In today’s society, it is illegal to buy or sell organs of any kind in most countries. This has resulted in a shortage of many organs, such as hearts, lungs, and kidneys. Without proper compensation, many people are not incentivized to donate their organs for free. With the medical risks, monetary costs, and lost time that come with this kind of surgery, many are not willing to donate without sufficient compensation. Unlike many other organs, a person can live without one of their kidneys. This changes the market for kidneys from the typical market of organs, because one person does not have to die to save the life of another. If we were able to properly incentivize citizens to give up one of their kidneys to a person who really needs it, then we can eliminate deadweight loss and save many suffering from kidney failure from an unnecessary death. This paper will focus on the market for kidneys, the present price ceiling for kidneys in the ideal world, the prices and the presence of a black market in organ sales, and the solution to this economic efficiency through government intervention and regulation.

First, we must consider the graph for the market for kidneys. Shown to the left, the market for kidneys is made up of a downward sloping demand curve and an upward sloping supply curve. The demand curve in this case represents the aggregate demand for kidneys among all potential consumers. We can also assume that everyone’s tastes for kidneys are quasilinear. The amount of income a person is given will not affect the quantity of kidneys they would like to consume. Despite the budget constraint, all consumers prefer to consume only one kidney. Therefore, we can view the aggregate demand curve as the marginal willingness to pay curve. This curve will be downward sloping, and there will be a steep slope. As the demand for kidneys goes up, the average price a person is willing to pay will decrease. There are going to be some consumers who value a kidney higher than others. At a high price, those who value their lives highly are going to be willing to consume, but there will be others who will not value their lives as highly as that price, so they will not be willing to consume. For example, an old woman who is ninety years old and felt as if she has already lived a good life will demand a kidney at a lower price than a sixteen year old who values her life highly. This is also the reason why the demand curve is not perfectly inelastic. The demand curve will have a steep slope, because the demand for a kidney will be highly inelastic. The demand a consumer has for a kidney will not be very responsive to price changes, because the consumers most likely value their life highly, despite the price change. Opposite of the demand curve, the supply curve in this case will be upward sloping, for more obvious reasons. The higher the price, the more incentivized a person is to give one of their kidneys away, despite the risks of surgery and life with only one kidney. Therefore, as price increases, the quantity supplied increases.
Figure 1 illustrates the market for kidneys in an ideal version of today’s world. In this ideal version of today’s world, everyone follows the rules and no one sells their kidneys for a price above the price ceiling, which is set at zero, or \( p^* \) (Nechyba, 2011). If a person needs a kidney, then they are added to a waitlist, and kidneys are supplied in order of the waitlist. The price ceiling is set at zero because there is a stigma associated with treating a person’s organs and body parts as consumable goods (Berger, 2011). Many believe that it is immoral or unethical to sell a person’s organs. Due to this stigma and the creation of a price ceiling in the market for kidneys, this causes the quantity of kidneys demanded to be much greater than the quantity of kidneys supplied. This shortage of kidney supply results in a large amount of deadweight loss, shown by the shaded red region in Figure 1. This deadweight loss shows the loss of economic efficiency that is associated with this price ceiling, which is quite high. If the quantity of kidneys demanded is greater than the quantity of kidneys supplied, then there are going to be unnecessary deaths, illustrated by the deadweight loss, caused by such a shortage.

Of course, these conditions featured in Figure 1 only occur assuming that no one breaks the law. In our world today, we cannot assume this. In today’s society, there are those who are willing to go against this price ceiling, whether it is because of monetary or ethical issues. A black market for organ sales has been created as a result of this price ceiling, as there are consumers who are willing to pay exorbitant amounts for certain organs, such as kidneys, in order to save their lives. Refer to Figure 2. Figure 2 shows the graph of supply and demand for the kidney market, along with the price ceiling, but it also shows the black market price for kidneys at \( p' \). \( p' \) is the maximum amount that a person is able to sell a kidney for with the present price ceiling at zero. In this graph, we can assume that the supply of kidneys comes from those who are having their kidneys physically harvested, not the supply curve of the middleman. At the quantity supplied given by the price ceiling, there is going to be a consumer that is willing to purchase a kidney for the high price of \( p' \). In terms of economic efficiency, this seems acceptable. But, if we were to consider the ethics and dangers of black market organ sales in the real world, it is easy to see why many people want to regulate organ sales in order to get rid of the black market. The black market for organ sales is unregulated, leaving donors without proper protection, compensation, or proper medical care (Berger, 2011). While it may be economically efficient to charge this price, the ethical costs of this practice outweighs the economic benefits, leaving us with a problem in today’s society.

In order to solve this problem, the government must intervene to alleviate the price ceiling that is causing the organ shortage (Berger, 2011). When the price ceiling is alleviated, an equilibrium will be found where the quantity supplied will equal the quantity demanded, shown in Figure 3. At this point, a person will be allowed to sell their kidney for a certain quantity of money. The supply and the demand curves
will stay the same, but a person will be able to sell their kidney for price \( p^* \), causing a shift along the supply curve. The problem many have with the lift of the price ceiling in this case would be the exploitation of the poor. While this case is economically efficient, it is does not allow the proper distribution among consumers in the real world. In this case, only those who are poor enough and who need the revenue received from selling their kidney at price \( p^* \) will contribute to the market (Nechyba, 2011). The wealthy will not undergo the possible medical risks of surgery and living with only one kidney at this price, because their socioeconomic status does not require it. On the other hand, these wealthy people are the ones that are going to receive the organs themselves, while the poor will be the ones that go without kidneys. This is because the wealthy have the funds to pay for the kidneys, which makes them more willing to pay for a kidney than those who can’t afford it. While the quantity supplied will equal the quantity demanded, there will be those who simply cannot afford a kidney who really need one. The equilibrium price when the price ceiling is removed redistributes products, the kidneys, from the poor to the wealthy, which seem to be against the social goals of our society. This situation may be economically efficient, but it also exploits the poor, which is against the social goals of our society (Berger, 2011). Although we solved the problem of alleviating the ethical costs of the black market and the economic inefficiencies, this price equilibrium runs into the issue of widening the gap between the rich and the poor in a way that is not ideal to our society.

To solve this problem, the government must come in to regulate the kidney market to solve this issue of the widening gap between the rich and the poor. Today, our kidney donation system works using a waitlist, with those at the top of the list receiving the kidneys before others, based off of need and not wealth. If this waitlist system were able to stay in place with a larger supply of kidneys available to the people on the waitlist, then there would be fewer deaths as a result of a lack of supply, like there is now. If the government were to purchase kidneys from citizens and redistribute them to those on the waitlist, then the problem is solved. Then, the system would be both economically efficient and correlate with our ethical goals as a society. Also, to help calm the stigma associated with selling one’s organs, the government may be able to offer tax deductions to those individuals who are willing to donate their kidneys. The effect would be the same, but there wouldn’t be as much repulsion associated with tax deductions as there is with selling one’s kidneys. On average, seventeen people a day die waiting for a kidney transplant (Denneman & Mol). With the proper solution, every person will be able to receive the kidney they need without imposing ethical costs on society.

Works Cited: