Corporate Taxation: High Profits, Moderate Tax Revenue

by Stefan Bach

If the revenue from corporate taxation in Germany is divided by the corporate income figures from national accounts, companies' average tax burden for the period 2001 to 2008 is 21 percent. This rate is considerably lower than the statutory tax rates for this period. The reason for this is that tax-reported corporate income was well below macroeconomic corporate income. This taxation gap was something in the order of at least 120 billion euros in 2007, or almost five percent of gross domestic product (GDP). Moreover, the high level of tax losses and tax losses carried forward is significant. The losses carried forward for corporate income tax rose to 568 billion euros by the end of 2007. This was equivalent to 23.5 percent of GDP and 3.5 times the corporate income tax base for that year. As a result of broadening the tax base as part of the corporate tax reform of 2008, the taxation gap has diminished significantly, but it was still at about 90 billion euros, or 3.7 percent of GDP. Due to a lack of detailed statistics, it is currently not possible to accurately identify the reasons for the difference between macroeconomic profit figures and the corporate tax base.

In January 2007, DIW Berlin published a study on tax revenues and the corporate income tax base in Germany.[1] The study evaluated tax statistics available up to 2001. A significant underutilization of tax bases has been measured against comparable income aggregates from the national accounts statistics. Furthermore, it showed significant tax losses and tax losses carried forward. At the time, the study was greeted with interest in the context of discussions on corporate income tax reform in 2008. The calculated gap between corporate income from the national accounts and taxable profits was widely discussed in the context of cross-border profit transfers at the expense of the German tax authorities.[2] However, the study was unable to make specific statements in this regard.[3] The following are revised and updated calculations about tax revenues and the tax base of corporate income taxation in Germany.[4]

1 S. Bach and N. Dwenger, "Unternehmensbesteuerung: Trotz hoher Steuersätze mäßiges Aufkommen," Wochenbericht des DIW Berlin, no. 5 (2007). www.diw.de/documents/publikationen/73/diw_01.c.55734.de/07-5-1.pdf

2 See the explanatory memorandum on the CDU/CSU and SPD coalition's bill on the draft Corporate Income Tax Reform Act of 2008, Bundestag printed paper 16/4841, 29, and J.H. Heckemeyer and C. Spengel, "Ausmaß der Gewinnverlagerung multinationaler Unternehmen–empirische Evidenz und Implikationen für die deutsche Steuerpolitik," Perspektiven der Wirtschaftspolitik 9 (1) (2008): 37–61; BDI und VCI, "Die Steuerbelastung der Unternehmen in Deutschland," Facts for political debate in 2008 (Cologne). www.bdi.eu/download_content/Marketing/VCI_BDI_Steuerbelastung_der_Unternehmen.pdf, 26; B. Jonas, Volumen von Steuersubstratverlagerungen in Outbound-Fällen (2009). Tax-centered legal advice. Festschrift for Harald Schaumburg's 65th birthday, published by Wolfgang Spindler and others, Cologne, 793 ff.

3 The study only focused on the significant gap between the corporate income figures of the national accounts and the corporate income in tax statistics of 100 billion euros and more in 2001, addressing "tax incentives and options which businesses hide their taxable income or relocate abroad" (Bach and Dwenger, "Unternehmensbesteuerung").

4 S. Bach, "Has German Business Income Taxation Raised Too Little Revenue Over the Last Decades?" DIW Berlin Discussion Paper 1303. www.diw.de/sixcms/detail.php?id=diw_01.c.421801.de.

