COMMITTEE ON WAYS & MEANS

Tax Reform and Consumption-Based Tax Systems

July 26th, 2011

Questions for the Record from Dr. Tom Price

FairTax Panel:

Laurence J. Kotlikoff
Professor of Economics, Boston University
(Accompanied by David Tuerck, Executive Director, Beacon Hill Institute)

Questions to be submitted for the record:

- Dr. Kotlikoff and Dr. Tuerck: What is the size of the FairTax base relative to the income tax and other plans? Would a FairTax base be larger than a VAT base?

- Dr. Kotlikoff and Dr. Tuerck: What impact does a uniform tax rate and a prebate structure as offered in H.R. 25 have on marginal tax rates?

- Dr. Kotlikoff and Dr. Tuerck: According to your testimony the FairTax would be strongly progressive. Critics insist that any form of a national sales tax is a regressive tax structure. How is the FairTax, specifically H.R. 25, progressive in structure?

- Dr. Kotlikoff and Dr. Tuerck: Mr. Bartlett has asserted that the actual rate of the FairTax is 30%, not 23% as proponents say. Many commentators also argue the required rate in order to be revenue neutral would need to be much higher than 23%. Can you explain the tax-inclusive structure and justify the 23% rate as revenue neutral?

- Dr. Kotlikoff and Dr. Tuerck: Critics suggest that because the FairTax taxes government purchases, it would impose a new burden on government, particularly on state and local government. Would you please address that concern?

- Dr. Kotlikoff and Dr. Tuerck: To what extent does the current system hurt American exporters? What affect would the FairTax have on American trade more broadly?

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Answers to Questions for the Record

Addressed to Drs. Laurence J. Kotlikoff and David G. Tuerck

September 15, 2011

Question (1):

Dr. Kotlikoff and Dr. Tuerck: What is the size of the FairTax base relative to the income tax and other plans? Would a FairTax base be larger than a VAT base?

Answer:

Table 1 displays the tax base for four tax systems for 2010 and 2005 – the FairTax, the Current System, the flat tax and the business transfer tax, which is a VAT. In 2005, the FairTax had the largest tax base; at $9.355 trillion, it is $256 billion greater than the BTT base ($9.099 trillion), $1.822 trillion greater than the flat tax base ($7.533 trillion), and $2.322 trillion greater than the current system ($7.033 trillion).

Recent economic performance has altered the results of the base comparison slightly for 2010. On a net basis, the BTT has the largest tax base; at $9.529 trillion, it is $18 billion higher than the FairTax base ($9.511 trillion), $915 billion larger than the flat tax base ($8.614 trillion), and $1.529 trillion more than the current system ($8.000 trillion). The FairTax and BTT bases are largest because they avoid the exemptions and deductions characteristic of the other systems.

Table 1: A Comparison of the Tax Bases of Different Tax Systems

Tax Plan	Base 2010 ($ trillions)	Base 2005 ($ trillions)
FairTax	9.511	9.355
Current System	8.000	7.033
Flat Tax	8.614	7.533
Business Transfer Tax	9.529	9.099

