	0.0003	0.0003	0.0003	0.0003
1992	766	175	590	21.11	4.84	16.28	0.0088	0.0003	0.0003	0.0003	0.0003
1993 1994	868 1162	210 240	658 921	21.30 26.13	5.15 5.40	16.15 20.73	0.0088 0.0061	0.0003 0.0061	0.0003 0.0061	0.0003 0.0061	0.0003 0.0061
1994	1759	348	1411	26.13	5.40	20.73	0.0061	0.0061	0.0061	0.0061	0.0061
1996	2515	465	2050	26.31	4.87	21.00	0.0042	0.0200	0.0200	0.0200	0.0200
1997	5066	862	4204	26.36	4.49	21.88	0.0022	0.0022	0.0022	0.0022	0.0022
1998	7274	1336	5937	26.41	4.85	21.56	0.0019	0.0019	0.0019	0.0019	0.0019
1999 2000	10017	1910	8107	26.46	5.05	21.41	0.0017	0.0017	0.0396	(0.0068)	
2000	13803 21367	2738 3952	11065 17415	26.50 26.53	5.26 4.91	21.24 21.62	0.0014 0.0012	0.0014 0.0012	0.0420 0.0012	(0.0081) 0.0012	0.0018 0.0012
2001	28535	5394	23141	26.55	5.02	21.54	0.0011	0.0130	0.0232	0.0100	0.0125
2003	36228	7297	28932	26.59	5.36	21.23	0.0010	0.0010	0.0010	0.0010	0.0010
2004	42588	8210	34379	26.61	5.13	21.48	0.0009	0.0009	0.0009	0.0000	0.0002
2005	55113	9811	45302	26.63	4.74	21.89	0.0009	0.0009	0.0009	0.0009	0.0009
2006 2007	65235 73961	11712 9000	53522 64961	26.67 26.68	4.79 3.25	21.88 23.44	0.0011 0.0007	0.0011 0.0003	0.0097 0.0003	(0.0007) 0.0030	0.0011 0.0027
2007	20416	3553	16863	25.27	4.8981	20.37	0.0034	0.00032	0.0086	0.0030	0.0033
	W	W _G	W _{PRI}	L	L _G	L _{PRI}	n	n _{EQUI}	n _{EQUI(G)}	n _{EOUKPRD}	n _{EQUI(WA)}
	GATION &										
1990	21943	4000	17943	119.86	21.85	98.01	0.0150	0.0150	0.0150	0.0150	0.0150
1991 1992	25728	4521	21206	122.01	21.44	100.57	0.0180	0.0180	(0.0185)	0.0261	0.0183
1992	28590 35304	5246 5919	23344 29386	123.93 125.95	22.74 21.12	101.19 104.84	0.0158 0.0163	0.0158 0.0163	0.0604 0.0163	0.0062 0.0360	0.0162 0.0327
1993	40581	6666	33916	123.93	20.98	104.84	0.0103	0.0103	0.0105	0.0380	0.0183
1995	43435	7514	35920	130.52	22.58	107.94	0.0231	0.0231	0.0764	0.0231	0.0324
1996	49761	8542	41219	133.09	22.85	110.24	0.0197	0.0197	0.0118	0.0214	0.0197
1997 1998	54538 70244	9272 10421	45266 59823	135.08 137.02	22.96 20.33	112.12 116.69	0.0150 0.0143	0.0150 0.0143	0.0150	0.0170 0.0143	0.0166
1998	82569	10421	59823 70874	137.02	20.33	116.69	0.0143	0.0143	(0.1148) (0.0321)		(0.0048) 0.0141
2000	82374	13583	68792	140.75	23.21	117.54	0.0137	0.0137	0.0133	0.0133	0.0133
2001	93809	15380	78429	142.73	23.40	119.33	0.0141	0.0141	0.0083	0.0152	0.0141
2002	108496	17271	91225	144.51	23.00	121.50	0.0125	0.0125	(0.0170)		0.0126
2003 2004	120951 130942	19432 21934	101519 109008	146.26 147.99	23.50 24.79	122.76 123.20	0.0121 0.0119	0.0121 0.0119	0.0215 0.0550	0.0103 0.0036	0.0121 0.0122
2004	130942	19117	114960	147.99	24.79	123.20	0.0119	0.0119	0.0550	0.0036	0.0122
2005	154489	22966	131523	151.46	22.52	128.95	0.0116	0.0116	0.0116	0.0044	0.0055
2007	209546	29725	179821	154.97	21.98	132.98	0.0231	0.0231	0.0003	0.0313	0.0269
	82632	12956	69676	137.36	22.2366	115.12	0.0156	0.0156	0.0079	0.0171	0.0158

Table 14Theoretical wage rates and the rate of change in population in equilibrium by sector (Part IV-11 in KEWT 3.09)

				I					1	
PART IV-11 S		w_G			$n_G = g_{L(G)}$		n _{EQUI} -n	n _{EQUI(G)} -n _t	n _{EQUI(PRI)} -n _P	n _{EQUI(WA)} -r
E0. Thirte 1990	en Euro 252	currency 252	252	0.0150	slovenia	in 2007)				
1990	252	252	252	0.0150	(0.0048)	0.0030	0.0000	0.0000	0.0000	0.0000
1992	299	299	299	0.0051	0.0752	(0.0122)	(0.0048)	0.0000	0.0000	0.0012
1993	307	307	307	0.0050	0.0491	(0.0068)	(0.0047)	(0.0488)	0.0071	(0.0047)
1994	386	386	386	(0.1445)	(0.1679)	(0.1378)	0.1448	0.1682	0.1381	(0.0027)
1995	391	391	391	0.0047	0.0557	(0.0092)	(0.0044)	0.0000	0.0095	0.0081
1996 1997	408 438	408 438	408 438	0.0032 0.0025	0.0100	0.0011 0.0080	0.0000	$0.0000 \\ 0.0188$	0.0000	0.0000 0.0043
1998	455	438	455	0.0023	(0.0163) 0.0165	(0.0018)	0.0000	0.0000	0.0000	0.0043
1999	419	419	419	0.0027	0.0115	0.0002	0.0000	0.0000	0.0000	0.0000
2000	444	444	444	0.0036	0.0700	(0.0160)	0.0000	(0.0664)	0.0000	(0.0148)
2001	354	354	354	0.0046	0.0533	(0.0111)	0.0000	(0.0487)	0.0000	(0.0117)
2002	369	369	369	0.0054	0.0248	(0.0013)	0.0000	0.0000	0.0000	0.0001
2003 2004	373 381	373 381	373 381	0.0056 0.0054	0.0256 0.0355	(0.0014)	0.0000	0.0000 0.0000	0.0000	0.0001 0.0003
2004	382	382	382	0.0034	0.0555	(0.0055)	0.0000	(0.0696)	0.0000	(0.0186)
2006	403	403	403	0.0039	(0.0398)	0.0219	0.0000	0.0438	0.0000	0.0130
2007	511	511	511	0.0033	(0.0880)	0.0385	0.0000	0.0883	0.0000	0.0255
0.0000	381.27	381.27	381.27	(0.0037)	0.0100	(0.0083)	0.0073	0.0048	0.0086	0.0000
Fifteen No	w Euro	w _G			$n_G = g_{L(G)}$	$n_{PRI} = g_{L(PR)}$	n _{EQUI} -n	n _{EQUI(G)} -n,	n _{EQUI(PRI)} -n _P	n _{EQUI} (WA) ⁻¹
1990	28 28	28	IN EU area 28	0.0150						
						0.0100	(0.000 t)	0.0000		(0.000 D
1991 1992	31 36	31 36	31 36	0.0087 0.0088	(0.0025) (0.0219)	0.0122 0.0183	(0.0084)	0.0028	(0.0119) (0.0180)	(0.0084) (0.0085)
1992	41	41	41	0.0088	0.0646	(0.0078)	(0.0085) (0.0085)	(0.0643)	0.0081	(0.0085)
1994	44	44	44	0.2271	0.0497	0.2836	(0.2210)	(0.0436)	(0.2775)	0.0000
1995	67	67	67	0.0042	(0.0404)	0.0158	(0.0000)	0.0446	(0.0116)	0.0000
1996	96	96	96	0.0024	(0.0617)	0.0182	0.0176	0.0817	0.0018	0.0176
1997	192	192	192	0.0022	(0.0781)	0.0204	0.0000	0.0803	(0.0182)	0.0000
1998 1999	275	275	275	0.0019	0.0820	(0.0145)	0.0000	(0.0801)	0.0164	0.0000
2000	379 521	379 521	379 521	0.0017 0.0014	0.0396	(0.0068) (0.0081)	0.0000	0.0000	0.0000	0.0003
2000	805	805	805	0.0012	(0.0665)	0.0180	0.0000	0.0677	(0.0168)	0.0000
2002	1074	1074	1074	0.0011	0.0232	(0.0039)	0.0119	0.0000	0.0139	0.0114
2003	1363	1363	1363	0.0010	0.0665	(0.0143)	0.0000	(0.0655)	0.0153	0.0000
2004 2005	1600	1600	1600	0.0009	(0.0421)	0.0117	0.0000	0.0429	(0.0117)	(0.0007)
2005	2069 2446	2069 2446	2069 2446	0.0009 0.0011	(0.0757) 0.0097	0.0192 (0.0007)	0.0000	0.0766 0.0000	(0.0183) 0.0000	0.0000 0.0000
2000	2772	2772	2772	0.0007	(0.3218)	0.0712		0.3221	(0.0682)	0.0020
	768.90	768.90	768.90	0.0161	(0.0185)	0.0240	(0.0121)	0.0271	(0.0220)	0.0003
	w	w_G			$n_G = g_{L(G)}$	$n_{PRI} = g_{L(PR)}$	n _{EQUI} -n	$n_{EQUI(G)}$ - n_{c}	n _{EQUI(PRD} -n _P	n _{EQUI(WA)} -r
AGGREG.					ounries					
1990 1991	183	183	183	0.0150	(0.0105)	0.0261	0.0000	0.0000	0.0000	0.0003
1991	211 231	211 231	211 231	0.0180 0.0158	(0.0185) 0.0604	0.0261 0.0062	0.0000	0.0000	0.0000	0.0003 0.0004
1993	280	280	280	0.0158	(0.0714)	0.0360	0.0000	0.0877	0.0000	0.0164
1994	318	318	318	0.0140	(0.0065)	0.0181	0.0055	0.0260	0.0000	(0.0011)
1995	333	333	333	0.0220	0.0764	0.0113	0.0012	0.0000	0.0119	0.0092
1996	374	374	374	0.0197	0.0118	0.0214	0.0000	0.0000	0.0000	0.0000
1997 1998	404	404	404	0.0150	0.0052	0.0170	0.0000	0.0098	0.0000	0.0017
1998	513 594	513 594	513 594	0.0143 0.0137	(0.1148) (0.0321)	0.0408 0.0217	0.0000	0.0000 0.0000	(0.0265) 0.0000	(0.0192) 0.0004
2000	585	585	585	0.0133	0.1796	(0.0217)	0.0000	(0.1663)	0.0274	0.0004
2001	657	657	657	0.0141	0.0083	0.0152	0.0000	0.0000	0.0000	0.0000
2002	751	751	751	0.0125	(0.0170)	0.0182	0.0000	0.0000	0.0000	0.0002
2003	827	827	827	0.0121	0.0215	0.0103	0.0000	0.0000	0.0000	0.0000
2004 2005	885 895	885 895	885 895	0.0119	0.0550	0.0036	0.0000	0.0000	0.0000	0.0004
2005	1020	1020	1020	0.0117 0.0116	(0.1388) 0.0547	0.0420 0.0044	0.0000	0.1390 (0.0431)	(0.0303) 0.0000	(0.0016) (0.0061)
2000	1352	1352	1352	0.0231	(0.0237)	0.0313	0.0000	0.0240	0.0000	0.0038
0.0000	578.50	578.50	578.50	0.0152	0.0028	0.0172	0.0004	0.0043	(0.0010)	0.0003