Table 1

Business taxation revenue[1] in Germany, 1992-2008

Billion Euro

Nr.		1992	1995	1998	2001	2004	2007	2008
	Local business tax							
1	Assessed local business tax[2]	22.5	20.7	24.5	23.2	28.4	42.2	39.9
2	Sole proprietors	3.4	2.1	2.2	2.4	2.5	4.0	4.6
3	Partnerships	7.9	6.2	7.0	7.7	8.7	13.0	11.5
4	Corporations	11.3	12.3	15.3	13.0	17.3	25.2	23.8
	Corporate income tax							
5	Owed corporate income tax liability[3]	16.3	13.5	18.7	8.8	16.5	21.0	12.3
6	Withholding taxes on capital credited[4]	2.0	4.4	7.7	8.2	6.3	10.6	11.4
7	Gross revenue	18.3	17.9	26.4	16.9	22.8	31.6	23.7
8	Solidarity surcharge on gross revenue	0.7	1.3	1.5	0.9	1.3	1.7	1.3
	Personal income tax							
9	Assessed personal income tax liability[5]	136.9	142.3	165.1	170.6	180.8	211.0	220.0
10	Assessed personal income tax liability after deduction of child allowances[6]	136.9	142.3	152.1	153.0	163.5	192.9	202.6
	thereof[7]							
11	on total business income	31.7	28.9	36.5	30.3	30.0	41.7	43.8
12	on income from business enterprise	21.1	17.9	23.2	16.1	15.8	24.5	25.7
13	on partnerships' business income	11.0	11.7	15.8	11.1	11.5	18.0	18.9
14	on dividend income	-1.3	-1.6	-0.9	-0.9	1.0	2.3	2.4
15	Assessed solidarity surcharge	5.3	9.9	8.2	8.3	8.6	10.3	10.8
	thereof[7]							
16	on total business income	1.2	2.0	1.8	1.5	1.4	2.0	2.1
17	on income from business enterprise	0.8	1.2	1.2	0.8	0.8	1.2	1.3
18	on business income of partnerships	0.4	0.8	0.8	0.5	0.5	0.9	0.9
19	on dividend income	-0.0	-0.1	-0.0	-0.0	0.0	0.1	0.1
	Withholding taxes on capital not credited							
20	Withholding taxes on capital not credited	1.8	3.8	4.0	11.8	3.6	6.4	7.7
21	Solidarity surcharge	0.1	0.3	0.2	0.6	0.2	0.4	0.4
	Total business taxation							
22	Taxes on business and dividend income (1+7+8+11+14+16+19+20+21)	75.0	73.3	94.0	84.4	88.8	128.4	121.5
	thereof							
23	Taxes on business income (1+7+8+11+16)	74.4	70.8	90.7	72.8	84.0	119.2	110.9
24	Taxes on income from business enterprise (1+7+8+12+17)	63.4	59.1	76.8	58.0	69.0	101.2	92.0
25	Taxes on income of corporations and partnerships (3+4+7+8+13+18)	49.6	50.3	66.8	50.3	62.0	90.3	80.1
	Business taxation revenue as percent of gross domestic product (GDP)							
26	Taxes on business and dividend income (22)	4.6	4.0	4.8	4.0	4.0	5.3	4.9
	thereof							
27	Taxes on business income (23)	4.5	3.8	4.6	3.5	3.8	4.9	4.5
28	Taxes on income from business enterprise (24)	3.8	3.2	3.9	2.8	3.1	4.2	3.7
29	Taxes on income of corporations and partnerships (25)	3.0	2.7	3.4	2.4	2.8	3.7	3.2
	Business taxation revenue as percent of total tax revenue8							
30	Taxes on business and dividend income (22)	20.4	18.1	21.7	18.4	19.1	23.0	21.2
	thereof							
31	Taxes on business income (23)	20.2	17.5	20.9	15.8	18.1	21.4	19.4
32	Taxes on income from business enterprise (24)	17.2	14.6	17.7	12.6	14.9	18.1	16.1
33	Taxes on income of corporations and partnerships (25)	13.5	12.4	15.4	10.9	13.4	16.2	14.0

1) Results from the tax statistics for the relevant years.- 2) 1992 and 2008: Estimation.- 3) Tax liability after crediting withholding taxes on capital income and domestic corporate income tax on received dividends (full imputation procedure until 2001).- 4) Including withholding tax on interest.- 5) After deduction of credited corporate income tax on dividends up to 2001.- 6) From 1998 onwards: Assessed income tax liability minus tax relief from child allowances (estimation of Federal Ministry of Finance Germany).- 7) Allocation of assessed income tax and solidarity surcharge liability according to the share of business income in total income, both positive and negative.- 8) Less social contributions, from national accounts.
Sources: Federal Statistical Office Germany (Destatis); Federal Ministry of Finance Germany; own estimations.

Corporate Tax Revenue Increased Significantly Until 2007...

Published results of tax statistics for the years 1992 to 2008 (see Table 1 and Box 1) were used to calculate the corporate income tax revenue accrued in the single tax years. Due to the lengthy assessment procedures, more recent results of the tax statistics are not yet available.

Tax revenues on corporate income in 2008 totaled 111 billion euros (see item 23 in Table 1) or 4.5 percent of GDP (see item 27 in Table 1). Including dividend taxation, corporate income tax revenue was 122 billion euros, or 4.9 percent of GDP (see items 22 and 26 in Table 1). The decline in tax revenue compared to 2007 was mainly due to the onset of the recession and rate reductions in the corporate income tax reform of 2008. At the same time, this reform also lead to a significant broadening of the tax base, the decline in tax revenues was only moderate. Corporate income taxation accounts for around one-fifth of total tax revenues.

... But Corporate Income Increased Even More

In the past ten years, corporate income have increased significantly more than gross domestic product (GDP) or gross national income (GNI,[5] see Figure). This applies in particular to profits in the "corporations" sector in national accounts, which also includes joint partnerships. On the basis of similar calculations by the Europe-

5 Gross national income is gross domestic product plus the balance of primary income from and to abroad. Since 2005, this balance has been around +2 percent of GDP.

Box 1

Calculating Accrued Corporate Tax Revenue

Corporate tax statistics contain essential information for tax assessments. They record tax bases and tax rates originating in the relevant assessment years. Up to 2004, corporate income tax statistics were only compiled every three years, and since then every year. In contrast, revenue statistics from current corporate income tax revenue shows running advance payments, as well as retrospective tax payments and tax refunds for previous assessment years, which may differ significantly from the tax burden accrued to the relevant tax year.

