

Is Direct Democracy Good for the Environment?

A Re-examination of the Link from the
Perspective of Central and Eastern Europe

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Empirical research on direct democracy is often guided by a set of fundamental or old questions, such as civic competence, the role of money, the impact on ethnic minorities, and who benefits (Lupia and Matsusaka 2004). The question of the overall impact of initiatives and referendums on the local environment has also been a key undercurrent of research, though rarely is it ever posed directly. In some respects, the burgeoning literature on land use referendums (Selmi 2001) seeks to answer this question, framing environmental consequences in terms of whether referendums further or slow down the “urban growth machine” (Logan and Molotch 1987). It is my contention that it is now time to step back for a moment and return to the fundamental question of direct democracy’s environmental effects. International or comparative perspectives are necessary for this purpose, as robust generalizations of (local) direct democracy require variation in institutions, public opinion, interest group behavior, and other variables that single country analyses may not be able to provide.

There has certainly not been a lack of anecdotal evidence provided by NGOs on how referendums have furthered environmental protection. In Switzerland, of the 13 national initiatives that have been successful, three concerned the environment (Schmid 2003): the protection of the moorlands, the 1991 moratorium on the construction of nuclear power plants, and the well-known ‘Alpine initiative,’ which went from being a local to a national campaign aimed at protecting the Alps from heavy truck use. Initiatives and referendums were also used to prevent nuclear power plant use in Mühlheim-Kärlich (Germany) and to ultimately phase out nuclear plants in Germany and Sweden. In Uruguay, environmentalists successfully pushed through a constitutional

referendum in 2004 on making access to water and sewage a fundamental human right, which brought water ownership back in the public domain (Santos and Villareal 2005). It comes as no surprise that some green theorists have begun to champion referendums as a deliberative device through which environmental values can enter the policy-making process and overturn established pro-business policy (Smith 2003).

The literature on direct democracy in U.S. states and cities is both more sophisticated and less laudatory of direct democracy's environmental effects. Of all statewide California initiatives from 1970-1994, Kahn and Matsusaka (1997) identified 16 that narrowly concerned the environment (i.e. less than 20% of the total), of which only six were enacted. This implies that environmental initiatives have passage rates only at the statewide average. Importantly, the authors found significant variation in pro-environmental voting by county social status. While county-level per capita income, educational attainment and urban context are positively correlated with pro-environmental voting, the wealthiest counties on a per capital basis exhibit lower demand for the public provision of environmental goods (ibid). However, at the individual level, the failure of many environmental initiatives suggests that the median California voter is not pro-environmental, or at least that voters' demand for environmental goods ranks lower than their demand for other normal goods at their disposal.

If efficient land use and slow growth policies are considered environmental goals, then 'ballot box zoning' may have some positive environmental effects under certain conditions. Staley (2001) found that the 63 Ohio cities that use referendums to decide zoning policy are more likely to experience lower levels of building activity than non-referendum cities. Gerber and Philips (2003), on the other hand, observe an abundance of

pro-development local initiatives in southern California, and find that environmental NGO endorsements of pro-growth policies (which often have provisions for open space and public services) have a strong impact on the passage of such measures. In statewide California pro-development initiatives, they also find that environmental NGO opposition reduces the margin of support for the given measure, though the coefficient does not quite reach the level of statistical significance (ibid: 636). While the literature is too large to summarize here, it seems to be the case that the question of direct democracy's environmental effects is largely dependent on voter preferences, the nature of the local actors involved, and how direct democracy institutions are designed.

The posed question is intended to be empirical and not normative, and can be approached in numerous ways, none of which are without controversy. I will focus on the municipal level. To take the obvious forms of measurement, one could conceivably claim that direct democracy is 'good for the environment' in a given political context:

- If an environmental indicator (e.g. percent of residents commuting by public transit) can be shown to have statistically better scores in cities with a record of local referendums and initiatives on that issue compared to cities without such a record;
- If cities with direct democracy institutions can be demonstrated to have 'greener' policies than cities without such institutions; or if, within a given city, it can be shown that environmental decision-making by referendum leads to better environmental policies than decision-making by the local representative bodies;
- If, in terms of descriptive statistics, there is a greater frequency of pro-environmental to anti-environmental referendums in the given city or state;
- If the policy impact of environmental referendums (regardless of their number) can be shown to outweigh the impact of pro-development referendums;
- If the interest groups that explicitly seek to protect the environment (green NGOs) are able to utilize direct democracy institutions more frequently or more effectively (in terms of passage rates) than interest groups with opposing goals;
- If the deliberative or other dimensions of direct democracy promote pro-environmental values or behavior.

The underlined terms are intended to emphasize the diversity of possible dependent variables: environmental indicators, the quality of environmental policy, referendum

frequency, referendum impact, referendum use and effectiveness by environmental actors, and environmental values and behavior. Surprisingly, besides the first two approaches (conducted by Kahn, Gerber and others), there are relatively few studies that systematically use these approaches towards the study of environmental referendums.

This paper will focus on the third and fifth approaches (referendum frequency and the use of referendums by environmental NGOs) to demonstrate the overwhelming significance of local referendums in Central and Eastern Europe as a means of environmental protection. Following the analysis of Gerber and Phillips (2004), who found that institutional form – particularly the role of voter requirements for land use referendums – shapes the way referendum actors interact with each other, I will argue that a similar dynamic between institutions and actors have generated an abundance of environmental referendums in some countries in Central and Eastern Europe. In particular, the presence of voter requirements (turnout thresholds) for all local referendums across the region, in addition to the fact that the local council approves of a civic initiative before it goes on the ballot, significantly impacts the types of actors and issues that become subject to a local referendum. Both institutional dimensions make *local referendums to be high stakes games that filter out weak actors and less polarizing issues from the direct democracy process*. Due to the second institutional dimension, high stakes referendums involve the political competition between the proposer and the local council. Using data from the Czech Republic (and Hungary to a lesser degree), I show that there is a predominance of local environmental referendums in those countries, not because the median voter is more environmentalist than voters elsewhere, but that the development/sustainability issue area, combined with the skill set of environmental

NGOs, are among the only issues and actors able to survive proposer-mayor political competition.

The empirical research is based on a number of methods and steps. First, the countries were selected as generally representative of new member states of the EU: both countries have experienced dramatic economic transitions and expansion since 1989, which has also entailed the preponderance of pro-growth and pro-FDI economic policies, heavy investment in transport (automobile) infrastructure, and sensitivity of the public to unemployment, social exclusion, and other dislocations (Tucker 2006). The countries also suffer from high levels of perceived political corruption, low levels of social capital (Raiser et al. 2001), and low rates of political participation (Howard 2003). As new democracies, these are precisely the type of countries where you would *not expect* local direct democracy to take root.

The Hungarian Elections Office has collected basic data on local referendums since 1999. Since Czech authorities (like many other European governments) do not collect data on local referendums, I used a combination of media analysis¹ and requests for information from municipal and regional authorities to create the only comprehensive (or what is likely to be near comprehensive) dataset of local referendums in that country. For both countries, I combined the datasets with municipal-level census and elections data, which enabled me to conduct regression analyses of referendum outcomes. As this paper is part of a much larger project on local direct democracy in Central Europe, I also use other data sources that will be discussed in the paper as they are utilized.

¹ In terms of media analysis, I conducted searches for all Czech newspaper articles from the late 1990s to the present that included the term “referendum” and its main declensions, and then went through thousands of newspaper articles to identify any references to a local referendum. I did this for the national newspapers *MF Dnes* and *Lidové Noviny*, as well as the *Deníky Bohemia/Moravia* network of local dailies, which are the main Czech newspapers providing the most comprehensive local news coverage.

The paper is divided as follows. I first provide a background institutional analysis of local referendums in Central and Eastern Europe, as well as a basic model of the referendum process, both of which are useful for readers unfamiliar with local referendums in that part of the world. I then present the empirical analysis for both countries, first describing basic statistics of environmental and other local referendums and then presenting largely logistic regressions of referendums outcome in order to pinpoint the effects of environmental NGOs and issues. I also challenge the thesis that the frequency of environmental referendums is somehow connected to pro-environmental values of the underlying population. I conclude by drawing inferences about how institutional form and the characteristics of referendum proposers have tilted local direct democracy in the two countries in a decidedly pro-environmentalist mode.

