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Takings, Fiscal Illusion, and the Median Voter

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Abstract

Schweizer (2017) provides a powerful and general way of using compensation payments to induce efficient actions. Its application to takings under fiscal illusion, however, is problematic. A better model would assume that the government decides to take property by considering effects on the median voter. Under that assumption, payments based on the market value of land, assuming non-excessive investment, induce efficient action by both landowners and the government.

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1 Introduction

Urs Schweizer (2017) provides a powerful and very general framework for analysis of a wide range of legal issues. It reconciles fairness and efficiency by showing how properly constructed compensation payments provide parties with efficient incentives. This comment focuses on Schweizer's application of his framework to governmental takings.

Schweizer's key insight is that takings can be analyzed like other situations with two active parties and a passive third party. The two active parties are the owner and the government. The owner must decide whether to make a land-related investment, such as building a house. The government must decide whether to take the land and use it for some other project, such as building a park. The passive third party is the public, which receives the benefit of the taking. Appropriately crafted compensation payments can induce the government and landowner to take efficient actions.

Nevertheless, the analysis of takings is more complicated than issues relating exclusively to private parties, because the government's utility is ordinarily not independent of the public, but instead is derived, at least partly, from the utility of individuals. In particular, for reasons discussed in Section 4, Schweizer's application of his framework to takings under fiscal illusion is problematic. A better model, sketched in Section 5, would assume that the government decides to take property by considering effects on the median voter. Under that assumption, payments based on the market value of land, assuming non-excessive investment, induce efficient action by both landowners and the government.

2 The Basic Model and Notation

For simplicity, this comment will use notation that is tailored to the analysis of takings. This notation can be easily translated into Schweizer's more general notation.

At time 1, a landowner must decide whether to invest an amount, I , in a project that will increase the value of its land by V . For simplicity, assume the value of the land without investment is zero. At the time the landowner makes the investment decision, there is some known probability, p , described more fully below, that it may be socially beneficial for the government to take the land. If the government takes the land, the landowner's investment will be worthless. For example, if the investment was building a house, the government would tear down the house. It is most interesting to consider two kinds of investment: a low investment, I_L , that would be efficient even taking into account the possibility that a taking might take place and even if no compensation were paid, and a high investment, I_H , that would be more profitable if there were no chance of a taking, but not profitable given probability p of a taking without compensation. Let V_L and V_H be the value of the land with those investments. So $I_L < (1 - p)V_L$ and $(1 - p)V_H < I_H < V_H$, where $I_L < I_H$ and $V_L < V_H$ and $V_H - I_H > V_L - I_L > 0$.

At time 2, the government must decide whether to take the land. With probability $(1 - p)$ there will be no plausible project, perhaps because another more suitable piece of land becomes available, so

the benefit, B , of taking will be zero. With probability p , the project will have net benefit, $B > V_L$, to the public, not taking into account the value of the land taken, V , or any compensation paid. Compensation to the landowner, if any, is denoted by C . For simplicity, everyone is assumed to have the same marginal utility of money, so social welfare is just the sum of the payoffs. Also for simplicity, the landowner is not considered part of the public, or the public is made up of so many people that only an infinitesimal fraction of the benefit goes to the landowner.

At the time the government makes its taking decision, the investment is a sunk cost, so the social benefit of the project, is $B - V$. It is most interesting to consider situations where $B < V_H$, so the net social benefit is positive for low investment but negative for high investment.

Note that the socially optimal set of actions is for the landowner to make the low investment and for the government to take the property when there is a plausible project, that is, when $B > V_L$. A set of parameters that would satisfied the conditions in this section would be $p = 0.5$, $I_L = 10$, $I_H = 20$, $V_L = 25$, $V_H = 36$, and $B = 30$.

3 A Benevolent Government

Takings when the government maximizes social welfare were first rigorously analyzed by Blume, Rubinfeld and Shapiro (1984). Their article contains two main insights. First, the prospect of compensation influences a landowner's decision to invest. In particular, compensation, like insurance, could cause moral hazard, in which landowners make inefficiently high levels of investment. Second, and more subtly, if the government is benevolent, the landowner can prevent a taking by investing a sufficient amount in the property that taking is no longer social-welfare maximizing.