For corporate income tax, gross revenue is calculated by adding withholding taxes on capital income credited against the tax liability (see lines 6 and 7 in Table 1). This revenue is the difference between the corporate income tax liability and the corporate income tax to be credited to dividends received (imputation system up to 2001). Compared to the previous study conducted in January 2007, revenue from foreign corporate taxpayers (foreign companies with operations in Germany) is also taken into account. Furthermore, the solidarity surcharge on corporate income tax is also calculated.

With personal income tax revenue, we calculate the share that is attributable to business income. The starting point is the assessed income tax liability, taking into account child allowances for all taxpayers, child benefit is not included.[1] Based on the personal income tax statistics, the individual tax burden is divided according to the proportion of income from one income source (positive and negative) to total income from the respective income source.[2] Local business tax credits and tax rate limits for business income (up to 2000) are attributed to business income.

Furthermore, revenue from non-creditable withholding taxes on capital income is estimated, that is, the portion of withholding capital tax revenue not credited in the personal income tax or corporate income tax assessment. Here, annual revenue from withholding taxes on capital income are compared to tax credit amounts shown in personal and corporate income tax statistics.

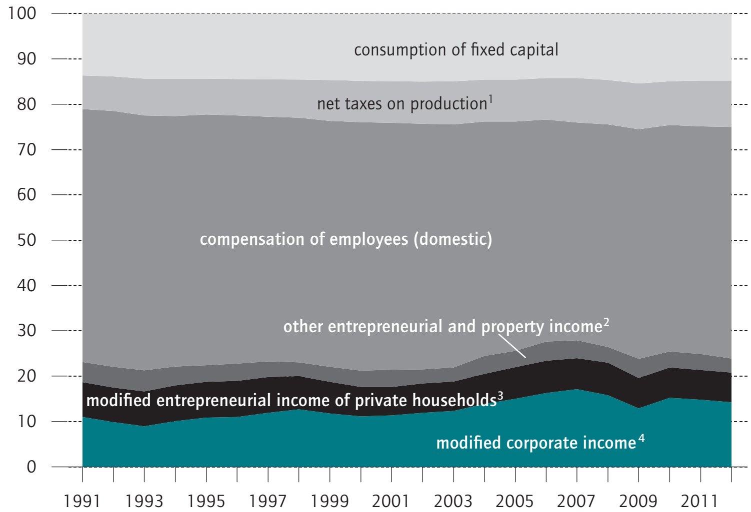
1 Until 1995, child benefit and child allowance were granted independently of each other. According to the concept of the family benefit allowance which has been in force since 1996 ("option model," section 31 of the Income Tax Act), child benefit relieves the tax burden for most taxpayers in place of child allowance. When assessing income tax, a check is performed to see which is the more favorable, child benefit or the tax relief effect of child allowance.

2 See S. Bach and H. Buslei, "The Impact of Losses on Income Tax Revenue and Implicit Tax Rates of Different Income Sources. Evidence from Microsimulation Using Tax Statistics for Germany," DIW Berlin Discussion Paper 950 (2009). www.diw.de/documents/publikationen/73/diw_01.c.343857.de/dp950.pdf.

Figure

Distribution of gross national income (GNI), 1991-2012

Shares in percent



1) Taxes on production and imports less subsidies.- 2) Entrepreneurial and property income national accounts, less modified entrepreneurial income of private households and corporate income (see the following footnotes).- 3) Entrepreneurial income national accounts, less non-taxable subsidies (estimation).- 4) Entrepreneurial income national accounts, less non-taxable subsidies (estimation), corporate income of the central reserve bank, reinvested earnings on direct foreign investment received, and dividend income received.
Sources: Federal Statistical Office, calculations by DIW Berlin.

Profits from incorporated companies have become increasingly significant.

an Commission,[6] we have derived a corporate income aggregate from the national accounts statistics, which approximates taxable corporate income as close as possible (see Box 2 and the derivation in Table 3).

If we base the resulting modified macroeconomic corporate income on gross national income (GNI), formerly known as gross national product, there is a significant increase in the income share compared to other incomes. From 1992 to 2008, the proportion of profits from incorporated companies to gross national income increased by almost six percentage points. The share of total entrepreneurial and property income rose by 4.3 percentage points in this period, while the share of labor income fell by 7.3 percentage points. This trend of rising income shares, in particular for incorporated companies, can be observed in a number of European countries.[7] During the severe recession of 2008/2009, the proportion of entrepreneurial and property income sank significantly, but that decline was partly halted due to the rapid recovery of the German economy in the years that followed.

