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URBAN INSECURITY AND SECURITY EXPENDITURES IN TURKIYE

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ABSTRACT

The majority of the world's population now lives in urban areas, making cities targets of warfare and areas of insecurity in recent years. This has led to a growing interest in urban security and a shift towards the militarization of traditional police forces. However, the relationship between urban security and securitization is not well understood in the literature, and research on the implications of public resource allocation is limited. This study aims to investigate the effectiveness of public security spending in reducing insecurity in urban areas in Turkey, against the backdrop of increased securitization in the 2000s. The study uses data from 81 provinces between 2010 and 2018 and constructs two alternative indicators of insecurity. The results show that an increase in security spending reduces provincial insecurity, while public-private wage inequality and out-migration from insecure provinces increase insecurity. The paper discusses the implications of these findings for democracy and human rights.

Keywords: urban insecurity, security expenditures, event data, spatial modelling.

JEL Classification: H11, H56, C31

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1. INTRODUCTION

The concentration of people, money, and economic activity in urban areas has increased, making cities a focal point for conflicts. Consequently, there is a growing interest in urban security, which has extended beyond national and regional boundaries in the era of globalization. This concern is visible in both academic research and policy initiatives. Improving safety in cities is recognized as a key component of the Sustainable Development Goal 11, which aims to enhance the quality of life in urban areas.[3] The New Urban Agenda also emphasizes the importance of inclusive measures for urban safety and crime prevention, including terrorism and violent extremism, along with other dimensions of security such as food, income, and land security. Additionally, the Sustainable Development Goal 16 focuses on establishing institutional infrastructure to promote peaceful and inclusive societies more broadly.

The organization of urban security has an impact on the allocation of public resources, which in turn affects social and political priorities. While there is extensive research on urban security and militarization, there is limited research on the relationship between public resource allocation and security in cities. To address this gap, we studied whether public spending on security in Turkey between 2010 and 2018 was effective in reducing urban insecurity. We examined both public order and safety expenditures, as well as military expenditures, for 81 cities. Insecurity was defined based on observed intervention areas of security forces in public spaces, such as demonstrations and terrorist attacks, rather than public perception. We also considered socio-economic indicators as explanatory variables in their models.

2. SECURITIZATION, URBAN (IN)SECURITY AND PUBLIC FUNDS

The Kurdish issue has been a major source of insecurity in Turkey since the mid-1980s, causing political tension at the national level. The conflict between the military and the Kurdish Workers' Party (PKK) in the southeast region of the country escalated in the 1990s, leading to the region being designated as a security zone. Although a ceasefire was declared by the PKK in 1999, it ended in 2004, and PKK-affiliated groups conducted deadly bomb attacks in the region and metropolitan cities (Al, 2015, Kibris, 2011; Ocal and Yildirim, 2010; Yildirim et al., 2019). The Turkish government initiated a "peace process" program in 2013-2014, which briefly interrupted the violence, but it was terminated in 2015 due to domestic political pressure and the active involvement of the PKK in the fight against ISIS. The long-standing Kurdish conflict in Turkey has resulted in thousands of casualties on both sides and forced migration from the least developed and poorest southeastern region of Kurdish origin to the more developed urban areas in the west since the 1990s (Güvercin, 2021).

Since the 2008 global crisis, the macroeconomic background of Turkey has been marked by growth volatility, making it vulnerable to external shocks. Inequalities in personal and regional incomes, inflation, and unemployment have remained unaddressed. Furthermore, increasingly authoritarian politics have deepened discrimination and polarization, eroding accountability, transparency, and confidence in institutional texture (Sayari, 2014). As of 2018, Turkey ranks lowest in governance indicators among OECD countries.

During the analysis period of 2008-2018, the government's decision to rebuild a replica of an Ottoman military complex in the heart of Istanbul's Gezi Park led to the removal of some trees. This decision fueled mass demonstrations in 2013 and triggered an aggressive police response that exposed the militarized capacity of the police forces (Eraydin and Tasan-Kok, 2014; Esen and Gumuscu, 2016; Kaya, 2017, Önis and Kutlay, 2020). In addition, the 2016 coup attempt by the government's former

[3] http://habitat3.org/wp-content/uploads/New-Urban-Agenda-GA-Adopted-68th-Plenary-N1646655-E.pdf

pro-Islam allies and terrorist attacks contributed to the expansion of police jurisdiction towards risk prevention through amendments to the legislation. This expansion of police capacity is evident in the budgetary allocations (Günlük-Şenesen and Kırık, 2016).

3. INDICATOR DEVELOPMENT FOR URBAN INSECURITY

Defining and measuring insecurity is a challenging task, especially when it comes to personal security. The EIU Safe Cities Index[4] grades personal security based on components such as the frequency and severity of terrorist attacks, perceptions of safety, and threats of terrorism, military conflict, and civil unrest. However, these gradings are based on subjective perceptions and may not accurately reflect objective conditions. Conflict occurrences can influence the perceptions of both the public and security authorities, while the media's coverage of crime and terror incidents can also affect public perceptions of insecurity. Therefore, an indicator of insecurity based on event data can be seen as a composite of both objective threats to security and subjective perceptions of insecurity.

We created two sets of indicators using the Global Database of Events, Language, and Tone (GDELT) Project and the Integrated Crisis Early Warning System (ICEWS) databases. These databases compile and categorize media reports by location using the Conflict and Mediation Event Observations (CAMEO) system, which was introduced by Gerner et al. (2002). CAMEO provides a standardized framework for classifying and categorizing event data, while also ensuring that events are not double counted.[5][6]

Two databases, the GDELT Project[7] and the ICEWS, are used to construct alternative insecurity indicator sets in this study. The GDELT database is led by Leetaru and Schrodt (2013) and Yahoo! Inc., and it collects social events from printed and digital media and reliable social media resources. GDELT uses data mining algorithms to encode events in unstructured texts, including specific names, monetary values, degrees of earthquakes, and temperature of explosions. The GDELT database covers events from 1979 to the present and is available on a Cloud Platform, which makes it a big data set. On the other hand, the ICEWS database led by O'Brien (2010) generates an alert system to predict future political events by monitoring political and social events. The ICEWS event data set[8], which covers events from 1995 to late 2018 for over 198 independent countries, is one of the most widely available event data sets (Boschee et al., 2015; Shilliday and Lautenschlager, 2012). Actor, event type, date, and location information are among the characteristics included in each CAMEO event in ICEWS. The ICEWS database is also issued on Harvard's Dataverse. Due to the huge number of events that yield big data, the ICEWS uses a machine coding system to classify the events according to CAMEO. As there are reservations in the literature for coverage issues for both GDELT and ICEWS data, we take them as alternative insecurity indicators in our modeling exercises to address validity concerns. This approach is also useful for a comparison of both databases in our specific case.

