

# Phantom Limb Syndrome: the political presence of a Jewish past in Polish districts.

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## **Abstract**

This paper aims to answer the question, “Does a historical Jewish presence affect contemporary levels of support for the populist right in Polish districts?”. I hypothesise that Polish districts with larger pre-war Jewish communities will show higher levels of contemporary support for the populist Law and Justice (PiS) party. This relationship is also expected to be strongest in rural districts, owing to stronger intergenerational transmission effects. I collect historical demographic data from the 1921 Polish national census and use geographic information system software to spatially join these data to a map of contemporary Poland, conducting OLS regression analysis with the resulting data and contemporary voting data from the 2015 and 2019 Polish parliamentary elections. In line with expectations, I find that a larger 1921 Jewish population size is associated with larger 2015 and 2019 vote share for PiS, and that this is strongest in rural districts. I argue that the relationship stems from higher levels of existing out-group intolerance in Polish districts which were home to the largest pre-war Jewish communities, brought on by cognitive dissonance driven value-adjustments in response to inter-ethnic competition (Festinger, 1957).

## 1 Introduction

On Saturday 11th May 2019, demonstrators gathered in Warsaw in support of Stop 447, the campaign against the US “Just Act” (S 447), which would see the US State Department support claims of restitution for “wrongfully seized or transferred Holocaust-era assets”. The fear driving the protests was that the law would allow foreign descendants of Jewish families killed or expelled during the war to reclaim Polish property. While supporters of the law claimed that it supported a necessary process of undoing the wrongs of the past, Stop 447 protesters carried signs stating “This is Poland, not Polin” referring to the Hebrew name for Poland.

Polin is also the name of Warsaw’s Museum of the History of Polish Jews, which has garnered international attention by telling the thousand year history of a Jewish community in Poland, for what it says is the first time. Around the same time as the Stop 447 protests, the Minister of Culture for the newly reelected Law and Justice (PiS) party blocked the reappointment of the museum’s director whom he accused of politicising the past. Donors began to suspend funding and the future of the museum has been cast into uncertainty.

The Stop 447 protests and the battle over Polin Museum are two instances of the ongoing political salience of the pre-war Jewish community in Poland, the memory of which continues to have a presence in Poland long after the community itself.

For centuries, Poland was home to the largest Jewish community in the world. At its peak, the Jewish community made up 10% of the Polish population. Between 1939 and 1945 Polish Jews decreased by 90%, the majority having been killed under the Nazi regime. Today the number of Jews in Poland is estimated to be 1,300 (Della Pergola, 2010, p.50). According to a 2012 study, Poland shows the highest levels of anti-Semitism and some of the highest levels of out-group intolerance in Europe (Buchowski and Chlewińska, 2012). Furthermore, despite formerly being home to one of the largest minorities in Europe, Poland is today one of the most homogenous country in Europe (Łaciak and Segeš Frelak, 2018).

While the large community itself is today no longer a demographic feature of Poland, questions and claims about this historical community and about the violent way in which it disappeared continue to play an important role in Polish politics. I argue that this memory is also a driver of the political and electoral outcomes of post-communist Poland. The legacy of the Jewish community of Poland is like a political phantom limb; Poland continues to feel and respond to a community that no longer exists. It is therefore important to understand Poland’s diverse past in order to understand how Poland responds to diversity today.

In this paper, I aim to investigate how the legacy of this once-large minority impacts electoral outcomes in Poland today. While causal research has over the past decades developed quantitative analysis tools which have had increasing potency in identifying clear and isolated causal relationships, a growing body of literature on historical persistence has focused on identifying longer-term and often latent causal relationships which can span over many years and whose initial cause may no longer be present (Simpser, Slater and

Wittenberg, 2018).

While some have argued that effective identification of the causal processes that create historical legacies is either impractical or fundamentally flawed (Kelly, 2019), legacy studies have given way to important insights into how historical events or political outcomes endure over time (Nunn and Wantchekon, 2011; Dell, 2010). Additionally, understanding how communities in the past have responded to the challenges of diversity and the enduring after-effects of inter-ethnic violence has particular salience in an increasingly diverse and mobile world. A better understanding of historical minorities, their relationship with majorities and the shaping role of popular memory allows us to learn from the past and also to identify the often latent factors shaping contemporary treatment and experience of minority communities. Additionally, this is important in the context of Europe where rising support for anti-migration and out-group intolerant attitudes has been identified as a driver for the political success of right-wing and populist parties (van Prooijen et al, 2015; Zmigrod, 2020; Wodak 2015).

Furthermore, while much research has been conducted into the Jewish community in Poland and the aftermath of the violence of the Holocaust, there remain gaps in the literature concerning how this legacy affects Polish political outcomes. Particularly since the topic of antisemitism and historical inter-ethnic conflict in Poland continues to be sensitive, whether and how this past affects contemporary Polish politics is vital to understanding Poland’s role in the world going forward<sup>1</sup>.

Studying the past in Poland has brought important insights into Poland’s perception of the EU (Charnysh, 2015), the effects of partitions on Polish political sentiments (Grosfeld and Zhuravskaya, 2015) and on the enduring impact of early 20th century inter-ethnic violence on contemporary levels of out-group intolerance and antisemitism (Charnysh and Finkel, 2017). This research has shown that Poland’s past is ever present on its contemporary political stage. Meanwhile, research has also increasingly focused on the determinants of right-wing populist support in Poland and the driving factors behind the rise of authoritarian and illiberal democracy (Minkenberg, 2013; Bernauer, 2017; Krzyżanowska and Krzyżanowski, 2018). No research has, however, looked to the early 20th century, and more specifically to the legacy of the large Jewish community that lived in Poland at that time, to understand the driving motivations behind support for the populist right in Poland in recent elections. Therefore, in this paper I aim to fill this gap in the literature, answering the following research question: “Does a historical Jewish presence affect contemporary levels of support for the populist right in Polish districts?”.

I will first describe the findings established by the literature and where there is a gap which I hope to fill. In section 3, I will then outline the theoretical expectations presented in the literature, from which I develop my mechanism and two hypotheses. In section 4, I detail the methodology of the paper, outlining my research design, operationalisation of

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<sup>1</sup>See Smith (2016) for discussion on the protests and response to Jan T. Gross’s book on Polish anti-Jewish pogroms, *Neighbors: The destruction of the Jewish community in Jedwabne* (2012)

concepts and sampling strategy. I then detail the analysis strategy in section 5, outlining hypothesis testing, potential complications and robustness tests. Section 6 defines variables and presents results for hypothesis and robustness testing on hypotheses 1 and 2. Finally, I conclude with a brief discussion of the implications of presented results in section 7.

## 2 Literature Review

### 2.1 Definitions

In this paper, I aim to contribute to the growing field of research on historical persistence and legacies. The historical persistence literature has usually taken one of two approaches to understanding how historical variables can shape contemporary outcomes. The first views the origins of legacies in a “critical juncture” which starts a causal process (Collier Collier 1991, p. 30). The second views legacies as “durable causal relationship[s]” (Kotkin and Beissinger, 2014, p. 7), which continue despite the absence of the original cause<sup>2</sup>. I follow the latter understanding of legacies and use a definition of legacies as “arguments that locate the roots of present-day outcomes in causal factors operative during an extinct political order” (Simpser, Slater and Wittenberg 2018, p.419).

This definition builds on historical anthropology which sees history as created in the present (Trouillot, 1995; Menchaca, 2001). Even while the causes are historical, the “arguments” which form a legacy are contemporary. In the case of the historical legacy of the Jewish community in Poland, while the community itself is historical and no longer significantly present, the way in which its memory is maintained and mobilised is shaped by contemporary political factors. To this extent, the fallout of a historical event or factor can change over time depending on contemporary factors (Axelrod, 1997). Therefore, I base my analysis of this historical legacy in the context of contemporary Poland, rather than conducting an in-depth historical analysis of the community.

### 2.2 Out-group intolerance

Gordon Allport’s influential contact hypothesis theorised the intuitive claim that in-group contact with out-groups will increase levels of trust and understanding (1954). However, a growing body of empirical literature has found evidence to the contrary (Forbes, 1997). Research has found that exposure to out-groups can create higher levels of out-group intolerance. Dinas et al. (2019) recently exploited a natural experiment caused by the sudden influx of refugees on certain Greek islands during the 2015 refugee crisis to observe the effect of short-term exposure to out-groups on out-group intolerance. They found that exposure to the refugee crisis was associated with an increase in anti-refugee sentiment and a significant 2 percentage point increase in support for the Golden Dawn party in the 2015

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<sup>2</sup>This division can also be seen as a distinction between Modern Political Economy and Comparative Historical Analysis. See Simpser, Slater and Wittenberg 2018 for a delineation of these research traditions.