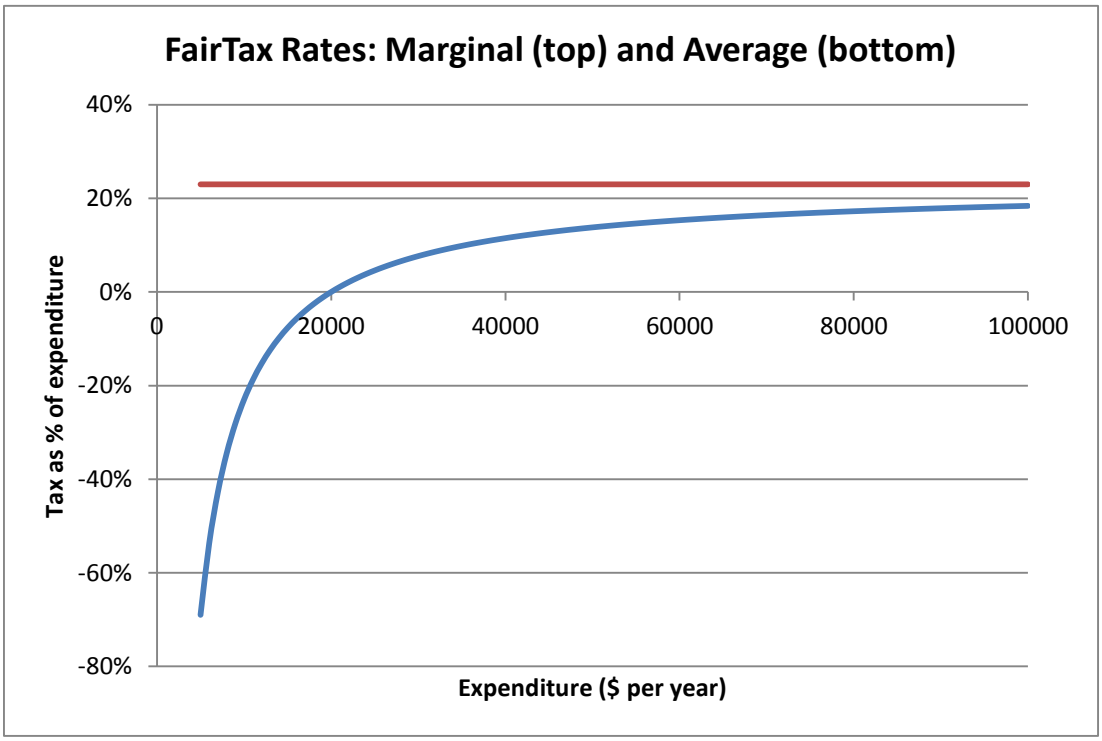
The VAT, flat tax and FairTax bases should be roughly the same, as all are levied on consumption. Differences would arise around details concerning exemptions and the size of the FairTax prebate. The VAT and FairTax are based on the destination principle and therefore tax imports but not exports. The flat tax is based on the origin principle and therefore taxes exports but not imports.

Question (2):

Dr. Kotlikoff and Dr. Tuerck: What impact does a uniform tax rate and a prebate structure as offered in H.R. 25 have on marginal tax rates?

Answer:

The FairTax would have a *marginal* tax rate of 23% (on expenditures) for all individuals, including the poor. However, someone at the poverty line would have a 0% *average* tax rate. This diagram shows the effect:



We may also address the question by comparing the marginal effective federal tax rates on working (i.e. on labor income) between the FairTax and the current system. Laurence Kotlikoff and David Rapson provide Table 2 below, which compares current-system and FairTax marginal rates.[1]

[1] Laurence J. Kotlikoff and David Rapson, *Comparing Average and Marginal Tax Rates under the FairTax and the Current System of Federal Income Taxation*, October 2006.

Table 2: Marginal Effective Federal Tax Rates on Working, FairTax vs. the Current System

Single Households						
Total Household Income	Young Adult (Age 30)		Middle Aged (Age 45)		Senior (Age 60)	
	Current System	FairTax	Current System	FairTax	Current System	FairTax
$10,000	-23.1%	23.0%	-23.2%	23.0%	29.8%	23.0%
$15,000	33.3%	23.0%	33.8%	23.0%	22.4%	23.0%
$25,000	34.2%	23.0%	47.7%	23.0%	26.2%	23.0%
$35,000	50.2%	23.0%	28.3%	23.0%	29.0%	23.0%
$50,000	28.2%	23.0%	22.4%	23.0%	36.5%	23.0%
$100,000	27.6%	23.0%	27.5%	23.0%	28.6%	23.0%
$250,000	41.5%	23.0%	37.2%	23.0%	35.5%	23.0%
Married Households						
Total Household Income	Young Adult (Age 30)		Middle Aged (Age 45)		Senior (Age 60)	
	Current System	FairTax	Current System	FairTax	Current System	FairTax
$20,000	33.8%	23.0%	41.4%	23.0%	23.5%	23.0%
$30,000	33.7%	23.0%	47.6%	23.0%	28.2%	23.0%
$50,000	28.0%	23.0%	28.2%	23.0%	28.2%	23.0%
$70,000	28.3%	23.0%	28.2%	23.0%	32.7%	23.0%
$100,000	33.5%	23.0%	33.7%	23.0%	34.3%	23.0%
$200,000	35.3%	23.0%	31.2%	23.0%	37.5%	23.0%
$500,000	38.4%	23.0%	38.4%	23.0%	37.2%	23.0%

It is also useful to consider the marginal effective federal tax rates on saving. The FairTax rate on savings is 0%, in contrast with the current system, which taxes much of personal saving (unless it is put into an IRA or equivalent vehicle). Kotlikoff and Rapson estimate the marginal effective federal tax rates on saving based on the assumption that the return would be taxed at the capital gains or dividend rate; these are shown in Table 3.

