
Who Are the Czech Materialists, Post-materialists, and Those Who Are 'Mixed', and How Do They Differ in Their Opinions and Attitudes on Selected – Primarily Political – Subjects*

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Abstract: Research carried out over the last 30 years in many countries shows that there exists a relationship between post-materialist values and a wide spectrum of social issues, from protection of the environment at one end to voting behaviour at the other. The aim of this article is to verify whether the observed relationships in selected, primarily political issues are valid even in the case of the Czech Republic. The analysed data have been drawn from the European Value Study in the years 1991 and 1999, which provide us with the opportunity to trace changes over time. Among the issues studied here are xenophobia and ethnocentrism, relationships to the environment, voting behaviour, freedom, equality, and a just society.

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Introduction

At the beginning I would like to stress that within the framework of this article I do not intend to deal with either criticism or verification of Inglehart's well-known concept for measuring materialism–post-materialism. This task has already been taken up by other specialists. However, despite opposition to this approach I believe that there is sense in working with the typology comprised of materialist, post-materialist and mixed types, as it is a useful approach and I hope that the ensuing pages prove this point. Let those who are not convinced consider materialists and post-materialists to be the bearers of certain different value orientations, which for the purpose of brevity are referred to as materialist and post-materialist, though they could equally be termed otherwise.

In this article I will first pay attention to how the representation of the individual types within the population changes, and how this depends on factors of age, education and subjective social group. I will then move on to an analysis of the difference of opinions that are held by these value types with reference to homosexuals, people suffering from the AIDS virus, the Roma population, and the issue of foreigners and migrants who come to the Czech Republic in search of work, and in so far as possible I will also add a temporal comparison. Other subjects that will be involved include relationships to the environment, political orientation, voting behaviour in the early parliamentary elections of 1998, and the issues of personal freedom and equality, and notions of a just society.

I will address all three types, which means not only the 'pure' ones, i.e. materialists and post-materialists, but also the 'mixed' type, who although they represent the majority are at times overlooked by authors dealing with this subject. The analysis will be carried

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out primarily with the help of multinomial logit models, using various types of contrasts, primarily polynomial. The basis of the research will be three-dimensional and four-dimensional contingency tables, as given the size of the sample I am using, it is not possible to include more dimensions. In addition to the logit models I also use an analysis of variance in which the dependent variable will be a specific additive index.

The starting point for the definition of value types is found in Inglehart's four-item battery: the respondent must first of all select what in his opinion is the most important goal of his country (in this case the Czech Republic) over the next decade; then he must select what in his opinion is the second most important goal. The goals are described as follows: A) *maintaining order in the nation*, B) *giving the people more say in important government decisions*, C) *fighting rising prices*, D) *protecting freedom of speech*. Items A and C are connected with physical and economic insecurity and are considered to be materialist value priorities. Items B and D, which emphasise self-expression and quality of life, are considered to be post-materialist. A materialist is defined as someone who selects goals A and C, regardless of the order. A post-materialist is defined as someone who selects goals B and D, again, the order is not important. 'Mixed' is defined as someone who selects A and B, or A and D, or B and D, or C and D, the order of the selected goal playing no role. I should point out for those who do not know that these are Inglehart's definitions, not mine [see e.g. Inglehart 1997: 133].

In addition to the four-item battery there also exists a twelve-item battery. Rabušic [2000] has shown that the latter has not really proved itself useful in the case of the Czech Republic – though not only here – and for this reason he does not recommend it. However, I was spared the dilemma of choosing as even though both batteries figure in the research of the European Values Study of 1991, in the research of the same name of 1999 only the four-item battery appears. Because I would like, in so far as it will be possible, to compare the results over time, it was necessary to opt for the simpler, four-item battery. The European Values Study is an international research study of value orientations, which in the Czech Republic was carried out on randomly selected samples of respondents. In 1991 there were 2100 respondents in the group, in 1999 there were 1900.

1. The connection between the value typology and age, education, and subjective social group, and how it has changed over time

Inglehart's predictions, which have now been proved through research carried out over the last thirty years, claim that post-materialist values tend to increase with lower age groups, higher levels of education and better social positions [see e.g. Inglehart 1977, 1997]. This has been demonstrated throughout a wide spectrum of countries, including some post-communist ones, and for this reason I expect that it will again be confirmed. However, I am not so much interested in the confirmation of the given phenomenon as I am in ascertaining what possible changes have come about here since 1991.

Let us first look at how the individual types of the value typology were and are represented. According to research from 1991, the Czech Republic was made up of roughly 32% materialists, 62% 'mixed', and 6% post-materialists. The figures for 1999 were, respectively, 25%, 65%, and 10%. The relevant logit model shows that the ratios of post-materialists to materialists has roughly doubled, and the ratios of 'mixed' to materialists, and of post-materialists to 'mixed' has increased by about 1.4 times. This means that a significant shift toward post-materialist values has taken place. For comparison let me point out that in 1970 in western countries there were four times more materialists than

post-materialists. By 1990 this ratio was markedly altered, when for every four materialists there were three post-materialists. According to projections in the year 2000 there should be approximately the same number of materialists as post-materialists in Western countries [see Inglehart 1997: 35].

