

Queuing, Conflict, and Violence

Dwight R. Lee

Southern Methodist University

Robert D. Tollison

Clemson University

Abstract

Queuing in response to prices below market-clearing levels increases the potential for conflict and violence among consumers. We consider how the potential for violence in queues varies with differences in demand and supply characteristics of the goods being considered, and the cause of sub-market-clearing prices. In general, the potential for queue-related conflict and violence is greater when the price elasticities of demand and supply for the good are smaller and higher, respectively. Also, the potential for conflict and violence is greater when the queue results from government policy than when it results from private-sector activity.

JEL Codes: A13, D00, D45

Keywords: Conflict; Market-clearing price; Price elasticities; Queue; Violence

I. Introduction

As every student in an economics principles class learns, or should learn, any time the price of a good is kept below the market-clearing price, for whatever reason, some form of non-price rationing comes into play. Commonly, this rationing involves queuing. As with all rationing, queuing motivates competition as people act to improve their prospects of acquiring the amount of the good they desire. And with queuing the competition commonly involves people waiting in close proximity to their competitors. Generally, such competition is peaceable as people abide by widely accepted rules of conduct, which forbid pushing, shoving, or cutting in line. Unfortunately, peaceable competition can break down as frustration turns to animosity toward others in the queue. In this paper we consider the circumstances under which the competition of queuing is most likely to turn violent.

While there is a well-known literature on rationing and rationing by waiting (see especially Barzel, 1974; Lindsay and Fiegenbaum,

1984), we are not aware of an economic analysis of the connection between queuing and violence. One recent article by Batabyal (2005) considers the probability that when a queue exceeds a specified length, violence occurs, where the length is stochastically determined, given a capacity parameter of the supplier's ability to provide the good being sought. Although Batabyal develops the model rigorously, he does not examine such things as the type of queue, the type of people in the queue, the price elasticities of demand and supply for the good, or the cause of the queue.

We take a different approach that allows us to consider a wider range of influences on the potential for conflict and violence from queuing. In Section II, we consider how this potential varies when queues differ in terms of demand and supply characteristics. In Section III, we focus on the difference in likely conflict and violence from queuing when the queues are motivated by political versus market motivations. Section IV contains examples, and some concluding comments are offered in Section V.

II. Queues with Varying Demand and Supply Conditions

Obviously, the greater the costs queuing imposes on those competing in the queue, and the greater the loss suffered by unsuccessful competitors, the greater the potential for hostility and open conflict. The average cost of queuing will be higher, other things equal, the longer people spend waiting. This wait will be greater the less information available on the probability that being in a given position in the queue will result in acquiring the good. Also, the length of the wait will increase with the value of the good being sought and with the difficulty of getting good substitutes in some other way, both of which increase the loss from unsuccessful queuing. This suggests greater potential for hostility and aggression in queues for goods with highly inelastic demands.

A. Different Demand Elasticities with Fixed Supply

A simple graphical examination is illustrative here. In Figure 1, we consider a case where the demand, D_E , for a good in fixed supply, S , is highly elastic, with the market-clearing price given by P^* and equilibrium quantity given by Q^* . Assuming that the price is set at P_C and rationing is by queue, the length of the queue would appear to be quite long, with Q_C people lining up for the good. For convenience, we assume each successful consumer is permitted, and will purchase,

a specified amount, per unit time, equal to the quantity units on the horizontal axis. Although the queue looks long, it is unlikely to be contentious because the highly elastic demand suggests good substitutes are available for the good being sought, so the competitive stakes are low. But why the long queue if the stakes are low? In fact, the queue is unlikely to be very long in this case, particularly if information is available on how probable success is at different positions in the line. The height of the demand curve relative to the price ceiling provides little information on the likely length of the queue since, because of the queue, the price ceiling provides little information on the cost of acquiring the good. People will simply refuse to risk much time in a queue when they do not value the good much more than its monetary price and/or expect to be able to acquire the good later in a shorter queue at less cost.

