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**Collective vs. Family Remembrance:
Evidence From Two Russian Betrayals**

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Collective vs. Family Remembrance: Evidence From Two Russian Betrayals*

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Abstract

Is family or collective remembrance of the distant past more powerful in shaping current behavior? To answer this question, I link two historical episodes from Armenian history separated by a century. During both World War I (WWI) and the 2020 Nagorno-Karabakh War, Russia was anticipated to provide military support to Armenia, its ally, but failed to do so. I demonstrate that the memories of the first Russian betrayal were activated after the second war. I identify family memory of the first betrayal using distinct West Armenian (Ottoman Armenian) surnames and proxy collective memory through locations renamed to commemorate lost Armenian localities during WWI. The difference-in-differences (DiD) approach shows that both family and collective remembrance negatively affect pro-Russian parties' vote share, with all the conventional assumptions of DiD verified. Family remembrance influences behavior through traumatic recall, whereas collective remembrance operates via social capital.

JEL-Classification: D7, J15, N44, Z13

Key words: Collective memory, Family remembrance, Voting, Social capital

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1 Introduction

The past resonates with the choices of the present. It is well known that memories and stories are important for group identity, coordination, and action.¹ Sociological and anthropological studies discuss behavioral implications of human memory (Halbwachs, 1992; Wagoner, 2018). Recent economic research documents how historical narratives and memories shape human behavior (Cantoni et al., 2019; Arbatli and Gomtsyan, 2019; Fouka and Voth, 2022; Ochsner and Roesel, 2024; Grossmann et al., 2024). However, empirical studies to date consider remembrance as a “black box” without clarifying how memories are formed and transferred and whether it matters for the final choices of agents. When memories of a historical event are transmitted through ancestors who personally experienced it, the emotional intensity is much stronger. The memories of ancestors are usually perceived as a part of one’s own personal history.² In the case of collective transmission, the emotional impact is less intense, more abstract, and less connected to personal identity.³ Hence, one would expect behavioral differences depending on the mode of memory transmission.

To address the open question of whether remembrance by the entire community or story-telling within families is formative for recall and action, an ideal experiment would randomly allocate individuals into families where story-telling about the past happens or environments that remind individuals about the past. This setting does not exist. However, two historical episodes from Armenian history provide a context that resembles the features of such a setting.

I study Armenian-Russian relations during World War I (WWI) and the recent Nagorno-Karabakh War (2020), when Armenians perceived Russia as the main guarantor of their security. Armenia in the Ottoman Empire was an associated member of the Allies during WWI. Russian troops initially managed to gain Eastern Anatolia from the Ottoman Empire with the help of Ottoman Armenians. As compensation, Russia promised to establish an autonomous Armenian state on certain territories of the Ottoman and Russian Empires (Martirosyan, 2021). The Ottoman troops extensively raped, killed, and kidnapped Armenians in 1915 to prevent Armenian support for the Russian troops. These brutal events continued when Russian troops withdrew unexpectedly from the Ottoman Empire after the February 1917 Revolution, leaving local Armenians without military protection. This caused the murder and other related deaths of 1.5 million

¹Bénabou and Tirole (2011) develop a model showing that identity investments are easily affected by minor manipulations of salience and attention, Bordalo et al. (2016) present a model of stereotypes and show when they cause belief distortions, Michalopoulos and Xue (2021) illustrate the impact of folklore on gender roles, risk attitude, and trust.

²Psychological and economic literature argues that trauma experienced by one generation can affect the psychological and emotional state and behavior of subsequent generations (Gutsell and Inzlicht, 2010; LaCapra, 2014; Alsan and Wanamaker, 2018; Yehuda and Lehrner, 2018).

³Social scientists discuss how societies shape and are shaped by their collective memories, emphasizing the role of education and public commemorations (Zerubavel, 2003; Assmann, 2011).

Armenians in the Ottoman Empire, an event known as the Armenian Genocide (1915-1920). Following the end of World War I, the cooperation between Russia and Turkey (known as a Lenin-Ataturk plan) dashed any hopes Armenians had of establishing a joint autonomous Armenia. Under the terms of this agreement, Lenin returned to Turkey the Western Armenian territories that Russian forces had initially gained, and Russia sovietized Eastern Armenia (Nazaroff, 1922).

Around 300,000 Ottoman Armenians who survived the genocide resettled in Eastern Armenia (modern-day Armenia), carrying with them the traumatic memories of Russian betrayal.⁴ This first betrayal has similarities to the Nagorno-Karabakh war in 2020 when Russia once again did not help Armenia despite being its official ally.⁵ According to a Gallup International survey conducted during the war, approximately 80% of respondents anticipated that Russia would provide military support to Armenia (Gallup, 2020). However, Armenia lost the war, facing what many perceive as a modern-day betrayal by Russia.⁶ For generations of genocide survivors, this represents a second profound betrayal, echoing the experiences of their grandparents a hundred years ago.

The setting of this paper allows me to disentangle family and collective memories of Russian betrayal. First, I trace the initial resettlement locations of genocide survivors (dummy treatment). Then, due to the distinctive spelling rules of Ottoman Armenian surnames (e.g., “ian” is a typical ending of Western (Ottoman) Armenian surname, while “yan” is typical for Eastern (modern) Armenian), I identify the locations where the descendants of genocide survivors currently live (continuous treatment). Those locations in modern-day Armenia are exposed to Russia’s betrayal through family remembrance. Family memory relies on individual family stories and past experiences of ancestors, which are transmitted intergenerationally (Wagoner, 2018). I show that sorting into settlement localities was arguably exogenous, based on the anecdotal evidence of how chaotic and haphazard the resettlement was (Hovannisian, 1971) and the balance check of pre-settlement control variables.

I define localities with a collective memory of Russian betrayal based on the arbitrary renaming of these places. As argued by Halbwachs (1992), place names contribute to the formation of collective memory alongside rituals, local stories, historical teachings, local symbols, and monuments. Notably, several localities in modern-day Armenia are

⁴Modern-day Armenia is usually referred to as East Armenia, which includes the territories of historical Armenia in the Russian Empire and does not include the territories in the Ottoman Empire.

⁵Russia has a military presence in Armenia. Armenia and Russia signed a Treaty on Friendship, Cooperation, and Mutual Assistance in 1997 at the governmental, ministerial, and agency levels.

⁶The term “betrayal” is used here to describe a situation where one party (Armenia) expected another party (Russia) to act in their best interest based on formal alliances and historical ties. Betrayal occurs when the latter party acts opportunistically instead, prioritizing its interests over the expected support or loyalty (Elangovan and Shapiro, 1998; Bigley and Pearce, 1998), thereby violating the trust of the former. In both World War I and the 2020 Nagorno-Karabakh War, Armenians perceived Russia’s failure to provide anticipated support as a betrayal, given Russia’s strategic choices that left Armenia vulnerable despite expectations of assistance.

named after places lost in the Ottoman Empire where Armenians lived before the genocide. Most of the renaming of Armenian localities occurred during the Soviet period in the 1940s, a process that was highly centralized and controlled by Soviet authorities and did not correlate with the resettlement patterns of genocide survivors (Saparov, 2003). In addition to common names, some localities were renamed using the principle of “New + old name in the Ottoman Empire” (e.g., New Yerznka) or simply retained their “Old name in the Ottoman Empire” (e.g., Ayntap).⁷ A balance check of locality characteristics indicates that places with Ottoman names are not significantly different from those with more common names in terms of geographical and socio-economic features. I demonstrate that the Ottoman Armenian names of localities foster a collective memory of Russian betrayal through oral communication and memorial practices, thereby increasing historical consciousness.

As Figure 1a shows, localities in Armenia can be divided into four different types: places without any remembrance of Russian betrayal ($N = 690$), places with collective remembrance ($N = 100$), places with family remembrance ($N = 111$), and places with both types of memories ($N = 8$).

[Figure 1 about here]

In modern-day Armenia, political parties can be categorized into two camps based on their foreign policy orientation: pro-Russian and pro-European. Pro-Russian parties regard Russia as the primary guarantor of Armenia’s military security and support Armenia’s membership in the Eurasian Economic Union. In contrast, pro-European parties advocate for Armenia’s accession to the European Union and favor reliance on European military support.

I compare localities with family and collective remembrance of betrayal with localities without any betrayal memory before and after the war in 2020, in terms of pro-Russian party voting. Family remembrance relates to the loss of ancestors’ lives and property, whereas collective remembrance relates to national suffering in general without any personal exposure to trauma. Thus, one would expect these different types of remembrance of betrayal could affect pro-Russian voting differently.

I show that when history rhymes, voters recall it and change their voting. Figure 1b illustrates that places with family and collective memory voted similarly to those without memory for pro-Russian parties before the war in 2020. However, after activating betrayal memories, those places decreased pro-Russian voting by relatively more than places without betrayal memories.

I estimate a difference-in-differences (DiD) model of pro-Russian voting across family and collective memory places. The analysis reveals that, during parliamentary elections

⁷Yerznka and Ayntap were Armenian localities in what became Turkey after 1923.

before the war, voters with family and collective memories voted for pro-Russian parties similarly to those without such memories, indicating a parallel pre-trend. However, after the war, these voters show a decrease in support for pro-Russian parties by approximately 3.0 percentage points compared to those without betrayal memories. This change is significant given that the average vote share for pro-Russian parties after the war is 34%, representing a relative decrease of around 9%. The effect size is comparable for both types of memories, with no additional effect observed when the two types of memories interact. So, localities in the collective memory group, which were not directly exposed to Russian betrayal either geographically or via residents living there, have an equally sizeable negative effect for pro-Russian voting as family memory localities where individuals suffered from the loss of ancestral lives and resources.⁸ Thus, even without any direct exposure, historical narratives embedded in collective memory and transferred solely by the name of the place generate the same effect as the direct exposure of one's ancestors.

I provide evidence against several concerns that might be thought to explain the results. In particular, I exclude that results are driven by voters with family memory choosing to live in collective memory places. I also show that the presence of residents with family memory does not predict the collective memory renaming of the locality. The results are robust to alternative definitions of collective and family memory, as well as to the timing of activation, matching, and entropy balancing. I also exclude strategic campaigning as a trigger of memory activation by studying the spatial distribution of party posters during pre-election campaigns. This shows that memory activation was clearly demand-driven. Heterogeneity analysis indicates stronger collective memory effects in small and catchily-named (starting with "New") places.

I also examine whether the underlying mechanism differs for collective and family memories. Even though both types of memories decrease pro-Russian voting, only collective memory motivates higher turnout rates (1.8 percentage points). Based on the turnout rates of relocated voters, I also find evidence that once voters move to a collective memory place, they are more likely to go to the polling stations to vote. In contrast, moving to family memory places does not change these voters' turnout. I also show that voters in family memory places have less trust towards people and state institutions. They also live in localities with higher family ties (proxied by surname diversity) than those with collective memory. The context analysis of commemoration texts and family stories indicates a significant disparity between family and collective narratives, with family stories predominantly portraying personal tragedies and collective commemoration texts focusing more on positive and forward-looking messages for nation-building. All these

⁸In most of the stories recalled by the grandchildren of genocide survivors, they mention how their grandparents described the house they had to leave (http://www.genocide-museum.am/arm/personal_histories.php).

factors support the hypothesis that collective memory acts through social capital, while family memory is more traumatic and expressed as a pure shift from pro-Russian parties to pro-European.

Survey data shows that willingness to do business with Russians or willingness to marry Russians are not affected by any type of betrayal memory. However, the probability of Russia being considered a “friend country” decreases with family memory of the betrayal.⁹ I suggest that anti-Russian sentiments are more against the state than the Russian people. This makes anti-Russian sentiments purely political and does not translate into a broader context in family memory treatment. However, the analysis of schooling outcomes shows that schoolchildren’s behavior is expressed in the same direction as their parents in terms of anti-Russian sentiments in collective memory places.

This research builds on the theoretical models of remembrance and signaling on under- or over-reaction (Kahneman et al., 1982; Esteban and Ray, 2008; Bordalo et al., 2016) and contributes to the literature that documents empirical evidence on the link between history and current outcomes (Acharya et al., 2016; Cantoni et al., 2019; Arbatli and Gomtsyan, 2019; Ochsner and Roesel, 2020; Dinas et al., 2021; Fouka and Voth, 2022; Williams, 2022; Arbatli and Gokmen, 2023; Ochsner and Roesel, 2024; Grossmann et al., 2024; Bühler and Madestam, 2024). However, in this paper, I decouple the effect of family remembrance from collective remembrance. This contrasts with previous research, where these two types of memories were either not studied in the same context or overlapped in a way that obscured how memories are transmitted, as both place and ancestors were directly exposed to the past event.¹⁰

This study also adds to the literature on non-persistent effects of historical events (Fisman et al., 2014; Fouka and Voth, 2022; Ochsner and Roesel, 2020) in contrast to the literature that documents a permanent effect (Alesina and Fuchs-Schündeln, 2007; Voigtländer and Voth, 2012; Becker et al., 2016). I also contribute to the literature that connects naming with political views (Dal Bó et al., 2009; Arbatli and Gomtsyan, 2019; Williams, 2022), national identity (Kersting and Wolf, 2021; Jurajda and Kovač, 2021), labor market outcomes (Williams, 2021), and social mobility (Clark and Cummins, 2014; Olivetti and Paserman, 2015). However, the majority of the previous research treats naming as an outcome variable. Oto-Peralías (2018) documents some correlational evidence on how street naming affects the social and cultural characteristics of Spanish

⁹In the Caucasus Barometer survey, people are asked “In your opinion, what is the main friend country of Armenia?”

¹⁰Dinas et al. (2021) combine historical and survey data with an experimental manipulation to show that family history of displacement increases sympathy for refugees. The effect is also present among those without a family history of forced migration who live in places with many refugees. However, this demonstrates the impact of family history spillover since those residing next to refugees did not suffer as a group. In the context of my research, people living in collective memory places are reminded of their nation’s suffering. Moreover, my research is based more on institutional communication than peer communication.

municipalities. My paper documents causal evidence on how the naming of localities could activate collective memory and shape the political preferences of voters even if residents of renamed places do not have any personal ties to history.

My paper contributes to the existing literature on the economic consequences of wars, conflicts, and hostile events (see [Blattman and Miguel \(2010\)](#); [Rohner and Thoenig \(2021\)](#); [Munroe et al. \(2023\)](#) for reviews). This body of work primarily addresses the direct material losses resulting from conflicts and provides limited evidence on the impact of wars on social structures.¹¹ My study extends this literature by documenting the intangible effects of war-triggered memories rather than direct war exposure.

My research also contributes to the social capital and trust literature ([Alesina and La Ferrara, 2002](#); [Tabellini, 2010](#); [Nunn and Wantchekon, 2011](#); [Besley and Reynal-Querol, 2014](#); [Bracco et al., 2015](#); [Mikula et al., 2023](#); [Ramos-Toro, 2023](#)) by illustrating how narratives alter the social fabric of societies, subsequently influencing political preferences. This paper also adds to the literature on how traumatic events can durably alter financial ([Malmendier and Shen, 2024](#); [Arthi et al., 2024](#)) and health ([Alsan and Wanamaker, 2018](#); [Archibong and Annan, 2021](#)) outcomes by documenting an activated effect of intergenerational traumatic recall on political preferences.

Furthermore, this paper broadens the economic literature on betrayal aversion ([Bohnet and Zeckhauser, 2004](#); [Bohnet et al., 2008](#)), which demonstrates how the potential for betrayal influences decision-making behavior. While previous research has primarily focused on interpersonal betrayal, my study provides new empirical evidence in an international context.¹²

Lastly, I also contribute to the literature on voting by showing that historical or quasi-experimental differences in long-past history are novel triggers for political preferences in addition to exposure to media ([Gentzkow, 2006](#); [DellaVigna and Kaplan, 2007](#); [DellaVigna et al., 2014](#)), and weather conditions ([Madestam et al., 2013](#)). The magnitude of my results aligns closely with those reported in existing literature.

The remainder of this paper is as follows. Section 2 provides a historical overview. Section 3 introduces the data and definition of variables. Section 4 introduces the identification strategy. Section 5 shows the results of voting outcomes. Section 6 adds robustness exercises, including alternative definitions of treatment. Section 7 discusses the differential mechanisms of collective and family memories. Section 8 concludes.

¹¹[Bauer et al. \(2014\)](#) provide evidence on how children in Georgia, shortly after the Russia-Georgia war, expressed egalitarian motivations toward their in-group. [Henrich et al. \(2019\)](#) show that war exposure increases people's religiosity.

¹²Scholars often define betrayal as a violation of trust, particularly in scenarios where one party expects another to act in their best interest, but the latter acts opportunistically instead ([Elangovan and Shapiro, 1998](#); [Bigley and Pearce, 1998](#)). This broad definition includes not only interpersonal betrayal but also institutional betrayal (e.g., by universities, workplaces, religious institutions, countries).

2 Historical Background

I investigate how the activated memories of Russian betrayal impact anti-Russian sentiments. I describe two episodes of Armenian history separated by one hundred years. I illustrate how these two events are similar and why the second event could have activated the memories of the first one.

2.1 The First Russian Betrayal and its Consequences in the Early 20th Century

WWI. I focus on present-day Armenia in the South Caucasus. Before WWI, Armenia was divided between the Russian and Ottoman Empires. During WWI, Armenians in the Ottoman Empire supported Russian troops. As compensation, the Russian Empire promised to establish an autonomous Armenian state in certain territories of Turkey and Russia. This, naturally, sharpened anti-Armenian sentiments in the Ottoman Empire.¹³ During WWI, the Ottoman Empire passed the Law of Deportation. The goal of the law was to prevent Armenians from supporting Russian troops who were fighting against the Ottoman Empire on the Eastern Front. However, the deportation in practice involved mass expulsions and killings of the Armenian community in the Ottoman Empire. Death marches and killings became even more extensive after Russian troops unexpectedly abandoned the Ottoman Empire because of the February Revolution in the Russian Empire and the political instability preceding it. The ethnic cleansing of Armenians is commonly referred to as the Armenian Genocide (1915-1920).¹⁴

The Armenian Genocide Museum has collected individual stories of genocide survivors. Most of them are descriptions of forced marches and killings of relatives. 18 (41%) out of 44 published stories also mention the retreat of Russian troops.¹⁵ For example, the son of a genocide survivor recalls his father's story on how Russian troops were retreating during WWI and what the situation was like in his city:

“Life had already started to recover in Bayazet. They wanted to reopen the school when news came that the Russians were retreating [...] I have no language to describe our situation [...] Retreating soldiers, tens of thousands of people and horses, cows, buffaloes, sheep, and the noise naturally produced by

¹³In 1914, both Ottoman and Russian authorities sent representatives to the main leaders of the Ottoman Armenian community to appeal for Armenian support during WWI. In the end, Armenians decided to support the Russian troops, considering Russia as a liberator since Russian officials, including the Foreign Minister Sergey Sazonov, made promises of autonomy to Armenian representatives (Hovannisian, 1971).

¹⁴Officially, 31 countries recognized these events as genocide, source: https://www.armenian-genocide.org/recognition_countries.html

¹⁵Source: http://www.genocide-museum.am/arm/personal_histories.php.

them who has lost his cow, who has lost his calf, who has lost his child or a relative.”

Another story recalled by children of a genocide survivor describes how Armenians in the Ottoman Empire were expecting Russian troops to save them:

“My ninety-year-old grandfather was killed in front of my eyes. From morning until sunset, shots were constantly heard from all quarters of the village. [...] The only hope for salvation was the arrival of the Russian army but it was not there. People say it is far away.”

These examples demonstrate that Armenians in the Ottoman Empire relied on Russian troops’ support. However, their expectations were not met.

Resettlement. Many Armenians managed to evade the genocide and escaped to Eastern Armenia (modern-day Armenia). According to [Hovannisian \(1971\)](#), about 200,000-300,000 genocide survivors resettled, which was 30% of the Armenian population at that time ([Korkotyan, 1932](#)). Eastern Armenia faced security, food shortage, and pandemic issues. Hence, the resettlement of survivors was not planned and carefully organized. After the end of WWI, the Treaty of Sèvres was signed in 1920. According to this treaty, 90,000 km^2 territory from the Ottoman Empire (the Western part of historical Armenia where the Armenian Genocide took place) should have been annexed to Eastern Armenia (the part in the Russian Empire) to establish an independent Armenian state. However, Lenin and Atatürk’s cooperation led to the Treaty of Sèvres being frozen and replaced by the Moscow Treaty,¹⁶ under which Western Armenia remained under Turkish control. In 1922, Eastern Armenia was annexed by the Red Army and became a part of the Soviet Union.

Locality renaming. In 1922, shortly after the resettlement of genocide survivors, 58.2% of Soviet Armenian localities had Turkish names. This was because since the 15th century, many Eastern Armenian localities were inhabited by nomadic Turkish tribes,¹⁷ who also changed Armenian locality names to Turkish ones. However, the Soviet system did not accept these Turkish names since most of them were connected to religion (e.g., Molla), and there were many villages with the same name, which complicated the postal services ([Saparov, 2003](#)). As a result, the Soviet Union initiated a centralized place-naming policy, which was carried out in several stages (Figure A.1). The naming was highly centralized and went through 4 stages from the Geographic Commission of the Armenian Academy of Science to the Presidium of the USSR Supreme Soviet (Figure A.2). This procedure suggests that local residents of localities had potentially no role in deciding

¹⁶The Treaty of Moscow, or Treaty of Brotherhood, was an agreement between the Grand National Assembly of Turkey, under the leadership of Mustafa Kemal, and Russia, under the leadership of Vladimir Lenin, signed on 16 March 1921.

