

ECONOMIC INEQUALITY AND SUPPORT FOR ANTI-SYSTEM PARTIES

Filip Červenka¹

Abstract

The study analyses the relationship between regional income inequality and support for anti-system and populist parties in the Czech Republic, attempting to prove its causal character. The principles of the difference in differences approach are used in context of the COVID-19 shock and regions of Liberec and Pardubice were identified as treatment and control observations. Both followed parallel trends up to the start of the pandemic. Nevertheless, due to its focus on tourism and services, Liberec experienced a sudden fall through the income spectrum, as anti-pandemic measurements were launched. In accordance with the relative deprivation theory this lagging behind was followed by relatively higher support for all selected anti-system and populist parties in the range from 0,2 % to 0,6 % measured by votes received to the adult population. It is however argued that further research would be needed to unquestionably prove the causal character of the explored relationship.

Keywords

Inequality, Gini Index, Anti-System Parties, Populism

I. Introduction

Inequality is a phenomenon forming the everyday reality of our world. Its magnitude and structure affect the economy, but also political and social spheres of life. Adequate level may motivate education and hard work. On the other hand, too high inequality, or specific forms of inequality, can be detrimental. It can slow down economic development, undermine social mobility, and cause several social-pathological phenomena. As a result, it may weaken trust in the institutions that defend the political and economic order of a country.

Expert literature provides evidence that the current situation in the EU and other developed economies is closer to the second option. Inequality levels are high, social groups isolate from each other, and differences between them grow. Society is fragmented and divided. On a rise there are political subjects, which question the fundamental anchoring of the country. The cost of inequality is paid by the whole society.

This study focuses on the relationship between regional income inequality and support for anti-system and populist parties in the Czech Republic and aims to prove its causal character. First and second chapter introduce the phenomenon of inequality in general and in Czech specifics. Third chapter lists possible consequences of inequality explored by expert literature and eventually formulates the research question. In chapters four and five there are identified relevant political subjects and there are presented data on inequality. Main calculation is part of the sixth chapter, and it draws from using the difference-in-difference approach in the context of COVID-19 pandemic.

II. Phenomenon of Economic Inequality

Economic inequality is commonly documented as distribution of gross or net incomes measured by the Gini index. On the other hand, there is no consensus on a united and widely accepted definition in the expert literature. Our understanding of inequality is determined by its explored aspects and methods of measurement. In general, inequality is a phenomenon characterizing the way economic resources are distributed between individuals (Adamou and Peters, 2016).

¹ Research Institute for Labour and Social Affairs, Dělnická 213/12, Prague, Czech Republic. E-mail: filip.cervenka@post.cz, filip.cervenka@vupsv.cz.

Apart from the Gini index it is possible to explore the state of inequality for example by Palma ratio, decile ratio, Robin Hood index, the proportion of total income earned and others. All metrics have its pros and cons (De Maio, 2007), (Cobham and Sumner, 2013). At the same time, not only incomes are subject to inequality research, but for example also accumulated wealth, consumption (IMF, 2015), or possession of land (Frankema, 2010).

Since the turn of 1970s and 1980s inequality has been on a rise both on a global level (Alvaredo et al., 2017) and within developed countries (Cornia and Kiiski, 2001), (Tridico, 2017). This process sources from changes in world trade and technologies (Jaumotte et al., 2013), applied economic policies (Tridico, 2017), and specific factors such as decline in union participation (Atkinson, 2015) and other socio-economic factors (OECD, 2011), (Corak, 2013), (Piketty and Zucman, 2014), (Mischel and Schieder, 2016).

The situation in the Czech Republic is in this regard specific. As a part of the Eastern bloc Czech economy was largely kept apart from the global trends and therefore the level of inequality remained low until the Velvet revolution (Atkinson and Micklewright, 1992). Despite a consequential swift rise in the 1990s Czech Gini index of income inequality stayed one of the lowest compared to other EU and OECD countries until present (WIID, 2022).

Nevertheless, inequality in Czechia is characterized by certain specifics. There is higher regional income inequality (OECD, 2016), (Prokop, 2020) and income inequality between men and women - the gender pay gap (Eurostat, 2020). There is also an increased Gini index for wealth inequality, and the concentration of wealth is fourth highest in Europe. The top 1 % of the population has at disposal more than 36 % of total wealth (Komárek, 2021).

III. The Costs of Inequality

Researchers in the field of economics avoid moral judgements and so inequality, similarly as other subjects, is assessed by comparing its benefits and costs. Naturally, differences in wages, salaries and other remuneration may be an incentive to study, work hard, or start a business. On the other hand, specific forms of inequality are also a source of burdens of economic, political and social character.

In terms of social impact, it was proved that higher income inequality leads to worse population health (Wilkinson and Pickett, 2015) and higher criminality (Choe, 2008), (Rufrancos et al., 2013), (Coccia, 2018). In countries with higher values of Gini index there is more frequent occurrence of mental diseases, obesity, natality of underage, and lower mutual trust and social mobility (Wilkinson and Pickett, 2015).

Depending on specific circumstances (such as time-span, and certain source or certain form), income inequality can lead to lower GDP growth. Such a relationship was shown by Halter, Oechslin and Zweimüller (2013), Marrero and Rodríguez (2013), IMF (2015), or Jianu et al. (2021).

In the political sphere, we may observe that inequality can be a factor causing lower confidence in democracy, as a system of political administration (Andersen, 2012), (Prokop, 2020). Similarly, in countries with higher inequality there is a lower level of trust in market economy principles (Guzi, Sirovátka nad Saxonberg, 2019). Lower support for democracy and market economy principles is identically declared by persons with lower qualification, lower income, and generally weaker position on a labour market. In other words: people, who do not feel like they benefit from the existing political-economic system.