In keeping with the work done by Rabušic [2000], who also dealt with the connection between the value typology and age, I have used the following age groups: 18-29 years, 30-49 years, 50 and over. The results from the logit model are found in table 1. The model fits the data very well, and shows that the ratios of materialists to post-materialists decreased evenly with the increase in age, and this is true for both years of research. However, the decrease is faster in 1991 than in 1999. The same is true for the ratios of 'mixed' to materialists, and of post-materialists to 'mixed', even though neither their decrease nor the differences between the years are quite so great. The shift toward post-materialist values, which we can see in 1999 in relation to 1991, is the strongest for the age group 50 and over, and the weakest for the age group 18-29 years. This, of course, also means that the differences between the age groups have lessened.

We arrive at precisely the same results when the starting point for the comparison is not the same age of the respondents at the time of the survey but the same year of birth. The youngest group is made up of people born in the years 1962-1973, who in 1991 were 18-29 years old, and in 1999 were 26-37 years old. The middle group is formed by people born in the years 1942-1961, who in 1991 were 30-49 years old, and in 1999 were 38-57 years old. The oldest group is comprised of people born in 1941 or earlier, who were aged 50 and over in 1991, and in 1999 aged 58 and over. In this way, those who were aged 18-25 in 1999, i.e. people born in 1974 and after, who were aged under 18 years in 1991, disappear from the analysis. The shift toward post-materialist values was the strongest among those people born in 1941 and earlier, and weakest among those born in 1962-1973. Inglehart at first assumed that the materialist-post-materialist value system did not alter during life, but he later changed his opinion. Not only do people not become more materialist as they age, they in fact become even less materialist [Inglehart 1997: 136]. Our results also fully confirm this. The existing theory, however, does not help me at all to understand why it was the oldest who shifted in the direction of post-materialist values the most, and the youngest the least.

We will now move on to an evaluation of the connection between education and the value typology. Theory links post-materialist values to a higher level of education, even though the arguments that are used to support this link do not in the Czech Republic completely hold up. According to this theory the level of education perfectly reflects the level of economic security which the given individual feels during childhood and while growing up, because an economically well-situated family provides its children with better education than do families which in economic terms are worse off. And since post-materialist values are linked to a good level of economic security in childhood and youth, they are also linked to good education. In our country, between 1948 and 1989, however, the level of education was more dependent on the level of education of the parents than on the economic security of the families, among which there were no large differences. Education was cultural capital, not economic.

For whatever reason, our data unambiguously confirm the connection between post-materialist values and a higher level of education. We find that we cannot reject the model represented in table 2, in which the ratios of 'mixed'/materialist, post-

materialist/mixed', and *post-materialist/materialist* grow rapidly with the rise of the highest level of education achieved, and this holds true for both years of research. Further, in comparison with the results from 1991, the model also demonstrates that all education groups have shifted toward post-materialism, and have done so with the same speed.

At times the objection is raised that younger people are more inclined toward post-materialist values not because they are young but because they are more educated. To this discussion we can add a model in which age and education are both included, albeit in reduced form (see table 3). It is clear that the *ratios* presented in the table tend to a) grow equally quickly with the rise in education when age is controlled, and do so in both years of research, and b) fall with the increase in age when education is controlled, and do so more quickly in 1991 than in 1999. Of importance here is that the influence of age did not disappear when education was also included in the model. According to the model, however, education has a somewhat stronger influence than age does.

If we use subjective categorisation for the purpose of expressing one's social position in either a) the lower or working class, b) the lower-middle class, c) the middle class, or d) the upper-middle or upper class¹ we can see in the model (see table 4, model A) that the *'mixed/materialist'* ratio grows only among the first two groups and otherwise remains constant, and the *post-materialist/mixed*' and *post-materialist/materialist* ratios grow at first, then fall and show no further changes. This would mean that post-materialist values are most strongly linked to the lower-middle class, less with the middle and upper classes, and the least with the lower and working class. This model fits the data very well, but there also exists another model, that cannot be rejected. According to this (see table 4, model B) the lower and working class would be the furthest from post-materialist values, and the other classes would not differ with respect to the value typology. In either case the relationship between subjective social group and the value typology was not proved in the way we would have expected according to the theory.²

2. Xenophobia and ethnocentricity

According to Inglehart, xenophobic thinking and ethnocentricity should decline with the increase in the number of selected post-materialist values in the battery (none, one or two). We begin with the following question: *What about people from less developed countries who come here looking for work. Which of the following approaches should in your opinion the government take?* Answers: a) *Let in anyone who wants in;* b) *Let in foreigners as long as there are enough jobs available;* c) *Introduce strict limits on the number of foreigners who are allowed in;* d) *Ban entry to people from other countries.*³ The answers are ordered from most benevolent to the strictest. The most frequent response was the one recommending the introduction of strict limits. A total of 60% of respondents chose this option. Answer b) was chosen by 30% of respondents, answer d) by 7%, and the most benevolent answer a) was chosen by only 3%. Thus on the whole our society is not particularly open to the inflow of foreigners. As the extreme answers

¹) This question was only asked in 1991.

²) The assumption that people who are better situated (measured by the overall net income per person of a household) have a stronger tendency toward post-materialist values was also not confirmed.

