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## What are the sources of happiness?

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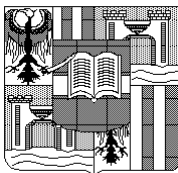
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**DEPARTMENT OF ECONOMICS**

**JOHANNES KEPLER UNIVERSITY OF LINZ**

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**What are the sources of happiness?**

by

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with

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Working Paper No. 0027

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# What are the sources of happiness?\*

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## I. Happiness matters

To discover the sources of people's happiness is an issue of major interest. Accordingly, there has been a constant inquiry into the determinants of individual well-being in the social sciences. One of the crucial questions has been what kind of institutions lead to people being happier. In particular, the role of democratic institutions in people's well-being has been speculated about.

Over the last few years, extensive econometric research has convincingly demonstrated the beneficial effects of democratic institutions on political outcomes. The more developed the possibilities for direct political participation via popular initiatives and referenda are, the more strongly government policy reflects the preferences of the voters. These results are based mainly on cross-sectional data for the United States and Switzerland, the two countries with by far the greatest number of referenda.

This paper goes one step further. It is argued that the *more developed direct democracy* is, the *happier* the citizens are. The analysis moreover suggests that the higher level of

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happiness associated with more extensive democracy is partly due to the utility produced by the political *process* itself, and is not only due to favourable political *outcomes*.

In addition to institutional determinants, the influence of economic variables on happiness is shown. Unemployment considerably lowers happiness. Higher income raises subjective well-being, but not by very much. In addition, the effects of demographic variables, such as age, sex and family status on happiness, are demonstrated.

The next section presents a short overview on important determinants of happiness. The following sections discuss the theoretical and empirical basis for the proposed factors. Section III surveys the effects of direct democracy on political outcomes, both theoretically and empirically. Section IV emphasizes the utility gained by participation possibilities in the political process. Its effect on happiness is analysed by distinguishing between citizens and foreigners. The latter are excluded from political participation as a source of utility. Section V deals with the effects of unemployment and income on well-being. Section VI presents the data for Switzerland and the empirical results derived by an econometric cross-section analysis among the 26 Swiss cantons. The final section draws conclusions.

## II. Determinants of happiness

Three sets of sources of individual well-being may usefully be distinguished:

(1) The first set of influences on happiness relates to the *institutional* (or constitutional) *conditions* in an economy and society, of which democracy is of greatest importance.

The impact of the extent and design of democratic institutions on subjective well-being has, at best, been alluded to, but has not been empirically analysed in previous research.

(2) *Micro- and macro-economic factors.* In most nations, individuals belonging to the *upper income* groups report somewhat higher subjective well-being than persons with low income. The often dramatic increase in per capita incomes in recent decades has not raised happiness in general; the national indices for subjective well-being have remained virtually flat over time. In contrast to these longitudinal findings for single nations, per capita income levels and happiness are more strongly positively related across nations.

The influence of the other two major economic variables, *unemployment* and *inflation*, is clear-cut. Unemployment is correlated with substantial unhappiness. As the income level is kept constant, that influence is not due to lower revenue, but to non-pecuniary stress. In terms of a trade-off, the results suggest that a much higher income would be required to compensate people for being out of work. Individuals also have a strong aversion to inflation, reflected in lower satisfaction in times of high inflation.

(3) *Personality and demographic factors.* For many decades, these factors have been extensively studied by psychologists. They comprise such factors as health, age, gender and family circumstances.

The determinants of happiness are usually investigated under the assumptions that subjective well-being is cardinally measurable and interpersonally comparable; that is, two claims economists are likely to be sceptical about. To avoid problems with regard to a cardinal interpretation of subjective variables, it is often possible to treat the subjective data

qualitatively in econometric analyses. In contrast, it is more difficult to assess whether or not people associate the same degree of subjective experience with a certain score on a ladder for life satisfaction. However, there is a lot of indirect evidence that cardinalism and interpersonal comparability are much less of a problem practically than theoretically. The measures of subjective well-being have high consistency, reliability and validity. Happy people are, for example, more often smiling during social interactions, and are rated as happy by friends and family members, as well as by spouses. Furthermore, the measures of subjective well-being have a high degree of stability over time and are not systematically biased with regard to social desirability. Some of the problems connected with the measurement of happiness are of lesser importance, as the main use of happiness measurements here is to identify the determinants of happiness rather than to compare levels of happiness between persons and periods.