Greek general election. Additionally, Hangartner et al. (2019) corroborate these findings with a series of targeted surveys which found that hostility toward refugees and support for restrictive asylum and immigration policies increased on these islands after the refugee crisis. The random treatment involvement furthermore meant that these experiments were able to rule out incremental cultural change and isolate the effect of exposure on increase in out-group intolerance.

The effect of exposure on out-group intolerance has furthermore been found to be strongest where there is competition between in-group and out-group. Inter-ethnic competition thesis argues that competition over scarce resources, such as state support and employment, can increase inter-ethnic tension and hostility (Rydgren and Ruth, 2011). Grosfeld, Sakalli, Zhuravskaya (2017) found evidence of this; using panel-data on anti-Jewish pogroms in Eastern Europe between 1800 and 1927, they found that pogroms occurred following crop-failures but only in places where Jews dominated the moneylending and grain trade. They found that peasants organised pogroms against Jews when they could not repay loans (p. 2). This builds on other findings that show that inter-ethnic competition creates insecurity and threat which increases the heuristic benefit of mistrust and hostility (Nunn and Wantchekon, 2011) <sup>3</sup>.

However, this literature does not explain the high levels of out-group intolerance in Poland. A 2017 CBOS (Centrum Badania Opinii Społecznej) study found that 74% of surveyed Polish citizens opposed accepting refugees into Poland. However, Poland is considered one of the most ethnically and nationally homogenous countries in Europe (Łaciak and Segeš Frelak, 2018). Indeed, an International Organisation for Migration (IOM) study found that only 28% of Poles have had any contact with foreigners over the last year. (2016) Arguably, the combination of high out-group intolerance and low out-group presence in Poland could be a case in support of contact hypothesis. However, out-group contact was common in Poland within recent living memory, when it was home to the largest minority Jewish community in the world (Bilewicz and Krzeminski, 2010).

Instead, new literature in the field of historical persistence studies which shows that historical exposure can shape contemporary out-group intolerance lends a more convincing explanation of what might be happening in Poland. Dinas and Fouka (2018) use historical and survey data alongside experimental manipulation to study the effect that parallels with historical Greek displacement from Turkey have on sympathy for contemporary displaced Syrians entering Greece as refugees. They find that membership in a historically displaced out-group is associated with an increase in sympathy for out-groups later on. Fielding (2015) presents similar findings, studying the determinants of long-run persistence in geographical variation in inter-group attitudes in England. Fielding finds evidence in support of the claim that attitudinal characteristics such as out-group intolerance are enduring cultural traits, rather than attitudes attached to specific out-groups, and that their geographical variation persists over long periods of time. This study therefore sup-

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<sup>3</sup>See section 3.2 for more detail

ports the claim that out-group intolerant attitudes developed as a response to inter-ethnic competition or violence with a certain out-group can persist and be the cause of out-group intolerance against distinct out-groups in the future, even after the original out-group is no longer present. This provides a better explanation for high levels of contemporary out-group intolerance in Poland. It suggests that out-group intolerant attitudes in Poland may originate from a period of historical inter-ethnic competition and violence against the Jewish community, and that these attitudes then endured until today and are expressed against other out-groups.

### 2.3 Intergenerational Transmission

This aligns with insights from both psychology and anthropology which have identified an intergenerational transmission effect, whereby extant human behaviour is linked to adaptations to conditions in the distant past through a process of evolution of norms (Ehrlich and Levin, 2005). Therefore attitudes such as out-group intolerance can endure by being passed down through generations. The established understanding of the development of social traits states that a combination of inherited genotypes (genetic allele pairings) and environment form ‘phenotypes’, which shape an individual’s psychological responses. However, Cavalli-Sforza and Feldman (1973) have found that parental phenotypes can be passed down to children and therefore transmit through generations, forming a cultural transmission that exists independently from environment<sup>4</sup>. They additionally note that phenotype transmission is more likely in cases where cultural transmission is important due to threat, which can be brought on by war or insecurity.

However, intergenerational transmission can also take place via socialisation. Degner and Dalege (2013) and Duriez and Soenens (2009) both find that out-group intolerant attitudes in parents are strongly associated with these same attitudes in children, owing to a process of parent to child socialisation. Schönpflug defines intergenerational transmission as parents intentionally or unintentionally teaching behaviours and attitudes to their children, as opposed to learning through exposure to the same environment (Schönpflug, 2001). He finds that certain conditions or factors which increase the need or value of transmission, which he calls “transmission belts”, can increase transmission (p.175). Different levels and contents of intergenerational transmission, for example, occurred between Turkish families in Turkey and migrant Turkish families in Germany, because of the different uses of transmitted values in a different host country. This therefore suggests that intergenerational transmission interacts with environment and is strongest among families whose environment is consistent (Simpser, 2020). Additionally, D’Alessio and Allen (2007) find that individuals selectively expose themselves to “messages in accord with their existing attitudinal structures” (p. 116) to avoid incongruence. This suggests that generationally

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<sup>4</sup>Phenotypes are a composite of observable characteristics and traits, including developmental processes and behaviour, which form the observable expression of allele (genetic) pairings (Cavalli-Sforza and Feldman, 1973).

transmitted attitudes can then perpetuate themselves through selective exposure to media and information which support them.

Charnysh (2015) found evidence for this in Poland, firstly noting that historical regional variation in Jewish population size correlates with contemporary out-group intolerance today (CBOS). Charnysh then shows that anti-semitic messaging used in the 2003 EU referendum of accession in Poland was more effective in areas with historically high Jewish populations, owing to existing out-group intolerant attitudes in these areas which gave way to “selective exposure” or confirmation bias (D’Alessio and Allen, 2007, p.2). Districts with higher historical Jewish population sizes were therefore associated with 28% lower support for the EU in the 2003 referendum of accession. Charnysh therefore shows that historical Jewish population size can be used to predict certain political outcomes, via higher levels of out-group intolerance and higher uptake of out-group intolerant campaign messaging in these areas. The effect of historical Jewish population size on Polish parliamentary electoral outcomes has not, however, been studied explicitly. I therefore aim to fill this gap in this literature in this paper, asking whether historical district-level Jewish population size similarly predicts vote share for the PiS party. Of the two largest Polish political parties, PiS aligns itself most closely to out-group intolerant messaging and policies. I provide more detail on this towards the end of section 3.

### 3 Mechanism and Theoretical expectations

This section addresses the mechanism through which the size of a district-level historical Jewish community can affect contemporary vote share for PiS. I will argue that a higher prevalence of inter-ethnic competition in local areas which had larger Jewish populations created higher levels of out-group intolerance, which then endure until today through intergenerational transmission and serve as drivers for support for the anti-migration and anti-refugee policies of PiS in those areas. Below, I outline some of the theoretical expectations arising from the literature and from these I will form two hypothesis which I will then elaborate on in the following section.

As mentioned in section 2, I will argue that the contemporary effects of the legacy of the Jewish community in Poland take the form of an enduring causal process, which I explore a snapshot of in this paper, but which does not begin or end within the scope of the timeframe that I study<sup>5</sup>. Using an adapted version of the legacy mechanism described by Simpson, Slater and Wittenberg (2018), the mechanism that I argue for takes the form:

$$A_{t-k} \rightarrow Z_{t-1} \rightarrow \dots \rightarrow O_t$$

Where A is the size of the Jewish community at time t-k (before the present). A causes Z<sub>t-1</sub>, which is out-group hostility Z at time t-1. Z then endures until the present and causes

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<sup>5</sup>Therefore, I take a different approach to legacy than Collier and Collier who observe particular ‘shock’ moments as the start of legacies (1991)

the outcome  $O$ , which is vote share for PiS, at time  $t$ , which is the contemporary period. In the case of this research, time  $t$  is the 2015 and 2019 Polish parliamentary elections. I therefore propose that some of the variation in support for PiS in the last two parliamentary elections is explained by the historical variation in size of the pre-war Jewish community. The theoretical expectations arising from the literature indicate a three step process.

### 3.1 Cognitive dissonance

Part  $A_{t-k} \rightarrow Z_{t-1}$  of the causal chain above is explained as the presence of a large Jewish community impacting levels of out-group intolerance via a process of cognitive dissonance (Homola et al., 2020). Festinger’s theory of cognitive dissonance states that when an individual holds one or more contradictory beliefs, the resulting psychological stress can cause one of the values to be adjusted to eliminate the contradiction (1957). When the two original values conflict strongly, such as in cases of violence and extreme behaviour, the resulting adjusted value is held more strongly. Additionally, Festinger claims that where the adjusted value is supported by coercive institutions, such as in the case of Nazi occupied Poland, the resulting adjusted value is again held more strongly.