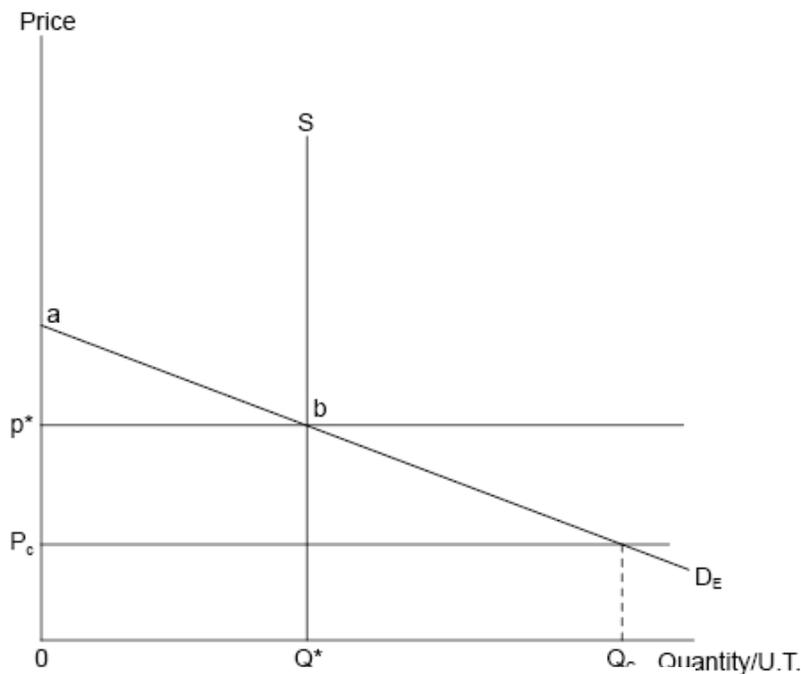


Figure 1. Elastic demand and perfectly inelastic supply

Of course, if the ceiling price is held well below the market-clearing price, and the good is not expected to be available elsewhere without waiting in a long queue (the price control and shortage is widespread), then people will be more reluctant to get out of queues. Even if the price ceiling is temporary, an urgency to remain in the current queue can be high because of monetary savings possibly available by doing so. Regardless of the elasticity of demand, the greater the gap between the market-clearing price and the price ceiling, the more likely animosity between those in the queue will escalate into violence. But this problem can be expected to be greater, everything else equal, the less elastic the demand curve for the good.

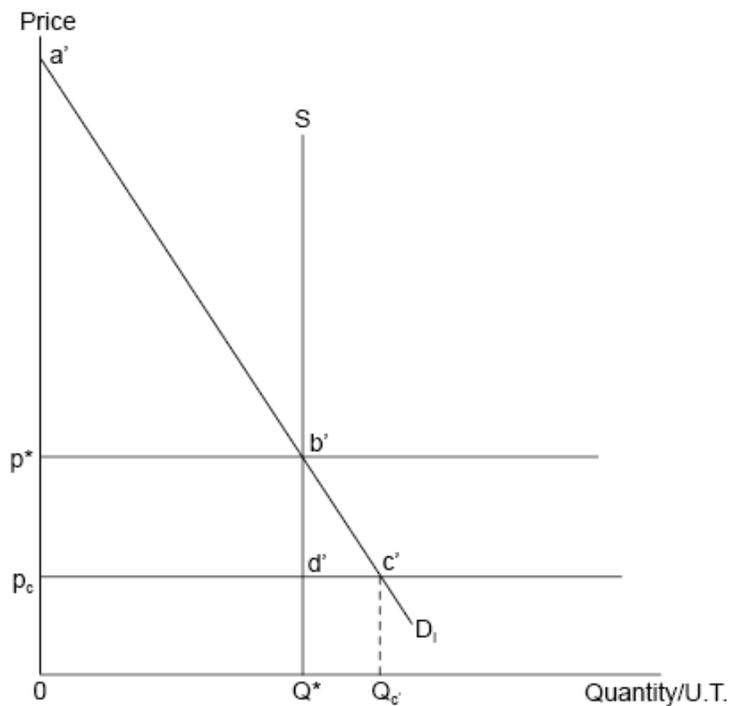


Figure 2. Inelastic demand and perfectly inelastic supply

In Figure 2, still assuming the vertical supply curve, S , we consider the situation with a highly inelastic demand curve, D_1 , yielding the market-clearing price of P^* . With the same price ceiling