³) This question was only asked in 1991.

were few in number, and there are few post-materialists, I combined the first two responses which are more receptive toward foreigners, and the last two answers which are less receptive. The ratio of less receptive and more receptive answers according to the logit model is 3.12 for materialists, 1.87 for 'mixed', and 1.12 for post-materialists. No further comment is perhaps necessary.

Now we will analyse agreement and disagreement with the statement: *When there are not enough job opportunities, employers ought to give preference to Czechs over migrants*. In 1991, 80% of respondents agreed with this statement, and in 1999 the figure was 90%. The results of the logit model can be seen in table 5. In both years the ratios of responses in agreement to disagreement with the statement falls evenly with the increase in the number of selected post-materialist aims in the battery. However, even among post-materialists the preponderance of responses in agreement is large. We should also note that in 1999 the results were even more biased toward agreement with the statement than in 1991. The reason could be that in 1991 there was practically no unemployment in the Czech Republic, while today the state-wide average is almost 10%. Also, there was less experience with migrants. Age plays a large role here too, as is shown by the results of the logit model in table 6. The ratios of agreements to disagreements when value types are controlled increase evenly with age, and do so in both years of research. The strength of the influence of age and of the value typology is balanced.

Other statements that characterise the relationship to migrants again but from another point of view are: A) *It is better for the greater well being of society when groups of migrants maintain their typical customs and traditions*; B) *It is better for the greater well being of society when groups of migrants do not maintain their typical customs and traditions, but rather adopt the customs of the country to which they have migrated*. Respondents were asked to select the statement that best corresponds to their own opinion.⁴ Statement A was selected by 31% of respondents, and statement B by 69%. The logit model again confirms the expected type of relationship: ratios B/A are 3.92 for materialists, 2.11 for 'mixed', and 1.14 for post-materialists.

Now we arrive at the analysis of the variable that Inglehart [1997: 390] refers to as ethnocentrism, and which he describes as the rejection of distinct groups. The instructions in the survey run as follows: *Various groups of people are presented in this list. Please select any and all of those who you would not wish to have as your neighbour*. There follows a list of fourteen groups, out of which Inglehart selects only three: migrants – foreign labourers, people with the AIDS virus, and homosexuals. An additive variable is created, which has a value of 0 when the respondent does not select any one of the mentioned groups, and the value of 1, 2, or 3 when the respondent chooses one, two or all three groups. The distribution of percentages for this variable was, respectively, 34%, 24%, 27%, and 15% in 1991. In 1999 there was a strong mitigation of ethnocentrism, the distribution of percentages being 62%, 21%, 11%, and 6%.

In order to carry out a deeper analysis with the use of the logit model, I combined categories 2 and 3 together, so that the new variable has only three values: 0 when the respondent does not choose any group, 1 when the respondent selects one group, 2 when two or three are selected. The results of the logit model are summed up in table 7. The ratios of the number of respondents who did not select any of the groups, and those who

⁴) The statements were presented only in the questionnaire in 1999.

selected one, rises in both years, from the materialists to the 'mixed', and from the 'mixed' to post-materialists. The ratios of the number of respondents who selected one group, and those who selected two or three groups, grows from the materialists to the 'mixed', but then remains the same. On the whole then it is possible to say that the expected form of relationship between ethnocentrism and the value typology is confirmed.

Among the fourteen groups included in the questionnaire were also the Roma. In 1991 the Roma were designated as undesirable neighbours by 74% of respondents, while in 1999⁵ by only 40%, which is truly a large decrease. The logit model again confirms expectations. In both years the ratios of the number of respondents who designated the Roma as unwanted neighbours and those who did not decreased from the materialists to the 'mixed', and from the 'mixed' to the post-materialists. Specifically the ratios are 3.43, 2.63, 2.02 for 1991, and 1.06, 0.61, 0.35 for 1999. If we add age to the analysis we discover what seems to me a somewhat surprising fact. The results from the logit model, which fit the data really very well (the attained level of significance for the likelihood ratio chi square L^2 is 0.700), are found in table 8. What I cannot explain is the fact that, with only two exceptions (materialists and 'mixed' in 1991), the relationship to the Roma is the least favourable for the age group category 30-49 years. The age of materialists in 1991 in no way changed their relationship to the Roma, and in the same year in the case of the 'mixed' the age group category 30-49 was the most receptive toward the Roma.

3. Relationship to the environment

Inglehart determines the relationship to the environment and ecological thinking by looking at participation in unpaid work in voluntary organisations or ecological movements that are devoted to the protection of the environment or animal rights. In the Czech Republic this type of people represented 3% of the population in both 1991 and 1999, at least according to research information, and there is no evidence that post-materialists are more connected with this type of work than the others. Thus I used other available indicators: *I will now read out to you several statements concerning the environment. For each statement please tell me whether you definitely agree, agree, disagree, or definitely disagree: A) I would donate a part of my income if I could be sure that the money would be used for protection against environmental pollution; B) I would agree with increasing taxes if the money earned through them were to be used for protection against environmental pollution; C) The government must limit environmental pollution, but this shouldn't cost me any money.*