Rules of the game

We need to begin with some definitions and distinctions. First, it is questionable whether the distinction between *civic initiative* and *referendum* applies to Central and East European (CEE) direct democracy at the local level. In fact, most Slavic languages do not even have a term for (what we mean by) civic initiative, describing all such processes by the universal term referendum. There are several reasons for this: first, most CEE laws governing local direct democracy do not differentiate whether the given policy has already been passed by the local council or if it is newly proposed by citizens – one of the key distinctions between the terms in American parlance (Cronin 1999). Second, in all CEE countries (and in most of Europe generally), citizen-initiated referendums have to be approved by the local council before the proposition is placed on the ballot. If we

thus assume that “the initiative process embodies the simple idea that ordinary citizens should have the right to propose and pass laws without the consent of their elected representatives” (Matsusaka 2003: p. 1), then the initiative process does not exist in most European countries, as some form of consent is always required. This significantly politicizes the campaign process, enabling local councils to act as veto players in preventing citizen-initiated referendums from getting on the ballot. As the Czech Constitutional Court declared in one of its many referendum cases:

For the sake of completeness, the Constitutional Court states that it is indeed true that [the Charter of Fundamental Rights and Freedoms] can be interpreted in such a way that it guarantees, among other things, the right to participation in a local referendum as a form of direct participation in the administration of public affairs or as an aspect of the right to self-administration. However, the cited regulation cannot be understood to mean that it would guarantee also the right to have such a referendum called. Our constitutional requirements thus do not recognize the so-called civic initiative, i.e. a constitutionally imposed (and thus also guaranteed) procedure in which it is possible to collect a certain number of signatures under a petition to initiate a referendum [*own translation*].²

In other words, citizens have the right to initiate a referendum campaign, but there is no guarantee that a local council will agree to let the proposition go on the ballot. Because of this, I will use the simple differentiation between *citizen-initiated referendums* and *council-initiated referendums*, the two most common forms of local direct democracy in Europe.

A second important, and rather obvious, distinction is whether the referendum is binding or consultative. Consultative referendums significantly reduce the potential payoffs of the process for the referendum proposer; consultative referendums at the local level have a status not too dissimilar from a public opinion poll that a local council may or may not agree to respect. It is less known, however, that most local referendums in Western Europe are consultative, whereas in the CEE local referendums are binding on

² Ruling of the Constitutional Court of the Czech Republic, US 641/2000.

local government (Table 1).³ Local referendum outcomes are generally binding on local governments in the Czech Republic, Slovakia, Poland, Hungary, Bulgaria, Russia and the ex-Yugoslav states, but are merely consultative in Western states like Belgium, Denmark, Finland, Italy, Netherlands, Spain, Sweden, and other countries. Generally, this makes the CEE experience much similar to that of U.S. cities. The key difference, however, is that in all CEE countries local referendums are binding only if turnout exceeds a given threshold, which in most countries is 50%. Lastly, local direct democracy legislation in Europe is also generally restrictive in prohibiting referendums on local bond or tax issues, making such initiatives as Proposition 13 impossible in most countries.⁴

From these basic legal conditions, particularly 1) the existence of turnout requirements and 2) the ability of a local council to approve or disapprove whether a proposition goes on the ballot, local referendum campaigns in the CEE follow different rules of the game than are typically described in most common rational choice models of direct democracy (e.g. Romer and Rosenthal 1979; Steunenberg 1992; Gerber and Lupia 1995; Hug 2001, 2004; Hug and Tsebelis 2002). It is these different rules of the game, I argue, that filter out weak referendum players and have led to a high percentage of environmental referendums, which often pit polarizing issues of economic development with the desire to protect local cultures, public spaces and environmental conditions.

To describe this process, I present a basic model of citizen-initiated referendums in the CEE as a strategic game between a mayor, proposer (civic or interest group) and

³ I have sought to update Table 1 as much as possible, but I cannot claim perfect accuracy. If readers are aware of recent legal changes not reflected in the table, I would be grateful to receive the information.

⁴ Unfortunately, empirical research on direct democracy at the local level in Europe is at an infant stage. Researchers are still in the process of collecting basic information about laws, institutions and the frequency of local referendums, which has prevented model-based explanations of referendum processes to generally emerge. Some of the contributions to the new volume *Towards DIY Politics?* (Delwit et al 2007) seek to break out of that mould.

voters.⁵ While Gerber and Lupia claim that “feature of direct democracy elections is that partisan cues are usually absent” (Gerber and Lupia 1995: 290), the role of local councils in CEE local referendums means that virtually all referendums involve partisan cues and/or signals from local politicians. In terms of assumptions, we should note that:

1. any referendum proposer must incur costs of a campaign;
2. the mayor decides whether or not to call the referendum initiated by the proposer;
3. while the mayor’s decision is supposed to be based on a set of legal criteria, these criteria are a matter of interpretation, requiring court intervention;
4. the referendum is valid only if turnout exceeds a certain threshold;
5. local referendums typically involve a one-dimensional policy space;
6. since there are few local referendums, mayors do not pursue a suboptimal policy as a result of trying to anticipate the prospects of a civic initiative;
7. voters are in an informational disadvantage, whereas referendum competitors have good knowledge of each other and the other aspects of the game.

Let’s assume that a proposer (P) chooses to incur costs⁶ of initiating a campaign on an issue of local importance. The proposer then submits a referendum proposal to the mayor.⁷ After that, the mayor (M) decides whether or not to dispute the proposal, i.e. to reject or to accept it. If the mayor acquiesces or accepts it, then the referendum (R) takes place and voters decide whether to support the mayor’s position, m , or the proposer’s position, p . The referendum comes down to choosing between m and p because, if the referendum does not pass, then the mayor would likely continue to implement his or her policy towards the salient issue. A simple game tree is depicted as Diagram 1.

⁵ A full blown game theoretic model is being developed by the author with Martin Gregor of Charles University. I provide here only a sketch of our proposed model.

⁶ As a factual matter, Czech local referendums are cheap to carry out. The most expensive local referendum cost about \$10,000 (spent on a campaign that lasted several years), and most referendums cost proposers less than \$1000 (my estimate). Almost all citizen-initiated referendums are actually organized by ordinary citizens and civic groups with very few or no paid personnel. The common complaint about the role of big business in American direct democracy simply does not apply to this part of the world.

⁷ In the Czech context, a ‘proposal’ involves the collected signatures, the proposed question, a description of the background issues to the question, when the referendum should take place, etc.

If the mayor acquiesces (allows the referendum), the decision-making power goes straight to the voter. The mayor usually acquiesces if his or her policy stance is close to that of the referendum question. However, such ‘low stakes’ referendums are less common than ‘high stakes’ referendums (on the right of the diagram), because if a mayor has a similar policy stance to the proposer, then the mayor would likely approve of the given policy without the need for a referendum at all.

However, the mayor can also reject the proposal, perhaps because he/she disagrees with its policy content, its legal form (i.e. the proposal and question are seen as somehow in conflict with the law), or for another issue. At that point, the proposer must decide whether or not to engage in more effort to appeal the decision, such as by taking the mayor to court. The proposer could also organize citizens to protest against the mayor or engage in other efforts. In any case, investing more effort implies incurring more expenses, which the proposer may not be capable of doing. The proposer may therefore decide to cut his losses and give up on the campaign (= no referendum). A number of Czech local referendum campaigns ended precisely in that way.

If, however, the proposer decides to exert more effort to respond to the mayor and extend the campaign, a number of things could happen, described as process of nature (N), which represents a variety of probabilistic events: a court case between the proposer and the mayor, an administrative procedure involving the national government, a series of protest actions, or any other activity the proposer engages in to appease or ‘refute’ the mayor so that the referendum can be held. N can generally have two outcomes: either the outcome benefits or reflects the interests of the mayor, in which the mayor’s position is upheld and the referendum is not called; or the outcome benefits the proposer, the

mayor's position is overturned (or the mayor changes her mind) and the referendum is held.

This simple model describes the pathway for two kinds of referendums: low stakes referendums, which takes place after the mayor consents or acquiesces to the referendum proposal, and high stakes referendum campaigns, which arise out of conflictual interactions between the proposer and mayor. The model enables us to predict a number of phenomena in local referendum campaigns in the CEE:

- Low-salience low-stakes referendums would be less frequent, are due to the turnout requirement and other reasons, and less likely to pass. This also leads to a generally low number of local referendums overall, as well as the concentration of referendums on a narrow set of issues likely to produce higher turnout (i.e. those relating to the development/environment nexus).
- In assuming the risks of an expensive campaign, a proposer should have access to legal expertise or consultation. Very few civic actors in the CEE have such access. In both the Czech Republic and Hungary, one of the few exceptions to this are environmental NGOs, which often have close ties with public law or environmental law organizations, who ensure that campaigns run smoothly, and when they do not, are able to represent NGOs when referendums go to court.
- The number of civic actors behind a referendum campaign (or other metrics of campaign strength) would be expected to have a significant impact on the likelihood that the referendum is held and the proposition passes.

I take the model as an accurate description of the local referendum process in the CEE.

The predictions, simply understood as inferences from the model, can then be tested through empirical research.