Table 3: Marginal Effective Federal Tax Rates on Savings Assuming Return is Taxed at Capital Gains/Dividend Rate

	Single Households			Married Households		
Total Household Income	Young Adult (Age 30)	Middle Aged (Age 45)	Senior (Age 60)	Young Adult (Age 30)	Middle Aged (Age 45)	Senior (Age 60)
$10,000	24.6%	25.0%	21.5%	26.3%	25.9%	21.3%
$15,000	24.6%	25.1%	20.7%	26.9%	26.1%	21.4%
$25,000	24.7%	26.5%	20.1%	27.3%	26.5%	21.1%
$35,000	25.2%	26.9%	24.0%	27.8%	27.2%	23.7%
$50,000	25.3%	27.8%	23.9%	31.9%	29.2%	27.6%
$100,000	28.8%	33.8%	38.1%	32.9%	34.1%	29.7%
$250,000	30.4%	33.7%	26.9%	39.8%	38.3%	29.8%

Question (3):

Dr. Kotlikoff and Dr. Tuerck: According to your testimony the FairTax would be strongly progressive. Critics insist that any form of a national sales tax is a regressive tax structure. How is the FairTax, specifically H.R. 25, progressive in structure?

Answer:

Many people view moving to consumption taxation as regressive. These same people would view switching from our current system to a tax on existing wealth, whose proceeds are used to lower the taxation of labor income, as highly progressive. But it is not possible to hold both beliefs since a consumption tax is identical to a tax on existing wealth and current and future wages, and a tax on existing wealth and current and future wages is identical to a tax on consumption.

If people who oppose a consumption tax understood that it embeds a significant wealth tax, they would likely support it. In this regard, it is paradoxical that Democrats appear to oppose consumption taxation, whereas Republicans appear to support it.

Economists measure tax progressivity in terms of lifetime net tax rates, specifically as the ratio of the present value of lifetime net tax payments divided by the present value of lifetime resources (initial wealth plus the present value of future labor earnings).

Politicians like to measure tax progressivity in terms of current taxes divided by current income. But current income is not a useful measure of a person or household's economic resources. Warren Buffett may have zero current income this year if his capital losses are large enough to offset his capital gains, but his personal resources are immense. By measuring tax progressivity incorrectly, politicians conclude that a consumption tax is regressive, whereas economists view

it as proportional. The economists are right. Since a consumption tax is, in essence a tax on existing wealth and the present value of wages, taxing consumption at a fixed rate is taxing economic resources (existing wealth and the present value of wages) in proportion to the level of those resources.

By adding its demogrant/prebate, the FairTax transforms a proportional consumption tax into a progressive one. Table 4 below, shows that the FairTax reduces lifetime net tax rates substantially (thanks to its base broadening), while enhancing tax progressivity.[2]

Table 4: Average Remaining Federal Lifetime Tax Rates – the Current System vs. the FairTax

Single Households						
Total Household Income	Young Adult (Age 30)		Middle Aged (Age 45)		Senior (Age 60)	
	Current System	FairTax	Current System	FairTax	Current System	FairTax
$10,000	-12.3%	-17.6%	6.2%	-13.5%	6.5%	-27.1%
$15,000	-4.0%	-5.0%	11.3%	-10.0%	9.8%	-28.0%
$25,000	10.2%	5.6%	17.7%	4.7%	14.1%	-6.2%
$35,000	18.5%	10.1%	20.7%	5.4%	16.7%	-5.9%
$50,000	21.1%	13.5%	23.5%	11.4%	21.5%	3.9%
$100,000	27.5%	17.8%	30.3%	14.7%	32.1%	9.2%
$250,000	27.9%	20.8%	33.6%	19.7%	40.8%	18.2%
Married Households						
Total Household Income	Young Adult (Age 30)		Middle Aged (Age 45)		Senior (Age 60)	
	Current System	FairTax	Current System	FairTax	Current System	FairTax
$20,000	3.1%	1.3%	11.0%	1.5%	7.2%	-11.0%
$30,000	12.5%	7.8%	15.3%	3.4%	10.1%	-10.5%
$50,000	19.1%	13.4%	19.6%	11.1%	14.2%	1.4%
$70,000	21.1%	15.6%	21.3%	11.6%	17.0%	2.2%
$100,000	23.2%	17.4%	24.0%	14.7%	22.4%	7.9%
$200,000	27.2%	19.7%	29.0%	17.0%	32.2%	12.3%
$500,000	30.6%	21.6%	35.6%	20.5%	41.5%	19.3%

[2] Ibid. See also David G. Tuerck, Jonathan Haughton, Paul Bachman, Alfonso Sanchez-Penalver, and Phuong Viet Ngo, *A Distributional Analysis of Adopting the FairTax: A Comparison of the Current Tax System and the FairTax Plan* (February 2007):4, http://www.beaconhill.org/FairTax2007/DistributionalAnalysisFairTaxBHI4-25-07.pdf.

