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Value-added tax

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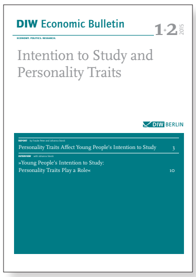

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NEXT ISSUE OF DIW ECONOMIC BULLETIN

Labor participation and demographic change

Value-added tax cuts bring greatest relief to lower and middle income households

By Stefan Bach and Niklas Isaak

If the desire is to provide tax relief to households with lower and middle incomes in Germany, it is necessary to target the value-added tax rather than the personal income tax. Lowering the standard value-added tax rate by one percentage point (from 19 to 18 percent) would mean relief worth 11 billion euro for consumers. The reduced value-added tax rate of seven percent should only be cut for food and local public transportation. Lowering it by two percentage points to five percent would generate relief equaling 3.8 billion euro. In total, these reform measures would generate fiscal relief of just under 15 billion euro. The simultaneous abolition of the remaining value-added tax would yield an overall revenue loss of 7.4 billion euro to the government. It could be abolished gradually in order to appropriately deal with adjustment issues or political resistance. Due to the regressive nature of the value-added tax, a major portion of the tax cuts would benefit lower and middle income groups, assuming companies pass on the relief to consumers by lower prices.

The value-added tax has not made the headlines in recent years. In the 1990s and 2000s, the tax rates were gradually raised, becoming a cornerstone of the German tax system. Currently, it generates around 30 percent of Germany's total tax revenues. The most recent increase in the standard rate was implemented in 2007, when it went up to 19 percent. The planned reform of the reduced value-added tax in 2009 never got off the ground. Since then, technical issues have taken center stage regarding the value-added tax, such as fighting tax evasion with electronic cash registers and the improved monitoring of Internet retail platforms.

The current tax reform discussion centers on relief for middle income households. And the overwhelming majority of reform proposals target the income tax's belly-shaped curve (*Mittelstandsbauch*) and fiscal drag. Studies on tax burden distribution show that households with low and middle incomes pay very little personal income tax.[1] For this reason, they would reap little benefit from a cut in the income tax rate, even if it targeted the basic personal exemption or basic tax rate.[2] Their tax burden is dominated by indirect taxes, which include: value-added tax, excises, and property taxes. These taxes, above all the value-added tax and excises, are highly regressive. In relation to current income, they burden poorer households much more heavily than rich ones. If policy makers intend to relieve lower and middle income households tangibly they should cut these taxes.

The excises on energy, alcohol, and tobacco also aim at reducing the respective consumption, which would be thwarted by relief. Municipalities and federal states levy

1 Stefan Bach, Martin Beznoska, and Viktor Steiner, "Who bears the tax burden in Germany? Tax structure marginally progressive," *DIW Economic Bulletin* no. 51/52 (2016): 601–608 (available online, retrieved July 18, 2017. This applies to all other online sources cited in this report unless otherwise noted). Roland Döhrn et al., "Steuer- und Abgabenlast in Deutschland – Eine Analyse auf Makro- und Mikroebene," RWI Project Report (2017) (available online).

2 Stefan Bach and Hermann Buslei, "Income Tax Reform to Relieve Middle Income Households," *DIW Economic Bulletin* no. 20 (2017): 235–242 (available online).

Table 1

Value-added tax revenue, 2017

Item of consumption expenditure	Tax revenue	
	Euro billion	Percent GDP
Taxed at standard rate	208.5	6.48
thereof		
Final consumption expenditure households	138.5	4.31
Investment in rental housing, other investments without input tax deduction	27.0	0.84
Input purchases and gross investment government	43.0	1.34
Taxed at reduced rate	17.8	0.55
thereof		
Food, water, milk	12.3	0.38
Local public transportation	0.8	0.03
Books, newspapers, periodicals	1.7	0.05
Cultural events and facilities	0.5	0.02
Hotel accommodation	0.8	0.02
Health services	0.7	0.02
Horticultural products, pet food, firewood	0.8	0.02
Services of charitable and ecclesiastical institutions	0.2	0.01
Total	226.3	7.04

Sources: National accounts; estimations of Federal Ministry of Finance; authors' own estimations.

property taxes and real estate transfer taxes, which is why federal fiscal policy can only bring them into play to a limited extent. This brings us to the value-added tax. With revenues of 226 billion euro or 7.0 percent of gross domestic product at present, it is by far the largest indirect tax and burdens a wide range of end users.