Homola et al. (2020) find evidence for value-adjustments caused by cognitive dissonance in German districts that were home to Nazi concentration camps. They argue that the value contradiction caused by witnessing or participating in violent and discriminatory behaviour towards Jewish people caused a value-adjustment towards anti-Semitic and hostile attitudes towards Jewish people in order to eliminate the cognitive dissonance. Their findings, which show generally higher levels of out-group intolerance in these areas, are supported by Hoerner et al., (2019) who also find that proximity to Nazi concentration camps is associated with higher vote share for the populist right wing party Alternative für Deutschland (AfD). These arguments support the three theoretical expectations from Festinger’s theory which propose that value-adjustments as a response to violence, especially where the violence is supported by coercive institutions, result in more strongly held values (Homola et al., 2020). They also support a hypothesis that Polish districts where residents were more likely to have witnessed or participated in violent and discriminatory behaviour towards Jewish people will be associated with higher vote share for the populist right wing.

Two further ways in which a large Jewish community might have caused value-adjustment towards out-group intolerance, aside from instances of violence, are through inter-ethnic competition for resources and through property appropriation. Firstly, while resources were scarce across Poland, especially during war-time, scarcity of resources in areas which had large Jewish populations might have encouraged inter-ethnic competition (Charnysh, 2015). The literature presents an expectation that resource scarcity combined with ethnic groupings will create an environment of inter-ethnic competition between previously harmonious ethnic groups (Grosfeld et al., 2017; Otite, 1975; Southern, 2009). Indeed, a witness of the 1946 Kielce pogrom, in which 40 Jewish people were killed by their non-



Jewish neighbours, notes that non-Jewish Poles took food and other resources from Jewish houses<sup>6</sup>. This event cannot be explained by the presence of coercive institutions, since it took place after the end of Nazi occupation, therefore resource scarcity and inter-ethnic competition provide a better explanation.

Secondly, Stola (2007) notes the large scale appropriation of Jewish property during the early 20th century, which was in some cases supported by now eradicated discriminatory laws and in other cases was extrajudicial. Many commentators have noted the tension surrounding the fear of property restitution which keeps the question of appropriated Jewish property in political and diplomatic suspension, as was illustrated by the Stop 447 protests described in section 1 (Liphshiz, 2020; Sharon, 2019). Areas that had large Jewish communities will have had higher instances of appropriation of Jewish property, which would be expected to drive up out-group intolerance either through cognitive dissonance as described above or through a material incentive to preserve appropriated property and wealth. Additionally, the majority of Jewish property before the war was held in rural parts of Poland, therefore higher levels of out-group intolerant attitudes and antisemitism caused by value-adjustments in line with property appropriation is expected to be stronger in areas that were rural before the war (Stola, 2007).

I argue that a combination of these three factors - violence and discriminatory behaviour, inter-ethnic competition for resources, and property appropriation - is expected to have caused value-adjustment towards out-group intolerance and hostility. Areas with the highest prevalence of these factors, which are assumed to be those areas with the largest Jewish communities, will show higher levels of out-group intolerance.

### 3.2 *Enduring Values*

Secondly, part  $Z_{t-1} \rightarrow \dots$  of the causal chain above is explained by intergenerational transmission. As described in section 2, the literature has shown that values and attitudes such as out-group intolerance can endure for long periods of time by being passed down within families and local communities (Ehrlich and Levin, 2005; Cavalli-Sforza and Feldman, 1973; Schönpflug, 2001). I argue that the out-group intolerant attitudes which arose from the early 20th century context described above endure until today via intergenerational transmission in those districts which had the largest pre-war Jewish population sizes.

An alternative explanation for the persistence of out-group intolerant attitudes in Poland is provided by Tabellini who presents a model in which political decisions made on the basis of certain norms and attitudes form institutions which reflect these norms and attitudes, and go on to perpetuate them and form a cycle of “complementarities” between cultural norms and domestic institutions (2008, p.290). This explanation emphasises institutional influence and does not well explain regional variation in levels of out-group intolerance in Poland.

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<sup>6</sup>See documentary *Bogdan’s Journey* (Michal Jaskulski, Metro Films, 2016)

I argue instead that the persistence of out-group intolerant attitudes is better explained by a process of intergenerational transmission through family and local norms<sup>7</sup>. Nunn and Wantchekon explain how this process took place in African countries exposed to the transatlantic slave trade (2011). They argue that the generalised insecurity produced by the threat of enslavement – which saw individuals “kidnap, trick, and sell each other into slavery” (p. 3221) – created a legacy of mistrust among people in those countries which persists until today. They build on insights from cultural anthropology which show that decision-making heuristics or “rules of thumb” (p. 3222) develop in environments where information is imperfect or costly to acquire (Boyd and Richerson 1985; Boyd and Richerson 1995). Nunn and Wantchekon’s hypothesis is therefore that norms of mistrust have become more prevalent in areas exposed to the slave trade because they provided more safety and benefit in extreme insecurity. Similarly, I argue that out-group intolerant norms in the form of decision-making heuristics, developed on account of the heightened insecurity during the early 20th century experienced in parts of Poland which were home to the largest Jewish communities, have likewise been passed down and may be at play in political decision-making in these areas today.

If this is the case, the effects of intergenerational transmission described in the literature will be strongest where family and local norms are strongest and most stable<sup>8</sup>. I therefore expect that the relationship between historical Jewish population size and contemporary support for PiS, which I argue is in part driven by out-group intolerance, will be strongest in rural areas. The relative lack of mobility and diversity in rural areas as compared to urban areas will result in a stronger intergenerational transmission effect, which will be evidenced by a stronger relationship between historical Jewish population size and PiS vote share. This is supported by Voigtlander and Voth (2012) who find local continuity of anti-Semitism over 600 years was lower in cities and urban areas with high levels of migration and trade. I therefore test for urban and rural interaction effects below.

### 3.3 Voting for PiS

Finally, part  $\dots \rightarrow O_t$  of the chain states that out-group intolerant attitudes effect support for PiS in the 2015 and 2019 elections.

I argue that PiS’s use of xenophobic, out-group intolerant and threat rhetoric from the 2015 election onwards has allowed it to mobilise existing out-group intolerant attitudes. These out-group intolerant attitudes are, as I have argued, more prevalent in parts of Poland which were historically home to the largest Jewish communities, which therefore explains the expected relationship between historical Jewish population size and PiS vote

<sup>7</sup>Therefore the argument aligns more with the Comparative Historical Analysis tradition, focusing on “cognitions” as opposed to institutions (Simpser, Slater and Wittenberg, 2018, p.421)

<sup>8</sup>They will also be relatively consistent across generations in Poland, even if they vary regionally, because even younger people not exposed to out-groups will have inherited out-group intolerant attitudes. There is indeed evidence for this (see Piłat and Potkańska, 2017), but I do not test this here.

share in the 2015 and 2019 elections.

Much research has found that out-group intolerant or hostile attitudes correlate with support for right-wing populist parties. This has been most notable in the literature on the “rigidity of the right” hypothesis, which cites a psychological need for certainty or a decreased tolerance for ambiguity in concepts such as the “people” as a determinants for right-wing populist support (van Prooijen et al, 2015; Zmigrod, 2020; Wodak 2015). Populism has also been connected to out-group intolerance in the form of its appeals to ontological security (Dingott Alkopher, 2018; Mitzen, 2006; Steele, 2005), which is defined as an individuals’ desire to stabilise their identity around a clear sense of agency (Lindquist, 2019). When ontological security is threatened, for example through an influx or perceived influx of immigration, populist parties can respond by framing this ontological security threat as a physical security threat (Lindquist, 2019). Re-establishing ontological security is therefore proposed through discourses referring to a common history and culture (Alkopher, 2018).

PiS’s 2015 and 2019 electoral successes can be seen as an ontological security based populist response to the 2015 refugee crisis. This has been seen as an anti-immigration and anti-refugee rhetoric orchestrated by PiS following the crisis by some (Krzyżanowska and Krzyżanowski, 2018) and as a mobilisation of already existing out-group intolerance (Charnysh, 2015). Krzyżanowski (2018) argues that patterns of antisemitism provided PiS with a “powerful template” for othering (p.80). This existing template feeds into out-group intolerant discourses and policies targeting Roma and Muslim minorities as well as the growing homophobic discourses (Bilewicz et al. 2014 , Krzyżanowska, 2010; Ostolski, 2007).

### 3.4 Hypotheses

Based on the theoretical expectations arising from the literature explored above, I have produced the following two hypotheses for testing.

**H1:** At the district-level, a larger 1921 Jewish community will be associated with a larger vote share for the Law and Justice (PiS) party in the 2019 Polish parliamentary election.

**H2:** In rural districts, a 1% increase in 1921 Jewish population size will be associated with a larger increase in vote share for the PiS party in the 2019 election than in urban districts.