Significant Drop in Average Tax Burden since Early '90s

Calculated in absolute terms the modified corporate income aggregate increased by 140 percent from 1992 to 2008. However, the tax revenue from incorporated companies and partnerships (see item 25 in Table 1) increased by only 62 percent. Thus, the average corporate income tax burden for incorporated companies and partnerships in relation to macroeconomic corporate income has declined significantly since 1992. Through the use of tax statistics, which allow local business tax and income tax revenue to be divided into partnerships and sole proprietorships, we can calculate the overall implicit tax rates on corporate income from Germany's incorporated companies and partnerships (see Table 2).[8] Here, the tax revenue from corporations and partnerships (see item 25 in Table 1) is divided by corporate income from national accounts, which also includes profits from joint partnerships. For better comparability with the results of the European Commission for the remaining countries, in Table 2 we also indicate the macroeconomic corporate income according to the Commission's concept. The implicit tax rates are calculated for these figures, too.[9]

As a result, the overall implicit tax rates are significantly lower than statutory tax rates. The significant decline in implicit tax rates since the early '90s is remarkable. First, this reflects the significant tax base erosion compared to the macroeconomic corporate income in that years. Second, for 2001 and subsequent years, there have been noticeable tax rate cuts from tax reforms since 1999. Up until 2007, implicit tax rates rose slightly

6 European Commission, Taxation trends in the European Union: Data for the EU Member States, Iceland and Norway. 2013 edition. http://ec.europa.eu/taxation_customs/resources/documents/taxation/gen_info/economic_analysis/tax_structures/2013/report.pdf, 289 ff.

7 J. Piotrowska and W. Vanborren, "The corporate income tax rate-revenue paradox: Evidence in the EU," Taxation Papers 12, Directorate General Taxation and Customs Union, European Commission (2008). http://ec.europa.eu/taxation_customs/resources/documents/taxation/gen_info/economic_analysis/tax_papers/taxation_paper_12_en.pdf.

8 In its study on development trends and tax system structures, the European Commission calculated macroeconomic average implicit tax rates for income from incorporated companies ("corporate income"), see European Commission, Taxation trends, 257. For Germany, there is no information on this, since current revenue statistics do not allow for any allocation of local business and income tax revenues to partnerships and sole proprietorships. For information about the method, see European Commission, Taxation trends in the European Union, 275 ff.

9 For information on the calculations for the remaining countries, see European Commission, Taxation trends, Table D.3.1.1, 257.

Box 2

Modified Corporate Income Based on the National Accounts Statistics for Calculating Implicit Tax Rates and the Comparison with Tax Statistics

The German national accounts statistics according to the current revision from February 2013 are used to determine aggregate corporate income. The initial figures for the calculations are net entrepreneurial income (see item B.4n ESA 95 Code) for corporations, which, in accordance with international conventions, also include partnerships. Reinvested earnings on direct foreign investment received by resident firms (see item D.43rec ESA 95 Code) are then deducted since this income is usually tax free in Germany. Received dividend income (see item D.42rec ESA 95 Code) is also deducted to avoid double counting of this income for the paying and receiving company. Finally, we adjust corporate income to allow for tax-free subsidies, estimated at 20 percent of the category "production subsidies other than on products" (see item D.39rec ESA 95 Code),[1] and the corporate income of the Bundesbank.

Other tax-exempt corporate income appearing in aggregated national accounts cannot be quantified, such as sovereignty businesses in the case of public utilities or non-profit companies, or the effects of other personnel tax exemptions (Sections 5 and 6 of the German Corporate Income Tax Act, Section 3 of the German Income Tax Act). Larger profits ought not to occur in these areas. In addition, public corporations with economic activities allocated as commercial operations are, in principle, subject to corporate income and local business tax (Section 4 of the German Corporate Income Tax Act).

The resulting modified corporate income is the basis for calculating implicit macroeconomic tax rates. Here, tax revenue from corporations and partnerships (see item 25 in Table 1) is based on this figure.

For the specific comparison of modified corporate income with the "adjusted gross income" as identified in the tax assessment and shown in the tax statistics,[2] more changes are made based on national accounts information pertaining to received dividends and local business tax (see Table 3):

- Corporate income from national accounts is not corrected for dividends received up to 2001. This corresponds to the application of the tax imputation system up to 2001 for corporate income tax, where received dividends increased the taxable income of corporate taxpayers and the double burden was reduced by crediting domestic corporate income tax. From 2002, national accounts corporate income of non-financial incorporated companies is reduced by 95 percent of received dividends, in order to take into account the flat rate for operating expenses of five percent of tax-exempted dividend income. National accounts corporate income for financial incorporated companies (banks and insurance companies) is only reduced by 30 percent. With this correction, only partial relief is taken into account on dividends received for these companies (see special regulations in Section 8b, paragraphs 7 and 8 of the German Corporate Income Tax Act).[3]

- As local business tax was deducted from taxable corporate income up until 2007, macroeconomic income up to 2007 Is reduced by local business tax revenue.

1 Bach and Dwenger, "Unternehmensbesteuerung," 62 f.

2 Adjusted gross income is the sum of all taxable income, that is, income from businesses enterprise, self-employment, etc., less income-specific operating expenses and other income-related expenses as well as adjustments for non-deductible expenses, less charitable donations and contributions , and before the deduction losses carried forward or back from other tax years.