A benevolent government takes property if $B - V > 0$. Compensation, C , is a transfer and has no effect on the government, because the benefit to the recipient is exactly offset by the harm to the payor.

Consider, a rule of full compensation, $C = V$. This will lead to suboptimal results, because the landowner will make the high investment. Because it will be compensated V_H if the property is taken, the return to high investment is V_H whether the property is taken or not. So the landowner makes the high investment. The government, in turn, does not take the property, even if there would be a plausible project, because, given high investment by the landowner, the net social benefit of the taking is negative, $B - V_H < 0$. Thus full compensation leads to suboptimal results.

Surprisingly, low or zero compensation (e.g. $C < \alpha V$, where $\alpha < 1$) also leads to overinvestment by the landowner. If the landowner makes the high investment, a benevolent government will not take it, because the net social benefit is negative. A landowner will want to make this investment, because, if there is no taking, high investment gives it the greatest benefit, $V_H - I_H > V_L - I_L > 0$. So the landowner will strategically prevent the taking by making the high investment, even though that is not socially optimal.

Schweizer shows that there is a rule that gives the landowner efficient incentives: require the landowner to pay the public B when a taking does not occur on account of the landowner's inefficient choice of high investment. That is, the landowner must compensate the public for the landowner's inefficient action. Just as a tortfeasor must compensate a victim for the consequences of its wrongdoing, so the landowner must compensate the public for the consequences of an inefficient investment that effectively blocks an otherwise beneficial taking.

4 Fiscal Illusion

Following Blume, Rubinfeld and Shapiro (1984), Schweizer (2017) also considers the possibility that the government is affected by budgetary fiscal illusion. In this situation, the government takes property if:

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$$B - \phi(V - C) - C > 0$$

(1)

where $0 \leq \phi < 1$. For a benevolent, social-welfare maximizing government, $\phi = 1$. If the government completely ignores the welfare of the landowner whose property was taken, $\phi = 0$. The government decision rule is thus different from that of a benevolent government in two ways. First, it underweights the harm to the owner, $\phi(V - C)$. Second, it treats compensation as a cost rather than a neutral transfer.

Schweizer argues that incentives can be aligned, as in the case of a benevolent government, by requiring a second transfer payment. That is, when there is a taking, the government must not only pay the landowner, but also, counterintuitively, the public. To calculate the appropriate payment, Schweizer computes the “as if utility”¹ of the government by rewriting the government’s condition for taking, (1), so that compensation, C , is on the right-hand side:

$$\frac{B - \phi V}{1 - \phi} > C$$

(2)

Schweizer then subtracts the net public benefit, B from the left-hand side, to derive the compensation that the government would need to pay the public:

$$\frac{\phi}{1 - \phi} (B - V)$$

(3)

In the ordinary situation involving private parties this would make sense. That is, if X takes an action that affects Y, one can derive the appropriate compensation from X to Y by subtracting the sum of the payoffs to X and Y from the payoff to just X. If the payoff to just X is larger than the sum of the payoff to X and Y together, then the difference represents harm to Y, for which X should compensate Y. Schweizer has simply applied that formula to the takings context, where X is the government, and Y is the public, and where the payoff to X (the government) is represented by the “as if utility” in (2). Nevertheless, this procedure produces results that are problematic for four reasons.

First, what would it mean for the government to pay compensation to the public? The money would have to come from somewhere, presumably from the public or the landowner. If the money came from the public, it would offset the transfer itself. Alternatively, if the money came from the landowner, it would reduce or completely negate the compensation that the landowner is supposed to receive.

Second, it is strange for the government to be compensating the public when the government is taking property and using it to benefit the public. The government is not harming the public, but instead providing a benefit.

Third, the transfer payments mandated by (3) could be extremely large. For example, if $\phi = .9$, $B = 30$, and $V = 25$, then the compensation from the government to the public would be 45. That is, the government would have to pay the public an amount greater than the benefit of the project for which it is taking the land, not to mention larger than the compensation paid to the landowner who is genuinely harmed by the taking.

