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# The Old Lady Visits Your Backyard: A Tale of Morals and Markets

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Local opposition to many projects makes it increasingly difficult to find sites for socially desirable facilities. As has been widely documented, compensation for local disamenities does not increase the level of support. An empirical analysis of the Swiss search for a nuclear waste repository even reveals decreased acceptance due to the rejection of bribes and the crowding-out of public spirit. However, a "compensation cycle" may be exploited to finally win the support of host communities. As siting issues are decided in the realm of politics, an economic theory of compensation must focus on the interplay between morals and markets.

## I. The NIMBY Problem and Compensation

Political decision makers in all industrialized, democratic countries are confronted with strong local opposition to major capital investments. Cries of "NIMBY" (Not in My Backyard) greet developers of nuclear power plants, waste incinerators, airports, prisons, and clinics for the handicapped (Rabe 1994; Easterling and Kunreuther 1995).

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Although citizens readily acknowledge that these collective enterprises are socially desirable, they are not prepared to have them carried out in their immediate neighborhood. This is not surprising since the prospective host community has to bear the negative externalities associated with these projects. Supporting NIMBY projects is a public good.<sup>1</sup> Economists have devised handy tools to deal with NIMBY problems. As the aggregate net benefits of undertaking these projects are positive, one must simply redistribute them in an appropriate way. Host communities must be compensated to make their net benefits positive, and everyone else is taxed to raise the sum of compensation. Incentive-compatible auctions prevent prospective host communities from misrepresenting their preferences (Kunreuther and Kleindorfer 1986; O'Sullivan 1993). Although it may be argued that these auctions are questionable for reasons of fairness (Young 1993), they remain ingenious because the trade is voluntary. All participants are made better off and the outcome is Pareto superior to the project's not being executed at all.

In reality, however, siting procedures based on price incentives are rarely successful. The search for hazardous waste landfills and nuclear waste repositories in the United States provides a good example: Despite the use of hefty compensation, only one small radioactive waste disposal facility and a single hazardous waste landfill (located in—*nomen est omen*—Last Chance, Colo.) have been sited since the mid-1970s (Gerrard 1994). States that rely on compensation-based siting have experienced no greater success than those using other methods (Portney 1991, pp. 28–29).

In this paper, we analyze why compensation schemes frequently fail. The traditional economic theory of compensation is incomplete in important respects because it neglects the influence of moral principles. In the sphere of politics, where NIMBY battles are typically fought, such moral considerations dampen the effects of price incentives. In Section II of this paper, we develop a more complete theory of compensation: If offered in a political context, monetary compensation initially reduces the support for a facility due to the *bribe effect* and the *crowding-out* of public spirit. In Sections III and IV, these counterproductive effects of financial incentives are empirically tested in the case of siting a nuclear waste repository. Section V discusses the interplay between market forces and moral considerations that may produce a compensation cycle. Section VI offers policy conclusions and extends our analysis to the public support for the development of new technologies.

<sup>1</sup> We define NIMBY projects as all undertakings that increase overall welfare but impose net costs on the individuals living in the host community.

Our work has been stimulated by an idea in the tragic comedy *Besuch der alten Dame*—literally *The Visit of the Old Lady*—written by Swiss dramatist Friedrich Dürrenmatt.<sup>2</sup> Claire Zachanassian, the incredibly rich widow of an Armenian oil tycoon, returns to her native town and demands justice for the wrong done to her in her youth. At that time, she became pregnant by her lover, a young man named Alfred Ill. After he repudiated his fatherhood, she brought a paternity suit against him. He won the case by bribing two members of the community to bear false witness. Claire Zachanassian now offers a gift of \$1 billion to the community if Ill is put to death. This offer is first rejected by the citizens as being deeply immoral. However, they subsequently raise their individual consumption and increasingly accumulate debts, which finally induce them to collectively kill Ill. The old lady, having seen justice done, pays the sum and leaves.

## II. A More General Theory of Compensation

*Conventional economic analysis* assumes that offers for monetary compensation increase the willingness to accept otherwise unwanted projects. To win the support of a prospective host community, the compensation offered has to be large enough to offset the net disutility imposed by the facility. Such negative externalities include the risk posed by the project, as well as expected economic impacts (loss of employment or declining property values). If the desired support does not materialize, the compensation needs to be increased. Thus it is taken for granted that it is possible to move on a supply curve for the acceptance of locally unwanted projects. How, then, can the frequent failure of compensation schemes be explained? We propose the *bribe effect* and the *crowding-out of intrinsic motivation* to be the key factors for understanding this phenomenon.

