

***The Taxing Wages Framework:* an introduction**

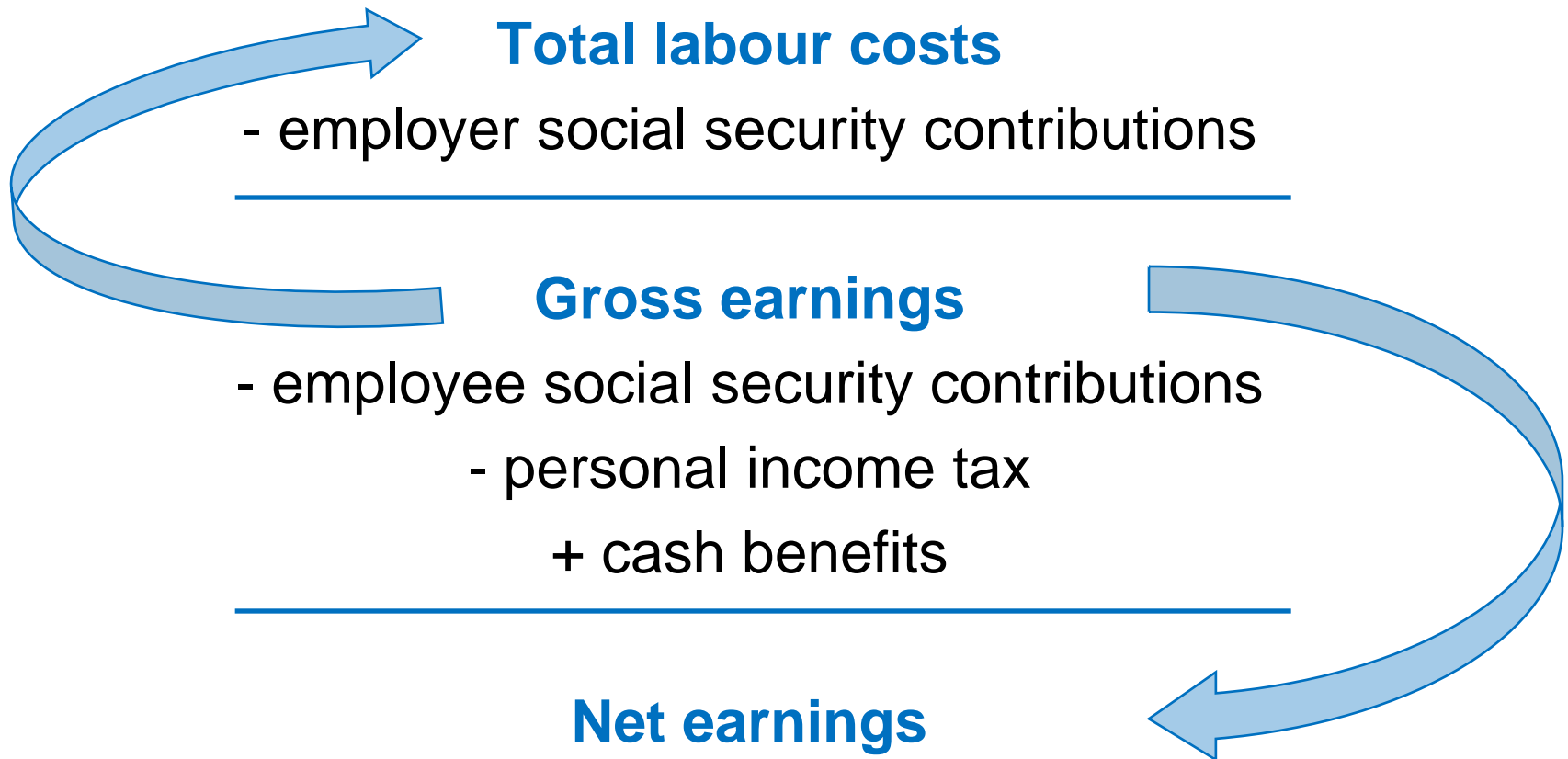
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2nd meeting of the SEE Working Group on Tax Policy
Analysis

16-19 June 2009, Dubrovnik

PART I

INTRODUCTION OF THE TAXING WAGES APPROACH



Focus on employees and on labour income

Gross earnings = fraction of the average gross wage earnings of adult, full-time both manual and non-manual workers covering industry sectors C-K

(International Standard Industrial Classification of Economic Activities)

Personal income tax is tax on gross income minus allowable tax reliefs. Levies on income that are earmarked for social security funds but don't confer an entitlement to benefit are included in the PIT.

All compulsory payments that do confer an entitlement to receive a (possibly contingent) future social benefit (e.g., unemployment insurance benefits, accident, injury and sickness benefits, old-age, disability and survivor's pension) are **defined as** (either employee or employer) **SSC**.