Apart from individual self-interests we may explain the above-described relationship with a “relative deprivation theory”. According to this theory people assess their socio-economic position relatively to reference groups in society. If their position compares unfavourably to a reference group, it develops feelings of discontent and frustration. Such feelings may consequently lead to participation in collective action from peaceful demonstrations to political violence (Krieger and

Meierrieks, 2016). The theory may also be used to explain voting behaviour (Urbanska and Guimond, 2018).

Based on presented expert literature a research question arises: “Does inequality lead to higher support for political parties undermining stability of the political-economic system in the Czech Republic?” In the next chapter, such parties are identified firstly theoretically, and then specifically.

IV. Anti-System and Populist Parties

As “anti-system” were historically considered political parties, which forced the collapse of several European democracies in the first half of twentieth century and endangered others in the post-war period. Main protagonist of this approach was Sartori (1976, p. 133) who claimed that: “...a party can be defined as being anti-system whenever it undermines the legitimacy of the regime it opposes.” The term was used to describe primarily fascists and communists.

This interpretation was later widened by Capoccia (2002) by distinguishing two types of anti-system parties: ideological and relational. Ideological anti-systemness consists in the incompatibility of ideological background and political goals with democracy. This concept is close to the Sartori’s original. On the other hand, relational anti-systemness consist in isolation from other parties. Such parties refuse to enter coalitions, (or are refused by other subjects) and use delegitimizing and centrifugal propaganda, which results in polarization of the political system.

The issue of anti-system parties is closely related to populism. Populist parties usually do not attack democracy directly but threaten to weaken or destroy institutions essential to its well-functioning. Populists share no common ideological base, but common tactics, which is defining the country’s “true people” and outsiders (including establishment elites) who are supposed to be in conflict with each other¹ (Kyle and Gultchin, 2018).

According to Mudde (2014) populist parties can be at the same time qualified as anti-system because they question key aspects of liberal democracy such as pluralism and minority rights. Zulianello (2019, p. 38) agrees only partially and states that “many of the anti-system parties on the rise in recent years do display a populist core...” however that “...not all populist parties qualify as anti-system parties.” Such parties belong to a specific category called “halfway house” parties. Halfway house parties visibly participate in the administration while simultaneously questioning one or more of the crucial system features (Zulianello, 2019).

Based on stated literature, we may conclude that both anti-system and populist parties represent a danger to the stability of the political-economic system. Such parties either undermine legitimacy of the whole system or threaten key institutions responsible for its well-functioning. Table 1 draws from the work of Capoccia (2002), Kyle and Gultchin (2018) and Zulianello (2019) to picture a simplified relationship between anti-system and populist parties and attributes relevant positions to major political parties in the Czech Republic.

Table 1 Relations between anti-system and populist parties in Czech context

		Substantial features of anti-systemness	
		YES	NO
Substantial features of (new) populism	YES	Anti-system populists (SPD)	Halfway house parties (ANO)
	NO	“Traditional” ideological anti-system parties (KSČM)	Regular pro-system parties

Source: author's own work based on Capoccia (2002), Kyle and Gultchin (2018) and Zulianello (2019)

¹ In Czech environment the term “populism” is often used for parties with unachievable or financially unavailable political agenda. The described phenomenon is sometimes called “new populism”. Using the term „new populism“ may prevent misunderstandings.

Table 1 pictures general relations between anti-system and populist parties which arises from conclusions of cited authors. In the brackets there are examples of political parties from Czech political environment.

Political movement of ANO fulfils the characteristics of a Halfway house party. It is not anti-system as it is not ideologically isolated, and it has already participated in several administrations. On the other hand, it can be considered populist. It questions crucial system features (as legitimacy of Justice system) and its founder and chairman (in one person) continuously accuse broad political elites from frauds, incompetency and conspiracy against himself, or against people (Kubánek, 2016), (Krčál and Naxera, 2018), (Kohout, 2019).

As an example of an “traditional” anti-system party can be stated Communist party - KSČM. Its ideological background is clearly incompatible with democracy; however it rarely uses simplified dichotomization and rarely fuels conflict of “true people” versus elites (Krčál and Naxera, 2018). Even though some authors can identify signs of populism, support of Communist party mainly sources from a nostalgia towards the last totalitarian regime and clear-cut ideology (Kunštát, 2014).

Typical representative of a party which is at the same time populist and anti-system, would be the SPD - Party of Freedom and Direct Democracy. It puts itself in the position of defender of “common people” against immigrants and Roma minority (cultural conflict) and also against economic “dictate of Brussels” (socio-economic conflict). Its coalition potential on the national level is low and the party is rather isolated (Charvátová et. al., 2021), (Stulík and Krčál, 2019), (Danics, 2019).

SPD has never participated (directly or indirectly) in any Czech government. It is also ideologically distant from other parties, currently the only party in the Chamber of deputies promoting abandonment of Czech membership in the EU. At the same time, SPD together with KSČM are only relevant Czech political parties, which are being regularly mentioned in the *Report of extremism and prejudicial hatred* conducted annually by the Ministry of Interior of the Czech Republic (MoI, 2021).

The three parties mentioned in Table 1 and analysed in further text are surely not the only populist and anti-system parties in Czech Republic, but most visible and relevant. In this regard we could also discuss the anti-systemness and populist character of other, less significant parties as “Volný blok”, “Blok proti islamizaci”, “Republikánská Strana Československa”, “Dělnická strana sociální spravedlnosti” and others. These political subjects however show only marginal support (election results near 1% or lower) and a large part of them do not run in elections regularly.