Environmental referendums in Hungary⁸

In 1990, the Hungarian parliament passed *Act LXV on Local Governments*, which among other things established that:

⁸ Readers should be alerted that in the rest of the paper there will be few bibliographic citations, as scholarship on local direct democracy in both countries is largely non-existent. Unless mentioned otherwise, all the data and calculations presented are my own.

- local councils have to hold referendums if they are considering merging municipalities or if a community wants to separate from a municipality;
- local councils can initiate their own referendums on any local issue except those relating to finance or the council's own dissolution;
- citizen-initiated referendums are possible if citizens collect signatures equal to 10%-25% of the local electorate (the smaller the municipality, the greater the percent required);
- the referendum result is binding if voter turnout exceeds 50% of the electorate.

These regulations on local referendums have remained largely unchanged since 1990.

The only significant amendment that has taken place is the *1998 Act III on the National Referendum and Popular Initiative*, which specified that referendums *cannot* be held simultaneously with local, national or other elections, nor can citizens collect signatures for a petition within 41 days before or after such elections.

The Hungarian Central Election Office has monitored local referendums since 1999 and has collected basic data concerning them.⁹ From 1999-2006, at least 184 local referendum campaigns took place, which resulted in 138 actual referendum votes (Table 2). Of the 46 referendum campaigns reported that did not result in a referendum, the most frequent reason for campaign failure was that, according to the local council, the signature list had missing or wrong data (65% of those cases), and thus the council refused to call the referendum. The capacities of referendum proposers and the saliency of the given issue may also play an important role. Campaigns focused on sustainable development or the local environment in the broad sense of the term – referendums about hazardous waste landfills, mining, sewage, factories, etc – are both among the most frequent as well as the most likely to succeed in terms of getting the local council to approve of the referendum proposal and to call the referendum (Graph 1).

⁹ Unfortunately, their methods of data collection have been inconsistent from year to year. While they collect data on turnout (or the actual referendum results) for some years, for others they do not.

Environmental referendums in Hungary are not only more likely to get on the ballot, but they also provoke levels of turnout above the 50% turnout threshold (Graph 2). Analyzing voter turnout by issue for the two years that complete data is available (2003-2004), it is clear that only three issues – all of which concern the environment or sustainable development – garner average turnouts above the 50% threshold: landfill/solid waste issues, referendums on the construction of factories, and questions relating to sewage and water management. While one can theoretically assume that issues such as whether or not to close down an elementary school would be important for local residents, no school-related referendum has ever been successful in Hungary. This referendum experience could have its own feedback loop: if certain issues have little chances of success, citizens may seek to engage in more cost-effective forms of participation than through the use of local direct democracy.

By coding whether referendums were ‘passed’ or did not, it is possible to conduct a logistic regression of local referendum results from 1999-2005 on the basis of available census data and local elections data. Since I have (so far) been unable to collect comprehensive data on campaign proposers (e.g. whether there were environmental NGOs or other interest groups involved), this analysis is only preliminary. Nonetheless, the model displayed in Table 3 has the greatest predictive value with the data available. The model displays the following independent variables:

- *Least developed counties*. This is based on the analysis of Quadrado et al. (2001), who developed an index of socio-economic conditions among the 20 Hungarian counties, which takes into account the county-level unemployment rate, GDP per capita, school enrollment, access to health care, etc.
- *Type of municipality*. This is an indicator of population, but also takes into account administrative form: village, town or major city (county seat). 111 of the 165 cases analyzed took place in villages, which usually have less than a few thousand residents.

- *Themes*. Referendums as coded by theme; “municipality” means a referendum about whether or not a part of a town should establish its own municipality.
- *Mayor*. The party affiliation of the mayor at the time of the referendum. It should be noted that 75% of all referendum take place in localities where the mayor is an independent (this is approximately the country-wide average).

As the table reveals, issue salience plays a dominant role in determining the chances of campaigns having successful outcomes. Campaigns focused on whether to allow the development of a new landfill in the municipality have 28 times greater chances of success than campaigns without the presence of that theme (all other model parameters held constant). Municipal size also matters: campaigns held in villages have a much high chance of success than campaigns held in cities, mainly because turnout is higher in small communities than large ones. Referendum campaigns in the 10 worse off counties (largely in eastern Hungary) have a greater chance of success than campaigns in the better off counties (largely around Budapest and northwest Hungary). This is the opposite experience as reported by Kahn and Matsusaka (1997) for California initiatives. From the data it seems to be the case that citizens in counties with poorer socio-economic conditions place a premium on policies that improve their overall standard of living (particularly in terms of environmental conditions), and are thus willing to challenge policies that do not.

Environmental referendums in the Czech Republic

Unlike Hungary, which also has a record of national referendums, the Czech Republic has never passed a general national referendum law (a special law was passed for the referendum on EU membership), as conservative politicians have been historically resistant to institutionalizing direct democracy and other participatory forms of decision-making. Czech legislation does enable local referendums, arguably because the legislation was passed during the Civic Forum period when political parties were still relatively undeveloped both organizationally and in terms of party alignment. The following legal restrictions apply:

- The 1990 *Law on Municipalities* (later amended in 2000), which established referendum rules for cases in which residents would want to separate or merge municipalities. The law has similar requirements as in the Hungarian case. However, in 2000 the rules were changed, requiring new municipalities to have at least 1,000 residents, which had the effect of reducing the number of these referendums (Smith 2007b).
- The 1992 *Law on Local Elections and Referendums*, which provided regulations for all other citizen-initiated referendums. The law was valid until early 2004. Among other things, it imposed a 25% voter requirement and gave local councils great discretion over whether to call referendums. Importantly, *no a single local referendum according to this main law even took place until the year 2000*, largely because of the role of local councils in the referendum process.
- The 2004 *Law on Local Referendums*, which increased the turnout requirement to 50%, clarified a number of ambiguities in the previous law, and also enabled council-initiated referendums. A comparison of the 1992 and 2005 laws is provided as Table 4.

From the mid-1990s to the early 2000s, local referendum politics was highly ‘unconsolidated,’ in the sense that citizens, proposers and politicians often had strikingly different interpretations of the referendum law, leading to misunderstandings, abuse and corruption. While there were a number of well known referendum campaigns (such as in the cities of Havířov and Ivančice), the local governments in all of those cases refused to

call the referendum (Smith 2007b). In the first successful citizen-initiated local referendum, environmentalists in the city of Tábor campaigned for several years to call a referendum on whether to allow a road to be built through a botanical garden in the center of the city (for more details, see EPS 2001 and Smith 2007a). In addition to over 500 newspaper articles published in the local press, several demonstrations and a petition, the proposers also placed significant legal pressure on the city hall. This was possible because the campaign received significant backing from the Environmental Law Service, the leading public law NGO in the country and which had an office in the city. Activists affiliated with the Tábor 2000 movement (a ‘light-green’ local political party) were also involved in the campaign. As one politician noted,

“...these people, these young lawyers, quite simply like smart people, educated, we succeeded to develop such pressure on the city board, on the city council, that we finally succeeded in getting the referendum held.... [The referendum was possible] mainly on the basis of public pressure. There was some kind of petition action and it was clear that the civic voice was very strong, very articulate, understandable, and very precisely formulated, and simply all of a sudden these people in Tábor said, like normal people, what is bad about having a referendum, about putting questions to the people?” (interview, December 2004).

With a 37% turnout rate, the referendum easily passed with 79% in favor of protecting the botanical garden.

Since that time, Czech local referendums have been dominated by environmental issues (Smith 2007b),¹⁰ often led by environmental NGOs like the Environmental Law Service, the Rainbow Movement (the Czech branch of Friends of the Earth), and CALLA (an organization known for its campaigns against the infamous Temelín nuclear power plant in South Bohemia). These environmental groups have close ties to each other and

¹⁰ The large number of referendums on municipal separation is quite important in its own right, but will not be narrated here. From 1993-2007, I have estimated that 182 new Czech municipalities were established on the basis of a local referendum. Jehlicka (2001) also provides an analysis of the relationships between organizations in the Czech environmental movement.

have shared legal expertise and know-how.¹¹ Many of the environmental cases have been high stakes games. For example, in referendum campaign that was initiated by environmental activists in the village of Velký Malahov in 2001, the activists sought to propose a question on whether to prevent the village from allowing a German poultry manufacturer to locate a large poultry farm (for nearly 1,800,000 chickens) in the locality. At issue was not only the possible pollution and odors from the farm, but also the claim that the German firm was known for its poor treatment of animals.¹² The environmental groups succeeded in collecting signatures, and thus submitted the proposal to the local council. However, the mayor of the village decided to change the referendum questions (!) in such a way that many residents opposed to the poultry farm inadvertently voted in favor of it. Since one of the environmental activists was a legal expert, the campaigners took the mayor to court, won the court battle, and reached a legal settlement that in exchange for dropping criminal charges, the village would only approve of a smaller chicken farm (for 600,000 pieces), which would also maintain better ecological conditions.

