Role of formal and informal nonprofit leadership in rural development

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Abstract

**Background:** Place-based leadership plays a crucial role in local development. However, the role of nonprofit leaders is still an under-researched topic. Thus, we ask whether nonprofit leadership helps to develop rural areas and makes them attractive.

**Data and methodology:** On a sample of 6,262 Czech municipalities, we tested whether membership of municipalities in local action groups (LAGs) and nonprofit leadership attributed to population growth. We have applied the propensity score method combined with the differences-in-differences approach.

**Results:** Our analysis has not proved the effects of LAGs on the attractiveness of municipalities, but for the participation of nonprofit leaders. The estimate for effects of being in a LAG is negative and insignificant (-1.071% change of population when a municipality is a member in a LAG, p-value=0.151), while for share of nonprofit leaders in LAGs, the estimates are positive and significant (+9.239% change relating to an increase of 1% share of NPOs in LAGs).

**Conclusions:** These results underline the importance of bottom-up approaches with voluntary engagement. Moreover, they demonstrate negative aspects of top-down imposed public policies.

**Keywords:** Local action groups; Rural development; Nonprofit leadership; Nonprofit organizations; Place-based leadership; Co-creation
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1. Introduction

The size of the migration from rural areas to cities is striking. At the global level, urban populations are expected to grow significantly owing to urban expansion; i.e., from 54% in 2014 to 66% in 2050 (UN, 2015, p. xxi). In Europe, the share of the urban population to the total population is projected to increase from 73% in 2014 to 82% in 2050 (UN, 2015, p. 50). High levels of migration and population changes impose excessive burdens on environmental and civic infrastructure in both urban and rural areas. These changes exacerbate social tensions (van den Berg, van der Meer, & Pol, 2003), and make places less attractive both for the living and economic activity (Porter, 2008).

The current interest in solving these problems relates to place-based leadership. This concept, relates to an improvement of living conditions by a rebalancing of local and central powers, enabling local leaders to bring their views on local development, and effective work with local stakeholders (Hambleton, 2015). In regional and local development, the concept of place-based leadership started playing a crucial role (Sotarauta & Beer, 2017; Sotarauta, Beer, & Gibney, 2017). However, the issue of leadership concerns mainly politicians and public sector, or business. The role of civil society leaders and nonprofit organizations (NPOs) active in local development is still an under-researched topic.

Not only higher density of population, political and social activities is evident in cities, but also a higher number of NPOs registered (Franek, 2005; Potluka, Spacek, & von Schnurbein, 2017). Moreover, these are more professionalized (Guasti, 2016). If people move to cities, and the nonprofit sector is stronger in cities, are there missing nonprofit leaders in rural areas? What is happening there? These questions remain unanswered. The ambition of our research is to fill this gap in our knowledge of the nonprofit leaders in rural areas and their influence on rural development.

The EU policies underline the importance of leadership in rural development by constituting of local partnerships (Local Action Groups - LAGs) represented by local leaders from all sectors. This approach applies a bottom-up principle for creating multi-sectoral partnerships of various types of organizations. They form LAGs composed of both public and private organizations. Does such a setting help to make rural areas attractive to people?

Institutional settings specific to a place are essential factors for local development (Rodríguez-Pose, 2013). LAGs give us an excellent opportunity to research the role of nonprofit organizations (NPOs) and nonprofit leaders in local development as their role varies among municipalities. Participation of NPOs on rural development in LAGs supported by the EU funding allows us to compare local development in those rural areas, where NPOs take part only formally with those where NPOs and (informal) nonprofit leadership play an important role. We apply our analysis on the case of the Czech Republic, where the LAGs cover more than 94% of all municipalities. Thus, it provides us with sufficient dataset to compare both groups of cases. Moreover, we study this partnership process in a country with low participative culture in public policies (Potluka, Kalman, Musiałkowska, & Idczak, 2019).

The paper is organized as follows. After the introduction, the second section provides an overview of the current discussion on place-based leadership, with a connection to nonprofit leadership. Then, this section presents both concepts together in the role of nonprofit organizations in LAGs with an emphasis on the situation in the Czech Republic. The third section specifies data used in the analysis, process of its collection, and methodologies applied. Fourth part presents descriptive statistics about LAGs in the Czech Republic with the role of NPOs in LAGs. Moreover, the results point out the importance of informal networks over formal participation in partnerships. Estimated effects provide us with the conclusion that participation of voluntary-based NPOs brings innovative approaches and makes rural places better to attract new inhabitants. The final section concludes.
2. Theoretical background

2.1 Place-based leadership

*Place-based leadership*

Research on leadership has become increasingly complex, as the variety of leadership theories is inexhaustible. For the local and regional development, the concept of the ‘place-based leadership’ is the most relevant. It is resulting from interpersonal connections between individuals engaged in activities of their municipality. We use this approach to investigate how nonprofit leadership influences local development in rural areas. Thanks to local bonds and previously established connections, the local leaders can induce significant changes for the better place (Collinge & Gibney, 2010; Sotarauta & Mustikkamäki, 2012). In the case of voluntarily engaged people in NPOs, we assume that these bonds will be stronger than in the case of other leaders and thus their contribution to local development stronger.