Due to stated reasons, this study focuses predominantly on SPD, ANO and KSČM with emphasis on SPD, which is the only relevant political party associating both substantial features of anti-systemness and populism. Official election results presented by Czech statistical office are later used to indicate its support. The data on inequality, which are used to explain the support, are described in the next chapter.

V. Data on Income Distribution and Inequality

Data on income distribution are drawn from several sources to collect information on all its components. The data on wages and salaries in the private and public sector comes from the ISPV (Average Earnings Information System) which is elaborated by the Trexima company for MoLSA (MoLSA, 2020). Data on social transfers comes from yearbooks of Czech Statistical Office (CZSO, 2022a), which draws from MoLSA. Eventually, entrepreneurial, and other incomes are gained from the results of SILC presented by the CZSO (2022b).

Final dataset represents per capita incomes by regions and by individual income sources between 2013 and 2020. It was already used in a report published under the Research Institute of Labour and Social Affair (RILSA). Authors Červenka, Beran and Bílková (2022) used it to explore

the income distribution among Czech regions and changes after the start of COVID-19 pandemic. The mentioned report also includes a closer explanation of sources selection and data description.

The mentioned report uses a methodological framework suggested by authors Silveira-Neto and Azzoni (2011). It measures the level of regional income inequality and decomposes the effect of different income sources.

Obtained results provide us with findings essential for the research of the relationship between inequality and support for anti-system parties and even to explore its possible causal character. This is allowed by the exogenous and asymmetrical impact of the shock caused by the pandemic of COVID-19 and related restrictions.

Based on analysis of given data we may conclude that in 2020, when the epidemic of COVID-19 started, inequality experienced sudden change. After several years of stagnation, the Gini index of regional income inequality in contrast to initial intuition fell. This was caused mainly by nivelization of entrepreneurial incomes and incomes from wages and salaries in the public sector. On the other hand, the concentration of incomes from wages and salaries in the private sector increased and its contribution to the fall of the total Gini was negative. At the same time, these incomes accounted for nearly 70 % of total regional income inequality (Červenka, Beran and Bílková, 2022).

Closer analysis of this particular source of income shows that not all regions were affected evenly by the crisis. It is noteworthy that two regions with the highest recorded decline (Liberec and Karlovy Vary regions) at the same time belonged to the three regions with lowest total incomes per capita. The third region (Usti region) was actually one of few experiencing a rise of average per capita incomes from wages. This makes the Usti region a surprising exemption from the observed development in the area of north-west Bohemia.

Collected data and information promises a suitable base for testing and exploring the relationship between income inequality and support for anti-system and populist political parties. The asymmetric changes of income distribution after the start of COVID-19 pandemic offer an opportunity to employ the difference-in-difference approach to test the possible causal character of the relationship. Specific calculations and its results are the subject of the next chapter.

VI. Relationship of Inequality and Support for Anti-System and Populist Parties

In the third chapter, there was a research question stated: *“Does inequality lead to higher support for political parties undermining stability of the political-economic system in the Czech Republic?”*. In the following text it was specified what parties can embrace such characteristics, and how can we proceed with measuring inequality.

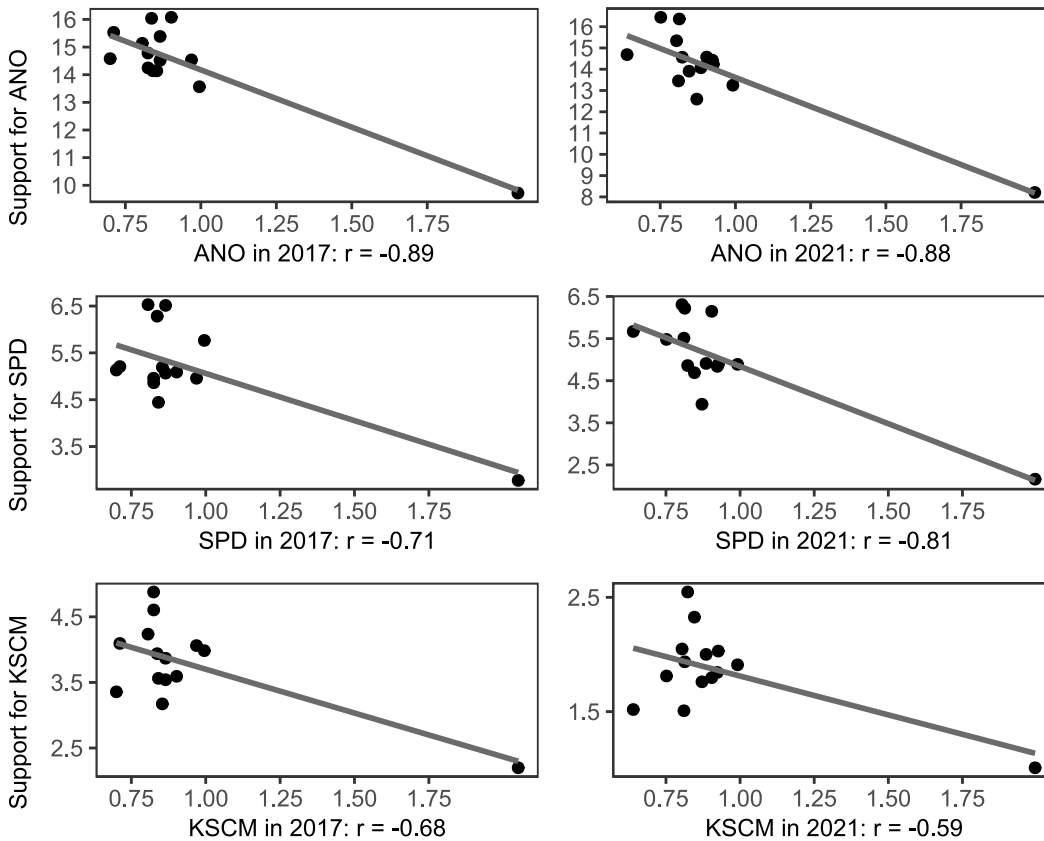
Using expert literature it was shown that such a relationship can be reasonably expected and that it could be explained by the “relative deprivation theory”. On the other hand, no empirical proof has been provided yet. This chapter therefore firstly starts with basic descriptive statistics to empirically support the motivation for the research question, and later it moves to the difference-in-difference approach to explore the causality.