From 2000-2006, the time period for which it was able to collect reliable data through media and government reports, 94 local referendums took place out of a total of 124 attempted campaigns. In these seven years, 59 of the 94 referendums that were held, from the point of view of their initiators (i.e. either civic groups or local councils), dealt

¹¹ I gained these insights from a number of open-ended interviews conducted in 2004-2005 with environmental activists and lawyers involved in local referendum campaigns. Jehlicka (2001) also provides an analysis of the relationships between organizations in the Czech environmental movement.

¹² For discussions of the case, see Ekomonitor, “Starosta Velkého Malahova se prý snaží zmanipulovat referendum (the Mayor of Velky Malahov is attempting to manipulate the referendum)” February 19, 2002; Press Release of the NGO Děti Země (Children of the Earth), “Mnohaletý spor o drůbežárny na Domažlicku končí! (The multi-year conflict about the poultry farm in the Domazlice district has ended!), January 16, 2003. The website of the local NGO leading the campaign – Brůdek, the Civic Association Against the Large Capacity Poultry Farm – is no longer accessible, which used to be at <http://www.volny.cz/nedrubezarnam/index.htm>.

with the environment in some way: referendum campaigns on mining, nuclear waste disposal, public transport, road construction, wind power plants, and a host of other issues (Graph 3). Many development-related issues, such as road construction or public transport, are also discursively framed within referendum campaigns as environmental, and are indeed led mostly by environmental NGOs.

For example, the majority of the referendums that took place in 2003 and 2004 concerned nuclear waste disposal. Over the last decade, the Czech government has increased its efforts to find a site for the nuclear waste produced from the controversial Temelín nuclear power plant (CALLA 2004). In 2003, the government publicized six possible locations for the site. In response, environmental NGOs met with mayors and local residents from villages around those areas to organize local referendums against the future establishment of a nuclear waste site in their communities. In all of these 16 cases, local residents voted between 80-99% against nuclear waste storage, with voter turnout ranging from 51-95%.

Not only are environmental referendums frequent, but, like the Hungarian experience, they are also more likely to have high enough turnout to be valid, and to ultimately pass. Focusing citizen-initiated referendums, we can code turnout on the basis of whether the referendum outcome was valid or not. The subsequent logistic regression model with the best fit incorporates the following variables: the population of the municipality, the referendum issue, the number of NGOs active in the campaign, whether the referendum took place simultaneously with an election, and the turnout level of the prior local election. The population variable has shown strong linear correlations with a number of socio-economic variables, such as the percent of residents with college

education, unemployment rate, occupational status, the number of NGOs in the municipality, per capita income – all of which are higher in larger cities. To avoid problems of multicollinearity, these variables were replaced by population as an indicator of these socio-economic trends. I analyzed the data in two ways: first, I conducted an OLS regression of turnout (splitting the file between council-initiated and citizen-initiated cases), the results of which are displayed in Table 5. I also conducted a logistic regression of validity according to the above data considerations. Table 6 displays the logit model with best fit with the data. Both models display similar results, but for the sake of space I will focus on Table 6. Nagelkerke R^2 reached .619 (quite good for such a simple model); in addition, the model was able to correctly predict 80.4% of the actual values of the dependent variable.

Table 6 is particularly useful for observing the odds ratios ($\exp B$) of the independent variables in increasing or decreasing the chances of a valid referendum. Referendums on environmental issues, which include the five themes of nuclear waste disposal, wind power, local transport, quarries/mines, and factories – are nine times more likely to achieve a valid referendum compared to the reference category (the large set of miscellaneous cases on local schools, housing issues, various public works projects, etc). Similarly, municipal separation issues are eight times more likely to achieve a valid result compared to the same reference category. Since the other variables have different scales, they cannot be compared so directly, though their impact on the chances of validity is significant. *Each environmental NGO active in a civic initiative, for example, makes the chances of a valid outcome three times more likely* compared to the absence of NGOs.

This finding once again confirms the significant role environmentalists play in the direct democracy process.

To illuminate these relations more clearly for the participants of this conference, I provide the following three graphs and tables. Graph 4 reveals the strong logarithmic correlation between population and referendum turnout (for all types of local referendums), with the population log accounting for roughly 50% of the variation in referendum turnout. The same data, depicted in terms of descriptive statistics of referendum outcomes (Table 7), reveals that very few referendums in communities with more than 2,000 residents reach valid outcomes. In fact, *only one Czech local referendum in a community with more than 4,000 residents has ever passed*: the first citizen-initiated referendum in the history of the country (in Tábor, discussed above), which was aided by the lower turnout requirement in place at the time. Lastly, another important bivariate relation concerns the role of the municipality's previous record of local elections (Graph 5). However, both of these graphs present merely 'soft' data, as they do not take into account other explanatory variables.

Returning to Table 6, I converted the odds ratios into probabilities to observe variation by population and the number of environmental NGOs active in a campaign (Graph 6). The calculation assumes that other model parameters are fixed: specifically that the referendum is on an environmental issue, does not take place alongside elections, and that local election turnout is held constant at the mean (about 55%). I chose to set those variables at those given values because they are the most frequent values for citizen-initiated environmental referendums in the Czech Republic. As can be observed, the number of environmental NGOs in a campaign has a dramatic impact on the

probability of a valid outcome. While the model would predict that, in a community of 2,000 residents, most referendums would be valid regardless of the number of NGOs, as the population increases so does the impact of NGOs. In a community of 30,000 people or more, very few referendums would be valid, unless at least a couple of NGOs played an active role in organizing the campaign. The number of NGOs has the greatest impact in the middle of the graph, where campaigns with one environmental NGO, in comparison to campaigns without NGOs, are twice as successful in reaching valid outcomes.

We can also examine the role of environmental actors and issues in determining whether propositions ultimately pass. While only 3% of council-initiated referendums proposed have passed, citizen-initiated referendums (most of which are environmental) had passage rates of 57% before 2004 and 25% since then. These different passage rates are likely due to the role of institutional form: higher turnout requirements led to a decline of passage rates since 2004 (when the new law took effect). The low passage rates of council-initiated referendums is due to the fact that many are either ‘low stakes’ issues, where turnout is lower, or because citizens do not the gain informational cues that are usually provided through the antagonistic relations in citizen-initiated cases. This in turn leads to a similar style of conservative voting as described by Bowler and Donovan (1998: chapter 3). That is, in the Czech cases, voters in council-initiated referendums vote conservatively and often ‘environmentally,’ as they have consistently rejected controversial development projects put before them by the local council for approval.¹³

¹³ It is possible to conduct a logistic regression of whether referendums passed or not and the role of environmental actors and themes in that process. However, the results of such analyses are similar to what is provided above with the analysis of turnout and validity, and thus little added value is gained by discussing them further here (these will be presented at the conference).

The involvement of environmental NGOs in referendum campaigns is not only correlated to the passage of propositions, but also to the intensity of the result (i.e. landslide victories). Graph 7 displays citizen-initiated referendums by the degree to which the referendum passed (those above 0 passed, those below did not), as well as the number of environmental NGOs involved in each case. There does appear to be a fundamental correlation between NGOs and the margin of victory: while very few losing cases involved NGO campaign efforts, some of the greatest landslide victories involved the effort of at least one or two NGOs. In a sense, environmental NGOs help produce landslide victories (i.e. with Yes/No margins exceeding 50%) when their involvement entails a high degree of campaign organization and informational dissemination as a result of the exchanges between the NGOs and the local politicians. While the number of landslide victories displayed on the left of Graph 7 makes it seem that Czech referendums are on black-and-white questions, it must be said that an issue is 'black-and-white' precisely because escalated political competition during the referendum campaign and pre-referendum local debates made them so.

These landslide victories actually play an important role in terms of the consequences of environmental referendums, as referendums are often used to determine local interests in multi-stakeholder bargaining. For example, in the planned development of a large waste incinerator in the Pardubice region, state and regional officials used the two local referendums on the issue in the affected localities (Čeperka and Opatovice) as a proxy for local opinion; since local consent was a condition for the development of the incinerator, the referendums killed the project, despite the fact that the local governments had only limited jurisdiction over the given issue. Both local and national environmental

NGOs were active in both campaigns, which not only helped to overcome local political opposition in Opatovice but may have also influenced the landslide victories: in both cases, the vote against the incinerator won by a margin of 93% to 7%.¹⁴

In the above analysis, I have argued that the number and success of Czech environmental referendums is due to the combined role of institutional form and well-organized civic actors. It could be objected, however, that there are many successful environmental referendums because of public opinion: Czech (and Hungarians) are, for whatever reason, more environmental than citizens in other countries, such as in the U.S., where pro-development local referendums seem to be as successful, if not more so, than their environmental counterparts.

