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Sold Fast: Price Tags and the Impact on Consumer and Producer Surplus

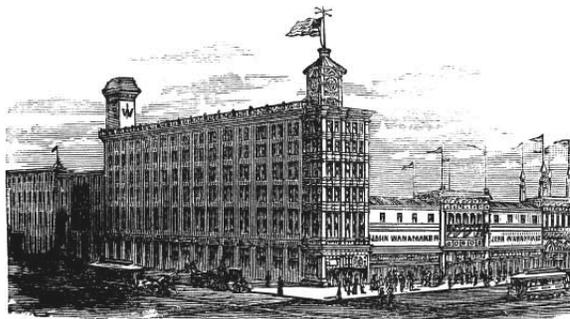
Mike Kaiman, Senior Economic Education Specialist

“One price and goods returnable.”

—John Wanamaker

Since 1461, [Istanbul’s Grand Bazaar](#) has been one of the largest markets in the world: 250,000 daily shoppers browse items ranging from original artwork to zigzag-patterned carpets among 4,000 shops and miles of aisles. But this market has one crucial characteristic that can lead to confusion and inefficiency for many visitors: Every item’s **price** must be negotiated between buyer and seller before the purchase is complete.

In many economies across the globe, discussions over how much items cost are commonplace. But consumers and producers in the United States rarely engage in this otherwise standard practice, as many goods and services come with an easy-to-find price tag. But price tags were not always in use. Their introduction revolutionized market **exchanges** and brought into clarity two fundamental concepts of microeconomics—consumer surplus and producer surplus.



Left: Shopkeeper John Wanamaker, ©Ibusca / DigitalVision Vectors / Getty Images.

Right: Wanamaker’s Philadelphia store, a converted railroad station nicknamed the “Grand Depot,” ©Ibusca / DigitalVision Vectors / Getty Images.

Little Tag, Big Consequences

Any major innovation needs both a creative insight and an opportunity for that idea to catch on. In the 1870s, [Philadelphia shopkeeper John Wanamaker](#) found himself in that position. A year before the 1876 World’s Fair, where millions of visitors would descend on the city, he bought an abandoned railroad

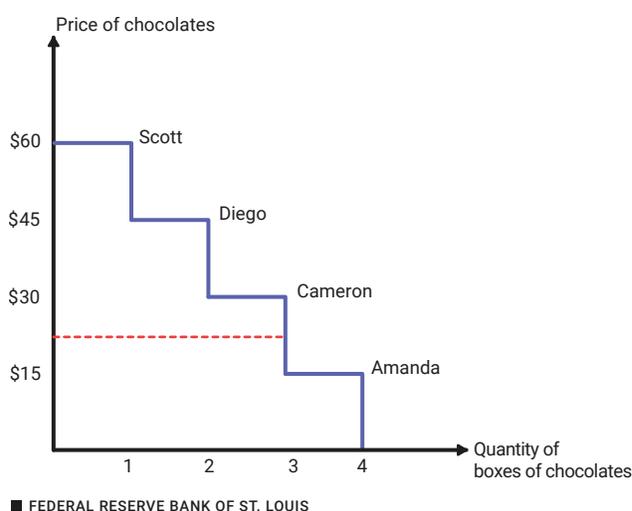
station and converted it into one of the first department stores in the United States. Additionally, his strong belief in being ethical and truthful led him to label each item in his vast store with a non-negotiable price. Shopkeepers had routinely set prices during the exchange of money for a good or service, but Wanamaker’s innovation brought transparency to the process.

The consequences of Wanamaker’s change were immediate. With price transparency, customers and clerks saved time, making the market much more efficient. As visitors of the Philadelphia fair went home, they took Wanamaker’s idea with them, and businesses around the world adopted his innovation.

Price Tags and Consumer Surplus

Wanamaker’s idea brought to life a microeconomic concept that [English economist Alfred Marshall](#) outlined in 1890—consumer surplus. Imagine going to a store to buy an item. You have an idea of how much you are willing to pay, and, finding the product’s price tag, you see it’s lower than your expectation. You snatch it up believing you snagged “a deal.” Now say the next customer is willing to pay a price that’s lower than what you were willing to pay but still higher than the price listed. That buyer also thinks they are getting a deal, but it’s less than the deal you think you snagged.