### A. The Bribe Effect

Innumerable case studies regarding siting disputes show that compensation offers are commonly regarded as bribes (e.g., O'Hare, Ba-cow, and Sanderson 1983; Portney 1991). If individuals incur moral costs by publicly showing that their approval can be bought, the introduction of monetary incentives generates two countervailing effects:

<sup>2</sup> Dürrenmatt (1921–90) is considered to be the foremost modern dramatic writer in the German language. *The Visit* is generally acclaimed to be his masterpiece. The 20th Century Fox movie *The Visit*, directed by Bernhard Wicki and starring Ingrid Bergman and Anthony Quinn, brought the story to the attention of an international audience. The *Times* critic Irving Wardle called *The Visit* a piece that “sets no limits to human corruptibility.”

It increases the likelihood of acceptance by reducing the net disutility generated by the facility, and it reduces the willingness to accept the noxious facility by imposing moral costs.

Economists tend to overlook the moral costs of accepting price incentives, and most often rightly so: In a market setting, the bribe effect does not dominate the relative price effect. However, most siting decisions are not made in the market, but in the realm of politics, where moral principles play a much more important role. At the polls, expressing moral views is inexpensive because an individual citizen has practically no chance to decide an issue in a community of some size. Therefore, the opportunity costs of supporting or rejecting the siting proposal are neglected, and moral views tend to dominate the voting decision (see Tullock [1971] and Brennan and Lomasky [1993]; for experimental evidence, see Eichenberger and Oberholzer-Gee [1996]).

The cost of moral behavior is the most important determinant for the size of the bribe effect. In addition, there are a number of other conditions that account for its prevalence: First, not all public issues pose pertinent moral questions. Moral considerations loom larger if voters decide on subsidizing abortion clinics or cutting welfare programs than if they consider erecting a new building for government administration. Second, the bribe effect will be smaller if compensation is paid in-kind and thus directly offsets the negative impacts of the facility. O'Hare et al. (1983) discuss a number of siting projects in which environmental groups refused monetary payments but agreed to the disputed projects after an in-kind restoration of nature at some other place had been offered. In the case of noxious facilities, many compensation packages contain the extension of medical facilities or the supply of fire fighting equipment. To our knowledge, there is no single siting case in which compensation consisted of cash payments to individual residents living in the host community.

### *B. Crowding Out Public Spirit*

Publicly spirited citizens may vote in favor of hosting noxious facilities if they feel that it is their duty to contribute to the well-being of their region. This behavior need not be irrational. The formation of such preferences may be the result of selfish parents trying to rig their children's preferences toward altruistic behavior (Becker 1992). Individuals then raise their utility by living up to their civic duty. There is ample evidence that residents living in prospective host communities care about the social consequences of siting disputes and are prepared to contribute to the public good. For example, when private net costs are held constant, residents are more willing to vote in favor

of NIMBY projects if there is a "need" for the facility (Lober and Green 1994), if their own site is safer than other locations available (Dunlap and Baxter 1988; Kunreuther, Fitzgerald, and Aarts 1993), and if the site selection process allocated the burdens in a "fair" manner (Frey and Oberholzer-Gee 1996).

Where public spirit prevails, monetary compensation may lower acceptance levels for NIMBY facilities because monetary rewards deprive individuals of the possibility of indulging in altruistic feelings. After all, no one can pretend to act out of civic duty if the compensation package in itself offsets the disutility generated by the facility. Moreover, experiments in social psychology show that compensation not only destroys the possibility of showing one's intrinsic motivation but, under specific conditions, negatively affects this motivation itself. Extrinsic (price incentives) and intrinsic (public spirit) motivations must be regarded as scarce factors guiding human behavior. Rational actors respond to increasing external financial incentives by reducing the scarce motivator that is under their control; that is, they lower their public spirit (Deci and Ryan 1985; Lane 1991). This substitution is consistent with an economic model of behavior (see Frey [1994] for a more detailed account of the reasons why this substitution is rational). If these "hidden costs of reward" are taken into account, compensation crowds out public spirit and reduces the willingness to permit siting, while adding an additional motivation (financial rewards) to support the construction of the facility.