The traditional approach to measuring the distributional effects of a tax is (i) to make assumptions about the incidence of individual taxes (e.g. gasoline taxes are paid by those who buy gasoline, personal income taxes are borne by workers, etc.), and then (ii) allocate the taxes by income or expenditure per capita decile. Some results are shown below from a study by Haughton et al. (2009).[3] Table 5 displays the results.

The results of the upper left panel show that if we divide people into deciles based on spending per capita, the FairTax would allow more spending for those in the poorest seven deciles, and reduce it for those in the top two deciles; over the long-term, when the FairTax has had time to raise GDP, only the top decile by this measure would lose from the FairTax.

As mentioned, some politicians prefer to show the breakdown of taxes by income (rather than expenditure) per capita. By this measure, the FairTax would hurt the poorest 80% of the income distribution in the short-term, and the poorest half in the long-term. This measure (as also mentioned) runs counter, however, to economic logic.

A second, complementary, approach to the distributional effects of the FairTax is to measure the average remaining federal lifetime tax rates of the current system, and compare them to the FairTax. Using a set of plausible profiles of individuals with different ages, incomes, and wealth, Kotlikoff and Rapson do this calculation. They show that when measured against income, both the current system and FairTax are progressive, with the FairTax favoring low-income households more than the current system.

In a separate study of the economic effects of the FairTax, the Beacon Hill Institute (BHI) attempted to capture the effect of income mobility by households.[4] The study demonstrates that, over the long term, households in all income categories have a nearly certain probability of being better off under the FairTax compared to the current income tax.

We considered the realistic scenario, in which households experience different income levels over their lifetimes. We know, in fact, that individual households typically experience an increase in income as they advance from youth to middle age, which many taxpayers will do over a 25-year period. For this scenario, we considered the income mobility of households in each group over the 25-year time period. The results are reported on the last line of Table 6 and show that 91% of households will be better off over their lifetimes as a result of the FairTax. Even the losers would not lose by much; the biggest loser would see his or her utility fall by just 1.1%. Moreover, households in all income classes, on average, experience an increase in lifetime utility under the FairTax when compared to the current income tax. The

[3] Jonathan Haughton, Paul Bachman, Alfonso Sanchez-Penalver, Ngo Viet Phuong, and David G. Tuerck, 2009, Is the FairTax Fair*?*, Suffolk University.

[4] See David G. Tuerck, Jonathan Haughton, Keshab Bhattarai, Phuong Viet Ngo, Alfonso Sanchez-Penalver, *The Economic Effects of the FairTax: Results from the Beacon Hill Institute CGE Model* (February 2007):1, http://www.beaconhill.org/FairTax2007/EconomicEffectsFTBHICGEModel4-30-07.pdf.

Table 5: Expenditure and Net Income per Capita by Decile, with and without the FairTax

Expenditure per Capita Deciles	Expenditure per Capita: Under Current Laws	With FairTax Net of Tax (Static)	Change (%)	With FairTax Net of Tax (Year 25)	Change (%)	Income per Capita: Gross, under Current Laws	Net of Tax, under Current Laws	Net of Tax, under FairTax (Static)	Change (%)	Net of Tax, under FairTax (Year 25)	Change (%)
	A	B	C	D	E	F	G	H	I	J	K
1 (poor)	3,437	5,040	47	5,246	53	11,768	10,245	11,849	16	13,057	27
2	5,900	7,911	34	8,265	40	17,486	14,903	16,914	13	18,710	26
3	7,985	9,854	23	10,333	29	19,333	16,235	18,104	12	20,089	24
4	10,184	11,996	18	12,607	24	21,925	18,183	19,995	10	22,247	22
5	12,725	14,545	14	15,309	20	25,610	21,048	22,868	9	25,498	21
6	16,027	17,366	8	18,328	14	27,481	22,340	23,679	6	26,502	19
7	20,322	20,863	3	22,082	9	29,731	24,012	24,553	2	27,606	15
8	26,404	26,337	0	27,921	6	34,770	27,769	27,701	0	31,272	13
9	37,155	35,242	-5	37,471	1	41,862	33,207	31,293	-6	35,592	7
10 (rich)	92,652	83,638	-10	89,197	-4	82,028	62,612	53,598	-14	62,023	-1
Total	**23,278**	**23,278**	**0**	**24,675**	**6**	**31,199**	**25,055**	**25,055**	**0**	**28,259**	**13**