A cut in the value-added tax rate has also been proposed as a means of reducing Germany's high trade surplus.[3] The tax cut should stimulate consumption and in turn, increase imports.[4]

Taxation at standard rate generates vast majority of revenue

Value-added tax is a general consumption tax levied on companies, which in turn are supposed to pass it on to consumers. The fiscal rules support the process by levying the tax on the selling prices of companies and deducting the input tax on purchases. In the present report we assume that in the long term, 100 percent of the value-added tax is passed on to end users. But this is not necessarily the case in the short or medium term when it comes to changes in the value-added tax burden. As long as demand is high, value-added tax cuts would not have to be directly passed on via prices, but in the long run, competitive markets will force such passing on. In the following calculations, we also ignored the second round effects of value-added tax reforms, including changes in consumption structures and the savings rate.

Dividing the projected value-added tax revenue for 2017 into various components of consumption, based on the national accounts and estimates made by DIW Berlin[5] and the Federal Ministry of Finance (*Bundesfinanzministerium*, BMF),[6] reveals that taxation at the standard rate of 19 percent is responsible for 209 billion euro or 92 percent of Germany's total revenue (Table 1). Of that sum, 139 billion euro burden households' consumption expenditure directly. Further, investments for tax-exempt revenues are burdened with 27 billion euro, since the input tax deduction does not apply in these cases. This primarily affects rental unit construction companies, banks, and insurance companies. Government authorities, including the social insurance system, pay 43 billion euro in value-added tax on their purchases of objects and inputs.

The revenue taxed at the reduced rate of seven percent generates revenue of 18 billion euro. Food, water, and milk represent only two-thirds of that sum, or 12.3 billion euro. All other beverages as well as luxury foods, such as caviar, lobster, oysters, and snails, are subject to the regular rate. Local public transportation (for distances under 50 kilometers) represents 0.8 billion euro, press products 1.7 billion euro, and cultural and entertainment services 0.5 billion euro. Since the *hotel tax cut* implemented in 2010, accommodations and related services have been taxed at the reduced rate, generating 0.8 bil-

3 Alexander Jung, "Wie Deutschland seine Importe rasch steigern kann. Interview mit Carl Christian von Weizsäcker," *Spiegel Online*, January 28, 2017 (available online).

4 Fiscal devaluation as a result of raising consumption taxes has been debated as an approach for the countries in the euro area that are running deficits. On the contrary, cutting the value-added tax would result in appreciation in real terms in Germany. See Kerstin Bernoth, Patrick Burauel, and Philipp Engler, "Fiscal Devaluation: Economic Stimulus for Crisis Countries in the Euro Area," *DIW Economic Bulletin* no. 10 (2014): 12–18 (available online, accessed July 18, 2017); Ruud de Mooij und Michael Keen, "'Fiscal Devaluation' and Fiscal Consolidation: The VAT in Troubled Times," *IMF Working Paper* WP/12/85 (2012) (available online) and Ruud de Mooij and Michael Keen, "Fiscal devaluation as a cure for Eurozone ills—Could it work?" (Analysis and commentary, VOX. CEPR's Policy Portal, London, 2012) (available online).

5 Ferdinand Fichtner et al., "German Economy in Good Shape: DIW Economic Outlook," *DIW Economic Bulletin* no. 24 (2017): 235-242 (available online).

6 Parliamentary State Secretary at the Federal Ministry of Finance Michael Meister's answer to a written question from Representative Thomas Gambke (Green Party (*Bündnis 90/Die Grünen*)), Drucksache 18/12877 (PDF, Deutscher Bundestag, Berlin, 2017) (available online).

lion euro. Horticultural products, pet food, and firewood are also taxed at the reduced rate.