In 1991 26% of respondents definitely agreed with statement A, 60% agreed, and 14% either disagreed or definitely disagreed. In 1999 the corresponding figures were 17%, 61%, 22%, which demonstrates that the attitude toward the environment has changed for the worse. A similar picture is portrayed in the reactions to the other two statements. In 1991 16% definitely agreed with statement B, 58% agreed, and 26% either disagreed or definitely disagreed. In 1999 the figures had changed to 10%, 55%, and 35%. In 1991 12% definitely agreed with statement C, 32% agreed, and 56% disagreed or definitely disagreed. In 1999 the figures were 18%, 37% and 45%. The results from the logit models for statements A, B, and C are summed up in tables 9, 10 and 11. One comment will serve to sum up all three: Materialists have the worst relationship to the environment, 'mixed' have a better one, and the post-materialists have the best relationship. The worsening of the relationship to the environment that can be observed in the comparison of figures from 1991 and 1999 occurred among each of the types with the same

degree of intensity. Why has people's willingness to participate in the protection of the environment weakened? Has this ceased to be a value, or do people assume that everything is all right in this area? Unfortunately, the results of the survey provide no answers to these questions.

4. Political orientation and voting behaviour

With this subject we arrive at the first serious discrepancies with the information gathered from the nine advanced Western European countries in the 1970s, and even later. In these countries it became evident that the post-materialist type is more leftwing than are the other types, and this is true despite the fact that this type comes from the richer middle classes. I will not get into the theory of the new left and the decline in the significance of the left-right axis in the countries to the west. However, we should point to the fact that in France, Belgium, the Netherlands, Germany, Italy, Luxembourg, Denmark and Ireland, it was the 'pure' post-materialist type that figured in the largest percentage on the left half of a left-right ten-point scale [see Inglehart 1977: 63].

In the Czech Republic, the situation in both years of the survey was exactly the reverse. In 1991 58% of materialists, 46% of 'mixed', and 44% of post-materialists lay on the left half of the ten-point scale. In 1999 58% of materialists, 42% of 'mixed', and only 30% of post-materialists were located there. In 1991 the ratios of the left to right halves equalled 1.48 for materialists, 0.83 for 'mixed', and 0.78 for post-materialists. There was an insignificant difference between the 'mixed' and the post-materialists only. In 1999 the same ratios equalled 1.32 for materialists, 0.74 for 'mixed', and 0.43 for post-materialists. All types significantly differed between themselves in 1999. The shift toward the right side between 1991 and 1999 was an insignificant one among the materialists and the 'mixed', but significant among the post-materialists.

If we were to divide the ten-point scale between leftwing (1-4), centre (5-6), and rightwing (7-10), then in 1991 leftwing would include 20% of materialists, 17% of 'mixed', 19% of post-materialists, and in 1999, 32% of materialists, 19% of 'mixed', and 14% of post-materialists. The results of the more detailed analysis with the aid of the logit model are found in table 12. The materialist type demonstrates a significant decrease in the ratios for centre/left and right/left, which indicates a significant shift to the left. The 'mixed' type shows no major changes, but the post-materialist type has made a significant shift to the right. This means that, with respect to the left-centre-right division of political orientation, the individual types differed more from one another in 1999 than they did in 1991.

In the 1970s in advanced Western European countries (Great Britain, Italy, Switzerland, Germany, the Netherlands, France, Belgium) it was the materialists who were most likely to vote for political parties on the right [see Inglehart 1977: 230]. In the Czech Republic in 1998, according to our data, political parties on the right (Freedom Union, Civic Democratic Party) received votes in the parliamentary elections from 33% of materialists, 47% of 'mixed', and 54% of post-materialists. Table 13 contains the results of the logit model for the voting behaviour of the Czech voter in the parliamentary elections of 1998. The model incorporates both the value typology and political orientation in a dichotomous form, i.e. the left half of the ten-point scale (1-5) and the right half (6-10). The parties are ordered from left to right, and my comparison in each case involves only two neighbouring parties.

The results in my opinion are quite interesting. The ratios of votes cast for the Communist Party of Czech and Moravia (KSČM) and for the Czech Social Democratic Party (ČSSD) are the same for all three value types, and differ only according to political orientation. The left half is connected more with KSČM, and the right half with ČSSD. Equally, the ratios of votes cast for ČSSD and KDU-ČSL (Christian Democratic Union – Czech People's Party) also differs only according to political orientation. The left half is connected more with ČSSD and the right half with KDU-ČSL. For the ratios of votes cast for KDU-ČSL and US (Freedom Union) the situation is the reverse. Political orientation does not play a role. Only the value type is influential. The ratios fall evenly from the materialists to the 'mixed', and from the 'mixed' to the post-materialists. This result is not surprising when we take into account that those who vote for US are younger and more educated than those who vote for KDU-ČSL [see Řeháková 1999], and that US is more liberal and more open to change.

The ratios of voters for US and ODS (Civic Democratic Party) alter both with the political orientation and with the value types. When type is controlled the left half is more strongly linked to US and the right half to ODS. When political orientation is controlled the ratios of US to ODS rise evenly from the materialists to the 'mixed', and from the 'mixed' to the post-materialists. This is no doubt caused by the fact that US is politically more liberal, while ODS is politically more conservative. US is also on some issues rather more leftwing than ODS, for example, in its attitude toward the Roma issue or the internet, it is to some degree reminiscent of the attitudes found among American Democrats. Equally the fact that US voters are younger and more educated than ODS voters also plays a role here [see Řeháková 1999]. Can we perhaps refer to those who vote for US as the 'new right'?