Income per Capita Deciles	Expenditure per Capita: Under Current Laws	With FairTax Net of Tax (Static)	Change (%)	With FairTax Net of Tax (Year 25)	Change (%)	Income per Capita: Gross, under Current Laws	Net of Tax, under Current Laws	Net of Tax, under FairTax (Static)	Change (%)	Net of Tax, under FairTax (Year 25)	Change (%)
	L	M	N	O	P	Q	R	S	T	U	V
1 (poor)	16,406	12,980	-21	13,964	-15	1,243	619	-2,807		-2,680	
2	13,535	11,133	-18	11,945	-12	8,376	7,584	5,181	-32	6,042	-20
3	15,761	13,378	-15	14,324	-9	11,540	10,230	7,847	-23	9,032	-12
4	16,701	14,749	-12	15,751	-6	14,872	12,817	10,865	-15	12,393	-3
5	18,222	16,483	-10	17,576	-4	18,322	15,626	13,887	-11	15,769	1
6	19,525	18,399	-6	19,570	0	22,660	19,010	17,884	-6	20,211	6
7	20,942	20,626	-2	21,883	4	28,229	23,278	22,962	-1	25,862	11
8	25,801	25,593	-1	27,141	5	35,720	28,967	28,759	-1	32,428	12
9	30,390	31,697	4	33,520	10	48,460	38,655	39,962	3	44,939	16
10 (rich)	55,500	67,747	22	71,077	28	122,569	93,765	106,012	13	118,600	26
Total	**23,278**	**23,278**	**0**	**24,675**	**6**	**31,199**	**25,055**	**25,055**	**0**	**28,259**	**13**

percentage increase in utility, shown in the column labeled "Mean," ranges from 1.4% for the $50,000 to $74,999 income class to 3.0% for the more than $150,000 income class.

We also undertook a second exercise, in which we started with a household in income category "less than $10,000" (or $10,000 to $24,999) instead of picking the income category of the household randomly. We then used a transition matrix to trace out sequences of income over time, again for samples of 10,000. The result is a measure of the expected change in well-being, due to the FairTax, for someone who begins in income category "less than $10,000" (or $10,000 to $24,999) etc.

The results are also shown in Table 6, and differ for each initial income bracket. For instance, if a household is initially in income group $10,000 to $24,999, there is a 94% probability that the household will be better off (in a lifetime utility sense) with the FairTax than without. Households who begin in the top bracket are almost certain to see an improvement in their condition (with a probability of 99.7%), as are those at the bottom of the income distribution (probability of 98%).

Table 6: Income Mobility and Utility Change Compared to Benchmark Models

Income class	Sample	Mean	Median	Min.	Max.	Probability of being better off
Less than $10,000	10,000	2.0%	1.9%	-0.6%	11.1%	98%
$10,000 - $24,999	10,000	1.7%	1.5%	-0.9%	13.4%	94%
$25,000 - $49,999	10,000	1.5%	1.3%	-1.0%	10.2%	90%
$50,000 - $74,999	10,000	1.4%	1.2%	-1.2%	11.1%	87%
$75,000 - $99,999	10,000	1.7%	1.4%	-1.0%	11.0%	89%
$100,000 - $149,999	10,000	1.9%	1.6%	-1.2%	12.4%	90%
More than $150,000	10,000	3.0%	2.7%	-0.3%	13.9%	100%*
Population (all classes)	10,000	1.7%	1.5%	-1.1%	11.8%	91%

Note: * 99.7%, which rounds to 100%.

So the choice of how to present the distributional effects matters a lot. The main problems with comparing tax payments to current income are (i) current income is more volatile than spending, and so is a poorer guide to "lifetime" income, (ii) welfare comes from consumption and leisure rather than income and (iii) measures of current income are particularly unreliable at the bottom of the distribution. For these reasons, we find the breakdown of tax incidence by expenditure per capita to be more compelling.