¹⁷Turkish tribes residing in Eastern Armenia (also called Tatars) are different from Ottoman Turks.

the name of their locality. There are several instances in which villagers attempted to rename their villages to reflect their ancestral heritage from Western (Ottoman) Armenia, but these attempts often failed for various reasons, including political and administrative barriers. The new names given to Armenian localities were mostly standard “neutral names” that, with a literal translation, would mean garden, water, forest, etc. However, some of them were given names of localities in the Ottoman Empire that had been lost after the genocide. The Ottoman Armenian locality names were retrieved either by “New + old name in the Ottoman Empire” principal (e.g., New Kharberd, New Yerznka, New Hajn) or “Old name in the Ottoman Empire” (e.g., Sasun, Ayntap). After Armenian independence in 1991, there were still 128 (14%) localities with Turkish names that were renamed in a similar centralized way based on the decision of a renaming committee.¹⁸ Table A.1 summarizes the timing of Ottoman-equivalent renaming. It shows that in 90% of cases, the renaming took place during the Soviet period.

2.2 The Second Russian Betrayal in the 21st Century

After the collapse of the Soviet Union, Armenia declared its independence in 1991. However, after 1991, Russia continued to have a military presence in Armenia. Moreover, Armenia and Russia signed a Treaty of Friendship, Cooperation, and Mutual Assistance in 1997 at the governmental, ministerial, and agency levels. Since then, Armenians have considered Russia to be the main guarantor of their security, and traditionally, pro-Russian parties gained the majority of vote shares during parliamentary elections. According to available election data, pro-Russian parties gained, on average, 77% of the vote share in 2007-2018 across all localities in the sample studied.

In September 2020, a war escalated in Nagorno-Karabakh.¹⁹ During the war, Armenia appealed for Russian military assistance; however, it was not provided. Armenia also had contracts worth 250 million dollars with Russia, but the weapons that were ordered were not delivered. The war stopped after an agreement on the 9th of November 2020. According to the agreement, Azerbaijan took the majority of Nagorno-Karabakh territory under its control. After the war, following the ceasefire agreement, Russia sent a peacekeeping contingent of 1,960 servicemen to Nagorno-Karabakh. As a result of the

¹⁸The renaming committee consisted of different specialists, including historians, geographers, and linguists, as well as representatives from state and local institutions. There is anecdotal evidence regarding the naming of New Yerznka and New Kesaria. According to the account, a committee member had a chance encounter with the son of an Armenian genocide survivor from the diaspora. The survivor’s son shared stories about his homeland in the Ottoman Empire, specifically Yerznka and Kesaria. This encounter later inspired the committee member to suggest the names New Yerznka and New Kesaria for the renaming. Later, this committee member recalled this event as motivation for his suggestion.

¹⁹The Nagorno-Karabakh conflict is an ethnic and territorial conflict between Armenia and Azerbaijan over the disputed region of Nagorno-Karabakh, inhabited mostly by ethnic Armenians, which was de facto controlled by the self-declared Republic of Artsakh but is internationally recognized as a de jure part of Azerbaijan.

war, 5,000 people died, 40,000 people lost their homes and property, and more than 17,000 civilian facilities and infrastructure were destroyed. There was a clear perception in Armenian society that they also lost the war to Turkey as well since Turkey officially announced its support for Azerbaijan during the war.²⁰ This was the first time since the independence that Armenians lost a war and was thus a large shock to Armenian society. According to the Armenian defense minister, a major reason for the loss was Turkish assistance to Azerbaijan and the absence of Russian support to Armenia. According to Gallup International surveys during the war, 80% of the respondents considered Russia to be the main guarantor and supporter of military security in Armenia (Gallup, 2020).²¹ Hence, there were high expectations of Russian military help during the war.

This military loss led to a political crisis in Armenia, which eventually ended with parliamentary snap elections. During this election, pro-Russian parties had on average a 34% vote share across all localities in the sample studied (Table A.3).²²

2.3 Historical Parallels

After the war, narratives about the similarities of the historical events that happened in the 20th and 21st centuries started circulating in Armenian society and media. The first parallel between the Armenian Genocide and the 2020 war was made by the prime minister of Armenia who, during a speech after the first week of the war, mentioned:²³

*“The aim of this war is to continue the Armenian Genocide.[...]However, today, here I want to say that Armenians, citizens of the Republic of Armenia, citizens of the Republic of Artsakh, are no longer travelers of Deir ez-Zor.”*²⁴

This speech had about 1.1 million views on the prime minister’s official Facebook page. During another speech after the war, the Armenian prime minister stated in the Parliament:²⁵

“[...] During the 44-day war, our allies (Russia) have participated in the preparation of this war but not from our side. [...] They created an imitation that they want to help us, but it is not true [...]”

²⁰For more discussion see, for example, <https://www.cbc.ca/news/politics/arms-sales-turkey-canada-1.5984453>, <https://www.gmfus.org/news/turkeys-overlooked-role-second-nagorno-karabakh-war>.

²¹Gallup International held a survey in Armenia during the 2020 war (30.10.2020) and asked the following question: “In your opinion, which country must guarantee the security of Armenia and provide military support?”. Source <https://gallup.am/>.

²²Historically, pro-Russian parties had large vote shares before 2018. There was a revolution by a pro-EU political party, which explains the sharp decline in pro-Russian party voting in 2018. However, this decline does not differ in family and collective memory places as compared to without memory places.

²³Access to the speech in Armenian via https://www.youtube.com/watch?v=_0X4tVX58GQ.

²⁴The Deir ez-Zor camps were concentration camps in the center of the Syrian desert in which many thousands of Armenian refugees were forced into death marches during the Armenian Genocide.

²⁵Access to the speech in Armenian via <https://news.am/arm/news/824834.html>.

Figure A.7 shows that Google searches of “Armenian Genocide” from Armenia have become more frequent after the 2020 war. Historians also highlighted many facts and symbolic figures that were similar during the 1920s and 2020s.²⁶ Armenian media was also full of narratives making parallels between Ruso-Turkish cooperation in the 1920s and 2020. For example, the following narratives appeared in Armenian media (see Figure A.6):

“Russia betrayed us in this war [...] A hundred years ago, the Bolsheviks sold Armenia to the Turks, and now Putin did the same.”

“Turkey and Russia are trying to give a second life to the Lenin-Ataturk plan[...].”

In addition, several historians initiated a YouTube channel called “Russo-Turkish Trap” to highlight the parallels between current and past events in Armenian history from the perspective of Russian-Turkish cooperation. The weekly videos on this channel received around 10,000 views.

Another indication of anti-Russian sentiments is provided by Figure A.8, which shows survey results for “Armenia’s main friend country”. After the 2020 war, the share of respondents considering Russia as a main friend country decreased from 57% (2019) to 35% (2021). Given all these narratives by politicians, historians, and media, as well as survey and Google Trends statistics, I argue that the 2020 war activated memories of a century-old Russian betrayal.²⁷

3 Data and Treatment Definition

3.1 Data

I combine a battery of hand-collected archival data with official census and voting data. The main outcome variable is the voting results of national elections. Voting results and turnout rates for 2007, 2012, 2017, 2018, and 2021 for each polling station are publicly available on the official website of the Central Electoral Commission (CEC) of the Republic of Armenia.²⁸ There are more than 2,000 polling stations that are aggregated into

²⁶One of the most discussed similarities between the loss of Kars in 1918 and the loss of Shushi in 2020. Both were famous fortress cities: Kars in West Armenia (current territory of Turkey) and Shushi in Nagorno-Karabakh (current territory of Azerbaijan). However, both were lost quite easily in unknown circumstances.

²⁷I do not consider any anti-Russian or pro-Russian sentiments after the first Nagorno-Karabakh war in the 1990s since Armenia was the winning side. The intuition is based on attribution, self-defense bias, and defensive attribution theories, claiming that the winner usually assigns the success to himself. In contrast, failures try to find the guilt in others.

²⁸The data for earlier election years (1995, 1999, 2003) is not available either electronically or in the archives. However, for earlier elections, all parties that participated in the elections were pro-Russian. Hence, the outcome would not vary even if the data was available.

891 localities. In addition, the CEC publishes the signed lists of voters who participated in the elections. These lists contain the name, surname, date of birth, address of the voter, and his/her signature if he/she went to the polling station and voted (see Figure A.10 as an example). Hence, this rich dataset, which I digitalize, provides the gender and age structure of registered and participated voters. The gender variable is created based on the classification of names.²⁹ I also use the precise addresses of voters to construct a measure for Household (HH) size in each locality. In addition, I use the availability of surnames to understand the ancestry of each voter and create a measure of the ancestral background of each locality.

The other primary data sources for this paper are two dictionaries: one for Armenian surnames and the other for Armenian geographical places. The first was used to classify surnames as Ottoman-Armenian, and the second was used to trace name changes of localities. I also use the Caucasus barometer, a biyearly repeated cross-section survey. This survey contains a direct question about respondents' willingness to marry, or do business with different nations, with one of the options being "Russians". I use school grade data of the Ministry of Education from 4 regions (40% of the main sample) to also observe some behavioral changes among schoolchildren.

For geographical and demographic controls I use Armenian and Soviet census data from the Armenian National Archive. I use the Soil caloric suitability index from Galor and Özak (2016) for soil quality. In addition, Chopin (1852) contains data on the number of Muslims and native Armenians by gender and location. It also provides information on the number of domestic animals in each village. Data on births, deaths, and marriages during 1840-1880 is digitized from Armenian parish records and would serve for balance checks. To control localities' economic development, I have also collected data on locality budgets from their official websites.

Party classification (pro-Russia, pro-European) is based on the party's officially published election programs. In particular, each program has a section about the party's foreign relations direction, and principal partner countries are mentioned according to their relative importance. Being pro-Russian is indicated by considering Russia as the main guarantor of military security in Armenia and supporting Armenia's membership in the Eurasian Economic Commission (EEC).³⁰ Pro-European parties are identified based on their support for joining the European Union (EU) and relying on European military support. Table A.2 provides the classified list of parties. Appendix B provides more details on data, lists all relevant data sources, and describes the construction of my dataset. Table A.5 shows the summary statistics for main voting outcomes and socio-economic and geographic variables in 2012 (pre-war) and 2021 (after war). The average total pop-

²⁹For more details, see Appendix B.

³⁰Currently, there are five EEC countries: The Republic of Armenia, the Republic of Belarus, the Republic of Kazakhstan, the Kyrgyz Republic, and the Russian Federation.

ulation in the sample studied is around 1,400, with the highest population share in the 35-64 age group. The average local budget is 3,200 AMD (≈ 8 EUR), which is relatively low compared to the capital Yerevan (≈ 200 EUR). The comparison of voting results in 2012 and 2021 indicates a sharp decline in turnout and pro-Russian voting. Finally, the bottom panel shows the geographic characteristics of localities in the sample.

3.2 Treatment Definition

I use various historical sources to define the primary treatment variables. Family memory treatment relies on survivors' resettlement patterns and their distinguished surnames. To define collective memory localities, I track the timing of renaming and compare it to the pool of Armenian locality names in the Ottoman Empire.

Family memory. The dictionary of Armenian surnames by [Avetisyan \(2010\)](#) provides information on the origins of more than 18,000 Armenian surnames. Ottoman surnames are usually identified by Turkish word roots (e.g., Mejlumyan, Yakhshibekyan, Nabatyan), spelling rules typical to Western (Ottoman) Armenian³¹ or location roots in surnames (e.g., in surnames: Adanalyan, Yerznkyan, Erzurumtsyan Adana, Yerznka, and Erzurum were Armenian localities in the Ottoman Empire). I use these features to identify the share of voters with Ottoman ancestry.³² The second source is [Hakobyan et al. \(1986\)](#), which contains historical, geographical, and socio-economic information about Armenia's localities and surrounding areas. It lists the ancestral origins of current residents when it is known that their ancestors migrated from elsewhere. The treatment of family remembrance is defined in two alternative ways:

1. dummy: family memory = 1 if genocide survivors settled in the locality according to the 1922 census³³
2. continuous: family memory = share of voters with an Ottoman Armenian surname

Figure [A.9](#) illustrates a right shift in the distribution of Ottoman Armenian surnames in the family memory localities compared to without memory places. In contrast, there is no such shift observed in the collective memory distribution. One piece of evidence that villagers of family memory places are well aware of their ancestral background is documented in the field interviews ([Arbatli and Gomtsyan, 2019](#)). During the interviews in two villages, which correspond to the family memory treatment in this paper [Arbatli](#)

³¹Western Armenian has quite distinct spelling rules from Eastern (current) Armenian. In Eastern Armenian, some groups of letters are not allowed to be written in the middle of the word, while it is allowed in Western Armenian. In addition, Western Armenian surnames end with "ean" or "ian" as compared to typical "yan" for Eastern Armenians.

³²

³³The original 1922 census data is not available and I use [Hakobyan et al. \(1986\)](#) dictionary, which is based on that census. In particular, for each place, the dictionary mentions where and when the ancestors of the current inhabitants came from if they were not natives.

and Gomtsyan (2019) document that villagers know several family stories about their ancestral homelands and the migration and settlement experience of their ancestors.

Collective memory. I define collective memory based on the naming year and the existence of the same or similarly named Armenian locality in the Ottoman Empire before 1915. Collective memory = 1 if the following two conditions are satisfied:

1. naming year >1920
2. there was an Armenian locality with the same name in the Ottoman Empire before 1920³⁴

Table A.4 illustrates that, in fact, *collective memory* defined on the locality name is highly and positively correlated with the existence of a genocide memorial in the locality. However, the presence of genocide survivors does not increase the probability of genocide memorial construction (the coefficient is negative and insignificant).

There are two main reasons I define collective remembrance based on the locality’s name rather than the presence of a genocide memorial. Firstly, in all localities, naming happened before the memorial’s construction. Secondly, the treated sample of collective memory is larger ($N = 108$) if the definition is based on the locality name compared to the sample with a memorial ($N = 24$). However, the baseline regression is repeated with the collective memory defined on the memorials, and the main results do not differ.³⁵ I use the number of years since acquiring the Ottoman Armenian name as an alternative continuous measure of collective memory in the robustness checks.

4 Identification Strategy

In identifying how family and collective memories influence voting preferences, I exploit the ancestral background and the naming of localities in the difference-in-difference (DiD) framework with four pre-treatment and one post-treatment periods. I check the conventional assumption of parallel pre-trend, orthogonality of treatment to observable characteristics, and the stability of demographic and socio-economic covariates after the 2020 war.

4.1 The Main Empirical Model

To understand if the repeated history triggers different behaviors among family and collective memory places, I use a DiD framework with the following specification:

$$Y_{it} = \alpha_i + \gamma_1(C_i \times Post2020_t) + \gamma_2(F_i \times Post2020_t) + \gamma_3(F_i \times C_i \times Post2020_t) + X'_{it}\rho + \delta_t + \epsilon_{it} \quad (1)$$

³⁴There can be some minor spelling differences because of different grammar rules in the West and East Armenian languages.

³⁵Another robustness check is done by combining naming and genocide memorial in one “combined collective” memory variable, and again, the main results remain stable.

$$i = 1, 2, \dots, 891 \text{ and } t = 2007, 2012, 2017, 2018, 2021$$

Where Y_{it} describes outcomes (turnout, pro-Russian party vote share, pro-European party vote share) or survey data sentiments (willingness to marry Russians, willingness to do business with Russians, main friend country etc.) in locality i in national election year t . F_i is a locality-specific dummy that equals one if genocide survivors settled in the locality i according to the 1922 census. As an alternative measure of family remembrance I use the share of voters with Ottoman surnames. C_i is the collective memory dummy variable defined in Section 3. The reference group is the localities that do not have any connection to the Armenian Genocide and Russian betrayal either through their residents' ancestors or via their names. Time specific dummy variable $Post2020_t = 1$ for national elections after 2020 and $Post2020_t = 0$ before 2020. γ_1 captures the effect of collective memory, γ_2 represents the effect of family memory and γ_3 captures the interaction effect of both types of memories.

I include locality fixed effects α_i to control for time-invariant local characteristics and election year fixed effects δ_t to capture political trends and temporal idiosyncrasies. X'_{it} is a set of control variables at the locality level, including the total number of eligible voters (in logs) and socio-demographic and economic covariates (total population (in logs), population shares of females, age group shares, the share of Yazidi minority, and locality budget per capita). ε_{it} is the vector of the error term. I also run a specification where I interact year fixed effects with district fixed effects, distance to the Turkish border, and distance to the regional capital. This accounts for potential triggers of specific regional differences that might matter after the war but not before.

The difference-in-differences models are estimated using ordinary least squares (OLS) applying the approach by [Colella et al. \(2023\)](#) using spatially clustered standard errors. I use the most conservative inference with a 40km spatial cutoff, which yields the largest standard error in the baseline model.

In the final sample, I include only localities with a population of less than 10,000 as of 2007, the earliest pre-treatment period. The sample comprises 891 localities, predominantly villages. Among these, 25 are small towns with definable ancestral backgrounds. Major cities in Armenia are excluded from the sample due to the predominant pattern of internal migration from villages and small towns to major cities. This migration makes the ancestral backgrounds of major cities ambiguous (i.e., [Hakobyan et al. \(1986\)](#) dictionary does not clarify the ancestral background (West Armenian vs. East Armenian) of large cities, likely due to their mixed heritage).³⁶

³⁶I repeat the main analysis for the full sample, including major cities ($N = 22$). The definitions of continuous family memory treatment and dummy collective memory treatment are identical to those in Section 3. All big cities are assigned into the family memory=0 dummy group. The main results in magnitude and significance remain stable, as shown in Table A.17.

4.2 Identification Assumptions

Parallel trend assumption. Firstly, the key identifying assumption of the difference-in-differences approach is that localities with betrayal memory follow a common trend in vote shares for pro-Russian parties that would have continued in the absence of war in 2020. Panels (a) and (c) of Figure 2 show the pro-Russian vote shares from 2007 to 2021 in family memory and without memory (control group), collective memory, and without memory (control group) localities, respectively. In the right-hand side panels (b) and (c), the coefficients of the vote share differences are plotted in an event-study setup. The coefficients of the event-study setup are standardized to the last pre-war election in 2018. The coefficients of differences in pro-Russian vote shares are not significantly different from zero in the entire pre-war period. Thus, pre-war trends do not differ between family vs. without memory and collective vs. without memory localities, indicating parallel pre-war trends. After 2020, however, pro-Russian vote shares decreased in family memory localities compared to the without memory ones. The same pattern applies to collective memory and without memory localities: after the war, localities with collective memory voted less for pro-Russian parties. The universal decrease in pro-Russian vote shares in Armenia is observed because of a revolution made by a pro-European party in 2018.

[Figure 2 about here]

Balance of treatment. The second underlying assumption for identification is the orthogonality of genocide background to observable characteristics before the resettlement of survivors. Oral evidence suggests that resettlement happened in an unsystematic manner (Hovannisian, 1971). What historical sources report about resettlement is more consistent with a haphazard settlement process than planned location choices.³⁷ Many migrants initially considered their new homes temporary as they had high hopes of returning to their homelands. Thus, I do not expect to find any systematic resettlement patterns other than geographic patterns, such as proximity to the Turkish border. To test this, I collect data on the geographical features of localities. Pure mean comparisons reported in Table A.5 show that family memory localities are closer to the Turkish border. However, there are no significant differences once conditioned on the district fixed effects, as shown in Panel A of Table 1.

[Table 1 about here]

Panel B of Table 1 provides empirical tests on whether geography predicts collective memory of the localities. All geographic controls, including soil caloric suitability index,

³⁷There may be concerns that genocide survivors would have migrated from Armenia after their resettlement in 1920, following Armenia’s annexation into the Soviet Union (1922). However, due to restrictive migration policies enforced by the Soviet Union, only a limited number of resettled genocide survivors left Soviet Armenia, estimated at 5-6% (source: <https://hetq.am/hy/article/80215>). Assuming that those who managed to migrate were more anti-Russian than those who stayed, the results presented in this paper should be considered a lower-bound estimate.

minimum and maximum temperature, ruggedness, distance to the Turkish border (log), and distance to regional capital (log) are balanced.

In addition, Table A.6 shows the balance of control and treatment groups on pre-1915 socio-demographic and economic covariates. Most of the features are balanced across treatment and control groups. In particular, average age, average death age (as a proxy for health conditions), female marriage age (as a proxy for female autonomy), and the number of per capita draft animals and cows (as proxies for economic conditions) do not predict the resettlement location. The only exception is the male marriage age, which is high in collective memory places.³⁸ Pre-settlement Muslim population share is higher in family memory localities. The reason is that most of the Tatar population, fighting on the side of the Ottomans, left their villages in Armenia after WWI. Afterward, some groups of genocide survivors resettled in those abandoned places.³⁹

Balance of controls. Third, I check the balance of demographic and socio-economic covariates before and after the 2020 war. Column (3) in Table 1 tests for this crucial difference-in-differences assumption. I chose the year 2012 out of the pre-treatment periods since most of the variables are available for this year. In Panel A, columns (1) to (2) show the mean differences between family memory and without memory localities, conditioned on district fixed effects for the pre-war (2012) and after-war periods (2021) respectively. Column (3) reports difference-in-differences estimates that compare the change in differences between columns (1) and (2). The first row previews the pro-Russian parties' vote share differences as the main outcome. Pro-Russian parties' vote share decreased from 2012 to 2021 in family memory places compared to those without memory. There are no differences in the electorate, showing that the shift in voting does not result from an extensive margin. The rest of the Panel A shows covariates. The average HH size, female share, total population, and local budget per capita do not differ before or after the war. The number of 2020 war deaths is also balanced across treatment and control groups. The only demographic indicators that differ somewhat are "16-34" and "> 65" age group shares. However, the difference is negligible. I also include age group shares interacted with year fixed effects in the main specification.