Figure 1: Individual Consumer Surplus for Boxes of Chocolates



SOURCE: Author’s illustration.

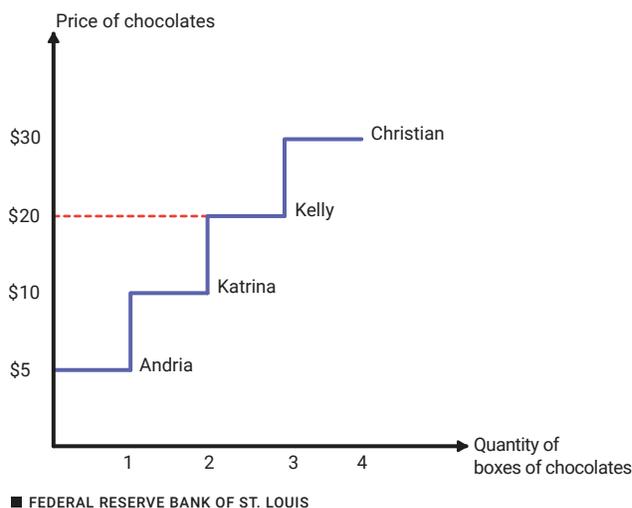
These consumer preferences, prices, and exchanges can be arranged in a graph. Figure 1 shows a sample of people and the prices they are willing to pay for a box of Valentine’s Day chocolates for their partner. Knowing he’s running out of time, Scott is willing to spend \$60 and is thrilled that the store is selling this box of chocolates for \$20. He feels like he’s getting a \$40 discount. The same can be said for Diego and Cameron, but to a lesser extent: Diego was willing to pay \$45, while Cameron was willing to pay \$30. Amanda was only willing to spend \$15 and, therefore, will not buy the chocolate.

We can draw some conclusions from this basic example. First, we can calculate the total consumer surplus at the \$20 market price. In this case, Scott’s surplus of \$40 is added to Diego’s \$25 and Cameron’s \$10 for a total consumer surplus of \$75. Second, if we were to add more buyers willing to pay various amounts for the chocolate, this staircase graph would smooth out and become a standard **demand curve** showing that the lower the price is for a good, the more people are willing to purchase it. None of this would be traceable if it weren’t for the price being clearly defined for consumers to compare what they’re willing to spend with what they are required to pay.

Price Tags and Producer Surplus

Economist Alfred Marshall, who outlined the concept of consumer surplus, also outlined a similar analysis done from a seller’s standpoint. Suppliers are willing to sell at different prices as well, which we examine in Figure 2. Andria was willing to sell her chocolates for only \$5 but sees that the store

Figure 2: **Individual Producer Surplus for Boxes of Chocolates**



SOURCE: Author’s illustration.

has set the price at \$20. She feels like she’s gaining an extra \$15 for each box she sells. This is called producer surplus. Katrina was willing to sell her chocolates for \$10, so she would gain an extra \$10 for each box. Kelly is happy to sell her chocolates at \$20, but her producer surplus is \$0 as the market price is the same threshold at which she is willing to sell. No one will purchase Christian’s chocolates as he is only willing to sell at \$30, which is above the market price.

Adding up Andria’s, Katrina’s, and Kelly’s surpluses, we find that the total producer surplus is \$25. If we add more producers selling at various prices, this stairstep graph would also smooth out, this time becoming the **supply curve** for the total market. As with the demand curve, if the price for an item is not clearly defined, it’s impossible

for sellers to calculate any producer surplus. Exchanges will still occur, but analyzing the total market and drawing larger conclusions is difficult. On the other hand, a widely known price will bring market forces into clear view.

Figure 3: **Total Surplus for Boxes of Chocolates**



SOURCE: Author’s illustration.