Endogenous Phillips (1)



Data source: KEWT 3.09 of fifty-eight countries by sector, 1990–2007, whose ten original data come from *International Financial Statistics Yearbook*, IMF. (hereafter, abbreviated)

Figure A1 Endogenous Phillips line that uses the inflation/deflation rate and the rates of employment, compared with the external rate of unemployment (1)

Endogenous Phillips (2)

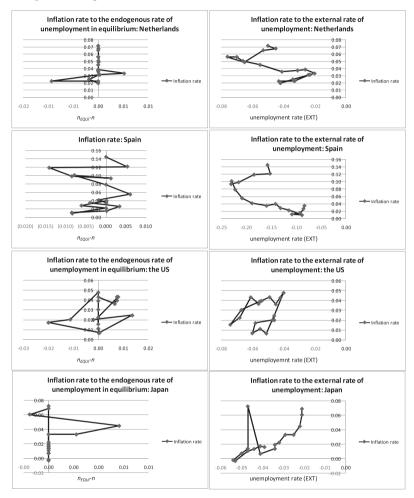


Figure A2 Endogenous Phillips line that uses the inflation/deflation rate and the rates of employment, compared with the external rate of unemployment (2)

Endogenous Phillips (3)

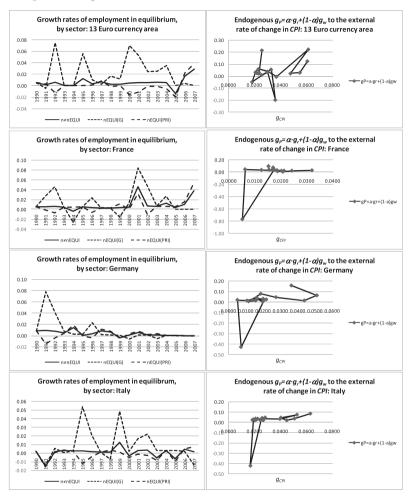


Figure A3 Growth rate of (rate of change in) employment in equilibrium and endogenous vs. external in inflation rate (1)