4. METHODOLOGY

Using the spatial autoregressive panel data model, we aim to determine the connection between insecurity and security expenditures. In order to take into account, the spatial effects of neighboring provinces, we utilize the Spatial Durbin Model (SDM) developed by LeSage and Pace (2009: pg. 46). We generate an Equation (1) to include the province-based spatial effects in the model and an autoregressive term, using the notation of Belotti et al. (2017).

[4] https://safecities.economist.com
[5] http://data.gdeltproject.org/documentation/CAMEO.Manual.1.1b3.pdf
[6] See Table A4
[7] https://console.cloud.google.com/bigquery?project=gdelt-bq
[8] https://dataverse.harvard.edu/dataverse/icews

We define our Spatial Autoregressive Durbin Model for urban insecurity in Turkey as follows:

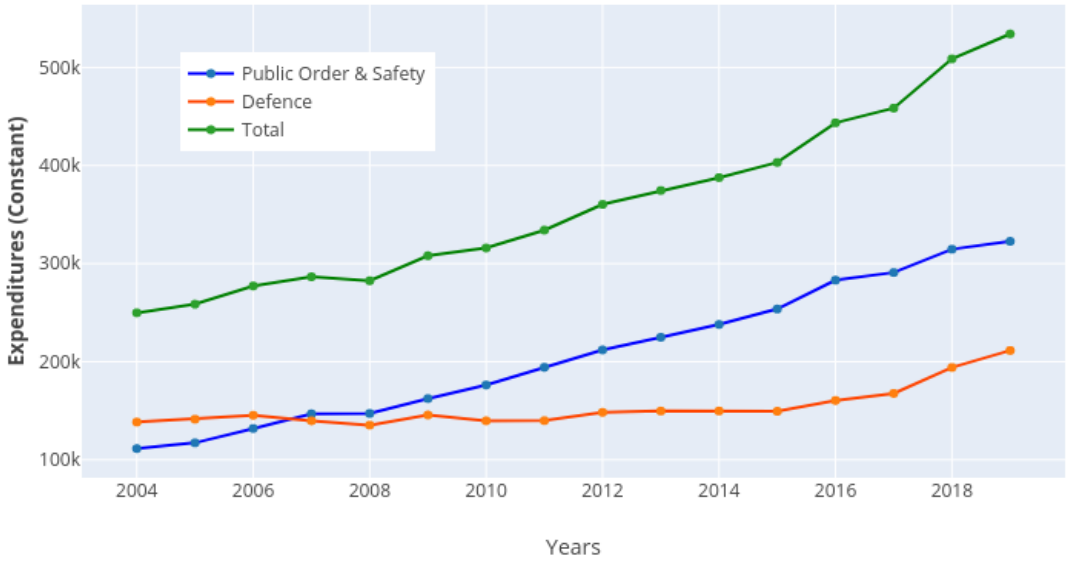
$$INSEC_t = \tau INSEC_{t-1} + \psi W\, INSEC_{t-1} + \rho W\, INSEC_t + \beta_1 EXP_t + \beta_{2:k+1} INDEPS_t + W^a Z_t \theta + \mu + \varepsilon_t \quad (1)$$

where INSEC is the dependent variable for insecurity level in a specific year t and a specific province i for Turkey in the years between 2010 and 2018. EXP is the main independent variable of security expenditures for interchangeably introduced public safety expenditures, defense expenditures, and their total. INDEPS are k number of control variables which we explain below. Although there are variations in coverage, estimation techniques, and dependent variables, our Equation (1) model is based on the works of Kollias et al. (2009, 2013) and Asongu et al. (2019). Kollias et al. (2009, 2013) studied the impact of security spending on terrorism and crime in Greece, while Asongu et al. (2019) included military expenditure as one of the explanatory variables in their homicide model for a panel of 163 countries.

5. THE VARIABLES AND THE DATA SET

We use two different measures to construct our dependent variable, INSEC, which represents urban insecurity. These measures are based on GDELT and ICEWS event data, as we explained earlier. Figure 1 displays the annual totals of defense expenditures, DEFEXP, public order and safety expenditures, PUBEXP., The faster increase of internal security expenditures dominates the trend of total spending in the period of analysis. Figure A1 shows that between 2010-2012, the "coerce" category was dominant in CAMEO events in Turkey for both INSECGD and INSECIC.

Figure 1. Time Series of Security Expenditures (Turkish Lira)



Note: Authors' calculations, see Table 1 for variable definitions.

The relationship between inequality (e.g., income, migration, ethnicity) and insecurity (e.g., terrorism, social unrest, crime) is well-established in the literature (Araz-Takay et al., 2009; Krieger, 2019; Gupta et al., 2004; Tuncer, 2017). Public spending and insecurity are also linked. However, the focus of this document is to examine the impact of security expenditures on urban insecurity in Turkey. Spending on the police and military reflects the securitization process and policy responses to risk factors. To account for government presence, we introduce two explanatory variables - military and police - which may lead to social tension and attacks on public utilities but can also indicate increased security measures. The first variable, WDIF, measures the difference in hourly wages between formal public and private employment. Positive values suggest income inequality in the province. The second variable, BCON, measures the concentration of bureaucracy in the province by capturing the share of public employment among wage earners. However, it is important to note that these are proxy variables and do not include informal private sector employment or distinguish between security and non-security employment.

The literature on the relationship between inequality and violent or nonviolent social unrest, particularly in the context of terrorism, offers no conclusive evidence regarding the roots of inequality (Nurunnabi and Sghaier, 2018; Piazza, 2006). To explore this relationship, we introduce two inequality variables into our model: the Human Development Index (HDI) as a proxy for provincial quality of life, and the net migration rate (MIGR), which is commonly used in related literature. The impact of migration on insecurity is also uncertain, as out-migration might be due to securitization or might decrease social tensions in the origin province in case of ethnic flight (Danzell et al., 2019). However, in-migration could challenge social cohesion in the destination province. We did not include the Syrian refugee influx factor in our models due to the lack of data on their provincial distribution.

