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Effects of tax reform on average personal income tax burden and tax progressivity in Germany under the particular consideration of bracket creep

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Abstract
This study primarily aims to contribute to the ongoing debates on bracket creep and examine whether Germany needs to

Furthermore, international experiences demonstrate that ‘lower income taxpayers and those with more dependents have generally experienced larger *percentage* increases in average tax than have high-income families or those with few dependents, both because inflation erodes the real value of exemptions and because the rate structure are progressive’ (Tanzi, 1976: 215–216). As a result, the annual adjustment of the statutory tax rate in combination with tax deduction according to the price trend has recently been the most popular means adopted in many OECD countries to rectify the negative effects caused by bracket creep (Lemmer, 202dfm2ru70(c)9.2 1( )]TJ 0 Tc 0 Tw ( )Tj 0.0

Period	Basic personal allowance (nominal in €)	Basic tax rate (%)	Top income threshold (nominal in €)	Highest tax rate (%)	Solidarity surcharges (% of nominal income tax liability in €)
2010–2012	8 004	14	52 882 from 250 731	42 45	

2. SOME SIMPLE MODELS FOR CALCULATING AND COMPARING THE REAL AVERAGE INCOME TAX BURDEN

Paragraph 32a of German income tax law (§ 32a EStG - *Einkommensteuergesetz*) prescribes how income tax will be calculated each year according to the different tax-base brackets with a top taxable income threshold. This tax schedule also contains a basic personal allowance. When T denotes income tax and Y shows annual taxable income (measured in nominal term), the computation of the income tax liability of single taxpayers in a given year is carried out on the basis of the following simple formulas:

For the period of 1958–1964[6]

a) Y to 1680 DM: T = 0;

b) Y ranges from 1681 DM to 8009 DM: T = 0.20*(Y – 1680);

c) Y ranges from 8010 DM to 23 999 DM: T = 1264 + 272*{(Y – 8000)/1000} + 2.9*{(Y – 8000)/1000}²;

d) Y ranges from 24 000 DM to 110 039 DM: T = 6358 + 382*{(Y – 24 000)/1000} + 1.572*{(Y – 24 000)/1000}² – 0.006*{(Y – 24 000)/1000}³; and

e) Y from 110 040 DM: T = 0.53*Y – 11 281

For the fiscal year 2014 the calculation scheme has been changed:[7]

a) Y to 8354 euros: T = 0;

b) Y ranges from 8355 euros to 13 469 euros: T = [(974.58*{(Y – 8354)/10 000} + 1400)]*{(Y – 8354)/10 000};

c) Y ranges from 13 470 euros to 52 881 euros: T = [(228.74*{(Y – 13 469)/10 000} + 2397]*{(Y – 13 469)/10 000} + 971;

d) Y ranges from 52 882 euros to 250 730 euros: T = 0.42*Y – 8239; and

e) Y from 250 731 euros: T = 0.45*Y – 15 761

The splitting rule is applied when married couples are taxed, ‘

ed.011 Tw 0.239 07Tw 1.489 0 .-11 (1)]TJ3.922EMC /LBody .2 72EMC /LSd (e))Tj EMC(r)6

The CRIP shows the elasticity of net, that is, after-tax, income to taxable income, and is defined as:

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= $(1 - t_{mar}) / (1-t_{ave})$

= $[d \ln \{(1 - T/Y) Y\}] / [d \ln Y]$

where Y = taxable income; t_{mar} = marginal tax rate; and t_{ave} = av

Figure

Atkinson, AB 1970, ‘On the measurement of inequality’, *Journal of Economic Theory*, vol. 2, pp. 244–263.

Aaberge, R & Colombino, U 2008, ‘Designing optimal taxes with a microeconomic model of household labour supply’, *CHILD Working Paper 06/2008*.

Atkinson, AB & Stiglitz, JE 1980, *Lectures on public economics*, McGraw-Hill, London.

Bach, S, Corneo, G & Steiner, V 2013, ‘Effective taxation of top incomes in Germany’, *German Economic Review*, vol. 14, pp. 115–137.

Bach, S, Haan, P & Ochmann, R 2013, ‘Reformvorschläge zur Einkommensteuer: Mehr echte und weniger kalte Progression’, *DIW Wochenbericht*, vol. 30, pp. 3–12.

Bailey, MJ 1976, ‘Inflationary distortions and taxes’, in HJ Aaron (ed.), *Inflation and the income tax*, Brookings Institution, Washington DC, pp. 291–330.

Boeters, S 2010, ‘Optimal tax regressivity in unionised labour markets: Simulation results for Germany’, *ZEW Discussion Paper 10–035*.

Boss, A & Ente, W 1988, ‘Die Einkommensteuertarife 1965, 1986 und 1990: Wo liegen die Unterschiede’, *Finanzarchiv*, vol. 46, pp. 85–97.