of P_C as before, the potential queue is Q_C , which indicates far fewer frustrated consumers, as a proportion of all interested consumers, than in the high demand elasticity case. Yet this situation has the potential to be more volatile and violent. First, the stakes are far larger for those who value the good the most when the demand inelasticity is low. For those who value the good by at least as much as P^* , the average value of the good's availability is given by $a'P^*b'/Q^*$ (continuing with the assumption that everyone is limited to the same amount and that this amount equals the size of the quantity units) in Figure 2, but only by aP^*b/Q^* in Figure 1. Thus, in the inelastic demand case, those most anxious to acquire the good lose far more if they are outcompeted in the queue. This large loss makes the situation more emotionally explosive if high-demand consumers are outcompeted for the good, especially if others have violated the rules or are perceived to have done so. Not only have some suffered a high combined loss of the value of their time in the queue and the value they placed on the good, but they will have suffered the loss because of the perceived unfairness of others. And it is likely that high-demand consumers will be outcompeted, and will suspect unfairness as the reason, when goods are rationed by queues.

Queuing is not as effective as market prices at allocating a good to those who value it most. With a market-clearing price, those who value the good by more than the price will buy as much as they want, while those who value the good less will acquire none of it. When the good is being rationed by queuing, competing for it often requires incurring a socially unproductive cost – waiting in line (Barzel, 1974; Lindsay and Fiegenbaum, 1984). This shifts the relative importance of the criteria for competitive success away from the value one places on the good and toward the value of one's time. Many who value the good highly, as measured by willingness to pay monetarily, will receive none of the good, while many who value the good little by this criterion will receive the good.¹ So those who lose out in queuing competition will tend to suffer larger losses than will those who lose out in pricing competition.

¹ It can be argued that those willing to pay the most still end up with the good, only that the form of payment has changed. Furthermore, the change in payment may have been put in place because it favors those who are less well off financially. A full discussion of the distributional consequences of queuing goes beyond the scope of this paper. But there are better ways to help the poor than with a rationing scheme that motivates people to use their time in socially unproductive ways.

Also, rationing by queuing is subject to more serendipity, with the competitive rules less clear and more subject to gaming (for example, cutting in line under the pretense that a friend was saving the place for you) than is the case when rationing is done by price. So even if there is no cheating in a queue, those about to lose out can easily convince themselves that there is, with their looming and large loss making this conviction more exasperating. This can lead to cheating in the queue by those who mistakenly believe that others are cheating, which can begin a hostility cascade that leads to violence.

B. Inelastic Demand with an Upward-Sloping Supply Curve

We have made an assumption so far that moderates the potential for hostility when rationing is done through queuing rather than by pricing. In Figures 1 and 2 the supply curve is assumed vertical. Therefore, holding the price below the market-clearing level does not reduce the availability of the good, which would add to the frustration and hostility in the queue. But the typical situation involving an upward-sloping supply curve involves one with a positive elasticity, and in this case the shift to queuing further intensifies the tension between competitors that has already been elevated by the queuing itself.

We consider the effect of an upward-sloping supply curve with a positive elasticity in Figure 3, where the demand curve, D_b , is the same as in Figure 2, but the supply, S , is not vertical. As constructed, the market-clearing price and quantity are given by P^* and Q^* , respectively, as in the previous figures. Introducing the price ceiling, P_C , generates a queue of Q_C , which is the same length as the queue in Figure 2. But because of the reduction in the amount supplied, the potential for conflict is greater than in the previous situation. First, the number of frustrated competitors for the good is greater with the typical upward-sloping supply curve ($Q_C - Q'$ in Figure 3) than with the vertical supply curve ($Q_C - Q^*$ in Figure 2). This frustration will be, at least imperfectly, anticipated, and because it is anticipated by more people in the queue, the potential for conflict increases. Second, the average loss suffered by the unsuccessful competitor is now greater. The average loss is given by the area $bcd/(Q_C - Q')$ in Figure 3, compared to the area $b'c'd'/(Q_C - Q^*)$ in Figure 2). So not only do more people experience frustration with an upward-sloping supply curve, but the intensity of their frustration is greater, adding to the potential for clashes between those in the queue. It is obvious

that the conflict potential is greater the larger the price elasticity of supply.