Based on this we were able to simulate various scenarios of a value-added tax cut (Table 2). A one-percent cut in the regular value-added tax rate from 19 to 18 percent would mean consumption relief worth eleven billion in 2017 euro, assuming companies reduce their retail prices accordingly. Of that sum, according to our revenue analysis, only 7.3 billion euro would benefit end users directly. Investment in new rental unit construction and rental unit expansion would generate relief valued at 1.4 billion euro. These benefits are likely to trickle down to occupants in the long term only. Further, the state would provide itself with relief worth 2.3 billion euro. The effect on the overall state sector would be revenue-neutral, although different levels of government would be affected variously. The social insurance system would save value-added tax on inputs for benefits in kind such as medication. In addition, the cost of medical services for ambulatory or stationary treatment and rehabilitation is likely to become more affordable. Municipalities would spend less on construction services and other inputs, while the lower value-added tax revenue would mostly affect the federal and state governments.

Table 2

Revenue impact reductions of value-added tax rates, 2017

Item of consumption expenditure	Change tax revenue	
	Euro billion	Percent GDP
Reduction of standard rate by one percentage point	−11.0	−0.34
thereof		
Final consumption expenditure households	−7.3	−0.23
Investment in rental housing, other investments without input tax deduction	−1.4	−0.04
Input purchases and gross investment government	−2.3	−0.07
Reduction of reduced rate by two percentage points	−5.1	−0.16
Reduction of reduced rate by two percentage points for food and local public transportation	−3.8	−0.12
Abolition of reduced rate excepting for food and local public transportation	8.0	0.25
Reduction of reduced rate for food and local public transportation to zero	−13.1	−0.41
For information: *Reduced tax rate for products liable to standard rate so far*		
Reduced rate of five percent for alcoholic beverages	−2.3	−0.07
Reduced rate of five percent for pharmaceutical products	−6.2	−0.19
Reduced rate of five percent for natural gas and electricity	−6.7	−0.21

Source: Authors' own estimations.

Limit reduced rate to essential needs

Lowering the reduced value-added tax rate in 2017 would result in a revenue loss of 2.5 billion euro per percentage point. The EU directives on harmonizing the value-added tax system allow the reduced value-added tax rate to be cut to five percent.[7] This would mean a revenue loss of 5.1 billion euro annually.

However, cutting the reduced tax rate across the board is disputable. Many of the value-added tax reductions have been the target of criticism for some time now. This applies to the reductions on garden products, pet food, and other agricultural and forestry products, and especially the hotel tax reduction implemented in 2010. Most of the reductions on press products and certain cultural and entertainment services are highly selective and not convincingly justified, as are the reductions for charitable and ecclesiastical institutions. Reduced value-added taxes often seem to be thinly veiled industry subsidies that trigger unnecessary distortions in production and consumption structures.[8] They are also somewhat complex to administer, as it is difficult to separate them from similar products subject to the regular tax rate. Subsidies would be the better alternative for providing targeted, transparent support.

The reduced value-added tax rate should thus focus on the necessities of life and perform its core function: providing fiscal relief at the subsistence level. Food and local public transportation are the items on the current list of products subject to the reduced value-added tax within this scope.

If the reduced tax rate for these products were cut to five percent only, the revenue loss would total only 3.8 billion euro. If the other tax reductions were abolished and the products in question were taxed at the regular rate of 19 percent, revenues would increase by eight billion euro. In sum, this reform measure would generate four billion euro in extra revenue. In conjunction with the one-percent cut in the regular rate mentioned above, the revenue loss would equal 7.4 billion euro.