## 4 Methodology

### 4.1 Research question

This research aims to answer the question, “Does a historical Jewish presence affect contemporary levels of support for the populist right in Polish districts?”. Below, I define the main concepts in this research question and outline how I operationalise them for the purposes of this research.

### 4.2 Concepts and operationalisations

#### “Historical Jewish presence.”

Historical Jewish presence will be described in terms of the Jewish minority religious out-group that existed in Poland from the Middle Ages. For the purposes of this research, a religious out-group is defined as a population which belongs to a religion other than that of the majority<sup>9</sup>. Early to mid 20th century discrimination and violence saw the Jewish minority shrink from 3 million in 1920 to 3,200 in 2010 (0.01% of the population), carrying with it a significant political aftermath (Della Pergola, 2010, p.50).

To this extent, while a small Jewish population still exists in Poland today, the Jewish minority out-group considered in this research refers to the large, pre-war minority. As such, historical demographic data is used with a view to capturing the relationship between the presence of this historical out-group, before its sudden reduction in size, on contemporary Polish electoral outcomes. To this end, historical Jewish presence is operationalised as percentage of district-level population self-identifying as Jewish according to 1921 Polish National Census (Spis Ludności), calculated from absolute population and Jewish population numbers<sup>10</sup>.

#### “Populist right.”

I operationalise support for the populist right as formal electoral support for the Law and Justice (PiS) party in the 2015 and 2019 Polish parliamentary elections.

PiS is considered to be a right-wing populist party (Stepińska et al. 2017; Lindquist, 2019; Onbaşı, 2019). Its electoral platform rests on a programme of nationalist and welfare policies which emphasise the prioritisation of the ‘people’ as distinct from ‘others’ and ‘elites’ (Krzyżanowski, 2018). Scholars have cited PiS’s 2015 electoral success as a sign of a fourth wave of populist politics, which in Poland started during the 2014 European Parliament elections (Stepińska et al. 2017).

There is much disagreement about how populism can be defined. This is in part owing to its different expressions in different political context. For this reason, many scholars have chosen to define populism as a “communicative style” or political tool, based on a construction of the people using references to anti-elitism and the exclusion of out-groups,

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<sup>9</sup>Definition adapted from Van Dommelen et al. (2015) and Fox et al. (2018)

<sup>10</sup>See section 4.4 for more detail on this variable.

rather than an ideology of set of consistent policies (Aalberg et al. 2017; Krzyżanowska and Krzyżanowski, 2018). However, at its core populist politics are based around the idea of the sovereign people defended by populist parties and who in turn legitimise them (Rovira Kaltwasser et al., 2017).

**“Contemporary levels of support.”**

Finally, in measuring contemporary levels of support for PiS, support is operationalised as district-level vote share for the Law and Justice (PiS) party in the 2015 and 2019 Polish parliamentary elections.

Electoral data allows for a large N sample with broad coverage of the whole country. Additionally, sampling is equal across Polish counties (Wojewodstwa), ensuring reliability, while the direct nature of measuring support for PiS via votes for PiS provides a valid measurement. Nonetheless, there is a potential for under-estimation using this measurement, as some supporters of PiS may not turn out to vote. However, despite this I conclude that electoral voting data is the most reliable and valid measurement for support for PiS considering when weighed against the alternatives. Additionally, it offers the fine-graining (NUTS 4) necessary to observe geographical variation in line with historical demographic variation while avoiding potential ethical problems that survey data anonymity might present.

### 4.3 Research Design

The design of my research is a quantitative causal analysis. The dependent (outcome) variable is district-level vote share for the Law and Justice (PiS) party in the 2019 Polish parliamentary election. The independent (treatment) variable of interest is the percentage of 1921 district population identified as Jewish. My population of interest is the population of Polish citizens. My sample includes 270 districts. This is a subset of all the total 380 Polish districts, including only those districts which were part of Poland in both 1921 and 2019.

### 4.4 Sampling Strategy

My sampling strategy involved using the 1921 Polish National Census (Spis Ludności) accessed through online archives and input by hand. I created a dataset of three variables: total population, Jewish population, and share of the population that was Jewish (expressed as a percentage), for each Polish district (powiat). I then collected voting data from the 2019 Polish parliamentary election at the district level (NUTS 4), obtained online from the Polish Electoral Commission (Państwowa Komisja Wyborcza, PKW). Based on these data, I include heatmaps created on ArcGIS (geographic information system) showing the spatial distribution of the 2019 Polish parliamentary vote share<sup>11</sup>. Please see Figure 2.

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<sup>11</sup>Heatmaps were made by appending demographic data to a 1921 shapefile (a geospatial vector data format) based on district names encoded to UTF-16.

The data were organised into corresponding 1921 and 2019 Polish administrative boundaries. While both datasets were at the district level (NUTS 4), the administrative boundaries of Poland have changed significantly since between 1921 and 2019. In order to resolve this, I made a necessary assumption that the absolute number of Jewish residents in each district (from which I based my percentage) were evenly spread across the geographic area of the district<sup>12</sup>. Based on geographic coordinate information, I then created a new dataset showing the 1921 demographic data expressed in 2019 administrative boundaries<sup>13</sup>. Please see Figure 1 for a heatmap of the spatial distribution of the 1921 Jewish population in Poland, as seen on a contemporary map (2019 Polish borders and administrative boundaries).

## 5 Analysis Strategy

### 5.1 Hypothesis testing

I conduct a multivariate OLS regression to test the following one-tailed hypotheses.

**H1:** At the district-level, a larger 1921 Jewish community will be associated with a larger vote share for the Law and Justice (PiS) party in the 2019 Polish parliamentary election.

**H2:** In rural districts, a 1% increase in 1921 Jewish population size will be associated with a larger increase in vote share for the PiS party in the 2019 election than in urban districts.

**The null hypothesis for H1:** At the district-level, a larger 1921 Jewish community will be associated with no change in vote share for the Law and Justice (PiS) party in the 2019 Polish parliamentary election. I use a 0.05 cut-off ( $p < 0.05$ ) to reject the null hypothesis. Section 6 details the relevant controls and interactions used. The formula for models (1) - (4) is: The equation for bivariate regression Models (1) and (2) is:

$$PiSvotes_i = \alpha + \beta Jewish_i + \epsilon_i \quad (1)$$

The equation for multivariate regression Models (3) and (4) is:

$$PiSvotes_i = \alpha + \beta Jewish_i + \beta 2Wages_i + \beta 3Matura_i + \beta 4Unemp_i + \epsilon_i \quad (2)$$

<sup>12</sup>While this may not have been the case, I believe this to be a justifiable assumption since the geographical area of the districts is small and so the resulting noise introduced to the estimator is minimal. Additionally, more fine-grained information about the geographical locations of 1921 Jewish communities was not available.

<sup>13</sup>To do this, I spatially joined 1921 and 2019 datasets using ArcGIS, creating a set of all the intersections between the two sets of administrative units, with the Jewish population shares of 1921 districts distributed into each. I then dissolved these intersections into the 2019 administrative boundaries using functions from Python GeoPandas (2010), with the resulting Jewish percentage variable being the sum of each intersection's share.

## 5.2 Complications

As discussed earlier in Section 2, investigating long term historical causal processes poses some specific challenges. Below I will discuss three main challenges involved in this research and in quantitative studies of historical persistence in general. These four challenges are scarcity and unreliability of data, post-treatment bias and Simpson’s Paradox (1951).

The first of these is the scarcity and at times unreliability of historical data. I have used census data from the first Polish National Census of 1921. There have been doubts as to whether this data is reliable due to the measurement strategy and the potential for biased estimations (Charnysh, 2015). Some have argued that because historical data can often be unreliable, and effective strategies for testing reliability are not usually available, no meaningful analysis of historical data can be conducted (Kelly, 2019). However, I argue that the potential for important findings both due to the value of taking a long-term approach to understanding causal processes and the often latent causal affects of historical processes that make them not immediately apparent, outweigh the potential concerns about the statistical power of analysis of historical data.

Secondly, some have argued for the need to include historical control variables in analyses involving historical independent variables. Failure to do so can introduce post-treatment bias (Homola et al., 2020). This poses further problems with data sourcing, as historical socio-economic data are particularly inaccessible or unreliable. The 1921 Polish National Census, for example, does not include district-level socio-economic data. For this reason, Models (2) and (4) in Table 1 includes only contemporary and no historical controls<sup>14</sup>.

Thirdly, Models (1) - (4) in Table 1 aggregate district-level observations and so potential unobserved regional heterogeneity affecting the relationship between  $Y_i$  (PiS vote share) and  $X_i$  (percentage Jewish) may be disregarded. In other words, there may be historical or contemporary factors mediating the relationship, and doing so differently in different districts or regions, which are then not captured by the estimator<sup>15</sup>. This means that because geographically close districts may have similar residuals, these residuals covary with spatial variance. This results in a regression that is fitted to spatial noise, and so small p-values may reflect this spatial autocorrelation of residuals (Tobler, 1970).

