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Mispredicting Utility and the Political Process

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Abstract: In important situations, individual decision-making is systematically biased. When deciding (rather than consuming), extrinsic attributes of choice options are more salient than intrinsic attributes. People overestimate extrinsic attributes and therefore put too much effort into acquiring income and gaining status, lowering their utility level. These mistakes are accentuated in authoritarian systems and at least carried forward in a perfectly competitive democratic system of party competition. In modern democracies, public discourse puts people's partial awareness of their anomalous behavior on the political agenda. Various policies can help people to overcome biases due to misprediction.

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1 Introduction

Individual decisions involve difficult trade-offs between pursuing material wealth, status and fame on the one hand and investing in social relationships and choosing activities that provide autonomy and the experience of competence on the other hand. There is an increasing belief that people systematically err in these decisions and that people spend too much time, effort and money on goods, services and activities with strong extrinsic attributes (Scitovsky 1976; Frank 1999; Easterlin 2003; Layard 2004).

We argue that this tendency for people to behave in this way is due to systematic misprediction of future utility. When people make decisions, they mainly take salient extrinsic attributes of choice options into account. They thus overvalue characteristics relating to consumption aspects supplying extrinsic desires (income and status). In contrast, individuals underestimate the utility relating to consumption aspects supplying intrinsic needs (time spent with family and friends and on hobbies). As a consequence, individuals tend to under-consume goods and activities with strong intrinsic attributes compared to those with strong extrinsic attributes. According to their own subjective evaluation, individuals make distorted decisions when they choose between different options and obtain a lower utility level than they otherwise would. Individuals find comparisons between attributes whose salience shifts over time difficult to make, so that learning is severely hampered.

People are, however, to some extent aware of their tendency to mispredict utility. They, for example, complain about their work-life imbalance and that they cannot manage it in their day-to-day decisions.

This paper analyzes whether the political process helps people to mitigate biased decisions due to misprediction or whether they are accentuated in the provision of public goods,

services and policies. The scholars dealing with the biases in decision-making related to misprediction usually disregard this aspect.

In a first step, we distinguish between four different types of government to study governments' reactions to people mispredicting utility. In a second step, we identify public discourse as the key to people's learning in the political process and the adoption of precautionary policies. Possible policy interventions that are able to reduce biases due to misprediction are discussed as an input into the political discourse process. The paper concludes with two sets of empirically testable propositions.

The paper is structured as follows: Section II discusses individual decision-making in the private realm when people mispredict future utility. We provide five reasons why the intrinsic aspects are undervalued compared to the extrinsic aspects, drawing on psychological insights. The following section III analyzes the consequences of such misprediction on behavior and utility. Section IV studies the transformation of the bias when there is a political process. Testable propositions are discussed. Section V offers concluding remarks.

2 Individual Decision-Making when Future Utility Is Mispredicted

2.1 Choice Options with Changing Salience of Attributes

Standard economic theory assumes that individuals are able to compare the future utilities provided by the goods and activities consumed. They maximize their own utility in a rational consumption decision. In certain cases, it has proved useful to distinguish between the various characteristics of goods and activities (Lancaster 1966, Becker 1965) or the attributes of options (e.g. Keeney and Raiffa 1976). However, this differentiation is not taken to affect the evaluation of future utility. The utility of a chosen combination is simply the sum of the weighted value of each characteristic.

The standard economic model of consumer decisions is appropriate for most goods and activities, and for most situations. It is still appropriate when individuals make random prediction errors, or when the extent of misprediction is the same for *all* goods, and *all* activities.

This paper departs from these assumptions: we argue that there are *systematic* differences in mispredictions between two types of attributes characterizing different options.[1]

1) Attributes of the first type relate to 'intrinsic needs'. A comprehensive view of three main aspects is provided in self-determination theory by Deci and Ryan (e.g. 2000). First, there is a need for relatedness, referring to the desire to feel connected to others by love and affection (having a family and friends and being in a social setting). Second, a need for competence refers to the propensity to control the environment and experience oneself as capable and effective. Third, a desire for autonomy involves the experience of being in charge of one's actions or being causal.[2] Intrinsic attributes are also characterized by providing "flow experience" (Csikszentmihalyi 1990), i.e. when one is completely immersed in an activity, often a hobby.

2) The second type of attributes relates to 'extrinsic desires'. Extrinsic attributes serve people's goals for material possessions, fame, status or prestige. Income thus becomes one of the crucial attributes of options in the choice set. In contrast to intrinsic needs, the satisfaction of extrinsic wants does not come from inside but is provided from outside, by other people.

Each option, activity and even good is multidimensional; in general, a particular choice alternative has both intrinsic and extrinsic attributes. But some goods and activities have a stronger component of an intrinsic nature (e.g. time spent with friends)[3], others of an extrinsic nature (like most consumer articles as they go beyond basic material needs). Of a particularly

interesting nature is work. Having work gives people a strong sense of self-determination and being active at work provides flow experiences. Besides these intrinsic aspects, income from paid work is the input for consumer items serving extrinsic wants.

The systematic mistakes occur because, when *making decisions*, the extrinsic attributes are more salient than the intrinsic attributes of different options. Therefore individuals tend to undervalue the intrinsic attributes relative to the extrinsic ones when they decide and allocate their resources. When they experience the hedonic consequences of their choices, the intrinsic attributes get relatively more important and their ex ante negligence is reflected in lower utility. The distortion thus leads to a systematic inconsistency between predicted and actually experienced utility.[4]

2.2 Why Intrinsic Attributes Are Undervalued When Predicting Utility

The following major sources for underestimating future utility from intrinsic attributes, compared to extrinsic attributes of goods and activities, may be distinguished:

(1) *Adaptation is underestimated*

There is convincing empirical evidence that individuals are not good at foreseeing how much utility they will derive from their future consumption (e.g. Loewenstein and Adler 1995, for an extensive survey, see Wilson and Gilbert 2003).[5] Research on affective forecasting shows, e.g., that people overestimate their reactions to specific events (because they are embedded within other daily life events that they are not currently aware of) or that people underestimate their ability to successfully cope with negative events.[6] The general insight is that people usually have biased expectations about the intensity and duration of emotions in the sense that the impact is less than predicted because people adapt more than they imagine.

