10. The relevance of psychological aspects for policy design
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INTRODUCTION

Actual economic policy is full of psychological aspects. Rarely a day passes in which a politician would not be asking citizens to behave in a 'socially' responsible way. 'Moral suasion' has been extremely popular when inflation was a pressing social issue; but it is equally used today when unemployment is considered the major social ill.

Economists tend to laugh about such pronouncements; they simply do not take them seriously. Indeed, the theory of economic policy disregards psychological aspects in toto. Consider the major areas of this field:

- The traditional technocratically orientated version maximizing social welfare under resource constraints has no room for any psychological effects. This applies to the quantitative theory of macroeconomic policy (Tinbergen 1956; Theil 1968) as well as to its microeconomic application in the form of optimal taxation or to optimal public pricing (see, for example, Böls 1986).
- The more recent political economy, constitutional or democratic approach to economic policy (Buchanan 1991; Brennan and Buchanan 1985; Frey 1983) is not much better. Again, psychological aspects are systematically disregarded.
- At first sight the more recent versions of the theory of economic policy, relying strongly on game theory, look more promising. The central concepts of 'reputation' and 'credibility' have a psychological ring. However, these variables have no basis in micro behaviour but are constructed to perform a function at the macro level only. Indeed, the respective literature (see Persson and Tabellini 1994 for a survey) does

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not even think of making an effort to find a basis for reputation and credibility in psychology (or, for that matter, in sociology).

- What about those (few) economists who have tried to integrate psychological elements into economics (see Simon 1983; Akerlof 1984; Frank 1985 and 1988; Thaler 1992; or Rabin 1998). While they have provided fascinating analyses of human behaviour, they have rarely drawn any implications for economic policy.  

The same holds for the movement of ‘economic psychology’ or ‘psychological economics’ (for example Furnham and Lewis 1986; Lea, Tarpy and Webley 1987; McFadyen and McFadyen 1986; van Raaij, van Veldhoven and Wärneryd 1988; Earl 1990). This work has hardly concerned itself with economic policy.

- Finally, can we expect any help from the heterodox economists who have always had a liking for psychology? Important advocates are Jöhr (1972) and Schmölders (1962), and (later) in the United States, Katona (1975), Leibenstein (1976) and Scitovsky (1976). Again, the prime interest of these scholars was not directed at policy issues. In any case, they have not developed a consistent body of theory on economic policy, and their work has not been integrated into current textbooks.

This chapter endeavours to demonstrate that psychological aspects are important for economic policy and that it is perilous to disregard them. This is shown by demonstrating that a particular psychological relationship – the ‘crowding effect’ linking intrinsic and extrinsic motivation – significantly influences economic affairs and should therefore be taken into account in economic policy making. The crowding effect states that under empirically identifiable conditions an external intervention, via monetary rewards or regulations, negatively affects – or crowds out – intrinsic motivation. Under other identifiable conditions, an external intervention crowds in intrinsic motivation. Thus, a systematic relationship between constraints (external interventions) and preferences (intrinsic motivation) is postulated (see Frey 1997b).

Seven propositions will be advanced and discussed:

1. Psychological factors have crucial and systematic influences on the micro and macro economy, and therefore, on economic policy.
2. It is useful to start from theoretically well-identified and empirically supported specific relationships (such as the crowding effect) rather than try to capture 'psychology' in a broad and unspecified way.
3. The crowding effect has important implications on the rules level, that is for constitutional design. This is demonstrated for market versus command and for discipline versus trust as social decision-making mechanisms.
4. The crowding effect also significantly affects the current policy level.
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5. The crowding effect helps us to explain apparent paradoxes in orthodox economic theory, for example, that high-income recipients, that is people with the highest opportunity cost of time, are more active as volunteers in the social sector than those with lower opportunity cost.

6. Crowding theory, unlike traditional economics, offers alternative policy recommendations. In particular, it appreciates the benefits of nonintervention.

7. Intrinsic motivation is not good as such but must be balanced against extrinsic incentives.

The first part of the chapter considers economic policy at the constitutional level where the basic institutional foundations of society are determined. The following section deals with the fundamental political decision of using the market versus command. Next the role of discipline versus trust is discussed. The second part of the chapter looks at current economic policy within the given constitutional rules. First I analyse moral suasion on the one hand and direct intervention in environmental and regulatory policy on the other hand. Then I discuss agricultural subsidies, social policy in the form of volunteering and infrastructural policy. Finally, some conclusions are offered.