As such, the analysis may be subject to Simpson’s Paradox, which arises when a correlation can appear between two variables within a group but when this group is desegregated the correlation may disappear or its directionality may change. This causes problems for the assumption of excludability, because unmodelled spatial variation could lead to misleading findings in a simple OLS model (Pepinsky, Goodman and Ziller, 2020).

One way to avoid this problem is to use a fixed-effects model, to account for regional variation in error (Pepinsky, Goodman and Ziller, 2020). A fixed-effects model ensures

<sup>14</sup>I have, however, addressed potential historical explanatory variables in tables 2 - 4, and Appendix tables 6 - 8, based on Grosfeld and Zhuravskaya (2015) who find that historical partition status is a predictor for contemporary electoral outcomes.

<sup>15</sup>Regions refers to Województwa, NUTS 2.

no covariance between explanatory variables and error ( $\text{Cov} = 0$ ). A fixed-effects model was not possible for this research, given the lack of historical socio-economic data. Given more time and access to resources, considering a fixed-effects model would be useful for developing stronger statistical results.

Instead, I have responded to this concern in two ways. Firstly, I have excluded from the sample those districts that were part of Poland in 1921 but are no longer part of Poland today, and those districts that were not part of Poland in 1921 but are part of Poland today. This removes those districts that are most likely to have regional-specific error due to differences in cultural, institutional and historical characteristics. Secondly, I have tested the relationship using historical control variables (tables 2 - 4 and Appendix tables 6 - 8) to rule out some of the variation caused by historical partition status and historical Urban/Rural status. Given more time, I would control for district-level historical socio-economic characteristics and location within or outside the Pale of Settlement<sup>16</sup>.

### 5.3 Robustness tests

To ensure the reliability and validity of the estimator, I have included two robustness tests. Firstly, I have conducted OLS linear regression analysis on data from both the 2015 and 2019 Polish parliamentary election as opposed to just one, obtained from the same source to ensure reliability of the measurement. Secondly, the literature has cited concerns that linear regression analysis in historical persistence studies involves autocorrelation of residuals, particularly in the case of spatially distributed variables, in which cases spatial autocorrelation of residuals in the estimator may become a concern (Kelly, 2019). To test this, I have collected data on the district-level vote share for the Civic Coalition (Koalicja Obywatelska, KO), the second largest electoral party after PiS in the 2019 parliamentary election and test it against historical Jewish population size, finding no results<sup>17</sup>.

## 6 Results

In this section, I outline the results of hypothesis testing on H1 and H2. I will first define the main variables, outlining some relevant statistical characteristics using descriptive statistics and illustrating these with maps. I will discuss results from Table 1, showing a positive relationship between 1921 Jewish population size and PiS vote share in the 2015 and 2019 Polish parliamentary elections. I will then discuss results from Table 2, which show that the magnitude of this positive relationship changes depending on whether the district is urban or rural today, and whether it was urban or rural in 1921. Finally, I will consider some alternative explanations for the observed relationship and dismiss these.

<sup>16</sup>See Grosfeld, Rodnyansky and Zhuravskaya (2013) for more detail.

<sup>17</sup>2015 data not included as KO (Civic Coalition) replaced PO (Civic Platform) in 2019.



## 6.1 Defining variables

Jewish.percent is a categorical variable, calculated as the share of total district population self-identifying as Jewish in the 1921 National Census. PiS.2015 and PiS.2019 are categorical variables, calculated as the district-level vote share for the Law and Justice (PiS) party in the corresponding election year<sup>18</sup>. Wages.2015 and Wages.2019 are categorical variables, showing average monthly gross wages and salaries as a percentage of Polish national average wages and salaries (Poland = 100), for the year preceding the corresponding election year. Matura.2015 and Matura.2019 are categorical variables, calculated as the share of high-school students passing the high-school maturation exam (Matura), for the year preceding the corresponding election year. Unemp.2015 and Unemp.2019 are categorical variables showing the annual registered unemployment rate as a percentage of Polish national annual registered unemployment rate (Poland = 100), for the year preceding the corresponding election year<sup>19</sup>. The standard deviation for Jewish.percent is 4.879172 (variance = 23.80632). The standard deviation for PiS.2015 is 10.60935 (variance = 112.5582) and for PiS.2019 is 11.77521 (variance = 138.6556).

Figure 1: 1921 Geographical distribution of Jewish populations

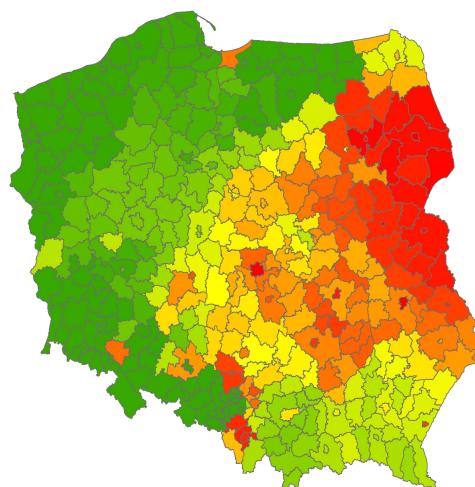


Figure 1 shows the geographical distribution of Jewish populations in 1921, illustrated on a contemporary map of Poland using 2019 administrative boundaries (see section 4.2 for more detail on the production of this map). The percentage of each district population self-identifying as Jewish in the 1921 national census is expressed on a colour scale from green

<sup>18</sup>Data for both variables were downloaded on 25th November, 2019 from: <https://pkw.gov.pl>

<sup>19</sup>Data for all three control variables were downloaded on 5th December, 2019 from: <https://bdl.stat.gov.pl/BDL/dane/podgrup/temat>

to red (green  $\approx 0\% - 1\%$  Jewish; orange  $\approx 7\% - 10\%$  Jewish; red  $\approx 20\% - 37\%$  Jewish).

Figure 2: 2019 Geographical distribution of PiS vote share

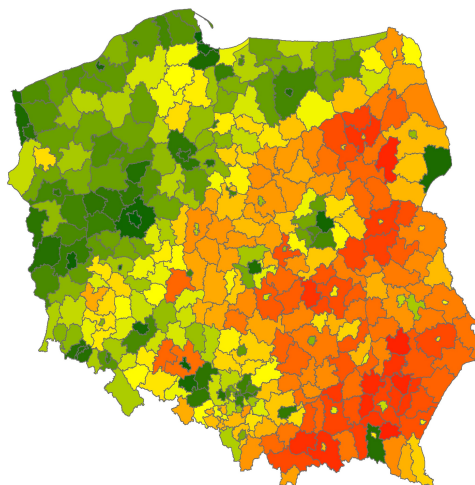


Figure 2 shows the geographical distribution of district-level PiS vote share in the 2019 parliamentary election, also on a colour scale from green to red (green  $\approx 24\% - 34\%$ ; orange  $\approx 40\% - 50\%$ ; red  $\approx 67\% - 77\%$ )<sup>20</sup>.

Figure 1 shows that the early 20th century Jewish community in Poland was largely based in the eastern part of the country, owing in part to the Pale of Settlement – the area delineated for European Jewish settlement between the years 1791-1917 – including mostly eastern Poland. Figure 2 shows that this part of Poland also provides the largest support for PiS today. This data is from 2019, however PiS support has consistently been based in the eastern part of Poland, where unemployment is highest and average wages and education levels are generally lower than in western Poland. Side by side, the maps show a correlation between geographical distributions of both variables. Section 6.2 outlines the significance and size of this association when controlling for covariates unemployment, education and wages.

## 6.2 Testing hypothesis H1

This section addresses how models (1) - (4) answer the main research question, “Does the size of historical Jewish presence affect contemporary levels of support for the populist right in Polish districts?” H1 was tested using a multivariate OLS regression model<sup>21</sup>. Table 1

<sup>20</sup> Analysis of data and robustness tests beyond Table 1 use PiS.2019.

<sup>21</sup> H1: At the district-level, a larger 1921 Jewish community will be associated with a larger vote share for the Law and Justice (PiS) party in the 2019 Polish parliamentary election.

shows the effect of 1921 Jewish population size on contemporary vote share for PiS. In both the 2015 and 2019 parliamentary elections, there is a significant positive relationship between district-level historical Jewish population and PiS vote share.