7 Article 12 (3) a) of the Sixth EU Value-Added Tax Directive (77/388/EWG) (available online).

8 Christoph Böhringer and Wolfgang Wiegard, "Analyse der fiskalischen Auswirkungen des ermäßigten Umsatzsteuersatzes in Deutschland unter Verwendung eines Simulationsmodells sowie der Wachstumseffekte von Straffungskonzepten," (PDF, RWI—Leibniz Institute for Economic Research, Essen, 2013) (available online) and Christoph Böhringer et al., "Allokative und distributive Effekte einer Abschaffung des ermäßigten Umsatzsteuersatzes," (PDF, Center for European Economic Research, Mannheim, 2004) (summary available online).

The provisions under European law prohibit reduced value-added tax rates lower than five percent. However, a series of EU member states have lower reduced value-added tax rates or charge no tax on food, medication, local public transportation, or press products.[9] They are permitted to maintain the lower rates if they were in effect either before January 1, 1991 or before their accession to the European Union.[10] Germany does not benefit from this grandfather clause. If the reduced value-added tax rate for essential items were to be cut to less than five percent, the rules of the European value-added tax system would have to be changed. This would require a unanimous decision by the EU member states—an ambitious goal but in the case of the necessities of life, not an impossible one.

For the longer-term perspective, we simulated a cut in the reduced value-added tax rate for food and local public transportation to zero. For companies that take the full input tax exemption, products would be relieved of the value-added tax burden entirely. This would mean a revenue loss of 13.1 billion euro in 2017.

Ultimately, the issue is whether additional products deemed "necessities of life" should also be subject to the reduced tax. Germany tends to be restrictive on this point. The European value-added tax rules permit the following products to be taxed at a reduced rate: non-alcoholic beverages, medication including birth control, medical devices and aids, natural gas and electricity, entertainment and sporting events of all types, pay-TV fees, and the services of funeral parlors and crematoriums. Reduced value-added taxes on non-alcoholic beverages, natural gas, and electricity or medication would result in a significant revenue loss (Table 2). A reduction on entertainment and sporting events could also lead to substantial tax deficits.

However, focusing on the subsistence level, cutting the value-added tax would be less effective in these cases than with food. Providing fiscal relief for energy products contradicts the objectives of environmental and energy policy. A reduction on medication would primarily distribute the relief effect via health insurance contributions. Further, new tax reductions would generate additional administrative and compliance costs in addition to distorting the competitive environment.

9 OECD, *Consumption Tax Trends 2016: VAT/GST and excise rates, trends and policy issues*, (Paris: OECD Publishing, 2016), 85 et seq. (available online).

10 Article 28 (2) of the Sixth EU Value-Added Tax Directive (77/388/EWG) (available online).

Value-added tax cut for food and public transportation provides most relief to lower income group

We analyzed the distributive effects of the value-added tax based on the 2013 Income and Expenditure Survey (*Einkommens- und Verbrauchsstichprobe*, EVS).[11] We assumed that 100 percent of the value-added tax is passed on to end users. Possible adjustments resulting from the demand for and supply of goods as well as growth and employment effects were ignored. We simulated the value-added tax burden for 2013 and divided it into deciles by net equivalent income.[12] In comparison to the national accounts, the EVS underestimates households' consumption expenditure. This is primarily due to the fact that it does not record non-profit private organizations and underreports affluent households. Further, the EVS was not able to record all of the products subject to reduced tax.

The familiar regressive nature of the value-added tax burden is shown with reference to current income (Table 3). That means poorer households have a much heavier burden relative to income than richer ones. The poorest ten percent of the population had a tax burden of 12.7 percent of its income, on average, while the burden of the richest was only 6.8 percent. This regressive effect is visible across all deciles. The main reason for the effect was savings, which were negative in the lowest decile and increased with rising household income.[13] However, in absolute terms, the households with high incomes paid more value-added tax than low-earners because they consumed disproportionately more. The population in the top decile paid 17.4 percent of the total revenue, while the poorest ten percent paid only 5.7 percent.