MARKET VERSUS COMMAND

The Market

The basic principle of the price system is that output produced and compensation correspond to each other. In a perfectly competitive economy the wage rate is exactly equal to the marginal product. Thus, an extreme form of 'pay-for-performance' is realized.

Such compensation may, however, provoke a substitution of intrinsic by extrinsic motivation: if individuals who (at least partly) enjoy doing their work because they are interested in it are paid in exact correspondence to how they perform their intrinsic motivation becomes superfluous. Maintaining their intrinsic motivation in this circumstance would mean that they are overmotivated for the particular task. It can therefore be expected that their intrinsic motivation is reduced. Their overall performance is thereby not necessarily reduced. Rather, using monetary incentives for work has two countervailing effects: the fundamental relative price effect (Becker 1976; Kirchgässner 1991; Frey 1992) raises work effort while the 'crowding-out effect' lowers it. Whether the employees' affected work effort increases or decreases depends on the relative size of the two opposing effects.²

The extent to which work is performed by intrinsic or extrinsic motivation, however, affects the value of the work to the recipient as well as how it is
performed. It often makes a difference, for example, if one receives a service from people who do a particular work for intrinsic reasons such as out of love rather than because they are paid. Most people would agree that this holds for sexual services but it is also true for a much broader range of services and even for some goods. The mixture of motivations also affects innovative activity. While monetary incentives are crucial for what might be called ‘institutional’ creativity, intrinsic motivation is of great importance when it comes to ‘personal’ creativity. This is particularly true for the transfer of tacit (that is noncodable) knowledge within organizations (Osterloh and Frey 1998). Principal–agent theory has extensively worked out that monetary payments are not efficient when either the necessary measurement and monitoring is costly, or when such activity differs between the various components of output. In the latter case, employees shift their work effort away from those tasks which cannot be adequately measured and compensated. This is another case in which intrinsic work motivation may be superior to monetary incentives.

Commands

When individuals are forced to work by threat of punishment, intrinsic motivation is also crowded out. If they like to do the job for its own sake, a command leads to overmotivation. Indeed, commands undermine work morale more strongly than pay because the addressees are left fewer choices. The total effect on work effort again depends on the size of the relative price effect (based on the cost of not obeying the command) relative to the crowding-out effect. But as the latter effect tends to be systematically larger than with the price system, it can be expected that the application of commands in an economy often produces low work morale and initiative. More generally, citizens’ civic virtue will be low and a cynical attitude towards the state and society will be widespread.

These predictions are well borne out by the practical experiences of Soviet-type command economies. Thus, Lare (1986, p. 105) reports that the ‘centralized Soviet economic system makes people lazy and immoral.... Labour is ... prone to a combination of cynicism, apathy and largeness.’ There was a pervasive ‘middle class pessimism and cynicism’ (Bushnell 1979, p. 9). Another scholar states: ‘The observation that workers’ efforts and morale tend to be poor in the USSR today is familiar enough. So is the perception that the economic system itself fosters shoddy work, idleness and dishonesty’ (Hanson 1984, p. 85).

According to this analysis, the virtual breakdown of the Soviet political and economic system is not only due to the lack of institutions (an aspect now fully appreciated by economists, see, for example, Shleifer 1997), or to the lack of monetary incentives (which was treated extensively by economists, see Murrell 1991; Sachs and Woo 1994; or Blanchard 1996), but also to the destruction of
intrinsic motivation in the form of low work morale, civic virtue, social capital and trust.4

Table 10.1 lists social capital measured as trust ('Generally speaking, would you say that most people can be trusted, or that you cannot be too careful in dealing with people?') or as intensity of participation in a variety of civic activities such as: social services for the elderly and deprived; education, art and cultural activities; local community affairs; activities related to conservation, environment and ecology; and work with youth. The data reported for various groups of countries were collected by the World Values Survey of 1000 people in each of the 40 countries from 1990-93 (World Values Study Group 1994).

