

Are Positional Concerns Stronger in Some Domains Than in Others?

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For more than one hundred years, economists have discussed the idea of positional goods—that the utility conferred to the individual by many, perhaps even most, types of consumption goods depends not only on the absolute amounts the individual consumes, but also on the amount others consume (e.g. Veblen 1899; Duesenberry 1949; Galbraith 1958; Frank 1985). While economic interest in “positional goods” appears to be increasing (e.g. Hopkins & Kornienko 2004; Arrow et al. 2004), most of the available literature remains theoretical rather than empirical.

If status concerns affect all items in the utility function equally (leisure as well as goods), the positional effect would operate like a lump-sum tax, reducing a person’s sense of well being without changing that person’s allocation of time or money (Arrow et al. 2004). However, if positional concerns are stronger for some things than for others, then in order to understand how people can become better off in well-being, not simply in wealth, we must investigate how interpersonal competition interacts with material gains (Frank 1997). Evidence about what goods are more positional than others is essential for correct policy recommendations (Besharov 2002), but little is actually known about the relative positional rankings of items in the typical consumer’s utility function.

Four of the hypotheses proposed in the literature are that:

- (1) Income is more positional than leisure (Frank 1985; Frank 1997; Frank & Sunstein 2001)
- (2) Goods are more positional than bads (Solnick & Hemenway 1998),
- (3) Private goods are more positional than public goods (Galbraith 1958), and
- (4) Consumption goods such as clothing and housing are more positional than health and safety (Frank 1985; Frank 1997; Frank & Sunstein 2001).

This article uses survey responses to provide some empirical evidence concerning these four hypotheses.

Empirical Literature

Studies have found evidence of the positional aspects of income. For example, Frank (1985) showed that intrafirm wage profiles reveal positional concerns. Wage profiles are flatter than standard theory predicts, probably because highly able workers accept somewhat lower salaries in exchange for their high rank and less able workers require higher salaries to compensate for their low rank. Luttmer (2004) combined survey data that asked people about life satisfaction with Census data on local income to test whether average neighborhood income affects the individual's happiness, after controlling for own income and other characteristics. Neighbors' income had a significant and robust negative effect on satisfaction similar in size to the positive effect from own income.

There is some evidence that income is more positional than leisure. Neumark and Postlewaite (1993) found that a woman was more likely to work if her sister had raised her family's standard of living by entering the labor force, controlling for family factors that might lead sisters to make similar choices.

In a survey of college students, Pingle and Mitchell (2002) found that nearly one-third did not exhibit any positional concerns. The others did adjust their choices based on average hours or wages, wanting to work more when average income was higher. However, subjects did not quite "keep up" with the average. When average income was high and leisure was low, subjects selected less-than-average income and more-than-

average leisure for themselves. When average income was low and leisure was high, subjects selected more-than-average income and less-than-average leisure.

A recent survey asked a random sample of the Swedish population to make choices for a “future relative” (Carlsson, Johansson-Stenman and Martinsson 2003). They were asked about four goods— income, value of company car, safety of company car and leisure (non-working hours). Income was more positional than leisure, and the value of the company car was more positional than its safety.

A study of the visibility of private goods found that high-visibility goods (as determined by surveying a random sample of Americans), such as clothing, cars and jewelry, have higher total expenditure elasticities than low-visibility goods, such as utilities and home telephone service (Heffetz 2004). Luxury goods tend to be high-visibility goods, perhaps because status-seeking operates best when consumption is visible.

A decade ago, we surveyed more than 250 faculty, staff and students at the Harvard School of Public Health regarding positional concerns about a dozen private goods and bads (Solnick and Hemenway 1998). In our “two-world survey,” the majority of respondents preferred a lower income that was higher than that of others in society to twice as much income that put them below average. Concerns about position were lowest for vacation time. The answers for the two bads (criticism from the supervisor and papers which one had to write) were also among the least positional. As far as we know, no one has provided evidence concerning the positional aspects of public versus private goods.