Endogenous Phillips (4)

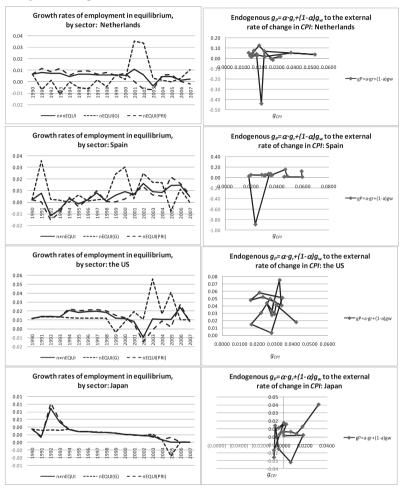


Figure A4 Growth rate of (rate of change in) employment in equilibrium and endogenous vs. external in inflation rate (2)



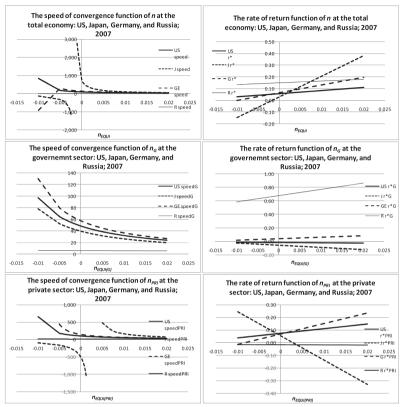
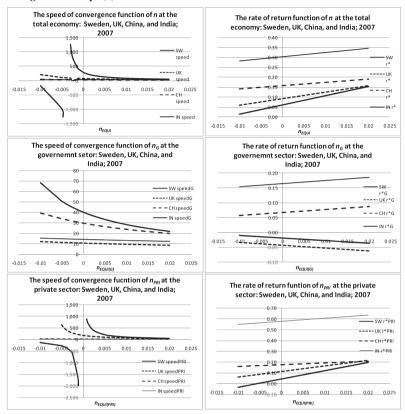


Figure A5 Two basic functions of the rate of change in population/employees by sector: the US, Japan, Germany, and Russia 2007 (1)





Endogenous Phillips (6)

Figure A6 Two basic functions of the rate of change in population/employees by sector: Sweden, UK, China, and India 2007 (2)

Endogenous Phillips (7)

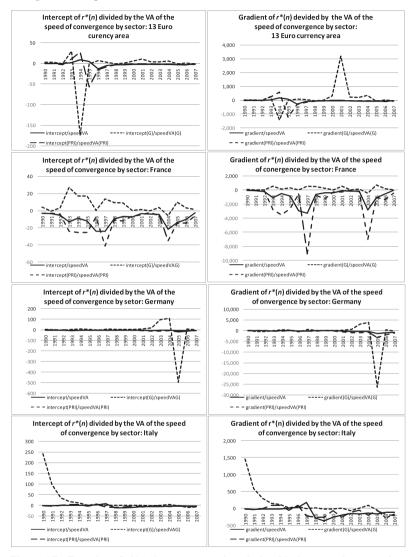


Figure A7 Function of $r^*(n)$ that measures the relationship between the unemployment rate and inflation rate (1)

Endogenous Phillips (8)

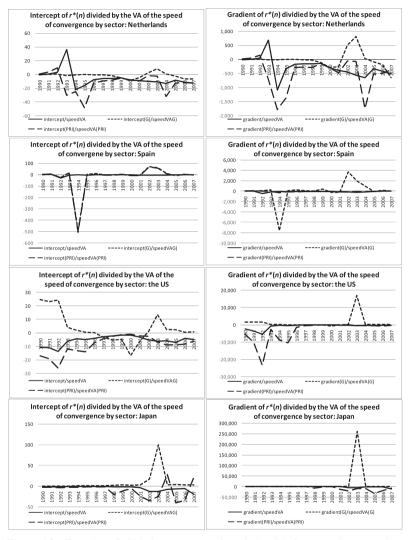
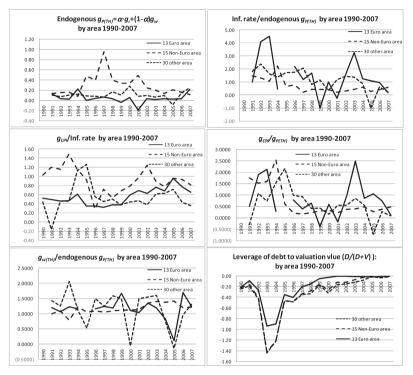