11 To do this, we implemented a microsimulation analysis based on the Scientific Use dataset, which is provided by the Research Data Centers of the German Federal Statistical Office and the statistical offices of the federal states. The EVS records around 200 individual items on private consumer spending. Based on these data, we were able to map the value-added tax differentiations quite accurately. For information on the microsimulation model, see Stefan Bach, "Mehrwertsteuerbelastung der privaten Haushalte: Dokumentation des Mehrwertsteuer-Moduls des Konsumsteuer-Mikrosimulationsmodells des DIW Berlin auf Grundlage der Einkommens- und Verbrauchsstichprobe," *DIW Berlin Data Documentation* no. 10 (2005) (available online).

12 In order to classify the population according to gross income, we made people in different household contexts comparable by using per capita household income adjusted for household size (equivalent income). To adjust for household size, we used the conventional international *New OECD Scale*. In it, the head of household receives a weight of 1, the other adults in the household and children 14 and over a weight of 0.5. Children under 14 receive a weight of 0.3. We assigned the population to one of ten groups of the same size (deciles) based on the level of net equivalent income. Also see the term "Äquivalenzeinkommen" in the DIW Glossary (available online, in German only).

13 For purposes of interpretation, it should be taken into account that over longer periods, savings can be disbursed or expended on durable consumer goods or real estate mortgages whose payment functions as long-term "savings." To this extent, the level of regressivity is actually lower when lifetime income is considered.

Table 3

Revenue and distribution impact of value-added tax and reform of tax rates

By deciles of gross equivalent household income, 2013

Equivalized[1] net household income	Revenue status quo			Impact reform of tax rates				
	Total	Taxed at standard rate	Taxed at reduced rate	Reduction of standard rate by one percentage point	Reduction of reduced rate by two percentage points	Reduction of reduced rate by two percentage points for food and local public transportation	Abolition of reduced rate excepting for food and local public transportation	Reduction of reduced rate for food and local public transportation to zero
	Tax revenue, euro billion							
	138,433	126,157	12,276	−6,640	−3,507	−2,541	5,800	−8,893
	Tax revenue as percent of net household income							
1st decile	5.7	5.5	6.9	5.5	6.9	8.2	3.6	8.2
2nd decile	6.6	6.5	7.8	6.5	7.8	8.8	5.1	8.8
3rd decile	7.7	7.6	8.6	7.6	8.6	9.3	6.7	9.3
4th decile	8.5	8.4	9.0	8.4	9.0	9.5	7.6	9.5
5th decile	9.1	9.1	9.4	9.1	9.4	9.8	8.6	9.8
6th decile	10.0	10.0	9.9	10.0	9.9	10.0	9.4	10.0
7th decile	10.6	10.7	10.2	10.7	10.2	10.1	10.6	10.1
8th decile	11.4	11.5	10.8	11.5	10.8	10.5	11.6	10.5
9th decile	13.0	13.1	12.1	13.1	12.1	11.2	14.5	11.2
10th decile	17.4	17.6	15.3	17.6	15.3	12.7	22.3	12.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Tax revenue as percent of net household income							
1st decile	12.72	11.34	1.38	−0.60	−0.39	−0.34	0.34	−1.19
2nd decile	11.51	10.32	1.20	−0.54	−0.34	−0.28	0.37	−0.98
3rd decile	11.08	9.99	1.09	−0.53	−0.31	−0.24	0.40	−0.85
4th decile	10.62	9.63	1.00	−0.51	−0.28	−0.22	0.40	−0.76
5th decile	10.09	9.16	0.93	−0.48	−0.26	−0.20	0.40	−0.70
6th decile	9.82	8.95	0.86	−0.47	−0.25	−0.18	0.39	−0.64
7th decile	9.31	8.52	0.79	−0.45	−0.23	−0.16	0.39	−0.57
8th decile	8.69	7.96	0.73	−0.42	−0.21	−0.15	0.37	−0.51
9th decile	8.11	7.45	0.67	−0.39	−0.19	−0.13	0.38	−0.45
10th decile	6.76	6.23	0.53	−0.33	−0.15	−0.09	0.36	−0.32
Total	9.04	8.24	0.80	−0.43	−0.23	−0.17	0.38	−0.58
	Tax revenue per person, euro							
1st decile	994	886	108	−47	−31	−26	26	−93
2nd decile	1,169	1,047	121	−55	−35	−28	38	−100
3rd decile	1,357	1,224	134	−64	−38	−30	49	−105
4th decile	1,490	1,350	140	−71	−40	−31	56	−107
5th decile	1,603	1,456	147	−77	−42	−32	63	−110
6th decile	1,750	1,597	154	−84	−44	−32	69	−113
7th decile	1,873	1,713	160	−90	−46	−33	78	−114
8th decile	2,004	1,836	168	−97	−48	−34	86	−119
9th decile	2,283	2,094	188	−110	−54	−36	107	−126
10th decile	3,061	2,822	239	−149	−68	−41	165	−143
Total	1,570	1,431	139	−75	−40	−29	66	−101