In Panel B the same analysis are performed for localities with collective memory. In this case, pro-Russian party vote shares also differed between the treated and control groups after the war. "> 65" age group shares are also slightly different; however, the difference is negligible and controlled in the main specification. The remaining variables in Panel B do not indicate any differential pattern between the treated and control groups

³⁸The data on pre-1915 covariates is not fully available in the Armenian National Archive. For some localities, it is because they did not exist before 1915. However, for some localities, the parish records were not saved. I check that the missing data is not correlated with either collective or family memory treatments (for more details, see Appendix B).

³⁹To exclude the concerns that resettlement in previously Muslim populated areas could be another trigger of remembrance in the robustness checks, I restrict the family treatment to only localities newly founded by genocide survivors, and the main results remain stable in terms of magnitude and significance.

after the 2020 war.

5 Results

Table 2 shows the main results from the difference-in-differences estimations. Column (1) shows the difference-in-difference estimate for combined memory (either collective or family) without any control variables except locality and year fixed effects. Column (2) includes district fixed effects interacted with year fixed effects, geographical controls (ruggedness, distance to Turkish border (log), distance to regional capital (log)) interacted with year fixed effects, pre-treatment controls (share of female population, shares of 25-34, 35-44, 45-64, above 65 age groups, the share of Yazidi minority, local budget per capita) interacted with year fixed. These interaction terms control for potential regional characteristics that may change over time, i.e., regional campaign capacity in the respective region or the role of closeness to the Turkish border in activating memories. The control variable that varies over time is the electorate in the log. The results show negative and statistically significant effects of betrayal memory (combined) and war interaction on pro-Russian parties' vote share.

[Table 2 about here]

Columns (3) and (5) compare collective memory and family memory localities with the localities without memory. Columns (4) and (6) add the same set of controls as column (2). Again, I find a negative and statistically significant effect of family and collective memories on pro-Russian voting.

Column (7) adds both types of memories and their interaction after the war and column (8) adds the set of controls interacted with year fixed effects. Table 2 shows that both collective and family remembrance drive the voting behavior in the same direction. On average, after the 2020 war, pro-Russian parties' vote share in family memory localities decreased by around 3.0 percentage points relative to the vote shares in localities without memory. Similarly, after the 2020 war, pro-Russian parties' vote share in collective memory localities decreased by around 3.0 percentage points relative to the vote shares in localities without memory (relative size is 9%). I also test the hypothesis $H_0 : \gamma_1 = \gamma_2$ and do not find evidence to reject it ($p = 0.82$), which confirms that both collective and family remembrance have similar effects on pro-Russian voting.

As for the interaction of the two types of memories, there is no added effect since, in all specifications, the coefficient of interaction term remains insignificant. However, this result should be interpreted with caution since only eight localities have both types of memories in the studied sample. Table 2 also reports the effect size of both types of memories (partial R^2). Naturally, the combined memory in columns (1)-(2) has the highest effect size (5.2-5.6). When decoupling the effect size in column (8), I find similar effect

sizes for both types of memories. So, indirect collective exposure to the Russian betrayal results in significant negative voting for pro-Russian parties. This effect is comparable to the negative voting observed when the memories of the betrayal are activated for those individuals who have direct exposure of ancestors to the betrayal.

Inferences in Table 2 are based on the largest standard errors given by a cutoff of 40 kilometers for spatial-dependent standard errors. In Table A.16, I carry out robustness checks with different cutoffs, and the results are robust to all ways of clustering.

6 Robustness

I test the robustness of results in a DiD framework. I define alternative continuous family and collective memory treatment measures in Section 6.1. Section 6.2 examines the sorting of voters with family memory into collective memory localities. I balance with and without memory localities on pre-2020 war covariates (Section 6.3). Finally, I investigate pseudo-activation periods in Section 6.4.

6.1 Alternative Definitions of Memory

To address concerns about internal migration following the resettlement of genocide survivors and to measure treatment intensity, I define alternative measures of treatment. I construct a continuous treatment variable of family memory based on the surnames of voters in 2021 to address migration concerns of constructing a categorical family treatment variable based on historical sources. This approach is based on the research that documents the informativeness of family names even in ethnically homogeneous populations (Güell et al., 2014). In particular, the share of Ottoman surnames in each locality is calculated for each locality. Figure A.12 shows that the parallel pre-trend assumption is also satisfied for the continuous treatment case. I also replace the dummy indicator of collective memory with the number of years the locality holds the collective memory name. Columns (1)-(2) of Table 3 repeat the results of columns (7)-(8) of Table 2 while replacing the indicator variables of family and collective memory with continuous counterparts. Results are robust to the continuous measurement of the treatments. In particular, a one percentage point increase in the share of Ottoman surnames among voters decreases pro-Russian voting by 0.09 percentage points, and one additional year of having collective memory name decreases pro-Russian voting by 0.04 percentage points. The interaction term remains insignificant as in the main specification. In columns (3)-(4), the family remembrance treatment sample is restricted to the new localities that genocide survivors established, and the localities that just hosted genocide survivors are excluded from the sample. The results are robust in terms of the signs and significance of the main coefficients of interest. Moreover, I observe a slightly higher effect (around 4.0

percentage points) as compared to the main specification (around 3.0 percentage points). This check excludes the alternative explanation that a high share of the Muslim population in the pre-settlement period could be another trigger of genocide and betrayal memories, as discussed in Section 4.

[Table 3 about here]

6.2 Sorting

I check if results are driven by the fact that voters with family memory choose to live in collective memory places or by their impact on the collective naming of their locality. In columns (1)-(2) of Table A.7, I carry out analysis for the sample that excludes Ottoman name localities to address some potential concerns connected to the selective migration of genocide survivors' generations to Ottoman name places. The significance and magnitude of the coefficients remain stable, confirming that results are not driven by selective migration. Columns (3)-(4) test the effect of collective memory, excluding localities with family memory from the sample, and again, results remain stable. In columns (5)-(6), the collective memory treatment effect is estimated with respect to a subsample of the control group. In this subsample, I keep only those places without memory that were renamed after 1920. This control group is closer to the collective memory group in terms of naming background and addresses the concerns related to the selective renaming process (e.g., localities that were not renamed after 1920, thus keeping their old historical names could potentially have a different social capital structure to resist the decisions of Soviet authorities.). As Table A.7 confirms, the negative effect of 2-3 percentage points for pro-Russian voting remains stable. Table A.8 also tests if collective memory correlates with the continuous family memory measure (share of Ottoman surnames), i.e., if residents with family memory choose to live in collective memory places. I test this for the full sample and restrict the sample to only those localities that were renamed after 1920. The insignificant and negative coefficient of the Ottoman surname share from OLS estimation does not support the selective migration hypothesis.

6.3 Matching

As discussed in the Results section treatment and control groups of localities may have some different characteristics. This is due, among other reasons, to their differences in proximity to the Turkish border and the resulting economic and demographic trends. I have already addressed such concerns by interacting geography variables and pre-treatment controls with year fixed effects. I introduce propensity score matching and entropy balancing (Hainmueller, 2012) to balance localities over pre-war covariates. Table A.9 shows the results of the balancing procedures. In column (1), balancing and

matching are done on the 2012 census population, in column (2) on geographical features (ruggedness, distance to the Turkish border (log), distance to the regional capital (log)), in column (3) on demography (age groups, HH size, female population share, Yazidi minority share), in column (4) on local economic development measured by local budget per capita. All point estimates remain negative and mostly significant. Thus, the effects are not driven by pre-war differences that might act as salient markers to activate history.

6.4 Timing of Treatment

I test whether memories have affected election outcomes before the start of the war. In Table A.10, I interact pre-war periods with two types of memories and compare them with the baseline results. I roll over the treatment period of two consecutive national elections to the elections before the start of the war in 2020 (in 2017 and 2018). I keep the election in 2012 at least to have two pre-treatment periods. These pre-war periods do not show any vote share differences between the treated and control groups. These results confirm that both memory (collective and family) and the war (memory activator) are key to shaping anti-Russian sentiments.

7 Mechanism

This paper has shown that memories of the distant past transferred either through families or locality names (collective memory) once activated could drive the voting behaviour of individuals. This section investigates the mechanisms at work in more detail. First, I employ other voting outcomes in Section 7.1 and show that collective memory motivates post-war turnout while family memory does not. I then study the social fabrics of localities in Section 7.2. Section 7.3 studies the turnout rates of movers, and Section 7.4 reveals the contextual differences between family and collective recallings. I also test for strategic campaigning (Section 7.5) and employ survey and schooling data for different measures of anti-Russian sentiments (Section 7.6). Heterogeneous effects are analyzed in Section 7.7. Lastly, I examine the effects of US and Russian ties on voting in Section 7.8.

7.1 Other Voting Outcomes

First, I investigate the underlying mechanism behind the voting behavior. In particular, whether voters in the memory places changed their political preferences or whether the effect is due to the change in turnout. Table 4 reports the results for three additional voting outcomes: turnout, nationalist parties' share, and pro-European parties' share. Columns (1)-(2) indicate that turnout is increased only by collective memory, not family memory.

[Table 4 about here]

Collective memories of historical events carry significant cultural and symbolic weight. They represent pivotal and challenging moments in a nation’s history, evoking a sense of collective responsibility. This feeling may motivate individuals to engage more actively in the democratic process, including voting. Family memories, while meaningful and emotionally significant within the family, may not carry the same level of historical or symbolic weight that collective memories do, potentially leading to no effect on turnout rates. Since electoral turnout is a widely used outcome-based measure of social capital (Putnam et al., 1993; Guiso et al., 2004; Lichter et al., 2021) I suggest that the anti-Russian voting of collective memory places acts through social capital.

In columns (3)-(4) of Table 4, the outcome variable is the share of nationalist parties. Here, both family and collective memory do not motivate nationalism, and if anything, the effect is negative. However, this observation should be interpreted with caution since nationalist parties participated in the elections since 2018 and it is not possible to observe the variation of voting for nationalists before that. In columns (5)-(6), the outcome variable is the share of pro-European parties. Here, both family and collective memory positively affect pro-European voting. This finding suggests that family memory of betrayal switches political preferences from pro-Russian parties to pro-European parties with the same level of turnout.

7.2 Social Capital

To provide more evidence that collective memory relates to social capital positively, while family memory relates negatively, I use survey outcomes on “trust” associated questions. I base this on the literature arguing that trust is a proxy for social capital (Coleman, 1994; Putnam et al., 1993; Glaeser et al., 1999). Table 5 shows the level of trust towards people and different institutions (parliament, government, court) by comparing collective and family memory treatment with the control group. While before the war there were no significant differences in trust levels in both collective and family memory places, I find that trust depreciated in the family memory places after the activation of betrayal memories. This is in line with the literature claiming that low trust is associated with the history of traumatic experiences (Alesina and La Ferrara, 2002; Nunn and Wantchekon, 2011), which is likely the case for family memory of betrayal.

[Table 5 about here]

Other evidence that family and collective memory localities differ in their social fabric is provided by Figure 3 which links the surname entropy index with family and collective memory treatments. The entropy index as a diversity measure of surnames is considered a proxy for both informational and social-psychological aspects of localities (Bell et al.,

2019). In particular, it is documented that surname diversity is associated with weaker family ties and lower trust in strangers (Posch et al., 2023). Figure 3 confirms that in family memory localities surname diversity is low, hence family ties are high. On the other hand, in collective memory places, surname diversity is high, hence, trust (as a proxy for social capital) is high. This finding corroborates the previous finding on turnout and trust in others. To summarize, I find that the social fabric is different in collective and family memory places, which suggests that anti-Russian sentiments after activation of betrayal memories act through different channels: in collective memory places through social capital, in family memory places through trauma.

[Figure 3 about here]

7.3 Movers

When individuals relocate, their cultural beliefs, norms, and values move with them, but the external environment they face is left behind. This idea is intensively used in the literature to distinguish between factors internal to the individual (like norms and beliefs) and factors external to individuals (like domestic institutions) (Ichino and Maggi, 2000; Nunn and Wantchekon, 2011). I use individual level turnout outcomes of movers from two regions⁴⁰ to test if collective memory is attached to the place and family memory to the individuals per se. Movers are defined based on voters' lists in 2017 and 2021.

Figure A.13 shows the comparison of turnout rates across four groups of movers: from non-collective places to collective ("NC to C"), collective places to non-collective ("C to NC"), from non-family places to family ("NF to F") and from family places to non-family ("F to NF"). The control group consists of movers who are not included in the previous four groups. As Figure A.13 shows, the differences in turnout remain constant in "NF to F" and slightly decrease in the "F to NF" group as compared to the control group. However, there is a clear shift in the gap sign of the "C to NC" and "NC to C" groups of movers. On one hand, "NC to C" movers begin to participate in voting; on the other hand, "C to NC" movers cease to engage in voting activities. This finding supports the previously stated hypothesis that collective memory is closely tied to the environment, while family memory is internalized within individuals.

DiD estimates in Figure A.14 further confirm that relocation does not alter the voting behavior of "NF to F" and "F to NF" movers. However, "NC to C" movers increase their turnout, a proxy for social capital, while "C to NC" movers show a decrease their turnout. This evidence again supports the immobility hypothesis of collective memory

⁴⁰Because of data digitization constraints I focus on two regions (Aragatsotn and Armavir). It represents 24% of total voters, and voting results for this subsample are similar to the full sample results in Table 2 and Table 4.

and the mobile nature of family memory, highlighting the distinct characteristics of these memory types.

7.4 The Context of Recall

I deep-dive into the context of recalling the Armenian Genocide and Russian betrayal through family stories and commemorations to figure out how family and collective recall differ in their nature. For family stories, I use 44 published stories of genocide survivors, which the survivors' children have transferred to the Armenian Genocide Museum. To reveal the collective memory context, I exploit the commemoration texts published on the collective memory localities' Facebook pages during 2020-2021.

41% of the individual stories mention the retreat of Russian troops and describe the killings of their relatives after the retreat (see examples in Section 3). In contrast, none of the published commemoration texts directly mention *Russia* or *Russian troops*. However, 90% of these texts emphasize themes such as “not relying on foreign countries” and “learning from history”. Using Artificial Intelligence (AI) tools, I also categorize the survivor stories and commemoration texts into groups: “only tragedy” vs. “positive, hopeful” and “individual” vs. “national” tragedy. AI analysis reveals that 72% of survivor stories fall under “individual” tragedy, whereas only 16% of commemoration texts do. Additionally, AI classifies 7% of individual stories as “positive, hopeful” compared to 70% of commemoration texts.

These findings highlight a significant disparity between family and collective narratives, with family stories predominantly portraying personal tragedies and collective commemoration texts focusing more on positive and hopeful messages. This is also in line with findings in Sections 7.1-7.3 suggesting that the increased turnout rates and trust in collective memory localities result from the positive context of commemorations focusing on historical consciousness and nation-building rather than the tragedy only.

7.5 Strategic Campaigning

If parties are aware of collective and family memories, their campaigning may differ between with and without memory places. Table A.11 shows if the distribution of campaign posters differs in these groups. The outcome variable in the first two columns is the number of pro-Russian party posters within a 10 km radius of the locality. The number of pro-European party posters in the last columns is calculated within the same radius. Poisson regression results indicate that there was no strategic campaigning in family and collective memory places before or after the war in 2020. Hence, parties did not target localities to trigger activated history effects. The observed negative effects in Table 2 are driven by the demand side rather than the supply side.

7.6 Other Measures of Anti-Russian Sentiments

I employ geocoded survey data from the Caucasus Barometer, which provides a battery of survey questions on respondents' beliefs, values, and social-demographic features. This is repeated cross-sectional data collected every two years. Collective and family treatment are assigned based on respondents' locality. Given some data limitations connected to the consistency of survey questions over time, I concentrate on the following questions: 1. What is the main friend country of Armenia? 2. Is the respondent willing to marry some particular nationalities, including Russians? 3. Is the respondent willing to do business with some particular nationalities, including Russians?

Table 6 shows probit estimation results. In columns (1)-(2), the dependent variable takes the value one if the respondent mentions Russia as a main friend country of Armenia and zero otherwise. Column (2) controls for age, gender, education, and economic status of the respondent. I find that places with family memories are less likely to report Russia as a main friend country. In addition, I carry out a similar analysis for the survey question about the main enemy country of Armenia (not reported) and do not find any increased probability of mentioning Russia as the main enemy. In columns (3)-(4) I investigate the respondents' willingness to do business with Russians. The coefficients are negative; however, they are not significant. Columns (5)-(6) test the change in willingness to marry Russians. Again I do not find any differential attitude between memory and non-memory places after the war. The results from survey data suggest that there is some anti-Russian sentiment because of activated family memories. However, this attitude is, firstly, more against the country rather than the Russian people, and secondly, it is in the form of decreased friendship rather than increased hostility.

[Table 6 about here]

I also use schooling outcomes from 4 regions of Armenia (40% of the original locality sample) to test if anti-Russian sentiments are expressed in learning Russian among schoolchildren. Figure 4 shows event study results at the village level. The outcome variable is the ratio of Russian language grades over other foreign language grades averaged across schoolchildren in each locality. I find that in family memory places, there is no differential effect before and after the war. Conversely, in collective memory places, there is an activated negative effect after the war, which fades out over time. Schooling outcomes on the student level presented in Table A.12 again confirm that schoolchildren in collective memory places have lower performance in the Russian language after the war. In contrast, the effect is even slightly positive in family memory places. Overall, anti-Russian sentiments are mainly within political views but extend somewhat into a broader context.

7.7 Heterogeneity

One dimension of heterogeneity is the size of the locality. Table A.13 shows the results for two subsamples based on population in 2007. Columns (1)-(2) report the results for the bottom 30th and top 70th quantiles, respectively. I observe that collective memory decreases pro-Russian voting mainly in small places, while the family memory effect is not significant in small places. The results in the top 70th percentile subsample are similar to the baseline full sample results. This aligns with the literature arguing that collective memory is often preserved within small communities through storytelling that reinforces shared historical narratives (Green, 2011; Thomson, 2011). This finding suggests that collective memory is well preserved in small places through oral traditions and memorial practices, which increased the historical consciousness of Armenia-Russia relations over the last century. As Table A.4 confirms, in fact, in collective memory places, there is a higher probability of having a genocide memorial.

I also explore the heterogeneity of collective memory locality names. Intuitively, locality names that start with the word “New” could receive more attention and trigger awareness of betrayal history. In Column (3) Table A.13 I test this by including an interaction between collective names that start with “New” and post-2020 war dummy. The results show that the effect doubles in those places, highlighting the importance of the catchable locality name. Column (4) checks the heterogenous effect of “pseudo New” names, which contain “New” but are not related to lost Armenian places in the Ottoman Empire (e.g, Nor Gyugh, which means new village). The analysis reveals no significant effect, indicating that both the presence of “New” and the association with Ottoman names are crucial in triggering collective memory. I introduce a different set of prominent collective names, determined by whether the locality name is inscribed on the main wall of the Armenian Genocide memorial.⁴¹ The results do not show any boosting negative effect in those salient places. I interpret the findings of Columns (3)-(5) in Table A.13 that the naming pattern plays a key role in generating collective remembrance. However, the name catchiness triggers the memory rather than its deep historical background.

7.8 Russian and US Ties

The direct presence of Russian military bases may influence local sentiments. I conduct a heterogeneity analysis by splitting the sample based on proximity to Russian military bases in Armenia. Columns (1)-(2) of Table A.14 show results for areas within the median distance from these bases, while columns (3)-(4) cover areas beyond this distance. Localities farther from the Russian military exhibit stronger anti-Russian sentiments

⁴¹The genocide memorial in Yerevan was founded in 1965. Every year on April 24th, the Armenian Genocide Remembrance Day, thousands of Armenians gather at the memorial to commemorate the victims of the genocide. On the walls of the memorial, the list of around 50 Ottoman Armenian localities is mentioned where many Armenians were killed during the genocide.

due to family memories, whereas collective memory loses significance. This suggests that Russian presence suppresses anti-Russian sentiments derived from family memories but not from collective memories, highlighting the traumatic nature of family memory. Columns (5)-(6) add distance to Russian military bases, interacted with year fixed effects, to the baseline specification in Table 2, showing stable results.

To examine the impact of ties with Russia or the US on anti-Russian sentiments, I restrict the sample in Table A.15 Columns (1)-(2) to the top three regions connected to each country. Russian connectedness is based on Google searches for “Russian Ruble”, indicating ties through migrants and remittances. US connectedness uses the Facebook Social Connectedness Index, albeit only available at the regional level in Armenia.⁴² Results show that Russian remittances do not mitigate betrayal memories in family or collective contexts, while US connections reduce the impact of family memory and have no effect on collective memory. In Column (3), I add a dummy indicating localities with the above median Google searches of the “Russian Ruble” topic. The main results remain stable, while those places also indicate clear pro-Russian voting. In Column (4), I also add the interactions with two treatments and above median Russian connectedness. While the main results remain unchanged, I observe that potential remittances from Russia empower anti-Russian sentiments in collective memory places. This result highlights the social capital background of collective memory, showing that potential economic benefits cannot deactivate betrayal memories.