3 Current information on the shareholdings of banks and their investments in companies provides banking statistics on the German Federal Bank. www.bundesbank.de/Navigation/DE/Statistiken/Banken_und_andere_finanzielle_Institute/banken_und_andere_finanzielle_institute.html.

because corporate income tax revenue grew faster than referenced profits. In 2008, implicit tax rates decreased due to the slump in tax revenues, reduction in tax rates, and broadening of tax bases in the course of the corporate income tax reform.

Sustained High Taxation Gap

In DIW Berlin's study from January 2007, we compared corporate income from the national accounts with the corporate income reported in tax statistic. In the comparative analysis presented here for tax statistics referring to 2008 (see Table 3), modified corporate income from the national accounts for incorporated companies including partnerships are used as macroeconomic income base (see Table 2 and Box 2). To make these fi-

Table 2

Tax revenue, corporate income, and implicit tax rates of corporations including partnerships 1992-2008

	1992	1995	1998	2001	2004	2007	2008
				billion euros			
Taxes on corporate income[1]	49.6	50.3	66.8	50.3	62.0	90.3	80.1
Reference income corporations, national accounts							
Entrepreneurial income, corporations	200.1	239.6	305.2	329.1	407.4	567.6	500.2
- reinvested earnings on foreign investm. received	–1.1	0.8	1.9	–19.8	18.8	30.9	–21.0
- dividend income from residents (estimation)	18.9	17.7	29.6	65.4	39.6	49.4	54.5
Corporate income, European Commission	182.4	221.1	273.7	283.4	349.0	487.3	466.7
- other dividend income received	8.1	11.5	17.1	36.6	36.8	55.6	63.4
- non-taxable subsidies (estimated), corporate income of the central reserve bank	11.4	10.5	10.7	10.6	4.2	8.5	8.7
Modified corporate income	162.9	199.1	245.9	236.2	308.0	423.2	394.6
				percent			
Implicit tax rates							
based on corporate income, European Commission	27.2	22.7	24.4	17.7	17.8	18.5	17.2
based on modified corporate income	30.4	25.3	27.2	21.3	20.1	21.3	20.3
For comparison: statutory tax rates[2]	47.1	43.1	42.8	38.3	38.3	38.3	29.8

1) Results of the tax statistics for the relevant years. Local business tax, corporate income tax, personal income tax share on partnership income, solidarity surcharge.- 2) Of incorporated firms: corporate income tax (until 2001 on distributed profits), solidarity surcharge, local business tax, excluding taxation of distributed profits at the shareholder level.
Sources: Federal Statistical Office Germany (Destatis); own estimations..

gures comparable with "adjusted gross income" from the tax statistics for the various years, further changes were made to distributed profits and local business tax revenue (see Table 3 and Box 2).

The calculations show a considerable "taxation gap" between the reference income from the national accounts and taxable business income (see items 22-24 in Table 3) continuing until 2008. A comparison of profit cases reported in tax statistics (see item 22 in Table 3) for 2004 alone shows a difference of 91 billion euros, or 4.1 percent of GDP. For 2001, this difference was slightly higher.[10] Taking into account losses, which should also be included in macroeconomic business income figures, the taxation gap in 2004 was actually 180 billion euros (see item 24 in Table 3). Also, there is an additional 15 billion euros if adjustments are made for double counting of profits and losses from investments by partnerships or corporations in partnerships (see item 18 in Table 3).[11] The taxation gap increased significantly up to 2007. For profit cases, 120 billion euros, or almost five percent of GDP, were achieved in this year. The gap decreased by 30 billion euros in 2008. This is probably due mainly to the broadening of the tax base through the corporate income tax reform of 2008. This decline corresponds to estimates submitted in advance of this reform.[12]

The high level of tax losses and losses carried forward is significant. As evidenced by the corporate income tax statistics, losses in 2004 amounted to 59 billion euros. In relation to positive incomes amounting to 111 billion euros, they accounted for 53 percent. By 2007, although profits rose sharply, losses remained at a high level. In 2008, losses picked up again, which was probably due to the onset of recession. But profits increased, perhaps most notably as a result of the broadening of the tax base.

10 In the study from January 2007, a difference of 96.6 billion euros was given for 2001. However, national accounts corporate income has not been adjusted for reinvested earnings from abroad (item D.43rec of ESA 95 Code). Since this figure was negative in that year, the difference increases. Other minor differences to previous results can be attributed to methodological adjustments.

11 Partnerships are taxed "transparently" in Germany, that is, profits or losses are allocated to its shareholders. The local business tax statistics allows for an adjustment of double counting profits and losses, see items 16 to 18 in Table 3.

12 S. Bach, H. Buslei, N. Dwenger, and F. Fossen, Dokumentation des Mikrosimulationsmodells BizTax zur Unternehmensbesteuerung in Deutschland (2008). Data Documentation 29 DIW Berlin. www.diw.de/documents/publikationen/73/diw_01.c.79803.de/diw_datadoc_2008-029.pdf, 52.