### III. Effects of direct democracy

Three revolutionary stages in the development of democracy may be distinguished. The first is *Athenian Democracy*, characterized by the citizens' assembly. The second was brought about by the French revolution. Its principle of *representation* allowed democracy to extend over a wide area. The third stage is (semi-) *direct democracy*, in which the citizens may decide on political issues via initiatives and referenda. Parliament and government make most current decisions, but the voters always have the final say, and must always support proposed changes in the constitution, as well as major laws. The professional politicians are thus in a more direct way the agents of the voters, who resume the role of the principals.

A large number of empirical studies have convincingly shown that the institutions of direct democracy lead to outcomes that benefit the voters. Thus, it has been shown for American States that per capita debt is substantially lower with a referendum requiring a qualified majority. In contrast, educational public expenditures are higher when a referendum is possible. For Switzerland, the econometric evidence is even more compelling, one reason being that the institutions of direct democracy are more developed than in the US. It has been established that public expenditures are lower by 14 per cent, and that public expenditures exhibit significantly lower growth in Swiss cities with well-established direct democracy. Moreover, these cities have a 5 per cent higher share of self-financing and, as a consequence, the per capita debt is no less than 45 per cent lower. Other studies conclude that tax evasion is significantly lower in cantons with a higher degree of direct participation rights for voters. Finally, it has been established that gross domestic product per capita is about 5 per cent higher in cantons with more extended direct democratic institutions. All these results are based on estimates which carefully control for influences unrelated to direct democracy. They establish a causal effect between direct democracy and political outcomes, and their consequences in terms of behaviour (tax evasion) or economic activity (income).

If direct democracy does indeed produce political outcomes, and therewith economic and social conditions more favourable to citizens, it can be expected that they enjoy a higher level of reported *subjective well-being* or *happiness* than in political jurisdictions with less extensive participation rights.

#### IV. Procedural effects of direct democracy

Citizens do not only gain utility from the *outcome* of the political process and its material consequences, but also from the *democratic process* itself. Citizens value the possibility of engaging themselves directly with politically relevant issues, quite irrespective of the outcome.

The essence of procedural aspects in direct democracy lies in the discussion brought about by initiatives and referenda. A direct democracy produces the conditions for a serious discursive process, which is in principle open to the whole population, and which ends in a well-defined decision. This ongoing political process is able to provide utility not only to the 'winners' but also to the 'losers', because both feel that their preferences have been seriously taken into account in a fair political process.

The utility derived from the possibility of participating in the direct democratic process thus supports the subjective well-being of the citizens. The foreigners living in the same canton, who are excluded from this process, experience lower happiness compared to the citizens.

#### V. Economic determinants of well-being

The evaluation of the state of the economy by the people has been analysed from several different perspectives. Three major approaches – individual welfare functions, reaction functions and election and popularity functions – use econometric methods to empirically capture the influence of unemployment, income and inflation. Citizens' reactions to



economic conditions in the voting booth or in regular political surveys are usually attributed to the 'responsibility hypothesis'. Voters are taken to express a general dissatisfaction with the existing state of the economy and make the government responsible for it. The economic variables, unemployment and inflation, have been shown most strongly to reduce the proportion of votes going to the party in power. A one percentage point increase in the rate of unemployment lowers the vote or popularity share of the government by approximately 0.4 to 0.8 percentage points. The same holds for a one percentage point increase in the rate of inflation.

In contrast, a change in the growth rate of per capita real income often has no statistically significant effect on voting and popularity shares, even though the relationship is positive. In the studies which have found statistically significant positive effects, the size of the effect varies across a much wider range than the ones for unemployment or inflation.