As we were unable to obtain time-series data for the provincial Human Development Index in Turkey, we created a Human Development Indicator (HDI) variable by combining other variables such as GDP per capita in constant prices, literacy rate, and hospital beds per 100,000 people. We used the latter as a proxy for life expectancy since this data was not available at the provincial level. We also conducted additional tests using dummy variables and interaction variables to account for the impact of the 2016 coup attempt and the quartile of provincial insecurity severity. The most insecure quartile is referred to as Q4. For more information about the definitions and sources of the explanatory variables used in our study, please refer to Table 1.

Table 1. Variable Descriptions and Sources

Component	**Variable**	**Explanation**	**Source**
Insecurity	INSECGD	Potential impact of events leading to insecuritization of province, GDELT average impact scores per 100K people.	Google Cloud [9]
	INSECIC	Potential impact of events leading to insecuritization of province, ICEWS average impact scores per 100K people	Harvard Dataverse [10]
Expenditure on Security	DEFEXP	Defense Expenditures per 100K capita, constant (base: 2015), Turkish Liras (TL).	RTMTF [11]
	PUBEXP	Public Order Expenditures per 100K capita, constant (base: 2015), TL.	RTMTF[11]
	SECEXP	Total Security Expenditures per 100K capita, constant (base: 2015), TL.	RTMTF[11]
Wage Difference	WDIF	Hourly wage difference between public and private sector at provincial level. constant (base: 2015), TL.	TURKSTAT HLFS [12]
Bureaucracy Concentration	BCON	Share of public employment in total provincial formal employment.	TURKSTAT HLFS [12]
Net Migration Rate	MIGR	Difference between in-migration and out-migration rates.	TURKSTAT[13]
Human Development Indicator	HDI	(Real GDP Per Capita + Literacy Rate + Hospital Beds per 100K) / 3	TURKSTAT
Coup Dummy	CoupD	1 for 2016-2018, 0 otherwise.	Authors
Quartile Dummy	Q{1,2,3,4}	Cities are ranked by arithmetic averages of INSECGD and INSECIC, and clustered into four quartiles. Q1: the most secure, Q4: the most insecure.	Authors

[9] https://www.gdeltproject.org/data.html#googlebigquery
[10] https://doi.org/10.7910/DVN/QI2T9A
[11] https://en.hmb.gov.tr/general-government: Republic of Turkiye Ministry of Treasury and Finance (RTMTF)
[12] https://www.tuik.gov.tr/Home/Index: Households Labour Force Surveys (HLFS)
[13] https://biruni.tuik.gov.tr/medas/?kn=95&locale=tr: Turkish Statistical Institute (TURKSTAT)

6. PRELIMINARY FINDINGS

We looked an analysis of Pearson's correlation coefficients between two variables, INSECD and INSECIC, to determine if they could be used to cross-validate findings and substitute for each other over time. The analysis found a statistically significant positive correlation between the two variables according to Table 2.

Table 2. Pearson CCs of INSECGD and INSECIC

Variables	Year	Pearson CC	t-computed	*p-value*
INSECGD - INSECIC	2010	0.8793	164.114	0.0000
INSECGD - INSECIC	2011	0.6357	73.193	0.0000
INSECGD - INSECIC	2012	0.2823	26.156	0.0107
INSECGD - INSECIC	2013	0.5856	64.217	0.0000
INSECGD - INSECIC	2014	0.3743	35.877	0.0006
INSECGD - INSECIC	2015	0.4039	39.238	0.0002
INSECGD - INSECIC	2016	0.4594	45.969	0.0000
INSECGD - INSECIC	2017	0.5468	58.054	0.0000
INSECGD - INSECIC	2018	0.6556	77.172	0.0000

Note: CC stands for correlation coefficient.

Tables 3 and 4 display the results of the Moran's I test for spatial randomness for the two insecurity variables. In Table 3, spatial randomness is rejected for INSECGD for the years 2010-2018 at a 5% significance level. In Table 4, it is rejected for INSECIC at slightly higher levels of significance for 2014 and 2018. Despite this, we proceed with our models since the necessary conditions for spatial dependency (Moran, 1950) have been met.

Table 3. MORAN'S I STATISTICS for INSECGD (GDELT)

Years	MIE_dB	MIS_dB	**MIp_dB**	MIE_dW	MIS_dW	**MIp_dW**
2010	0.0188	4.2970	0.0000	0.0244	4.4392	0.0000
2011	0.0128	3.4793	0.0005	0.0182	3.7044	0.0002
2012	0.0048	2.3835	0.0171	0.0080	2.4774	0.0132
2013	0.0134	3.5470	0.0004	0.0181	3.6671	0.0002
2014	0.0124	3.4008	0.0007	0.0167	3.4666	0.0005
2015	0.0279	5.6885	0.0000	0.0355	5.9736	0.0000
2016	0.0164	4.0023	0.0001	0.0216	4.1466	0.0000
2017	0.0106	3.2306	0.0012	0.0143	3.3074	0.0009
2018	0.0147	3.7029	0.0002	0.0201	3.8654	0.0001

Note: MIE stands for Moran's I Estimate which is the value of the observed value, MIS is the value of the standard deviate of Moran's I, dB is the distance assumed the basic Binary coding, dW is distance assumed roW standardized.

Table 4. MORAN'S I STATISTICS for INSECIC (ICEWS)

Years	MIE_dB	MIS_dB	**MIp_dB**	MIE_dW	MIS_dW	**MIp_dW**
2010	0.0109	3.6090	0.0003	0.0142	3.8345	0.0001
2011	0.0144	3.7658	0.0002	0.0188	3.8727	0.0001
2012	0.0257	5.3656	0.0000	0.0319	5.5108	0.0000
2013	0.0249	5.0287	0.0000	0.0300	4.9578	0.0000
2014	0.0000	1.7445	0.0811	0.0024	1.8456	0.0649
2015	0.0554	9.4546	0.0000	0.0667	9.7081	0.0000
2016	0.0241	5.1378	0.0000	0.0294	5.1904	0.0000
2017	0.0240	5.2073	0.0000	0.0296	5.3568	0.0000
2018	-0.0001	1.8721	0.0612	0.0017	1.9598	0.0500

Note: MIE stands for Moran's I Estimate which is the value of the observed value, MIS is the value of the standard deviate of Moran's I, dB is the distance assumed the basic Binary coding, dW is distance assumed roW standardized.

The mean values for the insecurity variables are negative, indicating that insecurity was prevalent in most provinces in Table 5. The DEFEXP variable had a minimum value of zero in 2018 for seven provinces, which may be due to allocation from the central government.