Tax measures

$$\text{Average income tax} = \frac{\text{personal income taxes}}{\text{gross earnings}}$$

$$\text{Average income tax plus employee SSC – cash transfers} = \frac{\text{PIT + employee SSC – cash transfers}}{\text{gross earnings}}$$

$$= \frac{\text{gross earnings – net earnings}}{\text{gross earnings}}$$

$$\begin{aligned} \text{Average tax wedge} &= \frac{\text{PIT} + \text{employee SSC} - \text{cash benefits} + \text{employer SSC}}{\text{gross earnings} + \text{employer SSC}} \\ &= \frac{\text{total labour costs} - \text{net earnings}}{\text{total labour costs}} \end{aligned}$$

$$\text{Marginal rate (income tax plus employee SSC – cash transfers)} = \frac{\Delta (\text{PIT} + \text{employee SSC} - \text{cash transfers})}{\Delta (\text{gross earnings})}$$

$$\text{Marginal tax wedge} = \frac{\Delta (\text{PIT} + \text{employee SSC} - \text{cash transfers} + \text{employer SSC})}{\Delta (\text{gross earnings}) + \Delta (\text{employer SSC in response})}$$

$\Delta (\text{gross earnings}) = +1$ currency unit

Focus on different family types:

- Single 67% of AW 0 children
- Single 100% of AW 0 children
- Single 167% of AW 0 children
- Single 67% of AW 2 children

- Married 100% - 0% of AW 2 children
- Married 100% - 33% of AW 2 children
- Married 100% - 67% of AW 2 children
- Married 100% - 33% of AW 0 children

PART II

THE MODEL

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Editing: Sort & Filter, Find & Select

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1		Country	COUNTRY NAME												
2		Year	2008												
3	Average earnings/yr	Ave_earn	28000												
4	Allowances	Basic_al	5225												
5		Married_al	0												
6		Married_rate	0												
11	Income tax	Tax_sch	0.1	2230											
12			0.22	34600											
13			0.4												
14	Employees SSC														
15	Primary threshold	SSC_sch	0	5200											
16	Upper earnings limit		0.11	34840											
17			0.01												
18	Employers SSC	SSC_rate2	0.128												
19		ST	5200												
20	Child benefit (first)	CB_first	18.1												
21	Child benefit (others)	CB_others	12.1												
22	One parent benefit	CB_onepar	0.00												
29															
30	Tax credits														
31	WTC														
32	Basic element	WTC_Basic	1730												
33	Couple/Lone parent	WTC_couple_or_lone	1700												
34	30 Hour element	WTC_30hr	705												
35															
36	CTC														
37	Family element	CTC_family	545												
38	Child element	CTC_child	1845												
39	Baby element	CTC_baby	545												
40															
41	Threshold	NTC_1st_thres	5220												
42		NTC_1st_taper	0.37												
43		NTC_2nd_thres	50000												
44		NTC_2nd_taper	0.067												
45	Days in tax year	numdays	366												
46															
47															
48															



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CH7 =IF(Children>0,IF((CA7+CB7)>NTC_2nd_thres,Taper(ROUNDUP(CTC_family/numdays,2)*numdays,CA7+CB7,NTC_2nd_thres,

COUNTRY 2008					Version dated JUNE 2008								Total			
Family characteristics					Average rates				Marginal rates				Gross earnings	Tax allowances	Credits in table	Taxable income
Multiple of average earnings					Income tax	Social security contribs	Tax + SSC -transfers	Tax wedge including Employers	Tax + social security less cash transfers Principal	Spouse	Total tax wedge including employer's contributions Principal	Spouse	1	2	3	1-2+3 4
Husband	Wife	Married	Children													
0.67	0.00	0	0		14.4%	7.9%	22.3%	28.9%	n.a.	40.6%	n.a.	18667	5225	0	13442	
1.00	0.00	0	0		16.9%	9.0%	25.9%	32.9%	n.a.	40.6%	n.a.	28000	5225	0	22775	
1.67	0.00	0	0		21.6%	7.2%	28.8%	36.1%	n.a.	47.7%	n.a.	46667	5225	0	41442	
0.67	0.00	0	2		-3.8%	7.9%	-4.4%	4.5%	n.a.	73.4%	n.a.	18667	5225	0	13442	
1.00	0.00	1	2		15.0%	9.0%	18.3%	26.0%	11.7%	40.6%	16.4%	28000	5225	0	22775	
1.00	0.33	1	2		12.9%	7.9%	16.7%	23.7%	33.0%	40.6%	40.6%	37333	10450	0	26883	
1.00	0.67	1	2		14.8%	8.5%	19.9%	27.2%	33.0%	40.6%	40.6%	46667	10450	0	36217	
1.00	0.33	1	0		14.4%	7.9%	22.3%	28.9%	33.0%	40.6%	40.6%	37333	10450	0	26883	

Back to original Taxing Wages assumptions

WORK FOR DATABASE

Macro to derive results for Tables I.1 and I.2

TABLES I.1 & I.2

Marginal		% APV			
Country		0.67	1.00	1.67	0.67
COUNTRY NAME	Central gvt	22.0%	22.0%	40.0%	59.0%
	Sub-central	0.0%	0.0%	0.0%	0.0%
	Combined	22.0%	22.0%	40.0%	59.0%
	Employee SSC	11.0%	11.0%	1.0%	11.0%
	'All-in'	33.0%	33.0%	41.0%	70.0%
	Employer SSC	12.8%	12.8%	12.8%	12.8%
Total tax wedge		40.6%	40.6%	47.7%	73.4%

Average

% APV

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CH7 =IF(Children>0,IF((CA7+CB7)>NTC_2nd_thres,Taper(ROUNDUP(CTC_family/numdays,2)*numdays,CA7+CB7,NTC_2nd_thres,