8 Conclusion

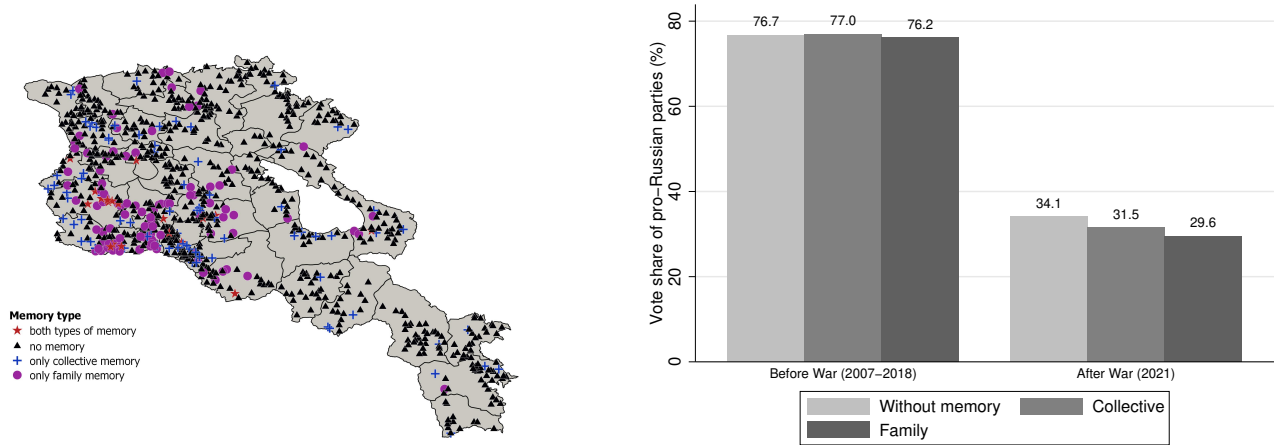
In this paper, I show how memories of the distant past can be activated and how it translates into real-world outcomes. This research uses historical variation in a difference-in-differences framework to show that collective and family remembrance shape behavior once activated. Interestingly, collective memory based on the name of a place without any direct individual exposure to past historical events generates an equally sizeable negative effect as family memory (direct exposure) of the same event. In addition, while family remembrance works through the shift in political preferences (from pro-Russian parties to pro-European parties), only collective memory motivates turnout. I reveal that the collective memory effect has a more social nature, while family memory has a more traumatic or emotional nature. Thus, I bring empirical evidence that how memories of historical events are transmitted is highly important in shaping actions. I also show that collective memory is well preserved in small localities through memorial practices, which increase historical consciousness.

⁴²The Facebook Social Connectedness Index measures the relative probability that two individuals across two locations are friends with each other on Facebook. Source: <https://data.humdata.org/dataset/social-connectedness-index?>

Results documented here highlight the pivotal role of history in forming and shaping public opinion. Understanding how different types of memories affect behavior is essential in social capital formation and policy making. In particular, it could clarify how to motivate people to vote and receive vaccination, include different nations in unions, and compensate survivors and their generations of historical traumas. These findings emphasize the potential of historical awareness in guiding community engagement and reinforcing societal bonds. Furthermore, they indicate that policymakers could strategically utilize this understanding to formulate interventions to address historical grievances and promote social cohesion in a more structured way.

Figures

Figure 1: Memory types and anti-Russian sentiments in Armenia

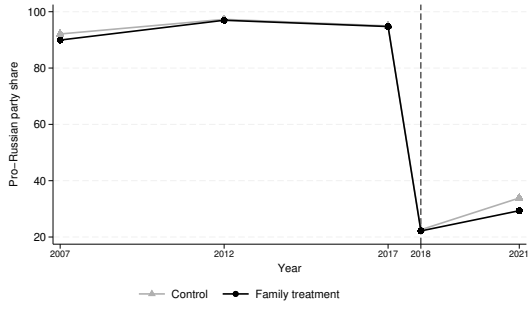


(a) Map of Armenian localities

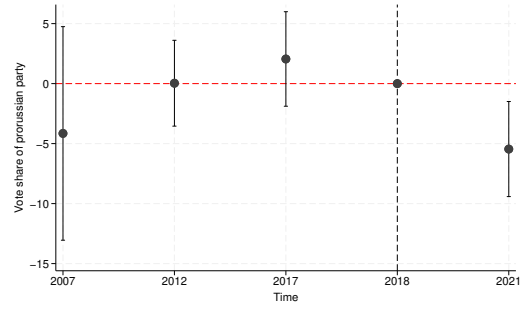
(b) Vote share comparison

Notes: The map on the left-hand side shows the classification of Armenian localities according to their memory type. Stars have both collective and family memory, crosses have only collective memory, circles have only family memory and triangles are localities with no type of genocide memory. Borders indicate districts. The right-hand side bar chart shows the means of pro-Russian party vote shares in Armenian localities according to their memory type. The means do not differ during the 2007-2018 period ($p = 0.82$, $p = 0.86$) but differ in 2021 ($p = 0.14$, $p = 0.01$). The analysis is based on 891 Armenian localities

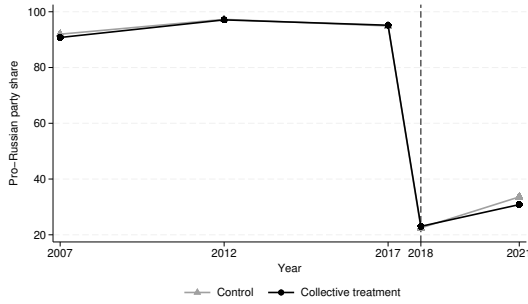
Figure 2: Parallel pre-trend in pro-Russian party vote share



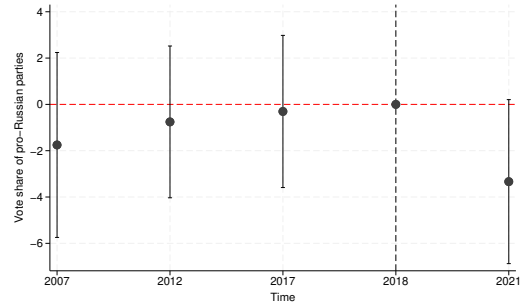
(a) Family



(b) Event study for family memory



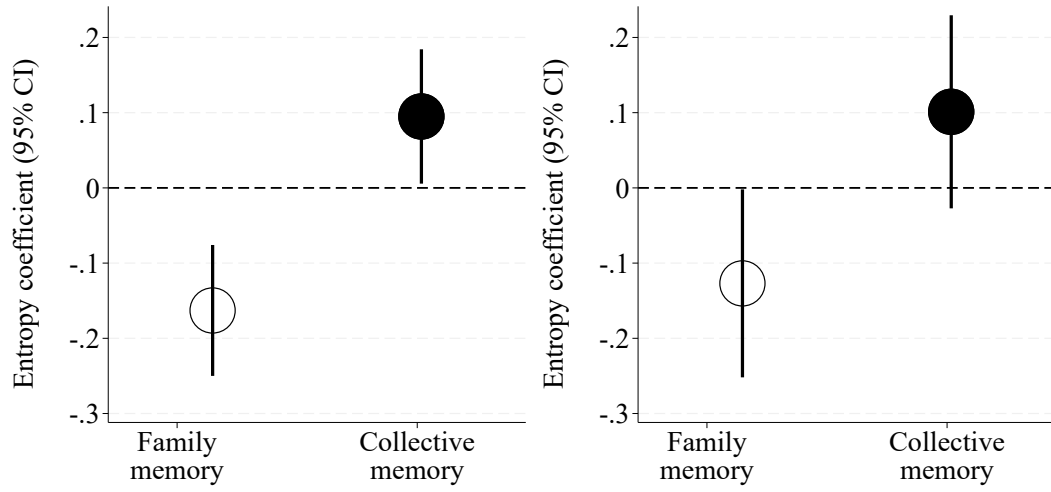
(c) Collective



(d) Event study for collective memory

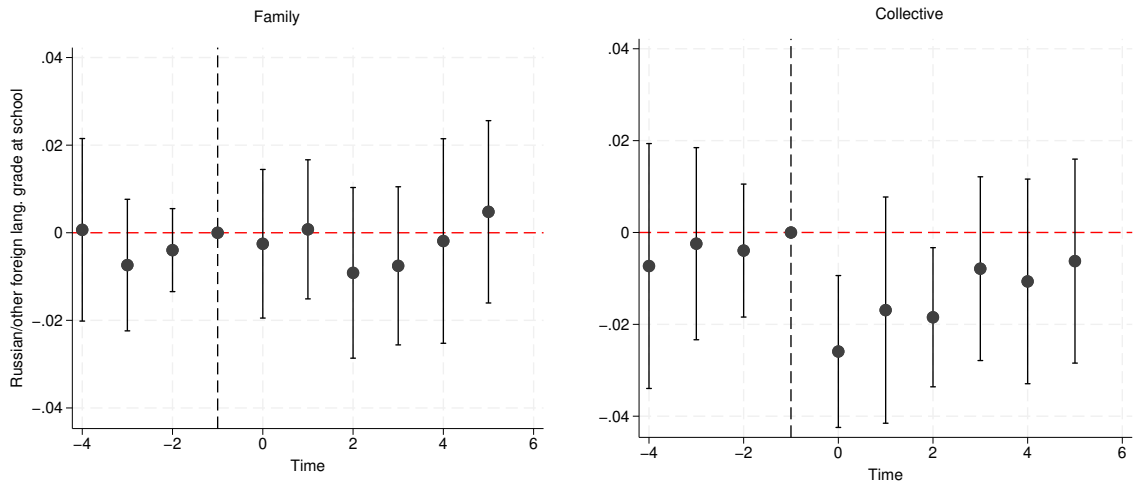
The figure on the top left (a) shows Pro-Russian parties' vote shares for all national elections from 2007 to 2021 for family memory and without memory localities in Armenia. The figure on the top right (b) shows the coefficients of an event-study design of vote share differences in family memory and without memory localities. The figure on the bottom left (c) shows pro-Russian parties' vote shares for all national elections from 2007 to 2021 for collective memory and without memory localities in Armenia. The figure on the bottom right (d) shows the coefficients of an event-study design of vote share differences in collective memory and without memory localities. Vote share differences are standardized to zero for the 2018 election (the last pre-war election). Vertical dashed lines in all graphs indicate the year of war. Vertical lines in the event study figures represent the 95% confidence intervals (clustered at the municipality level).

Figure 3: Relationship between surname diversity and memory type



Notes: Figure shows OLS coefficients of the entropy coefficient on family (hollow circles) and collective (filled circles) memory. The left panel controls only district fixed effects. The right panel also adds geographic controls (distance to the Turkish border, ruggedness, distance to regional capital) and population.

Figure 4: Schooling outcomes



Notes: Figure shows the coefficients of an event-study design of Russian/other foreign language grade ratio outcome (left panel: family treatment, right panel: collective treatment). Time indicates semesters from 2018-2019 to 2022-2023 academic years. Outcome differences are standardized to zero for the pre-war semester (1st semester of 2020). Vertical intervals represent the 95% confidence intervals (clustered at the municipality level).

Tables

Table 1: Conditional mean differences

	Before war (2012)	After war (2021)	DiD (2)-(1)
	(1)	(2)	(3)
Panel A: Family			
<i>Voting</i>			
Pro-Russian vote share	0.370 (0.272)	-3.911** (1.636)	-4.281*** (0.408)
Electorate (log)	0.076 (0.112)	0.067 (0.112)	-0.009 (0.146)
<i>Demographic and socio-economic variables</i>			
Total population (log)	0.101 (0.128)	0.076 (0.119)	-0.024 (0.155)
Average HH size	0.060 (0.066)	0.066 (0.064)	0.006 (0.136)
Age >65	0.000 (0.003)	-0.004 (0.004)	-0.005** (0.005)
Age 35-64	-0.004 (0.004)	-0.000 (0.003)	0.004 (0.009)
Age 16-34	0.006 (0.005)	0.013*** (0.004)	0.007** (0.009)
Female share	0.003 (0.013)	-0.000 (0.003)	-0.004 (0.014)
Local budget per capita (log)	-0.211 (0.177)	-0.198 (0.171)	0.013 (0.229)
2020 war deaths	0.037 (0.354)	0.033 (0.354)	-0.005 (0.447)
<i>Geography</i>			
Soil caloric suitability index	-0.011 (0.032)	-0.011 (0.032)	-
Distance from regional capital (in log)	-0.050 (0.041)	-0.050 (0.041)	-
Distance to Turkish border (in log)	0.005 (0.063)	0.005 (0.063)	-
Ruggedness (in log)	0.130 (0.092)	0.130 (0.092)	-
Min temperature	-0.139 (0.160)	-0.139 (0.160)	-
Max temperature (in log)	-0.005 (0.006)	-0.005 (0.006)	-
Panel B: Collective			
<i>Voting</i>			
Pro-Russian vote share	-0.064 (0.331)	-3.241** (1.231)	-3.177*** (0.002)
Electorate (log)	0.046 (0.101)	0.057 (0.098)	0.011 (0.002)
<i>Demographic and socio-economic variables</i>			
Total population (log)	0.037 (0.101)	0.005 (0.104)	-0.032 (0.002)
Average HH size	0.062 (0.122)	0.083 (0.124)	0.021 (0.002)
Age >65	-0.006 (0.005)	-0.002 (0.005)	0.004** (0.002)
Age 35-64	-0.000 (0.009)	-0.006 (0.007)	-0.006 (0.002)
Age 16-34	0.003 (0.007)	-0.004 (0.005)	-0.007 (0.002)
Female share	-0.005 (0.010)	-0.008 (0.005)	-0.002 (0.002)
Local budget per capita (log)	0.117 (0.115)	0.109 (0.111)	-0.008 (0.002)
2020 war deaths	0.332 (0.256)	0.328 (0.256)	-0.004 (0.002)
<i>Geography</i>			
Soil caloric suitability index	-0.042 (0.027)	-0.042 (0.027)	-
Distance from regional capital (in log)	0.036 (0.042)	0.036 (0.042)	-
Distance to Turkish border (in log)	0.043 (0.065)	0.043 (0.065)	-
Ruggedness (in log)	0.006 (0.087)	0.006 (0.087)	-
Min temperature	-0.022 (0.186)	-0.022 (0.186)	-
Max temperature (in log)	0.004 (0.005)	0.004 (0.005)	-

Notes: Table shows the balancing of pre-war (2012) and after-war covariates (2021). In Panel A, the treatment is family memory. In Panel B, the treatment is collective memory. Column (1) shows conditional mean differences before the war. Column (2) shows the conditional mean differences after the war. Column(3) reports the respective difference-in-differences estimates. The respective means are conditioned on district fixed effects. Standard errors are clustered at the district level. Significance levels: ***0.01, ** 0.05, * 0.10.

Table 2: Difference-in-differences results

	Pro-Russian party share							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Combined memory \times Post 2020	-3.56*** (1.28)	-3.43*** (0.89)						
Family \times Post 2020			-3.73** (1.65)	-3.18*** (1.04)			-4.08** (1.71)	-3.54** (1.38)
Collective \times Post 2020					-2.62** (1.25)	-2.83*** (1.04)	-2.88** (1.35)	-3.28*** (1.22)
Family \times Collective \times Post 2020							3.06 (2.51)	3.16 (2.75)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Locality FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE \times District FE	No	Yes	No	Yes	No	Yes	No	Yes
Year FE \times Geography Cov.	No	Yes	No	Yes	No	Yes	No	Yes
Year FE \times Pre-treat Cov.	No	Yes	No	Yes	No	Yes	No	Yes
Controls	No	Yes	No	Yes	No	Yes	No	Yes
Mean of dep. variable (2021)	33.26	33.26	33.26	33.26	33.26	33.26	33.26	33.26
η^2 (combined) $\times 10^{-3}$	5.22	5.69						
η^2 (family) $\times 10^{-3}$			3.74	2.94			3.12	2.40
η^2 (collective) $\times 10^{-3}$					1.73	2.62	1.12	2.00
Obs	4,453	4,448	4,453	4,448	4,453	4,448	4,453	4,448

Notes: The dependent variable is the pro-Russian vote share (in %) at the level of 891 localities from 2007 to 2021. Column (1) shows the baseline difference-in-differences estimates with locality and year fixed effects with family memory treatment. Column(3) shows the baseline difference-in-differences estimates with locality and year fixed effects with collective memory treatment. Columns (2) and (4) control for district FE interacted with year FE, pre-treatment controls interacted with year FE, geographical covariates interacted with year FE. Column (5) includes both collective and family remembrance treatments. Column (6) adds district FE interacted with year FE, pre-treatment controls interacted with year FE, geographical covariates interacted with year FE. Geographic controls include ruggedness, distance to the Turkish border. Pre-treatment covariates include total population, female population share, average HH size, age group shares, local budget per capita. Controls include electorate in log. Inferences are based on spatial (40km) clustered standard errors. * $p < .1$, ** $p < .05$, *** $p < .01$

Table 3: Difference-in-differences results (alternative treatment)

	Pro-Russian Party Share			
	(1)	(2)	(3)	(4)
Family (continuous) × Post 2020	-0.15*** (0.04)	-0.09** (0.04)		
Collective (continuous) × Post 2020	-0.07*** (0.02)	-0.04** (0.02)		
Family × Collective × Post 2020	0.07 (1.69)	-0.75 (1.50)		
Family (newly founded) × Post 2020			-4.90* (2.70)	-4.26* (2.45)
Collective × Post 2020			-2.71** (1.32)	-3.07*** (1.19)
Year FE	Yes	Yes	Yes	Yes
Locality FE	Yes	Yes	Yes	Yes
Year FE × District FE	No	Yes	No	Yes
Year FE × Geography Cov.	No	Yes	No	Yes
Year FE × Pre-treat Cov.	No	Yes	No	Yes
Controls	No	Yes	No	Yes
Obs	4,445	4,440	4,028	4,023

Notes: The dependent variable is the pro-Russian vote share (in %) at the level of 891 localities from 2007 to 2021. The family (continuous) variable is the share of Ottoman surnames after 2020. The collective (continuous) variable is the number of years the locality has a collective memory name. Column (1) shows the baseline difference-in-differences estimates with locality and year fixed effects. In column (3), family memory is defined as a dummy variable with value 1 if the locality was newly founded by genocide survivors after 1920. In columns (3) and (4) the localities where genocide survivors resettled but the locality was not newly founded are excluded from the sample. Columns (2) and (4) add district FE interacted with year FE, pre-treatment controls interacted with year FE, geographical covariates interacted with year FE, and controls (electorate in the log). Pre-treatment covariates include total population, female population share, average HH size, age group shares, and local budget per capita. Inferences are based on spatial (40km) clustered standard errors. * $p < .1$, ** $p < .05$, *** $p < .01$

Table 4: Other voting outcomes

	Turnout		Nationalist		Pro-European	
	(1)	(2)	(3)	(4)	(5)	(6)
Family \times Post 2020	-0.82 (1.01)	-0.77 (0.61)	-0.07* (0.04)	-0.06 (0.04)	1.83*** (0.58)	1.42*** (0.52)
Collective \times Post 2020	1.48** (0.67)	1.78*** (0.67)	-0.05 (0.05)	-0.02 (0.07)	1.15 (0.73)	1.19* (0.70)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Locality FE	Yes	Yes	Yes	No	Yes	No
Year FE \times District FE	No	Yes	No	Yes	Yes	Yes
Year FE \times Geography Cov.	No	Yes	No	Yes	Yes	Yes
Year FE \times Pre-treat Cov.	No	Yes	No	Yes	No	Yes
Controls	No	Yes	No	Yes	No	Yes
Obs	4,453	4,448	4,453	4,448	4,453	4,448

Notes: In Columns (1)-(2) the dependent variable is turnout (in %) at the level of 891 localities from 2007 to 2021. In Columns (3)-(4) the dependent variable is nationalist parties' vote share (in %) at the level of 891 localities from 2007 to 2021. In Columns (5)-(6) the dependent variable is pro-European parties' vote share (in %) at the level of 891 localities from 2007 to 2021. Columns (1), (3), and (5) show the baseline difference-in-differences estimates with locality and year fixed effects. Columns (2), (4), and (6) include district fixed effects interacted with year fixed effects, geographical controls interacted with year FE, pre-treatment controls interacted with year FE, controls (electorate in log). Pre-treatment covariates include total population, female population share, average HH size, age group shares, and local budget per capita. Inferences are based on spatial (40km) clustered standard errors. * $p < .1$, ** $p < .05$, *** $p < .01$

Table 5: Survey Data Ologit Results on Trust

	Parliament	Government	Court	Most people
	(1)	(2)	(3)	(4)
Collective	0.32 (0.23)	0.20 (0.16)	-0.15 (0.15)	0.06 (0.14)
Family	-0.06 (0.15)	-0.03 (0.15)	0.11 (0.18)	0.01 (0.18)
Family \times Post 2020	-0.84** (0.37)	-1.05*** (0.35)	-0.53** (0.22)	-0.62* (0.35)
Collective \times Post 2020	-0.25 (0.54)	-0.36 (0.49)	0.96*** (0.28)	-0.44 (0.33)
Individual Controls	Yes	Yes	Yes	Yes
Locality Controls	Yes	Yes	Yes	Yes
Obs	2,521	2,543	2,311	2,616