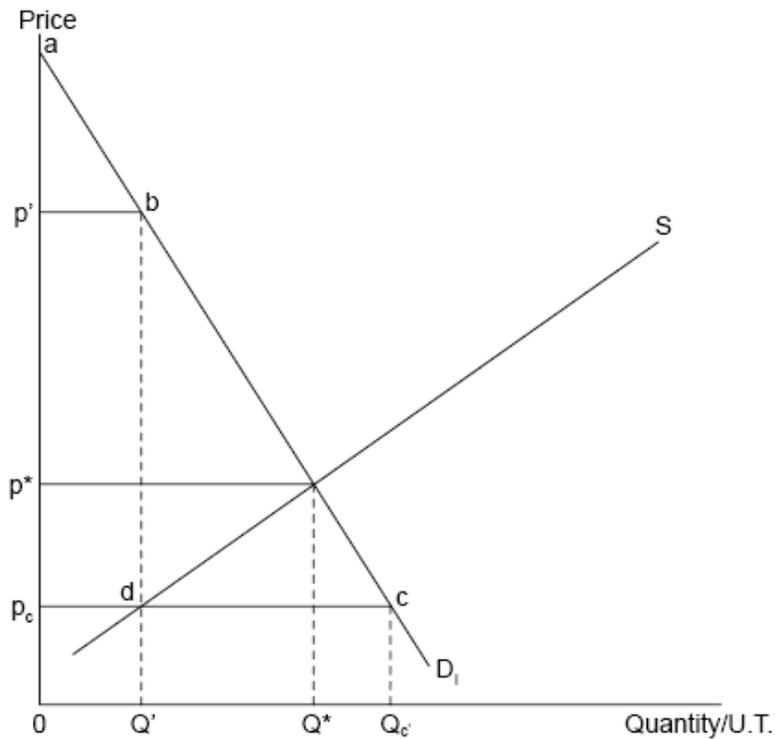


Figure 3. Inelastic demand and upward-sloping supply

As discussed earlier, the frustration from a long and unsuccessful wait in a queue can be largely eliminated by information on where in the queue the successful are separated from the unsuccessful. If this information is available, those who see that their position in the queue eliminates any expectation of success will not enter, or quickly leave. This would not only reduce the frustration generated in the queue, but also remove those who, because of their frustration, are the most likely to become disruptive. But, as also discussed earlier, information on the location between the successful and unsuccessful in a queue is highly uncertain. It is not always clear how much of the good is available, whether more will be made available while waiting, how many are already in the queue, how many will leave the queue,

how many are holding a place for others, what the rules are for holding places, whether some will break in queue ahead of you, and so on. Also, when the number of people who value the good by a lot more than the price ceiling increases because of an inelastic demand and an upward-sloping supply curve, the lack of certainty about who will be successful is less likely to deter people than from taking their chances in a queue.

The frustration experienced both before and after the good is exhausted would be bad enough if everyone who successfully secures some of the good values it by more than those who are unsuccessful. But because of the uncertainty that leads to queues containing many more people hoping to get some of the good than can do so, some who succeed in getting the good will value it less than some who fail. This result can intensify the potential for hostility and violence in the queue by increasing the loss and frustration of those receiving none of the good.²

C. Rational Versus Emotional Responses

All of our behavior is influenced by an interplay between what can roughly be termed the rational and the emotional. People often respond emotionally in ways that are commonly, and casually, characterized as irrational. But one can also argue that there is an optimal mix of the rational and emotional in our responses, with the optimal, or “rational,” mix varying from situation to situation. In other words, responses that may superficially appear irrationally emotional can, depending on the circumstances, be quite rational. This possibility is greater when goods are allocated by queuing than when they are allocated by prices.

When goods are allocated by prices, assuming that people respond to emotional feelings concerning the process that generates those prices is unlikely to add anything useful to an understanding of economic behavior, in comparison to simply assuming that consumers purchase the quantity of each good that equates their marginal value to price. On the other hand, when goods are allocated by queuing, emotional responses can be quite rational given that the

² The failure of high-demand consumers to outcompete lower-demand consumers can increase the loss and frustration in the case of the vertical supply curve as well as the case of the upward-sloping supply curve. But this additional loss and frustration is more likely to trigger violence in the latter case because the potential for violence was already greater.

uncertainty regarding what the rules are and how fairly they are being followed conspires to create plausible suspicions that one is being harmed by the cheating of others – others who are often identifiable and close by. As Frank (1988) points out, our emotional programming often motivates us to “over” react to suspicions of unfair treatment by taking action against the culprit that costs us far more than the loss we suffered or expect to suffer. While this “over” reaction may seem irrational to the casual observer, Frank points out it can be a rational way to establish a reputation for retaliating against those who would do us harm and therefore prevent that harm. But, as with every benefit, such emotionally-inspired deterrence is not a free lunch, since hostile action against a perceived cheater may be reciprocated and escalate into violent conflict, particularly given the tensions that exist in a queue.