Question (4):

Dr. Kotlikoff and Dr. Tuerck: Mr. Bartlett has asserted that the actual rate of the FairTax is 30%, not 23% as proponents say. Many commentators also argue the required rate in order to be revenue neutral would need to be much higher than 23%. Can you explain the tax-inclusive structure and justify the 23% rate as revenue neutral?

Answer:

The answer to Mr. Barlett lies in the distinction between a "tax-inclusive" and a "tax-exclusive" sales tax rate. Suppose that a good, say a pizza, reaches the counter of a retailer and that the retailer needs to collect $10 in order to cover his costs (including profit). If there is no sales tax, the retailer charges his customer $10, and that is the end of it. But now suppose the government wants to impose a sales tax high enough to collect $3.00 from this transaction (given that production cost remains unchanged, at $10.00). The retailer must now charge

$13.00 for the same pizza. The $3.00 that goes to the government is 23% of the $13.00 that the retailer must now charge but 30% of the $10.00 that he charged before the tax was imposed. If the government wanted to impose a uniform tax on all retail sales, it would write a law that requires retailers to pay 23% of the price they charge their customers, *inclusive* of the sales tax, or 30% of the price they charge *exclusive* of the sales tax.

The designers of the FairTax wrote the law in terms of the *tax-inclusive* rate. Had they wanted to, they could just as well have written it in terms of the *tax-exclusive* rate. The two rates are the opposite sides of the same coin.

Mr. Bartlett and others have criticized the law as written deliberately to understate the true FairTax rate. Whatever motives might have been at work here, there is an argument for using the tax-inclusive rate. The taxes to be replaced by the FairTax are all expressed in tax-inclusive terms. If the pizza retailer has $100,000 in gross income and if his tax liability on that income under current law is $23,000, then we would say his effective income tax rate is 23%. Congress could have written the current law as requiring this taxpayer to pay 30% of his after-tax income of $77,000, but it did not; instead, they wrote it in terms of the tax-inclusive rate. The designers of the FairTax wanted to frame their proposal in terms of the tax-inclusive rate in order to facilitate an apples-to-apples comparison with the way current law is written.

The designers of the FairTax determined that the required tax-inclusive rate would be 23%. This is intended to be a revenue-neutral rate in the sense that it would fund all current federal expenditures funded by taxes to be replaced by the FairTax, plus the "prebate." Once the law was put in place, there would be periods in which the FairTax would yield somewhat more than this amount of revenue and periods in which it would yield somewhat less, depending on the state of the economy and on how much Congress wanted to spend. To the extent that personal consumption, which makes up 82% of the FairTax base, is more stable than personal and corporate income over the business cycle, the legislated rate would raise more than is raised under current law during periods of contraction and less under periods of expansion.

In 2006, we and our co-authors estimated the revenue-neutral rate for 2007 to be 23.82%.[5] We estimate that the rate that would have been required for 2010 was 20.13%. These calculations underestimate the required rate insofar as we ignored non-compliance and overestimated the required rate insofar as we ignored the "dynamic," expansive effects that the new law would have (after a few years) on personal consumption.

It is important to keep in mind that the correct FairTax rate, whatever it is, does not depend on how the introduction of the FairTax affects producer costs or retail prices. In the foregoing example, the retailer raised his price by 30%, from $10.00 to $13.00. If we consider retailers in the aggregate, however, we have to keep in mind that the general price level is not something that an individual retailer controls; rather it is the monetary authorities, particularly the governors of the Federal Reserve System (the Fed), who determines the general price level. If

[5] Paul Bachman, Jonathan Haughton, Laurence J. Kotlikoff, Alfonso Sanchez-Penalver and David G. Tuerck, "Taxing Sales under the FairTax: What Rate Works?" *Tax Notes,* November 13, 2006, p. 672.

we adopt the simplifying assumption that a 30% rise in the general price level requires a 30% rise in the money supply, then the general price level will rise by 30%, as in that example, only if the Fed "accommodates" by increasing the money supply accordingly.

We might imagine an opposite scenario in which the Fed doesn't raise the money supply at all, which is to say it does not accommodate the imposition of the FairTax. What then happens to our pizza retailer? The answer is that the costs he incurs in form of wages and other costs would have to fall by 23%, so that if production cost was $10.00 before the imposition of the FairTax, it would have to fall to $7.70 under the FairTax and "non-accommodation." Because the market price would then remain constant at $10.00, a tax rate of 23% would yield $2.30 in revenue.