Table 5. DESCRIPTIVE STATISTICS

	N	MIN	MEAN	MEDIAN	MAX	SD
INSECGD	729	-8.7026	-0.1404	0.0829	5.7872	1.526
INSECIC	729	-12.6028	-1.074	-0.4768	3.8464	1.7458
DEFEXP	729	0	160.7399	73.5265	2697.0142	267.7483
PUBEXP	729	103.6016	348.8474	277.6229	3563.4912	310.6485
SECEXP	729	131.8284	509.5873	377.993	5485.6802	535.1705
MIGR	729	-1427.64	-18.2064	-20.64	1662.12	178.3281
WDIF	729	0	37.7307	37.7436	61.2663	9.7339
BCON	729	0.0863	0.2988	0.3053	0.4888	0.0864
HDI	729	0.0909	0.4649	0.4772	0.9097	0.1658

6.1. MODELS

Tables A1, A2, and A3 present the results of the estimated SAD models using GDELT and ICEWS data for public order and safety spending, defense expenditures, and total security expenditures, both in restricted (columns 1 and 2) and full forms (column 3).

In all sets of models, the coefficients for all three security expenditures are significantly negative. This means that an increase in security spending leads to a decrease in provincial insecurity, as indicated by the event data proxies, and vice versa.

Moreover, the models using INSECIC also confirm the inverse relationship between securitization and insecurity, which is the main focus of the analysis. Notably, the models using GDELT data demonstrate higher explanatory power (R2) than those using ICEWS data for both defense and total security expenditures, while the difference is negligible between the two model sets for public order and safety spending.

Panel B in Table A1, A2, and A3 show the results of statistical models presented in, which indicate that Turkey's provinces are relatively insecure environments. The models show that expected insecurity in all provinces is negative on average, with Q4 regions (mostly in the Southeastern part of Turkey) and Istanbul exacerbating this insecurity statistically.

One consistent result across all six model versions is that the previous level of insecurity is a significant predictor of current insecurity. This indicates a persistence of the social and political climate at the urban level, which aligns with the autoregressive nature of our models.

The estimated models for all three categories of insecurity using ICEWS data (INSECIC) have shown significant and positive coefficients for the lagged wage difference between public and private employment (WDIF). However, in the models that use GDELT data, WDIF is significant only in the equation for Public Order and Safety expenditure and is either insignificant or weakly significant in the models that include defense and total security spending. One possible explanation for this is that the higher living standards enjoyed by government employees, including security forces, may contribute to social unrest and inequality, which in turn can lead to securitization.

Table A1 reports on a study of the impact of bureaucracy on provincial insecurity in Turkey, in which it was found a negative effect of BCON, meaning that increased bureaucracy generally decreased insecurity, although statistical support for this effect was weak.

In terms of inequality indicators, the coefficient of HDI, which is used as a proxy for provincial quality of life, did not show significance in any of our models. Our findings align with previous research that does not support the relationship between inequality and insecurity. Our results are mixed regarding the impact of net migration. Although the statistical significance level is relatively low, the negative coefficient of net migration (MIGR) in all models suggests that positive net migration (i.e., in-migration greater than out-migration) generally reduces insecurity at the destination. We did not find evidence for the impact of demographic diversity on social unrest. However, insecurity at the origin is higher if out-migration is more prevalent. The impact of net migration is manifested for the most insecure group of provinces (Q4#MIGR, Q4 provinces are located mainly along the Southeast border and Istanbul -the biggest metropolitan city) but not for other clusters. Insecurity rises (e.g., TableA2, INSECIC equation: -0.0013+0.0032=0.0019) with diversity and declines with population flight in the most troubled provinces. The findings suggest that local economic, social, and political conditions are decisive in explaining the relationship between insecurity and migration. These results are consistent across all six unrestricted models we estimated.

Interestingly the coup dummy variable (CoupD) is insignificant in the insecurity models with the GDELT data. The three models with ICEWS data yield significant positive coefficients even for only a few post-coup year data and signals a warning for the social unrest due to securitization.

7. CONCLUSIONS

In recent decades, the literature on urban security has revealed the complex factors underlying threats and the changing nature of national security. As cities have grown in size and economic significance, they have become targets of both external and internal conflicts, including terrorism and political unrest. In response, efforts to prevent insecurity and maintain peace have required a rethinking of traditional boundaries between internal and external security actors. This has led to a trend towards blurring these boundaries, as police forces have become more militarized, and the military has become increasingly present in conflict zones within cities.

The past few decades have seen a global increase in threats to urban security, with cities becoming targets of terrorism, internal conflicts, and political unrest due to the concentration of populations and economic activity. This trend has been observed in Turkey as well, where metropolitan areas have experienced terrorist attacks, demonstrations, and military operations in response to local separatist movements and the Syrian civil war. The government's response has been to increase securitization measures, including the restriction of civil rights and the empowerment of the police. In Turkey, spending on public order has exceeded that of the military, indicating a shift towards the militarization of the police. It is important to note that security concerns and risk mitigation measures vary greatly at the local level.

The aim of our study is to examine the relationship between resource allocation for security and insecurity intensity at a local level in Turkey. To accomplish this, we utilized Spatial Autoregressive Durbin models, and we also incorporated socio-economic and bureaucratic factors into our analysis. To measure local insecurity, we employed the GDELT and ICEWS event databases, which provide information on events related to security forces' interventions in public spaces, including events against the state, police, armed forces, public institutions, organizations, demonstrations, and terrorist attacks. Our analysis comprehensively addresses different aspects of insecurity, including both objective and subjective components, which is a significant contribution of our research. Additionally, we improved the validity of our research by using two different databases to triangulate our findings.

Our study suggests potential avenues for further research on the causes of insecurity. First, future research could take into account local economic, social, and political conditions, depending on data availability. Second, there could be a focus on the relationship between bureaucratic power and insecurity, particularly in developing countries where there may be variations among cities. Third, the relationship between security expenditures and insecurity could be examined in more detail, with a specific focus on the components of these expenditures, such as staffing, arming, or surveillance investments, which may have different implications for the nature of securitization.

The implementation of extreme security measures such as curfews or martial law may create an illusion of safety but result in public spaces that are empty and devoid of life. However, increasing security measures and restricting civil rights could have negative consequences for democracy and create long-term problems. Thus, it is important to consider the context of security policy and the rule of law. For example, research by Asongu et al. (2019) suggests that while increased security staff and military expenditures can reduce homicides, they are not sufficient if not accompanied by social, political, and economic policies aimed at improving social cohesion. Therefore, there is a limit to how much should be invested in security staffing and equipment infrastructure, and this limit should be determined by the condition that civil rights are not violated.