We argue that adaptation is more strongly underestimated for extrinsic aspects than it is for intrinsic aspects. People adapt less to goods and activities with strong intrinsic components

because the (positive) experience tends to be renewed with every new act of consumption. Getting together with a good friend is always rewarding, and one does not get used to it in the sense of valuing this experience less and less. Rather, the opposite is true. Each interaction with the friend provides fresh pleasure and enjoyment. Similarly, many scholars have a flow experience when they immerse themselves in writing a paper or book they always wanted to write. The corresponding utility does not wear off. Thus, many senior scholars, who have written numerous papers and books in the past, experience flow to the same extent as when they were young.

The differential effect on the intrinsic and extrinsic attributes of goods and activities is consistent with much recent empirical evidence (for a survey, see Frederick and Loewenstein 1999). It has been found that individuals do not adapt their utility evaluation in the case of undesirable experiences that inhibit intrinsic need satisfaction. In particular, severe health problems, like chronic illness, or illness that gets progressively worse, reduces autonomy and leads to lasting reductions in reported subjective well-being (e.g. Easterlin 2003). Widowers suffer, on average, for years from their lot (e.g. Stroebe et al. 1993). Having a job is related to many aspects that provide flow experiences and satisfy intrinsic needs, like being in the company of workmates and experiencing expertise and autonomy. Accordingly, being unemployed is repeatedly found to have high negative non-pecuniary effects on people's subjective well-being with little habituation (Clark 2002). By way of contrast, having a job with high autonomy, as in the case of self-employed people, is related to high job satisfaction. Frey and Benz (2002), e.g., show that the self-employed derive more utility from their work than people employed by an organization, irrespective of income earned or hours worked. Moreover, they can explain this difference with people's evaluation of the use of initiative at their work place and their satisfaction with the actual work itself (p. 25). Intrinsic attributes also characterize the work of volunteers. It is, in fact, found that people doing volunteer work

are more satisfied with their life, even when taking the possibility of reverse causality into account (Meier and Stutzer 2004).

In the case of goods and activities in which the extrinsic aspects are dominant, there is empirical evidence that individuals adapt to a considerable extent. This has, in particular, been demonstrated for income (van Praag 1993; Easterlin 2001; Stutzer 2004). When individuals experience a raise in income, their utility level at first rises but, after a year or so, most of this beneficial effect has evaporated. It has been estimated (van Herwaarden et al. 1977) that around 60% of the utility increase due to an enduring higher position in the income distribution disappears over time.

The evidence of little or no adaptation for goods and activities characterized by intrinsic aspects, and strong adaptation for those characterized by extrinsic aspects, suggests that individuals who underestimate adaptation, or even disregard adaptation altogether, make a bigger mistake when predicting future utility from extrinsic attributes than from intrinsic ones.

(2) *Distorted memory of past experiences*

When individuals make decisions about future consumption, or allocation of time and information from current experience is inaccessible, they have to resort to their respective experiences from the past. People reflect on specific moments from the past or access generalizations about likely emotions in a particular type of situation (for a discussion, see Robinson and Clore 2002). If specific information is available, it has priority in people's judgment. Thereby, the more memorable moments of an experience disproportionately affect retrospective assessments of feelings (Kahneman 1999). What counts as " more memorable" tends to be the most intense moment (peak) and the most recent moment (end) of an emotional occurrence. This peak-end rule or duration neglect has been established in many experimental tests (Kahneman 2003).

We propose that intrinsic attributes relate to long-term experiences of moderate but enduring positive feelings. In order to be subject to the renewed enjoyment of the type of interactions mentioned above, as well as to be able to immerse oneself in a flow experience, time is needed. In contrast, extrinsic attributes are related to short-term experiences, in particular peak emotions. Consequently, we argue that the intrinsic aspects of goods and activities related to duration (compared to the extrinsic aspects related to peaks) are underestimated when people predict utility based in retrospect.

(3) *Rationalization of decisions*

Individuals have a strong urge to justify their decisions, both to themselves and to other persons (for pre-decision justification, see Shafir et al. 1993). It is not only predicted consumption utility that affects, e.g., the decision to buy something, but also whether people think that they are getting a bargain (Thaler 1999). It is found that there is a general tendency to resist affective influences and to take rationalistic attributes into account when making decisions. Hsee et al. (2003) call this reason-based choice lay rationalism. In experiments, they find, e.g., that people focus their decisions on absolute economic payoffs and play down non-economic concerns. This implies, however, that people do not optimally consider various attributes of different options in order that predicted utility would be maximized.

We argue that, for extrinsic and intrinsic attributes, there is a similar inconsistency in decision-making. It is much easier to provide rationalistic justifications for extrinsic rather than for intrinsic characteristics. Consider, e.g., a job offer providing more income but less leisure-time. Most people will find it much easier to justify both to themselves and to others why they should accept the job offer, as the extrinsic monetary dimension is salient. In contrast, it is quite difficult to justify why the intrinsic characteristics provided by more leisure-time (even when its hedonic utility might be correctly predicted) are important enough to refuse the increase in money. As a result, goods and activities characterized by strong

intrinsic attributes tend to have too little weight in decision-making compared to extrinsic components.

(4) *Intuitive theories about the sources of future utility*

People have very diverse intuitive theories about what makes them happy (for a discussion see Loewenstein and Schkade 1999). These beliefs have direct influence on people predicting future utility and it can cause them to make mistakes. Moreover, these beliefs play a role, because they guide the reconstruction of past emotions and make them consistent with current self-conceptions or beliefs (Ross 1989). Thus, intuitive theories interact with the three previously discussed sources of misprediction.