COUNTRY NAME	Central government income tax: Principal									Central government income tax: Spouse					State & local tax		Employee security contr	
	Principal	Spouse	Allowances	Credits in tblle income	Taxable income 1-2+3	Tax liable	Tax credits wastable	Tax credits non waste	Final income tax 5-6	Allowances	Credits in tblle income	Taxable income 1-2+3	Tax liable	Tax credits	Final income tax 5-6	Principal	Spouse	Principal
	1	1	2	3	4	5			7	2	3	4	5	6	7	8	8	9
7	18667	0	5225	0	13442	2690	0	0	2690	0	0	0	0	0	0	0	0	1481
8	28000	0	5225	0	22775	4743	0	0	4743	0	0	0	0	0	0	0	0	2508
9	46667	0	5225	0	41442	10081	0	0	10081	0	0	0	0	0	0	0	0	3379
10	18667	0	5225	0	13442	2690	0	3406	-717	0	0	0	0	0	0	0	0	1481
11	28000	0	5225	0	22775	4743	0	545	4198	0	0	0	0	0	0	0	0	2508
12	28000	9333	5225	0	22775	4743	0	545	4198	5225	0	4108	636	0	636	0	0	2508
13	28000	18667	5225	0	22775	4743	0	545	4198	5225	0	13442	2690	0	2690	0	0	2508
14	28000	9333	5225	0	22775	4743	0	0	4743	5225	0	4108	636	0	636	0	0	2508

Basic tax calculations

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	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC
1	Total															COUNTRY NAME		
2		Gross earnings	Tax allowances	Credits in taxable income	Taxable income	Tax liability	Tax credits	Final income tax	State & local tax	Employee social security contribs	Total payments	Cash transfer	Net pay & cash transfers	Employers social security		Gross earnings		Central government Allowances
3	Including															Principal	Spouse	
4	Contributions																	
5	Spouse				1-2+3			5-6			7+8+9		1-10+11					
6		1	2	3	4	5	6	7	8	9	10	11	12	13		1	1	2
7	n.a.	18667	5225	0	13442	2690	0	2690	0	1481	4171	0	14496	1724		18667	0	5225
8	n.a.	28000	5225	0	22775	4743	0	4743	0	2508	7251	0	20749	2918		28000	0	5225
9	n.a.	46667	5225	0	41442	10081	0	10081	0	3379	13460	0	33207	5308		46667	0	5225
10	n.a.	18667	5225	0	13442	2690	3406	-717	0	1481	765	1579	19481	1724		18667	0	5225
11	16.4%	28000	5225	0	22775	4743	545	4198	0	2508	6706	1579	22873	2918		28000	0	5225
12	40.6%	37333	10450	0	26883	5379	545	4834	0	2963	7796	1579	31116	3447		28000	9333	5225
13	40.6%	46667	10450	0	36217	7432	545	6887	0	3989	10876	1579	37369	4642		28000	18667	5225
14	40.6%	37333	10450	0	26883	5379	0	5379	0	2963	8342	0	28992	3447		28000	9333	5225

I----- Basic tax calculations

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	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR
1		COUNTRY NAME																	
2		Gross earnings		Central government income tax: Principal						Final	Central government income tax: Spouse					Final	State & local tax		Employee so
3		Principal	Spouse	Allowances	Credits	Taxable	Tax	Tax	Tax	income	Allowances	Credits	Taxable	Tax	Tax	income	Principal	Spouse	Principal
4				in table	income	1-2+3	liable	credits	credits	tax	in table	income	1-2+3	liable	credits	tax			
5							wastable	non waste	5-8							5-6			
6		1	1	2	3	4	5		7	2	3	4	5	6	7	8	8	9	
7		18668	0	5225	0	13443	2690	0	0	2690	0	0	0	0	0	0	0	0	1481
8		28001	0	5225	0	22776	4743	0	0	4743	0	0	0	0	0	0	0	0	2508
9		46668	0	5225	0	41443	10081	0	0	10081	0	0	0	0	0	0	0	0	3379
10		18668	0	5225	0	13443	2690		3406	-716	0	0	0	0	0	0	0	0	1481
11		28001	0	5225	0	22776	4743	0	545	4198	0	0	0	0	0	0	0	0	2508
12		28001	9333	5225	0	22776	4743	0	545	4198	5225	0	4108	636	0	636	0	0	2508
13		28001	18667	5225	0	22776	4743	0	545	4198	5225	0	13442	2690	0	2690	0	0	2508
14		28001	9333	5225	0	22776	4743	0	0	4743	5225	0	4108	636	0	636	0	0	2508

17 ----- Marginal tax calculation (principal: +1 currency unit)

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B37 Average rates

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	
1		COUNTRY NAME	2008														
2		The tax/benefit position of single persons															
3		Wage level (per cent of average wage)	67	100	167	67											
4		Number of children	none	none	none	2											
5		1. Gross wage earnings	18667	28000	46667	18667											
6		2. Standard tax allowances															
7		Basic allowance	5225	5225	5225	5225											
8		Married or head of family															
9		Dependent children															
10		Deduction for social security contributions and income taxes															
11		Work-related expenses	0	0	0	0											
12		Other															
13		Total	5225	5225	5225	5225											
14		3. Tax credits or cash transfers included in taxable income	0	0	0	0											
15		4. Central government taxable income (1 - 2 + 3)	13442	22775	41442	13442											
16																	
17		5. Central government income tax liability (exclusive of tax credits)	2690	4743	10081	2690											
18		6. Tax credits															
19		Basic credit															
20		Married or head of family															
21		Children	0	0	0	3406											
22		Other															
23		Total	0	0	0	3406											
24		7. Central government income tax finally paid	2690	4743	10081	-717											
25		8. State and local taxes	0	0	0	0											
26		9. Employees' compulsory social security contributions															
27		Gross earnings	1481	2508	3379	1481											
28		Taxable income															
29		Total	1481	2508	3379	1481											
30		10. Total payments to general government (7 + 8 + 9)	4171	7251	13460	765											
31		11. Cash transfers from general government															
32		For head of family															
33		For two children	0	0	0	1579											
34		Total	0	0	0	1579											
35		12. Take-home pay (1-10+11)	14496	20749	33207	19481											

