Table 1

Union coverage rates in OECD countries

	1980	1990
W. Germany	91	90
France	85	92
Italy	85	83
Netherlands	76	71
Belgium	90	90
Spain	68	68
Sweden	83	83
Finland	95	95
EU Average	***84***	***84***
Japan	28	23
Canada	37	38
USA	26	18

Notes: The coverage rate (in percentage points) is the extent to which contracts signed by unions extend to the rest of the employed. The Table was adapted from Daveri and Tabellini (2000).

Table 2

Tax treatment of the unemployment subsidies

	[1] *Gross*	[2] *Net*	[3] τ^N	[4] τ^S	[5] ϕ
Ger	0.29	0.42	0.39	0.12	0.30
Fra	0.29	0.34	0.41	0.31	0.76
Ita	0.03	0.04	0.38	0.06	0.17
Net	0.40	0.49	0.50	0.39	0.78
Bel	0.43	0.52	0.44	0.32	0.73
Spa	0.24	0.29	0.31	0.17	0.54
Swe	0.16	0.19	0.47	0.36	0.77
Fin	0.19	0.23	0.32	0.15	0.48
Avg	*0.25*	*0.31*	*0.40*	*0.24*	*0.57*

Notes: Figures on gross and net replacement rates are obtained as averages of the 1961,1971, 1981, and 1991 replacement rates on gross and net of tax bases reported in the *OECD Jobs Study* (1994), *ch*. 8, *Annex* 8.13. The average 1960-95 effective tax rates on labor come from an updated version of the DT data set. The values of the effective tax rates on the unemployment subsidies, τ^S, are obtained from $net = gross \cdot (1-\tau^S)/(1-\tau^N)$.

Table 3
Calibration

	[1] $n\%$	[2] $s_i\%$	[3] $\gamma\%$	[4] $\sigma\%$	[5] α	[6] B
Ger	66	23	2.0	33	0.47	0.12
Fra	63	23	2.4	43	0.46	0.13
Ita	55	23	2.7	37	0.47	0.16
Net	56	23	2.0	45	0.48	0.14
Bel	57	19	2.6	53	0.39	0.15
Spa	56	22	3.1	51	0.42	0.16
Swe	75	19	2.1	34	0.44	0.11
Fin	70	27	2.6	20	0.65	0.12
Avg	*62*	*22*	*2.4*	*40*	*0.47*	*0.14*

Notes: n = employment over total population in working age; s_i = share of gross fixed investment over GDP; γ = growth rate of GDP per worker; σ = ratio of unemployment subsidies over GDP; α = share parameter in the CES production function; B = scale parameter in the human capital production function.

Table 4
Steady-state properties

	[1] n	[2] s_i	[3] γ	[4] s_N	[5] k/y	[6] R_k/Y	[7] R_n/Y	[8] R_s/Y	[9] R/Y
Ger	66	23	2.0	64	*1.9*	4.6	25.1	1.3	31.0
Fra	63	23	2.4	64	*1.9*	4.1	26.4	5.0	35.5
Ita	55	23	2.7	64	*1.8*	4.4	24.2	1.1	29.7
Net	56	23	2.0	64	*1.9*	5.3	31.9	7.7	44.9
Bel	57	19	2.6	68	*1.5*	6.0	29.8	7.3	43.1
Spa	56	22	3.1	66	*1.7*	2.5	20.6	3.8	26.9
Swe	75	19	2.1	63	*1.6*	10.8	29.8	3.0	43.7
Fin	70	27	2.6	53	*2.1*	9.3	17.1	0.9	27.4
Avg	*62*	*22*	*2.4*	*63*	*1.8*	*5.9*	*25.6*	*3.8*	*35.3*

Notes: All figures, except the capital-output ratio, are expressed in percentage points. n = employment over total population in working age; s_i = share of gross fixed investment over GDP; γ = growth rate of GDP per worker; s_N = labor share in value added; k/y = physical capital-output ratio; R_k/Y = ratio between the tax revenues on capital and output; R_n/Y = ratio between the tax revenues on labor and output; R_s/Y = ratio between the tax revenues on subsidies and; R/Y = ratio between total tax revenues (capital, labor, and subisides) and output.