Table 1:

	<i>Dependent variable:</i>			
	PiS.2015		PiS.2019	
	(1)	(2)	(3)	(4)
Jewish.percent	0.731*** (0.124)	0.733*** (0.121)	0.759*** (0.138)	0.766*** (0.124)
Wages.2015		-0.177*** (0.058)		
Matura.2015		0.114 (0.084)		
Unemp.2015		0.030** (0.013)		
Wages.2019				-0.379*** (0.062)
Matura.2019				0.063 (0.078)
Unemp.2019				0.035*** (0.010)
Constant	37.065*** (0.967)	38.421*** (0.095)	45.686*** (1.081)	67.481*** (9.215)
Observations	276	276	276	276
R <sup>2</sup>	0.113	0.188	0.099	0.304
Adjusted R <sup>2</sup>	0.110	0.176	0.096	0.294
Residual Std. Error	10.011 (df = 274)	9.631 (df = 271)	11.198 (df = 274)	9.893 (df = 271)
F Statistic	34.881*** (df = 1; 274)	15.671*** (df = 4; 271)	30.081*** (df = 1; 274)	29.651*** (df = 4; 271)

Note:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

In model (2), a 1% increase in 1921 Jewish population size (expressed as a percentage of overall population) is associated with a 7.3% increase in vote share for PiS in that district during the 2015 election, when controlling for average wages, education and unemployment ( $p < 0.01$ ). This increases in model (4) to a 7.7% increase in PiS vote share during the 2019 election, associated with a 1% increase in historical Jewish population size, controlling for covariates. As a result, H1 is corroborated and the null hypothesis can be rejected.

Focusing on model (4), the regression equation is:

$$\begin{aligned}
 PiSvotes_i = & 67.481 + 0.766Jewish_i + -0.379Wages_i \\
 & + 0.063Matura_i + 0.035Unemp_i + 9.893_i
 \end{aligned}
 \tag{3}$$

Consider two comparable districts: Krośnieński and Kutnowski (where average wages are both 87% of the national average, average Matura graduation is 90% of the national average and average unemployment is 163% and 153% of the national average respectively). In 1921, 5% of the Krośnieński population were Jewish, compared to 8% of the Kutnowski population. Therefore, according to the model above, we would expect the PiS vote share in Kutnowski to be larger than the share in Krośnieński. Indeed, Krośnieński voted 32% for PiS compared to 52% in Kutnowski.

Figure 3: Graph for Model 1

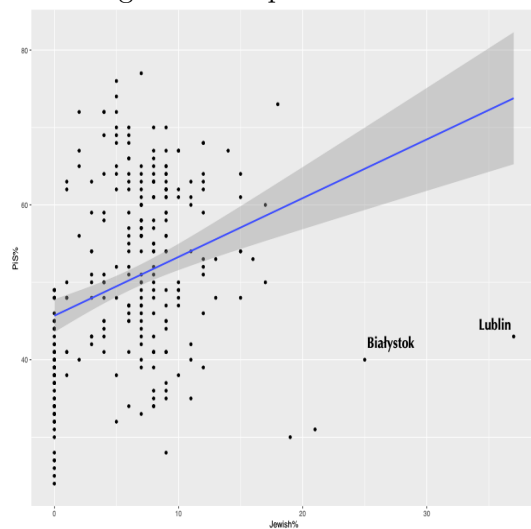


Figure 3 shows Krośnieński and Kutnowski on a scattergraph for model (4), with a line of best fit. The visible outliers in this graph are Lublin (37% Jewish) and Białystok (25% Jewish). The areas covered by the both of these 2019 districts were rural in the 1920's, while these districts are today urban cities. These outliers are below the OLS line, meaning that if we exclude these outlying cases the relationship becomes stronger, meaning that the direction and slope is not driven by extreme cases.

### 6.3 Testing hypothesis H2

In this section, I address the question “Does the relationship between the size of historical Jewish presence and contemporary levels of support for the populist right in Polish districts differ between rural and urban areas?”.

Table 2 shows that the effect of historical Jewish population on support for the populist PiS party does in fact differ between rural and urban areas, with the largest effect being in rural districts. I use a multivariate OLS regression model to test H2, including Rural.Urban.2019 and Rural.Urban.1921 as interaction terms. Rural.Urban.1921 is a bi-

Table 2:

	Dependent variable:				
	PiS.2019				
	(1)	(2)	(3)	(4)	(5)
Jewish.percent	0.759*** (0.138)	0.923*** (0.118)	1.244*** (0.141)	0.808*** (0.124)	0.840*** (0.125)
Wages.2019		-0.253*** (0.061)	-0.270*** (0.059)	-0.340*** (0.064)	-0.347*** (0.063)
Matura.2019		0.124* (0.073)	0.124* (0.071)	0.057 (0.077)	0.059 (0.077)
Unemp.2019		0.027*** (0.009)	0.025*** (0.009)	0.034*** (0.010)	0.034*** (0.010)
Rural.Urban.2019		-11.672*** (1.735)	-4.619* (2.480)		
Jewish.percent:Rural.Urban.2019			-0.926*** (0.238)		
Rural.Urban.1921				-10.875** (4.248)	5.015 (10.180)
Jewish.percent:Rural.Urban.1921					-1.471* (0.857)
Constant	45.686*** (1.081)	53.308*** (8.799)	53.079*** (8.578)	64.797*** (9.182)	65.037*** (9.150)
Observations	276	276	276	276	276
R <sup>2</sup>	0.099	0.404	0.436	0.321	0.328
Adjusted R <sup>2</sup>	0.096	0.393	0.423	0.308	0.313
Residual Std. Error	11.198 (df = 274)	9.172 (df = 270)	8.941 (df = 269)	9.793 (df = 270)	9.758 (df = 269)
F Statistic	30.081*** (df = 1; 274)	36.649*** (df = 5; 270)	34.655*** (df = 6; 269)	25.518*** (df = 5; 270)	21.909*** (df = 6; 269)

Note:

\*p&lt;0.1; \*\*p&lt;0.05; \*\*\*p&lt;0.01

nary variable, taking the values 0 = rural and 1 = urban. These values are based on raw population numbers hand copied from the 1921 national census; districts with a population size above the median take the value 1 and those below the median take the value 0. Rural.Urban.2019 is also a binary variable, taking the values 0 = rural and 1 = urban. These values are based on whether or not the district has “City status”. The equation for this interaction model (3) is:

$$\begin{aligned}
 PiSvotes_i = & 53.08 + 1.24Jewish_i + -0.27Wages_i \\
 & + 0.12Matura_i + 0.03Unemp_i + -4.62Rural.Urban.2019_i \\
 & + -0.93Jewish * Rural.Urban.2019_i + 8.94_i
 \end{aligned} \tag{4}$$

Model (3) shows that the increase in PiS vote share corresponding to a 1% increase in 1921 Jewish population size decreases by 9.3% if the district is urban ( $p < 0.01$ )<sup>22</sup>. This

<sup>22</sup>Since the majority of PiS support is concentrated in rural areas, it is also notable that the Jewish population coefficient remains significant ( $p < 0.01$ ) when controlling for rural/urban status, and increases to 1.24.

means that the relationship between historical Jewish population size and contemporary electoral support for the populist right is strongest in rural areas. I argue that this variation in effect size can be explained by greater durability in rural areas of out-group intolerant attitudes which originated as responses to inter-ethnic competition in the past.

As described in section 3, the causal mechanism through which local Jewish population size can impact contemporary support for the populist right takes the form:

$$A_{t-k} \rightarrow Z_{t-1} \rightarrow \dots \rightarrow O_t$$

The weaker effect in urban areas can therefore be explained by the persistence part of the causal process ( $Z_{t-1} \rightarrow \dots$ ), since intergenerational transmission effects will be weaker in urban areas where mobility and diversity are higher (Voitlanger and Voth, 2012). This causes a “wearing-off” effect in urban areas which is not present in rural areas where intergenerational transmission effects are stronger.

Furthermore, model (5) shows that the interaction effect caused by rural-urban status is strongest if the district was rural in 1921<sup>23</sup>. The increase in PiS vote share corresponding to a 1% increase in 1921 Jewish population size decreases by 11.5% if the district was urban in 1921 ( $p < 0.1$ ). This means that the effect of being urban in 1921 on the relationship between Jewish population size and PiS vote share is stronger than the effect of being urban in 2019. Figure 4 shows how this interaction effect changes between models (3) and (5).