But survey data suggests that Czech citizens rank poorly in terms of their environmental behavior and values, and thus there is no direct link between these variables and the phenomenon of environmental referendums. To indicate this, we can use the ISSP (International Social Survey Program) Environment II survey, conducted in 2000 among 26 countries, which is one of the best international surveys on environmental behavior and beliefs. Although we cannot directly compare national-level behavior with the preferences of referendum voters in specific municipalities, Table 8 does indicate that Czech citizens rank poorly among all major environmental indicators covered by the survey: they are generally unwilling to make sacrifices for the environment (23rd among the 26 countries), they have average scores in their perceptions of environmental risk, average knowledge of the environment and average scores on pro-environmental

¹⁴ There are many articles on the issue, e.g. MF Dnes, "Opatovice čeká referendum o spalovně (Opatovice waits for the referendum on the incinerator)," December 10, 2005; MF Dnes, "Spalovna zatím evropské peníze nedostane (The Incinerator will not receive European money for the time being)," January 21, 2006; MF Dnes, "Spory o spalovnu v Opatovicích pokračují (The conflicts over the incinerator continue)," May 29, 2006; MF Dnes, "Opatovice odmítly spalovnu (Opatovice rejects the incinerator)," June 26, 2006.

behavior, and they have poor scores in terms of environmental organization membership (21st among the 26 countries). Though I have not done more sophisticated analyses of the ISSP data, it is highly unlikely that we can find an answer to the question of the preponderance of environmental data based on social surveys of this sort.

Conclusions

Environmental referendums dominate the politics of local direct democracy in these two countries. Anecdotal evidence for similar trends could be provided for similar countries, though no comprehensive data has yet been made available.¹⁵ While this paper has not compared direct democracy to other forms of political participation, it is quite clear that local direct democracy in these countries is a primary way citizens and NGOs seek to protect and improve the environment in which they live. Corporate interests have yet to become significant actors in the referendum campaigns. If referendums continue to take place in small villages and continue to be subject to turnout requirements, it is not likely that corporations or organized signature-gatherers will play a role in referendum campaigns in the foreseeable future.

As I have learned from a number of interviews with environmental activists, local referendums are often viewed as a means of last resort, when environmentalists are unable to influence development policies by other means. Such a scenario entails conflictual relations with the local government, which in turn has the authority to call a referendum or not. The importance of this political dynamic on the rational behavior of referendum proposers was the motivating factor behind the model proposed in this paper.

¹⁵ Various newsletters and reports by the Regional Environmental Center for Central and Eastern Europe, for example, have made brief references to environmental referendum cases. It is not clear if there are any scholars or NGOs in some Eastern European countries documenting these trends.

As I have sought to argue, not all referendum proposers are able to equally succeed in compelling local governments to place propositions on the ballot. While the empirical evidence demonstrates that environmental NGOs have been successful at this in the Czech Republic, I have not provided deeper reasons into why those NGOs have the capacities that they do. Such an explanation would have to dig deeper into the nature of the Czech environmental movement, which goes well beyond the parameters of this paper.

In the analysis of institutional form, an underlying theme of this paper has been the role of turnout requirements in influencing the kind of referendums that pass and in which municipalities. Besides local referendums on municipal separation, few other non-environmental referendums ever exceed the threshold requirement in either country. This does not mean that thresholds are either good or bad. Rather, thresholds are largely to explain why so local referendums are absent from the political life of medium and large cities. This implies that flat turnout requirements effectively ‘discriminate’ against citizens in cities, as they are less likely to be able make use of the mechanism of direct democracy in the same way as their small town brethren. While these findings should need to impetus for legal reform in those countries, the analysis also indicates that there is nothing wrong with turnout requirements per se. In fact, such requirements have arguably kept large interest groups from taking advantage of the device and have maintained the grassroots feel of local direct democracy in the region. For scholars and activists interested in reinvigorating and ‘greening’ direct democracy in U.S. cities, these institutional conditions provide interesting food for thought.

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Tables and Graphs

Table 1 Select Regulations on Local Initiatives and Referendums in Europe¹

Country	Proposer (% signatures needed)	Status of Results	Turnout Quorum	Taxes/finances ²	Required for separation ³	Right of Recall ⁴	Few or many cases? ⁵
Western Europe:							
Austria	There are no laws on local referendums						
Belgium	Electorate (20%)	Consultative	40%	N	N	N	Few (at least 15)
Denmark	Local council	Consultative	None	N	N	N	Few (160 from 1970-2000)
Finland	Electorate (5%) Local council	Consultative	None	N	N	N	Few (at least 20)
France	Electorate Local Council	Consultative	None	NA	NA	N	Few
Germany	Electorate (varies) Local council	Binding	Varies by state	Varies by state	Y	N	Many (2,846+ cases in history)
Greece	There are no laws on local referendums						
Ireland	There are no laws on local referendums						
Italy	Local council	Consultative	None	NA	N	N	Few
Luxembourg	Electorate (20%) Local Council	Consultative	None	NA	N	N	Few (at least 5 in total)
Netherlands	Local Council	Consultative	None	NA	N	N	Few (100+)
Norway	Local Council	Consultative	None	N	N	N	Many (over 500)
Portugal	Local Council	Consultative	None	N	Y	N	Few
Spain	Local Council/Mayor	Consultative	NA	N	N	N	Few
Sweden	Electorate (5%) Local Council	Consultative	NA	N	N	N	Few (80+ since 1977)
Switzerland	Local Council Electorate (5-20%)	Binding or Consultative	Laws vary by canton	In some cantons	NA	NA	Many
UK	Local council Electorate (10 voters)	Consultative	NA	NA	N	N	Few
Central and Eastern Europe:							
Bulgaria	Electorate (25%) Local council/Mayor	Binding	50%	N	Y	N	NA (but many on boundaries)
Croatia	Electorate (20%) Local council	Binding	NA	N	NA	N	NA
Czech Republic	Electorate (6-30%) Local council	Binding	50%	N	Y	N	Many (90+ since 2000)
Estonia	There are no regulations on local referendums						
Hungary	Electorate (10-25%) Local council	Binding	50%	N	Y	N	Many (138+ since 1999)
Latvia	There are no regulations on local referendums						
Lithuania	There are no regulations on local referendums						
Poland	Electorate (10%) Local council	Binding	30%	Y	Y	Y	Many (600+ since 1992)
Romania	Local Council	Consultative	50%	N	N	N	Few
Slovakia	Electorate (30%) Local council	Binding or Consultative	50%	N	Y	Y	Many (since 2004 only)
Slovenia	Electorate (5%) Local council	Binding	50%	N	Y	N	NA
Serbia and Montenegro	Electorate (20%) Local council	Binding	50%	N	Y	N	NA

Sources: *Council of Europe 2000; Kaufmann and Waters 2004; national legislation when available.*

Notes: 1) Some countries are not displayed in this table do to lack of information available, particularly post-Soviet states. Some small countries or city-states (e.g. San Marino) are also not included due to the minimal value of including them for this particular study.

2) "Taxes/finances" refers to whether legislation permits initiatives or referendums on questions relating to taxation or local finance.

3) "Required for separation" refers to whether referendums are mandatory in the case that a community wants to separate itself from a municipality, if municipalities are to merge, or if a community wants to separate from one municipality and join another.

4) "Right of recall" refers to whether legislation enables the right to recall mayors, local councils, or other local bodies, either through initiative or a council-initiated referendum.

5) "Few or many cases" is a qualitative assessment. If there are at least 10 local initiatives or referendums in a country (regardless of size) on average per year in the time period when direct democracy legislation is applicable, I categorize it as 'many.'

