Persuasive agenda-setting:

Rodrigo Duterte's inauguration speech and drugs in the Philippines*

Michael Jetter† Teresa Molina‡

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Abstract

Exploring the elusive agenda-setting hypothesis pertaining to democratically-elected leaders, we test whether Duterte's 2016 inauguration speech systematically shifted Filipinos' policy agenda towards prioritizing illegal drugs. To do this, we examine daily *Google* searches (in a country that tops internet usage worldwide) and identify a large increase in drug-related searches right after the speech, both in absolute terms and relative to other prominent policy topics. We find no similar increase in neighboring countries, for potentially confounding topics, or after other key events (like his declaration of candidacy). Complementing this analysis, individual-level surveys reveal an increase in the share of respondents considering crime reduction the top national priority. To better identify causality, we exploit the historical timing of local festivals, which left some provinces less exposed to the speech. Results show less-exposed provinces exhibit smaller increases in drug-related *Google* searches and survey-elicited crime prioritization.

JEL Classifications: D72, H11, I12, K42, N45
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†University of Western Australia, IZA (Bonn), and CESifo (Munich); 35 Stirling Highway, Crawley 6009, WA; email: mjetter7@gmail.com.

‡University of Hawaii at Manoa and IZA; 2424 Maile Way; Saunders Hall 515A; Honolulu, HI 96822; e-mail: tmolina@hawaii.edu

1 Introduction

Do democratically elected politicians focus on the policy priorities of their constituents or can they change the public's preferred policy agenda? This question, addressing the core nature of how democracies operate, remains contested empirically. Understanding which policy matters are prioritized is of fundamental importance to explaining the allocation of scarce government resources – which problems are tackled first and which are set aside. Although considered the "prime instrument of power" (Schattschneider, 1975; Butler and Hassell, 2018), political agenda setting has received relatively limited empirical attention to date. For example, Butler and Hassell (2018) highlight that "[s]cholars have not studied elected officials' ability to shape their constituents' priorities."

Traditional theories nested in rationality leave little room for politicians to modify the public's policy priorities, and the few existing empirical studies largely confirm that understanding. For instance, Butler and Hassell (2018) find elected officials unable to influence US voters' political priorities, and Barberá et al. (2019) reach similar conclusions analyzing Twitter posts by legislators and the US public.[1] Even Adolf Hitler's speeches that have long been considered quintessential to the Nazis' electoral success appear to have carried little-to-no effect in swaying voters (Selb and Munzert, 2018).

Two main obstacles usually hinder empirical analyses of political agenda setting: First, data availability remains limited. Researchers would need information on the electorate's policy preferences right before and after an 'intervention', such as a speech. And second, unobservable confounders and reverse causality generate endogeneity problems. We overcome these obstacles using a combination of high-frequency *Google* search data, a repeated cross-sectional survey capturing individual policy priorities, and an identification strategy that relies on exogenous variation to an elected official's 'intervention' – President Rodrigo Duterte's inauguration speech.

[1] In turn, Broockman and Butler (2017) suggest the *position* on a particular policy topic can be malleable, conducting a field experiment with US state legislators who send out differential communications to their constituents. Our study is concerned with *what* is salient, as opposed to *how* a particular issue is framed (e.g., see Weaver, 2007, for a detailed distinction between agenda setting, framing, and priming). A related literature focuses on whether party elites can change attitudes and beliefs of party members (e.g., see Bullock, 2011, Minozzi et al., 2015, and Grewenig et al., 2019).

In this paper, we propose and test the hypothesis that Duterte's inauguration speech on June 30, 2016 systematically changed Filipinos' policy priorities. Duterte's speech focused on the detrimental effects of drugs, drug users, and drug dealers. As early as two minutes in, he laments "the rampant sale of illegal drugs in all strata of Philippine society and the breakdown of law and order" and then states how illegal drugs "destroyed individuals and ruined family relationships" (Inquirer.net, 2016). While other actions taken by Duterte during this time could have also contributed to a change in policy priorities, the goal of this paper is to identify whether the speech had an independent effect.