To show how is income inequality related to the support of anti-system and populist parties, it is possible to picture Pearson correlations of election results and relative per capita wage incomes. In Figure 1 there are election results of the last two elections to the Chamber of Deputies of the Czech Republic (held in 2021 and in 2017).

Support for the selected parties is measured as total votes received divided by total inhabitants in each region. Relative incomes are measured as regional per capita incomes from wages and salaries

in the private sector, divided by the average per capita incomes from wages and salaries in the private sector in the Czech Republic.¹

Figure 1 Relative per capita wages and support for anti-system / populist parties



Source: own calculations

In Figure 1 we may notice that the correlations show the same direction for all selected parties and for both elections. In general, regions with relatively higher level of per capita wages show lower support for anti-system and populist parties. On the other hand, regions with relatively lower wage incomes show higher support.

The correlations pictured in Figure 1 are in line with expectations based on expert literature. Similar results (negative correlation of all selected parties in both elections) would hold, if we use values subtracted from Lorenz curve, values subtracted from wage concentration curve, or relative values of total per capita incomes.

These results are promising; however, it is not a proof of the causal character of the explored relationship. It could be argued that there is another variable affecting both relative incomes and election results as education or other alternative variable. One possible way to investigate causality and avoid misinterpretation is a quasi-experimental approach of difference in differences method.

Difference in differences (DD) seems to be appropriate in context of the COVID-19 pandemic and rapid changes in inequality described in chapter 3. During the pandemic different groups of people were affected unevenly (Bittner, 2020), (Vyhlídal, 2021) and similarly, the regions were affected unevenly (Červenka, Beran, Bílková, 2022).

¹ To simplify, „incomes from wages“, „wage incomes“ or “per capita wages” are in following text used to describe the incomes from wages and salaries in private sector (if not explicitly stated otherwise).

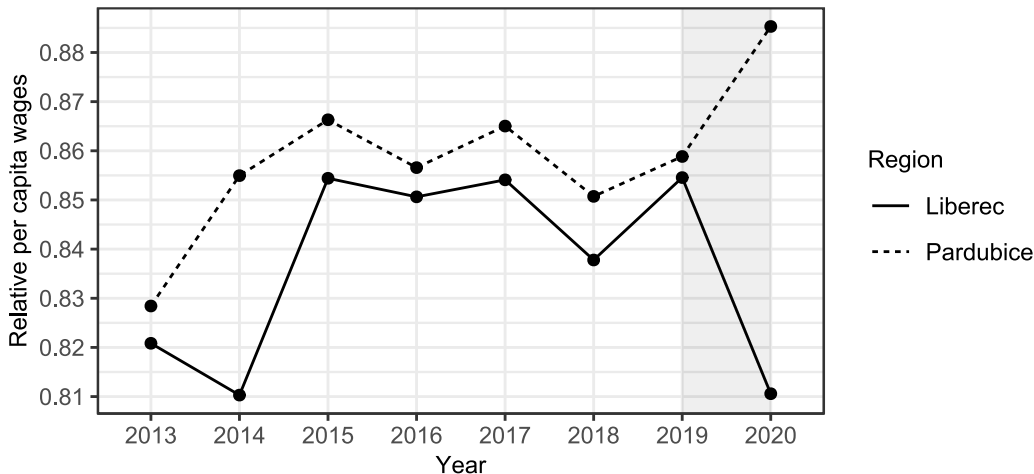
Difference-in-differences analysis requires detecting regions with parallel trends in inequality and other characteristics, suddenly violated by treatment (change of inequality due to the pandemic / anti-pandemic measures). Based on conclusions of chapter 3 we could expect the NUTS 2 Northwest, (consisting of Usti and Karlovy Vary regions) to be ideal candidates for this approach.

Nevertheless, closer analysis shows that diverging trends between the two regions of the Northwest did not start with pandemic, but it started earlier, approximately in 2017. The level of relative per capita wages in Usti and Karlovy Vary regions were similar and even converging between 2014 and 2017, while in the period of 2018-2020 differences were rapidly increasing. Such observation could be quite convenient for the DD analysis, but only if we detected a source of the trend reversal. Nevertheless, we may conclude that observed changes are not a sudden result of a pandemic crisis.

As the geographic area of Northwest suggested by reviewed data and literature does not conform to the characteristics required by the DD analysis, all other NUTS 2 units consisting of two or more regions were investigated.

In some NUTS 2 units, regions were following different trends before the pandemic (Central Moravia, Southwest) and other showed the same response to the crisis (Southeast). The most suitable case was observed in the Northeast, specifically between Liberec a Pardubice regions.

Figure 2 Relative per capita wages in Northeast



Source: own calculations

In Figure 2 we may note similar trends in the area of Northeast. Both regions oscillate around 85% of national average per capita wages up to 2020, when the difference between them rapidly increases. As the pandemic started, relative per capita wages in Pardubice region increased to 89% of national average, meanwhile it fell to 81% in Liberec region.

Described regions are geographically close. Both are part of the NUTS 2 unit, both are similarly distant from the capital and both share a border with Poland. Moreover, there are similarities in the structure of the population.