Table 3

Business income of corporations incl. partnerships in national accounts and tax statistics, 1992-2008
In billion euros

No.		1992	1995	1998	2000	2004	2007	2008
	National accounts, corporations[1]							
1	Entrepreneurial income	200.1	239.6	305.2	329.1	407.4	567.6	500.2
	thereof:							
2	Non-financial corporations	158.7	189.0	247.0	279.2	338.2	478.3	426.8
3	Financial corporations	41.4	50.6	58.3	49.9	69.2	89.3	73.3
4	- non-taxable subsidies nonfinancial corporations[2]	4.0	5.3	5.1	4.8	3.9	4.3	4.4
5	- corporate income of the central reserve bank[3]	7.4	5.2	5.6	5.8	0.3	4.2	4.3
6	- tax-exempted dividend income as of 2002[4]					49.3	63.1	76.8
7	- reinvest. earnings on foreign investm. received	–1.1	0.8	1.9	–19.8	18.8	30.9	–21.0
8	- local business tax	21.8	20.5	24.5	23.3	27.0	38.1	
9	Reference income corporations, national accounts (1-4-5-6-7-8)	168.1	207.8	268.1	315.0	308.2	427.0	435.8
	Tax statistics, partnerships and corporations							
	Statistics of partnerships and similar communities							
	Profit cases							
10	Adjusted gross income	54.1	59.6	88.6	99.2	106.1	146.8	152.7
	Loss cases							
11	Adjusted gross income	–18.8	–35.9	–34.5	–44.5	–30.7	–25.9	–26.6
	Corporate income tax statistics							
	Profit cases							
12	Adjusted gross income[5]	63.6	83.0	129.6	118.4	111.0	160.2	191.2
13	Taxable income	58.8	67.0	102.6	95.1	92.8	131.3	164.0
	Loss cases							
14	Adjusted gross income[5]	–52.2	–55.7	–46.4	–85.7	–58.8	–57.3	–67.4
15	Loss carryforward at the end of year	128.4	241.3	295.5	388.2	520.6	568.1	568.1
	Local business tax statistics[6]							
	Share of corporations and partnerships at							
16	losses of partnerships (addition)	–	–2.6	–8.2	–18.3	–9.2	–8.2	–9.7
17	profits of partnerships (reduction)	–	5.6	17.8	34.5	24.2	33.7	39.9
18	Balance	–	3.0	9.6	16.2	15.0	25.5	30.2
	Total tax statistics							
	Adjusted gross income							
19	Profit cases (10+12)	117.7	142.6	218.2	217.6	217.1	307.0	343.9
20	Profit cases without share at partnership profits[7] (10+12-17)	–	137.1	200.4	183.1	192.9	273.3	304.0
21	Total (10+11+12+14)	46.7	51.0	137.3	87.4	127.7	223.8	249.9
	Difference to reference income corporations							
22	Profit cases (19)	50.4	65.1	49.9	97.4	91.0	120.0	91.9
23	Profit cases without share at partnership profits[7] (20)	–	70.7	67.6	131.9	115.2	153.6	131.8
24	Total (21)	121.4	156.7	130.8	227.6	180.5	203.2	185.9

1) Including partnerships in terms of commercial law and tax law.- 2) Estimated share of 20 percent.- 3) According to national accounts.- 4) Assumption: 95 percent of dividends received by non-financial corporations and 30 percent of dividends received by financial corporations.- 5) Including share in income or losses from partnerships,. Up to 2001 including dividends received from residents liable to corporate income tax (full imputation procedure).- 6) 2008: Estimation.- 7) Adjustment for double counting of income from partnerships.

Sources: Federal Statistical Office Germany (Destatis); own estimations.

Among partnerships, however, the ratio of running profits and losses developed more favorably.

Losses carried forward for corporate income tax rose to 568 billion euros by the end of 2007. This corresponded to 23.5 percent of GDP, or 3.5 times corporate income tax base for that year (adjusted gross income from profit cases). In 2008, losses carried forward remained constant. As a result of increased tax bases, the relation of losses carried forward to corporate income decreased to 3 times. By international standards, losses carried forward in Germany are very high.[13]

How Reliable Are Corporate Income Aggregates From National Accounts?

Corporate income figures according to national accounts and tax law may differ significantly from one another in single periods.[14] However, as these differences result from different periodizations of cash flows, they should balance out over longer periods of time. For instance, the increase in the taxation gap in the mid-'90s could be significantly caused by the tax incentives for East Germany such as the accelerated depreciation schemes, which are not taken into account in national accounts. In later years, the tax write-downs were correspondingly fewer, so the taxation gap should have decreased again. The rise and persistently high difference in corporate income figures between national accounts and tax statistics cannot be explained by such periodic factors. Rather, the use of accounting flexibility to generate "hidden reserves" has systematically increased.