If instead of dividing political orientation into two values we were to divide it into the three values of left-centre-right the outcome would be the same. The KSČM/ČSSD and ČSSD/KDU-ČSL ratios would change only with political orientation, so that with the shift from the left to the centre and from the centre to the right they would decrease. The ratios of KDU-ČSL to US would change only with the types, so that they would fall from the materialists to the 'mixed', and from the 'mixed' to the post-materialists. The ratios of US to ODS would change with the types and with political orientation. When political orientation is controlled they would increase from the materialists to the 'mixed' and from the 'mixed' to the post-materialists. When type is controlled they would decrease from the left to the centre and from the centre to the right.

If then we examine the influence of political orientation and the value typology on the decisions made by voters between political parties lying next to one another on the political spectrum, we reach the conclusion that decisions made by voters between KSČM and ČSSD are influenced only by the political orientation of the voter. The same holds true in the case of the choice between ČSSD and KDU-ČSL. The situation is reversed in the case of a decision between KDU-ČSL and US. Here the value typology is a strong factor, while the influence of the political orientation of the voter is insignificant. Both factors apply strongly only in the case of a choice between US and ODS.

5. Freedom, equality and the idea of a just society

The question of which is more important, freedom, or equality and the idea of a just society, is a matter that falls into the sphere of political issues. For this reason it may be expected that these subjects will be linked to political orientation, and clearly also to value

types. My assumption is that freedom will be connected rather with post-materialists and with the right, and equality rather with materialists and with the left. However, does the effect of the value typology or political orientation not vanish when they enter into a single model together? If not, which effect is stronger?

The questions presented are as follows: *Which of these two statements better expresses your own opinion? A) Freedom and equality are both important. But if I had to choose only one or the other I would consider personal freedom, which makes it possible to live freely and evolve without restriction, to be more important. B) Of course, both freedom and equality are important. But if I had to choose only one or the other I would consider equality to be more important. It means that nobody is disadvantaged and social differences are not so great.* In 1991 personal freedom was more important for 64% of those asked, and in 1999 for 63%. According to the logit model in 1991 the 'freedom is more important'/'equality is more important' ratios were 1.59 for materialists, 1.88 for 'mixed', and 2.54 for post-materialists. In 1999 a change can be recorded for the materialists alone, for whom the freedom/equality ratio significantly decreased to a value of 1.05. If we add political orientation (left-centre-right) to the model the effect of the value typology does not vanish, but it is somewhat weaker than the effect of political orientation. However, the effect of the year of research does disappear. In table 14 I therefore provide the results for the pooled sample 1991 and 1999. When value typology is controlled the freedom/equality ratios grow evenly from left to centre and from centre to right. When political orientation is controlled the ratios grow evenly from the materialists to the 'mixed' and from the 'mixed' to the post-materialists.

It has already been frequently demonstrated that political orientation is an important factor for determining attitudes toward the size of income inequalities, toward guarantees that basic needs are met, toward being rewarded for results, and toward ensuring equal opportunities for education. I believe that it also depends on the value typology, which will be determined by grouping the leftwing and materialists together on one side, and the rightwing and post-materialists on the other. The question is again posed as to whether political orientation or the value typology has a stronger effect. *What must society go about ensuring in order for it to be considered as being 'just'? For each statement please say whether you consider it to be important or unimportant – 1 means very important, 5 means not important at all: A) Eliminating big inequalities in income between citizens. B) Guaranteeing that basic needs are met for all, in terms of food, housing, clothes, education and health. C) Recognising people on their merits. D) Giving young people equal opportunity to pursue their education irrespective of family income.*⁵

The evaluation of the importance of the individual statements is divided into only two groups: very important, and otherwise when the respondent indicated any of the other possibilities, i.e. 2, 3, 4 or 5. Statement A was regarded as very important by 30% of respondents, statement B by 53%, statement C by 65%, and statement D by 79% of respondents. According to the logit model, statements A, B and C confirmed the connection with the value typology, while in the case of statement D (equal opportunity in education) the estimation of its importance does not change with the value typology. With statement A (eliminating income inequalities), the ratio of responses very important to otherwise decreases evenly from the materialists (0.73) to the 'mixed' (0.37), and from the 'mixed'

⁵) These statements appear only in the questionnaire in 1999.

to the post-materialists (0.19). The same type of connection is found for statement B (guarantee basic needs). The ratio of the responses very important to other is 1.59 for materialists, 1.07 for 'mixed', and 0.72 for post-materialists. With statement C (recognising merits) the connection with the value typology is reversed and weak. The ratios of the responses very important to otherwise are 1.54 for materialists, and 2.00 for 'mixed' and post-materialists.

Table 15 shows the ratio of the responses very important to otherwise for statements A-D in the logit models, in which both the value typology and political orientation are included at the same time. With statements A and B, when value typology is controlled, the ratios decrease evenly from the left through the middle to the right. When political orientation is controlled, the ratios decrease from the materialists, to the 'mixed', and from the 'mixed' to the post-materialists. The effects of the value typology and political orientation are equally strong. With statement C, the effect of political orientation disappears in the case of materialists. Among the 'mixed' and post-materialists the centre and the right show no differences. When political orientation is controlled, the 'mixed' and the post-materialists do not differ. However, I am somewhat surprised by the fact that among these two types the ratios for the left are significantly greater than for the centre or the right. In the case of statement D the ratios decrease evenly from the left, through the centre, and to the right, as was expected.