The age structure in both regions is close to the national average. For example, in 2021 the average age was 42,7 years for Liberec and 42,8 for Pardubice region, while the national average was 42,8 (CZSO, 2022c). At the same time, both regions share almost identical aging indexes. In the national comparison of aging indexes Pardubice was 9th and Liberec 10th among all Czech regions (CZSO 2022c).

There are also similarities in terms of educational structure. Both regions differ from the national structure, however, differ similarly. It is illustrated in Table 2.

Table 2 Educational structure in the Northeast

Level of education	Share in Czechia (%)	Share in the Liberec region (%)	Share in the Pardubice region (%)
no education	0,64	0,77	0,62
primary and less than primary	12,54	13,71	12,59
lower secondary and secondary	30,99	34,13	34,99
upper secondary	30,90	29,91	31,13
post-secondary (non-tertiary)	1,57	1,37	1,73
tertiary	17,58	13,21	13,81
unknown	5,79	6,90	5,14

Source: CZSO (2022c)

In both analysed northeast regions, there is a higher portion of persons with secondary and lower secondary education and at the same time lower portion of persons with tertiary education (than on a national level). Between the selected regions there are however only minor differences.

While the selected regions are similar in its geographical and demographical characteristics, they differ in structure of their economies. Major feature of the difference is higher focus of the Liberec region on tourism and related services. Pardubice region on the other hand is relatively more oriented on agriculture and industry. These differences are captured in Table 3.

Table 3 Selected characteristics of local economies of the Northeast

Sector	Characteristics of local economy in 2019	Pardubice region	Liberec region
Tourism	Quantity of Rooms	6 847	14 320
Tourism	Overnight stays	1 334 239	3 169 859
Tourism	Employment in tourism (%)	3,3	4,0
Industry	Average enterprises with 100+ employees	135	115
Industry	Sales per employee (CZK thousand)	5 614	3 635
Agriculture	Utilized agricultural area (hectares)	232 077	101 622
Agriculture	Total agricultural output (CZK million)	11 783	2 548
	Total population	522 662	443 690
	Total area (km ²)	4 519	3 163

Source: CZSO: Statistical yearbooks - Pardubice and Liberec regions, Interregional comparison (2020)

Data stated in Table 3 support our conclusion that the local economy of Liberec region relatively specializes on tourism, meanwhile the economy of Pardubice region relies more on industry and agriculture. For example, number of overnight stays was in 2019 (a year before start of pandemic) almost 2,4 times higher in Liberec. On the other hand, industrial sales per employee are approximately 1,5 times and total agricultural output 4,6 times higher in Pardubice region. At the same time, Pardubice had “only” 1,2 times higher population and 1,4 times larger area.

At this point it should be highlighted, that different sector of economy absorbed the COVID-19 crisis and related anti-pandemic restrictions differently.

Industry or agriculture might have been subject to regular mass testing, social-distancing regulations, or obligation to wear a respirator. Nevertheless, both sectors basically kept running. On the contrary, tourism and activity of some related services, were practically interrupted, as governments across the globe limited or temporarily banned traveling abroad. For a certain period, Czech government even forbid traveling across individual districts¹ (Government of the Czech Republic, 2021).

These economic differences between the selected regions explains the fact, that they followed different income distribution dynamics after the start of the COVID-19 pandemic. Based on these findings we consider the Liberec region to be a “treatment” observation, meanwhile Pardubice is “control” observation. This differentiation is essential for chosen methodological approach.

¹ This particular measurement was accepted in March 2021.

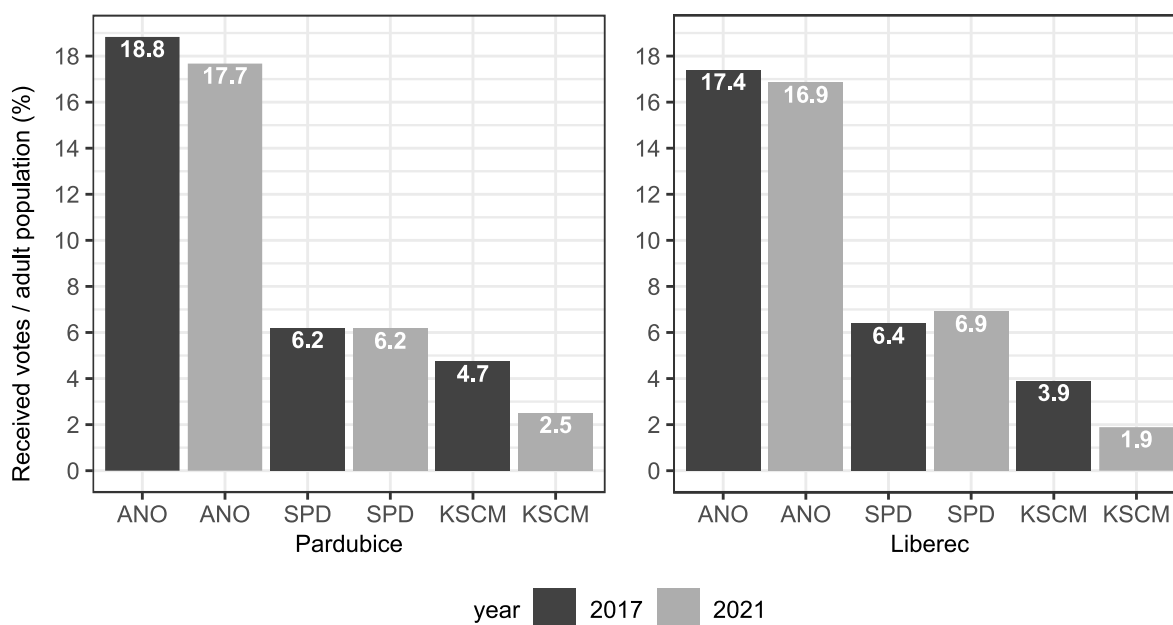
When using the economic impact of pandemic on incomes and income distribution as explaining variable, we must make sure, that consequently observed changes of support for anti-system parties are not result of the health impact of the pandemic instead.