The crowding-out of civic duty prevails under specific conditions: First, as a prerequisite, the initial public spirit must be of considerable size. The willingness to contribute to the public good is positively correlated with the gain in overall welfare. Second, the crowding-out effect is stronger in political than in private decisions because the opportunity costs of forgoing compensation are hardly accounted for at the polls. In the political realm, intrinsic motivation may initially (without compensation) dominate the rational voter's decision calculus and thus lead to unexpectedly high levels of support for the siting of a noxious facility. When price incentives are introduced and civic duty is crowded out, intrinsically motivated support dwindles. Third, public spirit is crowded out to an even larger extent if regulations are used instead of price incentives. The fewer motivational adjustments an individual is allowed to make, the more intrinsic motivation is crowded out. While price incentives preserve the freedom to undertake an activity, although at a higher price, regulations are even more restrictive. Therefore, the latter more fully crowd out civic duty. Indeed, the majority of siting cases in which regional or central governments attempted to coerce communities into accepting facilities have ended in violent protests (Rabe 1994).

### C. *Hypotheses*

A more general theory of compensation, we contend, takes the bribe and the crowding-out of public spirit effects into account. Moreover, it recognizes that both effects become larger as we move from private decision making, where opportunity costs are fully accounted for, to voting decisions. The theory leads to three testable propositions for the case of siting locally unwanted projects: (1) Introducing monetary compensation decreases the existing willingness to host a noxious facility if the bribe and crowding-out effects outweigh the standard relative price effect. (2) People partially support siting proposals out of consideration for the public good. Once price incentives are introduced, the acceptance-enhancing role of variables associated with civic duty will vanish. (3) When public spirit has been crowded out and the bribe effect dominates the individual decision calculus, variations in compensation offers leave the expressed willingness to accept a site unaffected.

## III. Testing for Public Spirit

We empirically test these three propositions using as an example Switzerland's search for a low- and mid-level radioactive nuclear waste repository. The Swiss developer experienced extreme difficulty in finding a site because of strong local opposition. In June 1993, it was proposed to build the repository in Wolfenschiessen, a small village (population 2,100) of 640 families located in central Switzerland. Half a year before this announcement was made, we conducted a one-hour personal interview with 305 persons living in Wolfenschiessen. At that time, four communities were still under consideration as possible sites. Many respondents found it likely that Wolfenschiessen would be chosen.<sup>3</sup> In order to test the theory, it seemed ideal to conduct a survey. As at the polls, moral behavior is inexpensive in interviews. Respondents know that their answers are not binding and that they are unlikely to influence the aggregate outcome. Carefully conducted, personal surveys are thus generally thought to represent how people would vote in an actual referendum (Arrow et al. 1993).

We asked all respondents whether they would vote in favor of building the Swiss low- and mid-level radioactive waste repository in their community if the developer and the federal parliament proposed this. The procedure we described was identical to the one actu-

<sup>3</sup> Details on the survey, the methodology, and the institutional background are given in Oberholzer-Gee et al. (1995). For the purpose of comparison, we also conducted a 1-hour survey with 600 respondents living in communities that were not likely to be chosen as sites.

ally employed in Switzerland. In order to build a repository, the developer, the federal parliament, and the local town hall meeting all have to agree on the project. A bare majority (50.8 percent) of the citizens living in the host community indicated that they would support this siting decision.

Table 1 presents the results of a binary logit analysis testing a model for the acceptance of noxious facilities (cols. 1 and 2). The model contains three classes of variables. First, economic consequences influence the voting decision. As individual estimates of the risks posed by the repository get larger and expected economic consequences become more negative, the level of support is expected to decrease. Homeowners are less likely to vote for the facility because there are no provisions to protect property values.

Second, our model tests for the level of public spirit: If civic duty matters, supporters of nuclear energy may exhibit a greater willingness to also support the siting of the repository in their hometown.<sup>4</sup> From a moral perspective, one cannot argue that it is desirable for Switzerland to generate nuclear energy and then not contribute to solving the waste problem. Likewise, we expect respondents to support the facility more strongly if the site selection rule is thought to be acceptable. A sensible site selection process identifies comparatively safe locations and thus minimizes social risks. Publicly spirited citizens care not only about the private risks but also about these social risks. The variable "importance of fair procedure" captures the individual concerns for procedural fairness. We expect it to be negatively correlated with the level of support: If a person sets very high standards in terms of fairness, it will become more difficult to find an appropriate siting rule and, thus, less likely that this person feels intrinsically motivated to support the project.