Interestingly, the "real" effects of both scenarios – accommodation and non-accommodation – are identical. To see why, consider what happens to after-tax incomes and to tax revenues in the two scenarios. Suppose that the government taxed income at 23% before the FairTax was imposed. Workers and other factor suppliers who produced the pizza paid $2.30 in income taxes for every pizza produced, leaving them with $7.70 in after-tax income. Thus 23% (= $2.30/$10.00) of production went to government and the remaining 77% (= $7.70/$10.00) to the factor suppliers.

Next suppose that the FairTax is imposed and that the Fed accommodates. As before, 23% of production (= $3.00/$13.00) goes to government and 77% ($10.00/$13.00) to factor suppliers. Now, finally, imagine that the FairTax is imposed and the government does not accommodate. Again, 23% of production (= $2.30/$10.00) goes to government and 77% ($7.70/$10.00) to factor suppliers. The required rate and the share of income going to government and to the private sector do not depend on what happens to prices or production costs.

Question (5):

Dr. Kotlikoff and Dr. Tuerck: Critics suggest that because the FairTax taxes government purchases, it would impose a new burden on government, particularly on state and local government. Would you please address that concern?

Answer:

The FairTax imposes no new burden on the federal government, insofar as it merely replaces taxes implicitly paid by the federal government to itself under current law with a new tax that it also pays to itself. Suppose that it costs the federal government $100,000 a year to employ a government worker or purchase materials, and suppose that the government taxes the income received by the worker or the producers of those materials at 23%. These taxes come out of the money that government pays in order to secure the services of the government worker or of the materials it buys. The government, in effect, charges itself and pays itself $23,000 in taxes on this transaction.

Now suppose the government eliminates the income tax and replaces it with the FairTax. If the Fed accommodates, the cost of the worker or materials will rise to $130,000, and, at 23%, the government will charge itself and pay itself $30,000 in taxes. If the Fed does not accommodate, the cost will remain constant, and the government will charge itself and pay itself $23,000 in taxes. In all three instances – current law, the FairTax with accommodation and the FairTax without accommodation – the government charges itself and pays itself taxes at the rate of 23%. Hence, adoption of the FairTax does not raise the cost of government.

The answer is somewhat more complicated, but essentially the same, for state and local governments. Just as with the federal government, state and local governments already, in effect, pay taxes to the federal government on their purchases of labor and materials. The FairTax just changes the way that the federal government collects those taxes, from taxing the income of persons who supply labor services or materials, to taxing state and local government purchases of the same services or materials. Either way, state and local government has to pay the federal taxes – indirectly through the taxed incomes of persons who supply services or materials, or directly on the purchases of those services or materials.

The difference lies in the way that state and local governments collect their own taxes. Suppose that a state imposes a 5% sales tax on the pizza in our earlier example. Under current law, and given that the cost of producing the pizza is $10.00, the state collects 50¢ on each pizza sold. Now suppose that the FairTax is imposed and that the Fed accommodates, so that market prices rise by 30%. The price of a pizza rises from $10.00 to $13.00. If the state continues to tax the sale of the pizza on the price, exclusive of the FairTax, i.e., on the $10.00 price, the state will still collect 50¢ on each pizza sold. But because prices are now 30% higher than before, that same 50¢ is worth 23% less than it was before. State revenues have not kept up with prices. The solution, however, is simple: the state should impose the sales tax on the tax-inclusive price of $13.00. It will then collect 65¢ in tax revenue, which is exactly 30% more (in nominal terms) than it collected before. The answer, then, is that the FairTax imposes no new burden on state and local governments provided they adjust their tax laws in order to prevent the real value of their tax base from eroding under the FairTax.

Question (6):

Dr. Kotlikoff and Dr. Tuerck: To what extent does the current system hurt American exporters? What affect would the FairTax have on American trade more broadly?

Answer:

The current tax system is not particularly harmful to exporters; sales taxes are not levied on exports, but of course the cost of exports reflects the costs of taxes on capital and labor.

The FairTax would have a minimal impact on American trade. Taking a microeconomic view, we can make either of the following assumptions.

1) The Fed increases the money supply to accommodate the FairTax. Then:
    a. In the United States, there will be no change in the price of U.S. imports from foreign countries relative to the price of domestically produced goods.
    b. In foreign countries, there will be no change in the price of imports from the United States relative to the price of domestically produced goods.
    c. Thus there will be no change in the U.S. trade balance and no change in the exchange rate.