Methods

Our new survey asks questions about income and leisure (vacation time); public goods (e.g. public playgrounds) and private goods (e.g. flowers in your home); goods and bads (e.g. unpleasant dental procedures, potholes); and housing (number of rooms), clothing (outfit for a job interview) and health and safety (e.g., unhealthy air quality, times car broken into).

Each question on our survey presents two states of the world. For each state, the question reports how much the respondent, or the respondent's community or country, has of a certain item and how much others have. In one state of the world, the "positional" state, the respondent (or the respondent's community or country) has more than others. In the other, "absolute" state, both parties have more than in the positional state but the respondent now has less than others. (In the case of bads, in the positional state the respondent has less than others, and in the absolute state everyone has less than in the positional state and the respondent has more than others). For each question, the order of the two states was rotated in the questionnaires, and in every questionnaire some of the specific questions had the positional state first while had the absolute state first. Examples of two questions are given below:

A. Your home has seven rooms; other people's homes have ten rooms.

B. Your home has five rooms; other people's homes have three rooms.

A: Air quality in your community is unhealthy 4 days a month; in other communities 2 days a month.

B: Air quality in your community is unhealthy 6 days a month; in other communities 8 days a month.

The first example is a private good, the second is a public bad. In both examples, B is the positional state. All the items on the surveys are shown in Table 1 by category. Respondents were asked to select the world in which he or she would prefer to live.

We created two surveys of 13 different questions to ensure we had a good number of private and public goods and bads (see Appendix for complete surveys). Since a person's choice between the two states of the world depends in part on the size of the tradeoff between absolute and relative position, all questions (e.g., goods and bads, private and public goods) had the same general tradeoffs. Questions were divided randomly into the two surveys, so no subject was asked about all of the items in any category. In particular, each subject answered only one of our two income questions. All respondents were asked about their age, gender, and whether their family income in the previous year had been greater or less than \$60,000.

Surveys were distributed via email to more than a dozen friends and colleagues around the country, to be administered to their friends and associates (and a few students) in the summer of 2004. In addition, approximately two-dozen surveys were administered at the Boston Amtrak train station. The study received an exemption from the Harvard School of Public Health Human Subjects Committee in July 2004.

Results

We received 104 responses to one version of the survey and 122 responses to the other. Nearly 60% of respondents were female (Table 1). Most respondents were in their twenties or thirties, with ages ranging from “under 20” to “70 or over.” Respondents were evenly divided into our two income categories.

Percentages choosing the positional state of the world varied from 11% for four items— having your car broken into, national life expectancy, days of illness and unhealthy air quality in the community— to 81% for spending on national defense (Table 2). No respondent chose the positional state for all of the 13 items he or she was asked about, and no respondent chose the non-positional state for all 13 items. We did not find any significant influence of age, gender or income for any categories (e.g. goods versus bads) or for individual items.

Income was positional for between 48% of respondents (with the higher income question) and 33% of respondents (with the lower income question). The difference in responses by level of income given in the question was significant ($p < .05$) in an unpaired t-test. By contrast, leisure (weeks of vacation) was positional for only 16% of respondents. The difference in level of positional concern for income versus leisure was significant ($p < .001$ in a within-subject t-test for those who answered the version including both the leisure question and the higher income question and $p < .01$ in an across-subject t-test for other subjects).

We categorized the questions along the two dimensions of public vs. private and good vs. bad. It is important to note that public goods and bads are not all alike. Potholes and playgrounds are characteristics of the local environment, while space

exploration is a national undertaking. It may prove that positional concerns vary across the level of the public good as well as between the public and private spheres. We were not able to classify two questions as either goods or bads--amount of time studying for a test or training for an athletic competition. If time spent preparing is enjoyable or results in a higher level of mastery, then more is better. But if time spent preparing is unpleasant or signals a need to prepare, then more is worse.

In our survey, goods (e.g. eat out at a restaurant, playgrounds in the neighborhood) were more positional than bads (e.g. unpleasant dental procedures, potholes in your neighborhood). People were more willing to accept less of a good thing than they were to accept more of a bad thing in order to be in a superior position. More positional answers were given for all goods compared to all bads, private goods compared to private bads and for public goods compared to public bads ($p < .0001$ for all three comparisons in within-subject t-tests).