Note that, as in standard economic theory, none of the variables measuring public spirit should influence individual voting decisions. Enjoying the benefits of nuclear energy or approving of the current siting procedure in no way implies that *homo oeconomicus* is prepared to bear the costs of a noxious facility. Third, the model contains a number of personal characteristics as control variables. The dependent response of the estimates is supportive votes. Those who did not care about the construction of a nuclear waste repository were omitted from the analysis.

The results of the binary logit analysis correspond to our theoretical expectations. Higher perceived risks, negative economic impacts,

<sup>4</sup> We measured the degree of support for nuclear energy by asking respondents how they would vote on a proposition that demanded an end to the production of nuclear energy. Such a proposition was narrowly defeated in a national referendum in 1990.

TABLE 1  
DETERMINANTS OF ACCEPTANCE TO HOST A NUCLEAR WASTE REPOSITORY: RESULTS OF A BINARY LOGIT ANALYSIS ( $N = 255$ )

	WILLINGNESS TO ACCEPT FACILITY WITHOUT COMPENSATION		WILLINGNESS TO ACCEPT FACILITY WITH COMPENSATION		Change in Probability of Acceptance (%) ( <i>t</i> -Ratio)	Estimate (Standard Error) (1)	Estimate (Standard Error) (2)	Estimate (Standard Error) (3)	<i>t</i> -Ratio (4)
	Estimate (Standard Error) (1)	Change in Probability of Acceptance (%) ( <i>t</i> -Ratio) (2)	Estimate (Standard Error) (3)						
Constant	12.64 (28.96)		12.59 (23.69)						
Individual risk estimate: 1 = very low to 6 = very high; effect of 1-point increase	-.71 (.13)	-7.1** (-5.54)	-.29 (.12)						-4.4** (-2.51)
Negative economic impacts expected: dummy, 1 = yes, 0 otherwise	-1.30 (.45)	-12.9** (-2.93)	-1.02 (.48)						-15.4* (-2.12)
Home ownership: dummy, 1 = yes, 0 otherwise	-1.23 (.45)	-12.2** (-2.77)	-.55 (.34)						-8.3 (-1.63)
Support for nuclear energy: dummy, 1 = yes, 0 otherwise	1.15 (.41)	+11.4** (2.80)	-.09 (.34)						-1.3 (-.27)
Acceptance of current procedure: 1 = not acceptable at all to 6 = completely acceptable; effect of 1-point increase	.63 (.13)	+6.2** (4.95)	.12 (.11)						+1.8 (1.07)

Importance of fair procedure: 1 = not important at all to 6 = very important; effect of 1-point increase	-.09 (.19)	-1.0 (-.49)	-.56 (.16)	-8.4** (-3.47)
Political orientation: 1 = left to 6 = right	.06 (.14)	+1.0 (.40)	.17 (.13)	+2.5 (1.31)
Income: 1,000 Swiss francs per month	-.01 (.04)	0 (-.32)	.01 (.03)	0 (.25)
Age	-.01 (.02)	0 (-.32)	.00 (.01)	0 (.25)
Sex (effect of being female)	-.31 (.39)	-3.1 (-.81)	-.22 (.33)	-3.3 (-.68)
Effect of level of compensation: \$2,175 vs. \$4,350; dummy, 1 = increase, 0 otherwise	... ... ... ... ...	... ... ... ... ...	-.16 (.36)	-2.4 (-.44)
Effect of level of compensation: \$2,175 vs. \$6,525; dummy, 1 = increase, 0 otherwise	... ... ... ... ...	... ... ... ... ...	-.11 (.40)	-1.7 (-.28)

Note.—Estimated coefficients can be interpreted as the log of odds ratios for a dichotomous independent variable. Since these coefficients are not an intuitively meaningful quantity, we provide derivatives indicating changes in the probability of voting for the repository. When all other independent variables are held at their mean value, these derivatives show the effect of point-for-point changes in a single independent variable. Thus the derivative for the risk variable (-7.1 percent) is interpreted as follows: If A estimates the risk to be one point higher than B, A's probability of accepting the repository is, on average, 7.1 percent lower than B's, ceteris paribus. (For a discussion of odds ratios, see Hosmer and Lemeshow [1989].) Likelihood ratio tests of the null hypothesis that all coefficients except the constant are zero reject this hypothesis. For cols. 1 and 2: Log likelihood of constants only model:  $LL(0) = -1,994.260$ ;  $2 \times [LL(N) - LL(0)] = 208.046$  with 10 degrees of freedom;  $\chi^2$   $p$ -value = .000; 79.9 percent correctly predicted answers. For cols. 3 and 4: Log likelihood of constants only model:  $LL(0) = -154.344$ ;  $2 \times [LL(N) - LL(0)] = 49.805$  with 12 degrees of freedom;  $\chi^2$   $p$ -value = .000; 68.0 percent correctly predicted answers.