Further estimation risks of the comparison emerge as in German national accounts net operating surplus and entrepreneurial income of the non-financial corporations and households are only calculated residually. Direct calculations based on primary statistical data is not available for Germany, since there are no representative data records from financial or tax accounting or from any other specialized statistics. In that regard, all estimation risks of national accounts in determining gross domestic product and gross national income as well as in other income components might impair these residual figures. The estimation risks involved are difficult to quantify. The Federal Statistical Office reports "balancing differences" between calculated results for GDP according to the production and expenditure approaches as being up to two percent of GDP.[15] With respect to the income approach in German national accounts, depreciations are not statistically recorded but are estimated from capital accounts.[16]

For example, if we set the estimation risks involved here by up to two percent of GDP, equivalent to 50 billion euros in 2008, a significant portion of the observed taxation gap could be due to an overestimation of the entrepreneurial income in national accounts. The implicit tax rates would then be up to three percentage points higher. Such an estimation error, however, would imply that either gross domestic product is too high or the other income components are estimated too low. The estimation error might also go in the other direction, resulting in a correspondingly greater taxation gap. In any case, there are no indications that the rise and high level of the taxation gap can be attributed to a systematic overestimation of corporate income in national accounts.

Possible Causes of Taxation Gap

Even taking into account certain estimation risks in national accounts corporate, underreporting of taxable corporate income compared to macroeconomic corporate income should not be overlooked. The high level of tax losses and losses carried forward in the tax statistics underlines this suspicion. This suggests that tax exemptions, tax allowances, and tax avoidance options are systematically resulting in reduced tax bases. The complex rules of corporate taxation offer, in principle, a series of options:

In commercial and tax law income determination, profits are only taken into account on realization. Conversely, impairment losses are invoked directly (imparity

13 OECD, "Corporate Loss Utilisation through Aggressive Tax Planning," (OECD Publishing, 2011). http://dx.doi.org/10.1787/9789264119222-en, 21.

14 See Bach and Dwenger, "Unternehmensbesteuerung," 62 f and a detailed analysis by Heckemeyer and Spengel, "Ausmaß der Gewinnverlagerung," 40 ff.

15 Federal Statistical Office, " National Accounts. Gross Domestic Product in Germany in accord-ance with ESA 1995. Methods and Sources. Version following the major revision 2005." Subject-matter series 18, series S. 22 (Wiesbaden: 2009): 374 ff. www.destatis.de/DE/Publikationen/Thematisch/VolkswirtschaftlicheGesamtrechnungen/Inlandsprodukt/GrossDomesticProduct6489022059004.pdf?__blob=publicationFile. Risks are seen in terms of the production approach for the less well recorded economic areas, especially in service sectors with lots of small business enterprises. In the expenditure approach, private consumption and changes in inventories, in particular, are considered statistically poorly covered. See also B. Görzig and C. Schmidt-Faber, "Wie entwickeln sich die Gewinne in Deutschland? Gewinnaussagen von Bundesbank und Volkswirtschaftlicher Gesamtrechnung im Vergleich," Sonderheft des DIW Berlin 171 (Berlin: 2001).

16 A comparison of national accounts depreciation aggregates with depreciation aggregates of balance sheet statistics from the Bundesbank for industries in which these statistics should provide representative (especially for mining and manufacturing) shows slightly higher depreciation in the national accounts on aggregate. Depreciation in companies' financial statements does not generally deviate much from tax depreciation. This speaks more in favor of an underestimation of the national accounts corporate income compared to taxable corporate income.

principle). Similarly, provisions may be formed for foreseeable future expenses. Significant portions of investments in intangible assets or real estate can often be immediately claimed as expenses. This creates "hidden reserves" in the tax accounts. Since capital gains are often only partially taxed, this gives companies options to keep them permanently off the balance sheets or to realize them tax farvored.

Tax benefits in the form of special depreciations or similar deductions were last used massively in the 1990s to encourage investment in the former East Germany. This could be the reason for the significant increase in tax losses in the course of the 1990s.

As a result of increasingly international corporate structures, there are many opportunities to transfer profits to foreign locations with lower levels of taxation.[17] This occurs primarily through the structuring of transfer prices, cost and profit allocations, group financing, leasing, and licensing or the transfer of mobile corporate functions (research and development, purchasing, marketing and sales activities). Germany was particularly vulnerable to this up until 2007 due to its high corporate tax rates. But these correlations can only partially explain the tax gap insofar as these structures do not distort national accounts corporate income in the same way.[18]

Particularly in small and medium-sized enterprises, there are opportunities to relocate private expenditure to deductible business expenses or to use company resources privately, such as the use of cars, travel and entertainment expenses, non-cash benefits, or through other transactions and financing relationships with partners, relatives, and related parties.[19] Where such matters are allocated to the private sector in the national accounts, it could explain a portion of the tax gap.