Successful place-based leadership requires three main factors to succeed in local development. First, the share of power and participation of stakeholders assist the public support of actions taken in development projects (Stimson, Stough, & Salazar, 2009; van den Berg et al., 2003). Second, the communication of a vision among stakeholders is an essential factor (I. Horlings & Padt, 2013; Stough, 2010; van den Berg et al., 2003). Both of them are crucial, as a vision alone is not a sufficient condition for success (Beer, 2014). The third aspect concerns public policies and networks together with funding (I. Horlings & Padt, 2013; Johnson & Osborne, 2003; Stough, 2010). These strategic networks relate to all stakeholders - nonprofit sector, governmental authorities, and private companies, and individuals (I. Horlings & Padt, 2013; Stough, 2010; van den Berg et al., 2003). Together with flexibility and creativity, they create the necessary conditions for the successful development of places (Sotarauta & Beer, 2017; Stimson et al., 2009; Stough, 2010). We concentrate primarily on knowledge of successful nonprofit leadership as it is voluntary engagement brought to the local partnerships and able to come with social innovations.

*Nonprofit leadership*

European regions are characterized by their strong local civil societies and democratic participation in many cultural, social and political processes (Cassiers & Kesteloot, 2012; Luria, Cnaan, & Boehm, 2015). When conflicts occur, however, the political decisions taken may disadvantage some groups of the public due to asymmetric information. Therefore, NPOs could exercise an important role by including the public in processes from which it would be excluded, and by disseminating information to it. In this role, NPOs could act as mediators between individuals and municipalities, because they represent a broad spectrum of opinions and communicate these to the public sector. They do this through events or political actions. In order to do this, NPOs need experienced leaders.

On the other hand, public participation does not automatically increase democratic legitimacy and social justice. These principles can only thrive where suitable political conditions hold, where leaders are motivated to uphold them, and where institutions are committed to promoting them (Fung, 2015). For example, co-creation of public policies may result in misuse of resources (Williams, Kang, & Johnson, 2015). Strom (2008) discusses extending participation in the renewal of downtown areas by enlisting a wider section of the public – beyond the economic elites – to participate in the urban political economy. Although residents may participate in renewal projects, it is difficult for them to influence the final decisions because of customary rigidities (for example, see the case of Norway in Hanssen (2010)). Local leadership nevertheless has the power to change the existing governance structure, even if its efforts are hampered owing to internal
tensions caused by the different capacities among the stakeholders (Cornforth, Hayes, & Vangen, 2015; Eizaguirre, Pradel, Terrones, Martinez-Celorrio, & Garcia, 2012; Potluka, Špaček, & Remr, 2017).

Activating residents to participate in cultural and political life, and the community is an essential tool for encouraging local development (Paarlberg & Yoshioka, 2016); however, many dwellers are non-residents without a strong political position (Eizaguirre et al., 2012). This means that political interests are split between newcomers and established residents (Collin & Robertson, 2005). Political participation substantially helps migrants to become integrated into society. From this perspective, we ask whether voluntary engagement in nonprofit leadership helps to develop rural areas and makes them attractive enough to grow the population.

2.2 Local Action Groups – an opportunity for nonprofit leaders in rural areas

European rural development program LEADER had been running more than 25 years ago. One of the principles the LEADER approach is based on is local partnership working through LAGs. LAGs are the carriers of the LEADER (from French Liaisons Entre Action de Developpement de l'Economie Rurale) approach. The local partnerships combine broad bottom-up participation of local citizens and decentralized top-down support with funding from regional and national programs. It is a formal requirement for sound governance and at the same time the showcase for the quality and consistency of local strategy. It is the hub for networking between local actors and with external partners (Lukesch & Schuh, 2007).

The LEADER approach was initiated in a situation when changes in spatial policy were unavoidable (Granberg, Andersson, & Kovách, 2015). These changes were caused by food overproduction, increasing subsidies, outmigration from the rural areas, as well as pressures from the changing global context. It was launched with the aim of improving the development potential of rural areas. This development would be achieved by drawing on local initiative and skills, promoting the acquisition of know-how on local integrated development, and disseminating this know-how to other rural areas (European Communities, 2006). The Common Agriculture Policy (CAP), the part of which LEADER initially was, focuses predominantly on general support of agriculture and forestry without a possibility to differentiate its support according to the characteristics of the regions. Information from evaluations and rural stakeholders indicates that the LEADER approach is a tool that works well, in entirely different situations and types of areas, thus adapting rural policy-making to the extreme diversity of rural areas’ needs (European Communities, 2006).