Subjects were more likely to make positional choices for public goods than for private goods ($p = .0001$ in within-subject t-test). In other words, for the goods on our list, people had a greater desire for their country (or community) to be ahead of other countries (or communities) than to be personally ahead of other individuals in the private sphere. They usually wanted more private goods even if it meant having less than others, but they were less likely to take more public goods if it meant their country (or community) would have fewer such goods than others.

Conversely, respondents were somewhat less likely to make positional choices for public bads than for private bads ($p = .07$ in within-subject t-test). For public bads, like

unhealthy air quality, they wanted lesser amount of the bads even if it meant their community was worse off than others.

A particular type of clothing (outfit to wear to job interviews) was positional for 62% of respondents and size of home (number of rooms in the home) was positional for 30% of respondents. By contrast, health and safety issues were among the least positional. For five items— number of times your car is broken into, days of illness, nation's infant mortality, nation's life expectancy, and nation's unhealthy air quality— only 11%-13% of respondents chose the positional world.

Discussion

Our results lend support for most of the hypotheses tested. We find greater positional concerns for income than leisure, suggesting that Americans may be working more than is optimal. Some scholars have argued that interpersonal comparisons are contributing to an increase in hours of work in the United States and other nations, reducing the quality of daily life (Schor 1998).

Consistent with results from our previous two-world survey (Solnick & Hemenway 1998), we found that bads were less positional than goods. In prospect theory, individuals have different risk preferences with regard to gains versus losses. Our two surveys provide evidence that position plays less of a factor with regard to losses compared to gains. Almost 90% of respondents wanted fewer days of illness and better air quality, even if others were less often sick and enjoyed cleaner air.

We also found, as hypothesized, that clothing and size of one's house were more positional than health and safety. Such a finding suggests that we are not spending

enough on what may be considered public health measures to reduce pollution, illness and injury. Note however, that our health and safety questions were written as “bads” which may affect the response.

Our results are not consistent with Galbraith’s hypothesis that private goods are more positional than public goods. In The Affluent Society, Galbraith claimed that compared to the thriving private economy, the public sector had been neglected, due to the fact that “emulation [operates] mainly on behalf of privately produced goods and services” (p. 198). In a footnote, he remarks that “Emulation does operate between communities,” but continues, “However, as compared with the pervasive effects of emulation in extending the demand for privately produced consumers’ goods, there will be agreement, I think that this intercommunity effect is probably small.” Our survey, which seems to be the first to explore the existence and strength of the intercommunity effect, finds the intercommunity effect to be relatively large for the goods that we specified. However, as with private goods, the size of the effect varies.

For five public goods—national defense spending, space exploration spending, national park spending, foreign aid spending, and basic health research spending—31% to 81% of respondents answered positionally. Perhaps surprisingly, cross-national comparisons seem to matter. More respondents chose to be ahead of other countries in national park spending than chose to be ahead of other communities in playgrounds. Researchers have noted that globalization has expanded the reference group from the neighbors to what is depicted in the media, which may be geographically distant but is usually quite affluent (Schor 1998).

Of course, people are not usually aware of how government budgets compare, and they may feel less competitive about local amenities because they are not excluded from them. Furthermore, it is possible that these responses reflect something other than positional concerns. For example, people may think “space exploration” is not a good, or they may believe in small government and think less government spending on this good is preferred. People may choose the lesser amount, not because they care about being ahead of other countries, but because they don’t like to add to the government budget.

However, there is evidence that some of these areas of government spending are positional. Regarding space exploration, most Americans do want the United States to remain the leader. In a recent poll, three-fourths of Americans said they thought it was important for the United States to be the leading country in the world in the exploration of space (AP/Ipsos Poll January 13, 2004). Regarding defense spending, most people think it to be a good thing. In a recent poll, approximately 80% said that “strengthening the U.S. military” was an important or a top priority (Pew Research Center, January 15, 2004).

Our survey indicates that positional concerns matter somewhat for everyone (no one answered all questions non-positionally). Given the wording of the questions, the effect had to be large to lead to a positional response. For example, given a constant purchasing power of money, almost half of respondents would prefer to live in a poorer world, earning \$200,000 rather than \$400,000, if most other people were earning \$100,000 rather than \$800,000.