The tendency for queuing to elevate emotional relative to “rational” responses is not confined to hostility toward competitors. The elevation of emotional reactions in queues is illustrated by Munger (2007) in an account of those in a queue expressing hostility to those who were helping them by supplying a much-needed good. In September 1996, Hurricane Francis knocked out power in Raleigh, North Carolina, for several days. Among the badly needed items was ice. Fortunately, four young men from Goldsboro, North Carolina (about a hour east of Raleigh and unaffected by the storm), rented two small freezer trucks, loaded each with 500 bags of ice they bought for \$1.70 each, and drove to Raleigh. They quickly found willing customers, as a long line formed to buy ice at a little more than \$8.00 a bag, with each customer limited to about 5 bags. Some complained about the price, but there is no evidence that anyone who reached the front of the line refused to pay. Unfortunately for the numerous customers still in line, the police heard about this violation of the law against price-gouging, arrived in force to arrest the four men, and confiscated their trucks and all the remaining ice – which might have melted, but for sure did not go to those in line. Not surprisingly, the frustrated shoppers responded with hostility, but surprisingly, it was not directed against the police. The crowd applauded the police when they confiscated the ice and placed the men under arrest. The hostility is understandable. That it was directed toward those who were trying to make them better off is less so, at least to economists. But such misdirected hostility, leading to violence against suppliers, is not unheard of. Not only is such

violence directly destructive, but by increasing the cost of providing goods for which people are queuing, it can add to the potential for frustration and violence in other queues.

III. Hostility and the Source of the Queue – Public Versus Private

Not all queues are created equal with respect to their potential for hostility and conflict. In this section we will argue that, in general, hostile behavior is more likely to occur in queues that result from a vote-seeking public sector than in those that result from profit-seeking in the private sector.

The most common way the public sector creates queues is by imposing price controls. Of course, price controls can keep some prices below market-clearing levels and some above those levels. Typically, the former controls – price ceilings – come to mind when queues are being discussed, as reflected in our discussion so far. Publicly-imposed price floors can also generate queues with the potential for causing violence, as we shall discuss. But first we consider publicly-imposed price ceilings.

Public choice economists have long pointed out that small groups organized around an overriding interest commonly have more political influence than the general public. Benefits provided small groups by politicians motivate political support because they are concentrated on easily organized groups. Benefits provided to the general public are spread thinly over a group too large and diverse to organize easily, so they tend to go unnoticed and generate little political support. Yet some issues motivate intense interest and concern on the part of almost everyone, and politicians ignore these issues at their peril. An example is abrupt and large increases in the prices of products that are widely used and inelastically demanded. Gasoline and food staples are examples, as are products that are desperately needed after a natural disaster, such as ice, bottled water, generators, batteries, and building materials.

These are the prices that politicians are most likely to prevent from rising to their market-clearing levels with price ceilings (or threats against price “gougers”) when they increase rapidly because of a sudden increase in demand or interruption in supply. And for reasons discussed in Section 2, the queues that result from controlling these prices have the greatest potential for conflict and violence – they attract lots of consumers anxious for goods that are highly

valued and for which there are no good substitutes. Also, in many cases those in the queue will be subject to additional stress and anxiety because of unfortunate circumstances that led to the price control and queue.

Governments also increase the potential for violence with policies that create queues even though those queues do not necessarily take the form of long lines of people. For example, governments commonly increase the cost of hiring workers with minimum-wage laws and regulations on hiring and firing. The result can be long queues of unemployed workers that form where a few jobs are available. But the queue can also take the form of high unemployment and with those waiting for a job opportunity to become available not concentrated in a line. Those in such an amorphous queue of the unemployed tend to be younger, poorer, more alienated from the general society, and more prone to violent behavior than the employed. The frustration of being relegated to persistent unemployment clearly contributes to the violence and rioting that periodically break out throughout the world. A recent example of this type of violence was the rioting of young males in France.