Figure A8 Function of $r^*(n)$ that measures the relationship between the unemployment rate and inflation rate (2)

Endogenous Inflation (1)



Note: For external inflation rate, the rate of change in consumers' price index, g_{CPI} , was taken. For endogenous influion rates, one is the weighted average of the theoretical wage rate and the rate of return, $g_P = \alpha \cdot g_r + (1-\alpha)g_W$, and the other is 10 year debt yield less the real rate of return at convergence, $Inf. rate = r_{DEBT} - (r^* - r_{HA}^*)$.

Figure A9 Comparisons of various inflation rates, endogenous and external, by area 1990–2007

Endogenous Inflation (2)

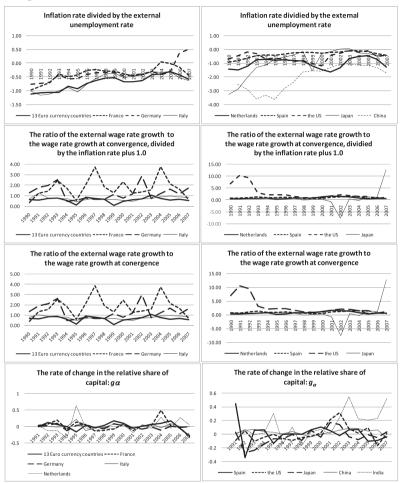


Figure A10 Rate of change in the relative share of capital by country

Endogenous Inflation (3)

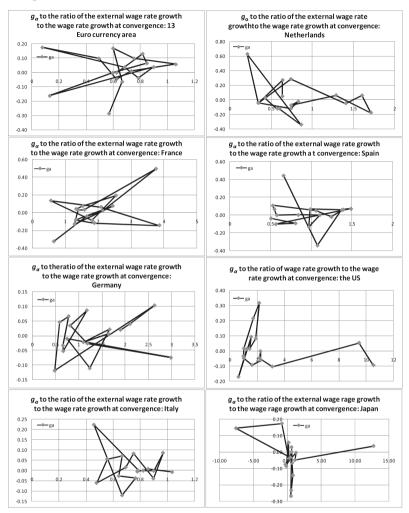
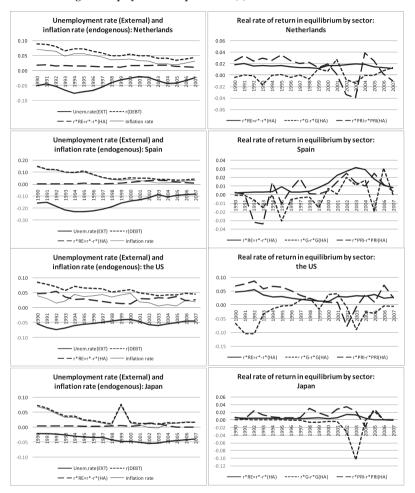


Figure A11 Rate of change in the relative share of capital versus the wage growth ratio of external to endogenous



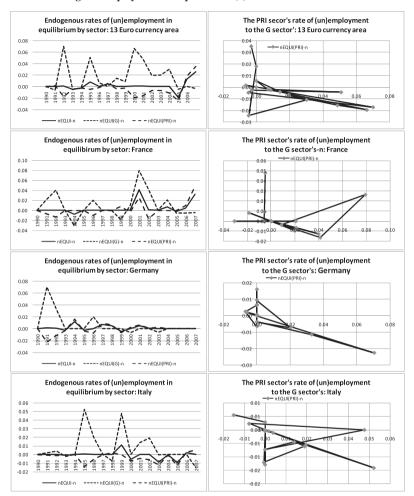


Figure A12 External unemployment rate and the inflation rate as 10 year debt yield less the real rate of return or the real rate of return by sector (1)



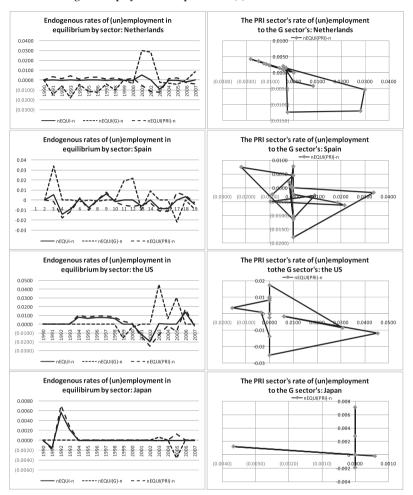
Rates of Change in Employment in Equilibrium (2)