An important belief refers to acquisition and possession as central goals on the path to happiness, i.e. to materialism (e.g. Tatzel 2002 for a discussion in economics). It is found that people with material or extrinsic life goals report lower self-esteem and life satisfaction than people with intrinsic life goals (e.g. Kasser 2002; Sirgy 1997). This correlation is probably partly due to confounding unobserved personality traits like neuroticism (McCrae 1990) and reversed causality, due to a compensatory reaction on the part of people with low subjective well-being. However, it might also indicate that people who believe intuitively in extrinsic attributes are prone to mispredict future utility. In contrast, people with intrinsic life goals for personal growth, relationships and community spirit apply intuitive theories that emphasize intrinsic attributes that lead to few mispredictions in future utility. Our argument thus includes heterogeneity among individuals that leads to additional testable predictions when combined with previous reasons for misprediction.

(5) Effects of commercialization

The differential effect of misprediction between intrinsic and extrinsic aspects also depends on the extent to which the market enters. The monetarization of a good or activity induces

individuals to focus more on extrinsic attributes than they otherwise would. This applies both to work and consumption. It has been argued that introducing pay for performance leads employees to regard those performance aspects, which are relevant for the compensation they receive, as dominant. In contrast, aspects of performance irrelevant for payment are crowded out (see Frey 1997 and, for a survey of empirical evidence, Frey and Jegen 2001). In the area of consumption, advertizing is often directed to extrinsic aspects of the goods to be sold. In comparison, lobbies for intrinsic values tend to be weak and sometimes do not exist at all. To the extent to which "commercialization" occurs (see, e.g., Lane 1991; Kuttner 1996; Bowles 1998), individuals are induced to make mispredictions of the future utility of goods. They are led to believe that the extrinsic characteristics will make them happier than is actually the case compared to the intrinsic ones.

2.3 Awareness of Mispredicting Utility and Individual Learning

Systematically mispredicting future utilities, even if they differed between goods and activities, would be of little consequence for economics if individuals would learn quickly in repetitive choices.[7] If this were the case, mispredicting would be a disequilibrium phenomenon not basically affecting the notion of rational decision-makers maximizing individual utility.

A large literature suggests, however, that learning is a complex process, which does not necessarily lead to overcoming mispredictions. Learning is only likely to be effective if multi-dimensional goods and activities are reduced to essentially one dimension expressed in monetary terms. In that case, the individual can be assumed to be able to rectify their mistakes to a greater degree within a short period of time. Standard economic models then fully apply, at least in equilibrium.

In the cases considered here, where the importance of various attributes differ between the point in time a decision is taken and consumption time, learning is much more difficult. Learning where decisions about future consumption are concerned must often be based on reconstructions of feelings in the past. They are therefore subject to the same misperceptions as remembering the utility of past experiences (see previous sub-section on distorted memory). Learning is particularly hampered when episodic memories become too few and people rely to a large extent on their intuitive theories (Robinson and Clore 2002). In consequence, remembered utility and predicted utility become similar and relatively independent of actually experienced utility. Mitchell et al. (1997), for example, document this phenomenon in three survey studies about enjoyment predicted before, experienced during and recollected after a trip to Europe, a Thanksgiving vacation, and a bicycle trip in California. Although participants enjoyed the actual trip less than predicted, they report enjoyment levels similar to the ones predicted after the trip when they recall the experience.

Learning, in contrast, is easier when people can access their feelings directly, i.e., while still experiencing a particular situation. It might even inspire them to adopt institutional preconditions to sustain optimal decisions after the event. Most readers will be familiar with the experience of not getting together with friends as much as we would really like when reflecting about it immediately after the meeting. It is just that we cannot imagine how enjoyable it was once we are back in our daily routine and have to find a date. One of us experimented with trying to overcome this particular problem by fixing a date whilst still together with the friends and aware of the pleasures of being in these friends' company. It resulted in getting together more frequently and enjoying the meetings to the same extent as before. There are also moments of bliss and traumatic experiences that can abruptly change people's intuitive theories about what constitutes happiness.

In general, however, a more elaborate learning process is required. The individual must step back from his or her actual decision-making activity, where the extrinsic dominates the intrinsic characteristics. He or she should attempt to make an overall evaluation, including undertaking some critical self-examination, or should resort to what has been called "double-loop learning" (see Argyris and Schön 1978). As such elaborate learning is more costly, and is in itself subject to errors, individuals are not able to fully correct their mispredictions within a reasonably short period of time. In many cases, they are even incapable of correcting at all, so that the misprediction of future utilities persists over time.[8]

Limited learning can well co-exist with people's partial awareness of their or others mispredicting utility.[9] Many people talk, for example, about their difficulties and mistakes in balancing work and life. Yet, still on a case-by-case basis, they make decisions underestimating intrinsic attributes relative to extrinsic attributes.[10]

3 Consequences

The mispredictions of future utility from goods and activities, depending on their intrinsic and extrinsic attributes, have two immediate consequences:

(1) Goods and activities with pronounced intrinsic attributes are *under-consumed* relative to those with pronounced extrinsic attributes.

(2) The systematic distortions in allocation due to utility misprediction *reduce individuals' experienced utility* according to the their *own* best interests.

These consequences and the discussed sources link up to various strands of literature where similar phenomena have been identified:

- The aspect of underestimated adaptation to new situations is neatly introduced in theoretical models of intertemporal decision-making with habit formation

(Loewenstein et al. 2003). Based on their model of projection bias, various phenomena can be modeled, like the misguided purchase of durable goods or consumption profiles with too much consumption early in life. Misprediction of utility thus provides an alternative to seemingly irrational saving behavior that is usually addressed in a framework of individuals with self-control problems.[11] Interesting implications follow when people mispredict adaptation in situations where the endowment effect applies. The endowment effect is commonly understood as the result of (i) people adapting to owning or not owning an object and (ii) people feeling higher utility losses in absolute terms when they give up the object than when they obtain it. Underestimating adaptation then leads to accentuated feelings of loss aversion and a much stronger endowment effect (Loewenstein et al. 2003, 1234).