LEADER, initially an experimental approach to development in rural areas, has become a mainstream element. The LEADER approach empowered and activated the local actors who could use the opportunity to participate in the local development resulting in establishing LAGs. Not only LEADER is an approach to rural development supported by European Structural and Investment funds, but also it is a new view on participatory democracy, compared with traditional representative democracy (Geissel, 2009; Peters & Pierre, 2004). For example, Granberg et al. (2015) point out the role of the LAGs as a real change from government to governance because the members recruited from the territory of the LAG. The shift from government to governance reflects the move of decision-making to multi-stakeholder platforms, and decentralization to levels and areas where knowledge and implementation resources are located (Sotarauta & Mustikkamäki, 2012; Thuesen & Derkzen, 2015). LAGs represent a multi-stakeholder platform of different types of local actors making joint decisions on the strategic, tactical, and operational levels of local development. Thus, the wider public can participate in the design and implementation of public services (‘co-creation’ and ‘co-production’) (Pestoff, 2006, 2012). This enhances relevance and sustainability of decisions made by involving local stakeholders (OECD, 2001).

LAGs play an important role in fulfilling the subsidiarity principle. It requires that the decisions be made on the lowest possible and still effective level. The only way the LAGs can become a significant actor in local governance is by being the decision-making body distributing EU funding (EKOTOXA & IREAS Centrum, 2016). It complies with the financial support for place-based leadership and local development (I. Horlings & Padt, 2013; Johnson & Osborne, 2003; Stough, 2010). LAGs are means for implementing decisions of
central authorities. While the decision about general types of interventions within the LEADER is taken on the central level, the selection process and adjustments to local needs are made on the local level under the supervision of central authorities. Local people and communities do not have particular expertise and skills which the central government provides (for co-production of public goods see Andreassen, Breit, & Legard, 2014; Vamstad, 2012), but they are equipped with knowledge of local problems and willingness to help to develop the community. The rise of interventions realized mainly as projects co-financed by the EU Structural and Investment funds, however, increased the knowledge and expertise significantly on local actors and led to an emergence of a new ‘project class’ of local actors (Kovách & Kučerová, 2006). The share of NPOs on theLAGs presents a proxy for local initiative in countries where the LAGs spread around the whole country. Municipalities with low social capital and inactive inhabitants would not have such NPOs in their LAGs. In such a case, they need to find other NPOs to fill the requirement and invite NPOs set up by the public sector.

LAGs in the Czech Republic

Although the first implementation of the LEADER approach in the EU dates back to 1991, the Czech Republic followed this approach later. The Czech actors in local development gained the first experience with LEADER in 1999. The first LAGs started to operate in 2002 followed by a fast-rising number of LAGs in the next years mainly due to support from the national Czech government’s program LEADER CR. First 16 LAGs were supported from this program in the year 2004. In total 63 different LAGs were supported by financial grants from the LEADER CR during its operation between years 2004 and 2008 (DHV CR & Ministerstvo zemědělství ČR, 2009). Nevertheless, the program contributed to spreading the idea of local development by LEADER approach and establishing of LAGs in rural areas.

European support to LEADER approach in the Czech Republic started in 2005 when initiative LEADER+ became part of the operational program Rural Development and Multifunctional Agriculture. Initially, 10 LAGs were selected for pilot support in the LEADER+ initiative financed from EU structural funds in shortened programming period 2004 – 2006 (NS MAS, 2018). LEADER became attractive mainly due to its closeness to people in the regions in the rural areas. LAGs as representatives of LEADER were recruited from local actors knowing local strengths and weaknesses. The nature of LEADER allowed adaptation of the calls and interventions to local needs instead of adapting local needs to national calls. Although the amount of LEADER funding between the 2007 – 2013 and 2014 - 2020 raised in the Czech Republic, the level of freedom in decision-making for LAGs lowered (Fanta, 2017).

Mainstreaming of LEADER approach as a Priority axis IV in Rural Development Program 2007 – 2013 opened much broader support of LAGs in the Czech Republic. Selection of LAGs for financing their Strategic Plans Leader (SPL, the plans for local development) was initially planned in two waves with a target of supporting 80 LAGs. High interest and readiness of LAGs for financing their SPLs led to a decision to support 32 additional LAGs. These 112 LAGs realized local development projects prepared and approved under SPLs.

The recent programming period 2014 – 2020 brought a strengthening of LEADER approach. The LEADER approach started to be applied to other operational programs. In the period 2014 – 2020, LAGs realize the local development using Community Led Local Development (CLLDs) strategies prepared in cooperation with local actors (European Commission, 2014). Four Czech operational programs (Rural Development Program, OP Environment, OP Employment, and Integrated Regional OP) finance the CLLDs’ strategies. In 2018, there are 180 LAGs active in the Czech Republic, receiving financial support for realizing 178 CLLD strategies. Only one CLLD strategy remains unapproved in 2018, and one LAG decided not to prepare such a strategy.