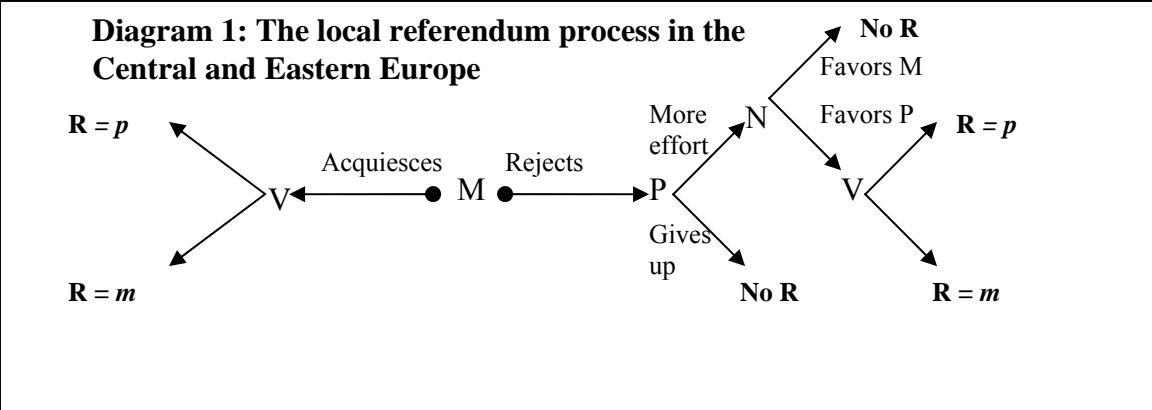
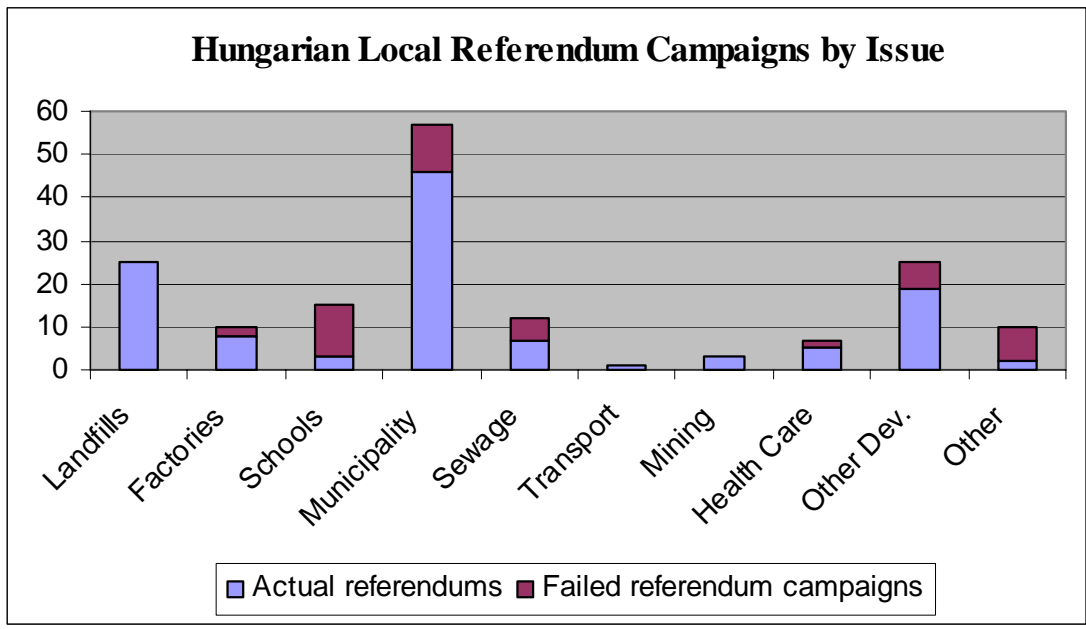
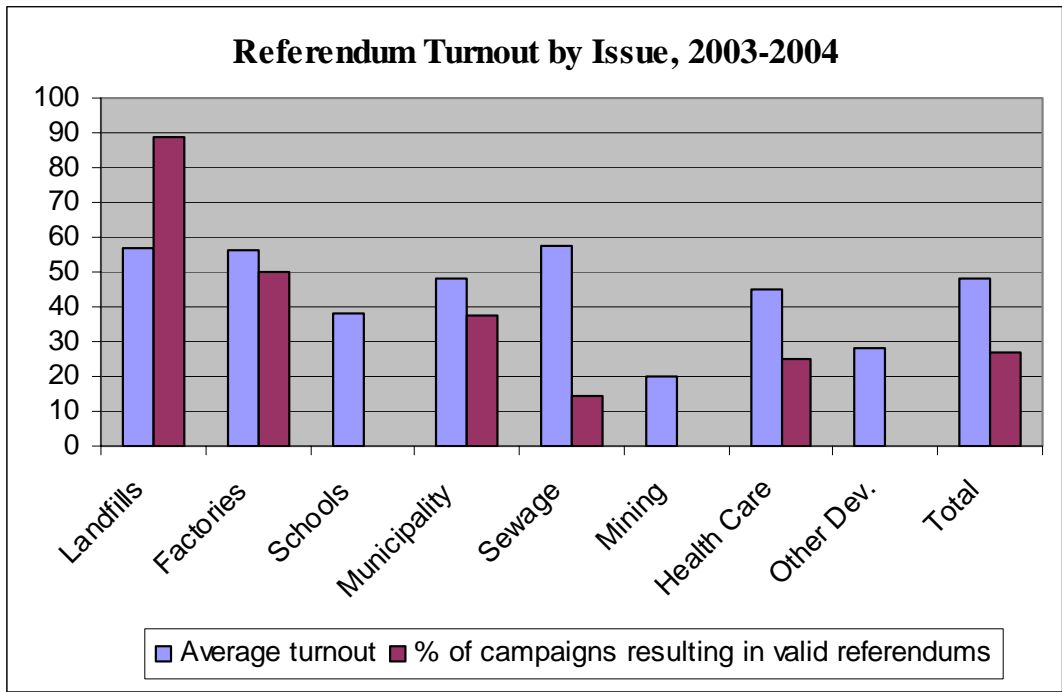


Table 2: Local Referendums in Hungary, 1999-2005									
	1999	2000	2001	2002	2003	2004	2005	2006	Total
No. referendums held	15	22	12	7	22	22	19	18	136
No. failed campaigns reported²	2	2	NA	1	13	28	NA	NA	46
Total referendum campaigns reported	17	24	12	8	35	50	19	18	184
<p>Source: own computations based on data from the Central Election Office</p> <p>Note: the Central Election Office has been inconsistent in collecting data on referendum campaigns that did not result in held referendums. Data for 2001, 2005, and 2006 is not available. For the other years, the data may not be comprehensive, and should be interpreted only as the minimum number of failed campaigns. The high number of failed campaigns in 2004 may represent only better data collection.</p>									

Graph 1: Failed and Successful Campaigns in Hungary, 1999-2005



Graph 2 Turnout and Chances of Success in Hungarian Campaigns, 2003-2004



**Table 3 Binomial Logistic Regression of Referendum Success:
Local Referendum Campaigns in Hungary, 1999-2005**

Independent variables	B	S.E.	Exp(B)
(Constant)	-3.301	.833	.037
Least developed counties	1.136	.484	3.115
Type of municipality: village	1.120	.702	3.065
Theme: Landfills	3.340	.744	28.224
Theme: Factories	1.648	.811	5.197
Theme: municipal separation	3.130	.603	22.866
Mayor: Socialist (MSZP)	-.788	.844	.455
Mayor: affiliated with a political coalition	-.944	.828	.389

Dependent variable: Whether referendum was passed, i.e. successful for the proposer
Nagelkerke R² = 0,448; percent of real values correctly predicted by model: 78,8%
 Please note that this is not sample data representing an underlying population, measures of significance are not relevant in this case.

Table 4. Comparison of the Old and New Local Referendums in the Czech Republic	
Law No. 298/1992 Coll. (old law)	Law no. 22/2004 Coll. (new law)
The referendum turnout has to be at least 25% (of registered voters) for the result to be valid.	The referendum turnout has to be at least 50% (of registered voters) for the result to be valid.
Ambiguous as to whether local referendums can take place at the same time as elections (e.g. elections to the local council).	The law clearly states that local referendums can take place with local elections, and can even last for two days .
Referendums on municipal ordinances are possible.	Referendums cannot change or cancel municipal ordinances. However, referendums can be about the land-use plan of the municipality.
A referendum can be declared only on the basis of a sufficient number of collected signatures.	A referendum can be declared on the basis of the local council's own initiative.
Problematic legal safeguards: Every citizen can submit a legal complaint to the Regional Court that in the course of the referendum a law was broken that could have influenced the result or proclamation of the referendum. (This has led to a number of complex, excessive and burdensome legal battles)	Broader legal safeguards: The preparatory committee (the proposer and his/her substitutes) can submit legal complains in two instances: 1) if it appears that the local council refused to declare a referendum when it should have been declared; 2) if the way the referendum vote was carried out is deemed invalid.
Referendum proposals have to contain an estimate of the costs of achieving the expressed referendum outcome.	Referendum proposals have to contain an estimate of the costs of carrying out the referendum and reaching the referendum decision .
Whoever signs a petition list more than once for the purpose of a referendum can be fined 1000 CZK.	Whoever signs a petition list more than once for the purpose of a referendum can be fined 3000 CZK.
Anyone who wants to sign a petition list has to enter his/her ID number	Anyone who wants to sign a petition list has to enter his/her date of birth .
Signatures cannot be collected in state administration buildings.	Signatures cannot be collected in buildings of the state administration or in the municipal office .
Law does not mention whether more than one referendum can take place at the same time.	The law makes it possible for more than one referendum to take place at the same time.