Notes: The table shows the results of the Ologit model on survey questions. The dependant variable in columns (1)-(3) is in a 1-5 scale where 1 indicates the lowest trust and 5 indicates the highest trust. In column (4) the outcome indicator is in a 1-10 scale where 1 indicates the lowest trust and 10 indicates the highest trust. All columns include individual controls for age, age square, gender, education, ethnicity, knowledge of Russian, and personal income and geographical controls for the distance to the Turkish border, ruggedness and distance to the regional capital. Standard errors are clustered at the district level.
* $p < .1$, ** $p < .05$, *** $p < .01$

Table 6: Survey Data Probit Results

	Main friend Russia		Business with Russians		Marriage with Russians	
	(1)	(2)	(3)	(4)	(5)	(6)
Family \times Post 2020	-0.29** (0.13)	-0.41*** (0.16)	-0.26 (0.18)	-0.18 (0.18)	-0.03 (0.16)	-0.08 (0.18)
Collective \times Post 2020	0.08 (0.22)	0.04 (0.20)	-0.16 (0.32)	-0.16 (0.35)	0.26 (0.21)	0.27 (0.20)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes	No	Yes
Obs	2,498	2,317	2,810	2,584	2,837	2,611

Notes: The table shows probit results on survey questions. In columns (1)-(2), the dependent variable is an indicator for the main friend country as Russia. In columns (3)-(4), the dependent variable is an indicator of willingness to do business with Russians. In columns (5)-(6), the dependent variable is an indicator of willingness to marry Russians. Columns (2), (4), (6) include controls for age, gender, education, ethnicity, knowledge of Russian, and personal income. Standard errors are clustered at the district level. * $p < .1$, ** $p < .05$, *** $p < .01$

References

- Acharya, A., M. Blackwell, and M. Sen (2016). The political legacy of American slavery. *The Journal of Politics* 78(3), 621–641.
- Alesina, A. and N. Fuchs-Schündeln (2007). Good-bye Lenin (or not?): The effect of communism on people’s preferences. *American Economic Review* 97(4), 1507–1528.
- Alesina, A. and E. La Ferrara (2002). Who trusts others? *Journal of Public Economics* 85(2), 207–234.
- Alsan, M. and M. Wanamaker (2018). Tuskegee and the health of black men. *The Quarterly Journal of Economics* 133(1), 407–455.
- Arbatli, C. E. and G. Gokmen (2023). Human capital transfers and sub-national development: Armenian and Greek legacy in post-expulsion Turkey. *Journal of Economic Growth* 28(1), 1–43.
- Arbatli, C. E. and D. Gomtsyan (2019). Voting retrospectively: Critical junctures and party identification. *European Economic Review* 119, 356–390.
- Archibong, B. and F. Annan (2021, January 29). ‘We Are Not Guinea Pigs’: The Effects of Negative News on Vaccine Compliance. Available at SSRN: <https://ssrn.com/abstract=3765793> or <http://dx.doi.org/10.2139/ssrn.3765793>.
- Arthi, V., G. Richardson, and M. Van Orden (2024). Traumatic Financial Experiences and Persistent Changes in Financial Behavior: Evidence from the Freedman’s Savings Bank. Technical report, National Bureau of Economic Research.
- Assmann, J. (2011). *Cultural memory and early civilization: Writing, remembrance, and political imagination*. Cambridge University Press.
- Avetisyan, T. (2010). *Dictionary of Armenian surnames*. Nairi. Available at <http://www.nayiri.com/imagedDictionaryBrowser.jsp?dictionaryId=99>.
- Bauer, M., A. Cassar, J. Chytilová, and J. Henrich (2014). War’s enduring effects on the development of egalitarian motivations and in-group biases. *Psychological Science* 25(1), 47–57.
- Becker, S. O., K. Boeckh, C. Hainz, and L. Woessmann (2016). The empire is dead, long live the empire! Long-run persistence of trust and corruption in the bureaucracy. *The Economic Journal* 126(590), 40–74.
- Bell, A., R. Chetty, X. Jaravel, N. Petkova, and J. Van Reenen (2019). Who becomes an inventor in America? The importance of exposure to innovation. *The Quarterly Journal of Economics* 134(2), 647–713.

- Bénabou, R. and J. Tirole (2011). Identity, morals, and taboos: Beliefs as assets. *The Quarterly Journal of Economics* 126(2), 805–855.
- Besley, T. and M. Reynal-Querol (2014). The legacy of historical conflict: Evidence from Africa. *American Political Science Review* 108(2), 319–336.
- Bigley, G. A. and J. L. Pearce (1998). Straining for shared meaning in organization science: Problems of trust and distrust. *Academy of Management Review* 23(3), 405–421.
- Blattman, C. and E. Miguel (2010). Civil war. *Journal of Economic Literature* 48(1), 3–57.
- Bohnet, I., F. Greig, B. Herrmann, and R. Zeckhauser (2008). Betrayal aversion: Evidence from Brazil, China, Oman, Switzerland, Turkey, and the United States. *American Economic Review* 98(1), 294–310.
- Bohnet, I. and R. Zeckhauser (2004). Trust, risk and betrayal. *Journal of Economic Behavior & Organization* 55(4), 467–484.
- Bordalo, P., K. Coffman, N. Gennaioli, and A. Shleifer (2016). Stereotypes. *The Quarterly Journal of Economics* 131(4), 1753–1794.
- Bracco, E., M. De Paola, and C. P. Green (2015). Long lasting differences in civic capital: Evidence from a unique immigration event in Italy. *Journal of Economic Behavior & Organization* 120, 160–173.
- Bühler, M. and A. Madestam (2024). State repression, exit, and voice: Living in the shadow of Cambodia’s killing fields. Technical report, CEPR Press, Paris London.
- Cantoni, D., F. Hagemester, and M. Westcott (2019). Persistence and activation of right-wing political ideology. *Rationality and Competition Discussion Paper Series 143, CRC TRR 190 Rationality and Competition*.
- Chopin, I. (1852). Istoricheskii pamiatnik sostoianiia Armianskoi oblasti v epokhu eia prisoedineniia k Rossiiskoi imperii [A historical survey of the condition of the Armenian province at the time of its unification with the Russian Empire]. *St.Petersburg: To type. Imp. Acad. Sciences*.
- Clark, G. and N. Cummins (2014). Surnames and social mobility in England, 1170–2012. *Human Nature* 25(4), 517–537.
- Colella, F., R. Lalive, S. O. Sakalli, and M. Thoenig (2023). acreg: Arbitrary correlation regression. *The Stata Journal* 23(1), 119–147.

- Coleman, J. S. (1994). *Foundations of social theory*. Harvard University Press.
- Dal Bó, E., P. Dal Bó, and J. Snyder (2009). Political dynasties. *The Review of Economic Studies* 76(1), 115–142.
- DellaVigna, S., R. Enikolopov, V. Mironova, M. Petrova, and E. Zhuravskaya (2014). Cross-border media and nationalism: Evidence from Serbian radio in Croatia. *American Economic Journal: Applied Economics* 6(3), 103–132.
- DellaVigna, S. and E. Kaplan (2007). The fox news effect: Media bias and voting. *The Quarterly Journal of Economics* 122(3), 1187–1234.
- Dinas, E., V. Fouka, and A. Schläpfer (2021). Family history and attitudes toward out-groups: Evidence from the European refugee crisis. *The Journal of Politics* 83(2), 647–661.
- Elangovan, A. and D. L. Shapiro (1998). Betrayal of trust in organizations. *Academy of Management Review* 23(3), 547–566.
- Esteban, J. and D. Ray (2008). On the salience of ethnic conflict. *American Economic Review* 98(5), 2185–2202.
- Fisman, R., Y. Hamao, and Y. Wang (2014). Nationalism and economic exchange: Evidence from shocks to Sino-Japanese relations. *The Review of Financial Studies* 27(9), 2626–2660.
- Fouka, V. and H.-J. Voth (2022). Collective remembrance and private choice: German–Greek conflict and behavior in times of crisis. *American Political Science Review*, 1–20.
- Gallup (2020). War 27.09.2020 — 6 (Final). Accessed: 2024-08-01.
- Galor, O. and Ö. Özak (2016). The agricultural origins of time preference. *American Economic Review* 106(10), 3064–3103.
- Gentzkow, M. (2006). Television and voter turnout. *The Quarterly Journal of Economics* 121(3), 931–972.
- Glaeser, E. L., D. Laibson, J. A. Scheinkman, and C. L. Soutter (1999, July). What is social capital? The determinants of trust and trustworthiness. Working Paper 7216, National Bureau of Economic Research.
- Green, A. (2011). Can memory be collective. *The Oxford Handbook of Oral History*, 96–111.

- Grossmann, J., Š. Jurajda, and F. Roesel (2024). Forced migration, staying minorities, and new societies: Evidence from postwar Czechoslovakia. *American Journal of Political Science* 68(2), 751–766.
- Güell, M., J. V. R. Mora, and C. Telmer (2014). The informational content of surnames, the evolution of intergenerational mobility and assortative mating. *Documentos de trabajo (FEDEA)* (19), 1–57.
- Guiso, L., P. Sapienza, and L. Zingales (2004). The role of social capital in financial development. *American Economic Review* 94(3), 526–556.
- Gutsell, J. N. and M. Inzlicht (2010). Empathy constrained: Prejudice predicts reduced mental simulation of actions during observation of outgroups. *Journal of Experimental Social Psychology* 46(5), 841–845.
- Hainmueller, J. (2012). Entropy balancing for causal effects: A multivariate reweighting method to produce balanced samples in observational studies. *Political Analysis* 20(1), 25–46.
- Hakobyan, T., S. Melik-Bakhshyan, and H. Barseghyan (1986). *Hayastani yev harakits shrjanneri teghanunneri bararan*, [Dictionary of Geographic Locations of Armenia and Neighboring Areas]. Yerevan State University Press.
- Halbwachs, M. (1992). *On collective memory*. University of Chicago Press.
- Henrich, J., M. Bauer, A. Cassar, J. Chytilová, and B. G. Purzycki (2019). War increases religiosity. *Nature Human Behaviour*, 3 (2), 129-135.
- Hovannisian, R. G. (1971). *The Republic of Armenia: the first year, 1918-1919*, Volume 1. University of California Press.
- Ichino, A. and G. Maggi (2000). Work environment and individual background: Explaining regional shirking differentials in a large Italian firm. *The Quarterly Journal of Economics* 115(3), 1057–1090.
- Jurajda, Š. and D. Kovač (2021). Names and behavior in a war. *Journal of Population Economics* 34(1), 1–33.
- Kahneman, D., S. P. Slovic, P. Slovic, and A. Tversky (1982). *Judgment under uncertainty: Heuristics and biases*. Cambridge University Press.
- Kersting, F. and N. Wolf (2021). On the origins of national identity. German nation-building after Napoleon. *CEPR Discussion Paper No. DP16314*.

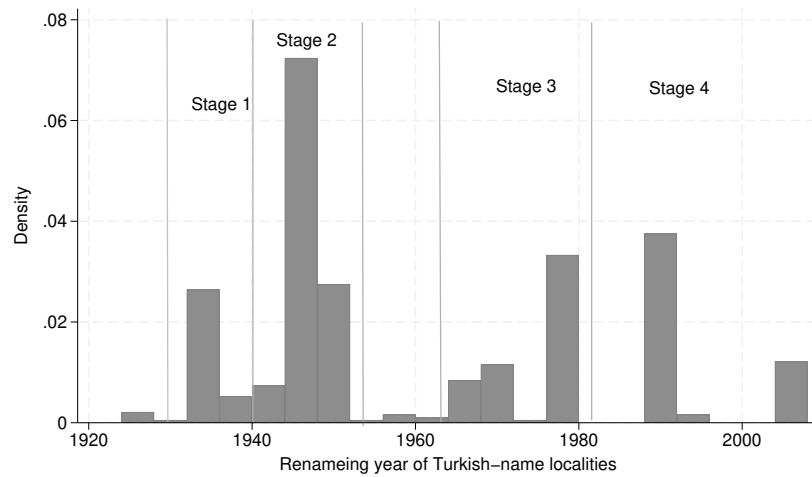
- Korkotyan, Z. (1932). *The population of the Soviet Armenia in 1831-1931*. State publication.
- LaCapra, D. (2014). *Writing history, writing trauma*. JHU Press.
- Lichter, A., M. Löffler, and S. Sieglöcher (2021). The long-term costs of government surveillance: Insights from stasi spying in East Germany. *Journal of the European Economic Association* 19(2), 741–789.
- Madestam, A., D. Shoag, S. Veuger, and D. Yanagizawa-Drott (2013). Do political protests matter? Evidence from the tea party movement. *The Quarterly Journal of Economics* 128(4), 1633–1685.
- Malmendier, U. and L. S. Shen (2024). Scarred consumption. *American Economic Journal: Macroeconomics* 16(1), 322–355.
- Martirosyan, T. (2021, April 8). Armenia. 1914-1918-online. *International Encyclopedia of the First World War*.
- Michalopoulos, S. and M. M. Xue (2021). Folklore. *The Quarterly Journal of Economics* 136(4), 1993–2046.
- Mikula, Š., T. Reggiani, and F. Sabatini (2023). The long-term impact of religion on social capital: lessons from post-war Czechoslovakia. Technical report, Masaryk University.
- Munroe, E., A. Nosach, M. Pedrozo, E. Guarnieri, J. F. Riaño, A. Tur-Prats, and F. Valencia Caicedo (2023). The legacies of war for Ukraine. *Economic Policy*, eiad001.
- Nazaroff, A. (1922). Russia’s Treaty with Turkey. *Current History (1916-1940)* 17(2), 276–279.
- Nunn, N. and L. Wantchekon (2011). The slave trade and the origins of mistrust in Africa. *American Economic Review* 101(7), 3221–3252.
- Ochsner, C. and F. Roesel (2020). Migrating extremists. *The Economic Journal* 130(628), 1135–1172.
- Ochsner, C. and F. Roesel (2024). Activated history: The case of the Turkish sieges of Vienna. *American Economic Journal: Applied Economics*.
- Olivetti, C. and M. D. Paserman (2015). In the name of the son (and the daughter): Intergenerational mobility in the United States, 1850-1940. *American Economic Review* 105(8), 2695–2724.
- Oto-Peralías, D. (2018). What do street names tell us? The ‘city-text’ as socio-cultural data. *Journal of Economic Geography* 18(1), 187–211.

- Posch, M., J. Schulz, and J. Henrich (2023). Surname diversity, social ties and innovation. *Social Ties and Innovation (August 3, 2023)*.
- Putnam, R. D., R. Leonardi, and R. Y. Nonetti (1993). *Making democracy work: Civic traditions in modern Italy*. Princeton University Press.
- Ramos-Toro, D. (2023). Social exclusion and social preferences: Evidence from Colombia's Leper colony. *American Economic Review* 113(5), 1294–1333.
- Rohner, D. and M. Thoenig (2021). The elusive peace dividend of development policy: From war traps to macro complementarities. *Annual Review of Economics* 13, 111–131.
- Saparov, A. (2003). The alteration of place names and construction of national identity in Soviet Armenia. *Cahiers du monde Russe* 44(1). Published on 01 January 2007, consulted on 01 August 2024.
- Tabellini, G. (2010). Culture and institutions: Economic development in the regions of Europe. *Journal of the European Economic Association* 8(4), 677–716.
- Thomson, A. (2011). Memory and remembering in oral history. *The Oxford Handbook of Oral History*, 77–95.
- Voigtländer, N. and H.-J. Voth (2012). Persecution perpetuated: The medieval origins of anti-Semitic violence in Nazi Germany. *The Quarterly Journal of Economics* 127(3), 1339–1392.
- Wagoner, B. (2018). *Handbook of Culture and Memory*. Oxford University Press.
- Williams, J. (2022). Historical lynchings and the contemporary voting behavior of blacks. *American Economic Journal: Applied Economics* 14(3), 224–53.
- Williams, J. A. (2021). Confederate streets and black-white labor market differentials. In *AEA Papers and Proceedings*, Volume 111, pp. 27–31.
- Yehuda, R. and A. Lehrner (2018). Intergenerational transmission of trauma effects: Putative role of epigenetic mechanisms. *World Psychiatry* 17(3), 243–257.
- Zerubavel, E. (2003). *Time Maps: Collective Memory and the Social Shape of the past*. Chicago: University of Chicago Press.

Appendix A

Additional Tables and Figures

Figure A.1: Renaming year of Armenian localities with Turkish names



Notes: The bar chart shows the frequency of Armenian locality name changes over time. The whole period is roughly divided into four stages when the renaming happened. Stage1 is the the early years of communist rule, Stage2 is the after-WWII period, Stage3 is the period after Stalin's death, and Stage4 is the period after Armenian independence. Source: author's calculations based on [Hakobyan et al. \(1986\)](#).

Figure A.2: Four-level system of place renaming in Soviet Armenia



Notes: A four-level system of adopting decisions on place renamings in Soviet Armenia. Source: <https://journals.openedition.org/monderusse/8604>

Figure A.6: Armenian media, anti-Russian sentiments

"Turkey and Russia are trying to give a second life to the Lenin-Ataturk plan regarding Syunik"

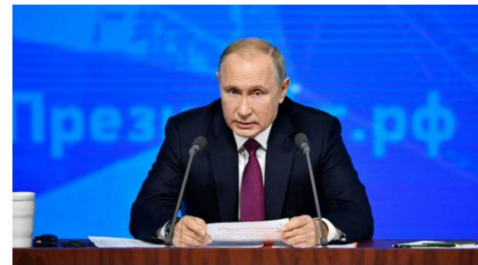
The most important news from Armenia on Telegram

May 20, 2021 4:20 P.m 258

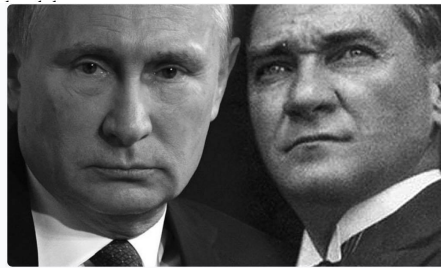


RUSSIA DID NOT BETRAY US IN THIS WAR

6 February 2021 | 21:45



"Russia betrayed us in this war." this idea is constantly circulated by some people on social networks and websites and collects many likes and comments. And the main fight looks like this. "100 years ago, the Bolsheviks sold Armenia to the Turks, and now Putin has done the same."



"The Turks deceived Lenin in 1920, and now Putin."