There were 6,209 municipalities having less than 25,000 inhabitants in the Czech Republic in 2013. Of those municipalities eligible to be part of the LAG, only 322 (5.7%) of them were not part of any LAG (see the distribution of the population in Table 1).
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Table 1: Structure of municipalities in the Czech Republic and their coverage by LAGs

<table>
<thead>
<tr>
<th>Population size (inhabitants)</th>
<th>under 500</th>
<th>500 – 2,000</th>
<th>2,001 – 5,000</th>
<th>5,001 – 25,000</th>
<th>More than 25,001</th>
<th>Rural areas</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>3,473</td>
<td>2,098</td>
<td>411</td>
<td>227</td>
<td>44</td>
<td>6,209</td>
<td>6,253</td>
</tr>
<tr>
<td>Covered by LAGs</td>
<td>3,253</td>
<td>2,023</td>
<td>392</td>
<td>219</td>
<td>0</td>
<td>5,887</td>
<td>5,887</td>
</tr>
<tr>
<td>Total population</td>
<td>838,811</td>
<td>1,984,783</td>
<td>1,246,895</td>
<td>2,340,650</td>
<td>4,104,986</td>
<td>6,411,139</td>
<td>10,516,125</td>
</tr>
<tr>
<td>Population in LAGs</td>
<td>789,525</td>
<td>1,913,857</td>
<td>1,190,675</td>
<td>2,243,974</td>
<td>0</td>
<td>6,138,031</td>
<td>6,138,031</td>
</tr>
<tr>
<td>Municipalities in LAGs (%)</td>
<td>93.7%</td>
<td>96.4%</td>
<td>95.4%</td>
<td>96.5%</td>
<td>0%</td>
<td>94.8%</td>
<td>94.2%</td>
</tr>
<tr>
<td>Rural population in LAGs (%)</td>
<td>94.1%</td>
<td>96.4%</td>
<td>95.5%</td>
<td>95.9%</td>
<td>0%</td>
<td>95.7%</td>
<td>58.4%</td>
</tr>
</tbody>
</table>

Source: own calculation based on data from Czech Statistical Office (2018a, 2018b); Population size as in the year 2013. The number of municipalities varies across years (the number of 6,262 of municipalities is the number of Czech municipalities ever existing since 2004).

Despite the condition that more than 50% of members in LAG’s decision-making bodies must be from the private sector, there is still evident a dominant position of the public sector in the Czech LAGs. This is evident from the constitution of LAG boards. Many official representatives of LAGs are at the same time mayors of participating municipalities. Moreover, the majority of financed projects have been realized by municipalities or public institutions (DHV CR, Tima Liberec, & Ministerstvo zemědělství ČR, 2010).

Of all projects, 58.4% have been realized by municipalities under provision III.2.1 Village renewal and development, public amenities and services, which aimed at municipalities as applicants. The share of this provision on the allocation of Priority axis IV has been even higher reaching up to 63.2% of the total allocation (EKOTOXA & IREAS Centrum, 2016). This shows the dominant role of the public sector again.

The structure of LAGs is specific in the Czech Republic. There are 2,482 LAGS realizing their CLLD strategies in all member states of the EU. In average there are 5.66 LAGs per 1,000 square km in the EU (European Commission, 2018). In the Czech Republic, this ratio is significantly higher with 22.7 LAGs per 1,000 square km. The higher number of LAGs shows only Malta, which is a specific case due to its geographical size. There are two reasons for this specific character of LAGs in the Czech Republic. Firstly, there is a very high coverage of the territory by LAGs reaching more than 90% of all rural areas. Secondly, the LAGs are much smaller in the Czech Republic than in most of the other member states.

3. Data and methodology

3.1 Data collection

The data for the analysis comprises of three main parts. The first concerns data of the Czech Statistical Office. This dataset is composed of information on all municipalities between years 2008 and 2018 (Czech Statistical Office, 2018a). It relates to a) demographic information on population size, the average age of the population, unemployment rate, b) public infrastructure provided – kindergartens, schools, ambulances, hotels, pensions, and c) other information about municipalities - total area, arable land area, number and type of legal persons registered. The second source (Czech Statistical Office, 2018b) provides data on LAGs. Third, a survey among LAGs provides us with additional data on the composition of partnerships within LAGs. Time series for different variables do not cover the same time. The whole period of 2012-18 is covered for variables: population size, and the average age in a municipality. Years 2012-16 are available for variables: economically active subjects registered; the total area in a municipality; arable land; the
number of hotels and pensions. Limitation for years 2012-15 is for variables: the number of classes in kindergartens, the number of classes in schools, the number of ambulance facilities. Procedures at the Czech Statistical Office give this limitation. Despite these limits, the dataset provides us with sufficient information for further analysis.