Obviously, queues are not solely the result of vote-seeking in the public sector. They also result from profit-seeking in the private sector. But such private-sector queues are less likely to lead to conflict and violence than those caused by government policy. Queues commonly appear in restaurants, especially on weekends and special occasions such as Valentine's and Mother's Day. These queues can be explained as peak-load problems owing to the impossibility of quickly expanding and contracting the size of a restaurant. It is well known, of course, that a fluctuating demand for a fixed short-run supply can be smoothed out with peak-load pricing, so as to largely eliminate queuing. It would be difficult to forecast demand at a particular restaurant with sufficient accuracy to completely eliminate a queue with peak-load pricing, but a higher price (possibly in the form of a cover charge to avoid altering the menu) during peak periods would both reduce the length of the queue and generate more revenue. However, restaurants seldom use temporary price increases to control queues. The prices are the same on Valentine's and Mother's Day as on any other day, and the queues much longer. Even when the queues are consistently long, as in the

case of very popular restaurants, the prices are seldom increased to reduce the queue.

Becker (1991) provides an explanation for queuing at restaurants. Such queues can serve as a form of advertising, informing people that a restaurant is popular and therefore probably good. Also, and more relevant to our discussion, those in the queue are often accommodated with a bar and lounge area that is not only directly profitable, but can make the restaurant more attractive as a place where people can visit in a lively and exciting setting. This is not the type of queue in which people find the wait unpleasant or become anxious that they will not receive the good for which they are waiting (at least the one provided by the restaurant).³ Also, restaurants typically provide reasonably accurate information on how long the wait for a table will be, with there generally being plenty of good substitutes available if people consider the wait too long. So even when the queue is long, it is unlikely to create hostility or aggressive behavior.

Firms experiencing an increase in the demand for their product that exceeds their ability, or willingness, to satisfy in the short run, often let queues develop rather than increase price. Haddock and McChesney (1994) cite examples of such queues and provide an explanation for them. If a firm knew that an increase in the demand for its product was permanent, then it could profit by preventing a queue from materializing or getting very long with some combination of a price rise and investment in additional production capacity. But the increased demand may be the result of a temporary phenomenon, such as a fad. Investing in additional production capacity may not be warranted, and increasing prices would drive away reliable long-term customers, many of whom might not return after demand returns to normal. With a fad, for example, the firm would prefer to continue to satisfy the reliable demands of loyal customers at the existing price than to shift supplies to fad-following customers at a higher price. The best way to do this may be by managing a queue in a way that favors the most reliable customers – letting them purchase as much

³ Fights do occur in bars, but rather than being the result of queuing, they typically result of quickly obtaining plenty of the good being supplied by the bar.

or almost as much as they want while limiting the amount available to others.⁴

Two examples given by Haddock and McChesney of creating and managing a queue to favor loyal customers involved fads over Coors beer and Jack Daniels whiskey. Such queues seldom resulted in long lines of people waiting hours to purchase these products. Typically, they involved store owners using local information to discreetly allow some customers greater access to the products. This is not the type of situation in which people are likely to see each other as direct competitors and become violent.

The queues for a product that has become a fad can, of course, result in long lines of anxious and hostile customers willing to compete for the product they want by pushing and shoving. One can think of long lines of people waiting for the doors of a store to open and then rushing in to grab the most popular Christmas toys. And certainly large numbers queued up to purchase the iPhone when it first came out, with this queue both part of, and the result of, a promotional campaign by Apple. Also, people experience aggravation that the mood music does little to reduce while waiting in a telephone queue for a customer representative.

We also acknowledge that profit-seeking can motivate suppliers to create long queues that clearly increase the potential for violence by favoring the most unruly consumers. For example, Landsburg (1993, pp.12-13) considers the possibility that rock bands intentionally underprice their concert tickets because queuing favors their most enthusiastic fans – young people, who are more rowdy and excitable and willing to spend hours in a line (and possibly the night in a sleeping bag) – over more sedate adults with far larger incomes. The rowdy and excitable make for a more enthusiastic concert audience. But, for the same reason, young rock fans are more prone to aggressive behavior that can result in violence when heavy concentrations of them are subject to the tensions and frustrations of a queue (not to mention drugs).