The following statements deal with the issue of the relationship between the individual and the state with respect to responsibility, the degree of freedom provided to the unemployed in their selection of employment, opinions on the role of competition, the method of remuneration, and opinions on private property. Respondents were presented with a pair of statements which express opposite opinions on the arrangement of social relationships, and the respondents were asked to express their opinions on a ten-point scale, in which the submitted statements correspond to the beginning (1) and the end (10) of the scale.

<i>Individuals should take more responsibility for providing for themselves.</i>	<i>The state should take more responsibility to ensure that everyone is provided for.</i>
<i>People who are unemployed should have to take any job available or lose their unemployment benefits.</i>	<i>People who are unemployed should have the right to refuse a job they do not want.</i>
<i>Competition is good. It stimulates people to work hard and develop new ideas.</i>	<i>Competition is harmful, it brings out the worst in people.</i>
<i>There should be greater incentives for individual effort.</i>	<i>Incomes should be made more equal.</i>
<i>Private ownership of business and industry should be increased.</i>	<i>Government ownership of business and industry should be maintained as much as possible.</i>

As I am aware that in this country post-materialists tend to be young, educated, and have a rightwing political orientation, I assume that for each of these subjects their opinions are linked to the lower values on the scale, while in the case of the materialists the values

are rather higher,⁶ and the 'mixed' are somewhere in between. I have created a new variable, defined as a sum of the original five variables divided by five, so that this new variable is a continuous variable, and acquires values in the range of 1 to 10. My assumption is that the lower values of this additive variable are connected rather to post-materialists. The observed averages in 1991 are 4.77 for materialists, 4.12 for 'mixed', and 3.79 for post-materialists. In 1999 the corresponding averages are 5.56, 4.47, and 4.37. The model of the analysis of variance is:

$$\mu(\text{year}, \text{typology}) = 4.411 - 0.686 \text{ year} + 1.087 \text{ typma} + 0.376 \text{ typmi}$$

The interactive effect of $\text{year} \times \text{typology}$ is not significant and for this reason has been left out of the model. *Year* equals 1 for the research from the year 1991, and 0 for the year 1999. *Typma* is 1 for 'materialists', and 0 for the other two types. *Typmi* is 1 for 'mixed', and 0 for the other two types. It is evident from the model that, when value typology is controlled, the averages of the additive variable in 1999 are significantly higher than in 1991, which indicates a shift in the direction of the statements presented on the right, i.e. toward statements emphasising the paternalistic role of the state, limitations on the freedom of the unemployed to select employment, and rejection of competition, income inequality and private ownership. When year of research is controlled the averages of the additive variable decrease from the materialists, to the 'mixed', and from the 'mixed' to the post-materialists, and they differ significantly. This means that materialists are connected more with the statements presented on the right, and post-materialists with the statements on the left.

However, I cannot be sure beforehand whether the effect of the value typology will be significant when the role of other independent variables and at the same time political orientation are included in the model of the analysis of variance. The model, which describes the connection of the average values of the additive variable for the given year of research, the given value type and the given political orientation, is as follows:

$$\mu(\text{year}, \text{type}, \text{pol.orient.}) = 4.083 - 0.736 \text{ year} + 0.857 \text{ typma} + 0.276 \text{ typmi} + 0.948 \text{ leftwing} + 0.548 \text{ centre}$$

The interactive effects $\text{year} \times \text{typology}$, $\text{year} \times \text{political orientation}$, $\text{typology} \times \text{political orientation}$, and $\text{year} \times \text{typology} \times \text{political orientation}$ are insignificant, and for this reason have been left out of the model. *Year* equals 1 for the research from 1991, and 0 for the research from 1999. *Typma* equals 1 for materialists, and 0 for 'mixed' and post-materialists. *Typmi* equals 1 for 'mixed', and 0 for materialists and post-materialists. *Leftwing* equals 1 for a left-wing orientation and 0 for a centre or right-wing orientation. *Centre* equals 1 for a centre orientation, and 0 for a left-wing or right-wing orientation. From the model of the analysis of variance it is evident that when value typology and political orientation are controlled the averages of the additive variable in 1999 are significantly higher than in 1991. This indicates a significant shift in the direction of the statements presented on the right. When year and political orientation are controlled the averages of the additive variable decrease from the materialists to the 'mixed', and from the 'mixed' to the post-materialists, and they differ significantly, so that the materialists are linked more to the statements presented on the right and post-materialists to the

⁶) Opinions on the issue described in the second of the pair of statements were somewhat fuzzy. Without this pair the results would have been more convincing.

statements on the left. When year and value typology are controlled the averages of the additive variable decrease from the left to the centre and from the centre to the right, and they differ significantly. This means that people with a left-wing orientation are more connected with the statements presented on the right and people with a right-wing orientation tend toward the statements presented on the left. Thus the influence of the value typology is preserved, even with the inclusion of the influence of political orientation, and in terms of strength the two are comparable.