To get the information needed for calculations we used a questionnaire survey among LAGs. The survey was realized in March and April 2018 using the web form. All 179 LAGs preparing CLLD strategies were asked by email to participate in the survey during April 2018. In the first round, we received 36 responses representing response rate around 20%. LAGs not filling in the questionnaire have been asked again to participate in the survey. After the reminder, the number of respondents increased to 99 responses representing the final response rate higher than 55%. Moreover, we have checked the responses for some LAGs randomly, to be sure about the quality of the answers provided. Where possible, we have also added data concerning partnership based on annual reports of LAGs.

From the data, it is evident that many LAGs have met the required proportion (the majority of partners outside of the public sector) of partners by including quasi-NPOs as partners. These are legally NPOs, but have a strong link to the public sector, or have been established by the municipalities (e.g., microregions or associations of municipalities). There are some LAGs represented solely by organizations belonging to the public sector (including NPOs set up by this sector), while there are also some LAGs where the public sector plays a minor role (see the distribution in Figure 1). The mean share of the public sector is 38.5% in 2017. As Andreotti, Mingione, and Polizzi (2012) point out in such cases; there is a problematic issue of defining the mandate of such NPOs. The variability among LAGs is large enough to test whether the share of NPOs independent on the public sector has an impact on rural development measured by the change of population size in municipalities supported by LAGs.

Visual inspection reveals that even within LAGs, it is evident that municipalities are not homogeneous as the change in population differs among municipalities (see Figure 1). Each column in data in Figure 1 represents particular LAG. Moreover, there is not a clear visual relationship between the composition of the partnership in a LAG and change of population – neither for the share of NPOs nor for the share of public partners in LAGs. Among the public sector partners, we count not only municipalities and microregions but also all partners set up by the public sector, even if it has nonprofit legal status. We did it to get the actual share of NPOs in the LAGs.

Figure 1: Change of population according to share of NPOs and public sector in LAGs.

Source: Czech Statistical Office (2018a, 2018b); own calculations; each dot represents a municipality, columns of dots are particular LAGs.
3.2 Methodology applied

The size of the sample enabled us to apply a quasi-experimental approach. To estimate effects of municipalities' participation in a LAG and effect of NPOs activity in LAGs on change of population size, we applied propensity score matching approach (for an explanation of this method, see for example Gertler, Martinez, Premand, Rawlings, & Vereersch, 2011; Khandker, Koolwal, & Samad, 2010). This method compares treated and comparison groups to get an estimation of an impact. In our case, the treated group represents municipalities active in LAGs, while municipalities without any activity in any LAG compose the comparison group.

We have used the following variables to count the propensity score (which means the probability of obtaining support from EU funding for the LAG) for the year 2012 at the municipality level: unemployment rate (2011), arable land (ha), number of registered legal persons, number of classes in childcare centers, number of classes in schools, number of ambulant facilities, number of hotels and motels, number of pensions, number of inhabitants, and average age of inhabitants. We have used logistic regression to get the propensity score. To get pair groups of municipalities, we have used matching tolerance 0.1. This procedure gives us 322 municipalities being active in a LAG and 322 municipalities outside any LAG.

To check whether the two groups of municipalities are statistically different or not, we ran t-tests for each variable in 2012 (for more details, see annex 1). Except for the arable land, differences for all variables are statistically insignificant. Thus, we combine the propensity score matching with the differences-in-differences approach.

4. Results and discussion

4.1 Descriptive statistics – Population development at the municipality level

An indicator of whether the municipality is perceived positively is easily observable on population size increase or decrease. Prosperous municipalities attract more inhabitants than other municipalities, and they are growing in their population size. The recent development shows that overall rural depopulation is not the case of the Czech Republic (Novotná, Preis, Kopp, & Bartoš, 2013), though it is not balanced across the whole Czech Republic. Small municipalities in suburban areas of centers like Prague or Brno witnessed the growing number of inhabitants, while more rural areas at the national and inter-regional periphery provide other picture (Novotná et al., 2013). What we see as important is that both urban and rural municipalities witness parallel trends in changes in populations (see Figure 2) caused by natural development. Large cities witnessed depopulation between years 2010 – 2014 caused mainly by depopulation in cities in economically deprived regions where the unemployment rates are the highest. People threatened by unemployment, especially young people, left these regions because of the economic crisis in 2009, 2012-13, when their chances to get a job had been diminished.