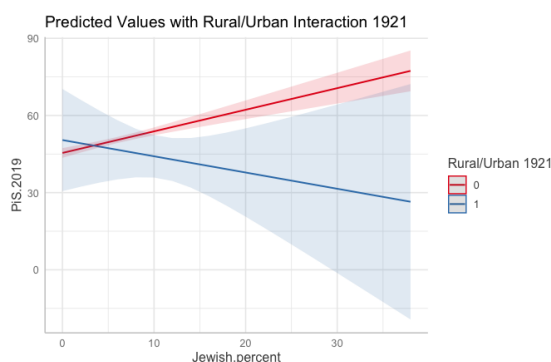


Figure 4: Panel A

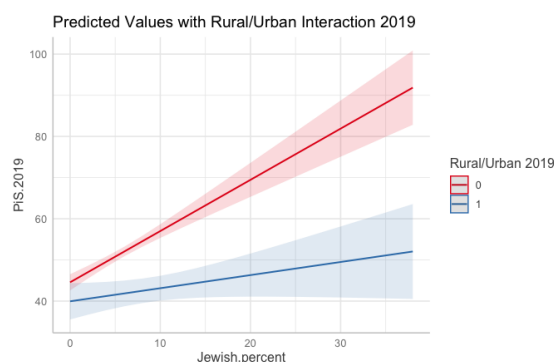


Figure 5: Panel B

Using rural (0) as a baseline, Panel B shows the relationship between the independent and dependent variables is positive in both rural and urban areas, while both the slope and the intercept are higher in rural areas. However in Panel A, while there is no significant change in the slope or intercept for rural areas, the slope for areas that were urban in 1921

<sup>23</sup>Since the majority of the Jewish community was concentrated in rural areas in the 1920's (Charnysh, 2015), it is also notable that the Jewish population coefficient increases to 0.84 and remains significant ( $p < 0.01$ ) in model (5) when controlling for 1921 rural/urban status.

drops and the intercept increases. This change is driven by districts which were rural in 1921 and had small historical Jewish populations and low PiS vote share and have since become urban, causing them to move from the rural group in model (3) to the urban group in model (5). These changing districts bring the intercept down and change the slope of the regression line (see Appendix Table 7 for more detail on how the change from rural to urban in some districts changes the directionality of association in 2019).

Figure 4 not only illustrates the difference in how the two variables of interest relate between rural and urban areas, it also illustrates that the effect of having been rural in 1921 is strong even in cases where the district has since become urban. This is significant, since there is strong correlation between rural status and vote share for PiS (116.7% higher vote share in rural areas,  $p < 0.01$ ) and the strength of support for PiS in rural areas is well documented. However, Figure 4 suggests that the effect of having had large Jewish communities in the 1920's means that certain cities today have a high vote share for PiS, despite the fact that we would expect a low PiS vote share. This effect is furthermore strongest when those cities were rural in 1920's. This is visible, for example, in Łomża and Siedlce, two cities in eastern Poland; both voted for PiS in 2019 in much higher proportions than the average for Polish cities (54% and 50% respectively, compared to an average of 39% in Polish cities) and both were rural in 1921 and had large Jewish communities (15% and 17%)<sup>24</sup>. A potential explanation for the concentration of this effect in rural areas based on higher levels of inter-ethnic competition is discussed in Section 3<sup>25</sup>.

## 6.4 Robustness Testing

Finally, in this section I explore some of the alternative explanations for this relationship and present them here as robustness tests.

Firstly, there is a well documented association between voting patterns among Polish districts and regions and their historical partition status. Grosfeld and Zhuravskaya (2015) use spatial regression discontinuity to find that contemporary Polish electoral outcomes strikingly trace historical partition borders. Since the majority of the Jewish population was concentrated in the Russian and Austrian partitions (Charnysh, 2015), a higher vote share for PiS in historically high Jewish population areas may be explained by the fact that most of the districts were in Russian and Austrian partitions. This therefore provides an alternative explanation to the relationship observed. To test this, I control for partition status in Table 3 below.

Rus and Aus are binary variables denoting location in Russian or Austrian partitions. Each district takes the value 1 for the partition it was in and 0 on the others, using the

<sup>24</sup>Rural here refers to a population size below the 1921 median for Poland.

<sup>25</sup>In *Man's Inhumanity To Man*, Kurt Wallach discusses the large Jewish community in Siedlce, which made up a majority of the population for most of the 19th century and numbered 37% on the eve of Nazi occupation, during which the vast majority of the community were killed, stating "The Siedlce Jewish community was not restored after the Nazi defeat, and the town's later history lacked the hitherto conspicuous Jewish component" (p.473).

Table 3:

	<i>Dependent variable:</i>			
	PiS.2015		PiS.2019	
	(1)	(2)	(3)	(4)
Jewish.percent	0.733*** (0.121)	0.445*** (0.124)	0.766*** (0.124)	0.306** (0.135)
Wages.2015	-0.177*** (0.058)	-0.155*** (0.046)		
Matura.2015	0.114 (0.084)	0.024 (0.067)		
Unemp.2015	0.030** (0.013)	0.021** (0.010)		
Rus		7.455*** (1.356)		9.816*** (1.470)
Aus		18.523*** (1.459)		16.775*** (1.589)
Wages.2019			-0.379*** (0.062)	-0.352*** (0.053)
Matura.2019			0.063 (0.078)	0.008 (0.066)
Unemp.2019			0.035*** (0.010)	0.028*** (0.008)
Constant	38.421*** (9.095)	40.369*** (7.221)	67.481*** (9.215)	66.096*** (7.745)
Observations	276	276	276	276
R <sup>2</sup>	0.188	0.493	0.304	0.512
Adjusted R <sup>2</sup>	0.176	0.481	0.294	0.502
Residual Std. Error	9.631 (df = 271)	7.641 (df = 269)	9.893 (df = 271)	8.314 (df = 269)
F Statistic	15.671*** (df = 4; 271)	43.533*** (df = 6; 269)	29.651*** (df = 4; 271)	47.113*** (df = 6; 269)

Note:

\*p&lt;0.1; \*\*p&lt;0.05; \*\*\*p&lt;0.01

Prussian partition as the baseline. Location in both the Russian and Austrian partitions is associated with a larger vote share for PiS, however the Jewish.percent coefficient remains significant in models (2) and (4). This means that, during both 2015 and 2019 elections, 1921 Jewish population size was correlated with a higher vote share for PiS, even when holding partition effects constant. This adds strength to the argument that the historical presence of a Jewish community in Polish districts impacts contemporary voting outcomes in those districts<sup>26</sup>.

<sup>26</sup> Additionally, controlling for only contemporary covariates in models (2) and (4) in Table 1 can arguably



Table 4:

	<i>Dependent variable:</i>		
	KO.2019		
	(1)	(2)	(3)
Jewish.percent	−0.528*** (0.113)	−0.550*** (0.098)	−0.050 (0.111)
Wages.2019		0.373*** (0.049)	0.368*** (0.043)
Matura.2019		−0.039 (0.061)	−0.014 (0.054)
Unemp.2019		−0.025*** (0.008)	−0.019*** (0.007)
Rus			−9.435*** (1.213)
Aus			−9.837*** (1.310)
Constant	24.200*** (0.880)	−0.349 (7.237)	0.293 (6.389)
Observations	276	276	276
R <sup>2</sup>	0.074	0.334	0.485
Adjusted R <sup>2</sup>	0.071	0.324	0.473
Residual Std. Error	9.109 (df = 274)	7.769 (df = 271)	6.858 (df = 269)
F Statistic	21.990*** (df = 1; 274)	33.974*** (df = 4; 271)	42.212*** (df = 6; 269)

*Note:*

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Secondly, to address concerns about spatial autocorrelation of residuals, Table 4 tests for spurious correlations. Conducting multivariate regression analysis with KO vote share as my dependent variable, using the same polynomials as those used in Table 1, the model yields no significant results (see Table 4). Considering this, I conclude that the significant results shown in Table 1 are unlikely to be affected by spatial autocorrelation of residuals

introduce post-treatment bias, since these effects take place after the “treatment” variable of interest. Including only pre-treatment controls prevents this. Appendix Table 6 includes a model using only pre-treatment partition controls, excluding post-treatment socioeconomic controls (Homola et al., 2020).

and, as such, I argue that these results hold despite concerns raised by Kelly (2019) and others. This is also significant since KO's political platform is comparatively liberal, pro-EU and pro-immigration, therefore the lack of relationship lends support to the mechanism that historically originating out-group intolerance is a driver of PiS support.

## 7 Discussion and Conclusion

Patients who experience the amputation of a limb often report continued 'phantom' sensations from the limb that is no longer there. Patients perceive sensations of itching, twitching and even gesturing in the limb. Scientists say that since most of the neural pathway that is responsible for sensation of a limb exists outside the limb itself, it remains after the limb is gone. Nerve endings at the site of a removed limb can become more sensitive, transmitting stress signals even in response to mild pressure (Collins et al, 2018; Desmond and MacLachlan, 2010; Fuchs et al, 2018).

Similarly, the analysis explored in this paper shows that Poland is also reacting to sensations created by a limb that is no longer present. I argue that the political presence of the Jewish community in Poland today functions like a political phantom limb. It continues to have an effect on Polish political outcomes and the latent effects of its legacy, most notably on enduring levels of out-group intolerance, can be mobilised at different moments by political entrepreneurs. The nerve endings left behind after the sudden demographic shift, the amputation, become more sensitive and this effect is strongest in areas with the longest and most impactful relationships with historical Polish Jewish communities.