Conclusion

I believe that this article provides further proof that, as Rabušic [2000] has pointed out, the post-materialist dimension is certainly present among the Czech population, that it demonstrates a tendency toward increasing, and that the bearers of this dimension are primarily the youngest and, I add, the most educated members of the Czech adult population. I hope that the article also confirms that Inglehart's value typology is beneficial for understanding social phenomena, even in the case of the Czech Republic. However, it is also clear that the individual types do not always behave in the same way that their counterparts in Western European countries do, which is probably due primarily to the fact that in Western Europe post-materialists are connected with the left, while here they are connected with the right. It will certainly be interesting to see whether this is a phenomenon of temporary or permanent character. This work provided me with the first opportunity to examine the influence of the value typology on voting behaviour. The results I have reached strike me as both interesting and logical. I hope that they serve to deepen our understanding of the behaviour of Czech voters when deciding between parties located next to one another on the political spectrum.

Czech post-materialists, in comparison with the others, but especially with the materialists, are young and educated, less xenophobic and ethnocentric, they have a better relationship to protection of the environment, they are more rightwing and more liberal, they value freedom more, are less egalitarian and lay less emphasis on the paternalistic role of the state. Other analyses [see Řeháková 2001] show that the Czech post-materialists have less respect for authority, are more interested in politics, are more inclined toward unconventional forms of political participation, have a positive relationship to democracy as the means for running the country but also to democracy in general, and place more emphasis on individual development.

Not all the changes that appeared out of the comparison with 1991 can be termed as positive if our aim is to become a post-materialist society. Above all I have in mind the consistent lack of interest in work in voluntary organisations for the protection of the environment or animal rights, or engagement in ecological movements. Also disturbing is the decline in the willingness to financially participate in protection against environmental pollution. Unfortunately the survey did not include a question on whether the quality of the environment represents an important factor in a person's life. To some degree the fact that the youngest age group showed the least shift toward post-materialist values is also unsettling. We have become more receptive toward distinct groups in the sense that we do not mind having them as our neighbours too much. But discriminating attitudes remain, even among the post-materialists with reference to the possibility of 'others' gaining employment when it is not altogether easy even for 'us'. This gives rise to resistance to the inflow of foreigners on the whole, and demands for the introduction of strict limits. However, as Czech society has since 1991 passed through a period of some-

what stormy and not always positive development it is not possible to draw rash conclusions from the unfavourable changes discerned here. Let us wait another ten years for this.

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Tables

Table 1. The ratios for the value types in relationship to age and the year of research (estimates from the logit model)

Year	Age	Mixed vs. Materialist	Post-materialist vs. Mixed	Post-materialist vs. Materialist
1991	18-29	3.05	0.15	0.47
	30-49	2.03	0.10	0.21
	50+	1.36	0.07	0.09
1999	18-29	3.35	0.17	0.56
	30-49	2.80	0.14	0.39
	50+	2.34	0.12	0.28

Source: European Values Study 1991, 1999.

Table 2. The ratios for the value types in relationship to education and year of research (estimates from the logit model)

Year	Education	Mixed vs. Materialist	Post-materialist vs. Mixed	Post-materialist vs. Materialist
1991	Elementary	1.17	0.05	0.06
	Secondary (without graduation)	1.75	0.08	0.14
	Secondary (with graduation)	2.61	0.12	0.32
	Post-secondary	3.89	0.18	0.71
1999	Elementary	1.62	0.08	0.12
	Secondary (without graduation)	2.42	0.11	0.28
	Secondary (with graduation)	3.62	0.17	0.61
	Post-secondary	5.41	0.25	1.37

Source: European Values Study 1991, 1999.

Table 3. The ratios for the value types in relationship to education, age and year of research (estimates from the logit model)

Year	Age	Education	Mixed vs. Materialist	Post-material. vs. Mixed	Post-material. vs. Materialist
1991	18-29	without graduation	2.37	0.11	0.26
		with graduation	4.26	0.20	0.84
	30-49	without graduation	1.64	0.08	0.12
		with graduation	2.96	0.14	0.40
	50+	without graduation	1.14	0.05	0.06
		with graduation	2.05	0.09	0.19
1999	18-29	without graduation	2.67	0.12	0.33
		with graduation	4.80	0.22	1.07
	30-49	without graduation	2.24	0.10	0.23
		with graduation	4.04	0.19	0.76
	50+	without graduation	1.89	0.09	0.16
		with graduation	3.40	0.16	0.54

Source: European Values Study 1991, 1999.

Table 4. The ratios for the values types in relationship to subjective social categorisation (estimates from the logit model)

Model A

Class	Mixed vs. Materialist	Post-materialist vs. Mixed	Post-materialist vs. Materialist
Lower/working	1.62	0.09	0.15
Lower-middle	3.39	0.22	0.74
Middle	3.39	0.15	0.51
Upper-middle+	3.39	0.15	0.51

Model B

Class	Mixed vs. Materialist	Post-materialist vs. Mixed	Post-materialist vs. Materialist
Lower/working	1.62	0.09	0.15
Lower-middle	3.39	0.18	0.59
Middle	3.39	0.18	0.59
Upper-middle+	3.39	0.18	0.59

Source: European Values Study 1999.

Table 5. The ratios for agreement or disagreement with discrimination of migrants in relationship to the value typology and the year of research (estimates from the logit model)

Type	1991 Agree/Disagree	1999 Agree/Disagree
Materialist	10.46	13.76
Mixed	6.64	8.74
Post-materialist	4.22	5.55

Source: European Values Study 1991, 1999.