Our study has many limitations. First, respondents were a convenience sample rather than a random or representative sample of the U.S. population. Second, our

questions were completely hypothetical. While people may be used to expressing brand preferences or giving their opinion on public affairs, the questions we asked are not the type people normally think about. The unfamiliarity of the task creates noise in the data.

Third, we asked only about 26 specific public and private goods and bads. Had we chosen other public or private goods or bads, the responses may have been different. Indeed, had we merely worded the questions differently, the responses might have been different. For example, in choosing between strategies aimed at combating disease affecting 600 people, subjects were more likely to prefer a particular strategy when it was described as “200 people saved” than as “400 people die” (Tversky and Kahneman 1981). Based on that finding and our own results, we would expect things to be more positional if expressed as a good than as a bad.

Had the amounts in the questions varied, the responses might have been different and also the conclusions (Besharov 2002). In the income question, which we presented in two versions, we found that willingness to sacrifice absolute gain to be ahead of others was greater at high income levels, levels that were probably higher than actual earnings of our respondents.

Despite these limitations, our results add information to an important area where little empirical research has been undertaken. Our findings support the idea that individuals care about relative position, for both public and private goods (and bads). The optimal allocation of resources cannot be determined by absolute consumption levels alone, without reference to what others enjoy. Individuals appear to care about their own relative position, and also the relative position of their community and country.

Table 1: Characteristics of Sample

	Percent of Sample (N = 206)
Sex	
Male	41.4
Female	58.6
Age	
Under 20	1.0
20 to 29	35.3
30 to 39	29.9
40 to 49	13.4
50 to 59	15.2
60 to 69	4.9
70 or over	0.4
Income*	
\$60,000 or less	50.5
Over \$60,000	49.5

*Income of highest earning member of household

Table 2: Positional Response by Type of Good*

	Positional	Non-positional
Private Goods		
Outfit to wear to job interviews	62	33
Income \$200,000 vs \$400,000	48	51
Eat out at restaurant	39	59
Years of education	35	64
Income \$50,000 vs \$100,000	33	67
Rooms in home	30	65
Flowers in your home	22	75
Weeks of vacation	16	84
Private Bads		
Child has unsatisfactory grades	31	66
Days working overtime	28	72
Unpleasant dental procedures	18	78
Commute to work.	18	79
Car is broken into	11	88
Days of illness	11	88
Private but ambiguous		
Hours studying for a test	57	39
Hours training for athletic competition	48	51
Public Goods		
National defense spending	81	14
Space exploration spending	55	42
National park spending	54	39
Foreign aid spending	42	55
Playgrounds in your neighborhood	32	68
Basic health research spending	31	67
Life expectancy in your country	11	88
Public Bads		
Potholes in your neighborhood	20	78
Infant mortality in your country	13	84
Unhealthy air quality	11	89

*Results do not sum to 100 because some respondents chose “both” or did not answer a particular question

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Appendix

This brief, anonymous survey should take only about 5 minutes. Thank you.

In the questions below, there are two states of the world (State A and State B). You are asked to pick which of the two you would prefer to live in. The questions are independent. For each question, circle either A or B, or if undecided, both A and B. "Others" is the average other person in society.

Circle either A or B, or if undecided, both A and B.

1. A: You have a 30 minute commute to work and other people have a 45 minute commute.
B: You have a 20 minute commute to work and other people have a 10 minute commute.

2. A: Air quality in your community is unhealthy 4 days a month; in other communities 2 days a month.
B: Air quality in your community is unhealthy 6 days a month; in other communities 8 days a month.

3. A: Infant mortality in your country is 6 per 1,000; in other countries it is 4 per 1,000.
B: Infant mortality in your country is 8 per 1,000; in other countries it is 11 per 1,000.

4. A: Your government spends \$250 billion on national defense; other countries spend \$400 billion.
B: Your government spends \$100 billion on national defense; other countries spend \$60 billion.

5. A: Your car is broken into twice this year; other people's cars are broken into four times.
B: Your car is broken into once this year; other people's cars are not broken into.