First, we exploit daily variation in *Google* searches related to "drug" topics, both at the national level and within the 17 regions of the Philippines. Testing for a trend break within the six months around the speech, we identify a substantial rise in drug-related *Google* searches right after June 30 but not before, making it unlikely that Duterte's speech simply responded to people's changed policy priorities. Notably, these patterns (*i*) also emerge when measuring "drug" searches relative to other prominent policy topics like "education," "health," and "job"; (*ii*) do not emerge in surrounding countries or worldwide; and (*iii*) are not driven by interest in pharmaceutical drugs, the war on drugs, or extrajudicial killings. We argue that the latter two topics are likely to be stronger reflections of concern about Duterte's policy response as opposed to concern about the drug issue itself.[2]

Nevertheless, omitted variables may confound our analysis, as unobserved contemporaneous developments could have impacted both Duterte's speech and popular sentiment pertaining to the importance of drugs. To address these concerns, we explore the quasi-exogenous timing of local festivals that, in our case, made it less likely for some Filipinos to have seen or heard the speech. Many towns celebrate an annual festival to commemorate their patron saint or other religious icons on the feast day of this religious figure. Importantly, each town's adoption of its religious icon usually dates back decades or even centuries and is often the result of a historical event (from the Spanish colonial period) or an arbitrary decision made by community leaders

[2]Use of the term 'war on drugs' only emerged gradually in the weeks and months after Duterte's inauguration speech (see Section 4.2). For example, the *New York Times* first mentioned the term 'war on drugs' in the context of the Philippines on August 2, 2016 (Gutierrez, 2016).

(Aluit, 1969; Hornedo, 2000; Reyes-Tinagan, 2001). As locals are closely involved with their particular festival each year, we argue that, everything else equal, exposure to Duterte's speech was weaker in localities that happened to celebrate a festival on June 30, 2016. We then use this to test whether regions with less exposure to Duterte's speech demonstrated smaller changes in online search activity. Indeed, the increase in online interest in drug topics is substantially weaker in those regions. For the average region that had at least one festival on June 30, the increase in drug topic interest was approximately 20% smaller than in other regions.

Next, we examine individual-level responses to nine opinion poll surveys administered between September 2014 and January 2017, including one survey a few months before the speech (in January 2016) and one immediately after (in July 2016). Exploiting the same identification strategy, we find results consistent with those from analyzing *Google* searches. Surveys administered after Duterte's inauguration exhibit higher shares of respondents who prioritize crime as the most urgent national concern – but this increase is less than half as large in provinces where a festival happened to take place on June 30.

Taken together, these findings are consistent with the hypothesis that Duterte's speech systematically affected the political priorities of Filipinos. We also conduct a number of additional analyses to explore an alternative explanation for our results: people simply wanted to gather more information about the drug problem but did not necessarily change their policy priorities. Results from these supplementary analyses provide no support for this information-seeking mechanism, and we conclude that our results instead suggest a shift in priorities.

Although Duterte campaigned on fighting crime and illegal drugs, the evidence we uncover suggests his inauguration speech had an independent effect, perhaps because it reached a wider audience (including those who did not vote for him and were less aware of his platform) or perhaps because it was made more salient due to his new position as president.[3] Duterte's success in setting the agenda so early in his term could be one reason he was able to sustain high satisfaction ratings among Filipinos during his controversial drug war (Ranada, 2019),

[3]Note that our results identify the effect of the inauguration speech, holding everything else constant. That is, the relevant counterfactual is a person who was exposed to all events leading up to the speech (e.g., Duterte's campaign) but who – for some exogenous reason – did not listen to the speech on inauguration day.

despite sharp international criticism (BBC, 2020). While we acknowledge that the inauguration speech was likely not the only reason for the change in policy priorities, the fact that it appears to have been able to significantly change priorities is notable. To our knowledge, this constitutes one of the first pieces of empirical evidence to suggest democratically elected leaders can impose their political agenda on the electorate.

2 Background and Theoretical Considerations

2.1 Duterte and the 2016 Elections

Since 1987, the Philippines has been rated democratic with a score of eight out of ten on the Polity IV democracy indicator (Marshall et al., 2002). Five candidates vied to become president in the 2016 elections: Rodrigo Duterte (then-mayor of Davao City), Mar Roxas, Grace Poe, Jejomar Binay, and Miriam Defensor Santiago. Positioning himself as a "self-proclaimed leftist" (Curato, 2017, p.146), Duterte's campaign featured four main slogans: (*i*) *Tapang at Malasakit* (Courage and Compassion); (*ii*) *Matapang na solusyon, Mabilis na aksyon* (Fearless Solutions, Fast Action); (*iii*) *Change is Coming*; and (*iv*) *Atin 'to P're!* (This is ours, pal!).

The 'Dutertismo' style has been described as "a sensual experience rather than the rational application of ideas to society's problems" (David, 2016; Curato, 2017; also see Teehankee, 2016, and Thompson, 2017), and Duterte himself is described as having a "reputation for toughness and honesty" (Holmes, 2016, and Thompson, 2017, p.5). On May 9, 2016, 16 million Filipinos – equivalent to over 39% of all votes – elected Duterte as their next president in a turnout of 81.62%, one of the highest in decades.

After a campaign centered on promises to fight crime in general, and illegal drugs in particular, Duterte commenced his six-year term on June 30, 2016. His primary policy focus became clear early on in his inauguration speech of 1,354 words (see Appendix A for full speech). After removing stop words, the terms *drugs*, *criminality*, *illegal*, and *law* are among the ninth most used words with three mentions each.[4] Notably, the inauguration speeches of Duterte's six

[4]The first eight words are rather general and not topic-specific: *government* (eight mentions), *people* (six), *serve* (five), *department*, *erosion*, *faith*, *members*, and *president* (each mentioned four times).

predecessors (Corazon Aquino in 1986, Ramos in 1992, Estrada in 1998, Macapagal Arroyo in 2001 and 2004, and Aquino in 2010) did not mention the term *drug* once. In contrast, Ramos, Arroyo, and Aquino all mentioned *corruption*, which was also mentioned by Duterte three times.

The speech was televised, broadcast on the radio, and streamed live on social media (including on Facebook Live). Millions are estimated to have tuned in, though an exact count is not available. The inauguration was widely publicized: In the month leading up to the inauguration, a LexisNexis search revealed over one hundred news articles that mentioned the upcoming event. At least two major television networks (ABS-CBN and GMA) broadcast the inauguration, capturing 38% and 18% of the Filipino television audience (according to Kantar Media TV ratings). Smart Communications, one of the largest telecommunication companies, offered free mobile live streaming (Desiderio, 2016).

2.2 Theoretical Background

We identify two branches of literature that directly relate to our study: *agenda setting* and *persuasion*. First, the concept of agenda setting has been introduced from a mass media perspective, largely beginning with the work of McCombs and Shaw (1972). The corresponding idea ascribes the media influence in determining their readers' and viewers' policy *priorities* – a concept that is distinct from studying *views* or *slant* on a particular policy issue. Recently, several empirical studies have explored the media's agenda-setting power in politics, largely in the US (DellaVigna and Kaplan, 2007; Larcinese et al., 2011; Clinton and Enamorado, 2014; King et al., 2017; Martin and Yurukoglu, 2017).

The concept of agenda setting has since been extended to politics: Can democratically elected politicians alter the public's policy priorities or do they follow the electorate's agenda? Traditional theories assuming rational voters imply governance that addresses the political agenda of its constituents. The few existing empirical studies largely confirm this hypothesis as political leaders have rarely been found able to shape their voters' political agenda. Notable examples constitute Hitler in democratic Germany (Selb and Munzert, 2018), as well as local US officials

and legislators (Butler and Hassell, 2018; Barberá et al., 2019). In all three cases, the authors find little-to-no success in politicians' attempts to sway the public's policy priorities.

Nevertheless, some descriptive case studies suggest politicians might be able to alter people's policy priorities. In addition to Zaller's (1992) seminal work on the potential of elite-driven communication to impact public opinion, examples come from Jacobs and Shapiro (2000), who explore then-President Clinton's efforts on health care reform and Newt Gingrich's "Contract with America," while Canes-Wrone (2010) asks '[w]ho leads whom' in studying US presidents. Analyzing monthly survey data, Jones and Baumgartner (2004) identify a stark positive correlation between the priorities of US Congress and the public (also see Barberá et al., 2019, for an up-to-date summary of that literature). Unfortunately, these results remain correlational – isolating causal effects from the confounding dynamics associated with potential reverse causality and omitted variables constitutes the major empirical obstacle.

Second, and closely related, modelling *persuasion* has become a growing field of research (e.g., see Murphy and Shleifer, 2004, Mullainathan et al., 2008, Gentzkow and Kamenica, 2014, and Galperti, 2019; also see DellaVigna and Gentzkow, 2010, for an overview of the empirical evidence). Community leaders in general, not just democratically elected politicians, may be able to deliver powerful messages to change beliefs and preferences. Pope John Paul II's speeches in Brazil in 1991 constitute a powerful example (Bassi and Rasul, 2017). Highlighting the Church's positions towards contraception and fertility, the Pope brought the corresponding dogmas to the forefront of Catholic Brazilians. Although Catholics have long been aware of the Church's stance on these issues, the Pope's forceful verbal reminders appear to have affected Brazilians' beliefs (elicited through surveys) and fertility outcomes. Analogously, we propose that even though Duterte's policy priorities with respect to drugs were known before June 30 (just as the Church's stance on contraception and fertility), his inauguration speech elevated drugs to the top of the Filipinos' policy agenda. Our analysis differs from Bassi and Rasul (2017) in that we examine policy *priorities* (consistent with the literature concerned with agenda setting), rather than attitudes towards a particular topic.