Figure A13 External unemployment rate and the inflation rate as 10 year debt yield less the real rate of return or the real rate of return by sector (2)



Rates of Change in Employment in Equilibrium (3)

Figure A14 Endogenous rates of (un)employment in equilibrium by sector, comparing those of government sector with those of the private sector (1)



Rates of Change in Employment in Equilibrium (4)

Figure A15 Endogenous rates of (un)employment in equilibrium by sector, comparing those of government sector with those of the private sector (2)

Appendix A1 Two important functions as a base for maintaining equilibrium

For a curve of hyperbolic, $y = e + \frac{f}{a \cdot x + b}$, where $f = c \cdot x + d$, the line at x = -b/a

shows the vertical asymptote and the line y = e shows the horizontal asymptote. If $a \cdot f > 0$, the curve stays at the first and third quadrants, and if $a \cdot f < 0$, the curve stays at the second and fourth quadrants. The shape of the hyperbolic is measured by $\sqrt{f/a}$, which shows the degree of diminishing returns to capital (see figure of the shape). For the following functions, i = I/Y is independent to $n = n_E = n_0$.

The speed of convergence functions to to i and $n_E: \left(\frac{1}{\lambda^*}\right)(i)$ and $\left(\frac{1}{\lambda^*}\right)(n)$

$$\frac{1}{\lambda^*} = \frac{1}{(1-\alpha)n + i(1-\delta_0)(1-\beta^*)} \,. \tag{1}$$

Using $y = \frac{cx+d}{ax+b}$, where $y = \frac{1}{\lambda^*}$, x = i, c = 0, d = 1, $a = (1 - \beta^*)(1 - \delta_0)$, and $b = (1 - \alpha)n$, $y = \frac{1}{(1-\beta^*)(1-\delta_0)i+(1-\alpha)n} = \frac{1}{\alpha x+b}$. e = 0 indicates that the horizontal asymptote is

the line v = 0.

The vertical asymptote (V.A.) of the speed of convergence (the Y axis) to the ratio of investment to output, i (the X axis) :

$$\frac{1}{\lambda^*} \text{ to } i: \ i = -\frac{n(1-\alpha)}{(1-\beta^*)(1-\delta_0)}.$$
(2)

If $a \cdot f = (1 - \beta^*)(1 - \delta_0) > 0$, curves locate at the first and third quadrants, and if $(1-\beta^*)(1-\delta_0) < 0$, curves locate at the second and fourth quadrants.

The vertical asymptote (V.A.) of the speed of convergence (the Y axis) to the growth rate of population, *n* (the X axis):

$$\frac{1}{\lambda^*} \text{ to } n: n = -\frac{i(1-\beta^*)(1-\delta_0)}{(1-\alpha)}, \text{ where}$$
(3)

If $(1-\alpha) > 0$, curves are at the first and third quadrants and if $(1-\alpha) < 0$ curves are reversed.

The rate of return at convergence functions to i and n_E : $r^*(i)$ and $r^*(n)$

$$r^* = \alpha \left(\frac{i(1-\beta^*)(1+n) + n(1-\alpha)}{i \cdot \beta^*(1-\alpha)} \right), \text{ where } r^* = \frac{\alpha}{\Omega^*} \text{ and } \Omega^* = \left(\frac{i \cdot \beta^*(1-\alpha)}{i(1-\beta^*)(1+n) + n(1-\alpha)} \right).$$
(4)

Using
$$y = \frac{cx+d}{ax+b}$$
, $a = \beta^*(1-\alpha)$, $b = 0$, $c = \alpha(1-\beta^*)(1+n)$, $d = \alpha \cdot n(1-\alpha)$, and $\alpha(1-\beta^*)(1+n)$

$$e = \frac{\alpha(1-\beta)(1+n)}{\beta^*(1-\alpha)}.$$

Then, $r^* = \frac{\alpha(1-\beta^*)(1+n)}{\beta^*(1-\alpha)} + \frac{\alpha \cdot n(1-\alpha)}{i \cdot \beta^*(1-\alpha)}.$ (5)

The vertical asymptote (V.A.) of the rate of return at convergence (the Y axis) to the ratio of investment to output (the X axis) is the line i = 0. If $a \cdot f = \alpha \cdot n \cdot \beta^* (1-\alpha)^2 > 0$, the curves locate at the first and third quadrants. The horizontal asymptote, r_{HA}^* , is: $\frac{\alpha (1-\beta^*)(1+n)}{\beta^*(1-\alpha)}$, where if $\beta^* = 1.0$, $r_{HA}^* = 0$ holds.