2) The Fed does not increase the money supply to accommodate the FairTax. Then:
    a. In the United States, the switch to the FairTax would make imports less attractive (because imports would now cost more than domestically produced goods). In foreign countries, it would also make imports from the United States more attractive (because imports from the United States would now cost less than domestically produced goods). The immediate result would be fewer U.S. imports and more U.S. exports, which is to say, an improvement in the U.S. trade balance.
    b. However, the exchange rate is a market price, which equilibrates the demand for and supply of foreign exchange. A rise in exports, coupled with a fall in imports, would lead to an excess demand for dollars, which in due course would lead to an appreciation of the dollar in order to re-establish market equilibrium over time, thus eliminating the temporary improvement in the U.S. trade balance.

There may be macroeconomic consequences too, but these are somewhat harder to pin down. Among the effects:

1) In the short-run, U.S. households would save more under a FairTax. Some of this money may seek opportunities overseas, in which case the dollar would depreciate (in real terms) in the short-run. We may think of this as the U.S. needing to earn more foreign exchange in order to be able to pay for investments overseas. Over a longer horizon the dollar would appreciate as the proceeds of these investments are repatriated.

2) If the abolition of the corporation income tax (and other direct taxes) makes the U.S. a more attractive place to do business, foreign direct investment may flow into the country, causing the dollar to appreciate.

3) Over the very long run, the FairTax, by encouraging investment, should make U.S. workers more productive. Higher labor productivity is associated with currency appreciation, without any change in the balance of trade.

A Technical Explanation of the Microeconomic Impact of the FairTax on American Trade

The supply price of an *import* is given by the international supply price times the exchange rate

$$P_i^s = eP_i^*,$$

where *e* is expressed in terms of dollars per foreign currency (e.g., \$1.40/€), and P_i^* is measured in foreign currency (e.g., in euros). If there is no tax on the import, then the demand (i.e., consumer) price will be the same as the supply price, so

$$P_i^s = P_i^d.$$

The supply price of a *domestic good* is based on the wage divided by the marginal product of labor

$$S_i^s = \frac{w}{MP_{Li}}.$$

Again, if there is no indirect tax, the supply price will equal the demand price for the local good, so

$$S_i^s = S_i^d.$$

At a first approximation, competition forces the prices to be close, so

$$P_i^d \sim S_i^d.$$

With some algebraic manipulation we then have

$$e \sim \frac{w}{P_i^* MP_{Li}}.$$

Case 1: Price Accommodation

Wage rates remain unchanged in nominal dollar terms (because, although workers do not need to be compensated enough to pay income tax, they do need to be compensated enough to pay FairTax when they purchase goods and services). Imports will now pay FairTax (t), so

$$P_i^d = P_i^s(1+t) = eP_i^*(1+t)$$

and domestic goods will now pay FairTax, so

$$S_i^d = S_i^s(1+t) = \frac{w}{MP_{Li}}\ 1+t\ .$$

There is no reason to change the quantity of imports relative to domestic goods, so the exchange rate will be unchanged. This can also be seen mechanically, so we still have:

$$e \sim \frac{w}{P_i^* MP_{Li}}.$$

Likewise, the price of our exports would not change, and so their relative attractiveness on international markets would not change either.

Case 2: No Price Accommodation

In this case, wage rates fall in nominal dollar terms by the reduction in the personal income tax (t_y, which we assume for simplicity equals t), so $w_{new} = w/(1+t)$, and the domestic producer price will be lower. As before, consumers will now have to pay, for imports:

$$P_i^d = P_i^s(1+t) = eP_i^*(1+t).$$

But now domestic goods sell at the same price as before, given by:

$$S_i^d = S_{i,new}^s\ 1+t\ = \frac{w_{new}}{MP_{Li}}(1+t) = \frac{\frac{w}{1+t}}{MP_{Li}}(1+t).$$

This would make U.S. imports less attractive to Americans, and it would also make U.S. exports more attractive to foreigners (because now the exports are put out onto the world market at a lower dollar price). The immediate result would be fewer imports and more exports. However, the exchange rate is a market price, which equilibrates the demand for and supply of foreign exchange; a rise in exports, coupled with a fall in imports, would lead to an excess demand for dollars, which in due course would lead to an appreciation of the dollar in order to re-establish market equilibrium. Mechanically, setting $P_i \sim S_i$ we get a new exchange rate:

$$e \sim \frac{w}{P_i^*(1+t)MP_{Li}}.$$

This represents fewer dollars per euro – i.e., the dollar appreciates – and this in turn will eliminate the temporary improvement in the current account.