

## The Economics of Charlie and the Chocolate Factory

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*I'd give anything in the world just to go in one more time and see that what's become of that amazing factory.*

Grandpa Joe in Charlie and the Chocolate Factory

The classic children's film, Charlie and the Chocolate Factory (2005), describes the journey of an "ordinary little boy" named Charlie Bucket through the most amazing chocolate factory in the world (Charlie). Despite its playful themes and imaginative situations, Charlie and the Chocolate Factory presents a remarkable treatise on microeconomics and reveals the true everyday nature of economic theory. Economic principles guide Willy Wonka's candy business, encouraging specific decisions and events that lead to profit-maximization. Economics also influences the characters, causing them to take actions that lead to utility-maximization.

Willy Wonka's factory functions under the concept of profit-maximization, where the owner attempts to gain the highest profit possible. When Wonka's business first begins, he has a near-monopoly on his newly invented products. As the only manufacturer of chocolate birds, Wonka could set a price higher than marginal cost for his products and expect short-term and long-term economic profits. He uses those profits to construct the world's largest chocolate factory. With this factory, Wonka achieves economies of scale and its decrease in average total costs. Under economies of scale, Wonka can produce large quantities of chocolate at a relatively low cost since each additional unit of chocolate costs less than the previous unit (McConnell 464). This concept is most evident in the chocolate waterfall, which only functions with large amounts of chocolate. According to Wonka, the waterfall both improves the quality of the chocolate, making it "light and frothy," and increases the quantity of chocolate mixed in a given time (Charlie). Due to its size constraint, the waterfall helps establish economies of scale.

As a monopoly, Wonka enjoys a lack of competition because his secret recipe serves as a barrier to entry for competitors. However, as Grandpa Joe states, many of the other candy-makers became jealous of Wonka's profits and began to steal his secret recipes (Charlie). With the barrier for entry removed, the other candy-makers, Fickelgurber, Prognose, and Slugworth, entered the business and started producing similar products: ice cream that would never melt, a chewing gum that never lost its flavor, and candy balloons that could be blown up to incredible sizes (Charlie). With this new competition, the candy market structure became more like monopolistic competition. In this new market structure, Willy Wonka maintained his Wonka brand name and specialized products like the chocolate birds. However, other companies were free to imitate this product. Ultimately, Wonka had little power over price and could no longer expect long-term profits (McConnell 486-489). Eventually, because Wonka was making economic losses, he decided to "[close] his factory forever" (Charlie). Years later, Wonka realized that the chocolate market would make economic profits and decided to re-enter the market. As Grandpa Joe asserts, "the factory was back in business" (Charlie). This is where Charlie's story begins.

A boy "not faster, or stronger, or more clever than other children," Charlie Bucket wants more than anything else in the world to see Willy Wonka's factory (Charlie). This dream becomes a reality when Wonka places five golden tickets to his factory inside his chocolate bars. These tickets portray the economic principle of scarcity: unlimited want and limited resources (McConnell 3). Additionally since quantity demanded exceeds quantity supplied, a shortage occurs, and a black market emerges. When Charlie eventually finds his ticket, the customers around him offer him large sums of money for his ticket. These offers are much higher than the price of the candy bar and represent the value of the ticket to these individual customers

(McConnell 387). At first, Charlie tells his parents he is going to sell his ticket on the black market because “they need the money” (Charlie). However, Grandpa Joe uses the idea of scarcity to convince Charlie to keep the ticket. Grandpa Joe claims that since the scarcity of the ticket exceeds the scarcity of money, Charlie should keep the ticket. Charlie acquiesces, and he and Grandpa Joe prepare to go to the factory.