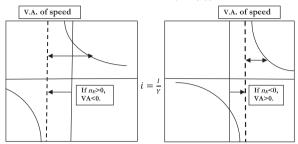
The rate of return at convergence (the Y axis) to the growth rate of population, n (the X axis) is linear:

$$r^* = \frac{\alpha(1-\beta^*)(1+n)}{\beta^*(1-\alpha)} + \frac{\alpha \cdot n(1-\alpha)}{i \cdot \beta^*(1-\alpha)} = \left(\frac{\alpha(1-\beta^*)}{\beta^*(1-\alpha)} + \frac{\alpha(1-\alpha)}{i \cdot \beta^*(1-\alpha)}\right)n + \frac{\alpha(1-\beta^*)}{\beta^*(1-\alpha)},\tag{6}$$

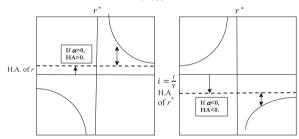
where the gradient is $\frac{\alpha (i(1-\beta^*) + (1-\alpha))}{i \cdot \beta^*(1-\alpha)} = \frac{\alpha (1-\beta^*)}{\beta^*(1-\alpha)} + \frac{\alpha (1-\alpha)}{i \cdot \beta^*(1-\alpha)}$ and the intercept is

 $\frac{\alpha (1-\beta^*)}{\beta^*(1-\alpha)}.$

1. The speed of convergence function to i = I/Y: $(1/\lambda^*)(i)$



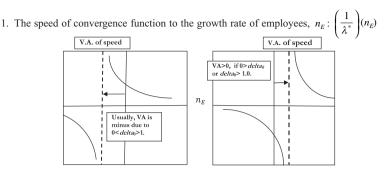
- 1. On the vertical asymptote (V.A.), the speed of convergence, $1/\lambda^*$, is infinite.
- 2. The horizontal asymptote (H.A.) is $1/\lambda^* = 0$.
- 3. The curve is reversed if $(1 \beta^*)(1 \delta_0) < 0$, which rarely occurs.
- 2. The rate of return function to i = I/Y: $(r^*)(i)$



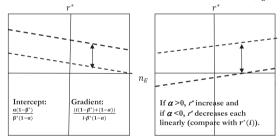
- 1. The horizontal asymptote (H.A.) is: $(\alpha (1 \beta^*) (1 + n_E))/(\beta^* (1 \alpha))$.
- 2. The first quadrant on the LHS shows inflation under diminishing returns by i = I/Y.
- 3. The second quadrant on the RHS shows deflation under increasing returns by i = I/Y.
- 4. If the sum of r*(i) and its H.A. are plus, these are normal; if these are minus, it implies 'falling into the trap of liquidity. H.A=0 indicates a base of inflation/deflation.
- 5. The curve is reversed by using $a \cdot f = \alpha \cdot n_E \cdot \beta^* (1-\alpha)^2 < 0$; from the first to second quadrant. This occurs often at the government sector, where the government relative share of capital turns to minus due to huge deficits or a minus saving.

Note: Parameters except for i = I/Y or n_E are fixed. The above figures hold not only at the total economy but also by sector.

Appendix A2 Two fundamental functions to the ratio of investment to output in equilibrium

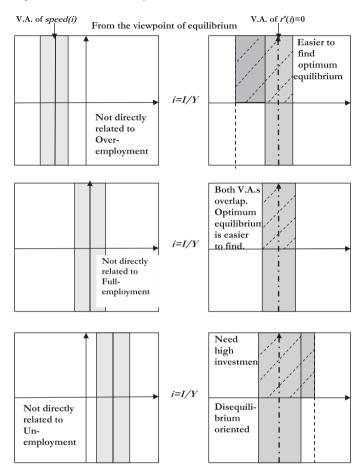


- 1. On the vertical asymptote (V.A.), the speed of convergence, $1/\lambda^*$, is infinite.
- 2. The horizontal asymptote (H.A.) is $1/\lambda^* = 0$.
- 3. The curve stays at the first and third quadrants (no reverse). Its vertical asymptote shifts from the first to fourth quadrant: $n_E = -\frac{i(1-\beta^*)(1-\delta_0)}{(1-\alpha)}$.
- 4. At the V.A. it is most risky. The milder the curve the more stable the equilibrium is.
- 2. The rate of return function to the growth rate of employees, n_E : $r^*(n_F)$