\* Significant at the 95 percent level.

\*\* Significant at the 99 percent level.

and ownership of a home all significantly decreased the willingness to host a nuclear waste repository. Personal characteristics did not exercise any significant influence. The variables linked to civic duty point to a sizable effect of this type of intrinsic motivation. Respondents who support the Swiss nuclear program refrain from free-riding when it comes to sharing the burden associated with this technology: They exhibit an 11.4-percentage-point higher probability of accepting the waste repository. The acceptance of the current procedure is also an important predictor for the level of support. With every additional point on an acceptability scale from one to six, chances of approval of the facility increase by 6.2 percentage points. As expected, the importance of fairness considerations is negatively correlated with levels of support, pointing to some crowding-out of civic duty due to perceived procedural unfairness. However, the effect is minimal and statistically not significant.<sup>5</sup>

#### IV. Effects of Compensation

To test our hypotheses, we repeated the exact same question, asking our respondents whether they were willing to accept the construction of a nuclear waste repository if the Swiss parliament decided to compensate all residents of the host community. The amount offered for the lifetime of the facility was varied from \$2,175 per individual and year ( $N = 117$ ) to \$4,350 ( $N = 102$ ) and \$6,525 ( $N = 86$ ).<sup>6</sup>

##### A. *Testing the Bribe and the Crowding-Out Effects*

As a result of introducing financial incentives, the support for the facility dropped drastically, by more than one-half to 24.6 percent. This is consistent with our first proposition and is partially due to the bribe effect. Many respondents expressed their dismay at the idea of monetary payments: When asked why they rejected the proposition, 83.2 percent stated that they could not be bribed. Columns 3 and 4 in table 1 summarize the results of a binary logit analysis of the reactions to the offer of compensation. As proposed in hypothesis 3, increases in compensation (\$2,175 vs. \$4,350 and \$2,175 vs. \$6,525) did not significantly increase the willingness to accept the waste repository.

<sup>5</sup> The level of public spirit is also influenced by relative prices. In Wolfenschiessen, 34.7 percent of all respondents stated that they regarded it as their national duty to accept the repository under all circumstances. The same question was asked in the northeastern part of Switzerland, where expression of moral views is even less expensive since these respondents have a very remote chance of ever hosting a repository. As expected, 70.2 percent pointed to "civic duty" as an important reason for acceptance.

<sup>6</sup> The compensation offered here is quite substantial: median household income for our respondents is \$4,565 per month.

In order to corroborate this result, we offered increases in compensation (from \$2,175 to \$3,263, from \$4,350 to \$6,525, and from \$6,525 to \$8,700) to all those who had declined the initial proposal. Again, the rate of acceptance did not change significantly. Only a single person switched to the supporting camp. This outcome is consistent with the notion that owing to the low cost of answering in surveys, increased material incentives have no effect on survey statements.

The econometric analysis (table 1, cols. 3 and 4) also confirms that compensation crowds out public spirit: The support for nuclear energy and the acceptance of the current siting procedure, both indications of the willingness to contribute to the public good, ceased to muster support once financial incentives had been introduced. Moreover, those who found it important that the siting decision be fair had a strongly increased probability of rejecting the proposal. Thus we find strong confirmation for our second hypothesis. In a situation in which the display of public spirit is meaningless because material incentives offset the noxious character of the facility, the determinants of civic duty no longer positively influence the voting decision.

The bribe and the crowding-out effects are not unique Swiss phenomena. Kunreuther and Easterling (1990) found that increased tax rebates failed to elicit increased support for a nuclear waste facility in Nevada. Further results that are consistent with the hypotheses advanced above are reported by Carnes et al. (1983) for Wisconsin, by Dunlap and Baxter (1988) for Washington State, and by Herzik (1993) for Nevada. In all these instances, monetary incentives failed to increase public support for the proposed nuclear waste facilities.