Table 10.1 Social capital according to the World Values Survey (averages 1990-1993)

<table>
<thead>
<tr>
<th>Country groups</th>
<th>Trust</th>
<th>Participation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1: Developed economies</td>
<td>44.5</td>
<td>11.4</td>
</tr>
<tr>
<td>Group 2: Post-Soviet transition economies</td>
<td>29.3</td>
<td>3.4</td>
</tr>
<tr>
<td>a. Where participation not stated</td>
<td>29.3</td>
<td>n.a.</td>
</tr>
<tr>
<td>b. Including countries with</td>
<td>26.5</td>
<td>3.4</td>
</tr>
<tr>
<td>information about participation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Including also China</td>
<td>29.3</td>
<td>3.4</td>
</tr>
<tr>
<td>Group 3: Developing Countries</td>
<td>24.2</td>
<td>5.9</td>
</tr>
<tr>
<td>a. South America</td>
<td>21.5</td>
<td>4.9</td>
</tr>
<tr>
<td>b. Asia (including Turkey)</td>
<td>26.5</td>
<td>10.6*</td>
</tr>
<tr>
<td>c. Africa</td>
<td>26.1</td>
<td>n.a.</td>
</tr>
<tr>
<td>Mean</td>
<td>35.3</td>
<td>6.9</td>
</tr>
</tbody>
</table>

Notes
* Refers to South Korea only. No data available for Turkey and India.
Group 1 comprises Sweden, Norway, Finland, Denmark, Netherlands, Canada, United States, Ireland, United Kingdom, Iceland, Switzerland, Japan, Germany, Italy, Spain, Belgium, Austria, France and Portugal.
Group 2a is formed by Poland, Czech Republic and Belorussia; 2b includes Russia, Lithuania, Bulgaria, Estonia, Hungary, Latvia and Slovak Republic; in 2c, China is included as well.
Group 3a consists of Mexico, Argentina, Chile and Brazil; 3b includes India, South Korea and Turkey; 3c includes South Africa and Nigeria.


Table 10.1 compares social capital for three groups of countries. Both indicators for social capital are much lower in post-Soviet transition economies.
than in developed economies: the index for trust is 29.3 in the post-Soviet countries compared to 44.5 in the developed ones; the index for the intensity of civic participation is 3.4 compared to 11.4. While trust in the post-Soviet countries is slightly higher than in developing countries (29.3 compared to 24.2), the rate of participation – arguably a more suitable indicator of civic virtue – is much lower (3.4 compared to 5.9, which is only somewhat more than half as large).

This evidence is consistent with the proposition that the Soviet command system resulted in a crowding out of intrinsic motivation which still exists under present conditions as reflected in high crime and Mafia activities. Frye and Shleifer (1997) found in a survey undertaken in March and April 1996 that 39 per cent of 55 shop managers in Moscow were ‘contacted by rackets in the last six months’. As a result, the transactions cost of doing business is high. Seventy-six per cent of the shop managers said that ‘one needs a roof (that is, a paid private security agency) to operate’. The situation may be better in some of the other post-Soviet economies (Shleifer 1997, pp. 392–3) which may reflect the less stringent command systems (as for example in Hungary).

We can observe a basic asymmetry. The price system can be, and has been, introduced by a ‘sudden jump’ (Sachs 1993; Goldman 1994) to which individuals quickly adjust. In contrast, the civic virtue crowded out by the preceding command system is difficult to build up again. As a consequence, the price systems do not work better because of the high transaction costs entailed.

**Comparative Evaluation**

The relationship sketched between intrinsic and extrinsic motivation is based on a well-established socio-psychological theory known as ‘hidden cost of reward’ (see, for example, Lepper and Greene 1978, Deci and Ryan 1985, or Lane 1991; see Deci and Flaste 1995, for the theoretical background and the extensive experimental support). The crowding effect (Frey 1997b) is a generalization of this psychological theory: it applies to external interventions via both payments and commands. Critical meta-analyses of the great number of experimental findings of the negative relationship between intrinsic and extrinsic motivation have been provided by Rummel and Feinberg (1988), Wiersma (1992) and Tang and Hall (1995). The meta-analyses by Cameron and Pierce (1994) and Eisenberger and Cameron (1996) – they essentially consider the same experiments and should therefore be counted as one meta-analysis only – have received most attention. In contrast to the three other meta-analyses mentioned above they conclude that the undermining effect of intrinsic motivation by rewards is a ‘myth’ (Eisenberger and Cameron 1996, p. 13) and that the corresponding theories should therefore be ‘abandoned’ (Cameron and Pierce 1994, p. 396). The most recent meta-analysis has been undertaken by Deci,
Koestner and Ryan (1998) who include all the studies in the previous meta-analyses as well as experiments most recently undertaken. They thus include 59 articles, 68 experiments and 97 effects covering the period from 1971 to August 1997. On the basis of a very careful scrutiny of the previous meta-analyses as well as of the experiments included (and in which they are able to identify serious errors and omissions in the studies by Cameron, Pierce and Eisenberger\(^5\)) they reach a ‘remarkably clear and consistent [result]: Tangible rewards have a strong negative effect on intrinsic motivation for interesting tasks’ (Deci et al. 1998, p. 44). All these meta-analyses consider laboratory experiments only, whose results cannot simply be transformed to actual conditions.