- It has been argued that the "work-life" balance of individuals today is distorted. People are induced to work too much, and to disregard other aspects of life. This proposition has been forcefully put forward for the United States, where individuals are said to be "overworked" (Schorr 1991). This is consistent with our hypothesis that individuals tend to focus too much on options characterized by strong extrinsic attributes, in particular income, compared to intrinsic attributes.[12]

- Competing for status involves negative externalities, and therefore too much effort is invested in gaining status and acquiring "positional goods" (Frank 1985, 1999). Such goods are characterized by very strong extrinsic attributes. In the saying "Keeping up with the Jones's", it is revealed that their consumption is externally oriented. Thus misprediction of utility is likely to magnify the distortions of status competition in consumption.

- Procedural utility, i.e. the satisfaction derived from the process itself rather than from its outcome, relates to innate needs. The utility derived from a particular process

contributes to competence, relatedness and autonomy, and is therefore closely related to the intrinsic attributes of goods and activities (see the survey by Frey, Benz and Stutzer 2004). According to our propositions, sources of procedural utility are expected to be underestimated in people's decisions. Consistent with this idea, it has been empirically shown (Tyler et al. 1999) that, when making decisions, individuals tend to prefer institutions promising favorable outcomes. But *ex post* they state that they would have preferred an institution putting more emphasis on (just) procedures.

- There is a long tradition in economics arguing that individuals tend to focus too much on material goods and disregard goods providing non-material benefits (see Lebergott 1993; Lane 1991). Most importantly, Scitovsky (1976) claimed that "comfort goods" are over-consumed compared to goods providing "stimulation". The former have a strong extrinsic component, while the latter correspond closely to the intrinsic aspect, as stimulation importantly renews the satisfaction denied.[13]

- In an empirical test of people mispredicting utility, people's decision for commuting longer or shorter hours is analyzed (Frey and Stutzer 2003a). The commuting decision involves the trade-off between the salary or the quality of housing on the one hand and commuting time on the other hand. Rational utility maximizers only commute when they are compensated. However, when people overestimate utility from goods serving extrinsic wants, they are expected to opt for too much commuting and suffer lower utility. It is found that commuting is by far not fully compensated and, on average, people who commute one hour one way would need an additional 40% of their monthly wage to be as satisfied with their life as people who do not commute. There is, however, significant variation between people. Incomplete compensation is much stronger for people with strong extrinsic life goals.

4 Mispredicting Utility and the Political Process

4.1 Government Reactions in Four Standard Models of Government

We speculate in our analysis how politics affects the utility losses incurred by individuals due to their misprediction of utility. In particular, does political intervention (i.e. the supply of public goods, services and regulations, in short called "public goods") mitigate or accentuate the utility loss due to individual misprediction?

We proceed by considering two "ideal types" of government implied by the classical welfare theoretic approach and by the (dominant) Public Choice approach. Then we consider two more realistic models of government, a dictatorial and a democratic one.

(1) Omniscient benevolent dictator

The traditional social welfare approach implicitly, and often explicitly, assumes an "omniscient benevolent dictator" (see Brennan and Buchanan 1986; Buchanan 1991). The dictator has the power to put all political ideas into action. He is completely informed and has the best of intentions. He wants to help individuals to reach the highest utility possible according to their own evaluations.

The dictator offers many public goods with strong "intrinsic" attributes, despite the fact that the individuals do not value them highly when they learn about the dictator's decision. But the dictator knows that the individuals will value them more highly in the future. As the dictator also knows individuals' discount rate, he is able to provide those public goods, producing maximum accumulated experienced utility over time for the individuals. The public goods and services supplied promote personal interaction, by providing communal meeting places, by granting paid maternity leave, by regulating shopping hours or the maximum work week,

by supporting the arts and sports, etc. The applied policies foster people's self-determination by giving them a say in economic democracy and by providing full employment.

In contrast, the dictator offers few public goods with strong "extrinsic" attributes. He correctly foresees that the individuals get used to them and that they will reap lower utility in the future. These are public goods, services and regulations, spurring growth in consumption such as subsidized mobility or the abandonment of employee protection.

An "omniscient benevolent dictator" thus does not mispredict the utility people get from public goods in the future and may to some extent even correct people's mispredictions of their own future utility derived from the consumption of goods and services in the private realm.

This approach is faced with fundamental problems (Buchanan and Tullock 1962; for a survey see Frey 1983; Brennan and Buchanan 1986). No dictator has full discretionary power to undertake the benevolent policies. He is to some extent restricted by other actors, in particular by competing elites such as the military and other politicians. He has little incentive to become informed about the preferences of the people, and he has no incentives to correct their mispredictions about their future utility. Rather, a dictator pursues his own interests, consisting in creating a good life for himself, his family and his cronies, and securing his position.

The "omniscient benevolent dictator" is indeed an "ideal type" in the sense of Max Weber not existing in reality.

(2) Perfectly competitive parties in a democracy

The dominant approach in the Economic Theory of Politics or Public Choice is the "Median Voter Model" resulting from "perfectly competitive parties in a democracy" (Downs 1957; for a survey see Mueller 2003). In this model, strictly two parties exist with continuous

elections and complete voter participation. Under these conditions, the policies undertaken converge to the preferences of the median voter. As nothing is known about the distribution of preferences with regard to goods with different intensities of extrinsic and intrinsic attributes, a normal preference distribution can be assumed, so that the median voter is the average voter and citizen.

The party leaders are not fully informed, but seek to collect sufficient information to take care of the average voters' preferences. Neither of the two parties have any discretionary leeway, but have to strictly aim at fulfilling the median voter's preference. At election time, the parties must offer policy bundles pleasing the voters. They offer public goods with strong extrinsic attributes, but whose future utility is overestimated. They cannot afford to supply public goods with strong intrinsic attributes, because the voters do not predict their higher future utility and vote strictly instrumentally. Income transfers, tax reductions, material goods and policies spurring growth are thus preferred, while public goods with strong intrinsic attributes and policies favoring interaction and "good" processes are disregarded.

In a "perfectly competitive democratic system of party competition", individuals' mispredictions are carried forward in the provision of public goods and services, and individual biases might even be accentuated rather than corrected.[14]

This standard Public Choice model can be criticized from several points of view. The situation of perfect political competition with strictly two parties exists nowhere. In all countries there are more than two parties actually or potentially competing with each other. With more than two parties, no equilibrium (for three parties) or different or several equilibria from the median exist (Selten 1971; Mueller 2003). There are many imperfections on the demand and supply side of the democratic process. In particular, the incumbent party has great advantages over its contenders. Information about individuals' preferences is seriously

limited. Moreover, people decide about candidates and issues after election and voting campaigns with widespread political debates, which partly form people's preferences.