Table 5
Estimated σ

	[1] s/w	[2] n	[3] s_N	[4] σ	[6] $\hat{\sigma}$
Ger	31	66	69	32	*33*
Fra	36	63	72	41	*43*
Ita	4	55	77	6	*37*
Net	54	56	64	62	*45*
Bel	53	57	68	63	*53*
Spa	37	56	72	48	*51*
Swe	21	75	72	20	*34*
Fin	23	70	58	19	*20*
Avg	*32*	*62*	*69*	*36*	*40*

Notes: The replacement rate corresponds to "entitlement benefits", as defined by the OECD. The employment rate is defined as total employment over working age population. The labor share in value added is computed from National Accounts. The values of σ in the fourth column are those implied by the values of the replacement rates, employment rates and labor incomes shares in the first three columns. The values of $\hat{\sigma}$ are the previously reported calibrated ones. All figures are 1960-1997 averages expressed in percentage points, and are based on annual OECD data.

Table 6
Parameterization summary

	[1] μ	[2] β	[3] $\delta_K\%$	[4] $\delta_E\%$	[5] η	[6] α	[7] B	[8] $\sigma\%$	[9] $\tau^K\%$	[10] $\tau^N\%$	[11] $\phi\%$
Ger	-1	0.96	10	6	-0.43	0.47	0.12	33	28	39	30
Fra	-1	0.96	10	6	-0.43	0.46	0.13	43	24	41	76
Ita	-1	0.96	10	6	-0.43	0.47	0.16	37	24	38	17
Net	-1	0.96	10	6	-0.43	0.48	0.14	45	31	50	78
Bel	-1	0.96	10	6	-0.43	0.38	0.15	53	35	44	73
Spa	-1	0.96	10	6	-0.43	0.42	0.16	51	15	31	54
Swe	-1	0.96	10	6	-0.43	0.44	0.11	34	52	47	77
Fin	-1	0.96	10	6	-0.43	0.65	0.12	20	37	32	48

Notes: μ = one minus the inverse of the intertemporal elasticity of substitution in consumption; β = discount factor; δ_K = depreciation rate of physical capital; δ_E = depreciation rate of human capital; η = elasticity of substitution parameter in the CES production function; α = share parameter in the CES technology; B = scale parameter in the human capital production technology; σ = ratio of unemployment subsidies over GDP; τ^K = average effective tax rate on capital income; τ^N = average effective tax rate on labor income; ϕ = differential tax treatment of subsides.

Table 7

Fiscal policy, employment and growth
with offsetting transfers

	Actual		$\tau^K \downarrow$		$\tau^N \downarrow$		$\phi \uparrow$		$\sigma \downarrow$	
	[1] $n\%$	[2] $\gamma\%$	[3] Δn	[4] $\Delta\gamma$	[5] Δn	[6] $\Delta\gamma$	[7] Δn	[8] $\Delta\gamma$	[9] Δn	[10] $\Delta\gamma$
Ger	65.8	2.0	0.19	0.02	0.50	0.06	0.17	0.02	1.59	0.19
Fra	62.7	2.4	0.17	0.02	0.22	0.03	0.22	0.03	1.16	0.15
Ita	55.5	2.7	0.16	0.02	0.46	0.07	0.13	0.02	1.17	0.18
Net	56.0	2.0	0.17	0.02	0.23	0.03	0.26	0.04	0.98	0.14
Bel	57.0	2.6	0.17	0.03	0.25	0.04	0.23	0.04	0.86	0.13
Spa	55.5	3.1	0.13	0.02	0.29	0.05	0.14	0.02	0.88	0.14
Swe	75.4	2.1	0.38	0.04	0.26	0.03	0.29	0.03	1.70	0.18
Fin	70.0	2.6	0.36	0.04	0.24	0.03	0.10	0.01	2.39	0.29
Avg			*0.22*	*0.03*	*0.31*	*0.04*	*0.19*	*0.03*	*1.34*	*0.18*

Notes: The table summarizes the effects, expressed in percentage points, of a one percentage point ($\tau' = \tau \pm 0.01$) change in each fiscal policy parameter on the steady state employment rate, holding the others constant and with offsetting lump-sum transfers to keep the budget balanced.

Table 8

Fiscal policy and the budget deficit
with offsetting transfers

	Actual	$\Delta T/Y$			
	[1]	[2]	[3]	[4]	[5]
	$T/Y\%$	$\tau^K \downarrow$	$\tau^N \downarrow$	$\phi \uparrow$	$\sigma \downarrow$
Ger	*19.8*	-0.19	-0.48	0.08	0.70
Fra	*19.5*	-0.19	-0.63	0.11	0.53
Ita	*13.0*	-0.20	-0.47	0.09	0.75
Net	*25.1*	-0.20	-0.63	0.13	0.49
Bel	*20.4*	-0.19	-0.67	0.16	0.58
Spa	*4.3*	-0.17	-0.62	0.10	0.66
Swe	*35.3*	-0.27	-0.54	0.10	0.58
Fin	*21.2*	-0.31	-0.42	0.03	0.72
Avg		*-0.22*	*-0.56*	*0.10*	*0.63*

Notes: The table summarizes the effect, expressed in percentage points, of a one percentage point ($\tau' = \tau \pm 0.01$) change in each fiscal policy parameter on the steady state transfers-output ratio T/Y, holding the others constant. By "actual ratio", it is meant the ratio implied by the initial parameterization.