The variance among municipalities in the involvement of NPOs in designing (see figure 1) and implementing of local development strategies underlies the importance of place-based leadership and institutional framework tailored to local needs (Rodríguez-Pose, 2013). Although the rule that less than half of all partners must be from the public sector, the differences show how the LAGs tackle with this requirement. In some cases, the LAGs meet the requirement only formally, but the actual participation of other partners than the public sector is very low.
The OLS tests reveal contradictory results of membership in a LAG and share of NPOs in a LAG (see Table 2), though both statistically insignificant. While the regression coefficient for membership in a LAG predicts a decrease of the population (-0.688 p.p., p-value 0.654), the coefficient on the share of NPOs in a LAG shows increase (+3.019, p-value 0.369). Still, the results of OLS tests do not say anything about causality. Thus, we apply also the propensity score matching, a quasi-experimental approach, to estimate the actual impact of both variables on population change in rural municipalities.
Table 2: OLS models testing the impact of membership in a LAG and share of NPOs in LAGs on population change

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th></th>
<th></th>
<th></th>
<th>Model 2</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>t</td>
<td>Sig.</td>
<td>B</td>
<td>Std. Error</td>
<td>t</td>
</tr>
<tr>
<td>Constant</td>
<td>3.126</td>
<td>1.836</td>
<td>1.702</td>
<td>0.097</td>
<td>1.724</td>
<td>1.932</td>
<td>0.893</td>
</tr>
<tr>
<td>Membership in a LAG</td>
<td>-0.688</td>
<td>1.524</td>
<td>-0.452</td>
<td>0.654</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Share of NPOs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3.019</td>
<td>3.308</td>
<td>0.913</td>
</tr>
<tr>
<td>Change of number of economically active subjects (2012-16)</td>
<td>4.019</td>
<td>7.498</td>
<td>0.536</td>
<td>0.595</td>
<td>8.694</td>
<td>8.229</td>
<td>1.056</td>
</tr>
<tr>
<td>Change of area (2012-16)</td>
<td>-2854.166</td>
<td>1181.939</td>
<td>-2.415</td>
<td>0.021</td>
<td>-2647.436</td>
<td>1253.718</td>
<td>-2.112</td>
</tr>
<tr>
<td>Change of arable land (2012-16)</td>
<td>3.481</td>
<td>16.778</td>
<td>0.207</td>
<td>0.837</td>
<td>5.081</td>
<td>17.427</td>
<td>0.292</td>
</tr>
<tr>
<td>Change of number of classes in childcare providers (2012-15)</td>
<td>7.128</td>
<td>4.387</td>
<td>1.625</td>
<td>0.113</td>
<td>4.586</td>
<td>4.634</td>
<td>0.990</td>
</tr>
<tr>
<td>Change of number of classes in schools (2012-15)</td>
<td>15.659</td>
<td>4.484</td>
<td>3.492</td>
<td>0.001</td>
<td>15.452</td>
<td>4.719</td>
<td>3.275</td>
</tr>
<tr>
<td>Change of number of ambulant facilities (2012-15)</td>
<td>1.039</td>
<td>1.016</td>
<td>1.022</td>
<td>0.313</td>
<td>4.61</td>
<td>1.211</td>
<td>0.381</td>
</tr>
<tr>
<td>Change of number of hotels (2012-15)</td>
<td>0.616</td>
<td>0.782</td>
<td>0.787</td>
<td>0.436</td>
<td>-0.309</td>
<td>1.008</td>
<td>-0.307</td>
</tr>
<tr>
<td>Change of average age of the population (2012-18)</td>
<td>-103.058</td>
<td>27.031</td>
<td>-3.813</td>
<td>0.001</td>
<td>-92.539</td>
<td>37.594</td>
<td>-2.462</td>
</tr>
<tr>
<td>Adj. R-sqr.</td>
<td>0.619</td>
<td></td>
<td></td>
<td></td>
<td>0.576</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Czech Statistical Office (2018a, 2018b); own calculations; Model 1 involves dummy variable of membership in a LAG, while the model 2 tests share of NPOs in a LAG.
4.2 Results of the propensity score matching

To test the impact of the municipality’s involvement in the LAG on change of population size between 2012 and 2018, we apply propensity score matching. Selection of this timing depicts both the pre-intervention (2012) and the period when the LAG’s support is entirely underway (2018). As described in the methodological part of the research, we work with a sample of 644 municipalities. After matching municipalities, we estimate the impact on the variable of our interest – change of population. We have applied OLS on the matched samples to estimate the size of the effect of partnership composition concerning nonprofit leadership.

Test of being in a LAG on the change in the population difference between 2012 and 2018 shows that municipalities being in a LAG witness statistically insignificant decrease in population by 1.070% (p-value=0.151, change of population was measured as a percentage). It is quite a small coefficient, which would represent about 26 people in a municipality with 25,000 inhabitants. For municipalities where the mean of population size is 983 (municipalities with LAGs) and 845 (municipalities without LAGs) inhabitants, the possible change related to the LAG would be very minimal. Together with taking into account the direction of the estimator, so small change within six years let us conclude that we have not proved consistent implementation of the policy to keep rural areas as attractive places for living. When applying difference-in-difference methods combined with the propensity score matching, the estimated effect is that the population size in municipalities in LAGs decreases than in municipalities not being in any LAG (the difference is 10.51 people) (see table 3).