However, the existence of the crowding effect is also supported by numerous field studies. For example, in an econometric study of 116 managers in medium-sized Dutch firms, Barkema (1995) found that work morale (measured by the number of hours worked in the company) decreased with the intensity of the personal control effected by superiors, which means that intrinsic motivation was crowded out by the interventions. Another real-life case is provided by the so-called ‘token economies’ where people living in old-age institutions were induced to undertake certain tasks in exchange for vouchers. As a consequence, after some time, they were only willing to do anything at all if they received compensation. The intended activation of the aged proved to be a failure (Kazdin 1982).

The crowding effect refers to the consequence of an external intervention on intrinsic motivation. But an external intervention normally also has a direct price effect. Thus, for example, a material reward represents a positive price for performing a task; this is the incentive effect based on extrinsic motivation normally (and exclusively) considered in economics. In the case of crowding out, the two effects work in an opposite direction, and the total outcome depends on which effect is larger. Thus, a material reward for work reduces work input only if the crowding-out effect dominates the normal price effect.

The size of the crowding-out effect, as we may have seen, differs strongly according to circumstances. Moreover, when the outside intervention is perceived by the actors concerned to be supportive rather than controlling, a ‘crowding-in effect’ takes place. Schumpeter (1936) pointed out long ago that many entrepreneurs consider profits as an indicator of success. A monetary reward thus perceived raises work motivation. This explains why successful economic agents often relentlessly pursue their high work input even when they have earned more money than they can sensibly spend. In principle, commands can also crowd in work morale. This is the case when they are perceived by the addressees as expressing an appreciation of their intrinsic motivation. The possibility of commands to serve that purpose constitutes an important advantage of hierarchical institutions, in particular firms, over the market (see in more detail Osterloh and Frey 1998).
National planning and commands undertaken in Soviet economies are far from fulfilling a supportive function and thus have not crowded in intrinsic motivation. Efforts to establish all sorts of nonmonetary rewards such as orders ('Hero of the Soviet Union' and so on) and rankings ('Most productive worker of the province', for example) were unable to compensate for the undermining effects on work morale of rigid planning.

Our analysis suggests that a command economy is at a clear disadvantage relative to the market as the guiding decision-making system. Command economies are not only less efficient but also more damaging to work morale and civic virtue than the price system. The same type of analysis undertaken here for the market and for commands could be done for other social decision-making systems such as decisions by bargaining, tradition or random mechanisms (lotteries). In all these cases, one would have to consider intrinsic motivation as an endogenous and dynamic factor in addition to the traditional efficiency aspects.

**DISCIPLINE VERSUS TRUST**

**Discipline**

Constitutional rules serve to prevent 'knave's from exploiting the other members of society. They should be strict enough to deter rational and egoistic individuals from acting as free riders or to take advantage of co-citizens. Individuals are generally assumed to act in an opportunistic way, 'seeking their self-interest with guile' (as Williamson, 1985 or 1993, puts it). This assumption is not claimed to be realistic but serves to construct institutions which are able to restrain the activities of the worst members of society.

This concept has been the foundation of constitutional economics beginning with Hume ([1742] 1963) and John Stuart Mill ([1861] 1996), to the modern formulations in Buchanan (1987), Brennan and Buchanan (1985) or Mueller (1995). It has become part of the theory of economic policy and need not be spelled out further here.