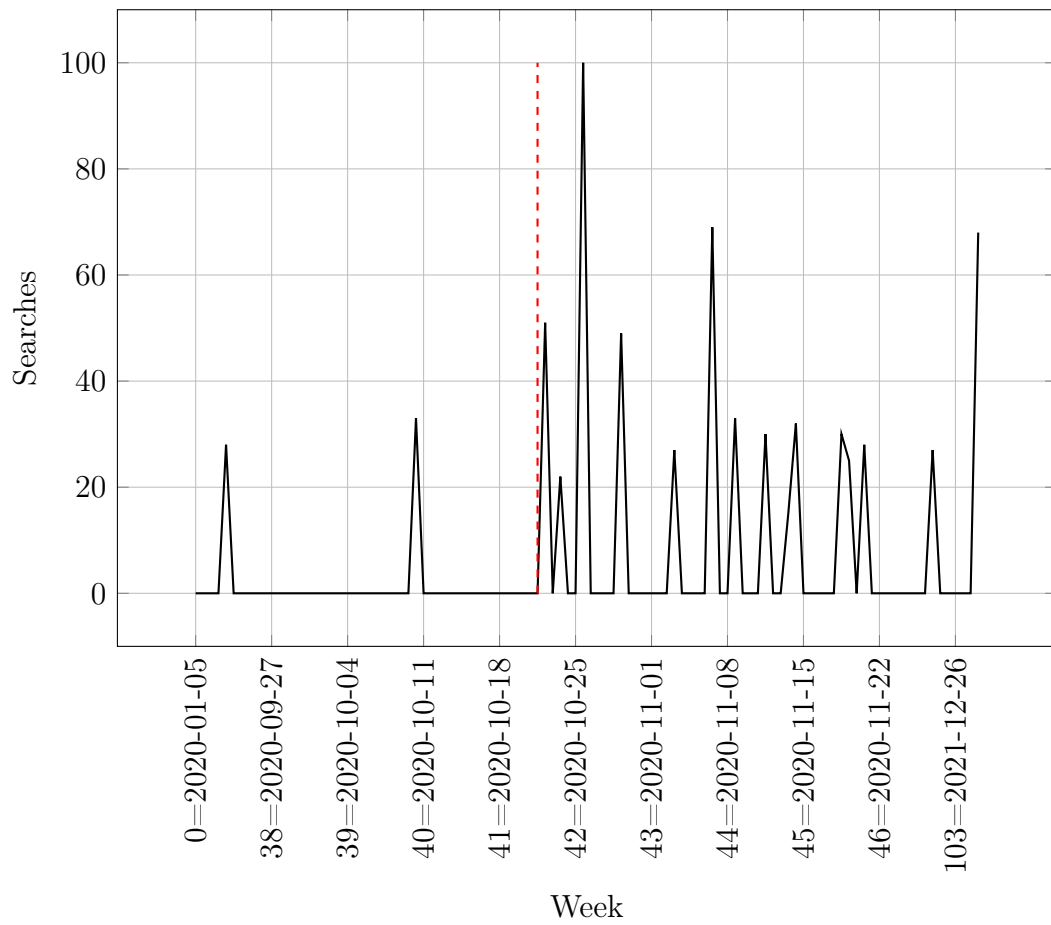
03/11/2021

Doctor of physical mathematics, professor Vladimir Harutyunyan wrote:

After 1920-21, when the independent statehood of Armenia was destroyed by the efforts of the Lenin-Ataturk fraternal tandem, and the Armenian territories were successfully divided and divided "from place to place", throughout the existence of the Soviet Union, Armenians were fed with a sad slogan that Ataturk deceived Lenin. And the main mass of Armenians pitied even Lenin who was spending his days in the tomb. The implication of that cheating was not always revealed, but its essence was understandable. "Ataturk

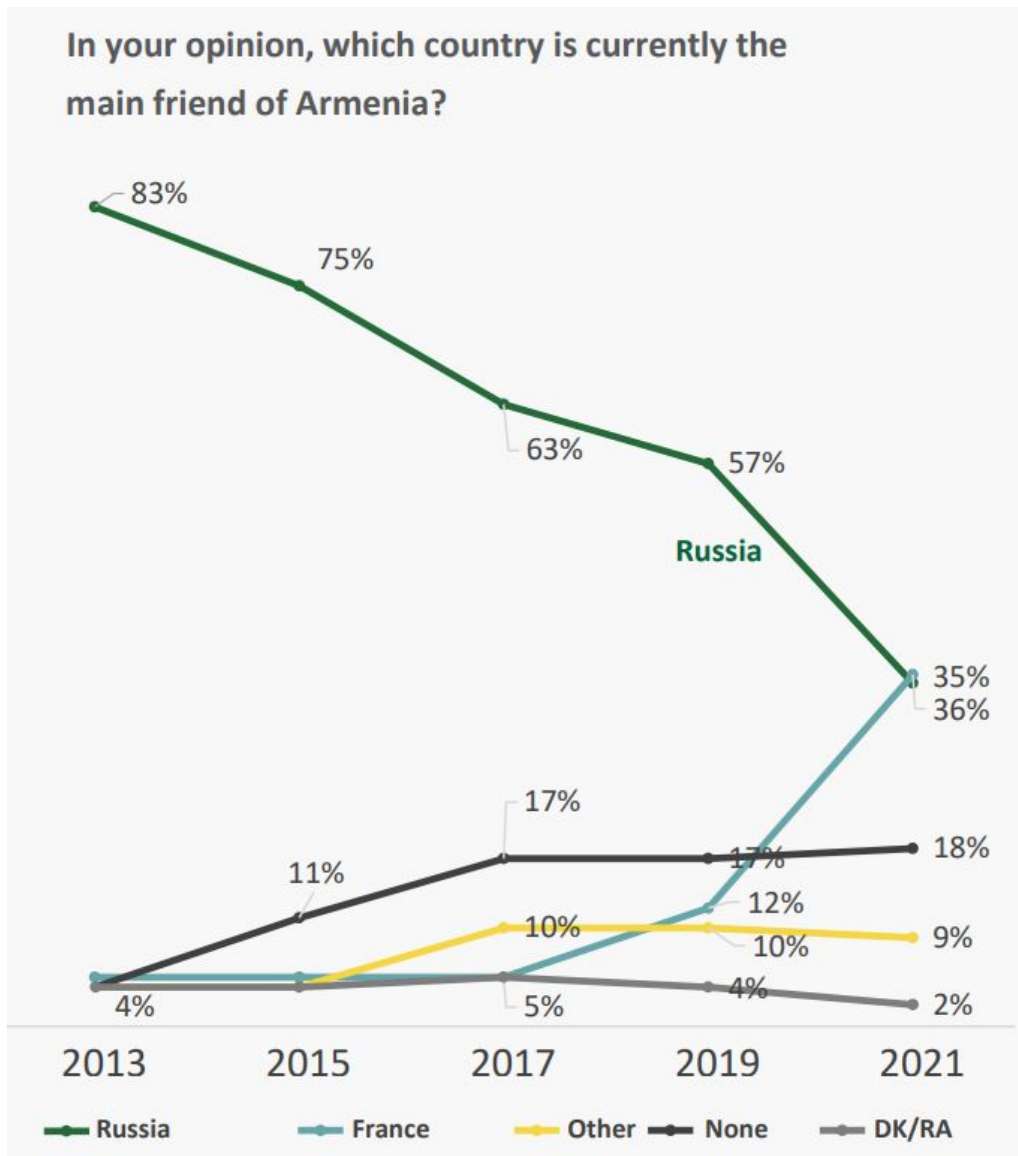
Notes: Examples from Armenian media after the 2020 war showing the narrative around repeated Russian betrayal. Sources: top left <https://www.aravot.am/2021/05/20/1192282/> top right <https://hraparak.am/post/2635f91fb155c2ee48fff6b669d5f19d>, bottom <https://generalnews.am/hy/article/6b73e5f45bd3663f1eab26ccd64efd02>

Figure A.7: Time series of Google search interest in “Armenian Genocide” from Armenia.



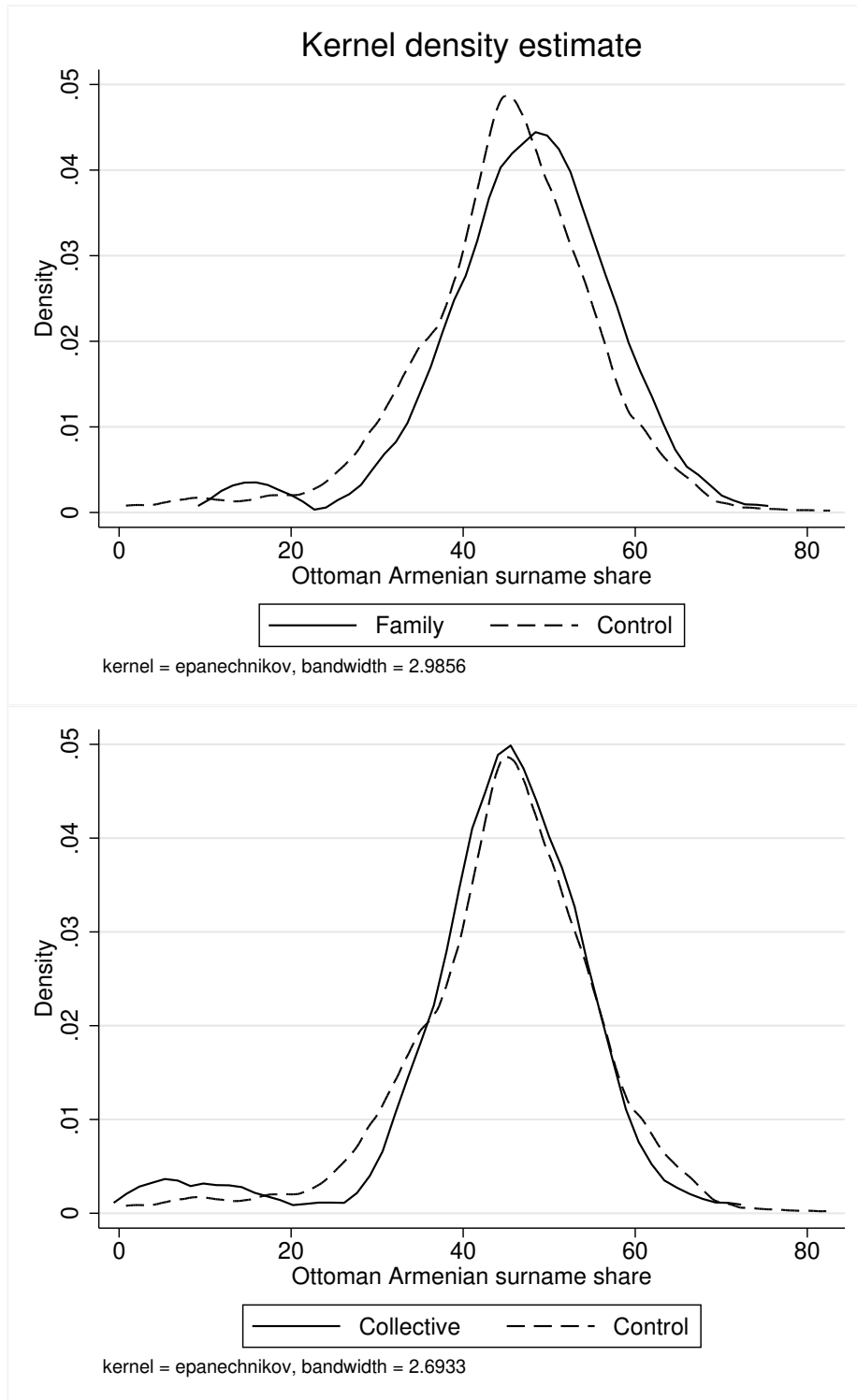
Notes: The Figure shows the number of Google searches from Armenia. The maximum frequency is set to 100, and the rest of the frequencies are adjusted proportionally. The red dashed line indicates the first week after the war ended on November 9, 2020.

Figure A.8: Main friend country of Armenia



Notes: Survey results from Caucasus Barometer data to the following question: “In your opinion, which country is currently the main friend of Armenia?”. Source: <https://www.crrc.am/barometer/>

Figure A.9: The distribution of Ottoman Armenian surnames



Notes: Figure demonstrates the kernel density plot for Ottoman Armenian surnames. The top panel compares the distribution of surnames in family memory localities vs. control group localities without any memory. The bottom panel compares the distribution of surnames in collective memory localities vs. control group localities without any memory.

Figure A.10: Signed list of voters, sample

* ՏԱՎՈՒՇ ԼՈՅՆԱԲԵՐՅԱՆ(ՁՈՒՋԵՎԱՆ) (ԴԳՐՈՑ Փ.3Շ25 7
Թիվ 37 տարածքային ընտրական հանձնաժողովի սպասարկման 37/07 ընտրական տեղամաս

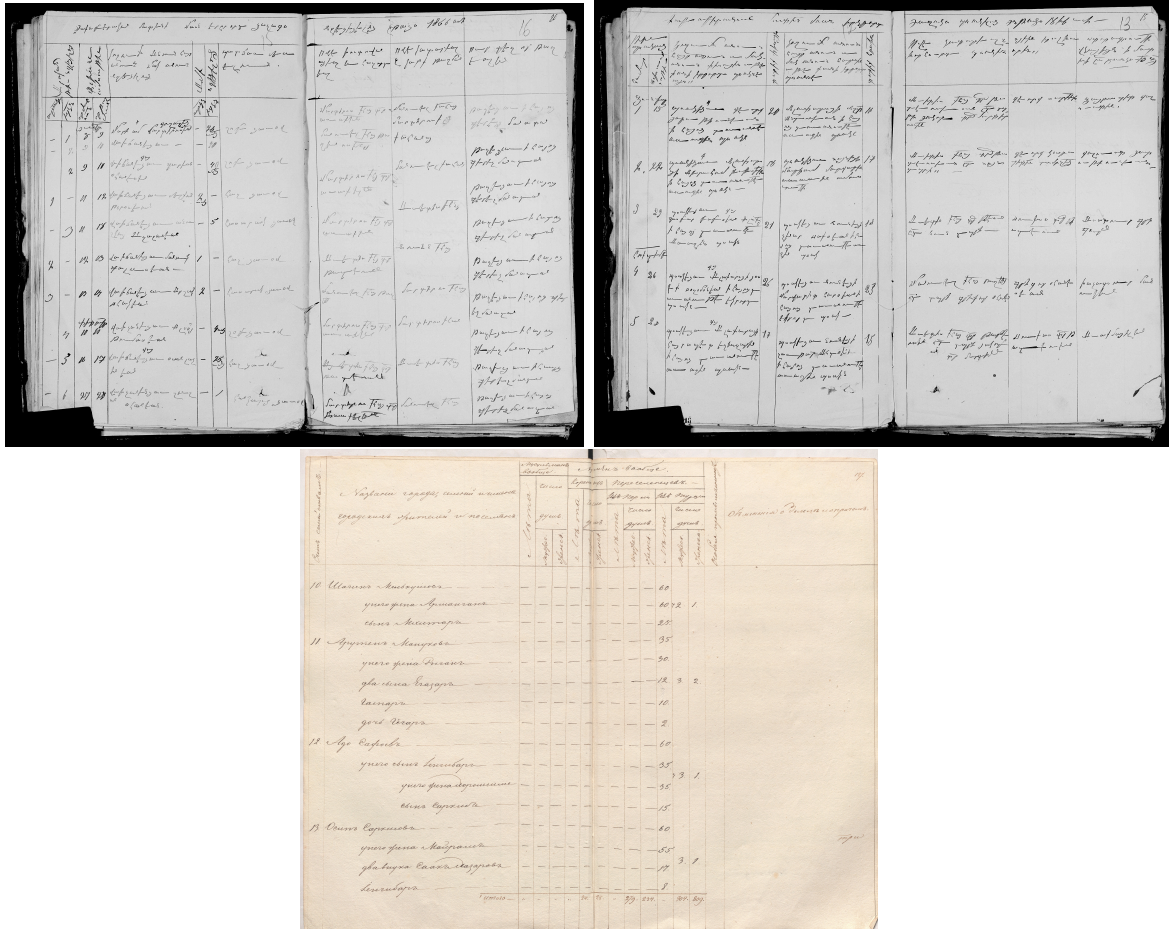
Գ/Գ	Ազգանուն	Անուն	Չայրանուն	Ծննդյան օր, ամիս, տարեթիվ	Չաչվածան վայրի հասցե	ԱՆՁը հաստատող փաստաթղթի սերիա եւ համար	Ընտրողի ստորագրություն	Հանձնաժողովի ընտրողների գրանցման հասկար պատասխանատու անդամի անհատական կոդ	Լրացուցիչ նշումներ
395	Բարաջանյան	Իսրայել	Գեղամի	20/12/1937	Ռուբեն Սեալի ֓. 9				
396	Սելիբյան	Շողակաթ	Սամսոնի	29/09/1961	Ռուբեն Սեալի ֓. 9	AN0533074	<i>[Signature]</i>	Ք3-58421	
397	Խաչատրյան	Սաթենիկ	Գիզդի	12/04/1929	Ռուբեն Սեալի ֓. 11				
398	Բարաջանյան	Գառնիկ	Սեալի	27/03/1965	Ռուբեն Սեալի ֓. 13	HT0569497	<i>[Signature]</i>	Ք3-59789	
399	Բարաջանյան	Լեւոն	Գառնիկ	25/09/1990	Ռուբեն Սեալի ֓. 13	AB036329A	<i>[Signature]</i>	Ք3-69620	
400	Բարաջանյան	Սանասար	Գառնիկ	12/09/1992	Ռուբեն Սեալի ֓. 13	AB036329A	<i>[Signature]</i>	Ք3-69620	
401	Թամրազյան	Անահիտ	Վոլոդյայի	23/10/1976	Ռուբեն Սեալի ֓. 13	AM0891585	<i>[Signature]</i>	Ք3-59789	
402	Չիլինգարյան	Արեն	Արծրունի	28/04/2000	Ռուբեն Սեալի ֓. 23				
403	Չիլինգարյան	Մարիամ	Արծրունի	07/01/2003	Ռուբեն Սեալի ֓. 23	012683353	<i>[Signature]</i>	Ք3-58421	
404	Չիլինգարյան	Սենիկ	Բաղիշի	07/01/1947	Ռուբեն Սեալի ֓. 23				
405	Սարգսյան	Մարյամ	Աշոտի	07/01/1951	Ռուբեն Սեալի ֓. 23				
406	Սարուխանյան	Նունե	Բենիկի	24/11/1977	Ռուբեն Սեալի ֓. 23				
407	Ճատուրյան	Ալա	Արմենի	29/08/1993	Ռուբեն Սեալի ֓. 25				
408	Ճատուրյան	Անի	Արմենի	25/07/1999	Ռուբեն Սեալի ֓. 25				
409	Ճատուրյան	Արմեն	Չրունգիկի	12/11/1970	Ռուբեն Սեալի ֓. 25				
410	Ճատուրյան	Ռուզաննա	Աշոտի	19/08/1977	Ռուբեն Սեալի ֓. 25				
411	Չիլինգարյան	Արեւիկ	Բաղիշի	13/09/1951	Ռուբեն Սեալի ֓. 25				
412	Իսրայելյան	Էրիկ	Կամոյի	22/02/2003	Ռուբեն Սեալի ֓. 27	011938160	<i>[Signature]</i>	Ք3-59926	
413	Իսրայելյան	Թաթուլ	Կամոյի	06/06/1995	Ռուբեն Սեալի ֓. 27	AB0635235	<i>[Signature]</i>	Ք3-58421	
414	Իսրայելյան	Կամո	Գուրգենի	06/06/1965	Ռուբեն Սեալի ֓. 27				

Անձնագրային կոմիտեի ԳՊԻՄԻՆ պետ' *[Signature]* Գ.Գ.ՍԱՍՅԱՆ

Թ 21

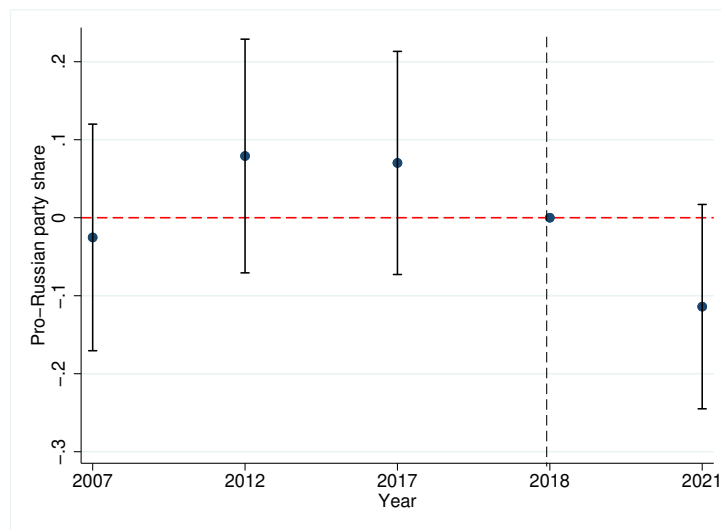
Notes: A sample page from voters' signed lists. It contains the name, surname, father's name, date of birth, address of all voters, and the signature of those who voted. Source: <https://www.elections.am/>

Figure A.11: Archive data, samples



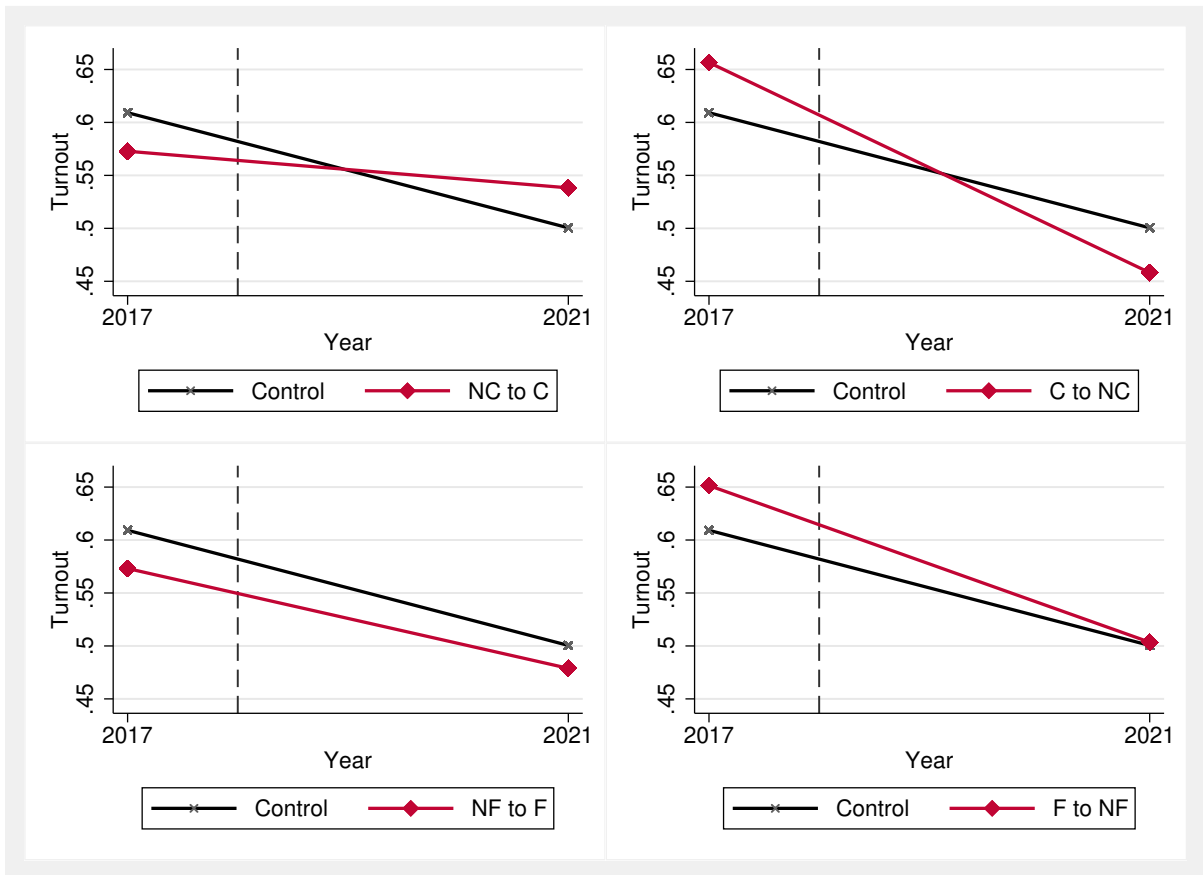
Notes: Sample pages from death, marriage parish records and 1836 census data. Source: Armenian National Archives