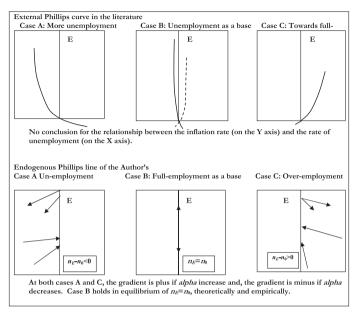
- 1. The higher the intercept the better to increase employment: $\alpha (1-\beta^*)/(\beta^*(1-\alpha))$.
- 2. If the gradient is negative, unemployment rate does not improve (as the LHS). If the gradient is positive, unemployment rate improves (as the RHS): $\frac{\alpha(i(1-\beta^*)+(1-\alpha))}{i\cdot\beta^*(1-\alpha)}.$ (1)
- 3. Calculate the intercept divided by the V.A. of $\left(\frac{1}{\lambda^*}\right)(n_E)$ and the gradient divided by the V.A. of $\left(\frac{1}{\lambda^*}\right)(n_E)$. Then, the relationship between the rate of return and the growth rate of population, $r^*(n_E)$, is clarified structurally. An endogenous rate of (un)employment is related to $r^*(n_E)$.

Appendix A3 Two fundamental functions to the ratio of investment to output in equilibrium, inherent in the endogenous Phillips curve



Note: $r^*(i)$ shows the case of $\alpha > 0$ so that the effective range of i = I/Y is the first or fourth quadrant. The shadowed range of i = I/Y is close to the vertical asymptote of $(1/\lambda^*)(i)$ and/or $r^*(i)$. The highest limit of disequilibrium range of i = I/Y is determined by the shape of the hyperbolic, which is measured by $\sqrt{f/a}$ of $y = e + \left(\frac{f}{ax+b}\right)$. The shaper the shape of hyperbolic the more gentle the DRC is.

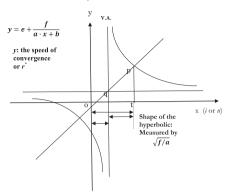
Appendix A4 Effective range of equilibrium versus risky range towards disequilibrium for i = I/Y



Note: Endogenous equilibrium holds at Case B below by manipulating an effective range of the speed of convergence functions of net investment and the growth rate of population

in equilibrium:
$$\left(\frac{1}{\lambda^*}\right)(r^*)$$
 and $\left(\frac{1}{\lambda^*}\right)(n_E)$.

Appendix A5 The inflation rate and the rate of unemployment: external versus endogenous



 $\sqrt{f/a}$ is related to the highest limit of the range of disequilibrium or the lowest limit of the range of equilibrium, when the sum of $\sqrt{f/a}$ and the vertical asymptote is used for optimum range.

Proof of the coordinates of t is $\sqrt{f/a}$:

The coordinates of o is (-b/a, e). To solve the simultaneous equations are (1) y-e = x - (-b/a) and (2) hyperbolic of $y = e + \frac{f}{\alpha \cdot x + b}$, $x = \sqrt{f/a} - b/a$ is obtained. Therefore, $\sqrt{f/a}$ is the shape of the hyperbolic by $\sqrt{\frac{f}{a}} = \sqrt{\frac{f}{a}} - \frac{b}{a} - \left(-\frac{b}{a}\right)$. Shapes of $(1/\lambda^*)(i)$, $(r^*)(i)$, and $(1/\lambda^*)(n)$: 1. The hyperbolic, $(1/\lambda^*)(i)$: $\left(\frac{1}{\lambda^*}\right) = \frac{1}{(1-\beta^*)(1-\delta_0)i + (1-\alpha)n} \Leftarrow \frac{1}{ax+b}$. The shape of the hyperbolic is $\sqrt{\frac{1}{(1-\beta^*)(1-\delta_0)}}$, where the V.A. is $i = -\frac{n(1-\alpha)}{(1-\beta^*)(1-\delta_0)}$. 2. The hyperbolic, $(r^*)(i)$: $r^* = \frac{\alpha(1-\beta^*)(1+n)}{\beta^*(1-\alpha)} + \frac{\alpha \cdot n(1-\alpha)}{i \cdot \beta^*(1-\alpha)} \Leftarrow e + \frac{f}{a \cdot x}$. The shape of the hyperbolic is $\sqrt{(\alpha \cdot n)/\beta^*}$, where the V.A. is i = 0 due to $x = 0 \Leftarrow x = -b/a$.

3. The hyperbolic,
$$(1/\lambda^*)(n) : \left(\frac{1}{\lambda^*}\right) = \frac{1}{(1-\alpha)n + i(1-\beta^*)(1-\delta_0)} \Leftarrow \frac{1}{ax+b}$$
.

The shape of the hyperbolic is $\sqrt{\frac{1}{(1-\alpha)}}$, where the V.A. is $n = -\frac{i(1-\beta^*)(1-\delta_0)}{(1-\alpha)}$.

Appendix A6 Shape of the hyperbolic as the upper limit of the effective range of equilibrium