Boss, A, Müller, HC & Schrinner, A 2014, ‘Einkommensteuerbelastung ausgewählter Haushaltstypen in Deutschland 1958 bis 2013’, *Wirtschaftsdienst*, vol. 94, pp. 187–193.

Bovenberg, AL 2006, ‘Tax policy and labor market performance’, in J Agell & PB Sørensen (eds.), *Tax policy and labor market performance*, MIT Press, Massachusetts, pp. 3–74.

Broer, M 2011, ‘Kalte Progression in der Einkommensbesteuerung’, *Wirtschaftsdienst*, vol. 91, pp. 694–698.

Brügelmann, R 2008, ‘Zur Reform der Einkommensteuer—Ein IW-Vorschlag’, *Trends*, vol. 35, no. 3, <http://www.iwkoeln.de/Portals/0/pdf/trends03_08_3.pdf>.

Corneo, G 2005, ‘The rise and likely fall of the German income tax, 1958–2005’, *CESifo Economic Studi 1.7 (2)]TJ (t)T-1.ax,Tw 1.793 06x93d (3,_1.793 f)6.9 (/a766 (t)-&2 (nd)1Uh)-2 (e)-3.6 ( )2Td [(C)3 (t)-4*

Heer, B & Süssmuth, B 2013, 'Tax bracket creep and its effects on income distribution', *Journal of Macroeconomics*, vol. 38, pp. 393–408.

Immervoll, H 2005, 'Falling up the stairs: The effects of "bracket creep" on household incomes', *Review of Income and Wealth*, vol. 51, pp. 37–62.

Institute on Taxation and Economic Policy 2011, 'Indexing income taxes for inflation: Why it matters', *Policy Brief*, August 2011.

Jakobsson, U 1976, 'On the measurement of the degree of progression', *Journal of Public Economics*, vol. 5, pp. 161–168.

Jarvis, G 1977, 'Real income and average tax rates: An extension for the 1970–75 period', *Canadian Tax Journal*, vol. 25, pp. 206–215.

Johnson, P 2015, *Time for tax reform*, Institute for Fiscal Studies, <http://www.ifs.org.uk/publications/7831>.

Kakwani, N 1977, 'Measurement of tax progressivity: An international comparison', *Economic Journal*, vol. 87, pp. 71–80.

Keen, M, Papapanagos H & Shorrocks, A 2000, 'Tax reform and progressivity', *Economic Journal*, vol. 110, pp. 50–68.

Mirrlees, JA 1971, 'An exploration into the theory of optimal income taxation', *Review of Economic Studies*, vol. 38, pp. 175–208.

Lemmer, J 2014, 'Indexierung der Einkommensbesteuerung im internationalen Vergleich', *Wirtschaftsdienst*, vol. 94, pp. 872–878.

Organisation for Economic Co-operation and Development 1976, *The adjustment of personal income tax systems for inflation*, OECD, Paris.

Rietzler, K, Teichmann, D & Truger, A 2014, 'Abbau der kalten Progression: Nüchterne Analyse geboten', *Wirtschaftsdienst*, vol. 94, pp. 864–871.

Saez, E 2003, 'The effect of marginal tax rates on income: A panel study of "bracket creep"', *Journal of Public Economics*, vol. 87, pp. 1231–1258.

Slemrod, J 1992, 'Taxation and inequality: A time-exposure perspective', in JM Poterba (ed.), *Tax policy and the economy*, MIT Press, Massachusetts, pp. 105–128.

Sunley, EM Jr & Pechman, JA 1976, 'Inflation adjustment for the individual income tax', in HJ Aaron (ed.), *Inflation and the income tax*, Brookings Institution, Washington DC, pp. 153–171.

Tanzi, V 1976, 'Adjusting personal income taxes for inflation: The foreign experiences', in HJ Aaron (ed.), *Inflation and the income tax*, Brookings Institution, pp. 215–231.

Tuomala, M 1990, *Optimal income taxation and redistribution*, O

6. APPENDICES

6.1 Appendix 1

Table A1: Estimated Real Average Personal Income Tax Function for Taxable Personal Income Range between 10 000 and 300 000 euros: 1958 and 2014

	Real average tax function	R^2
1958	$t_{ave} = -0.00000902725594x^4 + 0.00151268116206x^3 - 0.09349617017108x^2 + 2.79155224693159x + 4.06269344903740$	0.9931
2014	$t_{ave} = -0.00001506601961x^4 + 0.00257502270136x^3 - 0.15836489559227x^2 + 4.25412262468126x - 5.87076390678340$	0.9928
2014 (with solidarity surcharge)	$t_{ave} = -0.00001593188675x^4 + 0.00272259717316x^3 - 0.16740281526725x^2 + 4.49525620537543x - 6.24337980875862$	0.9926

Note: x = Y/5000 + 1, where Y = taxable income.