The model of perfect party competition is again an "ideal type" not existing in reality. We now discuss two more realistic types of government, one a "Paternalist Government in an Authoritarian System", the other a "Majority Government in a Democracy".

(3) Paternalist government in an authoritarian system

The government has discretionary power to undertake those policies it sees fit to implement, but is limited by other actors. The people's preferences only play a small role because the probability of the authoritarian government being toppled by a popular uprising is small (see Tullock 1987). Nevertheless, the ruler pacifies the people, especially in the capital, by offering "panem et circenses", which are public goods with strongly extrinsic attributes and with low future utility. The authoritarian ruler has to be more afraid of a military or police takeover, or a political or social elite takeover. He therefore makes an effort to check their aspirations by providing them with material benefits (such as a good income and easily exploitable monopolistic positions), as well as with immaterial rewards such as titles and orders. At the same time, he threatens them with hard sanctions if they oppose him. The ruler's information is incomplete, though he makes a great effort to know what people think and what is going on in his country. But the information received by him is typically distorted. His underlings have learnt that they do best to provide their ruler with information favorable to him.

A paternalistic ruler tends to accentuate individuals' utility losses due to misprediction, as he offers public goods with strong extrinsic attributes. But this effect is somewhat mitigated by the fact that the ruler may have a long-term view. The authoritarian German Democratic Republic, while economically very inefficient, may have had one good side, namely fostering

conditions enabling community interactions such as volunteering (see Meier and Stutzer 2004).

(4) Majority government in democracy

To stay in power, a party in a democracy must be re-elected. The government has little discretionary room at election time if its re-election chances are low. In that case, it has an interest to cater to voters' short-term preferences. It supplies and promises public goods with marked extrinsic attributes in order to please the voters. These are the well-known election presents consisting mainly in monetary transfers. Such policy aggravates individuals' utility losses due to misprediction. A majority government thus tends to *discontinually* accentuate individuals' losses due to misprediction. This is the best strategy, even if voters experience and realize after elections that the policies are suboptimal.

However, many government parties are reasonably confident of winning the next elections and are not forced to undertake policies producing short run benefits. Moreover, after the elections have passed, the party in power has considerable leeway to pursue a policy following its own ideological preferences (see the econometric models of government behavior and of the political business cycle in Frey and Schneider 1978a; 1978b). Depending on its ideology, public goods will be offered, which may accentuate or reduce individuals' utility losses due to misprediction. Ex ante, it is not known whether a move in the direction of extrinsic or intrinsic attributes will prevail.

4.2 Extending the Democratic Models of Politics: Learning by Individuals in the Political Process

A crucial characteristic of the political process in a democracy is the political discourse. "The definition of democracy as 'government by discussion' implies that individual values can and do change in the process of decision-making" (Buchanan 1954, 120). In addition, people's

behavior in the political realm is strongly influenced by their motivation to express their values and views (Brennan and Lomasky 1993; for empirical evidence, see e.g. Copeland and Laband 2002). Both aspects potentially allow for political decisions that are not biased by misprediction of utility from publicly provided goods, services and regulation. It might even be possible to overcome some of the negative effects that misprediction produces in individual decision-making in the private realm. While public discourse enables learning by individuals, it also creates an incentive for governments to respond to citizens' needs.[15]

The four psychological sources of misprediction analyzed in section 2 can be transformed in the process of political discourse and expressive voting. In political discussions, people bring in their ideas of what would be good for them in general. Thereby, they are partly aware of their misprediction in day-to-day decisions. Examples are the debates about working time restrictions. At least some arguments contain the notion that spending time with family and friends brings renewed pleasure, while it is futile to accumulate more and more material goods.[16] That there are differences in the degree of adaptation thus realized. Compared to individual decisions, which often have to rely on past experience, there is the possibility in discussions to dialogue with people, for example, who at that time are experiencing a particular situation, like being unemployed. Biases due to distorted memory or missing experiences are thus attenuated. As voters make a decision, which also affects their fellow citizens, other reasons for rationalizing and justifying decisions are taken into account. Moreover, secret ballots make it not necessary to choose extrinsic attributes to facilitate justification towards other people. In the act of voting in favor of an issue, or voting for a candidate, the awareness of the problem can thus be expected to be expressed. The most fundamental contribution of the political discussion is about changing intuitive theories of happiness. It can be expected that the more the discussion fulfills the normative criteria of a

discourse free of constraints (in the sense of discourse ethics, see e.g. Habermas 1993), the more likely existing beliefs about the sources of happiness are challenged and reconsidered.

There is substantial evidence that people base many of their opinions on what they discuss with other people (see e.g. Huckfeldt and Sprague 1995; Walsh 2004). In order to learn about the ideas of other persons, the composition of the discussion group is relevant. In order to gain greater awareness of rationales for alternative perspectives, the extent to which the group includes people with opposing views is important (e.g. Mutz 2002). Besides the effect on political tolerance, discussion affects behavior. In many laboratory experiments, the role of discussion in affecting individuals' decisions about contributing to public goods is shown (see e.g. Bohnet and Frey 1999).