Graph 3. Czech Local Referendums by Issue, 2000-2006

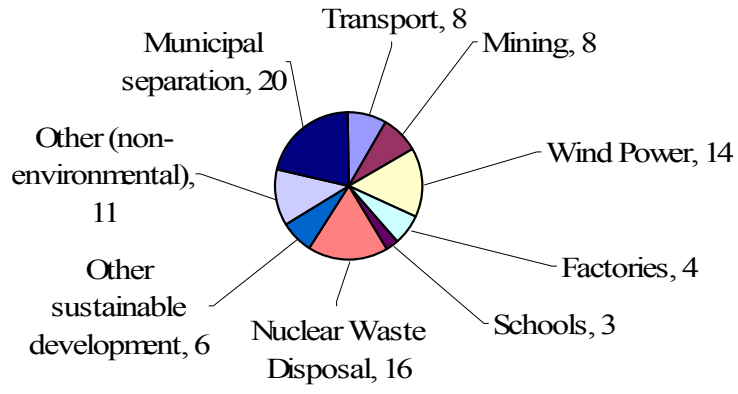


Table 5. Turnout in civic initiatives and council-initiated referendums						
Independent Variables	Civic Initiatives			Council Initiated Referendums		
	Unstandard. Coefficients		Standard. Coefficients	Unstandard. Coefficients		Standard. Coefficients
	B	Std. Error	Beta	B	Std. Error	Beta
(Constant)	105.257	8.662		81.581	15.442	
Pop. (log)	-18.807	2.740	-.648	-12.311	4.718	-.322
Muni. sep.	21.280	4.967	.438	28.799	9.832	.349
Nuclear				24.235	5.598	.584
Quarry/Mines	8.880	6.130	.116	23.636	8.019	.345
Factories	11.676	5.385	.176	15.948	13.058	.139
Simul. Elect.				17.025	5.820	.354
Pol. Party	-5.511	4.033	-.125	-6.406	4.612	-.158
NGOs active	5.434	2.076	.240			
N	56			35		
R²	.716			.692		
Dependent Variables: turnout in civic initiatives; turnout in council-initiated referendums Please note that this is not sample data representing an underlying population, measures of significance are not relevant to this analysis.						

Table 6. Binomial logistic regression of valid civic initiatives: Model has good predictive value			
Independent Variables	B	Standard Error	Exp(B)
(Constant)	-5.479	2.359	.004
Population (per 1000 pers.)	-.123	.008	.884
Environmental Issues	2.198	1.312	9.003
Issue – municipal separation	2.130	1.165	8.419
NGOs active	1.230	.798	3.421
Simultaneous elections	1.232	1.654	3.428
Local election turnout	.075	.036	1.078
Dependent Variable: Referendum validity Nagelkerke R² = .619			

Graph 4

Impact of municipal size on referendum turnout (logarithmic regression equation, no other variables in model; n = 92)

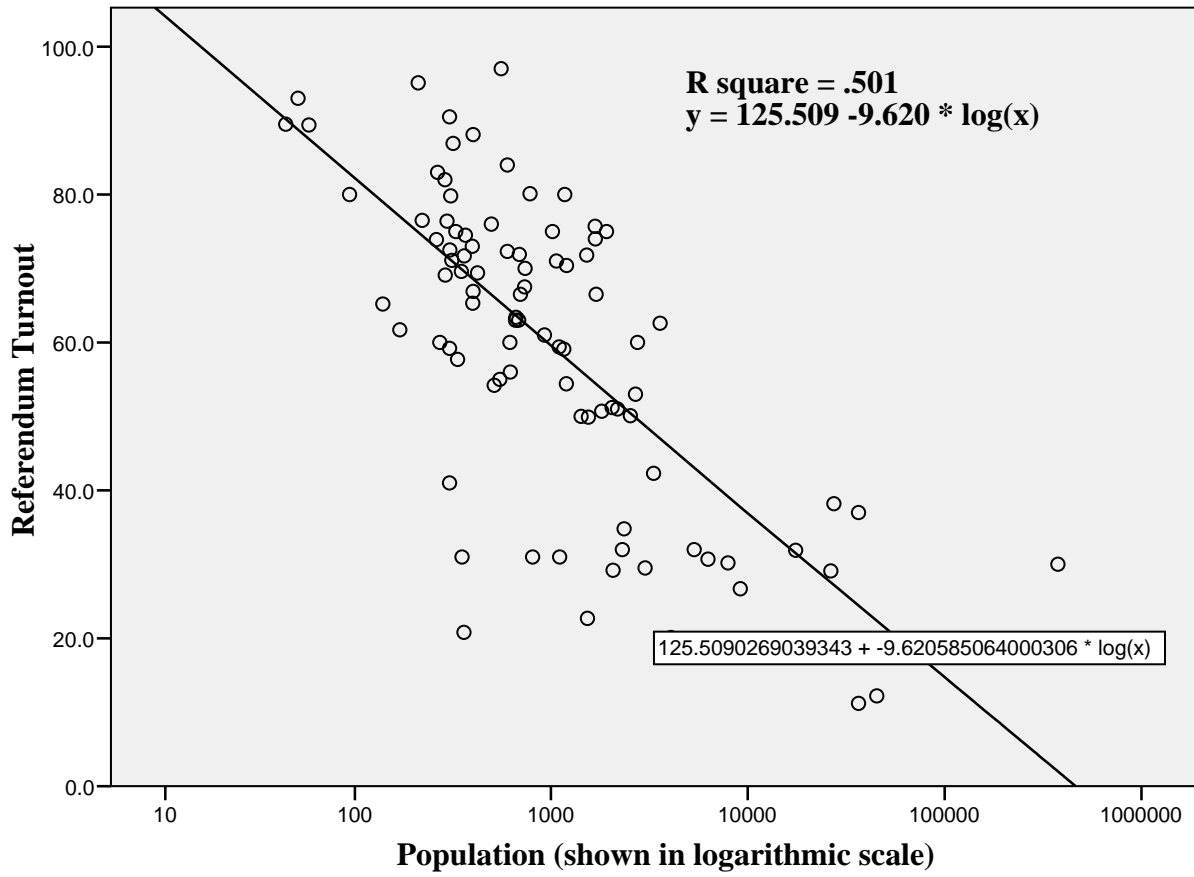
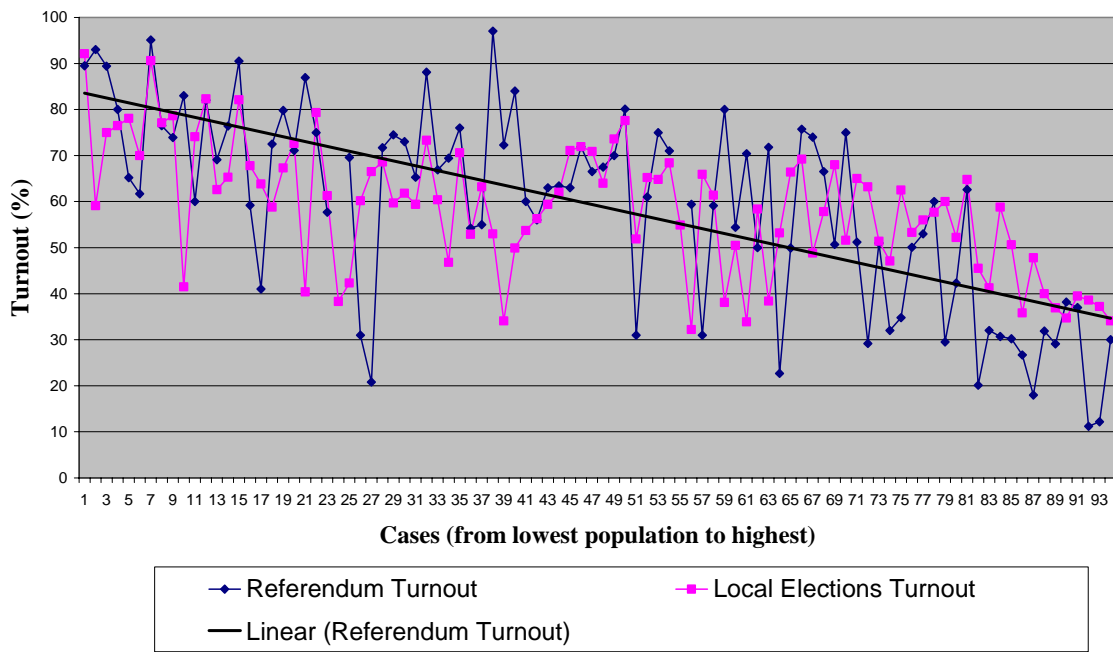
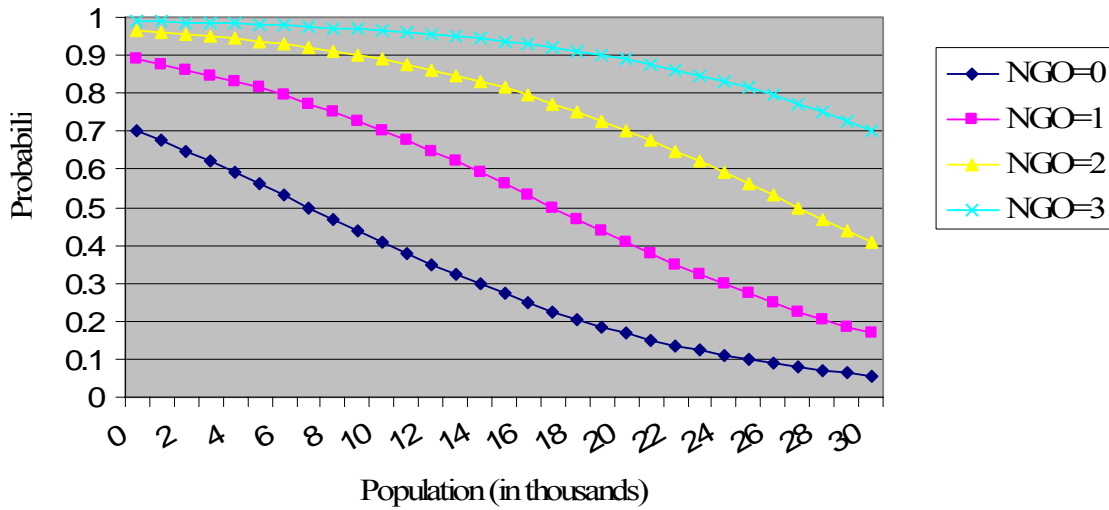