Parameters Equations APW_single APW_married Docn Macroparam Extract vardef

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B37 Average rates

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
16																
17	5.	Central government income tax liability (exclusive of tax)	2690	4743	10081	2690										
18	6.	Tax credits														
19		Basic credit														
20		Married or head of family														
21		Children	0	0	0	3406										
22		Other														
23		Total	0	0	0	3406										
24	7.	Central government income tax finally paid	2690	4743	10081	-717										
25	8.	State and local taxes	0	0	0	0										
26	9.	Employees' compulsory social security contributions														
27		Gross earnings	1481	2508	3379	1481										
28		Taxable income														
29		Total	1481	2508	3379	1481										
30	10.	Total payments to general government (7 + 8 + 9)	4171	7251	13460	765										
31	11.	Cash transfers from general government														
32		For head of family														
33		For two children	0	0	0	1579										
34		Total	0	0	0	1579										
35	12.	Take-home pay (1-10+11)	14496	20749	33207	19481										
36	13.	Employer's compulsory social security contributions	1724	2918	5308	1724										
37	14.	Average rates														
38		Income tax	14.4%	16.9%	21.6%	-3.8%										
39		Employees' social security contributions	7.9%	9.0%	7.2%	7.9%										
40		Total payments less cash transfers	22.3%	25.9%	28.8%	-4.4%										
41		Total tax wedge including employer's social security contributions	28.9%	32.9%	36.1%	4.5%										
42	15.	Marginal rates														
43		Total payments less cash transfers: Principal earner	33.0%	33.0%	41.0%	70.0%										
44		Total payments less cash transfers: Spouse	n.a.	n.a.	n.a.	n.a.										
45		Total tax wedge: Principal earner	40.6%	40.6%	47.7%	73.4%										
46		Total tax wedge: Spouse	n.a.	n.a.	n.a.	n.a.										
47																
48		Memorandum item: Non-wastable tax credits														
49		tax expenditure component	0	0	0	2690										
50		cash transfer component	0	0	0	717										

Parameters Equations APW_single APW_married Docn Macroparam Extract vardef

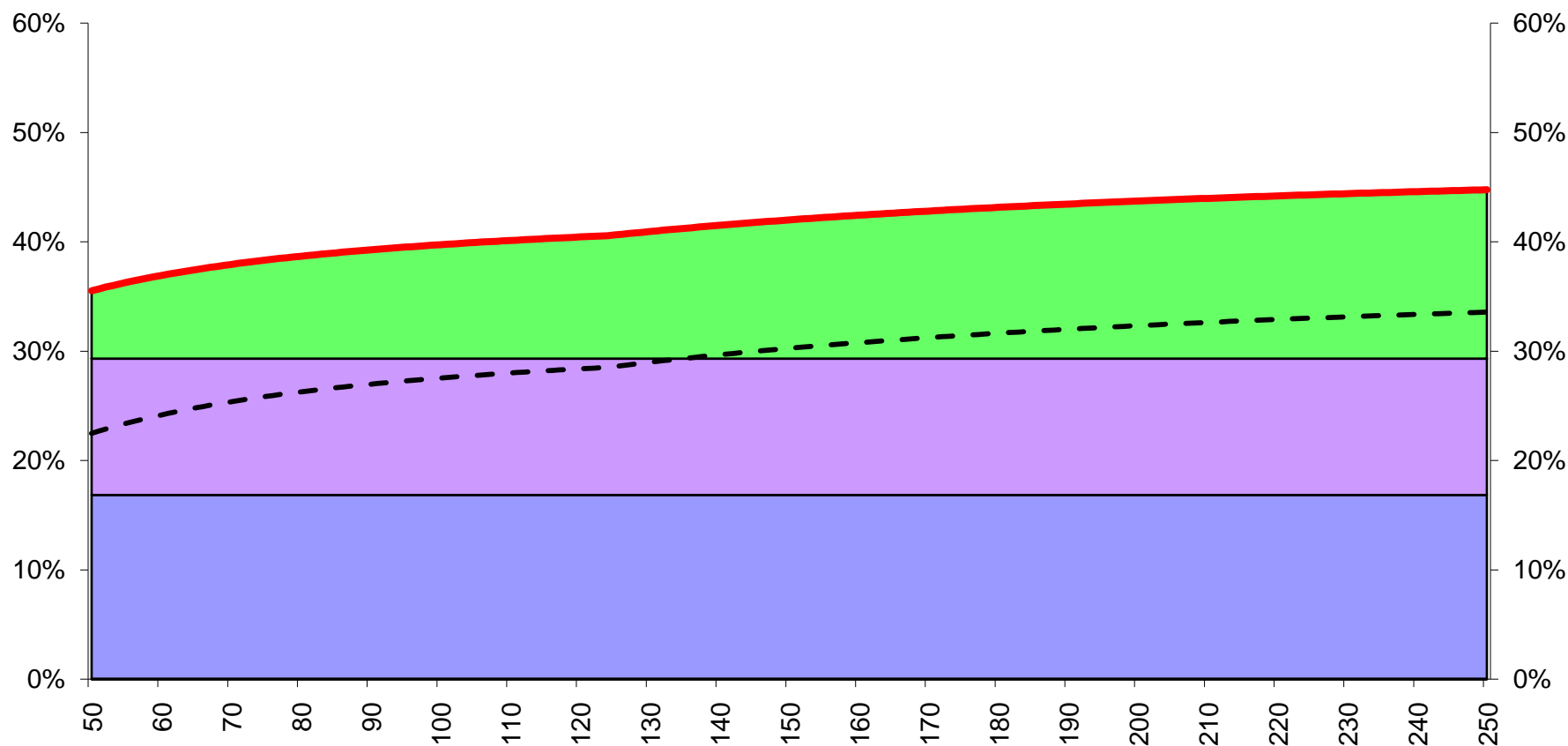
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PART III