Due to the complicated nature of tax law and inadequate equipment and organization, the tax authorities only have limited powers to guarantee the effective enforcement of tax laws. This is particularly true of assessed taxes such as corporate income taxes.[20] Then there are the infamous "disincentives" for Länder not to exploit the tax bases, since a large percentage of local tax revenues are siphoned off in the fiscal equalization system.[21]

However, the actual quantitative importance of these different issues remains unclear. One disadvantage, in particular, is that there are no representative statistics on the individual components of tax accounting in Germany. Therefore, it is currently not possible to determine the reasons for the discrepancies between macroeconomic corporate income and reported income for tax more accurately. The electronic transmission of detailed information for determining taxable income to the tax authorities (E-Bilanz),[22] introduced in 2012, will provide new opportunities in the coming years.

Conclusion

The average effective corporate tax burden in relation to macroeconomic corporate income from the national accounts is likely to have moved by 21 percent in recent years. The reason for this low burden compared to statutory tax rates is that taxable corporate income was far below macroeconomic corporate income. This taxation gap was somewhere in the order of at least 120 billion euros, or almost five percent of GDP in 2007. The high level of tax losses is also striking. Losses carried forward for corporate income tax rose to 568 billion euros by the end of 2007, equivalent to 23.5 percent of gross domestic product or 3.5 times the corporate income tax base for that year. As a result of expanding the tax base in the course of corporate income tax reform in 2008, the taxation gap declined significantly, but still stood at about 90 billion euros, or 3.7 percent of GDP. Even taking into account estimation risks in national accounts corporate income aggregates, a significant underreporting of taxable corporate income cannot be overlooked.

17 OECD, "Addressing Base Erosion and Profit Shifting," (OECD Publishing, 2013). http://dx.doi.org/10.1787/9789264192744-en, 61 ff.; OECD, "Corporate Loss Utilisation through Aggressive Tax Planning," (OECD Publishing, 2011). http://dx.doi.org/10.1787/9789264119222-en; A. Weichenrieder, Profit shifting in the EU: Evidence from Germany (2009). International Tax and Public Finance, 16, 281-297; T. Buettner and G. Wamser,"Internal Debt and Multinational Profit Shifting - Empirical Evidence from Firm-Level Panel Data," National Tax Journal, 66, (2013): 63–96. http://ntj.tax.org/wwtax/ntjrec.nsf/175d710dffc186a385256a31007cb40f/ebeb56cf1b343df085257b3500715ab7/$FILE/A03_Buettner.pdf.

18 See also Heckemeyer and Spengel, "Ausmaß der Gewinnverlagerung," 44 ff.

19 A. Kraus, "Unternehmen angemessen besteuern," Können wir uns Steuergerechtigkeit nicht mehr leisten? (Marburg: A. Truger, 2005), 117 ff.

20 Federal Court of Auditors, Probleme beim Vollzug der Steuergesetze (2006). Recommendations by the President of the Federal Court of Auditors as the federal commissioner for economic efficiency in the administration of improving enforcement of tax laws in Germany. Series of papers by the Federal Commissioner for efficiency in administration. Vol. 13. Stuttgart, Federal Court of Auditors, "Chancen zur Entlastung und Modernisierung des Bundeshaushalts,"Bonn, November 23, 2009. www.bundesrechnungshof.de/de/veroeffentlichungen/gutachten-berichte-bwv/berichte/sammlung/2009-bwv-bericht-chancen-zur-entlastung-und-modernisierung-des-bundeshaushalts, 23 ff.

21 C. Fuest and M. Thöne, "Reform des Finanzföderalismus in Deutschland ," Stiftung Marktwirtschaft, Frankfurter Institut, Kleine Handbibliothek, vol. 37 (2009). www.stiftung-marktwirtschaft.de/fileadmin/user_upload/Kleine-Handbibliothek/KHB37.pdf, 45 ff.

22 Federal Ministry of Finance, E-Bilanz. Elektronik statt Papier – Einfacher, schneller und günstiger berichten mit der E-Bilanz (2012). www.bundesfinanzministerium.de/Content/DE/Downloads/Broschueren_Bestellservice/2012-09-05-E-Bilanz-2012.pdf?__blob=publicationFile&v=2.

Due to a lack of statistics about tax accounting, it is currently not possible to explain the considerable difference between macroeconomic and taxable corporate income more accurately. Systematic underreporting may play a role in determining taxable income, for example, because of the possibilities for building hidden reserves in tax balance sheets, but also as a result of tax incentives, tax avoidance, or enforcement deficits in tax authorities. The corporate tax reform of 2008 has lowered corporate income tax rates, enlarged the tax base and restricted the regulations on profit transfers to abroad, such as the introduction of the interest barrier and restrictions on "relocating operations". Where part of the taxation gap is due to tax avoidance, incentives to do so should have been reduced by the reform.

It would be desirable if information from tax accounting submitted as part of Germany's E-Bilanz system and other information from tax assessment could be made promptly available for statistical evaluations and scientific analyses. This is common in other countries and would also significantly improve the information base for directly calculating corporate income in the German national accounts statistics.

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