

## 4.8: Trade and Efficiency

### Learning Objectives

- Explain why voluntary trade benefits both parties and why it leads to allocative efficiency

### Getting a Good Deal or Making a Good Deal

Why do people make transactions? Is it because the seller has a surplus of goods or the buyer has a shortage of them? Not exactly. The short answer is that people make transactions because they value the same goods differently at the margin. Remember that marginal analysis involves weighing the benefits and costs of choosing a little bit more or a little bit less of a good.



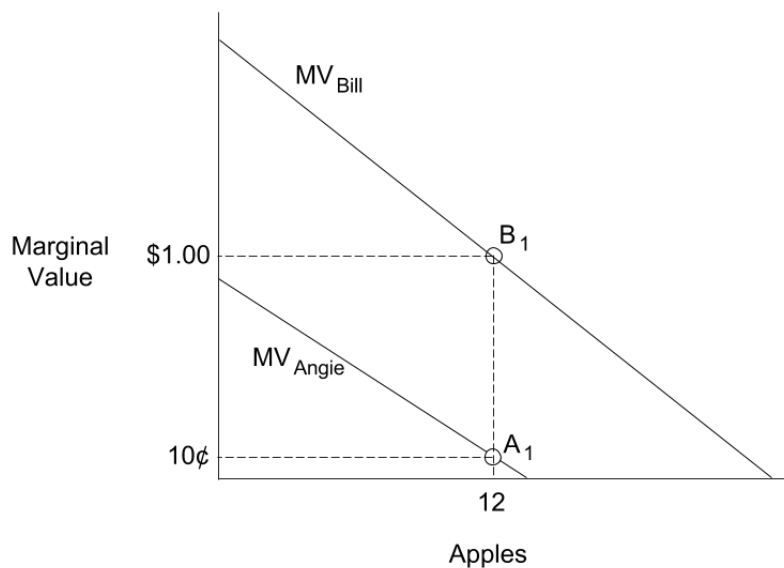
**Figure 1.** How much would you value this apple?

Suppose Bill loves to snack on apples, while Angie thinks apples are just okay. Suppose they each have a basket containing a dozen apples. Because Bill loves apples, he places a higher value on one more apple than Angie does. That's what "at the margin" means. Bill is considering one more apple. Suppose Bill thinks another apple would be worth \$1.00, while Angie thinks another apple is only worth \$0.10. If Bill offered to buy an apple for \$0.50 from Angie, would she agree to the transaction?

Since Angie thinks the apple is only worth \$0.10, then it would be to her advantage to sell one to Bill and use the \$0.40 profit for something she values more than apples. Would Bill benefit from the deal? Since he thinks an apple is worth a dollar, if he could get it for fifty cents, he would be making \$0.50 profit. If two parties differ on what some good is worth, they can *each* benefit from trading the good from the person who values it less to the person who values it more.

If trading one apple is good for both parties, would trading more be better? What motivated the transaction in the first place? It was the difference in opinion between Bill and Angie about what an apple is worth. The value one places on an item depends on tastes in general (in this case it was taste for apples), and how much more of a good a person would like (or how many apples were already consumed). If Angie is very hungry, it's likely she would value an apple more than normal. Similarly, if Bill had just eaten five apples, he probably would value one more less than he normally values apples.

This suggests another idea we've looked at before: the **law of diminishing marginal utility**. Because of diminishing marginal returns, the more of something you already have, the less one more unit is worth to you. Thus, we can graph Bill's marginal value curve as shown in Figure 1. Similarly, Angie's marginal value curve has a similar shape, but it's lower on the graph to reflect the fact that Angie likes apples less than Bill does.



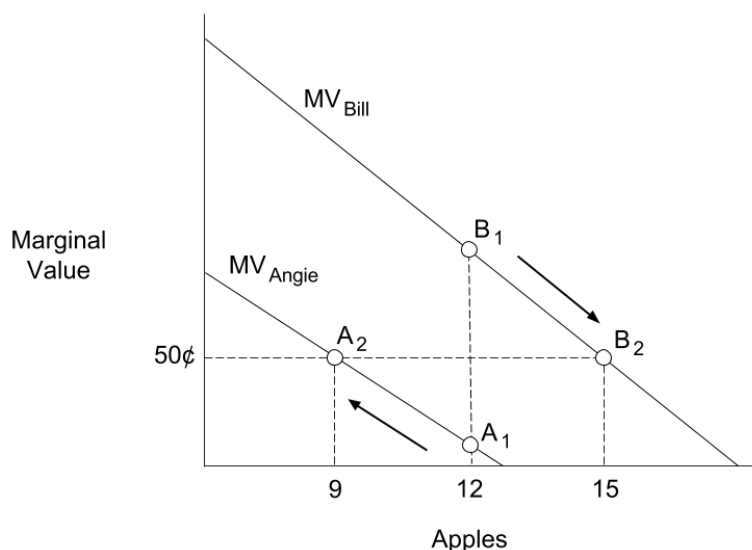
**Figure 1.** Bill and Angie each have a basket with 12 apples. Bill is at  $B_1$  and Angie is at  $A_1$ . Bill likes apples more than Angie. For Bill, the 12th apple is worth \$1.00, while for Angie, it's worth only \$0.10.

### Try It

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## Trade and Efficiency

What this means is that the more apples Bill has, the less he values another. Similarly, the less apples Angie has, the more she values one more. Thus, as Angie sells more apples to Bill, her marginal value increases while his decreases. That suggests an answer to the question posed above: Bill and Angie should keep trading apples until they place the same value on them. This is shown in Figure 2, where Bill has bought three apples from Angie. At that point, they will have maximized the benefits from trading apples. Economists describe these benefits from trading as an improvement in **allocative efficiency**.<sup>[1]</sup>



**Figure 2.** Bill buys apples from Angie, moving down his MV curve to  $B_2$ . As Angie sells apples to Bill, she moves up her MV curve to  $A_2$ . Trading stops after 3 apples when Bill and Angie each value apples the same, at a price of \$0.50 each.

### Try It

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### Learning Objectives

[glossary-page][glossary-term]allocative efficiency: [/glossary-term]  
[glossary-definition]when benefits of trade are maximized and the mix of goods being produced represents the mix that society most desires[/glossary-definition][glossary-term]law of diminishing marginal utility: [/glossary-term][glossary-definition]as we consume more of a good or service, the utility we get from additional units of the good or service tend to become smaller than what we received from earlier units[/glossary-definition][glossary-term]marginal analysis:[/glossary-term][glossary-definition] comparing the benefits and costs of choosing a little more or a little less of a good. [/glossary-definition][glossary-page]

1. This page summarizes ideas from Chapter 3 of Armen A. Alchian & William R. Allen, Exchange & Production: Competition, Coordination, & Control, Wadsworth Publishing Company, Belmont, California. 1983. ↩

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