**Trust**

A different approach to constitutional economics puts faith in the citizens. They are not only assumed to be capable of making reasonable decisions. More importantly, citizens are assumed in principle to have good will. While they dislike being exploited by others, they are considered to have a good measure of civic virtue.
This view of human nature has been championed by scholars such as Cooter (1984), Kelman (1987), Dryzek (1992) or Mansbridge (1994). It has been concluded that in order to support the existing civic virtue, and to help to raise it further, the constitution should be benevolent towards the citizens. The constitution should put trust in the citizens (this is a different type of trust from that discussed above which was the trust citizens had towards government and society). This trust is reflected by giving individuals many direct participation rights. Citizens should be given the right not only to elect their representatives but also to participate directly by voting on issues (Frey 1997a).

There exists considerable empirical evidence that this view of human nature is realistic and not overly optimistic. Individuals are not grabbing any opportunity to take advantage of others, as a large number of experiments indicate (see Bohnet 1997 and Bohnet and Frey 1997 for surveys; Frey and Bohnet 1995 for specific experiments). Econometric studies for Swiss cantons and cities reveal that the more developed the institutions and the higher the participation possibilities for the citizens are, the lower is tax evasion and the greater is fiscal responsibility (that is, the less likely is the budget to be in deficit), and the higher is per capita income, all ceteris paribus (see the survey by Feld and Kirchgässner 1997, and the specific study by Feld and Savioz 1997). The assumption that a significant amount of civic virtue exists among citizens, and that it is crowded in by a constitution that puts faith in its citizens is thus warranted.

This does not mean that constitutions should only consider participation rights. As experimental evidence (public good or prisoner’s dilemma experiments are especially relevant here, see, for example, Hey 1991, chapter 11; Kagel and Roth 1995, chapter 3.A; Fehr and Gächter, forthcoming; see also experiments in the ultimatum game setting, for example, Güth, Schmittberger and Schwarze 1982) as well as everyday observations clearly indicate, it is important to prevent individuals from perceiving themselves to be systematically exploited by others. If they have this feeling, they would quickly start behaving in an egoistic way in an attempt to guard their position. A good constitution balances these two considerations.

**MORAL SUASION AND DIRECT INTERVENTION**

**Moral Suasion**

On the basis of Crowding Theory, the role of moral suasion as an economic policy device must be reconsidered. The major function of psychological appeals is to support the intrinsic motivation of those persons who act according to the principles of civic virtue. This point has eluded economists who deal only with extrinsic incentives. But it has been appreciated long ago by legal scholars
who argued that laws may be valuable even if they cannot be monitored and obeyed because they still indicate what is ‘right’. Once a wider perspective on human motivation is adopted, moral suasion has a role to play in economic policy. Obviously, this instrument must be used with care and is no substitute for other policy actions. In particular, moral appeals lose their motivating force if they are used too often or under circumstances where following them would mean risking one’s position.

But moral suasion has been empirically shown to affect people’s behaviour in a significant way in times of crisis (see, for example, Baumol and Oates 1979).

Direct Intervention

One of the insights gained by crowding theory is that government interventions are less effective than expected, following the relative price effects, when intrinsic motivation is thereby induced to fall. This effect is particularly relevant in two policy areas.

1. Environmental policy  Direct interventions are still the most prominent instrument used to influence the quality of the natural environment (Hahn 1989; OECD 1994). Empirical evidence confirms that individuals have some amount of environmental morale especially if the corresponding costs are not high (see, for example, Diekmann 1995). The use of commands then risks crowding out intrinsic motivation if the persons concerned perceive that their own efforts to safeguard the environment are not appreciated by the policy makers. In that case, the same effect must be expected if market instruments such as environmental taxes, tradable licences or other incentives are used. But for the reasons given above, the crowding-out effect is likely to be less pronounced.

   The crowding-out effect may help to explain why environmental policy is often less effective than economists expect on the basis of the relative price effect. At the same time it explains why the environment sometimes improves without much government intervention.

2. Regulatory policy  Government intervention via regulations can be seen as a generalization of most environmental policies. It can be applied to a very large range of areas, for instance, with respect to work conditions.

   The economic approach evaluates the extent to which regulations are followed by using the model of expected utility maximization. In the economics of crime (Becker 1968), individuals are assumed to be rational egoists and to observe regulations only to the extent that it is to their own benefit. Careful empirical work has established, however, that this approach is unable to explain the level of the disregard for the law in a satisfactory way. The level of tax evasion, for example, cannot be accounted for by the expected utility approach (as championed
by Allingham and Sandmo 1972; for surveys, see Pommerehne 1985, Roth, Scholz and Witte 1989, or Cuccia 1994): the size of the expected punishment is simply too low even if individuals are quite risk averse. After an extensive and careful analysis of the American Internal Revenue Service (IRS) Taxpayer Compliance Measurement Programme, Graetz and Wilde (1985, p. 358) were forced to conclude that ‘the high compliance rate can only be explained either by taxpayers’ . . . commitment to the responsibilities of citizenship and respect for the law or lack of opportunity for tax evasion’. The same authors (as well as Reinganum and Wilde 1986) attribute the observed falling tax compliance to the erosion of tax morale (see also Reckers, Sanders and Roark 1994, or Kaplan, Newberry and Reckers 1997).

Nor does the expected utility model fare too well with respect to explaining marginal effects on tax evasion. A large number of econometric studies have found that the partial coefficients of the probability of detection and the penalty rate, while often having the expected negative sign, are not statistically different from zero (see, for example, Pommerehne and Weck-Hannemann (1996) for Switzerland and their references on p. 164 to other countries and time periods).

The discussion suggests that intrinsic motivation in the form of civic virtue has an important systematic effect on how government regulations work. Moreover, the corresponding state interventions may crowd out, and sometimes crowd in, this motivation depending on whether the addressees perceive them to be controlling (which is normally the case) or supporting. Empirical research in the area of work, environmental and health regulations (see, for example, Bardach and Kagan 1982) are consistent with these conclusions.

OTHER AREAS OF CURRENT POLICY

Agricultural Subsidies

The support of farmers via guaranteed high food prices undertaken in many countries, has led to huge distortions. A large oversupply of agricultural goods was produced but the hard work on the farms nevertheless induced many peasants to move to more suitable occupations, often located in cities. The policy thus resulted in a considerable waste of human resources (as well as in negative effects on the environment through the pollution of the soil by chemical products) and did not reach the officially proclaimed goal of maintaining the traditional rural way of life.

In view of this failure, and based on efficiency theory, economists have long argued that price support should be replaced by direct income support of farmers. Some countries such as Switzerland have heeded this advice and now hand out direct income transfers to their farmers. There can be little doubt that
this policy prevents the production of excess supply because price distortions are reduced and, at least ideally, completely removed. From the point of view of crowding theory the policy looks less favourable. The transfer of money just for being a farmer may well undermine the intrinsic motivation of being a farmer. The subsidy for ‘being like a farmer’ is likely to affect their self-perception negatively: they now behave like farmers because they are paid for that. Many people will argue that this removes the essential reason for supporting people working in this sector. At the same time, keeping individuals and families on the farms will become more and more expensive in tandem with the speed with which the farmers lose their former intrinsic motivation. They now expect compensation according to the inconveniences of the ‘job’ (for example having to work long hours during the day and at night). Over the long run, voters and politicians will realize that this policy tends to destroy what it originally claims to support. Together with the large cost increases this may well lead to such strong political resistance that the direct support programme has to be scrapped. This analysis helps us to explain why the agricultural lobbies tend to oppose the switch from price to income supports. They possibly sense that such a development might take place and try to prevent it because it also undermines their own position as an interest group.

Volunteering

Psychological aspects such as crowding effects are of particular importance in the social area where intrinsic motivation can be expected to play a larger role than in many other sectors of the economy. For the sake of concreteness, I shall consider only a specific activity, volunteering, which is responsible for about 40 per cent of total work offered in the social service nonprofit economy (Weisbrod 1988, p. 131). Volunteering for charitable nonprofit institutions has grown more rapidly than employment elsewhere (ibid., p. 132) so that it is becoming an increasingly important activity.