GRAPHICAL EXPOSITION OF THE TAX BURDEN IN 2008

Average tax wedge decomposition: Turkey (single, no children, 2008)



employer SSC as % of total labour costs

employee SSC as % of total labour costs

average local income tax as % of total labour costs

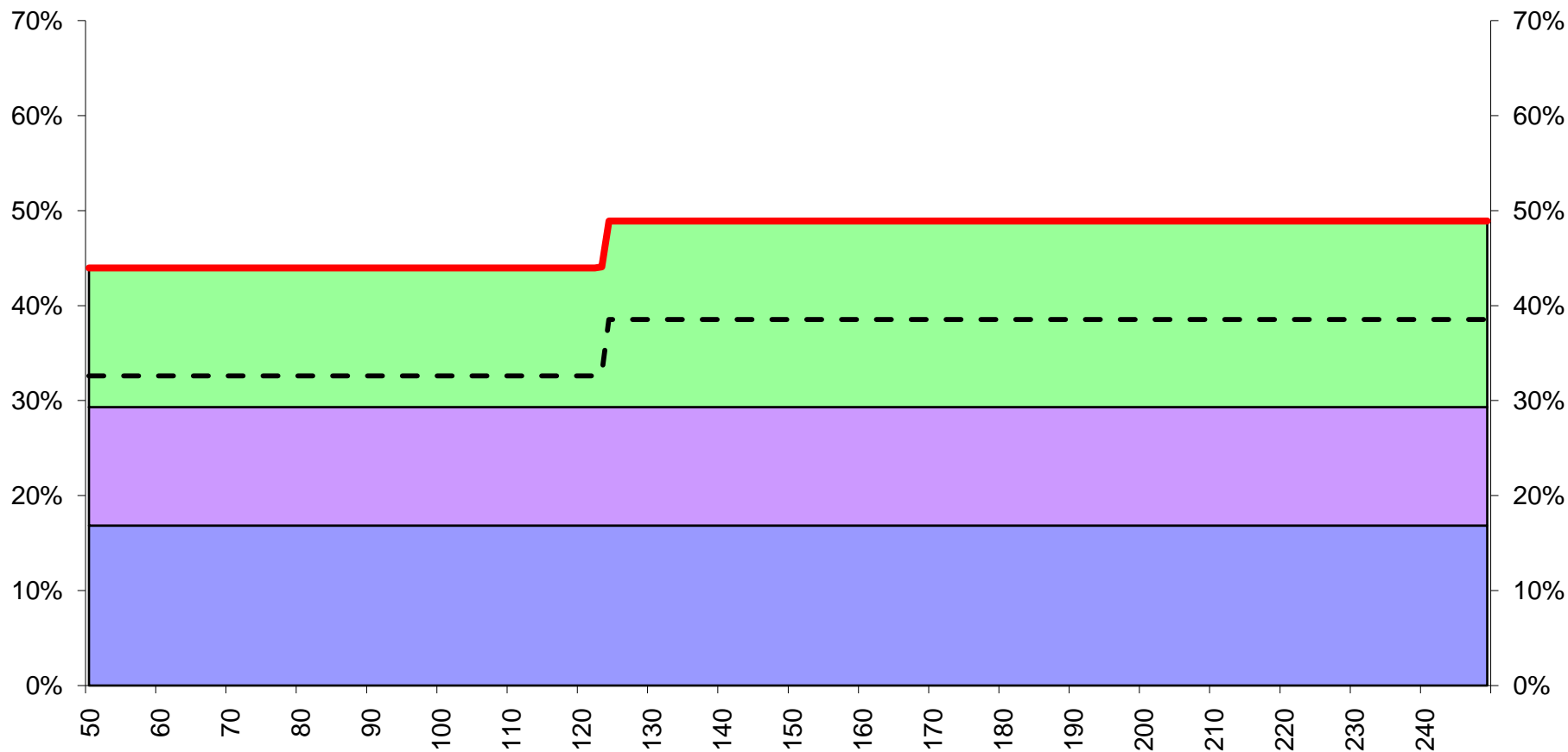
average central income tax as % of total labour costs

family benefits as % of total labour costs

average tax wedge (sum of the components)

net personal average tax rate as % of gross wage earnings

Marginal tax wedge decomposition: Turkey (single, no children, 2008)