The intensity and quality of political discussion depends on the type of democratic political institutions existing and the organization (or property structure) of the media. In a democratic system with proportional representation, a broader range of arguments is put forward than in a majoritarian system with often mainly two parties (see, e.g., Karp and Banducci 2002, for New Zealand, a country that switched to proportional representation). In a democracy allowing for direct democratic participation in important policy areas, issues not discussed in an election campaign focusing on a very limited range of topics, are taken up and put to the vote. In an empirical study for Switzerland and the European Union, citizens' information about politics is related to the degree of direct democracy in Swiss cantons and whether there were national referendums about EU treaties (Benz and Stutzer 2004). It is found that citizens know more and feel subjectively better informed when they have a say in politics. This result is argued to be due to the public debates preceding and following referendums. The political discussion in the public is more likely to involve and affect politicians when they are organized in relatively democratic party structures rather than in strict party hierarchies that can easily enforce faction discipline (Teorell 1999). Arguments discussed in the media, and

that are free from political influence, are more likely to challenge individuals' beliefs about the sources of happiness than arguments put forward in the media captured by some special interests or monopolistic media moguls.[17] There is, in fact, a wide variety in media ownership structures across countries (Djankov et al. 2003). Whereby a large influence of the government is related to less freedom of the press, fewer political rights for citizens and inferior governance and health outcomes. Having free media does not automatically mean that people are exposed to alternative perspectives and are prompted to reflect on the reasons for their beliefs. First, people might selectively choose media-content that is like-minded. Second, exposure to contrary information can also result in the strengthening of existing attitudes, depending on how people cognitively respond to opposing views (Sieck and Yates 1997). All these aspects can potentially serve as empirically testable hypotheses about the extent to which misprediction is carried forward in decisions in the democratic process, or the extent to which political decisions can help to prevent wrong decisions on the individual level (see sub-section 4.6).

4.3 Inputs into the Discourse Process to Counteract Individuals' Misprediction of Utility

There are many proposals that can be put forward in the discourse process to reduce individuals' misguided pursuit of status and material possessions and to make choices with strong intrinsic attributes, like spending time with family and friends relatively more attractive. Most straightforward from an economic perspective are proposals to tax consumption more heavily, either via a consumption tax (Frank 1999) or a high income tax (Layard 2004). However, taxation only works when individuals' status is due to absolute consumption level rather than due to consuming relatively more expensive goods. In fact, it seems that the latter situation describes the market for positional goods, like front row seats at

the opera or a house with a lovely view, and many services like medical care from the best doctors. Other proposals involve subsidies of goods that are underconsumed rather than taxation of those goods overconsumed. Most prominent is Scitovsky (1976), who argues for government support of the arts, architecture and education to bring about more stimulation in people's life rather than comfort.

Another sort of government intervention is through regulation or the setting of defaults. Many specific areas allow for rules that make leisure time more attractive. This is addressed most directly by working time regulation. Mandatory maximum working hours may help to coordinate on earning less money that can be spent for positional goods. These regulations can, of course, be partly circumvented by taking up a second job or working in the shadow economy. However, they may have a strong expressive component. It becomes salient that working less, given the income level reached, would be good and the respective rule may help to justify working less hours and spending more time socializing. Related to working hour restrictions are policies for maternity and parental leave (for an overview see OECD 1998). They are promoted as family-friendly policies that can help create a better balance between work and family-life. Regulation of shopping hours is another regulation that might help coordinate leisure time and that frees people from making a trade-off between spending time shopping or working (e.g. extra work in a shop) on the one hand and meeting friends or pursuing a hobby on the other hand.

When people overestimate utility from consumption and form consumption habits, they might end up spending too much early in life and saving too little for retirement (Loewenstein et al. 2003) or may even accumulate debts from consumer credits. One possible reaction from the regulator is to restrict consumer credits (e.g. by maximum interest rates) and, in the case of saving for retirement, to introduce mandatory pension schemes. However, these interventions might have high costs for those who are less prone to misprediction, because they cannot

escape the regulations. An alternative is provided by regulations that apply "asymmetric paternalism" (Camerer et al. 2003) and give people the possibility to opt out of a contract designed to help them overcome biases in decision-making. Pertinent examples are savings plans that provide self-binding mechanisms. One possibility are plans for which employees are automatically enrolled (i.e. default option) when they start a job and need to actively opt out of when they do not want to follow the savings plan. In another program, employees are asked to commit in advance that they contribute a fraction of their future salary increases into a savings account (Thaler and Benartzi 2004).

Misprediction is argued to have particularly marked effects when it coincides with the endowment effect (section 3). Many policy arrangements can be illustrated to mitigate mistakes in decision-making. For example, when books and newspapers are sent to consumers without having been requested, the perception of succumbing to the endowment effect may be raised by facilitating comparison. For this purpose, comparative advertising by competing suppliers (which would, e.g., point out the higher price charged) or by consumer agencies, may be encouraged or mandated. For striking a deal, the consent of both adult members of a household might be required by law. Self-commitment could be facilitated if people have the right to have all unsolicited goods and services automatically returned to the sender (at the sender's expense). In some cases, one could have the right to exclude oneself from being able to do business.[18] A further possibility is to make the right to withdraw from contracts mandatory for consumers.

4.4 Examples of Existing Policies

Some of the policy proposals are actually in place in various countries. Whether the democratic systems in these countries are in fact characterized by institutions that facilitate an

effective political discourse, however, needs to be left to future research. Corresponding testable propositions are formulated in sub-section 4.6.

Table 1 shows the adoption of policies affecting individuals' allocation of time for a range of developed countries with democratic governments. Column 1 reports on the provision of maternity leave. The indicator is the product of the number of weeks of maternity leave and the rate of pay during those weeks (OECD 2001, 144). While there is no mandatory maternity leave provision in the United States, Australia and New Zealand, the Scandinavian countries Denmark, Finland and Sweden have extended programs. All three Nordic countries guarantee an equivalent of thirty or more weeks of fully paid maternity leave. There are, of course, many differences in the national provisions not accounted for in the rough summary indicator.

The second policy brought into perspective is the legal maximum number of working hours per week (OECD 1998, 168). While there are many country specific rules, an overview is possible about whether working hours are a policy issue. There are six developed countries in table 1 not restricting the number of maximum working hours per week, namely Canada, the United States, Japan, the United Kingdom, Australia and New Zealand. The most restrictive arrangement is in Finland, setting a maximum of 45 hours per week.

Data quality is worst for the regulation of shopping hours. In many countries, opening hours are at least partly regulated at the sub-federal level. As an indicator for opening policies, the maximum weekly opening hours between 8 a.m. and 12 p.m. are reported (Pilat 1997). Many countries do not restrict opening during this time frame, indicated by a number of 112 hours. At the other end of the range are The Netherlands, setting the maximum opening hours at 55 hours.