However, queues are commonly created in response to market incentives that reduce consumer hostility and potential for violent confrontation with prices that are somewhat higher than those which

⁴ Haddock and McChesney's argument applies to restaurants when they become the object of a fad. A restaurant can prefer to manage a queue with reservations or some other means to favor dependable customers, or those whose presence enhances the appeal of the restaurant, rather than increasing prices.

perfectly clear the market. Years ago Gordon Tullock casually commented to one of the authors over lunch that we see long queues every time we go to the supermarket – queues in the form of large quantities of soft drinks, breakfast cereals, laundry detergent, sardines, shoe polish, deodorant, and so on, waiting on the shelves (and in inventory) for us to put them in our shopping carts. Granted, we don't normally think of products as queuing up for consumers, but such an interpretation is certainly consistent with economic analysis, since these queues would be reduced if the costs of temporally matching up the availability of the goods with the demands of consumers decreased, allowing the prices to consumers to be decreased also. And this is exactly what has happened with just-in-time deliveries made possible by improved information technology and supply-chain management. But as long as the opportunity costs of products are less than the opportunity costs of people, or perfect supply-chain management remains costly, the queuing of products will continue to substitute for the queuing of people. And this substitution reduces the potential for violence in queues since cans of pork and beans remain far more patient and passive in queues than people do.

IV. Some Examples

There are undoubtedly numerous examples of violence associated with price rationing by government and other entities. What follows are a few illustrative cases.

A. Fort Worth, Texas

As reported by Melody McDonald:

A homeless man was stabbed in the neck yesterday after he cut in a food line at an East Rosedale street ministry, police said. The victim, Dewayne Templeton, 39, who is known as "Porkchop" on the street, was taken to John Peter Smith Hospital. The blade apparently slashed his carotid artery, police said. Templeton cut in front of another man who was standing in line for chicken and beans just before 5 p.m. at the Daily Bread Ministry, 650 E. Rosedale St.,...⁵

⁵ McDonald, Melody. 2000. "Homeless Man Stabbed in Food Line Altercation." *Fort Worth Star-Telegram*. April 9, p.3.

Note that this is a zero nominal price queue where a church or a charity made the queue as long as possible. The other ingredients here were possibly inelastic demand (stimulated by hunger) and a fixed supply of victuals. "Porkchop" perhaps had a slightly elevated discount rate at that moment.

B. Iraq

As reported by Karl Vick:

Energy shortages of every stripe bedevil this country...And gas lines this month reached new lengths, creating yet another venue for violence. At least two men have been killed in Baghdad over places in line or allegations of watering down the goods.⁶

This item refers to the effects of gasoline price controls in a country rich in oil reserves. Inelastic demand and supply disruptions and cutbacks form a good recipe for queue violence. And if you think that it is ironic that a country with so much oil has gasoline price controls, ask yourself: Why did the U.S. (if this was a war about oil) allow Iraq to remain in OPEC?

C. U.S.

The following recounts some episodes during the price controls on gasoline adopted during the latter part of the Carter Administration (*Time*, 1979):

In suburban Bethesda, Md., Texaco Station Owner Robert Cooke was tired of the hassle. He had watched fistfights in the lines and been offered bribes by motorists seeking short cuts. 'Women have offered to go in the back room with me. Once a guy cut in line, and a woman went up and tried to pull him out of his car. Sometimes you wonder if the money you make is worth all this.'

⁶ Vick, Karl. 2004. "Iraqis' Dismay Surges as Lights Flicker and Gas Lines Grow." *Washington Post*, December 23: 4.

Two murders had resulted from gas brawls in that borough. Andrew Medosa, 22, was shot and killed at an Amoco station, according to police, by Dennis Resales, 23, after their two cars collided as each tried to switch into a different gas line. Fritz Boutain, 29, got into a fight with an unidentified assailant after their two cars bumped at a Shell station. The other man pulled a knife, stabbed Boutain fatally, and fled.

In Braintree, Mass., Sunoco Station Manager Bruce Weir was laboring over his books at 6:15 a.m. 'I saw a fellow pull up to the pump in a late model Chevy Malibu and I went out and knocked at the window and I said, 'I'm sorry, sir, we don't sell gas till 7.' I started back and got two steps from the door when I felt a big bang on my left leg. I grabbed my leg. Below me was a bottle of Heineken's, half full. Now I walk backwards.'

And all of this resulted from the policies adopted by a winner of the Nobel Peace Prize.

D. Iran

As reported by *Turkish Press.com* (2007):

Angry youths torched petrol stations and long queues formed at fuel pumps after oil-rich Iran announced the start of fuel rationing, triggering nationwide protests on Wednesday.