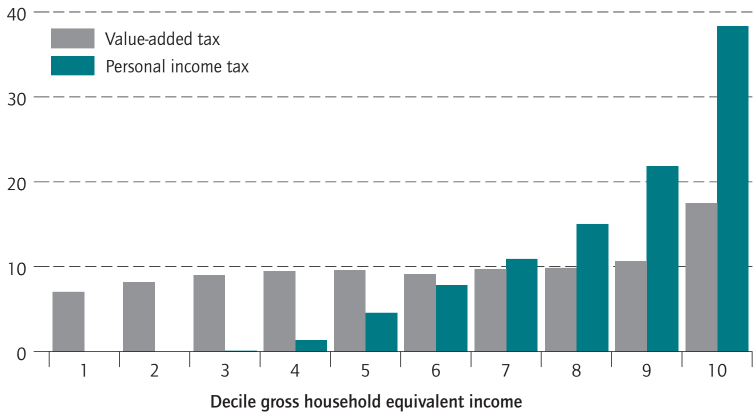
1 Equivalized by new OECD scale.

Source: Microsimulation analysis based on the 2013 Income and Expenditure Survey (EVS), scientific use file provided by the research data centers of the German statistical offices.

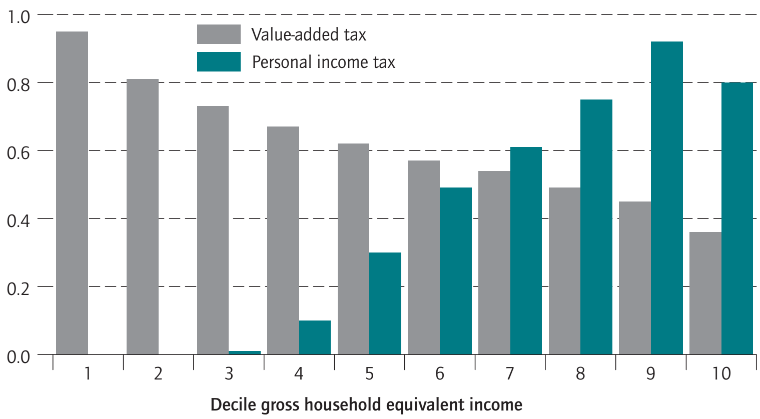
Figure

Tax relief of households: value-added tax in comparison to personal income tax

Distribution of tax relief by deciles in percent



Tax relief as percent of gross household income



Note: Simulation of value-added tax: Correction of underrepresentation of high-income households in the top decile based on information from the income tax statistics, projected to 2017.
Value-added tax: Reduction of standard rate by one percentage point, reduction of reduced rate by two percentage points for food and local public transportation.
Personal income tax: Increase of the upper threshold value of the first progression bracket to a taxable income of 16,250 euro, increase of the upper threshold value of the second progression bracket to a taxable income of 60,000 euro.

Source: Authors' own estimations.

Value-added tax cut gives much stronger relief to lower and middle income households than a reduction of income tax rates.

The regressive effect is stronger for products subject to the reduced tax rate. Food, which represents just under 70 percent of the revenue from reduced value-added tax, is an "inferior good" for which the demand share falls as income rises. Therefore, the tax cut for food counteracts the regressivity of the value-added tax burden.

Lowering the regular rate of the value-added tax by one percentage point would relieve private households by 0.43 percent of net income, on average. In the bottom decile the amount is 0.60 percent, and in the top decile it is 0.33 percent. Lowering the reduced value-added tax rate by two percentage points—for food and public transportation in particular—concentrates relief on the lower income groups. The aggregated volume of relief is evenly distributed across income groups here. Together, the two reform measures would relieve households by 0.60 percent of net income; in the bottom decile, the amount is 0.94 percent, and in the top decile 0.42 percent.

A reform like this would relieve lower and middle income groups to a much greater extent than the income tax reforms that both mainstream parties are currently proposing. To examine this point, we project the effects of the value-added tax reform to 2017 and correct the underrepresentation of the high-income households in the top decile. We compare the resulting revenue and distribution effects to relief via income tax rates by flattening the belly-shaped curve and raising the threshold value for the first maximum tax rate (Figure).[14] The revenue loss of 13 billion euro the latter represents in 2017 would primarily benefit the top decile (38 percent) and the top two deciles (60 percent). The lower half of the population would enjoy income tax relief to a much lesser extent: 6 percent. On the contrary, a reform that targets the value-added tax would distribute 43 percent of the volume of relief to the lower half of the population, while the richest 10 percent would only receive a share of 17.5 percent.

If all other value-added tax reductions were abolished, the relative burdens with regard to net income in comparison to the relief for food and local public transportation would have similar levels across all income groups. In this scenario, the top ten percent of the population would bear 22 percent of the aggregated additional burden, in

14 Based on the Union parties' reform concept (CDU/CSU), the upper threshold value of the first progression bracket, i.e., the kink in the belly-shaped curve, which is currently at a marginal tax rate of 23.97 percent and a taxable income of 13,769 euro, would be shifted "to the right," ending up at a taxable income of 16,250 euro. And as of the first maximum tax rate of 42 percent, the upper threshold value of the second progression bracket would be raised to a taxable income of 60,000 euro. The Social Democrats (SPD) have proposed similar income tax reform that includes relief from the solidarity surcharge for lower and middle income households as of 2020 and additional tax increases for high income households.

line with its higher income, and the lowest 30 percent would only have to contribute 15 percent.

The relief effect in the lower deciles may be slightly overestimated, since social welfare benefits to cover subsistence costs play a major role in these income groups. Basic subsistence transfers are adjusted for inflation on an annual basis. To the extent that lowering the value-added tax puts a damper on inflation, it will lead to a lower level social welfare transfers in subsequent years.

Conclusion

Due to the regressive effect of the value-added tax, lower and middle income groups bear the greatest proportion of the value-added tax burden. The poorer half of the population pays 38 percent of the revenue generated by the value-added tax; up to and including the eighth decile, the proportion is just under 70 percent. The top decile's contribution is 17.4 percent. The regressive effect is even stronger for products subject to the reduced tax, and the related revenue is concentrated somewhat more heavily on lower income groups.

The distribution of personal income tax revenues in Germany presents a very different picture.[15] The top decile pays 56 percent of the revenue generated by the income tax, while the poorer half of the population's contribution is only 3.4 percent of the total revenue generated. It follows that the lower and middle income groups would benefit minimally from cutting the income tax rate, even if the reform targeted the basic personal exemption or basic tax rate.

If policy makers want to effectively relieve the majority of the population with lower and middle incomes, cutting the value-added tax would be the more precisely targeted alternative. Lowering the standard value-added tax rate by one percentage point (from 19 to 18 percent) would mean relief worth eleven billion euro to consumers. The reduced value-added tax rate could also be cut by two percentage points to five percent on food and local public transportation only. This would provide relief worth 3.8 billion euro to private households. In total, these reform measures would yield fiscal relief of just under 15 billion euro. If the remaining value-added tax deductions were abolished at the same time, the total relief generated would be 7.4 billion euro.