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REFERENCES

Al, S., 2015. Local Armed Uprisings and the Transnational Image of Claim Making: The Kurds of Turkey and the Zapatistas of Mexico in Comparative Perspective. Globalizations 12, 677–694. https://doi.org/10.1080/14747731.2014.991541

Araz‐Takay, B., Arin, K.P., Omay, T., 2009. The Endogenous and Non‐Linear Relationship Between Terrorism and Economic Performance: Turkish Evidence. Defence and Peace Economics 20, 1–10. https://doi.org/10.1080/10242690701775509

Asongu, S.A., Nwachukwu, J.C., Pyke, C., 2019. The Right to Life: Global Evidence on the Role of Security Officers and the Police in Modulating the Effect of Insecurity on Homicide. Soc Indic Res 143, 727–740. https://doi.org/10.1007/s11205-018-1992-2

Belotti, F., Hughes, G., Mortari, A.P., 2017. Spatial Panel-data Models Using Stata. The Stata Journal 17, 139–180. https://doi.org/10.1177/1536867X1701700109

Boschee, E., Lautenschlager, J., O'Brien, S., Shellman, S., Starz, J., Ward, M., 2015. ICEWS coded event data. Harvard Dataverse, 12. https://doi.org/10.7910/DVN/QI2T9A

Danzell, O.E., Yeh, Y.-Y., Pfannenstiel, M., 2019. Determinants of Domestic Terrorism: An Examination of Ethnic Polarization and Economic Development. Terrorism and Political Violence 31, 536–558. https://doi.org/10.1080/09546553.2016.1258636

Eraydin, A., Taşan-Kok, T., 2013. State Response to Contemporary Urban Movements in Turkey: A Critical Overview of State Entrepreneurialism and Authoritarian Interventions. https://doi.org/10.1111/anti.12042

Esen, B., Gumuscu, S., 2016. Rising competitive authoritarianism in Turkey. Third World Quarterly 37, 1581–1606. https://doi.org/10.1080/01436597.2015.1135732

Gerner, D.J., Abu-Jabr, R., Schrodt, P.A., Yilmaz, Ö., 2002. Conflict and Mediation Event Observations (CAMEO): A New Event Data Framework for the Analysis of Foreign Policy Interactions. https://doi.org/10.4324/9780203885130

Günlük-Şenesen, G., Kırık, H., 2016. The AKP Era: Democratization or Resecuritization? An Assessment of the Institutional and Budgetary Reflections. Research and Policy on Turkey 1, 75–87. https://doi.org/10.1080/23760818.2015.1099783

Gupta, S., Clements, B., Bhattacharya, R., Chakravarti, S., 2004. Fiscal consequences of armed conflict and terrorism in low- and middle-income countries. European Journal of Political Economy, The Economic Consequences of Terror 20, 403–421. https://doi.org/10.1016/j.ejpoleco.2003.12.001

Güvercin, D., 2021. Armed Conflict and Its Repercussions on Population Growth: The Turkish Case. Defence and Peace Economics 0, 1–14. https://doi.org/10.1080/10242694.2021.1969112

Kaya, A., 2017. Right to public space: social movements and active citizenship in Turkey. Research and Policy on Turkey 2, 1–9. https://doi.org/10.1080/23760818.2016.1272273

Kibris, A., 2011. Funerals and Elections: The Effects of Terrorism on Voting Behavior in Turkey. Journal of Conflict Resolution 55, 220–247. https://doi.org/10.1177/0022002710383664

Kollias, C., Messis, P., Mylonidis, N., Paleologou, S.-M., 2009. Terrorism and the effectiveness of security spending in Greece: Policy implications of some empirical findings. Journal of Policy Modeling, Understanding, quantifying and modeling the terrorist threat 31, 788–802. https://doi.org/10.1016/j.jpolmod.2008.09.008

Kollias, C., Mylonidis, N., Paleologou, S.-M., 2013. Crime and the effectiveness of public order spending in Greece: Policy implications of some persistent findings. Journal of Policy Modeling 35, 121–133. https://doi.org/10.1016/j.jpolmod.2012.02.004

Krieger, T., Meierrieks, D., 2019. Income inequality, redistribution and domestic terrorism. World Development 116, 125–136. https://doi.org/10.1016/j.worlddev.2018.12.008

Leetaru, K., Schrodt, P.A., 2013. GDELT: Global data on events, location, and tone, 1979-2012. ISA Annual Convention. http://data.gdeltproject.org/documentation/ISA.2013.GDELT.pdf

LeSage, J., Pace, R.K., 2009. Introduction to Spatial Econometrics. Chapman and Hall/CRC, New York. https://doi.org/10.1201/9781420064254

Moran, P.A.P., 1950. Notes on Continuous Stochastic Phenomena. Biometrika 37, 17–23. https://doi.org/10.2307/2332142

Nurunnabi, M., Sghaier, A., 2018. Socioeconomic Determinants of Terrorism. Digest of Middle East Studies 27, 278–302. https://doi.org/10.1111/dome.12139

O'Brien, S.P., 2010. Crisis Early Warning and Decision Support: Contemporary Approaches and Thoughts on Future Research. International Studies Review 12, 87–104. https://doi.org/10.1111/j.1468-2486.2009.00914.x

Öcal, N., Yildirim, J., 2010. Regional effects of terrorism on economic growth in Turkey: A geographically weighted regression approach. Journal of Peace Research 47, 477–489. https://doi.org/10.1177/0022343310364576

Öniş, Z., Kutlay, M., 2021. The anatomy of Turkey's new heterodox crisis: the interplay of domestic politics and global dynamics. Turkish Studies 22, 499–529. https://doi.org/10.1080/14683849.2020.1833723

Piazza, J.A., 2006. Rooted in Poverty? : Terrorism, Poor Economic Development, and Social Cleavages. Terrorism and Political Violence 18, 159–177. https://doi.org/10.1080/095465590944578

Sayari, S., 2014. Interdisciplinary Approaches to Political Clientelism and Patronage in Turkey. Turkish Studies 15, 655–670. https://doi.org/10.1080/14683849.2014.985809

Shilliday, A., Lautenschlager, J., USA, 2012. Data for a worldwide ICEWS and ongoing research, in: Advances in Design for Cross-Cultural Activities Part I. CRC Press. https://www.taylorfrancis.com/chapters/edit/10.1201/b12316-55/data-worldwide-icews-ongoing-research-shilliday-lautenschlager-usa?context=ubx&refId=00851a37-6661-4f37-94c8-7b8a7e431319

Tuncer, G., 2017. The Relationship between Crime and Public Order and Safety Expenditures in Turkey. International Journal of business and social science 8, 146–149. http://www.ijbssnet.com/journals/Vol_8_No_3_March_2017/14.pdf

Yildirim, J., Kose, T., Tanrivere, G., 2019. The effects of terrorism on happiness: Evidence from Turkey. The Economics of Peace and Security Journal 14. https://doi.org/10.15355/epsj.14.2.5

APPENDICES

Table A1. SADM REGRESSIONS for INSECURITY w/ DEFEXP

	Panel A (GDELT, Random Effects) INSECGD			Panel B (ICEWS, Random Effects) INSECIC		
$INSECGD_{t-1}$	0.6948***	0.6943***	0.7045***			
	(24.72)	(24.68)	(25.19)			
$INSECIC_{t-1}$				0.1680***	0.1646***	0.1493***
				(3.73)	(3.65)	(3.42)
DEFEXP	-0.0003**	-0.0003**	-0.0003**	-0.0015***	-0.0016***	-0.0015***
	(-2.54)	(-2.50)	(-2.29)	(-4.68)	(-5.01)	(-4.60)
$WDIF_{t-1}$	0.0126*	0.0129*	0.0088	0.0370***	0.0296**	0.0277**
	(1.88)	(1.86)	(1.23)	(3.16)	(2.44)	(2.28)
BCON	-0.6382	-0.5729	-0.7683	-2.3320	-2.3476	-2.8183*
	(-1.16)	(-1.04)	(-1.33)	(-1.63)	(-1.64)	(-1.96)
HDI_{t-1}	0.2329	0.2373	0.2628	0.7783	0.7278	0.7741
	(0.89)	(0.91)	(0.97)	(1.03)	(0.97)	(0.99)
MIGR	-0.0002	-0.0002	-0.0004*	-0.0005*	-0.0005*	-0.0013***
	(-1.20)	(-1.28)	(-1.87)	(-1.72)	(-1.70)	(-3.72)
CoupD		-0.0183	-0.2639		1.5443**	1.5116**
		(-0.04)	(-0.54)		(2.09)	(2.10)
Q2			-0.1406			0.1376
			(-1.59)			(0.95)
Q3			-0.0904			-0.1306
			(-0.98)			(-0.78)
Q4			-0.0945			-0.3984**
			(-0.90)			(-2.01)
Q2 # MIGR			0.0006			0.0009
			(1.32)			(1.29)
Q3 # MIGR			0.0003			0.0006
			(0.49)			(0.76)
Q4 # MIGR			0.0016***			0.0025***
			(3.06)			(2.96)
Constant	-0.1727	-0.2199	0.1201	-1.3870*	-1.3597	-0.0081
	(-0.54)	(-0.66)	(0.32)	(-1.73)	(-1.63)	(-0.01)
Spatial ρ	3.5052***	3.4604***	3.0139***	1.8189***	1.7121***	-0.6426
	(14.46)	(13.81)	(9.11)	(3.34)	(3.08)	(-0.77)
Variance						
θ_ε	15.9914	16.0195	16.3930	-0.2623	-0.2449	-0.3120*
	(0.03)	(0.03)	(0.02)	(-1.34)	(-1.25)	(-1.65)
σ_ε	0.6300***	0.6293***	0.6077***	1.3299***	1.3238***	1.2316***
	(18.98)	(18.98)	(19.01)	(17.27)	(17.28)	(17.31)
R^2 Overall	0.6525	0.6586	0.7095	0.3616	0.3704	0.4007
R^2 Within	0.6627	0.6687	0.7210	0.0189	0.0239	0.0970
R^2 Between	0.3545	0.3602	0.3656	0.6315	0.6418	0.6259
Log Likelihood	-875.14	-874.35	-858.68	-1207.5	-1204.8	-1180.3
# of Observations	729	729	729	729	729	729

t statistics in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$, # indicates interaction of variables.

Table A2. SADM REGRESSIONS for INSECURITY w/ PUBEXP

	Panel A (GDELT, Fixed Effects) INSECGD			Panel B (ICEWS, Random Effects) INSECIC		
$INSECGD_{t-1}$	0.6265***	0.6269***	0.6314***			
	(19.98)	(19.99)	(20.26)			
$INSECIC_{t-1}$				0.1710***	0.1672***	0.1507***
				(3.90)	(3.80)	(3.55)
DEFEXP	-0.0021***	-0.0021***	-0.0022***	-0.0026***	-0.0026***	-0.0027***
	(-4.97)	(-4.96)	(-5.21)	(-10.01)	(-10.15)	(-9.98)
$WDIF_{t-1}$	0.0262***	0.0260***	0.0236***	0.0410***	0.0338***	0.0336***
	(3.21)	(3.06)	(2.77)	(3.65)	(2.92)	(2.88)
BCON	0.6445	0.6528	0.7843	-0.7768	-0.9636	-1.4829
	(0.46)	(0.46)	(0.56)	(-0.66)	(-0.81)	(-1.22)
HDI_{t-1}	1.2143	1.1091	0.8378	0.3322	0.2789	0.2838
	(1.09)	(0.99)	(0.74)	(0.57)	(0.48)	(0.46)
MIGR	-0.0001	-0.0001	-0.0004*	-0.0005	-0.0005	-0.0013***
	(-0.33)	(-0.38)	(-1.70)	(-1.62)	(-1.59)	(-3.90)
CoupD		0.0164	-0.3022		1.4735**	1.2142*
		(0.03)	(-0.64)		(2.06)	(1.74)
Q2			-0.2031**			0.1179
			(-2.05)			(0.84)
Q3			-0.0981			-0.0676
			(-0.81)			(-0.43)
Q4			0.0396			-0.2624
			(0.27)			(-1.43)
Q2 # MIGR			0.0008			0.0012
			(1.58)			(1.61)
Q3 # MIGR			0.0007			0.0007
			(1.23)			(0.86)
Q4 # MIGR			0.0024***			0.0032***
			(4.18)			(3.89)
Constant	-0.1909	-0.2324	0.0183	-1.5527**	-1.5861**	-0.5177
	(-0.61)	(-0.71)	(0.05)	(-2.40)	(-2.34)	(-0.71)
Spatial ρ	3.0678***	3.0338***	2.6114***	1.9396***	1.7270***	-0.6550
	(9.59)	(9.29)	(6.48)	(3.65)	(3.10)	(-0.78)
Variance						
θ_ε		NA in FE		0.4219	0.4229	0.3065
				(1.58)	(1.59)	(1.23)
σ_ε	0.5599***	0.5598***	0.5357***	1.3380***	1.3287***	1.2294***
	(19.01)	(19.01)	(19.03)	(17.38)	(17.40)	(17.42)
R^2 Overall	0.4362	0.4165	0.4964	0.4663	0.4725	0.5072
R^2 Within	0.7165	0.7191	0.7478	0.0191	0.0273	0.1015
R^2 Between	0.2130	0.1857	0.2436	0.7916	0.7936	0.7868
Log Likelihood	-829.11	-828.86	-810.85	-1183.3	-1180.3	-1154.5
# of Observations	729	729	729	729	729	729