As of the 8th of October (the first day of the elections to the Chamber of Deputies) the number of victims of the pandemic was 1 453 in Pardubice region and 1 287 in Liberec region. Rates of victims divided by inhabitants were nearly identical. It was the 6th lowest rate for Pardubice (0,28 %) and 8th lowest for Liberec (0,29 %), both close to the national average (0,29 %). For example, in Prague it was only 0,21 %, meanwhile in the region of Karlovy Vary it was 0,51 %.

At this point it was proved that both regions are geographically and demographically similar, and at the same time similar in terms of the health consequences of the pandemic. The regions were (until the start of COVID-19 pandemic) also similar in terms of relative per capita wages and its trends.

The key question is what the dynamic of the election results and support of anti-system and populist parties was.

Figure 3 Election results in the regions of Northeast



Source: CZSO (2021)

Figure 3 shows support for identified anti-system and populist parties in the Czech Republic. Elections to the Chamber of Deputies of 2017 and 2021 are included (both regular terms). In general, received votes for these parties declined in the reviewed period.

On a national level ANO received 1,50 million votes in 2017 and 1,46 million four years later. SPD recorded 538 thousand votes in 2017 and only 514 thousand in 2021. The most significant decline was experienced by KSCM, which received 393 thousand votes in 2017 but in the following elections it was “just” 194 thousand.

Similar trends as on a national level are visible in the Pardubice and Liberec regions. On the other hand, there are some differences between them. The decline of support for ANO and KSCM was more dynamic in the Pardubice region. In the Liberec region, the decline of support for ANO and KSCM was less dynamic and for SPD, the support even increased.

With the start of COVID-19 crisis we detect an increase of inequality of wage incomes, which accounted for more than 69 % of total regional income inequality in 2020 (as mentioned in chapter five). The Liberec region played in this context an important role. It experienced the highest

decline of total per capita wages (- 546 CZK monthly) and highest relative decline among Czech regions (from 7th place in 2019 to 11th place in 2020).

Based on available information it seems that the Liberec region may suit the “relative deprivation theory”. By comparing the outcomes of the Liberec region with similar Pardubice region (which experienced opposite response to COVID-19 crisis), we may legitimately presume the possibility of causal relationship.

The relationship of inequality and support of anti-system and populist parties can be explored by the difference-in-difference method as illustrated in tables 4 and 5.

Table 4 Differences in inequality

Liberec (Treatment)	Relative wages (%)	Value on conc. curve (points)	Relative (total) incomes (%)	Value on Lorenz curve (points)
2016	85,06	50,07	87,89	51,54
2020	81,06	16,96	86,09	18,55
Differences	-4,00	-33,11	-1,80	-32,99

Pardubice (Control)	Relative wages (%)	Value on conc. curve (points)	Relative (total) incomes (%)	Value on Lorenz curve (points)
2016	85,66	24,13	86,31	25,20
2020	88,53	23,77	86,83	25,10
Differences	2,87	-0,36	0,52	-0,10

Differences in differences	-6,88	-32,76	-2,32	-32,89
-----------------------------------	--------------	---------------	--------------	---------------

Source: own calculations

Between 2016 and 2020 (relevant years before the analysed elections) the Liberec region declined in all measured aspects of incomes and inequality against the Pardubice region. Level of relative per capita income fell by 2,32 % and relative per capita wages fell by 6,88 %. The value of the Liberec region on the Lorenz curve against value of the Pardubice region decreased by almost 33 points. Similarly, the value on the wage concentration curve fell by nearly 33 points. Without any doubt, the Liberec region started to lag behind and directed towards the lower parts of the regional income distribution spectrum. Following changes of support for anti-system parties are illustrated in next Table.

Table 5 Differences in anti-system / populist parties support

Liberec (Treatment)	ANO (%)	SPD (%)	KSCM (%)
2017	17,40	6,39	3,91
2021	16,85	6,90	1,89
Differences	-0,55	0,51	-2,02

Pardubice (Control)	ANO (%)	SPD (%)	KSCM (%)
2017	18,83	6,20	4,73
2021	17,67	6,17	2,51
Differences	-1,16	-0,03	-2,22

Differences in differences	0,61	0,55	0,20
-----------------------------------	-------------	-------------	-------------

Source: own calculations

The Liberec region experienced a relative increase of support for all selected parties. Relatively to the Pardubice region, the support for ANO (major representative of populist parties) increased by 0,61 % of received votes to the adult population. Support for the SDP (a major representative of anti-system populist) increased by 0,55 % and support for communists (representative of ideologically anti-system parties) by 0,20 %. Similar results remain also if votes are divided by total population, or by total legal votes.

Presented results suggest that there could be a causal relationship between the inequality and support for anti-system and populist parties. To clearly prove the existence of such a relationship an econometric analysis would be necessary. This analysis is however dependent on disposal of a wider dataset. Main obstacle in gaining such data is the inconsistency of Czech political sphere, and the reviewed level of territorial units.

Political parties in Czech Republic frequently arise and perish. There are not many political parties, which run in elections regularly and even if there is such a party, it is possible that it changes its focus and political agenda between two election terms (as ANO between election in 2013 and 2017). It is therefore difficult to identify anti-system and populist parties, which could be observed in a longer period. This obstacle could be overcome for example by expert interviews with politologists, analysing anti-systemness and populism, individually for all parties participating in the election since a selected time point.