Neoclassical economics based on the relative price effect is able to make a number of sharp predictions (Menchik and Weisbrod 1987; Weisbrod 1988). With respect to the supply side, it makes four hypotheses: (i) the higher the wage rate or income, the less voluntary work is offered due to the higher opportunity cost; (ii) individuals either volunteer or donate money but not both. People who are more productive on the market, and are willing to help others, should work more and donate the money to a charitable or nonprofit institution; (iii) a complete substitution is also expected to take place between husband and wife, that is either he or she, but not both, offer voluntary work; and (iv) on the other side of the market, economists normally assume a perfectly elastic demand for volunteers by the respective institutions.
Menchik and Weisbrod (1987) find that these hypotheses are supported by the data for the United States. A very careful and recent study by Freeman (1997) with new data for the US, however, finds that they are clearly refuted. He generally concludes that the standard labour supply theory explains only a minor share of empirical reality. In particular, volunteers have a significantly higher personal and family income than nonvolunteers, thereby contradicting hypothesis (i) (see also Vaillancourt 1994, for Canada). Hypotheses (ii) is also rejected because a volunteer normally donates money at the same time. Neither is there substitution between husband and wife, as hypothesis (iii) claims, but both typically work as volunteers.

This does not mean that relative price effects have no explanatory power, but it does so only at a secondary level. While a higher wage rate is associated with more volunteering such people put in less hours than those earning less on the market. Also, because there is no substitution between volunteering and donating, higher-income families contribute relatively less hours and give relatively more in cash.\footnote{8}

These results (which have been gained using the state-of-the-art theory and econometrics) strongly suggest that traditional economic theory misses something important. A good candidate for filling this gap is the concept of intrinsic motivation and its dynamization by crowding theory. The positive association between income and volunteering may be attributed to the fact that poorer people can less afford to pursue their intrinsic motivation than richer ones. This is exactly Berthold Brecht's statement in the Dreigroschenoper: 'Zuerst kommt das Fressen, dann die Moral!', which is supported by sound empirical evidence (for example, Lane 1991, part 5). The positive association between volunteering and donating holds because the major underlying motivation for both actions is intrinsic motivation, thereby rejecting any substitutive relationship. Rather, people who are intrinsically motivated to help others have an urge to help by all means. Actually, only economists and probably a few other people would even consider the relationship between volunteering and donating to be substitutive. Finally, the positive association of voluntary work by husband and wife can be explained by positive sorting with respect to intrinsic motivation, and also by the person doing voluntary work, educating and motivating the other to do likewise. Freeman (1997, pp. 159–65) offers a narrower explanation, namely 'the importance of being asked' to volunteer. This explanation is not inconsistent with an explanation in terms of intrinsic motivation. It has been emphasized throughout this chapter that intrinsic motivation is not exogenously given but can be triggered by being asked to act according to this motivation. On the other hand, Freeman is careful to admit that people do not simply volunteer when they are asked but only if they consider it a worthy cause, and if the demand comes from trustworthy people. Thus, being asked is perhaps a necessary but not sufficient factor to explain volunteering.
Empirical research on the demand side also suggests the importance of intrinsic motivation (see Duncombe and Brudney 1995). There are considerable costs involved for organizations using volunteers and therefore they do not exhibit a perfectly elastic demand as claimed by hypothesis (iv). The costs actually go far beyond recruiting and training; volunteers are different from paid workers because they are more difficult to steer according to the wishes of the management. The concept of intrinsic motivation is again helpful in explaining this phenomenon. As volunteers are (mainly or exclusively) motivated by their own concept of what has to be done, they are less willing to conform to the demands of management compared to paid staff. From the managers' point of view 'paid staff... may be more productive and provide higher quality service' (ibid., pp. 359–60). Consequently, the managers make an effort to have a suitable balance between paid workers and volunteers which is reflected in a statistically significant negative elasticity of demand for volunteers (ibid., p. 371; also Steinberg 1990).

Infrastructural Policy

Everyone considers a good infrastructure to be an important prerequisite for economic development. However, the earthworks and buildings necessary for roads, railway tracks, airports and so on as well as the risks involved with projects such as nuclear power plants and depositories and prisons normally meet with heavy resistance by the local communities affected. Such undertakings meet the criteria of NIMBY phenomena, that is the desire to have those projects 'not in my backyard' (for example, Easterling and Kunreuther 1995). Economists have a handy tool to solve this problem, namely to compensate those communities that are prepared to host such an infrastructural project (for example, O'Hare 1977 or Portney 1991). The best way to determine the required compensation efficiently is by auction (Kunreuther and Kleindorfer 1986). Such a move is made possible because the projects produce by definition positive net benefits for society as a whole so that the winners can compensate the losers. Empirical evidence, however, shows convincingly that the compensation strategy does not work (for the United States, see Easterling and Kunreuther 1995, or Carnes et al. 1983; for Switzerland, see Oberholzer-Gee 1998). Indeed, it has been found that the willingness to accept a nuclear waste repository in Switzerland fell from 50.8 to 24.6 per cent of the population when a sizeable compensation was offered. This reaction, which contradicts the relative price effect, was attributed to the crowding-out effect (Frey and Oberholzer-Gee 1997).

The siting of infrastructural projects is another important instance where economic policies based solely on the relative price effect do not work, and may even worsen the situation. Rather, psychological elements such as the crowding effect have to be taken into account.
CONCLUSIONS

The discussion has endeavoured to establish seven propositions by relying on analytical and empirical evidence. The main goal was to show that psychological factors are indeed of great practical importance for economic policy making (proposition 1). It has been argued that to 'psychologize' economics in a general way is of little use, but that concrete and empirically well-supported elements have to be integrated into economics. In this chapter a particular psychological factor, the crowding effect, has been identified (proposition 2) and its substantial quantitative and qualitative relevance for economic policy at the level of the constitution (proposition 3) and for the current policy process (proposition 4) has been demonstrated. It has turned out that the concepts of intrinsic motivation and of motivational crowding help us to explain phenomena with respect to tax evasion, volunteering and infrastructural siting, which appear paradoxical from the point of view of traditional neoclassical theory (proposition 5).

The intention of this chapter is not to criticize existing economic theory and policy without presenting an alternative approach. What is proposed here is an extension of economic theory while completely accepting the crucial importance of the relative price effect. An economic policy which takes the possibility of crowding effects seriously is less interventionist than present economics prescribes because it takes into account that adverse effects on intrinsic motivation occur under identifiable conditions. What is suggested here as a general policy rule is that individuals are reasonable human beings whose intrinsic motivation can be put to good effect, that motivation should therefore be taken care of (proposition 6).

It would be a misunderstanding to assume that intrinsic motivation is always welcome. It is neither generally good nor bad. While intrinsic motivation in the form of work or environmental morale, solidarity in the private and civic virtue in the public domain are often most desirable, these same features are undesirable if they are put to bad use such as when working for a fraudulent firm, exerting nepotism or supporting a criminal political regime. It is crucial to face the issue where we need what motivation (proposition 7). So far, we have only quite limited knowledge in this regard. Hopefully what has been established here is that to disregard intrinsic motivation and crowding effects is perilous and may lead to costly policy errors. At the same time, an alternative to present policy design based on faith in human nature has been suggested.

NOTES

1. A partial exception is Frank and Cook’s (1995) call for raising taxes on high-income recipients to reduce the unproductive race for positional goods.
2. For a formal treatment, see Frey (1997b). This book also extensively discusses the psychological and institutional conditions under which the crowding-out effect takes place. A behavioural rationale for the emergence of a crowding-out effect in the case of the voluntary provision of a public good has been formally developed by van Dijk and van Winden (1997). They argue that the public provision of a public good under some conditions leads to a decrease in total provision because it impedes the development of social ties. In Frey (1997b) personal relationships have indeed been identified as a crucial condition for supporting intrinsic motivation.

3. There is a large psychological literature on creativity that is relevant here. Most of it argues strongly that intrinsic motivation is necessary for creativity, in particular concerning the idea-generating stage of creativity (Amabile 1988) but there are also divergent views (for example, Torrance 1970, or Winston and Baker 1985). This literature is discussed and put into an economic context in Frey (1998).


5. See also the critique by Kohn (1996), Lepper, Keavney and Drake (1996), Ryan and Deci (1996) and the answer by Eisenberger and Cameron (1997).

6. Another, by now well-researched, reason is the political factors preventing an effective environmental policy.

7. Following AIM, McKee and Beck (1990, p. 24), calculations of empirical magnitudes for the US show that taxpayers would have 'to exhibit risk aversion far in excess of anything ever observed for compliance predicted by expected utility theory to approximate actual compliance'.

8. A staunch supporter of traditional economics might argue that this shows that the theory is correct after all, provided it is correctly applied. This is a typical ex post argument and essentially states that the traditional theory is flexible and coherent enough to be adjusted to the empirical evidence. This is certainly a useful exercise (it allows us to determine where the theory works well and badly) but it is of little use for predictive purposes.

REFERENCES


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