Table 7. Czech Local Referendum Outcomes by Population Size, 2000-2006				
Municipal population	Total Cases	Cases with valid outcomes	Cases with invalid outcomes	Average turnout (%)
0-499	34	30	4	70.3
500-1999	35	32	3	63.5
2000-9999	17	8	9	41.6
10000-30000	4	0	4	29.3
More than 30000	4	1	3	22.6
Totals	94	71	23	58.6

Graph 5: Turnout in Czech local referendums and prior local elections



Graph 6. Probability of a valid referendum
 (independently held referendum on an env. issue,
 prior local election turnout held constant at mean)



Graph 7. Intensity and direction of civic initiative results: How should we explain landslide outcomes? (X-axis: locality names ranked by degree of landslide)

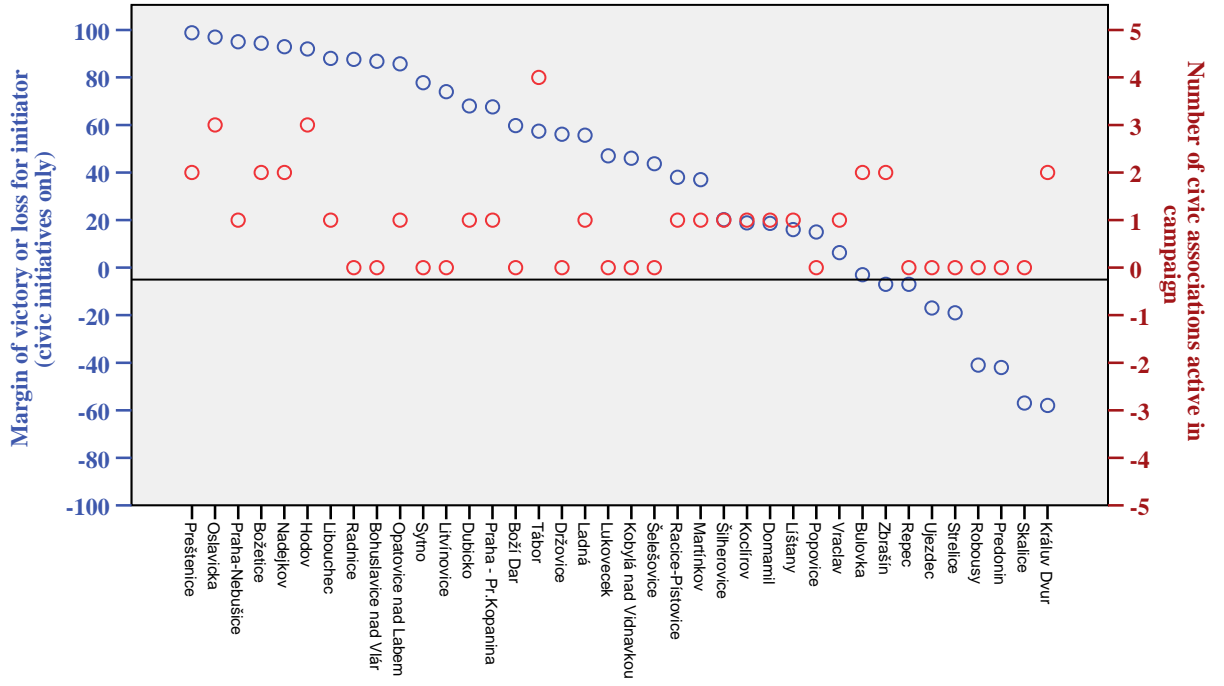


Table 8: Weighted Mean Responses and Survey Rankings to Key Indicators of Environmental Behavior and Beliefs: ISSP Environment II 2000 Survey					
Country	Willingness	Knowledge	Danger	Behavior	Activism
Austria	2.97 (5)	0.83 (9)	3.85 (13)	3.01 (3)	0.20 (4)
Bulgaria	2.28 (25)	0.55 (21)	3.78 (17)	1.42 (9)	0.03 (5)
Canada	2.83 (14)	0.84 (8)	3.89 (10)	2.69 (9)	0.15 (5)
Chile	2.77 (17)	0.27 (26)	4.24 (3)	1.85 (23)	0.06 (22)
Czech Republic	2.41 (23)	0.68 (16)	3.86 (11)	2.44 (12)	0.06 (21)
Denmark	2.94 (7)	1.07 (1)	3.55 (24)	2.72 (8)	0.13 (9)
Finland	2.64 (20)	0.76 (12)	3.40 (27)	2.81 (6)	0.12 (11)
Germany-East	2.47 (22)	0.88 (6)	4.00 (6)	2.98 (4)	0.10 (14)
Germany-West	2.85 (12)	0.83 (10)	3.84 (14)	3.03 (2)	0.14 (6)
Great Britain	2.85 (11)	0.93 (5)	3.76 (18)	2.28 (15)	0.14 (7)
Israel	2.94 (6)	0.53 (22)	3.85 (12)	1.47 (24)	0.10 (15)
Ireland	2.79 (16)	0.77 (11)	3.66 (22)	2.07 (21)	0.11 (13)
Japan	3.02 (3)	0.72 (14)	3.93 (8)	2.81 (5)	0.07 (19)
Latvia	2.21 (27)	0.19 (27)	3.73 (20)	1.34 (27)	0.03 (24)
Mexico	2.91 (8)	0.65 (17)	4.01 (5)	2.11 (20)	0.09 (17)
Netherlands	3.17 (2)	0.63 (19)	3.41 (26)	2.78 (7)	0.20 (3)
New Zealand	2.87 (9)	0.85 (7)	3.82 (15)	2.34 (14)	0.21 (2)
Northern Ireland	2.40 (24)	0.64 (18)	3.75 (19)	1.87 (22)	0.09 (16)
Norway	2.83 (13)	0.96 (4)	3.44 (25)	2.52 (11)	0.11 (12)
Philippines	2.64 (19)	0.28 (25)	4.26 (1)	2.27 (16)	0.05 (23)
Portugal	2.25 (26)	0.74 (13)	4.19 (4)	2.17 (18)	0.02 (26)
Russia	2.49 (21)	0.50 (23)	4.26 (2)	1.43 (25)	0.02 (27)
Slovenia	2.98 (4)	0.70 (15)	3.90 (9)	2.12 (19)	0.07 (18)
Spain	2.65 (18)	0.62 (20)	3.98 (7)	2.37 (13)	0.07 (20)
Sweden	2.82 (15)	1.06 (2)	3.60 (23)	2.62 (10)	0.13 (10)
Switzerland	3.24 (1)	0.97 (3)	3.79 (16)	3.08 (1)	0.24 (1)
USA	2.86 (15)	0.37 (2)	3.72 (23)	2.26 (10)	0.13 (10)
Total (means)	2.76	0.69	3.83	2.36	0.11
Notes: for all variables, higher scores imply more positive attributes of the variable Willingness = willingness to make trade-offs for the environment (higher averages implies greater willingness); average of items 7a-c. Knowledge = respondent's objective knowledge of environmental issues; average of items 9 a-f. Danger = dangers of specific environmental problems (higher scores mean greater sense of danger); average of items 10a-12b. Behavior = respondent's positive actions to improve the environment; average of items 21a-c. Activism = respondent's membership in environmental organizations; question 20. The source questionnaire is available online at: http://www.za.uni-koeln.de/data/en/issp/codebooks/ISSP2000_source_quest.pdf .					