The golden tickets not only boost Wonka’s chocolate sales; they have effects on other industries as well. The golden tickets drastically increased the demand for chocolate, which in turn increased the number of cavities. With more cavities, the demand for toothpaste increased; the positive correlation between the demands of chocolate and toothpaste means that chocolate and toothpaste are complementary goods. Due to the increased profits, the toothpaste factory decided to replace the workers with machines. Charlie’s father’s job screwing lids on toothpaste tubes is eliminated because the factory substitutes capital for unskilled labor as an input in production (McConnell 45). However, later in the movie, Mr. Bucket receives a new job fixing the machine that replaced him. Mr. Bucket is rehired because skilled labor and capital are complementary inputs in production (McConnell 45).

Labor is also essential an input in the chocolate factory. In the factory, Charlie encounters the Oompa-Loompas, Wonka’s new source of labor. Found in Loompaland, Wonka convinces them to come to his factory to work for him. The migration of Oompa-Loompas from Loompaland to Wonka’s factory is guided by economic theory. For the migration to occur, the Oompa-Loompas must derive more utility from the place of destination than the place of origin, after accounting for the psychological and monetary costs of moving (Borjas 345). For the Oompa-Loompas, the utility gains from moving are very high. Their destination is abundant in cocoa beans, which they worship, and their utility at their origin is exceedingly low because of

the constant danger of being eaten by “hornswagglers, and snozzwangers, and those terrible, wicked whangdoodles” (Charlie). Since the utility of their destination minus the disutility of moving is larger than the utility of their origin, the Oompa-Loompas agree to migrate to work in Wonka’s factory.

After being introduced to the Oompa-Loompas, the group touring the chocolate factory visits the Inventing Room, where Wonka conducts his research and development. Wonka commits to research and development in order to regain his near-monopoly status. If Wonka can ensure the recipes for his new products remain secret, he will face the entire demand curve of these products and be able to set the price higher than marginal cost. Additionally, even if other candy-makers were able to copy his products, there would be a time lag in which he can realize a substantial economic profit. This time would also allow his brand name to be established as the premier seller of the product (McConnell 520). Ultimately, Wonka’s decision on how much to spend on research and development depends on the expected rate of return of the new products. Thus, Wonka expects to earn enough from his everlasting gobstoppers, hair toffee, and three-course gum to offset their research and development costs (McConnell 516).

After the Inventing Room, the group visits the Nut Room where Wonka demonstrates his knowledge of the concepts of absolute and comparative advantage. As the children learn, Wonka employs trained squirrels to remove the walnuts from their shells. When asked why he uses squirrels rather than Oompa-Loompas, Wonka claims that the squirrels have an absolute advantage in shell removal because “only squirrels can get the whole walnut out almost every single time” (Charlie). In other areas, Oompa-Loompas have the absolute advantage and can produce more with the same resources. Since both have the absolute advantage in one section, comparative advantage states that specialization and trade will result in the largest amount of

production (McConnell 99). Squirrels have both the comparative and absolute advantage in shell removal, and Wonka, accordingly, has them specialize in shell removal.

Wonka then leads the two remaining children into the TV room where he shows them his new method for advertising. In monopolistic competition, Wonka must advertise in order to increase demand for his specialized product. This non-price competition tries to emphasize the difference between products and minimize the importance of price (McConnell 488). More specifically, Wonka's concept of Television Chocolate illustrates the economic theory of experience goods. In Television Chocolate, Wonka sends a candy bar through the television as a free sample to demonstrate that his candy is superior to other brands'. In this case, chocolate exists as an experience good or a good whose quality can only be determined from consumption. If people sample the experience good and enjoy it, the demand for his product increases (Cabral 223).

In the end, Willy Wonka declares Charlie the winner and offers him the factory. However in order to gain the prize, Charlie must give up his family. Charlie weighs the two options in terms of utility and finds that his family grants him greater utility than a chocolate factory would (McConnell 395). His optimal decision is then not to go to the factory with Willy Wonka. After Wonka amends the deal to allow his family to come with him, Charlie decides to go with his family to the chocolate factory.

Throughout the film, Wonka and Charlie encounter and utilize economics. From Wonka's business decisions to Charlie's utility maximization, the application of economics to everyday life allows them to improve their lives and ensure that by the end of the movie "life had never been sweeter" (Charlie).

## Works Cited

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