#### *B. A Competing Hypothesis: Strategic Behavior*

One might argue that the observed price inelasticity is the result of strategic behavior. According to this view, respondents hope to be compensated even more generously when rejecting initial offers of compensation. However, this argument fails to explain the high initial approval of the facility without compensation and the fact that increases in monetary rewards had absolutely no influence on support. Moreover, when asked why they declined the compensation offered, only 4.9 percent of all respondents indicated that the financial incentives provided were insufficient. These statements are incompatible with the hypothesis of strategic behavior.

#### **V. The Compensation Cycle**

As in Dürrenmatt's play, we are still far from the final curtain when observing the rejection of compensation. The old lady's head money

raised the expected income of the citizens, changed their consumption patterns, and ultimately led to the death of treacherous Mr. Ill. We propose that, under specific conditions, material incentives, although not as dramatic, will also come to dominate the morally laden statements made at the polls or in surveys.

A year after our survey, the Swiss developer formally offered compensation to the community of Wolfenschiessen amounting to over \$3 million per year for the next 40 years (\$4,687 per family), or approximately 120 percent of the community's annual tax revenue. In July 1994, the community decided *in a town meeting* with a three-fifths majority that it wished to host the site. This change had been brought about by the substitution of the moral principles that were responsible for the bribe effect.

#### *A. The Substitution of Moral Principles*

Once compensation has been offered, citizens who think it probable that the noxious facility will be located in their hometown experience an increase in expected lifetime income. In the play, Dürrenmatt has his once-poor characters purchase and wear yellow shoes as a sign of the dramatic rise in expected income and, thus, current consumption. While the opportunity costs of rejecting financial rewards and investment opportunities are at first largely ignored at the polls, they are decisive in subsequent private decisions. Circumstantial evidence for Wolfenschiessen confirms that expected compensation left its mark on private behavior. When constructing new homes, for instance, the residents are reported to have added extra rooms because the "employees of the waste repository will have to live somewhere."

Facing the opportunity costs of the bribe effect in private behavior, citizens demand new moral arguments that are in line with their economic interests. Most individuals attach some value to inner consistency (Festinger 1957). Claiming that one's approval cannot be bought and, at the same time, making use of investment opportunities brought about by the noxious facility are seen as incompatible. On the social level, such hypocritical behavior may provoke social sanctions, especially in small communities in which the costs of observing hypocrisy are generally low (e.g., in Swiss town hall meetings, where voters decide by raising their hands). Interest groups respond to the demand for new moral arguments by pointing out the moral virtues of accepting the facility. In-kind compensation for socially beneficial projects (schools or fire stations) makes it easier to link the monetary rewards with positive values. In the end, price incentives alter the moral decision calculus by replacing the bribe aspects of compensation with new moral considerations.

The substitution of moral considerations as a result of market forces can be observed in other contexts as well. Kahneman, Knetsch, and Thaler (1986) report that price increases are regarded as unfair in situations of excess demand. Their results were obtained in a survey, that is, in a situation in which moral statements such as notions of fairness loom large. In laboratory posted-offer markets, producers initially hesitate to increase their prices because of fairness considerations. However, once the opportunity costs of profits forgone are felt, prices converge to the competitive surplus-maximizing equilibrium (Franciosi et al. 1995).

### B. Moving in Cycles

Under specific conditions, then, market forces create a compensation cycle (see fig. 1). At the outset (point *A*), the individual's decision is influenced by the expected negative consequences of the facility and by his public spirit. Support for the project is granted freely because it is perceived to be of no consequence. If feelings of civic duty are not strong enough to elicit the support deemed desirable, the developer introduces monetary compensation to offset the negative impacts of the facility. However, because of the bribe and the crowding-out effects, financial rewards decrease support to level *B*. In this situation, increasing the compensation is ineffective (point *C*).