6. Note that prices are what they are currently and prices (the purchasing power of money) are the same in States A and B.

A: Your current yearly income is \$200,000; others earn \$100,000.
B: Your current yearly income is \$400,000; others earn \$800,000.

7. A: You have 9 days of illness every winter; others have 12 days of illness.
B: You have 6 days of illness every winter; others have 2 days of illness.

8. A: You have 4 weeks of vacation; others have 8 weeks.
B: You have 2 weeks of vacation; others have 1 week.

9. A: Life expectancy in your country is 72 years; in other countries it is 80 years.
B: Life expectancy in your country is 68 years; in other countries it is 60 years.

10. A: You spend 15 hours studying for a test; other people spend 10 hours.
B: You spend 20 hours studying for a test; other people spend 25 hours.

11. A: You have flowers in your home once a week; others do not have flowers.
B: You have flowers in your home twice a week; others have flowers every day.

12. A: You have a \$200 outfit to wear to job interviews; other people have \$100 outfits.
B: You have a \$400 outfit to wear to job interviews; other people have \$600 outfits.

13. A: Your government spends \$12 billion on space exploration; other countries spend \$16 billion.
B: Your government spends \$8 billion on space exploration; other countries spend \$6 billion.

Please circle your answer.

Your sex: Male Female

Your age: under 20 20-29 30-39 40-49 50-59 60-69 70 or over

Income of highest earning member of your household: \$60,000 or less more than \$60,000

This brief, anonymous survey should take only about 5 minutes. Thank you.

In the questions below, there are two states of the world (State A and State B). You are asked to pick which of the two you would prefer to live in. The questions are independent. For each question, circle either A or B, or if undecided, both A and B. "Others" is the average other person in society.

Circle either A or B, or if undecided, both A and B.

1. A: Your home has seven rooms; other people's homes have ten rooms.
B: Your home has five rooms; other people's homes have three rooms.

2. Note that prices are what they are currently and prices (the purchasing power of money) are the same in States A and B.

A: Your current yearly income is \$50,000; others earn \$25,000.
B: Your current yearly income is \$100,000; others earn \$200,000.

3. A: Your government spends \$6 billion on foreign aid; other countries spend \$10 billion.
B: Your government spends \$2 billion on foreign aid; other countries spend \$1 billion.

4. A: Your government spends \$5 billion on national parks; other countries spend \$2 billion.
B: Your government spends \$8 billion on national parks; other countries spend \$11 billion.

5. A: You usually have to work overtime once a week; others do not usually have to work overtime.
B: You usually have to work overtime three days a week; others usually have to work overtime every day.

6. A: You need two unpleasant dental procedures; others need four unpleasant dental procedures.
B: You need an unpleasant dental procedure; others do not need any dental work.

7. A: You have 12 years of education (high school); others have 8.
B: You have 16 years of education (college); others have 20 (graduate degree).

8. A: Streets in your community have 2 potholes per mile; streets in other communities have 1 pothole per mile.
B: Streets in your community have 3 potholes per mile; streets in other communities have 4 pothole per mile.

9. A: Your community has three playgrounds; other communities have five playgrounds.
B: Your community has two playgrounds; other communities have one playground.

10. A: Your government spends \$28 million on basic health research; other countries spend \$20 million.
B: Your government spends \$36 billion on basic health research; other countries spend \$42 million.

11. A: You eat out at a nice restaurant 4 times per month; others eat out once a month.
B: You eat out at a nice restaurant 8 times per month; others eat out 12 times per month.

12. A: Your child has 2 unsatisfactory grades; other people's children have 1 unsatisfactory grade.
B: Your child has 3 unsatisfactory grades; other people's children have 4 unsatisfactory grades.

13. A: You spend 150 hours training for an athletic competition; other people spend 200 hours.
B: You spend 100 hours training for an athletic competition; other people spend 50 hours.

Please circle your answer.

Your sex: Male Female

Your age: under 20 20-29 30-39 40-49 50-59 60-69 70 or over

Income of highest earning member of your household: \$60,000 or less more than \$60,000