Table 3: Estimates of effects of membership in a LAG and share of NPOs in LAGs on population change (propensity score matching)

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th></th>
<th></th>
<th>Model 2</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std.</td>
<td>Sig.</td>
<td>B</td>
<td>Std.</td>
<td>Sig.</td>
</tr>
<tr>
<td>Constant</td>
<td>7.631</td>
<td>2.154</td>
<td>0.000</td>
<td>6.727</td>
<td>2.424</td>
<td>0.006</td>
</tr>
<tr>
<td>Participation in a LAG</td>
<td>-1.070</td>
<td>0.744</td>
<td>0.151</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Share of NPOs (%)</td>
<td></td>
<td></td>
<td></td>
<td>9.239</td>
<td>3.153</td>
<td>0.004</td>
</tr>
<tr>
<td>Inhabitants 2012 (log)</td>
<td>0.094</td>
<td>0.756</td>
<td>0.901</td>
<td>-0.530</td>
<td>0.803</td>
<td>0.510</td>
</tr>
<tr>
<td>Unemployment rate (2011)</td>
<td>-0.138</td>
<td>0.067</td>
<td>0.038</td>
<td>-0.141</td>
<td>0.071</td>
<td>0.049</td>
</tr>
<tr>
<td>Change of number of economically active subjects (2012-16)</td>
<td>12.646</td>
<td>2.150</td>
<td>0.000</td>
<td>9.776</td>
<td>2.531</td>
<td>0.000</td>
</tr>
<tr>
<td>Change of the land (ha, 2012-16)</td>
<td>-0.855</td>
<td>1.092</td>
<td>0.434</td>
<td>-138.672</td>
<td>406.265</td>
<td>0.733</td>
</tr>
<tr>
<td>Change of arable land (2012-16)</td>
<td>174.261</td>
<td>12.414</td>
<td>0.000</td>
<td>-42.409</td>
<td>34.274</td>
<td>0.217</td>
</tr>
<tr>
<td>Change of average age of the population (2012-18)</td>
<td>-42.654</td>
<td>7.967</td>
<td>0.000</td>
<td>-111.735</td>
<td>11.433</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Source: Czech Statistical Office (2018a, 2018b); own calculations; Model 1 involves dummy variable of membership in a LAG, while the model 2 tests share of NPOs in a LAG, dependent variable: change of population between 2012-18 (%)

More prospective results concern share of NPOs relationship to population change. Not only are the results statistically significant (p-value=0.004), but also the estimates show of 9.239% population increase between years 2012 and 2018 relating to each 1% increase of the share of NPOs on partnership in LAG composition.

Comparing these results, we can say that voluntarily involved nonprofit leaders in LAGs have potential in local development. These results confirm the three main conclusions of previous studies. First, sharing political power among stakeholders helps to increase the relevance of public policies (Stimson et al., 2009; van den Berg et al., 2003). In this case, it is a possibility of nonprofit leaders to take part in decisions
concerning investment policies in LAGs. Second, setting up a communication platform like LAGs helps to share visions and communicate their place-based relevance (Beer, 2014; I. Horlings & Padt, 2013; Stough, 2010; van den Berg et al., 2003). Participation of nonprofit leaders also represents a situation when the local policy-makers hear other stakeholders’ voices. Third, the estimated impact especially grows in combination with public policy support from the EU. It supports the necessity of resources to implement visions developed in local consent among relevant stakeholders. Thus, our results confirm the importance of combined effort of public policies and networks represented by the NPOs (I. Horlings & Padt, 2013; Johnson & Osborne, 2003; Stough, 2010; van den Berg et al., 2003).

Moreover, these results suggest that the role of local initiative plays a more important role than public expenditure programs imposed by both the national or supranational levels without bottom-up initiative. Policies aimed at increasing attractiveness of life in rural areas may fail in their concerns if they do not take into account local specifics (Niedomysl, 2007; Solana-Solana, 2010). Similarly, the results provided by our analysis do not reveal a significant effect of LAGs on the attractiveness of municipalities in the form of a growing population. This result shows potential negative consequences of participatory and co-productive practices if they are imposed from the top down. Voluntarily implemented bottom-up strategies have higher chances for success in place-based policies. As Pestoff (2014) points out, the voluntary sector helps to overcome barriers and enables people to participate in co-creation, but it needs to go hand in hand with capabilities of these stakeholders (Sancino, 2016).

This result also points out how significant is the interaction among stakeholders, social capital, and mutual learning (L. G. Horlings, Roep, & Wellbrock, 2018). Grassroots organizations such as NPOs are capable of bringing a variety of innovative concepts, which is not present if the involvement of NPOs is taken only formally to get EU funding. This creates a mix of formal and informal relationships in partnership. Informal institutions like voluntary cooperation stay beyond the official control of the system by the central government, and local leadership is provided by higher autonomy (Bentley, Pugalis, & Shutt, 2017), especially when stakeholders trust each other. It brings power-sharing, collaboration, and flexibility to LAGs and thus coping with local specific issues (L. G. Horlings et al., 2018) by highlighting local approaches and local initiative (Diamond, 2010).