Figure A.12: Pro-Russian parties' vote share and mean differences (continuous treatment)



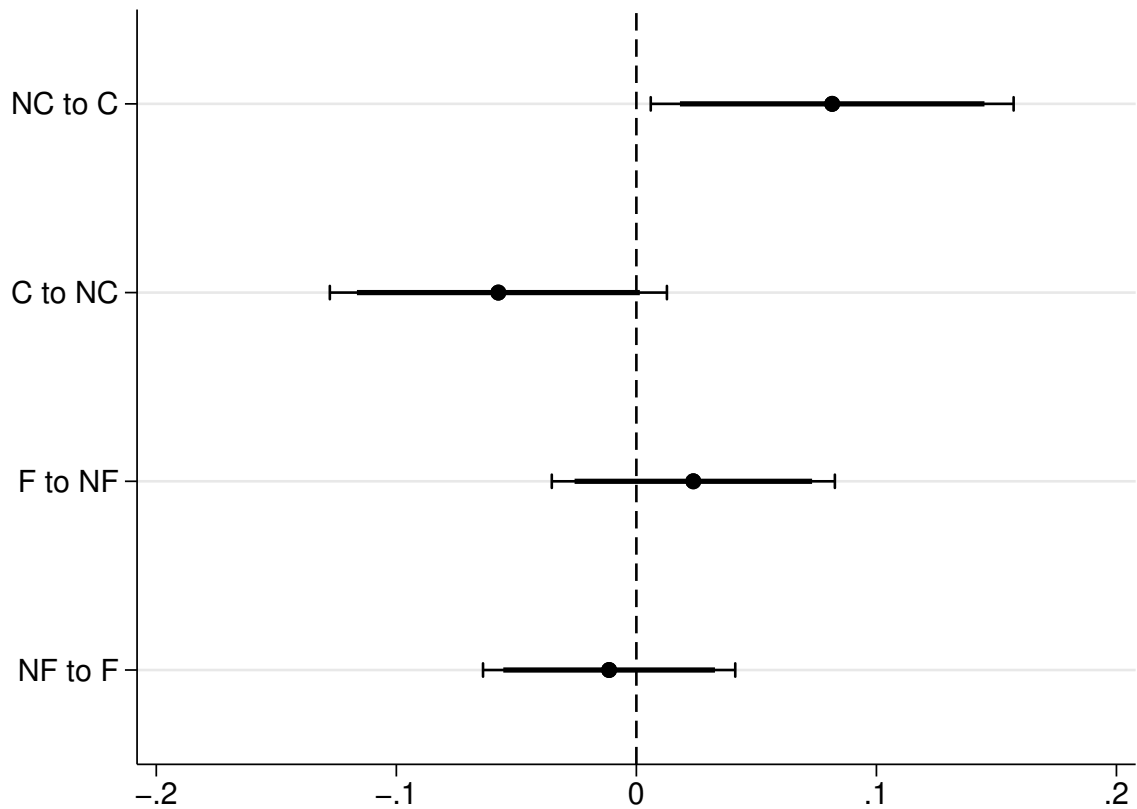
Notes: Figure shows the coefficients of an event-study design of vote share differences according to the Ottoman surname shares treatment (continuous family treatment). Vote share differences are standardized to zero for the 2018 election (the last pre-war election). Vertical intervals represent the 95% confidence intervals (clustered at the municipality level)

Figure A.13: Turnout of movers



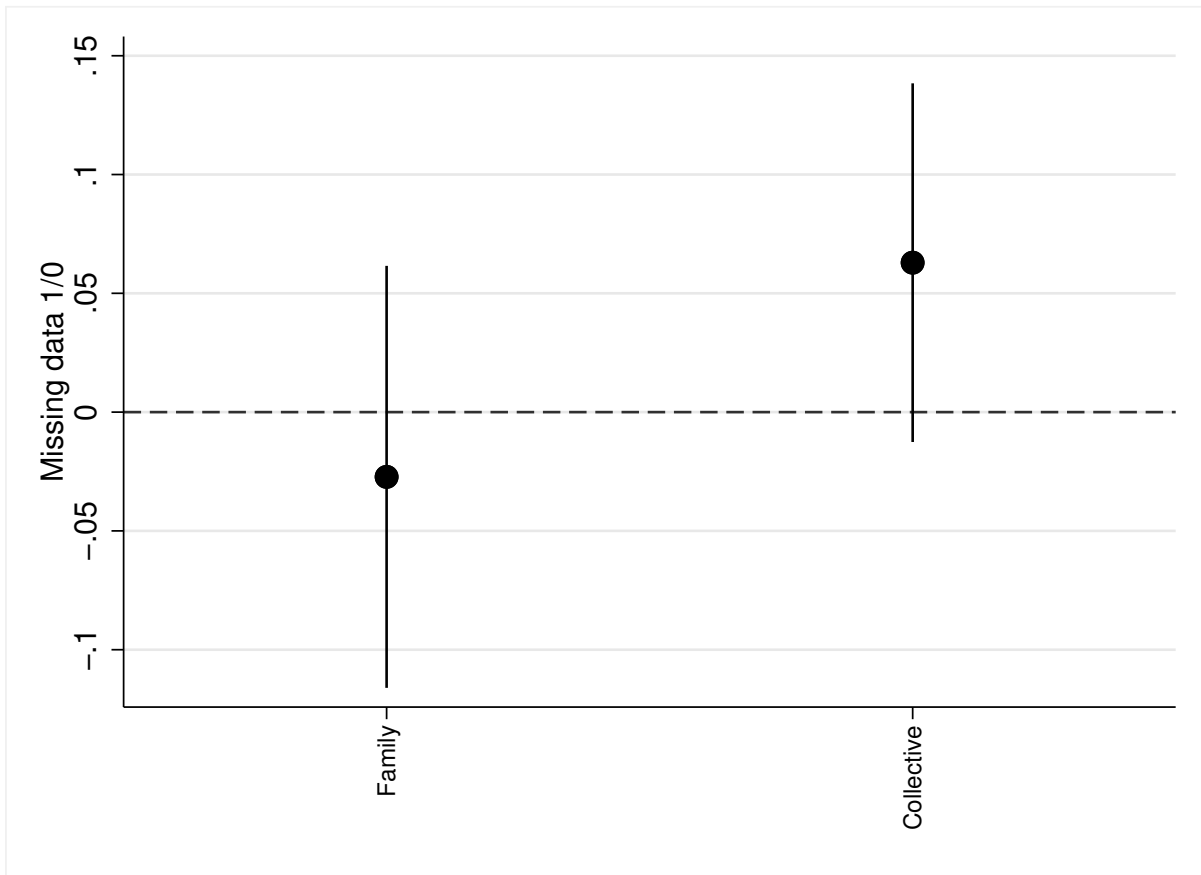
Notes: The outcome variable is the turnout (1/0) of individual movers from the Aragatsotn and Armavir regions (24% of voters) in 2017 and 2021. The top left figure compares movers from non-collective localities to collective localities with the rest of the movers (control group). The top right figure compares movers from collective localities to non-collective localities with the rest of the movers (control group). The bottom left figure compares movers from non-family localities to family localities with the rest of the movers (control group). The bottom right figure compares movers from family localities to non-family localities with the rest of the movers (control group). Dashed lines indicate before and after the 2020 war split.

Figure A.14: DiD estimates in movers' turnout



Notes: The outcome variable is the turnout (1/0) of individual movers from Aragatsotn and Armavir regions (24% of voters) in 2017 and 2021. Coefficients are DiD estimates for movers. “NC to C” labels movers from non-collective localities to collective ones, “C to NC” movers from collective localities to non-collective, “F to NF” movers from family localities to non-family, “NF to F” from non-family localities to family. The regression controls for individual fixed effects, time fixed effects, and region fixed effects. Standard errors are clustered at individual level and reported at 95% and 90% levels.

Figure A.15: Missing pre-1915 data



Notes: The outcome variable is a dummy variable for missing data. If pre-1915 data is missing in the majority of sources (five out of three), then the record is coded as missing (1); otherwise, it is 0. Coefficients are obtained from linear regression of missing data on collective and family memory treatment variables (dummy) conditioned on district fixed effects. Vertical lines indicate 95% level confidence intervals clustered at the district level

Table A.1: Renaming timing of collective memory places

Year	Freq.	Percent	Cumulative
1920	1	0.93	0.93
1926	1	0.93	1.85
1928	1	0.93	2.78
1929	1	0.93	3.70
1930	1	0.93	4.63
1935	8	7.41	12.04
1938	2	1.85	13.89
1939	1	0.93	14.81
1940	2	1.85	16.67
1945	5	4.63	21.30
1946	18	16.67	37.96
1947	3	2.78	40.74
1948	3	2.78	43.52
1949	3	2.78	46.30
1950	3	2.78	49.07
1953	1	0.93	50.00
1956	1	0.93	50.93
1962	1	0.93	51.85
1964	1	0.93	52.78
1965	2	1.85	54.63
1966	2	1.85	56.48
1967	2	1.85	58.33
1968	3	2.78	61.11
1969	1	0.93	62.04
1970	1	0.93	62.96
1972	1	0.93	63.89
1978	6	5.56	69.44
1979	1	0.93	70.37
1982	1	0.93	71.30
1983	1	0.93	72.22
1984	4	3.70	75.93
1989	1	0.93	76.85
1991	15	13.89	90.74
1992	1	0.93	91.67
1995	1	0.93	92.59
2006	8	7.41	100.00
Total	108	100.00	

Notes: The table summarizes the timing when the renaming of collective memory places took place.

Table A.2: Party Classification

Year	Pro-Russian	Pro-EU	Nationalist
2007	Republican Party of Armenia, National Agreement Party, National Unity Party, Prosperous Armenia Party, People's Party, Democratic Way Party, Armenian Revolutionary Federation (Dashnaktsutyun), Party of the Youth of Armenia, Communist Party of Armenia, Marxist Party of Armenia, United Labor Party, United Liberal National Party, New Times Party, Party Country of Legality	National Democratic Party, Dashink Party, Heritage Party, Impeachment Alliance, People's Party of Armenia, Hanrapetutyun Party, Social-Democrat Hnchak Party, Christian-Democratic Renaissance Party	–
2012	Republican Party of Armenia, Prosperous Armenia Party, Armenian National Congress Party, Armenian Revolutionary Federation (Dashnaktsutyun), Democratic Party of Armenia, Communist Party of Armenia, United Armenians Party, Party Country of Legality	Heritage Party	–
2017	Armenian Renaissance Party, Tsarukyan Parties Alliance, Congress-PPA Parties Alliance, Republican Party of Armenia, Communist Party of Armenia, Armenian Revolutionary Federation (Dashnaktsutyun)	Way Out Parties Alliance (Yelq), Free Democrats Party, Ohanyan-Raffi-Oskanyan Parties Alliance	–
2018	Republican Party of Armenia, Armenian Revolutionary Federation (Dashnaktsutyun), Party Country of Legality, Prosperous Armenia Party	Citizen's Decision Social-Democratic Party, My Step Parties Alliance, Bright Armenia Party, Christian-Popular Renaissance Party, National Progress Party, We Parties Alliance	Sasna Tsrer
2021	Fair Armenia Party, Armenian National Congress Party, Alliance "With Honour", United Homeland Party, Our Home is Armenia, Hayots Hayrenik, Prosperous Armenia Party, Democratic Party of Armenia, Verelq Party, Liberal Party, Armenia Alliance	Civil Contract Party, Zartonk National Christian Party, Liberty Party, Bright Armenia Party, Republic Party, Free Motherhood Party, Citizen's Decision Social-Democratic Party, Shirinyan-Babajanyan Democratic Union, National Agenda Party, European Party of Armenia, Sovereign Armenia Party	"5165 National Conservative Movement" Party, National Democratic Extreme Pan-Armenian Party

Notes: The table represents the classification of parties in Parliamentary elections during the 2007-2021 period. Classification is made based on the official pre-election program of the parties.

Table A.3: Mean voting outcomes (%) in 2007-2021

	Turnout			Pro-Russian			Pro-EU		
	Mean	SD	N	Mean	SD	N	Mean	SD	N
2007	71.6	12.7	891	91.8	6.8	891	5.7	4.9	891
2012	70.4	11.4	891	97.2	4.0	891	1.3	1.4	891
2017	67.5	10.1	891	94.9	6.2	891	3.3	3.5	891
2018	53.6	9.9	891	24.1	13.0	891	40.7	10.2	891
2021	52.0	10.3	889	34.0	15.2	889	33.6	9.3	889
Total	63.0	13.8	4453	68.4	33.8	4453	16.9	18.05	4453

Notes: The table shows the summary statistics of main voting outcomes: turnout, vote share of pro-Russian parties, and vote share of pro-EU parties. Mean and standard deviation are calculated over 2007, 2012, 2017, 2018, and 2021 and pooled for all years. In 2021, the voting results for 2 localities are not reported on the official website of the Central Electoral Commission.

Table A.4: Probit regression on genocide memorial

	Genocide memorial in the locality (1/0)			
	(1)	(2)	(3)	(4)
Collective	0.50*** (0.17)	0.59*** (0.22)	0.52*** (0.19)	0.59*** (0.19)
Family	0.06 (0.21)	-0.02 (0.27)	-0.05 (0.21)	-0.20 (0.41)
District FE	No	Yes	No	Yes
Controls	No	No	Yes	Yes
Obs	891	287 ^a	891	287 ^a

Notes: The table shows the probit results for genocide memorial presence in the locality. The outcome variable is an indicator coded as 1 if there is a genocide memorial in the locality. Column (2) includes district fixed effects. Column (3) includes controls for geographical (ruggedness, distance to the Turkish border (in log), distance to regional capital (in log)) demographic (population (in log), electorate (in log), female population share, HH size, age group shares) and economic (local budget per capita) features. Column (4) includes both district fixed effects and controls. Standard errors are clustered at the district level. ^a Observation number 287 is dropping after controlling for district fixed effects because of not enough variation of memorials in each district. * $p < .1$, ** $p < .05$, *** $p < .01$

Table A.5: Summary Statistics

	Full Sample			Collective			Family		
	N (1)	Mean (2)	SD (3)	N (4)	Mean (5)	SD (6)	N (7)	Mean (8)	SD (9)
Voting 2012									
Electorate	891	1174.84	1412.22	108	1354.78	1526.15	117	1206.69	987.70
Turnout	891	70.36	11.43	108	66.25	12.60	117	69.10	12.15
Pro-Russian vote share	891	97.25	3.95	108	97.09	2.57	117	96.97	2.16
Pro-EU vote share	891	1.33	1.38	108	1.45	1.51	117	1.50	1.09
Voting 2021									
Electorate	889	1205.23	1477.08	108	1419.86	1632.24	117	1253.52	1043.54
Turnout	889	51.96	10.26	108	49.39	11.70	117	49.95	8.87
Pro-Russian vote share	889	33.26	15.26	108	30.84	14.98	117	29.34	11.57
Pro-EU vote share	889	33.63	9.27	108	33.09	9.73	117	34.57	7.92
Soc-econ figures 2012									
Population	891	1318.26	1616.50	108	1571.81	1893.27	117	1442.82	1270.94
Female share	890	0.57	0.12	108	0.56	0.10	117	0.60	0.10
Average HH size	891	4.18	0.83	108	4.37	1.07	117	4.49	0.51
Age >65	891	0.13	0.05	108	0.12	0.04	117	0.12	0.02
Age 16-34	891	0.34	0.07	108	0.36	0.07	117	0.36	0.03
Age 35-64	891	0.51	0.08	108	0.53	0.08	117	0.54	0.03
Local budget/population (AMD)	891	3211.60	9629.72	108	2173.89	6824.33	117	441.04	955.48
Soc-econ figures 2021									
Population	888	1487.87	1764.93	108	1762.79	2031.80	117	1646.31	1409.03
Female share	889	0.48	0.04	108	0.47	0.05	117	0.48	0.02
Average HH size	889	4.26	0.80	108	4.45	1.11	117	4.56	0.55
Age >65	889	0.14	0.04	108	0.13	0.04	117	0.13	0.02
Age 16-34	889	0.31	0.05	108	0.31	0.05	117	0.32	0.03
Age 35-64	889	0.53	0.05	108	0.54	0.07	117	0.55	0.02
2020 war deaths	889	1.49	2.35	108	1.80	2.54	117	1.79	2.56
Local budget/population (AMD)	889	3171.91	9205.50	108	2022.84	6418.70	117	423.11	914.12
Geography									
Distance to regional capital (km)	891	25.07	14.41	108	25.33	14.00	117	22.75	12.47
Distance to Turkish border (km)	891	59.24	50.73	108	39.57	43.52	117	28.38	27.73
Soil caloric suitability index	891	4.16	0.56	108	4.06	0.40	117	4.08	0.40

Notes: The table shows the summary statistics for all 891 localities in Armenia in 2012 and 2021. The descriptive statistics for the overall sample are shown in Columns (1) to (3). Columns (4) to (6) show the summary statistics for Collective memory localities, Columns (7) to (9) for Family memory localities. See data sources in the Appendix B.

Table A.6: Socio-demographic determinants of memory types (pre-1915)

	Control			Treatment			Diff
	Obs	Mean	SD	Obs	Mean	SD	
Panel A: Family							
Muslim population (in log)	199	2.19	2.15	58	3.14	1.90	0.963*
Total native Armenian population (in log)	199	0.73	1.60	58	0.72	1.57	0.025
Average age	87	21.49	2.60	33	21.83	3.41	-0.153
Average death age	77	26.91	8.62	16	26.98	12.53	0.762
Average age of female marriage	81	18.99	1.68	18	19.23	1.37	0.385
Average age of male marriage	81	22.27	1.77	18	22.51	1.59	0.489
Cow per capita	192	3.25	3.57	58	3.52	3.40	0.480
Draft animal per capita	192	1.57	0.71	58	1.77	0.72	0.262
Panel B: Collective							
Muslim population (in log)	199	2.19	2.15	38	2.36	2.05	-0.264
Total native Armenian population (in log)	199	0.73	1.60	38	0.68	1.38	0.006
Average age	87	21.49	2.60	17	22.47	3.37	0.117
Average death age	77	26.91	8.62	15	26.85	7.46	0.663
Average age of female marriage	81	18.99	1.68	17	19.30	1.62	0.493
Average age of male marriage	81	22.27	1.77	17	22.56	1.58	0.582*
Cow per capita	192	3.25	3.57	37	3.13	6.02	0.053
Draft animal per capita	192	1.57	0.71	37	1.58	0.61	0.002

Notes: The table shows the balance of pre-1915 covariates. Panel A shows the balance of demographic, geographic, and economic features of localities with and without family remembrance. Panel B shows the balance of demographic, geographic, and economic features of localities with and without collective remembrance. Columns (1)-(3) show the summary statistics for localities without memory. Columns (4)-(6) in Panel A show the summary statistics for family memory localities. Columns (4)-(6) in Panel B show the summary statistics for collective memory localities. Column (7) reports mean difference tests between treatment and control groups where standard errors are clustered at the district level. * $p < .1$, ** $p < .05$, *** $p < .01$

Table A.7: Alternative control groups

	Non-collective		Non-family		Renamed after 1920	
	(1)	(2)	(3)	(4)	(5)	(6)
Family \times Post 2020	-4.08** (1.72)	-3.91*** (1.24)				
Collective \times Post 2020			-2.89** (1.34)	-2.66** (1.17)	-2.07* (1.09)	-3.03*** (1.00)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Locality FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE \times District FE	No	Yes	No	Yes	No	Yes
Year FE \times Geography Cov.	No	Yes	No	Yes	No	Yes
Year FE \times Pre-treat Cov.	No	Yes	No	Yes	No	Yes
Controls	No	Yes	No	Yes	No	Yes
Obs	3,913	3,908	3,863	3,858	3,518	3,513

Notes: The dependent variable is the pro-Russian vote share (in %) at the level of localities for 2007 to 2021. In columns (1)-(2) the sample excludes localities with collective memory. In columns (3)-(4) the sample excludes localities with family memory. Columns (2), (4) district FE interacted with year FE, pre-treatment controls interacted with year FE, geographical covariates interacted with year FE, and controls (electorate in log). Pre-treatment covariates include total population, female population share, average HH size, age group shares, and local budget per capita. Inferences are based on spatial (40km) clustered standard errors. * $p < .1$, ** $p < .05$, *** $p < .01$

Table A.8: OLS results on sorting

	Collective memory (1/0)			
	Full sample		Renamed after 1920	
	(1)	(2)	(3)	(4)
Ottoman surname share	-0.001 (0.001)	-0.001 (0.001)	-0.002 (0.001)	-0.002 (0.001)
District FE	Yes	Yes	Yes	Yes
Geography cov.	No	Yes	No	Yes
Socioeconomic cov.	No	Yes	No	Yes
Obs	889	889	702	702