In the long run, social sanctions for hypocritical statements and the need for inner consistency increase the demand for moral arguments that correspond to the economic interests of the agents. Ultimately, these considerations will come to dominate political decisions: While 75 percent of the respondents in Wolfenschiessen rejected financial

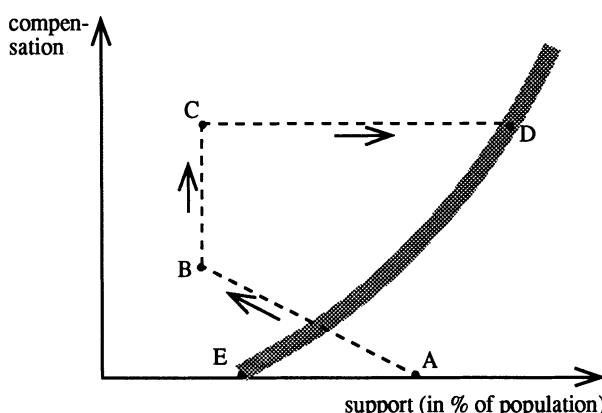


FIG. 1.—The compensation cycle

incentives when they were first offered (in the survey), two-thirds of the voters supported the siting in a town hall meeting one year later. As in the Swiss case, the town of Eagle, New York, also completed a full compensation cycle before it accepted a solid-waste landfill (for details, see Easterling and Kunreuther [1995]).

As may be seen from figure 1, there is a notional, long-run supply curve connecting points *D* and *E*: Higher compensation induces higher support provided that sufficient time has elapsed. However, a developer cannot choose a point on this supply curve. The compensation cycle is similar to the expectation-augmented Phillips curve (Phelps 1967) and the distinction between the short-run and long-run Laffer curve (Buchanan and Lee 1982). In all these cases, short-run outcomes are not stable equilibria because of forces within the system.

## VI. Policy Implications and Conclusion

In this paper, we provide a theory of compensation that takes the bribe effect and the crowding-out of public spirit into account. More generally, we provide a new interpretation of the relationship between political and market behavior. Individuals act in a more different way in the two spheres than usually acknowledged in public choice theory and in market analysis. In politics, moral issues play a larger role than in the market because expressing moral views is essentially costless in the former, whereas in the market it is not. As has been shown, moral considerations are fragile; under identifiable conditions, they are crowded out or decisively adjusted when price incentives are introduced.

Our theory allows us to identify various factors that influence the acceptability of compensation offers: (1) Conventional siting approaches are characterized by a decide-announce-defend structure: Following secret investigations into the (technical) suitability of a location, the prospective host community is confronted with the siting proposal and promises of compensation. As notions of civic duty are crowded out and the bribe effect dominates the political sphere, the project is most likely rejected. We believe binding decisions at this early stage to be responsible for the failure of many compensation schemes. (2) As long as the bribe effect dominates individual expressions, verbal opposition against noxious facilities is to be expected. In this situation, many developers break off the negotiations hoping to find another host community more willing to take the project. However, compensation packages meeting the needs of the residents living in the prospective host community would show their effect only if sufficient time was allowed. (3) Developers are able to minimize the perceived moral cost of accepting compensation by clearly distin-

guishing these financial incentives from bribes. A compensation contingent on the support for the project is lowering acceptance levels as it emphasizes the (morally questionable) role of compensation in bringing about a change of opinion. Despite the loss of efficiency, in-kind compensation benefiting the community as a whole weakens the bribe effect as it evokes the notion that votes, to a lesser extent, are bought.

The analysis presented here extends to a large number of issues. Consider the development of new technologies, say gene technology. Many politicians are reluctant to express their support for gene technology because of the intricate moral questions involved. Rational voters will disregard the opportunity costs of not developing gene technology and support the party whose moral judgments they share. In Europe, there is a marked tendency to choke off or at least slow down developments in gene technology. The analysis presented here suggests that resistance can be overcome by allowing private decisions to play a part. If a patient is allowed to decide whether to forgo an improved medical treatment because it is based on gene technology or if the consumer may choose between a conventional tomato and the juicier and cheaper gene technology equivalent, we can trust the relative price effect to show its effect. In our analysis, moral considerations are considered to be endogenous. Thus the availability of superior medical techniques or better-quality and cheaper consumer goods will lead to an adjustment in the moral judgments of the public at large. Interest groups will be quick to point out the benefits of gene technology for patients and a healthful nutrition for the poor once such arguments are demanded. Our theory also explains politicians' fondness for trial periods and limited tests. They produce the type of private behavior that creates the moral standards compatible with economic interests.

Siting decisions and the frequent rejection of compensation for locally unwanted projects are thus but one example of decisions made in the political sphere that tend to be dominated by moral evaluations. If moral principles are decisive for voting behavior, further research will have to take into account the emergence of moral views. Economists improve their understanding of social choices, we conclude, if economics becomes a science studying moral principles once again.

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