Table 9

Employment and growth without offsetting transfers: labor tax decrease and capital tax increase

	Actual values			Steady-state changes		
	[1]	[2]	[3]	[4]	[5]	[6]
	$\tau^K\%$	$n\%$	$\gamma\%$	$\Delta\tau^K$	Δn	$\Delta\gamma$
Ger	27.9	65.9	2.01	2.45	0.02	0.00
Fra	24.2	62.7	2.41	3.24	-0.36	-0.05
Ita	24.4	55.5	2.72	2.32	0.08	0.01
Net	31.0	56.0	2.00	3.03	-0.31	-0.04
Bel	35.0	57.0	2.60	3.46	-0.37	-0.06
Spa	15.2	55.6	3.12	3.63	-0.19	-0.03
Swe	51.6	75.4	2.06	1.98	-0.51	-0.06
Fin	37.2	70.0	2.63	1.33	-0.25	-0.03
Avg				*2.68*	*-0.24*	*-0.03*

Notes: The Table shows how much the tax rate on physical capital has to increase in order to keep transfers constant after a one percentage point decrease in the tax rate on labor. Effects on employment and growth are also shown. All figures are expressed in percentage points.

Table 10

Employment and growth without offsetting transfers: labor tax decrease and subsidy share decrease

	Initial values			Steady-state changes		
	[1] $\sigma\%$	[2] $n\%$	[3] $\gamma\%$	[4] $\Delta\sigma$	[5] Δn	[6] $\Delta\gamma$
Ger	33	65.9	2.01	-0.68	1.58	0.19
Fra	43	62.7	2.41	1.17	1.58	0.21
Ita	37	55.5	2.72	-0.63	1.19	0.19
Net	45	56.0	2.00	-1.27	1.48	0.21
Bel	53	57.0	2.60	-1.15	1.25	0.19
Spa	51	55.6	3.12	-0.92	1.10	0.18
Swe	34	75.4	2.06	-0.91	1.81	0.20
Fin	20	70.0	2.63	-0.59	1.62	0.20
Avg				*-0.62*	*1.45*	*0.20*

Notes: The Table shows how much the subsidies/output ratio σ has to decrease in order to keep transfers constant after a one percentage point decrease in the tax rate on labor. Effects on employment and growth are also shown. All figures are expressed in percentage points.

Table 11
Tax revenues without offsetting transfers

	$\tau^N \downarrow \ \tau^K \uparrow$				$\tau^N \downarrow \ \sigma \downarrow$			
	[1] $\Delta R_k / Y$	[2] $\Delta R_n / Y$	[3] $\Delta R_s / Y$	[4] $\Delta R / Y$	[5] $\Delta R_k / Y$	[6] $\Delta R_n / Y$	[7] $\Delta R_s / Y$	[8] $\Delta R / Y$
Ger	0.70	-0.68	-0.03	**-0.01**	0.19	-0.71	-0.10	**-0.62**
Fra	0.85	-0.68	-0.06	**0.12**	0.16	-0.72	-0.38	**-0.94**
Ita	0.67	-0.67	-0.02	**-0.02**	0.14	-0.69	-0.06	**-0.61**
Net	0.87	-0.69	-0.07	**0.10**	0.23	-0.76	-0.51	**-1.03**
Bel	0.99	-0.75	-0.08	**0.15**	0.19	-0.74	-0.45	**-1.00**
Spa	0.86	-0.69	-0.09	**0.08**	0.07	-0.69	-0.24	**-0.86**
Swe	0.79	-0.67	0.00	**0.12**	0.38	-0.75	-0.27	**-0.63**
Fin	0.54	-0.50	-0.01	**0.03**	0.30	-0.59	-0.07	**-0.36**
Avg	*0.78*	*-0.67*	*-0.05*	***0.07***	*0.21*	*-0.71*	*-0.26*	***-0.76***

Notes: The Table shows how the composition and relative level of tax revenues change when the average tax rate on capital or the subsidies/output ratio σ vary in order to keep transfers constant after a one percentage point decrease in the tax rate on labor. All figures are expressed in percentage points.

Table 12
European aggregate

	[1] $\tau^K \downarrow$	[2] $\tau^N \downarrow$	[3] $\phi \uparrow$	[4] $\sigma \downarrow$	[5] $\tau^N \downarrow \tau^K \uparrow$	[6] $\tau^N \downarrow \sigma \downarrow$
Δn	0.17	0.38	0.17	1.24	-0.10	1.40
$\Delta \gamma$	0.02	0.05	0.02	0.17	-0.01	0.19
$\Delta T/Y$	-0.19	-0.54	0.09	0.65	-	-
$\Delta \tau^K$	-1.00	-	-	-	2.72	-
$\Delta \tau^N$	-	-1.00	-	-	-1.00	-1.00
$\Delta \phi$	-	-	1.00	-	-	-
$\Delta \sigma$	-	-	-	-1.00	-	-0.82
$\Delta R_k/Y$	-0.26	0.04	0.02	0.14	0.76	0.16
$\Delta R_n/Y$	0.02	-0.62	-0.01	-0.10	-0.68	-0.70
$\Delta R_s/Y$	-0.01	-0.08	0.04	-0.14	-0.05	-0.18
$\Delta R/Y$	-0.24	-0.65	0.04	-0.10	0.03	-0.73

Notes: The calibration is based on an artificial European aggregate, obtained as a weighted average of the countries in our sample, where the weights are the 1960-95 average ratios between the country sepcific working age population and the total figure. All figures are expressed in percentage points.

Table 13

Sensitivity analysis: marginal distributions

	Description	Min	Max
μ	intertemporal elasticity of subst.	-9	1
β	discount factor	0.93	0.99
η	elasticity of substitution	-3	0
δ_K	depreciation rate on physical capital	0.05	0.15
δ_E	depreciation rate on human capital	0.01	0.10
τ^N	tax rate on capital income	0.2	0.6
τ^K	tax rate on labor income	0.1	0.6
ϕ	τ^S/τ^N ratio	0.1	0.8
n	employment share	0.5	0.8
γ	long-run growth rate	1.01	1.05
s_i	long-run investment share	0.1	0.3

Table 14
Sensitivity analysis:
Policy experiments with offsetting transfers

	Δn				$\Delta \gamma$			
	[1] $\tau^K \downarrow$	[2] $\tau^N \downarrow$	[3] $\phi \uparrow$	[4] $\sigma \downarrow$	[5] $\tau^K \downarrow$	[6] $\tau^N \downarrow$	[7] $\phi \uparrow$	[8] $\sigma \downarrow$
Avg	0.32	0.55	0.16	2.05	0.04	0.07	0.02	0.25
Med	**0.24**	**0.51**	**0.14**	**1.48**	**0.03**	**0.06**	**0.02**	**0.18**
Std	0.40	0.37	0.13	2.27	0.05	0.05	0.02	0.30
Min	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.03
Max	16.89	1.96	0.77	34.85	2.00	0.31	0.13	7.47

Notes: The table summarizes the empirical distribution over 10,000 replications of the effects of a one percentage point ($\tau' = \tau \pm 0.01$) change in each fiscal policy parameter on the steady state employment rate, holding the others constant, when the overall parameterization is each time randomly drawn from the admissible parameter space. Only the parameterizations that satisfy some constraints on the long-run properties are used. All figures are expressed in percentage points.

Table 15
Sensitivity analysis:
Labor tax decrease and capital tax increase

	[1] Δn	[2] $\Delta \gamma$	[3] $\Delta \tau^K$
Avg	-1.39	-0.17	4.92
Med	**-0.43**	**-0.05**	**3.01**
Std	4.42	0.59	8.04
Min	-64.19	-12.95	-45.66
Max	30.62	7.66	73.63

Notes: The table summarizes the empirical distribution over 10,000 replications of the effects of a one percentage point ($\tau' = \tau - 0.01$) decrease in the average effective tax rate on labor, financed through capital taxation, on the steady state employment and growth rates, when the overall parameterization is each time randomly drawn from the admissible parameter space. Only the parameterizations that satisfy some constraints on the long-run properties are used. All figures are expressed in percentage points.

Table 16
Sensitivity analysis:
Labor tax and subsidy share decrease

	[1] Δn	[2] $\Delta \gamma$	[3] $\Delta \sigma$
Avg	1.95	0.24	-1.11
Med	1.58	0.19	-0.96
Std	1.53	0.18	0.75
Min	-9.40	-1.00	-7.02
Max	24.42	3.47	3.39

Notes: The table summarizes the empirical distribution over 10,000 replications of the effects of a one percentage point ($\tau' = \tau - 0.01$) decrease in the average effective tax rate on labor, financed through cuts in the subsidy share, on the steady state employment and growth rates, when the overall parameterization is each time randomly drawn from the admissible parameter space. Only the parameterizations that satisfy some constraints on the long-run properties are used. All figures are expressed in percentage points.