marginal employer SSC

marginal employee SSC

marginal local income tax

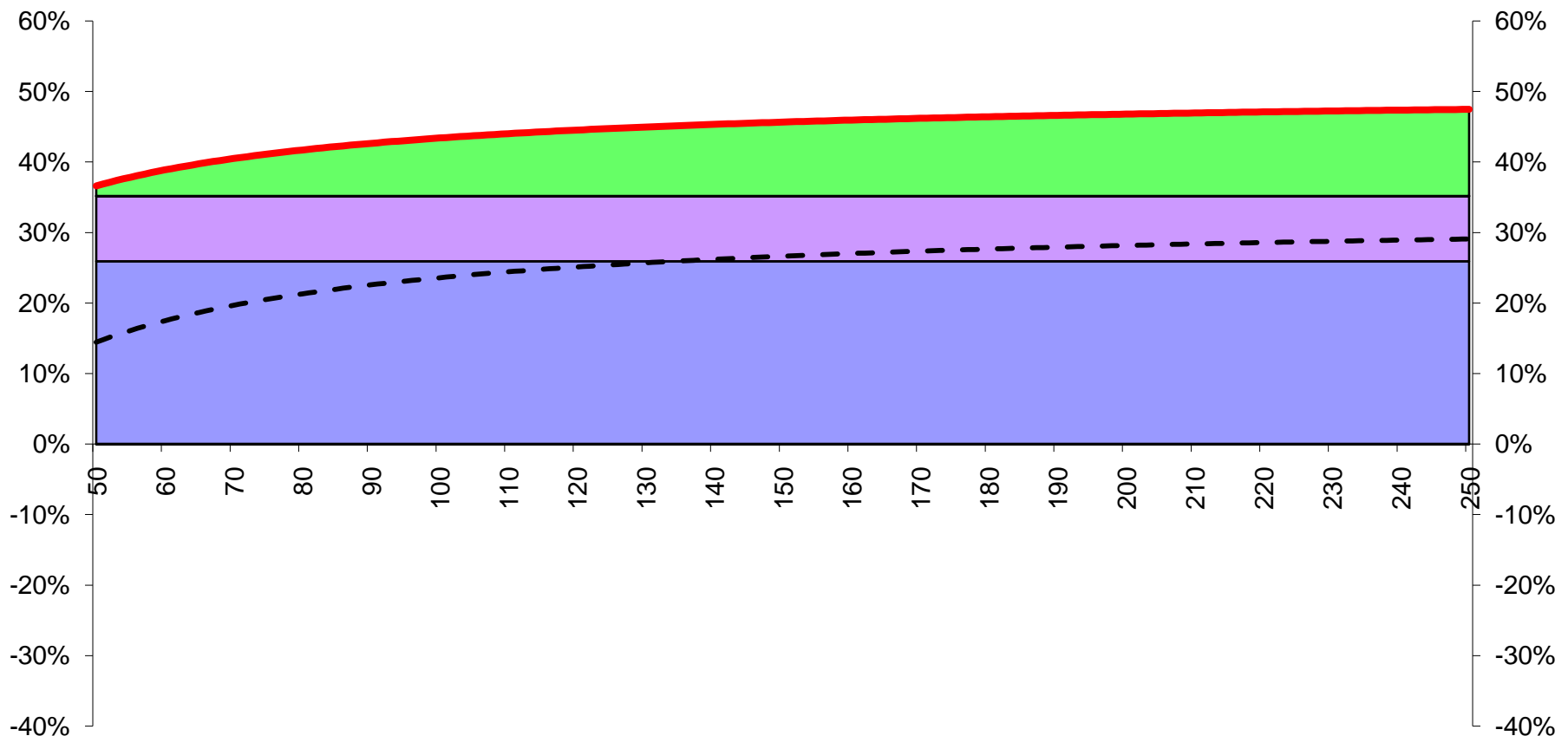
marginal central income tax

marginal family benefits

marginal tax wedge (sum of the components)

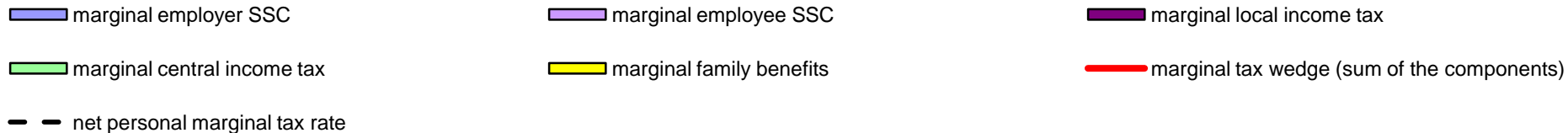
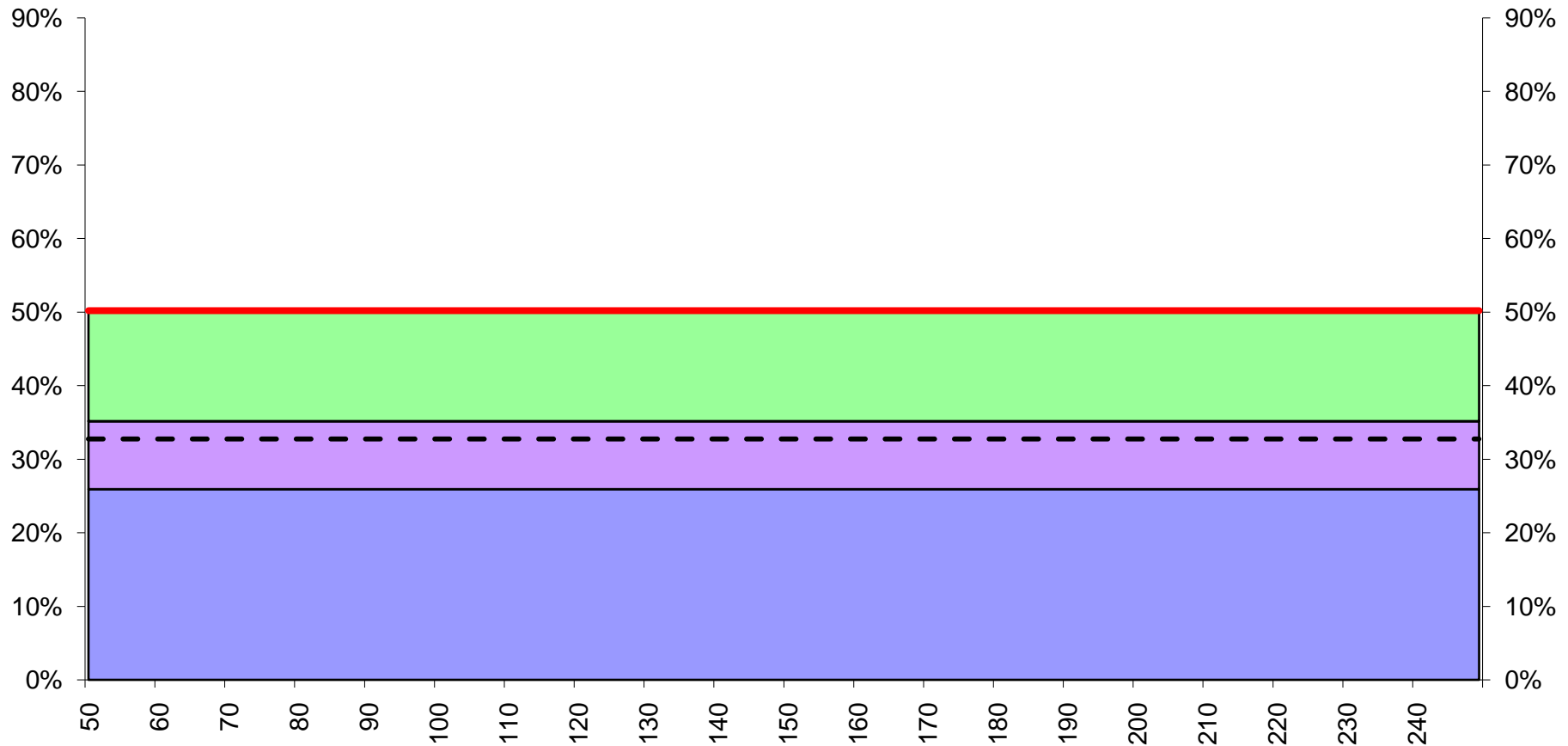
net personal marginal tax rate

