Marshallian Utilitarianism: An Issue for Anarcho-Capitalism?
Friedman’s Anarcho-Capitalism

In the early 1970’s, David Friedman released his book, The Machinery of Freedom, where he introduced his idea of a fully voluntary society. In such a society, government – “an agency of legitimized coercion” (1989, p. 112) – would not exist. Instead, all functions currently performed by governments would be performed by individuals or firms through voluntary agreements. One such service he mentions specifically is protection and court services.

Friedman theorized that there would be numerous security agencies providing protection to their respective customers, and each firm could potentially have different laws. He went on to explain how inter-firm disputes would be settled via arbitration because the alternative, war, is costly.

Since it would be difficult for firms to agree on an arbitrator after a dispute had arisen, Friedman argues that each firm would enter into bilateral agreements with every other firm to specify an arbitrator agreeable to both firms prior to any disputes taking place. The problem comes about when customers from different firms (with different laws) have disputes with one another. The example Friedman (1989) gives is whether or not to allow capital punishment:

Obviously there is no way that if I kill you the case goes to one court, but if you are killed by me it goes to another. We cannot each get exactly the law we want. We can each have our preferences reflected in the bargaining demands of our respective agencies. If the opponents of capital punishment feel more strongly than the proponents, the agencies will agree to no capital punishment; in exchange, the agencies that want capital punishment will get something else. Perhaps it will be agreed that they will not pay court costs or that some other disputed question will go their way. (p. 118)

In this situation, Friedman argues that the efficient outcome will be reached by individuals bidding for their preferred laws. This bidding would not be performed directly by the individuals, but rather by the firms they hire: “The pro[-capital-punishment] agency calculates that getting a pro-capital-punishment court will be worth $20,000 a year to its customers…. The anti-capital-punishment agency calculates a corresponding figure of $40,000. It offers the
pro agency $30,000 a year in exchange for accepting an anti-capital-punishment court. The pro agency accepts” (p. 118). In this situation, the *efficient* situation, everyone is made better off by the agreement, otherwise they would not have agreed to it. The unstated assumption in this analysis, which would make the efficient situation the utility maximizing one, is that a dollar is a dollar to every individual.

In order to make a claim that utility is maximized under a Marshallian efficiency rule, one must be able to say that each person values a dollar to the same extent as all other individuals do – in economic lingo, each individual places the same number of utiles on a dollar.1 Due to the law of diminishing marginal utility, it is likely that a rich man will value his last dollar less than a poor man will value his. Marshall realized the potential issues with his efficiency criterion; however, as Friedman (1996) explains:

> [T]he changes economists are usually asked to evaluate are ones that affect large and diverse groups of people [both rich and poor]…. In such cases, individual differences could be expected to cancel out, so that the change that improved matters in Marshall’s terms probably also made things better in the vaguer and more important sense of increasing total human happiness.” (p. 219)

In other words, because there are likely to be similar numbers of both rich and poor men on each side of a particular law (capital punishment for example), the differences in each individual’s valuation of a dollar are likely to cancel out. If, however, those who support a particular law are sufficiently poorer than those who oppose it, we may run into a situation where the *efficient* outcome is not the *utility maximizing* outcome.

When Poor versus Rich Becomes Reality

There is no reason to expect that those in support of capital punishment are to any great extent richer or poorer than those who oppose it. This is not the case for all laws. Take family law – child custody, child support, division of family property, spousal support, etc., on average
women are poorer than men. In terms of income, they make between 60-80 percent what men make for working similar jobs, plus there is a higher participation rate for men than women in the workforce (meaning many women have no income). Because of this, it is assumed that women, on average, make half the income of men.²

In a family law case, it is quite easy to see that women will prefer one law whereas men will prefer the opposite. In the example of child custody, women would clearly prefer a law that says women always get full custody, whereas men would prefer a law that says men always get full custody. To show that Marshallian efficiency does not always lead to utility maximization, the following premises will be assumed:

(1) Each parent has a utility function of \( u(c) = \sqrt{c} \) (and marginal utility function of \( MU(c) = \frac{1}{2\sqrt{c}} \)); where \( u(c) \) is the utility of the parent as a function of \( c \), which is the percentage of time the parent gets to spend with the child.³

(2) Men have incomes of $100/week and women have incomes of $50/week.⁴

(3) Each parent has a utility function of \( u(x) = 10\sqrt{x} \) (and marginal utility function of \( MU(x) = \frac{5}{\sqrt{x}} \)); where \( u(x) \) is the utility of the parent as a function of \( x \), which is weekly income.

(4) There are five laws being offered by security agencies, each of which is a different way of splitting up custody between the man and the woman during a divorce:

(a) Male = 100%, Female = 0%
(b) Male = 75%, Female = 25%
(c) Male = 50%, Female = 50%
(d) Male = 25%, Female = 75%
(e) Male = 0%, Female = 100%
If the efficient outcome were the same as the utility maximizing outcome, law $c$ would result since utility is maximized where the male’s and female’s individual utility curves intersect (see Figure 1 in the Appendix). The reason the Marshallian efficiency condition does not lead to utility maximization is that people do not get to bid for their policy in utiles; rather, they must bid in dollars.