This is another example of an oil-rich country shooting itself in the foot.

E. Summary

We could go on, as the examples are countless. And these are what might be termed obvious examples in which someone gets killed or cars are torched. Do not forget our earlier discussion in which the violent effects of price controls are much more subtle. Those priced out of low-skill labor markets may turn to criminal activities or drug use. The cumulative effects of price controls on society are deep, sustained, and profound. In addition to murder, maybe the Carter price controls increased stress, which increased alcoholism, which led to more spousal abuse. Or they caused more

“bad days at the office” and led to the same result. A full accounting is beyond our capabilities at this point, but the extent of damages here easily exceeds a couple of murders and a few burnt cars and service stations. For example, maybe certain social pathologies and health outcomes are related to price controls, all else the same. A suggestive list would include heart attacks, alcoholism, divorce, school absenteeism, productivity growth, road rage, cynicism, obesity, and so on. Though subtle effects, they are nonetheless testable implications of the impact of price controls.

V. Conclusion

Queuing resulting from profit motives, while it can be a source of violence, is less so than queuing resulting from a large reliance on political influence in allocating goods. The profit motive clearly limits the length of queues below what can be expected to result from political motives, which are less concerned with the revenues suppliers receive. Indeed, queues resulting from government price controls are commonly motivated by the desire to reduce revenues to suppliers. And when queues are primarily the result of profit incentives, they will be limited by greater concerns over the queues’ adverse effects on consumers who will have more alternatives to avoid those adverse effects than when government policy becomes a major cause of queues. In the latter case, the policies that cause queues tend to be broadly applied, creating ubiquitous queues that leave people with few, if any, alternatives for avoiding them. It is not just that a few goods and services have to be queued for when acquired from a few suppliers, but most goods have to be queued for no matter where acquired. Queuing becomes a constant and unavoidable irritation that contributes to a widespread hostility that erodes the ability of people to tolerate frictions with others, making queuing even more aggravating. This can easily result in a climate of conflict and violence.

It would be an exaggeration to claim that queues caused by private businesses are a source of serious and systematic violence. (In the example of the rock-and-roll band given earlier, violence is actually part of the “Z-good” offered by the concert.) It is not an exaggeration to claim that queues caused by government policies in countries where political considerations have led to widespread controls on the prices of energy, food, housing, labor, and many other goods and services have often been associated with widespread

violence. No one would claim that queuing is the only reason for the violence that often breaks out in countries that impose policies that make widespread queuing inevitable. But this queuing clearly contributes to the aggravation and hostility that causes general violence in these countries, and violence in the queues themselves. Consider, for example, the insanity presently unfolding in Zimbabwe.

References

- Barzel, Yoram. 1974. "A Theory of Rationing by Waiting." *Journal of Law and Economics*, 17(1): 73–96.
- Batabyal, Amitrajeet. 2005. "On the Allocation of Commodities by Queuing and the Prevention of Violence." *Economics Bulletin*, 15(14): 1–7.
- Becker, Gary S. 1991. "A Note on Restaurant Pricing and Other Examples of Social Influence on Price." *Journal of Political Economy*, 99(5): 1109–16.
- Frank, Robert H. 1988. *Passions Within Reason*. New York: W.W. Norton & Company.
- Haddock, David D., and Fred S. McChesney. 1994. "Why Do Firms Contrive Shortages?: The Economics of Intentional Mispricing." *Economic Inquiry*, 32(4): 562–81.
- Landsburg, Steven E. 1993. *The Armchair Economist*. New York: Free Press.
- Lindsay, C.M., and B. Fiegenbaum. 1984. "Rationing by Waiting." *American Economic Review*, 74(3): 404–17.
- Munger, Michael. 2007. "They Clapped – Can Price-Gouging Laws Prohibit Scarcity?" January 8.
<http://www.econlib.org/library/Columns/y2007/Mungergouging.html>
- Time*. 1979. "Hours of Waiting to Fill the Tank," July 2.
<http://www.time.com/time/magazine/article/0,9171,916818,00.html>
- TurkishPress.com*. 2007. "Angry Protests Flare in Iran over Petrol Rationing." June 27. http://www.turkishpress.com/news.asp?id=182836&s=&i=&t=Angry_protests_flare_in_Iran_over_petrol_rationing