t statistics in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$, # indicates interaction of variables.

Table A3. SADM RE REGRESSIONS for INSECURITY w/ SECEXP

	Panel A (GDELT, Random Effects) INSECGD			Panel B (ICEWS, Random Effects) INSECIC		
$INSECGD_{t-1}$	0.6873***	0.6870***	0.6949***			
	(24.58)	(24.55)	(25.02)			
$INSECIC_{t-1}$				0.1757***	0.1698***	0.1512***
				(3.97)	(3.83)	(3.55)
DEFEXP	-0.0003***	-0.0003***	-0.0003***	-0.0013***	-0.0014***	-0.0013***
	(-4.35)	(-4.29)	(-4.54)	(-8.55)	(-8.80)	(-8.33)
$WDIF_{t-1}$	0.0146**	0.0150**	0.0113	0.0405***	0.0325***	0.0316***
	(2.20)	(2.18)	(1.59)	(3.55)	(2.75)	(2.66)
BCON	-0.5196	-0.4615	-0.5866	-1.3415	-1.4622	-1.9870
	(-0.95)	(-0.84)	(-1.03)	(-1.06)	(-1.16)	(-1.53)
HDI_{t-1}	0.1649	0.1656	0.1130	0.6425	0.5845	0.5886
	(0.64)	(0.64)	(0.42)	(1.02)	(0.93)	(0.88)
MIGR	-0.0002	-0.0002	-0.0004*	-0.0005*	-0.0005	-0.0013***
	(-1.01)	(-1.09)	(-1.85)	(-1.65)	(-1.62)	(-3.76)
CoupD		-0.0275	-0.3069		1.6426**	1.5085**
		(-0.06)	(-0.64)		(2.26)	(2.13)
Q2			-0.1262			0.1351
			(-1.44)			(0.95)
Q3			-0.0479			-0.0780
			(-0.52)			(-0.48)
Q4			0.0166			-0.2768
			(0.16)			(-1.46)
Q2 # MIGR			0.0007			0.0010
			(1.48)			(1.38)
Q3 # MIGR			0.0003			0.0006
			(0.67)			(0.76)
Q4 # MIGR			0.0018***			0.0028***
			(3.46)			(3.41)
Constant	-0.1909	-0.2324	0.0183	-1.3087*	-1.3269*	-0.1631
	(-0.61)	(-0.71)	(0.05)	(-1.90)	(-1.85)	(-0.21)
Spatial ρ	3.5004***	3.4614***	3.0256***	1.9896***	1.7911***	-0.5331
	(14.43)	(13.87)	(9.23)	(3.81)	(3.28)	(-0.64)
Variance						
θ_ε	16.9858	15.9951	15.7971	0.1970	0.2003	0.0729
	(0.02)	(0.03)	(0.03)	(0.82)	(0.85)	(0.33)
σ_ε	0.6196***	0.6189***	0.5952***	1.3381***	1.3277***	1.2313***
	(18.98)	(18.98)	(19.01)	(17.34)	(17.37)	(17.42)
R^2 Overall	0.6594	0.6641	0.7142	0.4377	0.4452	0.4766
R^2 Within	0.6674	0.6720	0.7232	0.0167	0.0247	0.0994
R^2 Between	0.4362	0.4413	0.4544	0.7512	0.7534	0.7387
Log Likelihood	-869.00	-868.30	-851.16	-1191.2	-1187.8	-1163.6
# of Observations	729	729	729	729	729	729

t statistics in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$, # indicates interaction of variables.

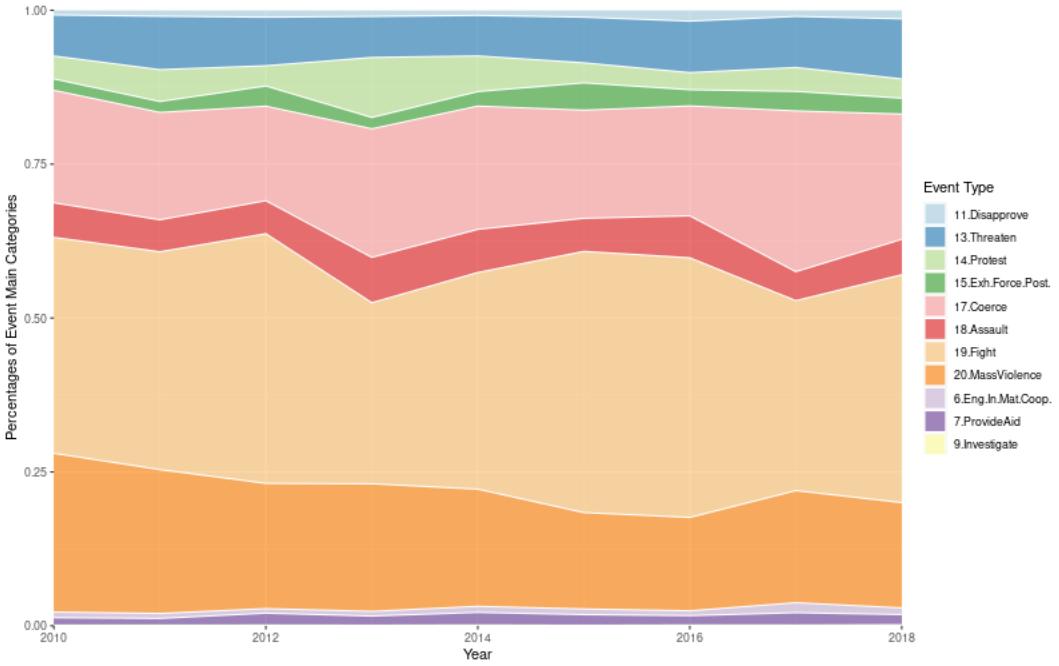
Table A4. CAMEO Events covered in both GDELT and ICEWS