[Table 1 about here]

4.5 A Reconsideration of the 'Enlightened' Policies

The free public debate is not the only factor influencing government policy making. Besides the individual interests of the professional politicians, there are the special interests. They seek to influence the political process in order to get regulations that generate or maintain rents for them. Well-organized producer interests may well oppose many of the above-mentioned policies, because they might reduce the returns on their invested capital (see, e.g., the opposition against legislation that protects a woman's job during maternity leave). Producers of consumer items might even oppose the regulations mentioned because they benefit from people spending too much on their goods due to misprediction. Alternatively, well-intended policies are often influenced by special interests and misused for their rent seeking purposes (see the extensive debate about insider protection at the workplace at the expense of unemployed people, or the regulation of the retail sector to protect traditional suppliers from large new entrants).

4.6 Empirically Testable Propositions

It is in the nature of the addressed anomaly that tests based on behavioral traces are difficult. Mispredicting utility involves behavioral consequences that seem optimal for predicted utility but lead to a lower level of experienced utility. Therefore, we propose tests that involve reported life satisfaction, happiness or other measures of subjective well-being as proxies for people's utility (for an introduction to happiness research in economics see Frey and Stutzer 2002a,b). Happiness research is increasingly used in economics to test behavioral theories (for a discussion see Frey and Stutzer 2003b). Moreover, research on subjective well-being contributes significant insights into the sources of people mispredicting utility.

There are two sets of testable propositions that follow from the above analysis. The first set refers to the different predictions following from the four models of government. The second

set takes up the refined modeling of the political process, including political discourse and learning. These propositions are preliminary:

1. In democracies, there is less bias in consumption and therefore people enjoy higher utility than in authoritarian and dictatorial countries, because in democracies governments have to please the 'opposition' less frequently with goods and services providing immediate gratification.

   This is consistent with first evidence in Inglehart and Klingemann (2000): "New evidence from the World Value Survey supports the hypothesis that a society's level of subjective well-being is closely linked with the flourishing of democratic institutions" (p. 177). However, the prediction of the first proposition is difficult to disentangle from the positive incentives in democratic competition to follow citizens' preferences.

2. Benevolent authoritarian systems provide a less distorted set of public goods and therefore higher happiness than non-benevolent authoritarian systems because they try to mitigate individual biases due to misprediction rather than exploit them. What is "benevolent" must be determined *ex post*.

3. Incumbent governments in a tight race for re-election produce a higher consumption bias and therefore lower happiness than governments in a majoritarian democracy with high re-election chances, because the former offer or promise goods for which citizens predict high utility.

   Re-election probabilities can be determined *ex post*. Thus, soon after a close election, reported subjective well-being is lower than after an election with a clear confirmation of the incument party.

4. Precautionary policies are more likely in countries that are characterized by institutions that foster public discourse (like free media, proportional representation, referendums,

democratic party structures). Proxy measures for the involvement of people in discussions about politics are often included in public surveys. These measures can serve as intermediary variables. People in countries applying precautionary regulations are expected to be more satisfied with their life.

5 Concluding Remarks

This paper pursues two goals. First, it introduces a decision framework with people mispredicting utility that leads to systematically suboptimal behavior. Second, the consequences of this anomaly are studied for different characterizations of the political process.

Individuals are argued to systematically mispredict the future utility of goods consumed and activities undertaken. Goods and activities characterized by stronger intrinsic aspects (such as spending time with family and friends and pursuing hobbies) are undervalued compared to those characterized by stronger extrinsic aspects (such as income). While people are partly aware of this anomaly, they err when making decisions on a case-by-case basis. Learning is slow and imperfect, so that the distorted decisions are preserved over time. As a consequence, individuals obtain a lower utility level than if they were not subject to this systematic bias of misprediction.

The result that the individuals are worse off according to their own best interests distinguishes us from the more traditional "consumption critique", according to which individuals are not able to choose what is best for them – but what is "best" is evaluated according to outside preferences.

Consequences of mispredicting utility are not restricted to the private realm, but also affect people's behavior as citizens. Thereby, two modes can be differentiated. First, on a case-by-

case basis in the current political process, citizens evaluate government policy, underestimating intrinsic attributes relative to extrinsic attributes. Second, however, the political process can also generate conditions such that citizens get a more detached view of their evaluation and become partly aware of their or others misprediction of utility.

In the first mode, the effects of mispredicting utility are carried forward or are even accentuated in the political process. This mode might accurately describe government decision-making in a perfectly competitive democratic system of party competition. The two parties cannot afford to deviate from the short-term evaluation of their program by the median voter and have to provide a policy bundle with strong extrinsic attributes. The model of perfect party competition is, however, an "ideal type" not existing in reality. The analysis might, however, also hold in situations when the re-election chances of the incumbent government are low, and it starts giving presents to cater to voters' short-term preferences.

The first mode with immediate gratification is also characterizing the policy that has to be pursued by an authoritarian ruler. Offering "panem et circenses" is necessary to pacify the people, mainly in the capital, and providing material benefits to the elite is necessary to prevent a military or police takeover.

The second mode with citizens being at least partly aware of their anomalous day-to-day behavior is a more accurate description of modern democracies. Thereby the political discourse is the crucial mechanism that allows learning in the political process and provides incentives to the government to be responsive to citizens' long run preferences. While some institutional conditions are known that facilitate public debate, there are many other institutions for which only untested propositions are put forward.

There are many different policies that can be put forward to mitigate the consequences of people mispredicting utility. We are, however, only at the beginning of understanding

whether they are effective in correcting people's biases and thus increase individuals' well-being, or whether they are mainly the result of rent-seeking activities.