Checking Out: Price Tags and Market Consequences

If consumer surplus and producer surplus are combined, their sum is known as total surplus. Figure 3 shows that if a price for a good maximizes surpluses for all consumers and producers—meaning that every buyer and seller who thinks they are getting a deal participates in the exchange at the market price—it is known as an **equilibrium price**.

Without a specific price known to both consumer and producer, it is extremely difficult (if not impossible) to draw further conclusions about a market. In Istanbul’s Grand Bazaar, consumers know how much they are willing

to pay, and producers know at what price they are willing to sell. But without price transparency, the odds are increased that some exchanges will not take place, as every transaction is the result of an individual negotiation. This inefficiency reduces the number of exchanges that contribute to economic growth, and it potentially prevents some purchases from ever taking place if customers are reluctant to negotiate with a seller over how much to pay.

Conclusion

Despite its relative simplicity, John Wanamaker's price tag innovation revolutionized the way consumers and producers behave when making purchases and how economists view and explain the world around us. So, the next time you're in a checkout line confident that you know what you'll be paying when you arrive at the register, spare a thought for the little price tag that has made a big difference.

Glossary

Demand curve: The graphic representation of the quantity of a good or service that buyers are willing and able to buy at all possible prices during a certain time period.

Equilibrium price: The price at which quantity supplied and quantity demanded are equal. The point at which the supply and demand curves intersect.

Exchange: Trading goods and services with people for other goods and services or for money.

Price: The amount of money, determined by the interaction of buyers and sellers, that a buyer must pay to acquire a good, service, or resource.

Supply curve: The graphic representation of the quantity of a good or service that producers are willing and able to sell at all possible prices during a certain time period.

References

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PBS. "Who Made America?—John Wanamaker." *They Made America*, pbs.org, 2004.

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Name _____ Period _____

Reading Q&A

Sold Fast: Price Tags and the Impact on Consumer and Producer Surplus

After reading the article, complete the following:

1. What innovation did John Wanamaker introduce to his department store?
 - a. A loyalty rewards program
 - b. A delivery service
 - c. Transparent prices for all items
 - d. A mail-order catalog

2. What is consumer surplus?
 - a. The total amount of money a consumer spends on a product
 - b. The profit a producer makes from selling a product
 - c. The difference between the price a consumer is willing to pay and the actual price paid
 - d. The difference between the cost of producing a product and the price for which it is sold

3. What is producer surplus?
 - a. The difference between the price a producer is willing to accept and the actual price received
 - b. The total amount of money a producer earns from selling a product
 - c. The profit a consumer gains from purchasing a product
 - d. The difference between the price a consumer pays and the cost of producing the product

4. What is total surplus?
 - a. The sum of consumer surplus and producer surplus
 - b. The total amount of money spent in a market
 - c. The difference between the highest and lowest prices in a market
 - d. The total profit earned by all producers in a market

5. How does a lack of fixed prices in a market affect economic analysis?
 - a. It makes it easier to calculate consumer and producer surplus.
 - b. It makes it more difficult to calculate consumer and producer surplus.
 - c. It makes government price controls such as minimum wage meaningless.
 - d. It makes it easier to measure the impact of taxes and subsidies.

6. How do clearly defined prices affect market transactions?
 - a. Increases negotiation time
 - b. Decreases the number of transactions
 - c. Saves time and increases efficiency
 - d. Confuses buyers and sellers

7. What does the term "equilibrium price" refer to in economic transactions?
 - a. A state where all prices are negotiable
 - b. A market dominated by consumer preferences
 - c. A situation where no transactions occur
 - d. A price that maximizes total surplus for consumers and producers

8. As more consumers enter a market with various limits on the prices they are willing to pay, the consumer surplus line gradually will transform into the
 - a. supply curve.
 - d. demand curve.
 - c. price floor.
 - d. price ceiling.

9. As more producers enter a market with various limits on the prices at which they are willing to sell, the producer surplus line gradually will transform into the
 - a. demand curve.
 - b. price floor.
 - c. price ceiling.
 - d. supply curve.