Code	Event Verb	Code	Event Verb
6	***ENGAGE IN MATERIAL COOPERATION***	**15**	***EXHIBIT MILITARY POSTURE***
62	Cooperate militarily	150	Demonstrate military or police power- not specified below
7	***PROVIDE AID***	151	Increase police alert status
72	Provide military aid	152	Increase military alert status
74	Provide military protection or peacekeeping	153	Mobilize or increase police power
9	***INVESTIGATE***	154	Mobilize or increase armed forces
91	Investigate crime, corruption	**17**	***COERCE***
92	Investigate human rights abuses	1712	Destroy property
93	Investigate military action	172	Impose administrative sanctions- not specified below
11	***DISAPPROVE***	1721	Impose restrictions on political freedoms
1122	Accuse of human rights abuses	1722	Ban political parties or politicians
13	***THREATEN***	1723	Impose curfew
130	Threaten- not specified below	1724	Impose state of emergency or martial law
1322	Threaten to ban political parties or politicians	173	Arrest, detain, or charge with legal action
1323	Threaten to impose curfew	175	Use tactics of violent repression
1324	Threaten to impose state of emergency or martial law	**18**	***ASSAULT***
133	Threaten with political dissent, protest	180	Use unconventional violence- not specified below
134	Threaten to halt negotiations	181	Abduct, hijack, or take hostage
138	Threaten with military force- not specified below	182	Physically assault- not specified below
1381	Threaten blockade	1822	Torture
1382	Threaten occupation	1823	Kill by physical assault
1383	Threaten unconventional violence	183	Conduct suicide, car, or other non-military bombing- not specified below
1384	Threaten conventional attack	1831	Carry out suicide bombing
14	***PROTEST***	1832	Carry out vehicular bombing
141	Demonstrate or rally- not specified below	1833	Carry out roadside bombing
1411	Demonstrate for leadership change	1834	Carry out location bombing
1412	Demonstrate for policy change	185	Attempt to assassinate
1413	Demonstrate for rights	186	Assassinate
1414	Demonstrate for change in institutions, regime	**19**	***FIGHT***
143	Conduct strike or boycott- not specified below	190	Use conventional military force- not specified below
1431	Conduct strike or boycott for leadership change	191	Impose blockade, restrict movement
1432	Conduct strike or boycott for policy change	192	Occupy territory
1433	Conduct strike or boycott for rights	193	Fight with small arms and light weapons
1434	Conduct strike or boycott for change in institutions, regime	194	Fight with artillery and tanks
1441	Obstruct passage to demand leadership change	195	Employ aerial weapons- not specified below
1442	Obstruct passage to demand policy change	1951	Employ precision-guided aerial munitions
1443	Obstruct passage to demand rights	1952	Employ remotely piloted aerial munitions
1444	Obstruct passage to demand change in institutions, regime	**20**	***USE UNCONVENTIONAL MASS VIOLENCE***
145	Protest violently, riot- not specified below	200	Use unconventional mass violence- not specified below
1451	Engage in violent protest for leadership change	201	Engage in mass expulsion
1452	Engage in violent protest for policy change	202	Engage in mass killings
1453	Engage in violent protest for rights	203	Engage in ethnic cleansing
1454	Engage in violent protest for change in institutions, regime	204	Use weapons of mass destruction- not specified below
		2041	Use chemical, biological, or radiological weapons
		2042	Detonate nuclear weapons

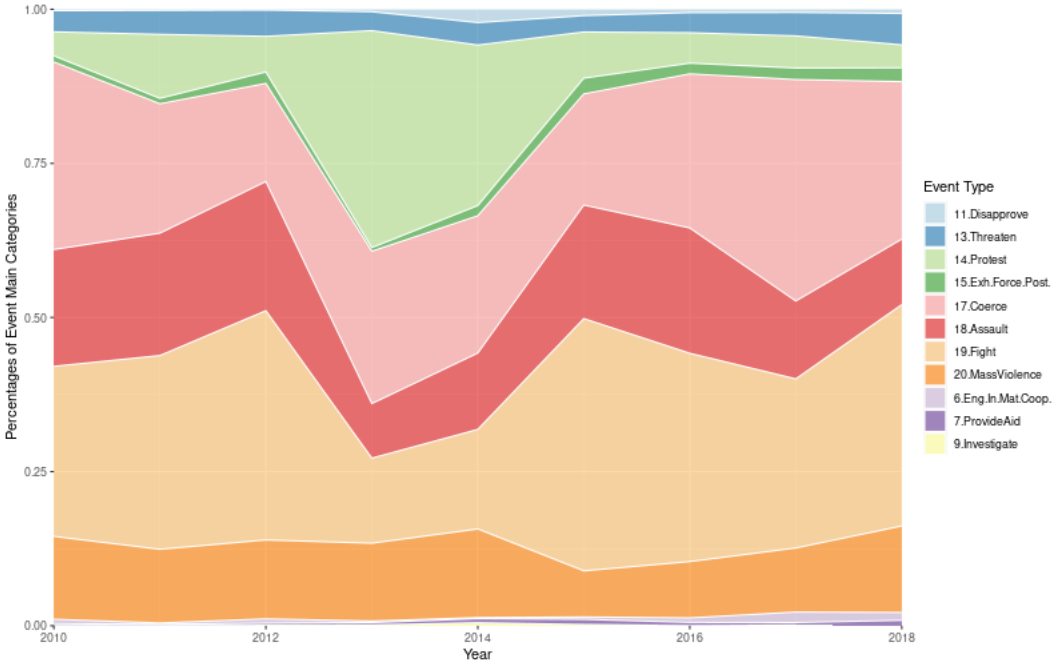
Note: Italicized main categories are also used to visualize trends in the events for both GDELT and ICEWS in Figure #Stack.

Figure A1. Stacked Percentage Densities of Event Main Categories in 2010-2018

GDELT-Based Events*



ICEWS-Based Events*



* The percentages in here show the ratio of the number of events in each event main category to the total number of events that occurred.