I have shown that the historical presence of a large Jewish community in Polish districts is associated with higher contemporary vote share for PiS. This is most notable in rural districts, with the strongest effect being in districts that were rural both in 1921 and continue to be rural today. This relationship holds after controlling for historical partition status, contemporary socio-economic covariates and rural/urban status, yet a similar relationship does not exist with the second largest Polish party, KO. I argue that this relationship is caused by higher levels of out-group intolerance, created by inter-ethnic competition and cognitive dissonance, in districts with historically large Jewish communities.

These results are significant for understanding the determinants of right-wing populist support in Poland, Poland's role within the EU and how Poland responds to increasing diversity and mobility in its population. They are also significant as they corroborate the claim that existing patterns of anti-semitism and out-group intolerance can be mobilised by political entrepreneurs, politicising the past and its memory (Bilewicz and Krzeminski, 2010).

The aim of this research was to detail a snapshot of a longer-term causal process which did not begin or end within the time frame studied here. PiS's national electoral success began in earnest in 2015 and has continued seemingly unabated until now. Therefore, a further question not covered here is which factors present during the 2015 parliamentary

election catalysed or enabled the mobilisation of existing out-group intolerance in formerly Jewish districts, garnering support and leading to PiS's electoral success. Two further unanswered questions emerged from the stronger relationship between historical Jewish population size and support for PiS found in rural districts. The first is whether variation in levels of religious observance among Polish districts interact with the observed relationship. This is a relevant question since the stronger relationship observed in rural districts could be explained by higher levels of religious-observance among these communities, which is particularly significant due to PiS's focus on Catholicism in its electoral platform. A small N attitudinal study could be most effective to understand this. The second avenue for further investigation would be to better understand why intergenerational transmission of out-group intolerant attitudes is weaker in urban areas, and whether in the case of Poland increased diversity and mobility create a "wearing-off" effect, as theorised.

## 8 Appendix

Table 5: Descriptive Statistics

Statistic	N	Mean	St. Dev.	Min	Pctl(25)	Pctl(75)	Max
Jewish.percent	14	152.819	447.114	0	0.6	37	1,686
PiS.2019	14	1,040.792	3,698.738	0	0.9	71	13,889
KO.2019	14	450.527	1,538.242	0	0.7	48.5	5,789
Wages.2019	14	1,728.801	6,229.952	0	0.8	103.1	23,372
Unemp.2019	14	3,053.681	9,821.845	0	4.9	367.7	36,949
Matura.2019	14	1,797.644	6,518.720	0	0.6	89.6	24,445
PiS.2015	14	863.274	3,051.413	0	0.8	65.4	11,462
PO.2015	14	432.351	1,485.380	0	0.6	38.5	5,587
Wages.2015	14	1,719.736	6,189.576	0	0.8	110.4	23,223
Matura.2015	14	1,743.732	6,321.604	0	0.5	86.9	23,706
Unemp.2015	14	2,715.659	9,115.245	0	3.7	288.6	34,305
Rural.Urban.1921	14	40.067	98.716	0	0.01	4.8	276
Rural.Urban.2019	14	39.792	92.371	0	0.03	2.0	276
Rural1921.Rural2019	14	39.773	92.379	0	0.1	1	276
Rural1921.Urban2019	14	39.804	93.360	0	0.02	2.2	276
Urban1921.Urban2019	14	40.067	98.716	0	0.01	4.8	276
Culture.centres	14	248.648	782.470	0	0.9	64.8	2,955
EU.Contracts	14	3,397.696	9,584.030	0	7.2	803.2	35,593
Prus	14	39.754	86.625	0	0.03	1.4	276
Aus	14	39.788	91.895	0	0.03	2.0	276
Rus	14	39.809	84.185	0	0.1	1	276

Table 6: Pre-Treatment Variables Only

	<i>Dependent variable:</i>			
	PiS.2015		PiS.2019	
	(1)	(2)	(3)	(4)
Jewish.percent	0.445*** (0.124)	0.417*** (0.129)	0.306** (0.135)	0.256* (0.154)
Wages.2015	-0.155*** (0.046)			
Matura.2015	0.024 (0.067)			
Unemp.2015	0.021** (0.010)			
Wages.2019			-0.352*** (0.053)	
Matura.2019			0.008 (0.066)	
Unemp.2019			0.028*** (0.008)	
Rus	7.455*** (1.356)	7.706*** (1.393)	9.816*** (1.470)	10.573*** (1.670)
Aus	18.523*** (1.459)	19.187*** (1.501)	16.775*** (1.589)	18.451*** (1.799)
Constant	40.369*** (7.221)	31.928*** (0.884)	66.096*** (7.745)	40.338*** (1.059)
Observations	276	276	276	276
R <sup>2</sup>	0.493	0.446	0.512	0.354
Adjusted R <sup>2</sup>	0.481	0.440	0.502	0.347
Residual Std. Error	7.641 (df = 269)	7.937 (df = 272)	8.314 (df = 269)	9.513 (df = 272)
F Statistic	43.533*** (df = 6; 269)	73.125*** (df = 3; 272)	47.113*** (df = 6; 269)	49.787*** (df = 3; 272)

*Note:*

\*p&lt;0.1; \*\*p&lt;0.05; \*\*\*p&lt;0.01

Table 7: Rural and Urban Subsets Detail

	<i>Dependent variable:</i>	
	PiS.2019	
	(1)	(2)
Jewish.percent	0.932*** (0.118)	-0.578 (0.777)
Wages.2019	-0.244*** (0.061)	-0.268*** (0.060)
Matura.2019	0.120 (0.073)	0.123* (0.071)
Unemp.2019	0.027*** (0.009)	0.025*** (0.009)
Rural1921.Urban2019	3.929 (4.133)	-8.361 (9.491)
Rural1921.Rural2019	15.138*** (4.038)	-3.399 (9.368)
Jewish.percent:Rural1921.Urban2019		0.971 (0.802)
Jewish.percent:Rural1921.Rural2019		1.822** (0.790)
Constant	37.763*** (10.217)	56.404*** (13.164)
Observations	276	276
R <sup>2</sup>	0.406	0.440
Adjusted R <sup>2</sup>	0.393	0.423
Residual Std. Error	9.174 (df = 269)	8.946 (df = 267)
F Statistic	30.680*** (df = 6; 269)	26.178*** (df = 8; 267)
<i>Note:</i>		
*p<0.1; **p<0.05; ***p<0.01		

Table 8: Further Robustness Tests

	<i>Dependent variable:</i>					
	PiS.2019					
	(1)	(2)	(3)	(4)	(5)	(6)
Jewish.percent	0.808*** (0.126)	1.376*** (0.181)	0.729*** (0.198)	0.783*** (0.123)	1.484*** (0.216)	0.732*** (0.215)
Wages.2019	-0.349*** (0.064)	-0.365*** (0.063)	-0.325*** (0.054)	-0.398*** (0.062)	-0.387*** (0.061)	-0.357*** (0.053)
Matura.2019	0.069 (0.078)	0.079 (0.076)	0.017 (0.065)	0.070 (0.078)	0.086 (0.076)	0.020 (0.066)
Unemp.2019	0.033*** (0.010)	0.033*** (0.010)	0.026*** (0.008)	0.036*** (0.010)	0.034*** (0.010)	0.027*** (0.008)
Rus			1.757 (4.887)			3.182 (4.966)
Aus			9.576* (4.969)			9.534* (4.995)
Prus			-6.975 (4.996)			-6.585 (5.017)
EU.Contracts	-0.012* (0.007)	0.018* (0.010)	0.001 (0.008)			
Jewish.percent:EU.Contracts		-0.003*** (0.001)	-0.002*** (0.001)			
Culture.centres				0.145** (0.064)	0.470*** (0.104)	0.233** (0.094)
Jewish.percent:Culture.centres					-0.055*** (0.014)	-0.034*** (0.012)
Constant	65.916*** (9.222)	61.635*** (9.002)	69.263*** (9.377)	66.642*** (9.151)	60.246*** (9.068)	69.175*** (9.501)
Observations	276	276	276	276	276	276
R <sup>2</sup>	0.312	0.355	0.540	0.318	0.354	0.530
Adjusted R <sup>2</sup>	0.300	0.341	0.524	0.305	0.340	0.514
Residual Std. Error	9.855 (df = 270)	9.559 (df = 269)	8.122 (df = 266)	9.816 (df = 270)	9.567 (df = 269)	8.211 (df = 266)
F Statistic	24.525*** (df = 5; 270)	24.722*** (df = 6; 269)	34.674*** (df = 9; 266)	25.139*** (df = 5; 270)	24.598*** (df = 6; 269)	33.284*** (df = 9; 266)

Note:

\*p&lt;0.1; \*\*p&lt;0.05; \*\*\*p&lt;0.01

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