6.4 PROJECT

VALUE-ADDED TAXES: AN ALTERNATIVE TO INCOME TAXES

The United States government collects income taxes to pay for a portion of government spending. The highest earners, regardless of their consumption habits, are taxed at higher levels. In contrast, the tax rules in many other countries are designed to tax the consumption of citizens rather than the income of citizens with what is called a value-added tax (VAT). In this taxation model, a certain amount of taxes are collected at each stage of the supply chain, from production to final consumer. The amount of VAT that is paid is calculated on the cost of the product minus any of the costs of materials used in the product that have already been taxed.

Let's assume that a country has a VAT rate of 10%. We will follow the supply chain for a loaf of bread, from farmer to baker to supermarket.[1]

a. The farmer grows the wheat and sells it to the baker for $0.30 per unit. The VAT is $0.03 (10% of $0.30) per unit. The baker pays the farmer $0.33 for a unit of wheat, and the farmer sends $0.03 in VAT to the government.

b. The baker makes a loaf of bread and sells it to a store for $0.60 per loaf. The VAT is $0.06 (10% of $0.60) per loaf. Now the store pays the baker $0.66 per loaf, of which $0.06 is VAT. Out of $0.06 VAT collected from the store, the baker only sends to the government $0.03 because he receives a $0.03 credit from the government for the VAT paid to the farmer.

c. The store sells the loaf to a customer for a dollar. The customer pays $1.10. The store sends the government $0.04 total—the $0.10 it collected in VAT on the sale of the bread minus the $0.06 it paid to the baker in VAT, which the store gets back in a credit.

In total, the government received $0.03 from the farmer, $0.03 from baker, and $0.04 from the store. That's $0.10 on a final sale of a dollar loaf of bread for a 10% VAT.

	Selling Price	VAT Collected	VAT Credit	VAT Sent to Government
Farmer	$0.30	$0.03	$0.00	$0.03
Baker	$0.60	$0.06	$0.03	$0.03
Supermarket	$1.00	$0.10	$0.06	$0.04
Total				$0.10

1 Example adapted from "How Does a 'Value Added Tax' Work, Anyway?" Derek Thompson, *The Atlantic*, March 1, 2010, https://www.theatlantic.com/business/archive/2010/03/how-does-a-value-added-tax-work-anyway/36834/.

1. Determine the amount of VAT collected, VAT credit, and VAT sent to the government that would be collected at each stage of the supply chain below if the VAT rate were 20%.

	Selling Price	VAT Collected	VAT Credit	VAT Sent to Government
Farmer	$12.00			
Baker	$24.00			
Supermarket	$30.00			
Total				

2. Notice that unlike sales, VAT is charged at all stages of the supply chain instead of only on the final consumer. Discuss why this makes it harder for businesses to avoid paying taxes.
3. VAT rates are usually much higher than sales tax rates; in most of Europe, the VAT rate is around 20%. Discuss why these higher rates might have an impact on consumption.
4. Would you be in favor of replacing the US system of income tax with a VAT? Explain your reasoning.