Average tax wedge decomposition: Czech Republic (single, no children, 2008)

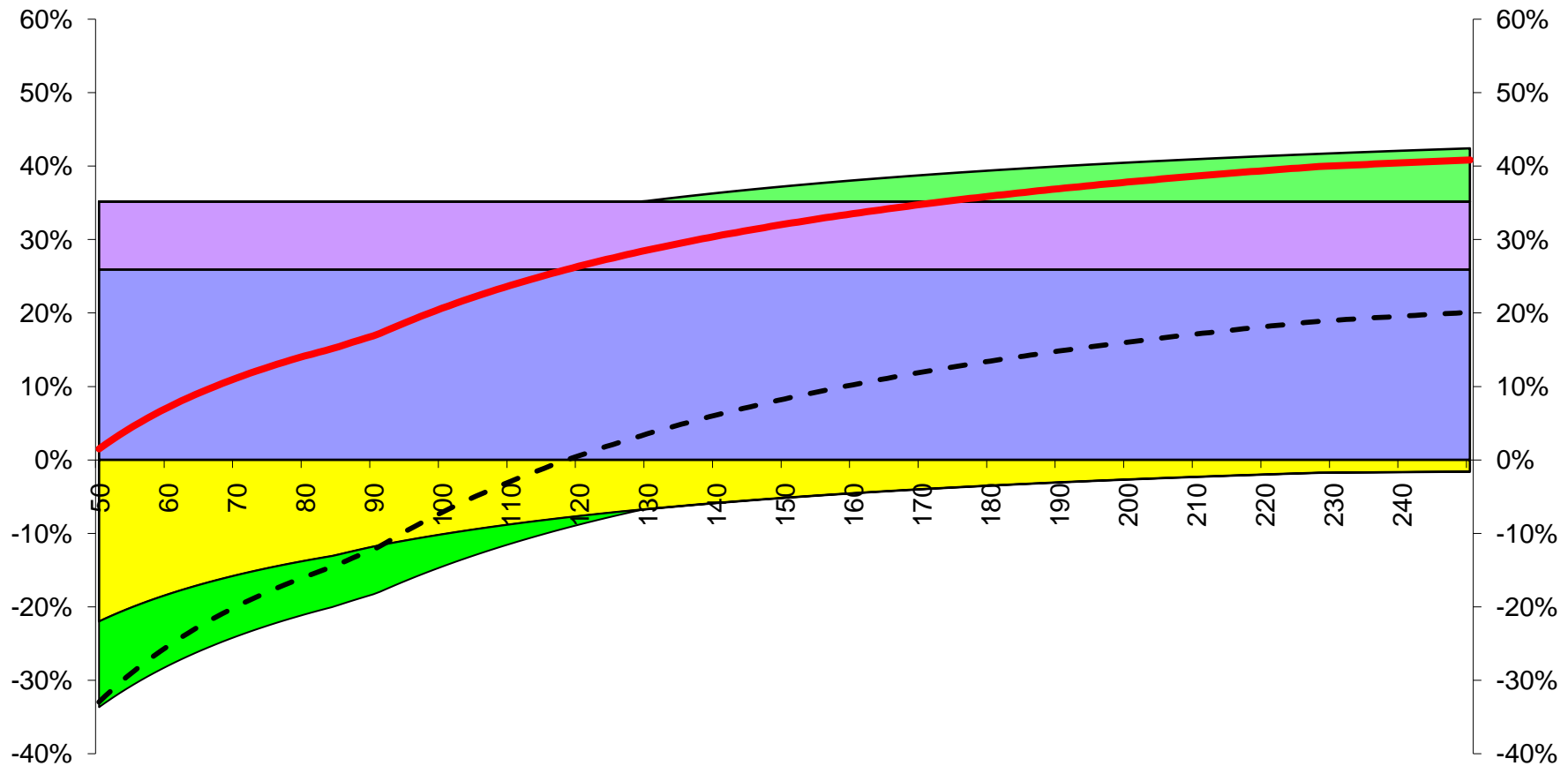


- employer SSC as % of total labour costs
- employee SSC as % of total labour costs
- average local income tax as % of total labour costs
- average central income tax as % of total labour costs
- family benefits as % of total labour costs
- average tax wedge (sum of the components)
- net personal average tax rate as % of gross wage earnings