As Diamond (2010) concludes, NPOs working in networks can provide innovations for local development. Our results show the importance of how the partners cooperate. As far as only a formal form of partnership is concerned (represented by politically dependent NPOs as partners in LAGs set up by the public sector), nonprofit leaders from usual local NPOs could have a feeling of frustration and disempower (O’Hare, 2010; Potluka, Špaček, et al., 2017). In such a situation, the potential and ambitions of partnerships are not yet fulfilled, and the only implementation of top-down policies prevails in such circumstances.

However, the results estimating the positive effects of the presence of NPOs in local partnerships (LAGs), the NPOs differ in their approach. Thus, there can be NPOs opportunistically oriented towards EU funding (Kovách & Kučerová, 2006; Potluka, Spacek, et al., 2017). Such nonprofit leadership disappears when also public financial support ends.

5. Conclusion

Government failures and negative aspects of co-creation in the place-based approach are current research issues. Our study tries to shed light on the effects of formal and informal participation of local leaders, especially those leading NPOs on policy-making and local development strategies. We do that by testing whether voluntary engagement in nonprofit leadership helps to develop rural areas and makes them attractive enough to grow the population. For that reason, we tested the effects of implementation of rural development policy at the local level on population size changes in rural municipalities between years 2012 - 18. Moreover, we tested the effect of the participation of nonprofit leaders on shaping these strategies at the local level on the same variables.
Our analysis has not proved the effect of LAGs on the popularity of municipalities. The estimated effect of implementation of local action groups on a population change is insignificant and negative (decrease by 1.070%; p-value=0.151). On the other side, the estimates for the participation of actual nonprofit leaders show prospective results. The model estimates an increase of population of 9.239% (p-value=0.004) for each 1% increase of the share of NPOs' presence in partnerships. Presence of nonprofit leaders taking part in local inter-sectoral partnerships has the potential for local development, even in a situation when official top-down implemented development programs may fail. When combined with public funding, it would achieve even higher effects.

The results also confirm the importance of place-based leadership approach to local development. Local leaders are aware of local needs, and they are better prepared to react to them. They need a communication platform, which would give them the possibility to exchange ideas and enable communication among stakeholders. It would increase the relevance of the policies and responsibility of stakeholders. The visions, plans, and ideas need policy and financial support. LAGs provide all of these aspects.

On the other side, imposed participation in the design and implementation of public services ('co-creation' and 'co-production') without taking into account local circumstances may fail in achieving development plans. Therefore, we recommend further research in the direction of voluntary engagement and nonprofit leadership in rural development. In particular, it is a question of what positive value can organizational activities of nonprofit leaders bring for local development.

Our analysis did not elaborate with the type of NPOs in which are the rural nonprofit leaders active, but we assume that they are involved in local issues, similar to local nonprofit leaders in cities (Potluka, Kalman, Musialkowska, & Idczak, 2017). We can assume that NPOs active in the development and environmental issues have a higher impact on living conditions and the popularity of a municipality. The second issue is that in municipalities outside LAGs, there it is not possible to measure share of NPOs taking part on local development (as there are no structures similar to LAGs). Such a situation could be solved by measuring the activity of NPOs, but their numbers in rural municipalities. Thus, it is an issue for further research.
### Annex 1: T-tests of variables describing municipalities with and without LAG.

<table>
<thead>
<tr>
<th></th>
<th>Levene's Test for Equality of Variances</th>
<th>t-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Sig.</td>
</tr>
<tr>
<td>Unemployment rate (2011)</td>
<td>1.607</td>
<td>0.205</td>
</tr>
<tr>
<td>Arable land in 2012 (ha)</td>
<td>26.352</td>
<td>0.000</td>
</tr>
<tr>
<td>Number of legal persons registered in 2012</td>
<td>0.030</td>
<td>0.863</td>
</tr>
<tr>
<td>Number of classes in childcare centers in 2012</td>
<td>0.409</td>
<td>0.523</td>
</tr>
<tr>
<td>Number of classes in schools in 2012</td>
<td>1.037</td>
<td>0.309</td>
</tr>
<tr>
<td>Ambulance facilities in 2012</td>
<td>0.000</td>
<td>1.000</td>
</tr>
<tr>
<td>Number of hotels and motels in 2012</td>
<td>1.576</td>
<td>0.210</td>
</tr>
<tr>
<td>Number of pensions in 2012</td>
<td>0.072</td>
<td>0.789</td>
</tr>
<tr>
<td>Population size in 2012</td>
<td>0.090</td>
<td>0.764</td>
</tr>
<tr>
<td>The average age of the population in 2012</td>
<td>4.585</td>
<td>0.033</td>
</tr>
</tbody>
</table>

*Source: Czech Statistical Office (2018a, 2018b); own calculations*
References