Table 1. Legal Policies Affecting the Work-Life Balance

	Maternity leave provision 1999-2001	Legal maximum weekly working hours 1990s	Legal maximum weekly opening hours (8h-24h) 1990s
North America			
Canada	8.25	None	..
Mexico	12	57	..
United States	0	None	112
Asia			
Japan	8.4	none	..
South Korea	8.5	56	..
Europe			
Austria	16	50	..
Belgium	11.55	50	73
Czech Republic	19.32	51	..
Denmark	30	48	63.5
Finland	36.4	45	80
France	16	48	112
Germany	14	60	66.5
Greece	8	48	112
Hungary	24	52	..
Ireland	9.8	60	112
Italy	17.2	60	66

Luxembourg	16	48	..
Netherlands	16	60 (max. average over 13 weeks is 48)	55
Norway	42	50	80
Poland	18	..	..
Portugal	24.3	54	112
Slovak Republic	25.2	..	..
Spain	16	47	112
Sweden	40.32	48 or 52	112
Switzerland		61 or 66	..
Turkey	7.92	..	..
United Kingdom	7.92	none	102
Oceania			
Australia	0	none	..
New Zealand	0	none	..

Data sources: .. Data not available. The index of national maternity leave provision is the product of the number of weeks of maternity leave and the rate of pay during those weeks. Data is from OECD Employment Outlook 2001, Table 4.7, columns 4 and 5. Legal maximum weekly working hours data is from OECD Employment Outlook 1998, Table 5.10, column 3. Data for legal maximum weekly opening hours of shops is from Pilat (1997).

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[1] We borrow these categories from a large literature in humanistic or value psychology (e.g. Maslow 1968, Rogers 1961).

[2] The underlying theories are manifold, and comprise, for instance, people's urge to master their environment for its own sake (White 1959), of being an origin (DeCharms 1968), people's resistance to loss of control (Brehm 1966) and the reflection of perceived control in more effective behavior and higher positive affects (Bandura 1977, Seligman 1992).

[3] When people spend time with friends because they are famous and important, the extrinsic dimension becomes more prevalent.

[4] Both utility measures – predicted and experienced utility – diverge from traditional decision utility derived from individual behavior. Utility is rather understood as a hedonic experience (see Kahneman et al. 1997).

[5] Standard research designs are prospective longitudinal studies on self-reported emotions. People are asked how happy they expect themselves to be after some event has happened or some option has been chosen. These predictions are then compared with reported subjective well-being when actually experiencing the new situation. There are several limits to this design: (i) Usually only predictions for changes in the near future are assessed. (ii) The way in which scales of measurement are interpreted can change over time, e.g., due to maturation or a change in the anchor. (iii) Predictions might also affect actual feelings or might even become self-fulfilling prophecies. Some of these problems can be eliminated by conducting studies between subjects, where one group's predictions are contrasted with a different group's actual reports.

[6] Young academics might be particularly worried about life after a negative tenure decision. Gilbert et al. (1998) asked assistant professors how happy they would be after a positive tenure decision and after a negative one. The answers were compared with reported subjective well-being of academics affected by a tenure decision made five or less years before. Although assistants predicted they would be less happy during the first five years after being turned down, there was no statistically significant difference between those who had and had not gotten tenure. Similarly, assistants also overestimated the positive impact of receiving tenure on their well-being.

[7] In contrast, for choices made once-in-a-lifetime, learning is no option. Biased decisions can then well affect the life path. We believe that misprediction of utility matters a lot in such life decisions (like career choice) but we do not study them here.

[8] A more fundamental reason for people's limited learning might lie in some advantage misprediction provides in the evolutionary process. Rayo and Becker (2003) model how humans' utility functions formed in order to maximize success in genetic replication. Their model rationalizes that people

neglect adaptation (described as self-inflicted externality). In today's world, this utility function with an inbuilt misprediction, however, is no longer helpful to guarantee an optimal mix between experienced utility and motivation for success in society.

[9] Systematic differences between self-evaluation and the assessment of others' decisions is likely due to overoptimism (Weinstein 1981). Thus people are overly confident about their own ability to make the right decisions, while at the same time being aware that the average person mispredicts utility.

[10] This argument is similar to the ones about sophisticated and naive people who are fully or not at all aware of their future self-control problem (for a discussion of self awareness see O'Donoghue and Rabin 2003).

[11] In Loewenstein et al. (2003), however, there is no explicit modeling of differences in adaptation *across* goods, attributes of different options or people.

[12] There is an apparent paradox that working provides intrinsic benefits but that there can nevertheless be too much working due to mispredicting utility. The paradox vanishes when the two natures of work are taken into consideration. While intrinsic work enjoyment and flow might in fact be undervalued in job choice decisions, people focus on the monetary compensation when trading-off additional working time and time for leisure activities. For given intrinsic and extrinsic job attributes, this is hypothesized to lead too long working days.

[13] One might argue that the over-consumption of comfort goods and related biased decisions are rather explained by agents having self-control problems (see, e.g., Laibson 2004 on intertemporal decision-making). These agents choose goods and activities providing short run gains and incurring long run costs. However, mispredicting utility rather portrays the other extreme of people. Individuals mispredicting utilty may choose to work extra hours over a long period of time in order to buy some prestigious car in the end from which long lasting satisfaction is expected.

[14] We are aware that the median voter model has been further developed. Recent accounts include, e.g., the problem of mobilizing voters, fundraising, party organization, and ideological capture by special interests. Future elaboration should take these extensions into account when analyzing how the misprediction of utility is transformed into policies. Some aspects are discussed in section 4.2.

[15] There is strong evidence that information through the mass media encourages political competion and increases government responsiveness to citizens' preferences (Besley and Burgess 2002; Stromberg 2004).

[16] In a national referendum held in Switzerland in 2002, people voted on a drastic reduction in the maximum number of legal working hours, as proposed in a popular initiative. One of the main arguments in favor, advanced by the initiative commitee, emphasized an improved work-life balance: "Long working weeks and stress become a health risk for more and more people. Too much work makes people ill and work on demand is poison for family life. There is less and less time for social contacts, education, culture, sports or voluntary work. The initiative of the SGB stops this and brings working hours in line with health and allows for a better balance between family, job and leisure" (Federal Chancellery 2002, our translation).

[17] For the role of the media in exposing citizens to cross-cutting political viewpoints, see, e.g., Mutz and Martin (2001).

[18] In some casinos in Germany and gambling halls in the Canton of Zurich, Switzerland, one can officially request that one be denied access to these places.