Another limitation is the fact that there are only two observations in the form of the two selected regions. To gain a wider treatment group and wider control group of several territorial units, it might be useful to move from level of regions to level of districts. Such data exist, however, are not publicly available. The described limitations were not resolved in this study but remain an incentive for future research.

VII. Conclusion

This study aimed at the question: “*Does inequality lead to higher support for political parties undermining stability of the political-economic system in the Czech Republic?*”. In answering, it used principles of the difference-in-difference approach in the context of COVID-19 pandemic.

In the first part there was described the phenomenon of inequality generally and theoretically. Czech specifics were highlighted, such as relatively high gender pay gap, or wealth and regional inequality. Following text identified potential consequences of inequality justifying the formulation of the research question.

Next parts of the study identified relevant political subjects and presented data on inequality. Based on expert literature, three political parties were included: ANO (major representative of populism), Communist party (major representative of ideological anti-systemness) and SPD (major representative anti-system populism). Dataset on inequality was compiled from several sources as ISPV (Average Earnings Information System), MoLSA and CZSO and it was already used in a report of RILSA before.

Eventually, two similar regions were included into the DD analysis: Liberec and Pardubice. Both followed similar trends before the crisis, which stopped with anti-pandemic measurements affecting mostly services and tourism (concentrated in the Liberec region). Consequent fall of the Liberec region in the income spectrum was documented by per capita incomes, per capita wages and by subtracting relevant values from Lorenz curve and wage concentration curve.

This change was followed by relatively higher support for all selected parties in Liberec region against Pardubice region. Support for Communist party increased by 0,20 %, for SPD by 0,55 % and for ANO by 0,61% (measured as votes received relatively to adult population).

It would be rushed to conclude that presented analysis proved the existence of causal relationship. Results of this study are in accordance with introduced literature and suggest that such a relationship could be real.

Lack of a wider dataset prevented econometric analysis. More convenient data could be gained from particularized analysis of Czech political parties and by employing data from districts instead of regional data. This offers an opportunity for future research.

References

- Adamou, A., & Peters, O. (2016). Dynamics of inequality. *Significance*, 13(3), 32-35.
- Alvaredo, F. (2018). World inequality report 2018. In *World Inequality Report 2018*. Harvard University Press.
- Andersen, R. (2012). Support for democracy in cross-national perspective: The detrimental effect of economic inequality. *Research in Social Stratification and Mobility*, 30(4), 389-402.
- Atkinson, A. B. (2016). Inequality: What can be done. *Practice*, 40(2), 289-292.
- Atkinson, A. B., Micklewright, J., & Micklewright, M. (1992). *Economic transformation in Eastern Europe and the distribution of income*. Cambridge University Press.
- Bittner, J. (2020). *Ekonomické nerovnosti a koronavirus*. Rosa Luxemburg Stiftung e. v., zastoupení v České republice.
- Capoccia, G. (2002). Anti-system parties: A conceptual reassessment. *Journal of Theoretical Politics*, 14(1), 9-35.
- Červenka, F., Beran, V. & Bílková, D. (2022). *Epidemie covidu-19 a nerovná distribuce příjmů v krajích České republiky*. Výzkumný ústav práce a sociálních věcí (RISLA).
- Charvátová, D., Charvát, J., & Niklesová, E. Populismus jako komunikační strategie: případová studie SPD a Tomia Okamury. *Politické diskurzy v Polsku a Česku po roce 1989*. Wydawnictwa Uniwersytetu Warszawskiego.
- Choe, J. (2008). Income inequality and crime in the United States. *Economics Letters*, 101(1), 31-33.
- Cobham, A., & Sumner, A. (2013). Is it all about the tails? The Palma measure of income inequality. *Center for Global Development working paper*, (343).
- Coccia, M. (2018). Violent crime driven by income Inequality between countries. *Turkish Economic Review*, 5(1), 33-55.
- Corak, M. (2013). Income inequality, equality of opportunity, and intergenerational mobility. *Journal of Economic Perspectives*, 27(3), 79-102.
- Cornia, G. A., & Kiiski, S. (2001). Trends in income distribution in the post-World War II period: Evidence and interpretation. *WIDER Discussion Paper No. 2001/89*.
- CZSO. (2021). Czech Statistical Office. *Výsledky voleb a referend*. Dostupné z <https://www.volby.cz/> (28. 4. 2022).
- CZSO. (2022a). Czech Statistical Office. *Ročenky - Statistická ročenka kraje*. Dostupné z https://www.czso.cz/csu/czso/rocenky_souhrn (28. 4. 2022).
- CZSO. (2022b). Czech Statistical Office. *Příjmy a životní podmínky domácností*. Výběrové šetření příjmů a životních podmínek domácností (SILC). Dostupné z https://www.czso.cz/csu/czso/zivotni_uroven_spotreba_domacnosti_prace (11. 5. 2022).
- CZSO. (2022c). Czech Statistical Office. *Porovnání krajů - aktualizace 20. 5. 2022*. Dostupné z <https://www.czso.cz/csu/czso/porovnani-kraju> (17. 6. 2022).
- Dabla-Norris, M. E., Kochhar, M. K., Suphaphiphat, M. N., Ricka, M. F., & Tsounta, M. E. (2015). *Causes and consequences of income inequality: A global perspective*. International Monetary Fund.
- Danics, Š. (2019). Pravicové populistické strany a radikalizace společnosti. *Bezpečnostné fórum 2019*, 37.
- De Maio, F. G. (2007). Income inequality measures. *Journal of Epidemiology & Community Health*, 61(10), 849-852.