However, the issue is how quickly lowering the value-added tax would affect consumers. The value-added tax increase to 19 percent in 2007 was announced early on, and the business cycle upswing was quickly passed on to consumers.[16] Great Britain implemented a temporary value-added tax decrease from 17.5 to 15 percent from December 2008 to January 2010 to abate the recession. At the beginning, the effects were almost completely passed on to consumers.[17] In view of the currently favorable economic and consumer spending trends in Germany, the results of cutting the value-added tax might be passed on to consumers to a limited extent only and have pro-cyclical effects.

In the medium term, the resulting tax relief should be successfully passed on—as long as there is an adequate level of competition in the market. The value-added tax reform would increase domestic demand for goods from both domestic and foreign sources, also contributing to a reduction in Germany's foreign trade surplus. Given the magnitude of the value-added tax cuts considered in the present study, up to 15 billion euro annually, the effects on the current account balance would be minimal at best. But politically, the symbolic significance might be great indeed.

15 Stefan Bach and Hermann Buslei, "Income Tax Reform."

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17 Richard Blundell, "Assessing the Temporary VAT Cut Policy in the UK," *Fiscal Studies* 30 (1) (2009): 31–38 (available online); and Thomas Crossley, Hamish Low and Cath Sleeman, "Using a temporary indirect tax cut as a fiscal stimulus: evidence from the UK," *IFS Working Paper* W14/16 (2014) (available online).

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SIX QUESTIONS FOR STEFAN BACH

»Relief for the middle class through value-added tax cuts«

1. Mr. Bach, to what extent could cutting the value-added tax rate relieve low- and middle-income earners? If you want to provide significant fiscal relief to lower and middle income groups, you should focus more on the value-added tax and less on the income tax. The value-added tax puts the burden on consumption, and consumer spending accounts for a much higher proportion of lower incomes than higher incomes. High earners pay high direct taxes and social security contributions. They are also able to save a large portion of their income, so they are less affected by the value-added tax burden than low earners are. This is called a regressive tax burden and refers to current income.

2. Which rate should the value-added tax be lowered to in order to create tangible relief for consumers? The current regular value-added tax rate is 19 percent. It could be cut to 18 percent. This would provide consumers with relief worth 11 billion euro. In addition, policy makers could cut the reduced tax rate for food and public transportation to five percent. This would also provide additional relief to lower income groups because food and public transportation costs account for a relatively high portion of their spending. The result would be a tax relief volume of 15 billion euro, which is frequently called for in politics today.

3. Would cutting the value-added tax have any effects on consumption? Cutting the value-added tax would not only improve the distribution of the tax burden, but also increase consumption. We don't need the latter at present because the economy is in good shape. However, we should increase private consumption in the long term—not least in view of the major macroeconomic imbalances and Germany's high account surpluses. Cutting the value-added tax would play a role in stimulating consumption and in turn, imports.

4. How great is the risk of companies failing to pass the lower value-added tax on to consumers? Of course companies must first pass the value-added tax cut on to consumers. There is no blanket guarantee that they will do so. There must be adequate competitive pressure as well. In the current economic situation, it could take a few years until consumers can feel the value-added tax cut in their purses. However, that will indeed be the case in the long term because competitive pressure is high enough in most sectors.

5. How long do you think it will take? We can assume that the process of passing on the cut will be completed in five years at the latest. After all, competition will force companies to pass the tax relief on to consumers in the form of lower prices.

6. Why does the debate on tax reform appear to be ignoring the option to cut the value-added tax rate? The value-added tax has been gradually expanded in the past two decades and is now a main cornerstone of government finance. The revenues from it have allowed the government to reduce direct taxes and finance the social security system as a means of lowering social security contributions. This has become an established mechanism, and fiscal policy is reluctant to change it for no reason. And on the other hand, the issue of passing on the cut has not been clarified. If value-added taxes are raised, companies will obviously raise their prices as well. It is not universally apparent that companies will also permanently lower their prices if value-added taxes are cut.

Interview by Erich Wittenberg