Fourth, the utility function assumed by the compensation payment is not consistent in the way it handles monetary and non-monetary benefits to the public. Taking into account the compensation payments to both the landowner and the public, the government takes the property if:

¹ Christoph Engel suggested this term.

$$\frac{B - \emptyset V}{1 - \emptyset} > C + C_{public}$$

where C_{public} is the compensation paid by the government to the public. Rearranging the terms, the government takes the property if

$$B - \emptyset(V - C) - C + \emptyset C_{public} - C_{public} > 0 \tag{4}$$

This expression is, of course, similar to expression (1), the condition for taking under fiscal illusion without consideration of payments from the government to the public. The only differences are the terms reflecting compensation to the public, $+\emptyset C_{public} - C_{public}$. The second term, $-C_{public}$, represents the harm perceived by the government from paying the compensation to the public, whereas the first term, $+\emptyset C_{public}$, represents the benefit perceived by the government from compensating the public. The fact that the second term includes \emptyset means that the government discounts the benefit to the public provided by compensation. This is strange, because when considering the benefit of the project itself, B , the government does not discount by \emptyset . That is, when deciding whether to take property, the government fully considers non-monetary benefits to the public, B , but discounts monetary benefits to the public, C_{public} . This does not make sense. If the government fully internalizes non-monetary benefits to the public (as expression (1) assumes), it should also fully internalize monetary benefits to the public. If monetary payments were fully internalized, the \emptyset in $+\emptyset C_{public}$ would disappear, and C_{public} would simply drop out of expression (4), meaning that payments to the public could not be used to align the government's incentives with social welfare.

5 The Median Voter

A simpler model that is both more plausible and provides a more secure foundation for compensation would view the government as one that calculates costs and benefits from the perspective of the median voter. This perspective makes sense in a democracy, where the government needs more than fifty-percent support to stay in power. See Fischel & Shapiro (1989). If one assumes that there are n voters, of whom the landowner is just one, and if one assumes that the taking is funded by a lump-sum tax, then the government takes the property if:

$$\frac{B - C}{n} > 0$$

which simplifies to: $B - C > 0$. In this situation, it is easy to derive compensation payments that provide efficient incentives to both the landowner and government. The efficient compensation is $C = V_L$, if the landowner invested in the land, and $C = 0$ if the landowner did not invest in the land. That is, if the landowner overinvested, it does not get compensated for the additional value of the land that results from the overinvestment. This removes the incentive to overinvest in the land.² Unlike the situation of a

² The landowner would have an incentive to make the high if the incremental net benefit of high investment over low investment were greater than zero:

$$(1 - p)(V_H - V_L) - (I_H - I_L) > 0$$

Rearranging the terms, there would be an incentive to make the high investment if:

benevolent government, there is no strategic benefit to the landowner from overinvesting in the property, because governmental decisions based on the median-voter criterion are not affected by the value of the land taken, but only by the compensation to be paid.

This solution is simple and roughly matches the law in most places. Compensation is paid by the government only to the affected landowner and only when the property is taken. Compensation payments are based on the value of the land, but the government does not compensate landowners for inefficient investments made when a taking is likely.

Of course, this solution requires some strong assumptions, most importantly a lump-sum tax or other tax in which the median voter pays the average amount of tax. If the government raises funds through a progressive income tax, that is not likely to be the case. If so, the government may take property too often, because the median voter is likely to receive a proportionate share of the benefits, but pay less than its proportion of the cost.

6 Conclusion

Schweizer's analysis provides an elegant framework for analysis of many legal issues. Nevertheless, Schweizer's application of his framework to takings under fiscal illusion requires payments from the government to the public, which are not theoretically sound, intuitively plausible, or in accordance with the law of any jurisdiction. A more plausible way of modeling takings is the median voter approach, which is simpler, more intuitive, and provides theoretical justification for current law.

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$(1 - p)V_H - I_H > (1 - p)V_L - I_L$
That is impossible because, under the assumptions in Section 2, the left-hand side is negative and the right-hand side is positive.