The economic variables are likely to have an effect on reported subjective well-being similar to what they have on government popularity.

## VI. Empirical analysis

The empirical work presented here is based on the survey results of more than 6000 Swiss inhabitants. The dependent variable called 'happiness' is based on the answers to the following question: 'How satisfied are you with your life as a whole these days?' Simultaneously, the respondents were shown a table with a ten-point scale, where only the two extreme values ('completely dissatisfied' and 'completely satisfied') were verbalized.

The survey reveals a high general life satisfaction in Switzerland for the years 1992 to 1994, on average 8.2 out of 10. As many as 29 per cent of the interviewees reported a satisfaction level of 10 ('completely satisfied'), 17 per cent reported 9, and 27 per cent reported 8. At the lower end of the happiness-scale, score 1 ('completely dissatisfied'), score 2 and score 3, were indicated only by 0.4 per cent, 0.5 per cent, and 0.9 per cent, respectively.

The major explanatory variables focussed on here are the institutional possibilities for individual political participation, which vary considerably between the 26 Swiss cantons. Due to the federal structure of Switzerland, major competences remain with the cantons (states). As on the national level, strong direct democratic instruments exist besides representative democratic parliaments and governments. The most important direct democratic instruments in the cantons are the popular initiatives to change the canton's constitution or laws, and compulsory and optional referenda to prevent new laws, or to change existing laws, and new state expenditure. Citizen's access to these instruments differs from canton to canton. Thus, for example, the number of signatures required to launch an initiative, or an optional referendum, or the time span within which the signatures are to be collected, vary. The referendum on public expenditures may be launched at different levels of additional outlays. An index was constructed to reflect the extent of direct democratic participation possibilities. This index is defined over a six-point scale with 1 indicating the lowest, and 6 the highest degree of participation possibilities of the citizens.

The purpose of the econometric estimate is to show that the extent of direct democratic participation possibilities exerts a statistically significant, robust and sizeable effect on

happiness *over and above* the demographic and economic determinants so far taken into account in the literature.

The estimation equations regress the scores of individual happiness according to three sets of determinants:

(1) *Political institutions in the form of the extent of direct democracy;*

(2) *Economic variables;* and

(3) *Demographic variables.*

Table 10.1 presents the results.

Table 10.1 about here

#### 1. *THE EFFECTS OF DIRECT DEMOCRATIC PARTICIPATION RIGHTS ON HAPPINESS*

The index of the extent of direct democracy has a statistically highly significant positive effect on happiness, keeping all other influences constant. An increase in the value of the direct democracy index by one unit (on a possible six point scale) raises the proportion of persons stating themselves to be ‘completely satisfied’ (score 10) by 2.8 percentage points. This result clearly suggests that the institutions of direct democracy do indeed make people happier. In addition, the effect itself is sizeable:

- (a) The effect of direct democratic rights on happiness is as large as the effect of living in the second lowest income category (SFr. 2000-3000) instead of the lowest income category (<SFr. 2000).

- (b) The effect is even larger when the full range of the institutional variable is considered, that is when individuals in canton Basle Land (with the highest democracy index of 5.69) are compared to citizens in canton Geneva (with the lowest direct participation rights of 1.75). Citizens living in Basle-Land have an 11 percentage points higher probability of stating that they are completely satisfied than citizens living in Geneva.
- (c) Such an institution-based improvement affects everybody, that is the institutional factor is important in an aggregate sense. In comparison, getting a job 'only' raises the subjective well-being of the unemployed.

Do happy people choose direct democratic institutions? Or, in other words, does the causality between direct democracy and subjective well-being work in reverse? Direct democratic participation possibilities in the form of referenda and initiatives in Switzerland started to develop in the middle of the 19<sup>th</sup> century. The adoption of some of the instruments of direct popular participation reflects the spread of the spirit and ideas behind the American and the French revolutions. Equally important were political movements amongst the citizens. Citizens fought for direct democratic instruments to gain political power against arbitrary decisions by parliaments and the influence of industrial pressure groups on these authorities in the cantons. This historic perspective suggests that the democratic institutions are not simply the result of happy, satisfied citizens. Especially during the last decades, institutional conditions in Swiss cantons have been quite stable, which suggests that causality runs unambiguously from direct democratic rights to satisfaction with life.