- EUROSTAT. (March 2022). *Gender pay gap statistics*. Statistics explained. Dostupné z https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Gender_pay_gap_statistics (2. 6. 2022).
- Frankema, E. (2010). The colonial roots of land inequality: geography, factor endowments, or institutions? *The Economic History Review*, 63(2), 418-451.
- Government of the Czech Republic. (2021). *Vládní usnesení související s bojem proti epidemii - rok 2021*. Dostupné z <https://www.vlada.cz/cz/epidemie-koronaviru/dulezite-informace/vladni-usneseni-souvisejici-s-bojem-proti-epidemii---rok-2021-193536/> (17. 7. 2022).
- Halter, D., Oechslin, M., & Zweimüller, J. (2014). Inequality and growth: the neglected time dimension. *Journal of economic growth*, 19(1), 81-104.
- Jaumotte, F., Lall, S., & Papageorgiou, C. (2013). Rising income inequality: technology, or trade and financial globalization? *IMF economic review*, 61(2), 271-309.
- Jianu, I., Dinu, M., Huru, D., & Bodislav, A. (2021). Examining the Relationship between Income Inequality and Growth from the Perspective of EU Member States' Stage of Development. *Sustainability*, 13(9), 5204.
- Kohout, S. (2019). *ANO 2011 a SPD pohledem teorií populismu*. Univerzita Karlova, Fakulta sociálních věd.
- Komárek, J. (2021). *Majetková nerovnost v ČR je výrazně vyšší než příjmová, daně z majetku však patří k nejnižším*. PAQ Research. <https://www.paqresearch.cz/post/majetkova-nerovnost> (26. 7. 2022).
- Krieger, T., & Meierrieks, D. (2016). Does income inequality lead to terrorism?. *Available at SSRN 2766910*.
- Kubánek, M. (2016). Role populismu ve volebním marketingu hnutí ANO před parlamentními volbami v roce 2013. *Středoevropské politické studie*, 18(4), 319-353.
- Kunštát, D. (2014). Strana, která neumírá: K příčinám stability volební podpory KSČM. *Naše společnost*, 12(2), 15-23.
- Kyle, J., & Gultchin, L. (2018). Populism in Power around the World. *Available at SSRN 3283962*.
- Marrero, G. A., & Rodríguez, J. G. (2013). Inequality of opportunity and growth. *Journal of development Economics*, 104, 107-122.
- Mishel, L., & Schieder, J. (2016). *CEOs make 276 times more than typical workers*. Economic Policy Institute.
- MoI. (2022). Ministry of Interior. *Výroční zpráva o extremismu a koncepcie boje proti extremismu*. Dostupné z mvr.cz/clanek/extremismus-vyrocní-zpravy-o-extremismu-a-strategie-boje-proti-extremismu.aspx (13. 6. 2022).
- MoLSA. (April 2020). Ministry of Labour and Social Affairs. *Regionální statistika ceny práce*. Dostupné z <https://www.mpsv.cz/web/cz/archiv-publikaci-rscp> (13. 6. 2022).
- Mudde, C. (2014). Fighting the system? Populist radical right parties and party system change. *Party Politics*, 20(2), 217-226.
- Naxera, P. K. V. (2018). Populistická konstrukce národa ohroženého migrací: CAQDAS volebního diskurzu českých parlamentních voleb v roce 2017. *Sociológia*, 50(5), 491-523.
- OECD. (2011). *Divided we stand: Why inequality keeps rising*. Paris: OECD publishing.
- OECD. (2016). *Regions at a Glance*. OECD iLibrary. Dostupné z <https://doi.org/10.1787/19990057> (14. 6. 2022).

- Piketty, T., & Zucman, G. (2014). Capital is back: Wealth-income ratios in rich countries 1700–2010. *The Quarterly journal of economics*, 129(3), 1255-1310.
- Prokop, D. (2020). *Slepé skvrny - o chudobě, vzdělávání, populismu a dalších výzvách české společnosti*. Vydavatelství Host.
- Rufrancos, H., Power, M., Pickett, K. E., & Wilkinson, R. (2013). Income inequality and crime: A review and explanation of the time - series evidence. *Sociology and Criminology - Open Access*.
- Sartori G. (1976). *Parties and Party Systems*. Cambridge University Press.
- Silveira - Neto, R. M., & Azzoni, C. R. (2012). Social policy as regional policy: Market and nonmarket factors determining regional inequality. *Journal of Regional Science*, 52(3), 433-450.
- Sirovátka, T., Guzi, M., & Saxonberg, S. (2019). Support for Market Economy Principles in European Post-Communist Countries during 1999–2008. *Sociologický Casopis*, 55(3), 319-345.
- Stulík, O., & Krčál, P. (2019). Surfování na migrační vlně v době populismu: Sekuritizace migrace ze strany poslanců Parlamentu České republiky. *Acta Politologica*, 11(2), 1-17.
- Tridico, P. (2018). The determinants of income inequality in OECD countries. *Cambridge Journal of Economics*, 42(4), 1009-1042.
- UNU-WIDER. (31st May 2021). *World Income Inequality Database (WIID)*. Dostupné z <https://doi.org/10.35188/UNU-WIDER/WIID-310521> (3. 5. 2022).
- Urbanska, K., & Guimond, S. (2018). Swaying to the extreme: Group relative deprivation predicts voting for an extreme right party in the French presidential election. *International Review of Social Psychology*, 31(1).
- Vyhlídal, J. (2021). Strategie zaměstnavatelů v období pandemie covidu-19. *Fórum sociální politiky*, (6), 8-15.
- Wilkinson, R. & Pickett, K. (2013). *Rovnováha - Proč je rovnost výhodná pro každého*. Nakladatelství Grimmus.
- Zulianello, M. (2019). *Anti-system parties: From parliamentary breakthrough to government*. Routledge.