To determine what the actual outcome will be, both the utility of spending time with one’s children and the utility of weekly income will have to be taken into consideration. The framework that will be implemented in order to figure out what law will be agreed to is the auction model. In this model, one quarter of the available time to spend with the child will be auctioned off at a time. The maximum amount one individual will be willing to pay is when the number of utiles from a particular amount of money is equal to the utility gained from the additional amount of time he/she is able to spend with his/her child. The equation from assumption 1, gives the marginal utility function $MU(c) = \frac{1}{2\sqrt{c}}$; so each parent is willing to spend more money until the utility from a given sum of money equals the utility gained from a marginal increase in access to his/her child. The first quarter of custody is auctioned off, and since they each have identical utility functions, the utility gained by each parent from this first quarter of access is the same:

$$\text{Marginal utility for 25% access: } MU(0-25) = \int_{0}^{25} \frac{1}{2\sqrt{c}} \, dc = \sqrt{25} - \sqrt{0} = 5 \text{ utiles.}$$

Now this must be set equal to the utility functions for income in order to determine how much each is willing to spend:
Marginal utility of income = 5 utiles for the man when \( \int_x^{100} \frac{5}{\sqrt{x}} \, dx = 5 \)

\[
10[\sqrt{100} - \sqrt{x}] = 5
\]

\[
10 - \sqrt{x} = 0.5
\]

\[
9.5 = \sqrt{x}
\]

\[
x = 90.25
\]

\[
100.00 - 90.25 = 9.75
\]

This says that the man is willing to spend $9.75 to get 5 utiles from the additional access to his child. When the same analysis is done on the women’s income, the result is that she is willing to spend only $6.82:

Marginal utility of income = 5 utiles for the woman when \( \int_x^{50} \frac{5}{\sqrt{x}} \, dx = 5 \)

\[
10[\sqrt{50} - \sqrt{x}] = 5
\]

\[
\sqrt{50} - \sqrt{x} = 0.5
\]

\[
\sqrt{50} - 0.5 = \sqrt{x}
\]

\[
x = 43.18
\]

\[
50.00 - 43.18 = 6.82
\]

Because the man is willing to spend more than the woman for this amount of access to the child, he has bought the first 25% of time with the child for a penny more than the woman is willing to pay, $6.83. Now when auctioning off the second quarter of access time, the man is bidding on how much he values an increase from 25% to 50%, while the woman is still bidding on 25%, because the man already has some access and the woman does not. The lost income from the man must also be taken into account by lowering his upper bound of income from $100.00 to $93.17. The amount of money the woman was willing to spend will be the
same as the first round of the auction since she has not yet bought anything, but the man’s will be different:

Marginal utility for 50% access: \( MU(25-50) = \int_{25}^{50} \frac{1}{2\sqrt{c}} \, dc = \sqrt{50} - \sqrt{25} = 2.07 \) utiles.

Marginal utility of income = 2.07 utiles for the man when \( \int_{x}^{93.17} \frac{5}{\sqrt{x}} \, dx = 2.07 \)

\[
10[\sqrt{93.17} - \sqrt{x}] = 2.07
\]
\[
\sqrt{93.17} - \sqrt{x} = 0.207
\]
\[
\sqrt{93.17} - 0.207 = \sqrt{x}
\]
\[
x = 89.21
\]
\[
93.17 - 89.21 = \$3.96
\]

Since the man is only willing to spend \$3.96 and the woman is willing to spend \$6.82, the woman will buy this amount of access for a penny more than the man is willing to spend, \$3.97. This process will continue for the third and fourth quarters of child access. Because the man values both of the next two quarters of access more than the female (in dollar terms), the end distribution ends up being outcome b, where the man has the child 75% of the time and the woman only gets the child 25% of the time.\(^6\) From a utilitarian’s perspective (such as Marshall or Friedman himself), this system of anarcho-capitalism has some flaws. Though Friedman’s anarcho-capitalism does not always lead to utility maximization, it may very well be the greatest good for the greatest number of people that is actually possible.

The fact that Friedman’s system does a worse job than an ideal theoretical system (such as one that presumes a benevolent government that also knows all utility functions) does not say anything about the desirability of his system. Instead of judging it based on ideal standards, it should be put up against the next-best real world alternative. [This and more can be found in the next paper].
Appendix

Figure 1: Individual and Total Utility Curves for Custody Options

Total utility is maximized where two individual's marginal utility curves intersect. This is due to the assumption that they have identical utility curves, and that one's increase in utility is the other’s loss (time with one’s children is a zero-sum game).
Endnotes

1 More specifically, the marginal utility for each dollar spent must be equal for all individuals.
2 The validity of this claim is debatable; however, using it as an assumption makes it easy to illustrate the point. If one were to find the actual empirics, women most certainly do make less than men, it is simply a matter of how much less. In the end, the results of this analysis would be the same, the math would just be much more difficult.
3 What this equation says is that each parent prefers spending more time with his/her child to spending less time with his/her child, but decreasing marginal utility does apply.
4 See endnote 2.
5 It should be noted that the man is not actually bidding himself but that he is bidding indirectly through his agency. This makes no difference on the outcome, because the firm is willing to supply the law to the one who is willing to pay the most, and this is the way to figure out who is willing to pay the most.
6 For the third quarter, the man is willing to spend $3.96 versus the woman’s $2.77, so he pays $2.78; and the fourth quarter, the man is willing to spend $3.00 versus the woman’s $2.77, so he pays the same $2.78 and ends up with custody of the child 75% of the time.
References