Two alternative explanations are often put forward against the empirical findings described above. These explanations emphasize the possibility of spurious regression due to missing variables, in our case the income level and the degree of urbanization in a canton.

- *Income level in cantons*: it is hypothesized that in cantons where inhabitants are richer than the Swiss average, the public provision of goods can be quantitatively or qualitatively augmented. Thus, if the index of direct democratic rights and the income level in Swiss cantons are highly correlated, the former variable just captures different wealth levels in Swiss cantons. However, the inclusion of national income per capita in the estimation equation does not change the results significantly. The aggregate income variable itself is negatively correlated with subjective well-being, whereby the coefficient is small.
- *Urbanization*: if direct democracy were a phenomenon restricted to rural areas, the index for direct democratic rights might just capture a negative effect of urbanization, rather than the beneficial outcome and process due to political participation rights. To separate these two possible sources of individual utility and disutility, the variable ‘urbanization’ is included in the micro-econometric happiness function. The results show that the positive effect on happiness of direct democracy does not change significantly, and that people living in urban areas are somewhat less happy.

Direct democracy thus has a robust and sizeable effect on satisfaction with life over and above cantonal differences with regard to wealth and urbanization.

Do citizens derive *procedural utility* from the possibility of participating in the directly democratic process? To investigate this question, a control group has to be found. Foreigners are an optimal control group because, on the one hand, they generally have no political participation rights. On the other hand, they cannot be excluded from the favourable outcome of direct democracy (outcome utility). Due to the fact that foreigners cannot reap procedural utility from political participation, they are expected to gain less from direct democracy than Swiss citizens do.

The econometric analysis presented in table 10.2 suggests that foreigners are less happy, relatively speaking, than Swiss citizens in cantons in which the institutions of direct democracy are well developed. However, foreigners are still better off in a more directly democratic canton than in a less directly democratic canton. This result suggests that procedural utility, in addition to outcome utility, is an important source of satisfaction related to direct democracy.

Table 10.2 about here

## **2. Economic determinants of happiness**

### **UNEMPLOYMENT**

Unemployed people report a statistically highly significant lower level of subjective well-being than those who are employed. It should be remembered that this result refers to the state of being unemployed, and not the resulting lower income level. Not having a job imposes high non-pecuniary stress and unhappiness.

The size of the drop in happiness due to unemployment is substantial. Comparing the people looking for a job with other respondents, a 10.4 percentage points higher share reports to be unhappy (scoring 1, 2, 3 or 4). Interestingly enough, the effect on the upper range of happiness is huge: 21.1 percentage points less indicate being completely satisfied. In other words, very few people seem to really enjoy the state of being unemployed (independent of the income level effects).

## INCOME

Higher income correlates positively with higher happiness in a statistically significant way. However, the differences in subjective well-being are not very large. Consider, for example, the highest income group, with a monthly equivalence income above SFr. 5,000. Compared to persons with low income, only a 6.8 percentage points larger share reports being 'completely satisfied'. Interestingly enough, an even larger additional percentage of persons (namely 9.2 percentage points), belonging to the second highest income group, reports a satisfaction score of ten. However, the marginal effects are much smaller than for being unemployed. This illustrates that employment is far more important than income for perceived satisfaction with life.

These results are in line with the results of election and popularity functions mentioned above, as well as with happiness functions for other periods and countries.

### 3. *DEMOGRAPHIC INFLUENCES ON HAPPINESS*

Several demographic characteristics are systematically related to reported subjective well-being.

*Age.* People over 60 are happier than people under 30.

*Gender.* Women are not happier than men, if the positive effect of their being a housewife is considered separately.

*Nationality.* Foreigners are subject to a significantly lower probability of reaching high happiness scores compared to the Swiss.