Table 6. The ratios for agreement or disagreement with discrimination of migrants in relationship to the value typology, age and the year of research (estimates from the logit model)

Type	Age	Agree/Disagree	Agree/Disagree
Materialist	18-29	7.73	10.01
	30-49	9.88	12.79
	50+	12.62	16.36
Mixed	18-29	5.12	6.64
	30-49	6.55	8.48
	50+	8.37	10.83
Post-materialist	18-29	3.40	4.40
	30-49	4.34	5.62
	50+	5.54	7.18

Source: European Values Study 1991, 1999.

Table 7. Rejection of migrants, people with the AIDS virus, and homosexuals in relationship to the value typology and the year of research (estimates from the logit model)

Year	Type	chose 0 groups vs. chose 1 group	chose 1 group vs. chose 2 or 3 groups
1991	Materialist	1.04	0.47
	Mixed	1.45	0.65
	Post-materialist	2.50	0.65
1999	Materialist	2.18	1.02
	Mixed	3.04	1.42
	Post-materialist	5.22	1.42

Source: European Values Study, 1991, 1999.

Table 8. Rejection of the Roma in relationship to the value typology, age and the year of research (estimates from the logit model)

Type	Age	1991 chose/didn't choose	1999 chose/didn't choose
Materialist	18-29	3.42	0.89
	30-49	3.42	1.61
	50+	3.42	0.89
Mixed	18-29	2.99	0.53
	30-49	2.22	0.71
	50+	2.99	0.53
Post-materialist	18-29	1.62	0.29
	30-49	2.15	0.69
	50+	1.62	0.29

Source: European Values Study, 1991, 1999.

Table 9. Attitudes toward spending part of one's income to protect the environment in relationship to the value typology and the year of research (estimates from the logit model)

Type	1991		1999	
	++/+	+/-	++/+	+/-
Materialist	0.30	3.31	0.18	2.00
Mixed	0.46	5.04	0.28	3.04
Post-materialist	0.71	7.68	0.42	4.63

Legend: ++ = definitely agree, + = agree, - = disagree or definitely disagree.

Source: European Values Study 1991, 1999.

Table 10. Attitudes toward raising taxes in order to protect the environment in relationship to the value typology and the year of research (estimates from the logit model)

Type	1991		1999	
	++/+	+/-	++/+	+/-
Materialist	0.20	1.78	0.13	1.16
Mixed	0.29	2.58	0.19	1.68
Post-materialist	0.42	3.73	0.27	2.44

Legend: ++ = definitely agree, + = agree, - = disagree or definitely disagree.

Source: European Values Study 1991, 1999.

Table 11. The government must take care of the environment, and it shouldn't cost me anything. Attitudes toward this statement in relationship to the value typology and the year of research (estimates from the logit model)

Type	1991		1999	
	++/+	+/-	++/+	+/-
Materialist	0.42	0.98	0.62	1.46
Mixed	0.33	0.49	0.49	0.73
Post-materialist	0.26	0.25	0.38	0.37

Legend: ++ = definitely agree, + = agree, - = disagree or definitely disagree.

Source: European Values Study 1991, 1999.

Table 12. Political orientation left-centre-right in relationship to the value typology and the year of research (estimates from the logit model)

Type	1991		1999	
	centre/left	right/left	centre/left	right/left
Materialist	2.56	1.46	1.32	0.85
Mixed	2.56	2.42	2.14	2.19
Post-materialist	1.85	2.42	2.14	4.00

Source: European Values Study 1991, 1999.

Table 13. Voting behaviour in relationship to the value typology and political orientation (estimates from the logit model)

Type	Orientation	KSČM/ČSSD	ČSSD/KDU-ČSL	KDU-ČSL/US	US/ODS
Materialist	Left	0.36	12.44	1.85	0.31
	Right	0.07	1.50	1.85	0.13
Mixed	Left	0.36	12.44	0.89	0.64
	Right	0.07	1.50	0.89	0.27
Post-materialist	Left	0.36	12.44	0.42	1.29
	Right	0.07	1.50	0.42	0.55

Source: European Values Study 1999.

Table 14. 'Which is more important, freedom or equality?'
(estimates from the logit model)

	Freedom/Equality Materialist	Freedom/Equality Mixed	Freedom/Equality Post-materialist
Left	0.72	0.91	1.17
Centre	1.36	1.74	2.22
Right	2.60	3.31	4.23

Source: European Values Study 1991, 1999 (combined).

Table 15. Attitudes toward demands to A) prevent large income inequalities, B) guarantee basic needs are met, C) reward results, D) ensure equal access to education
(estimates from the logit model)

Type	Orientation	A Very impor- tant/Other	B Very impor- tant/Other	C Very impor- tant/Other	D Very impor- tant/Other
Materialist	Left	1.11	2.21	1.54	5.15
	Centre	0.66	1.53	1.54	3.97
	Right	0.39	1.06	1.54	3.06
Mixed	Left	0.66	1.60	3.17	5.15
	Centre	0.39	1.11	1.89	3.97
	Right	0.23	0.77	1.89	3.06
Post-materialist	Left	0.39	1.16	3.17	5.15
	Centre	0.23	0.80	1.89	3.97
	Right	0.14	0.56	1.89	3.06

Source: European Values Study 1999.