3 Data

3.1 *Google Trends*

We obtain internet search data from *Google Trends*, which provides a scaled measure of the number of *Google* searches conducted for a specified term or topic over a particular time interval.[5] The Philippines may provide an especially appropriate setting to study *Google Trends* because (*i*) the country tops internet usage worldwide (Lamb, 2019), (*ii*) 64% of the population used the internet in 2017 (Statista.com, 2020), and (*iii*) 97% of all online searches were conducted via *Google* (Statcounter.com, 2020).

A search *term* query on *Google Trends* returns searches for an exact search term, while a *topic* query includes related search terms (in any language). For time frames up to six months, *Google Trends* provides daily measures, provided a sufficient number of searches are conducted that day. For anything longer than six months, measures are aggregated to the weekly level. Queries can be restricted to specific countries, as well as subnational regions. Our main analysis relies on searches conducted nationally, as well as within each of the country's 17 regions, the smallest geographic level available for the Philippines in *Google Trends*.

Values are generated using a random sample of searches from the specified time period. For each day, *Google Trends* first calculates the number of searches for the specified term (or topic) divided by the total number of all *Google* searches in the same area. *Google* then scales this to range from zero to 100 across the selected time period. A value of 100 represents the maximum search popularity in the specified time frame, whereas zero indicates days (or weeks) without sufficient search volume for the specific term. A value of 25, for example, would represent a search volume proportion that is 25% of the highest proportion in the time frame. Users can request data for one search term or topic or conduct a comparative search, which compares

[5]Recently, empirical studies exploiting day-to-day data from *Google Trends* have been able to shed light on a number of societal developments that have been difficult to study. For example, Stephens-Davidowitz (2014) studies racism in the context of Obama's 2008 election; Kearney and Levine (2015) explore the link between the US television show "16 and pregnant" and teenage fertility decisions; Baker and Fradkin (2017) study job search behavior via *Google* search data; Jetter (2019) and Mahmood and Jetter (2019) proxy radicalization in the US and Pakistan with particular *Google* searches (also see Stephens-Davidowitz, 2017, for further applications).

multiple terms or topics to each other. When comparisons are conducted, values are calculated relative to the maximum search popularity across all terms.

Because search interest values are generated using a random sample of searches, there can be variation across queries. We therefore use multiple queries for each series used in this study. Specifically, we download each set of values five times and calculate the average across all five queries. The variation across queries is small for national queries where search volumes are naturally more sizeable but larger for region-specific queries, where total search volumes are lower. For regional data, the correlation between values across different drug topic queries ranges between 0.48 and 0.59. However, the correlation between two sets of average values, each calculated by averaging across a different combination of five queries, is 0.95.

3.1.1 Drug-Related *Google* Searches

We access several search terms, topics, time frames, and geographic regions, but first provide an example in Panel A of Figure 1. We plot weekly search interest in the Philippines for the topic "drug" from September 2014 to January 2017 (the same period for which we have Pulse Asia opinion poll data, described below). Before Duterte's inauguration (marked by the solid vertical line), search interest values fluctuate between 30 and 60. After the speech, however, we see a sudden jump and a continued increase. We see no such increase after Duterte declared his candidacy in late November, and only a small increase after he won the election in May.

Our main analysis uses daily data from the three months before and after Duterte's inauguration (April 1 to September 30, 2016). Our main focus is a topic search for "drug", but we also study the search term "shabu," the word for crystal methamphetamine in the Philippines and the country's most commonly used illegal drug (Simbulan et al., 2019). In addition, we consult a number of other searches to rule out other explanations for the patterns we document: (*i*) the topic "drug" in other countries, (*ii*) the topic "pharmaceutical drugs" in the Philippines, as well as (*iii*) the search term "war on drugs" and the topic search "extrajudicial killing" in the Philippines.