*Education.* People with higher education report significantly higher subjective well-being.

*Family.* Couples with and without children are happier than singles, single parents and people living in collective households.

These results are quite similar to those found by other researchers on happiness for other countries and periods.

## VII. Conclusions

Based on data from interviews of more than 6000 Swiss residents, there is strong evidence that institutional (or constitutional) factors exert a systematic and sizeable influence on reported happiness. The existence of extended individual participation possibilities, in the form of initiatives and referenda, raises the subjective well-being of people.

Politicians in a strongly developed direct democracy are forced to follow the preferences of the voters more closely than where direct popular participation rights are less well developed. Citizens gain procedural utility from the fuller possibilities of directly participating in the political process. Foreigners living in Switzerland are more likely to benefit from the outcome than from the process (from which they are excluded). Foreigners therefore tend to reap systematically positive but lower satisfaction from living in a canton with strongly developed direct participation rights than do the Swiss.

In agreement with other happiness studies, unemployment is associated with a considerably lower level of subjective well-being. A higher income has a statistically significant positive but small effect on happiness.



For a sample of 12 European countries, additional interesting results for economic variables have been found (DiTella, MacCulloch and Oswald 2000). Inflation is an important determinant of subjective well-being in the sense that it lowers subjective well-being. The following subjective trade-offs between unemployment and inflation can be deduced:

- A one percentage point rise in the inflation rate must be compensated by about \$ 150 (in 1985 dollars) in additional per capita income.
- A one percentage point rise in the unemployment rate must be compensated by about \$ 165 (in 1985 dollars) in additional per capita income.

The cost of a one percentage point increase in inflation or unemployment is thus quite similar. This corresponds to the results found for election and voting functions.

Political-institutional factors in the form of direct democracy, as well as economic and demographic factors, exert a systematic and sizeable effect on happiness.

### **Suggestions on the literature and sources**

A useful summary of the present state of research on happiness is provided in

Lane, Robert E. (2000), *The Loss of Happiness in Market Economies*, New Haven and London: Yale University Press.

The psychological point of view is discussed in

Argyle, Michael (1987), *The Psychology of Happiness*, London: Methuen.

Kahneman, Daniel, Ed Diener and Norbert Schwarz (1999), *Well-Being: The Foundation of Hedonic Psychology*, New York: Russell Sage Foundation.

A corresponding survey article is

Diener, Ed, Eunkook M. Suh, Richard E. Lucas and Heidi L. Smith (1999), 'Subjective Well-Being: Three Decades of Progress', *Psychological Bulletin*, **125** (2), 276-303.

Happiness between nations is discussed in

Veenhoven, Ruut (1993), *Happiness in Nations: Subjective Appreciation of Life in 56 Nations 1946-1992*, Rotterdam: Erasmus University Press.

The effect of income on happiness is the subject of

Diener, Ed and Shigehiro Oishi (2000), 'Money and Happiness: Income and Subjective Well-Being Across Nations', in Ed Diener and Eunkook M. Suh (eds), *Subjective Well-Being Across Cultures*, Cambridge, MA: MIT Press, forthcoming.

The first economist to seriously study happiness was

Easterlin, Richard A. (1974), 'Does Economic Growth improve the Human Lot? Some Empirical Evidence', in Paul A. David and Melvin W. Reder (eds), *Nations and Households in Economic Growth: Essays in Honour of Moses Abramowitz*, New York: Academic Press.

See also his more recent contribution

Easterlin, Richard A. (1995), 'Will Raising the Incomes of All Increase the Happiness of All?' *Journal of Economic Behaviour and Organization*, **27**, 35-48.

Recent analyses by economists are, for example,

Oswald, Andrew J. (1997), 'Happiness and Economic Performance', *Economic Journal*, **107** (445), 1815-1831.

Di Tella, Rafael, Robert J. MacCulloch and Andrew J. Oswald (2000), 'Preferences over Inflation and Unemployment: Evidence from Surveys of Happiness', *American Economic Review*, forthcoming.