Notes: The table shows OLS regression results of collective memory indicator on Ottoman surname share (family memory continuous). Columns (1)-(2) show the results for the full sample and columns (3)-(4) restrict the sample to the localities that were renamed after the 1920 resettlement. Columns (2) and (4) include district fixed effects, geographic log distance to the Turkish border, log ruggedness, Soil Caloric Suitability index ([Galor and Özak, 2016](#)), and log distance to the regional capital) and socioeconomic (log population, log electorate, Yazidi minority share, female share, HH size, age group dummies, and local budget per capita) covariates. Standard errors are clustered at the district level. * $p < .1$, ** $p < .05$, *** $p < .01$

Table A.9: Matching on pre-war covariates

	Population	Geography	Demography	Income
	(1)	(2)	(3)	(4)
Panel A: Propensity score matching				
Family \times Post 2020	-3.15*** (0.76)	-2.87*** (0.84)	-3.52*** (0.54)	-2.76*** (0.81)
Collective \times Post 2020	-2.35* (1.27)	-2.29* (1.33)	-1.66 (1.45)	-2.71* (1.49)
Year FE	Yes	Yes	Yes	Yes
Locality FE	Yes	Yes	Yes	Yes
Year FE \times District FE	Yes	Yes	Yes	Yes
Year FE \times Geography Cov.	Yes	Yes	Yes	Yes
Year FE \times Pre-treat Cov.	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Panel B: Entropy balancing				
Family \times Post 2020	-3.46*** (0.69)	-2.70*** (0.83)	-3.44*** (0.78)	-2.76*** (0.79)
Collective \times Post 2020	-2.41* (1.24)	-2.25 (1.37)	-1.73 (1.40)	-2.61* (1.47)
Year FE	Yes	Yes	Yes	Yes
Locality FE	Yes	Yes	Yes	Yes
Year FE \times District FE	Yes	Yes	Yes	Yes
Year FE \times Geography Cov.	Yes	Yes	Yes	Yes
Year FE \times Pre-treat Cov.	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Obs	4,443	4,443	4,443	4,443

Notes: The dependent variable is the pro-Russian vote share (in %) at the level of localities for 2007 to 2021. Panel A uses propensity score matching and Panel B applies entropy balancing to balance pre-war covariates. Column (1) matches/balances population, column (3) matches/balances distance to the Turkish border and ruggedness, column (4) matches/balances average HH size, female population share, age cohort shares. Column (4) matches/balances local budget per capita. Inferences are based on spatial (40km) clustered standard errors. * $p < .1$, ** $p < .05$, *** $p < .01$

Table A.10: Timing of treatment

	Pro-Russian parties' vote share			
	(1)	(2)	(3)	(4)
Family × Post 2020	-2.96*** (1.03)			-3.03*** (1.12)
Collective × Post 2020	-2.61** (1.03)			-2.49* (1.40)
Family × Post 2017		-0.60 (0.75)		0.63 (0.66)
Collective × Post 2017		-0.63 (0.72)		0.54 (0.60)
Family × Post 2018			-1.42* (0.86)	-0.32 (0.74)
Collective × Post 2018			-1.40 (0.90)	-0.51 (1.13)
Year FE	Yes	Yes	Yes	Yes
Locality FE	Yes	Yes	Yes	Yes
Year FE × District FE	Yes	Yes	Yes	Yes
Year FE × Geography Cov.	Yes	Yes	Yes	Yes
Year FE × Pre-treat Cov.	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Obs	4,448	4,448	4,448	4,448

Notes: The dependent variable is the pro-Russian vote share (in %) at the level of localities for 2007 to 2021. Column (1) shows baseline results with only year and locality FE. Columns (2) and (3) use different pseudo-campaign periods of two consecutive elections. Column (4) shows the combined estimation with two subsequent (pseudo-)campaign periods from 2017 onward. All columns include district FE interacted with year FE, pre-treatment controls interacted with year FE, geographical covariates interacted with year FE, controls (electorate in log). Pre-treatment covariates include total population, female population share, average HH size, age group shares, local budget per capita. Inferences are based on spatial (40km) clustered standard errors. * $p < .1$, ** $p < .05$, *** $p < .01$

Table A.11: Poisson regression on strategic campaigning

	Pro-Russian party posters		pro-EU party posters	
	before war(2018)	after war(2020)	before war(2018)	after war(2020)
Family	-0.08 (0.16)	-0.09 (0.11)	-0.04 (0.15)	-0.03 (0.18)
Collective	0.18 (0.18)	-0.06 (0.09)	0.06 (0.17)	0.31 (0.23)
Controls	Yes	Yes	Yes	Yes
Obs	887	889	887	889

Notes: In columns (1)-(2) the dependent variable is the number of pro-Russian party posters in 2021 elections within 10 km distance of locality. In columns (3)-(4) the dependent variable is the number of non pro-Russian party posters in 2021 elections within 10 km distance of locality. Columns (2) and (4) add geographical (ruggedness, max temperature, min temperature, distance to the Turkish border (in log), distance to regional capital (in log)) demographic (population (in log), electorate (in log), female population share, HH size, age group shares) and economic (local budget per capita) controls. Standard errors are clustered at district level. * $p < .1$, ** $p < .05$, *** $p < .01$

Table A.12: Schooling outcomes

	Russian		Other foreign lang.	
	(1)	(2)	(3)	(4)
Collective \times Post 2020	-0.049*** (0.01)	-0.036*** (0.01)	0.012 (0.01)	0.011 (0.01)
Family \times Post 2020	-0.001 (0.01)	0.015* (0.01)	-0.045*** (0.01)	-0.046*** (0.01)
Semester \times Yerar FE	Yes	Yes	Yes	Yes
Student FE	Yes	Yes	Yes	Yes
Grade FE	No	Yes	No	Yes
Semester FE \times Region FE	No	Yes	No	Yes
Year FE \times Geography Cov.	No	Yes	No	Yes
Year FE \times Pre-treat Cov.	No	Yes	No	Yes
Mean of dep. var.	6.79	6.79	6.65	6.65
Obs	667,529	667,529	592,924	592,924

Notes: Table shows difference in difference results on schooling outcomes. In columns (1)-(2) the dependant variable is the Russian language grade. In columns (3)-(4) the dependant variable is the other foreign language (English, French, German). In columns (5)-(6) the dependant variable is the Armenian history grade. Columns (2), (4), (6) include controls for grade FE, school FE, semester FE interacted with marz FE, semester FE interacted with geographic covariates, semester FE interacted with pre treatment control variables. Standard errors are clustered at student level.

* $p < .1$, ** $p < .05$, *** $p < .01$

Table A.13: Heterogenous effects

	$\leq 30p$	$\geq 70p$	Full sample		
	(1)	(2)	(3)	(4)	(5)
Family \times Post 2020	3.16 (2.11)	-3.51*** (0.53)	-3.66*** (1.31)	-3.48** (1.39)	-3.54** (1.38)
Collective \times Post 2020	-4.64** (1.93)	-2.27** (1.05)	-2.32** (1.06)	-3.22*** (1.24)	-3.24*** (1.25)
Collective NEW names \times Post 2020			-7.32*** (1.33)		
Pseudo NEW names \times Post 2020				2.79 (2.35)	
Collective salient names \times Post 2020					-0.43 (0.89)
Year FE	Yes	Yes	Yes	Yes	Yes
Locality FE	Yes	Yes	Yes	Yes	Yes
Year FE \times District FE	Yes	Yes	Yes	Yes	Yes
Year FE \times Geography Cov.	Yes	Yes	Yes	Yes	Yes
Year FE \times Pre-treat Cov.	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes
Obs	1,338	1,340	4,453	4,453	4,453

Notes: The dependent variable is the pro-Russian vote share (in %) at the level of localities for 2007 to 2021. Columns (1) and (2) samples include localities with population less than the 30th percentiles population as of 2007 and more than 70th percentile respectively. Columns (3) adds the interaction between Collective NEW names and post 2020 war dummy. In Column (4) "Pseudo New" name is interacted with post 2020 war dummy. Column (5) adds salient collective name interacted with post 2020 war dummy. All columns include locality fixed effects, time fixed effects, district FE interacted with year FE, pre-treatment controls interacted with year FE, geographical covariates interacted with year FE, controls (electorate in log). Pre-treatment covariates include total population, female population share, average HH size, age group shares, local budget per capita. Inferences are based on spatial (40km) clustered standard errors. * $p < .1$, ** $p < .05$, *** $p < .01$

Table A.14: Heterogenous effects (Russian military presence)

	Close to Russian military ($= < \text{median}$)		Far from Russian military ($> \text{median}$)		Full Sample	
	(1)	(2)	(3)	(4)	(5)	(6)
Family \times Post 2020	-2.10 (1.96)	-1.63*** (0.62)	-6.71*** (2.14)	-7.26*** (1.31)	-3.53** (1.78)	-2.96*** (1.03)
Collective \times Post 2020	-4.60*** (1.54)	-3.51*** (0.89)	0.42 (2.44)	-0.16 (1.76)	-2.27* (1.17)	-2.59** (1.04)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Locality FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE \times District FE	No	Yes	No	Yes	No	Yes
Year FE \times Geography Cov.	No	Yes	No	Yes	No	Yes
Year FE \times Distance to Russian military (log)	No	No	No	No	Yes	Yes
Year FE \times Pre-treat Cov.	No	Yes	No	Yes	No	Yes
Controls	No	Yes	No	Yes	No	Yes
Obs	2,225	2,220	2,228	2,228	4,453	4,448

Notes: Dependant variable is the pro-Russian vote share (in %) at the level of localities for 2007 to 2021. In Columns (1)-(2) the sample is restricted to localities which have distance to the Russian military bases lower than median distance (33.7 km). In Columns (3)-(4) the sample is restricted to localities which have distance to the Russian military bases greater than median distance (33.7 km). Column (5), (6) controls for distance to Russian military bases interacted with year fixed effects. Columns (2), (3), (6) add district FE interacted with year FE, pre-treatment controls interacted with year FE, geographical covariates interacted with year FE, controls (electorate in log). Pre-treatment covariates include total population, female population share, average HH size, age group shares, income per capita. Inferences are based on spatial (40km) clustered standard errors. * $p < .1$, ** $p < .05$, *** $p < .01$

Table A.15: Difference-in-differences results Russian connectedness

	Pro-Russian Party Share			
	Russia (1)	US (2)	Full Sample (3)	Full Sample (4)
Family \times Post 2020	-3.45** (1.70)	-1.73** (0.87)	-3.26** (1.39)	-3.22** (1.38)
Collective \times Post 2020	-4.88** (2.25)	-0.84 (2.04)	-3.16*** (1.21)	-2.97** (1.23)
Russia connected \times Post 2020			5.31** (2.63)	6.08** (2.40)
Collective \times Russia connected \times Post 2020				-8.45*** (0.29)
Family \times Russia connected \times Post 2020				2.17 (4.35)
Year FE	Yes	Yes	Yes	Yes
Locality FE	Yes	Yes	Yes	Yes
Year FE \times District FE	Yes	Yes	Yes	Yes
Year FE \times Geography Cov.	Yes	Yes	Yes	Yes
Year FE \times Pre-treat Cov.	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Obs	1,588	1,320	4,448	4,448

Notes: The dependent variable is the pro-Russian vote share (in %) at the level of 891 localities from 2007 to 2021. Column (1) shows the baseline difference-in-differences estimates for only 2 regions (Shirak, Aragtsotn and Gegharkunik) highly connected to Russia. Column (2) shows the baseline difference-in-differences estimates for only 3 regions (Lori, Armavir and Tavush) highly connected to the US. Column (3) controls for connectedness with Russia based on the google trend searches of “Russian Ruble” topic. Column (4) adds the interactions with Russian connectedness with family and collective memory treatments. All columns control for locality and year fixed effects, district FE interacted with year FE, pre-treatment controls interacted with year FE, geographical covariates interacted with year FE. Geographic controls include ruggedness, distance to the Turkish border. Pre-treatment covariates include total population, female population share, average HH size, age group shares, budget per capita. Controls include electorate in log. Inferences are based on spatially (40km) clustered standard errors. * $p < .1$, ** $p < .05$, *** $p < .01$

Table A.16: Standard errors with different spatial cut-offs

	Pro-Russian	Turnout	Pro-European
	(1)	(2)	(3)
Family \times Post2020	-3.54	-0.77	1.47
Clustered at district	(1.62)**	(0.56)	(0.83)*
Spatial cutoff 0.0 km	[1.05]***	[0.53]	[0.57]**
Spatial cutoff 10.0 km	[1.10]***	[0.43]*	[0.56]***
Spatial cutoff 20.0 km	[1.47]**	[0.52]	[0.59]**
Spatial cutoff 30.0 km	[1.48]**	[0.52]	[0.60]**
Spatial cutoff 40.0 km	[1.38]**	[0.61]	[0.51]***
Spatial cutoff 50.0 km	[1.24]***	[0.53]	[0.46]***
Spatial cutoff 60.0 km	[1.05]***	[0.46]*	[0.22]***
Collective \times Post2020	-3.28	1.78	1.19
Clustered at district	(1.43)**	(0.73)**	(0.74)
Spatial cutoff 0.0 km	[1.17]***	[0.56]***	[0.61]*
Spatial cutoff 10.0 km	[1.09]***	[0.62]***	[0.65]*
Spatial cutoff 20.0 km	[1.03]***	[0.70]**	[0.59]**
Spatial cutoff 30.0 km	[1.09]***	[0.68]***	[0.68]*
Spatial cutoff 40.0 km	[1.22]***	[0.67]***	[0.68]*
Spatial cutoff 50.0 km	[0.91]***	[0.65]***	[0.56]**
Spatial cutoff 60.0 km	[0.30]***	[0.66]***	[0.38]***
Year FE	Yes	Yes	Yes
Locality FE	Yes	Yes	Yes
Year FE \times District FE	Yes	Yes	Yes
Year FE \times Geography. Cov.	Yes	Yes	Yes
Year FE \times Pre-treat Cov.	Yes	Yes	Yes
Controls	Yes	Yes	Yes
R^2	0.96	0.89	0.94
Obs	4448	4448	4448

Notes: The table shows different standard errors based on different spatial cutoffs and “conventional” standard errors clustered at district level for the main results in Table 2 and Table 4. Spatial clustering follows [Colella et al. \(2023\)](#). Significance levels: * $p < .1$, ** $p < .05$, *** $p < .01$

Table A.17: Difference-in-differences results (full sample)

	Pro-Russian Party Share			
	(1)	(2)	(3)	(4)
Family \times Post 2020	-4.17** (1.70)	-3.54** (1.38)		
Collective \times Post 2020	-2.98** (1.33)	-3.28*** (1.22)		
Family \times Collective \times Post 2020	3.16 (2.52)	3.16 (2.75)	0.05 (1.69)	-0.75 (1.50)
Family (continuous) \times Post 2020			-0.15*** (0.04)	-0.09** (0.04)
Collective (continuous) \times Post 2020			-0.07*** (0.02)	-0.04** (0.02)
Year FE	Yes	Yes	Yes	Yes
Locality FE	Yes	Yes	Yes	Yes
Year FE \times District FE	No	Yes	No	Yes
Year FE \times Geography Cov.	No	Yes	No	Yes
Year FE \times Pre-treat Cov.	No	Yes	No	Yes
Controls	No	Yes	No	Yes
Obs	4,563	4,448	4,555	4,440

Notes: The dependent variable is the pro-Russian vote share (in %) at the level of 913 localities from 2007 to 2021. In columns (1) and (2), family and collective memory treatments are dummy variables. In Columns (3)-(4) family (continuous) variable is the share of Ottoman surnames in 2020, and the collective (continuous) variable is the number of years the locality holds the collective memory name. Column (1) and (3) show the baseline difference-in-differences estimates with locality and year fixed effects. Column (2), (4) add district FE interacted with year FE, pre-treatment controls interacted with year FE, geographical covariates interacted with year FE, controls (electorate in log). Pre-treatment covariates include total population, female population share, average HH size, age group shares, local budget per capita. Inferences are based on spatial (40km) clustered standard errors. * $p < .1$, ** $p < .05$, *** $p < .01$

Appendix B: Data sources and definitions

This section lists the data sources of the paper. Archival data and voters' signed lists are digitized from hard copies. I use [Hakobyan et al. \(1986\)](#) dictionary to trace name changes of localities over time to construct balanced panel data. I trace mergers of localities since 2007 and fix them at the 2017 borders.

Election Data

Voting results are collected from the Central Electoral Commission website (<https://www.elections.am/>). Only election results of two localities (Verin Shorzha and Nerkin Shorzha) in 2021 are missing. I use voters' election signed lists to construct age, female share, and household size variables. Female share calculation is based on the name classification according to gender. The voters' list consists of 23,044 unique names, out of which 7,185 (31.1%) are not possible to classify. However, their frequency is less than 1%. Household size is constructed by calculating the number of registered residents in one address within each locality. Age is calculated based on the date of birth. Whenever the date of birth is not meaningful (e.g., 13/00/00), the age variable is coded as missing. Surnames are classified as Ottoman-Armenian using [Avetisyan \(2010\)](#). In addition, I use grammar rules from Western Armenian to identify Ottoman-Armenian surnames. Those rules include the allowance of writing some letters in the middle of the word, as well as "ean" and "ian" endings as compared to "yan" endings in Eastern Armenian. Party poster addresses are also collected from <https://www.elections.am/> and geolocated using Google Maps API.

Pre-1915 Data

I digitize the pre-1915 variables from Armenian parish records on births, deaths, and marriages during 1836-1878 (see a sample in [Figure 8](#)). Average age, average death age, average female age at marriage, and average male age at marriage variables are constructed by averaging over year-locality during the 1836-1878 period. I digitize the 1836 census for population figures and use [Chopin \(1852\)](#) for livestock data for each locality. Draft animals include buffalo and ox. Sample size varies according to different variables because of the non-available data in the Armenian National Archive.

I check if missing data is correlated with collective and family memory treatments. Since archive data is collected from five different sources (Census 1836, parish records for marriages, deaths, births, and [Chopin \(1852\)](#)), I code the data as missing (1) if the record is missing in three or more sources; otherwise it is coded as non-missing (0). [Figure A.15](#) illustrates that conditioned on district fixed effects, none of the treatment variables predicts the probability of missing records.

Modern Socio-economic Variables

Population figures in 2011 (assigned to 2012) and 2021 (assigned to 2021) are based on census data (<https://armstat.am/am/>). The locality budget is retrieved either from the official websites of regions or provided separately by regional government offices via email. Whenever the budget was provided as a consolidated number for several localities, the proportion was calculated based on the population census in 2011.

Caucasus Barometer Survey

I use Armenian Caucasus Barometer data from 2013, 2015, 2017, 2019, 2021/2022 waves from <https://caucasusbarometer.org/en/>. The respondents' localities are not publicly available and are provided separately by CRRC-Armenia, with the obligation not to disclose them to third parties.

Schooling Data

Schooling data on grades is purchased from the National Center of Education Technologies of the Armenian Ministry of Education, Science, Culture, and Sports. The sample includes four regions (Aragatsotn, Ararat, Armavir, Shirak) for 2018-2023. These four regions make up around 32% of the population of Armenia excluding the capital Yerevan. Grades in the 2018-2019 academic year are not complete from all schools because electronic grade registration was fully implemented in the 2019-2020 academic year.

Geographic Data

locality centroids in longitude and latitude are retrieved from Google Maps API. District borders, and shape files are provided by The Humanitarian Data Exchange (<https://data.humdata.org/dataset/geoboundaries-admin-boundaries-for-armenia?>). Distance measures use Euclidean distances from locality centroids and ruggedness, retrieved from the geographic information system QGIS (Version 3.22.9). Soil caloric suitability index is provided by (Galor and Özak, 2016). The index captures the variation in potential crop yield across the globe, as measured in calories per hectare per year. The index I use in this paper is based on the average potential yields within each cell, attainable given the set of crops that are suitable for cultivation in the post-1500 period. The original raster data is available for 5' by 5' grid cells, which I average over a 4km-radius circle around each locality centroid. Source: <https://github.com/ozak/Caloric-Suitability-Index>.

Abstrakt

Má větší vliv na formování současného chování rodina nebo kolektivní vzpomínky na vzdálenou minulost? Abych na tuto otázku odpověděla, spojuji dvě historické epizody z arménských dějin, které od sebe dělí jedno století. Jak během první světové války (WWI), tak během války o Náhorní Karabach v roce 2020 se očekávalo, že Rusko poskytne vojenskou podporu Arménii, svému spojenci, ale neučinilo tak. Ukazuji, že vzpomínky na první ruskou zradu se aktivovaly po druhé válce. Rodinnou paměť na první zradu identifikuji pomocí odlišných západoarménských (osmansko-arménských) příjmení a zástupné kolektivní paměti prostřednictvím lokalit přejmenovaných na památku ztracených arménských lokalit během první světové války. Metoda rozdílů v rozdílech (DiD) ukazuje, že jak rodinná, tak kolektivní paměť negativně ovlivňují podíl hlasů proruských stran, přičemž se ověřují všechny konvenční předpoklady DiD. Rodinné vzpomínky ovlivňují chování prostřednictvím traumatických vzpomínek, zatímco kolektivní vzpomínky působí prostřednictvím sociálního kapitálu.

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