Marginal tax wedge decomposition: Czech Republic (single, no children, 2008)



Average tax wedge decomposition: Czech Republic (married, two children, 2008)



average central income tax as % of total labour costs

average local income tax as % of total labour costs

employee SSC as % of total labour costs

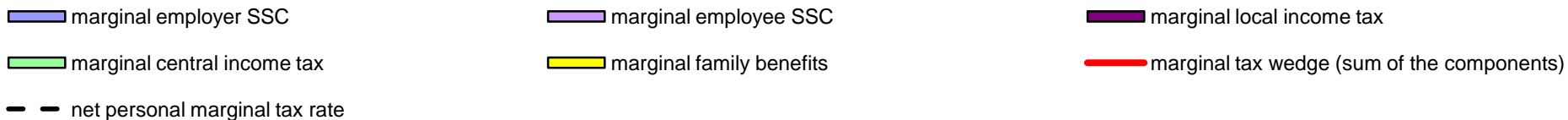
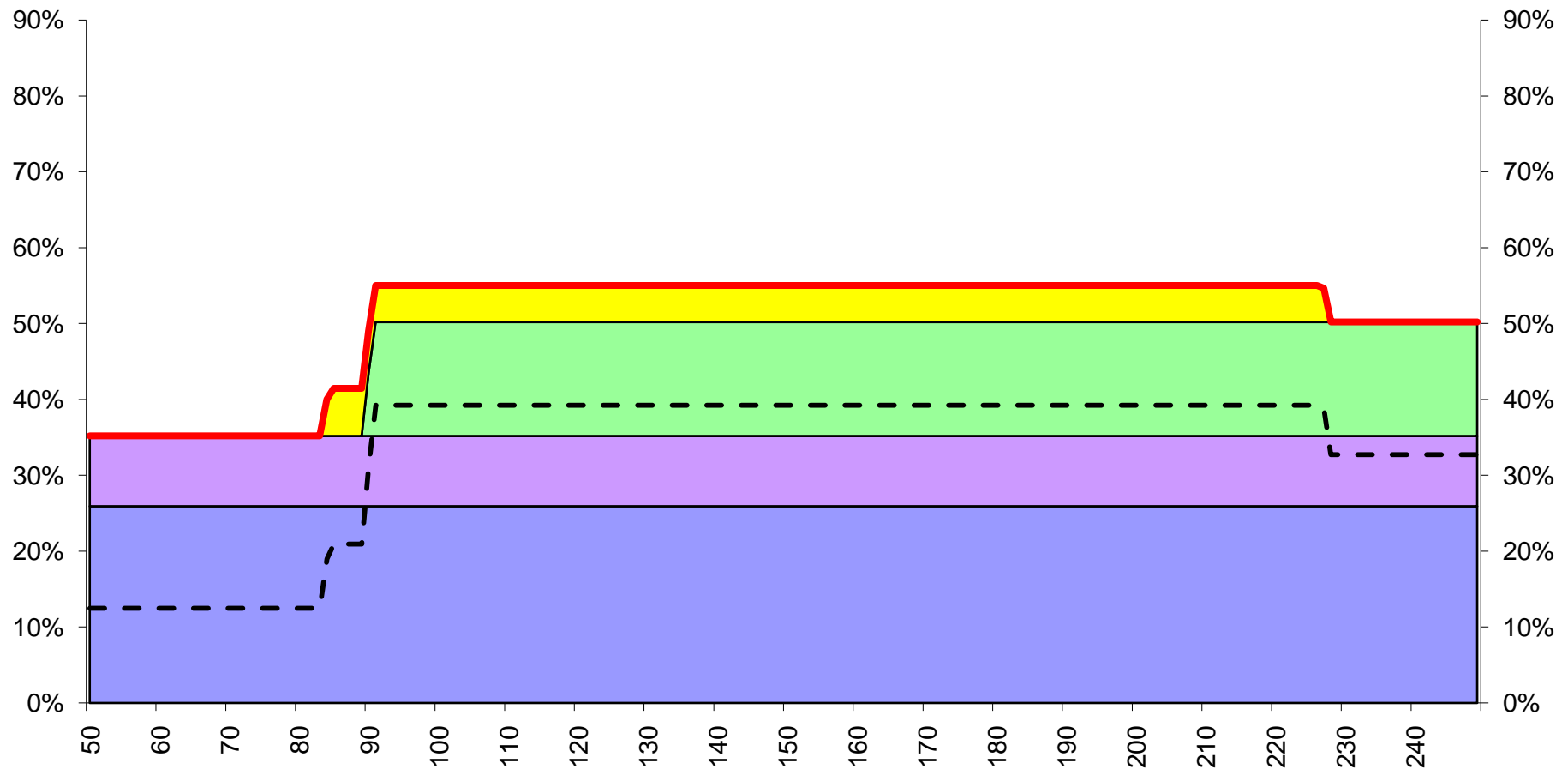
employer SSC as % of total labour costs

Series8

average tax wedge (sum of the components)

net personal average tax rate as % of gross wage earnings

Marginal tax wedge decomposition: Czech Republic (married, two children, 2008)



The background of the slide is a faded photograph of a large, classical-style building with a portico and columns, surrounded by trees. On the left side, there are large, grey, stylized arrow shapes pointing towards the center.

Thank you