Frey, Bruno S. and Alois Stutzer (2000), 'Happiness, Economy and Institutions', *Economic Journal*, forthcoming.

The relationship between utility and happiness is discussed in

Ng, Yew-Kwang (1997), 'A Case for Happiness, Cardinalism, and Interpersonal Comparability', *Economic Journal*, **107** (445), 1848-1858.

Frank, Robert H. (1997), 'The Frame of Reference as a Public Good', *Economic Journal*, **107** (445), 1832-1847.

Popularity and election functions are surveyed by

Nannestad, Peter and Martin Paldam (1994), 'The VP-function: A Survey of the Literature on Vote and Popularity Functions after 25 Years', *Public Choice*, **79** (3-4), 213-245.

Table 10.1

Direct democracy and satisfaction with life in Switzerland

Weighted ordered probit			
Std. err. adjusted to clustering in 26 cantons			
Variable	Coefficient	t-value	Marginal effect (score 10)
<i>(1) Institutional variable</i>			
Direct democratic rights	0.082**	3.054	0.028
<i>(2) Economic variables</i>			
Unemployed	-0.841**	-5.814	-0.211
Equiv. income SFr. 2000-3000	0.084*	2.199	0.029
Equiv. income SFr. 3000-4000	0.143**	3.169	0.050
Equiv. income SFr. 4000-5000	0.258**	5.382	0.092
Equiv. income SFr. 5000 and more	0.192**	4.277	0.068
<i>(3) Demographic variables</i>			
Age 30 – 39	-0.079	-0.865	-0.027
Age 40 – 49	-0.008	-0.106	-0.003

Age 50 – 59	-0.081	-1.275	-0.027
Age 60 – 69	0.206**	2.903	0.073
Age 70 – 79	0.295**	3.401	0.106
Age 80 and older	0.273**	2.968	0.099
Female	0.043	1.211	0.015
Foreigner	-0.284**	-5.048	-0.091
Average education	0.113**	3.143	0.039
High education	0.119*	2.472	0.042
Single woman	-0.258**	-6.294	-0.083
Single man	-0.174*	-2.589	-0.057
Couple with children	-0.068	-1.777	-0.023
Single parent	-0.372**	-3.602	-0.113
Other private household	-0.128	-1.664	-0.042
Collective household	-0.413**	-3.432	-0.124
Self-employed	0.072	1.413	0.025
Housewife	0.123*	2.463	0.043
Other employment status	-0.129 <sup>(*)</sup>	-1.911	-0.044
Observations	6134		
Prob > F	0.001		

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*Notes:* Dependent variable: level of satisfaction on an eight point scale (scores of 1, 2 and 3 were aggregated). White estimator for variance. Included in the reference group are 'employed people', 'people with a lower equivalence income than SFr. 2000', 'people younger than 30', 'men', 'Swiss', 'people with low education', and 'couples'. Additional control variables (not shown) for size of community (5 variables) and type of community (7 variables). Significance levels: (\*)  $0.05 < p < 0.10$ , \*  $0.01 < p < 0.05$ , \*\*  $p < 0.01$ .

*Data source:* Leu, Robert E., Stefan Burri and Tom Priester (1997). Lebensqualität und Armut in der Schweiz. Bern: Haupt; Stutzer, Alois (1999). Demokratieindizes für die Kantone der Schweiz. Working Paper No. 23, Institute for Empirical Research in Economics, University of Zurich.

Table 10.2

Outcome and process utility in direct democracy

Weighted ordered probit			
Std. err. adjusted to clustering in 26 cantons			
Variable	Coefficient	t-value	Marginal effect (score 10)
<i>(1) Institutional variable</i>			
Direct democratic rights	0.097**	3.384	0.033
Direct democratic rights x foreigner	-0.067	-1.699	-0.023
<i>(2) Economic variables</i>	Yes		
<i>(3) Demographic variables</i>	Yes		
Foreigner	-0.042	-0.283	-0.014
Observations	6134		
Prob > F	0.001		

Notes and data source: see table 10.1.