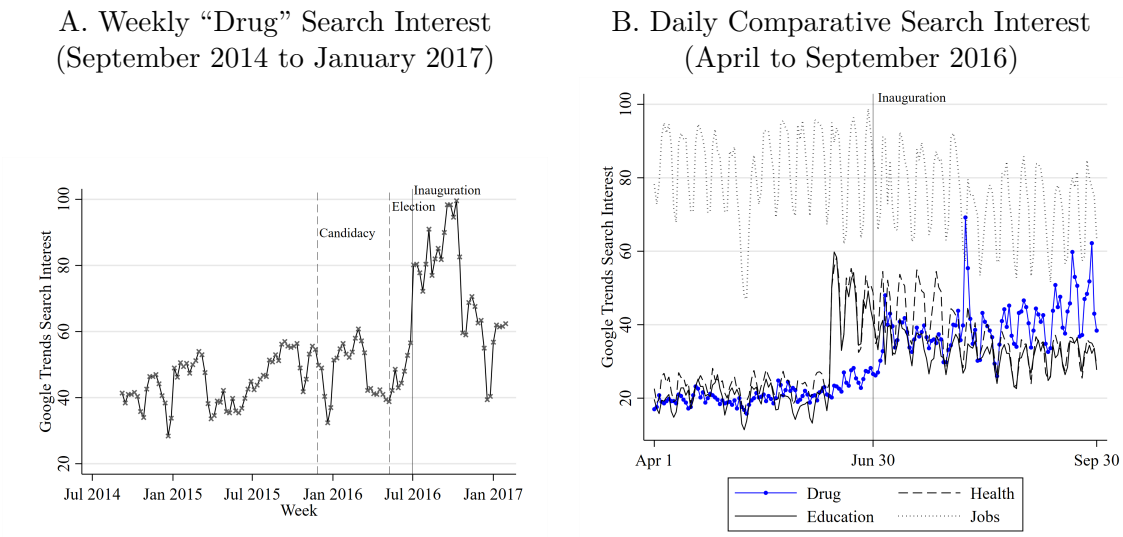

Figure 1: *Google Trends* searches in the Philippines

Notes: Values obtained by averaging across five separate national-level "drug" topic search queries. "Candidacy" marks the day Duterte officially declared his candidacy, "Election" marks the national election date, and "Inauguration" marks the day of Duterte's inauguration speech.

Finally, to capture the relative importance of major policy items, we conduct comparative topic searches for "drug," "health," "education," and "job." This allows us to investigate how the public's interest in drugs changes relative to other major policy topics. A simple graphical comparison of this data provides interesting insights. Panel B of Figure 1 plots daily national search interest, focusing on the six months centered on the inauguration date. "Job" constitutes by far the most popular search topic, while "drug," "health," and "education" are slightly more comparable, especially at the beginning of the period. Although there is seasonality in the search interest for these topics ("job" searches fall on weekends, while both "health" and "education" searches increase when the school year begins in early June), some important overall trends stand out. First, "drug" topic search interest starts increasing around the inauguration speech and continues to rise thereafter. In contrast, search interest in "health" and "education" declines after the initial jump at the beginning of the school year. "Job" topic searches also show a downward trend after the speech. As a result, there is a stark difference in the relative positions of each line at the beginning and the end of the series. By the end of September, "drug" topic

search interest has pulled away from "health" and "education" and lies much closer to the "job" topic series than at the beginning of the period. Although this exercise is purely descriptive, these patterns are suggestive of a change in priorities after Duterte's inauguration speech.

For our analysis, we calculate the ratio of the "drug" topic search value to those of each of the other topics.[6] Each of these ratios can be interpreted as the priority of "drug" relative to the other topics. We also calculate the average across the health, education, and job ratios.

In addition to providing a measure for online interest that is relative to other broad policy-relevant topics, these comparative searches are useful for dealing with low search volumes in some regions. As mentioned above, all search interest values are scaled to the period with the highest popularity in the specified time frame. In regions with low search volume or low popularity, this means there can be large fluctuations that do not represent meaningful changes in terms of actual search volume. Using a comparative search helps alleviate this issue by ensuring that all values are calculated relative to other topics with substantial average popularity. Averaging over five separate queries (as discussed above) also helps smooth out these fluctuations.

3.1.2 Related Queries

Google Trends also generates a "Related Queries" list. For a topic search, this list provides examples of searches that were categorized under the topic of interest, or searches that were made by the same person in the same time window. Each search term is assigned a relative popularity value, which captures the popularity of that particular term relative to the most popular term in the list. In Figure B1, we list the related queries and their relevant scores (averaged across 5 separate queries) associated with the topic "drug," separately for the two weeks before and after Duterte's inauguration. While these lists reveal that searches for legal drugs (like cough medicine or herbal medicine) are included in the "drug" topic, the most popular search is for the exact word, "drugs." Other search terms that relate specifically to illegal drugs (like the Tagalog word "droga") are also common. If anything, searches indicative of illegal drugs become *more* prominent in the fortnight after Duterte's speech.

[6] When calculating these ratios, we replace all values of 0 with 2, the minimum non-zero value across all queries.

3.2 Opinion Poll Data

To explore individual-level policy priorities, we use opinion poll surveys conducted by Pulse Asia Research, Inc. Designed to be nationally representative of the Filipino population aged 18 and above, these surveys ask respondents to list what they consider to be the top three most urgent national concerns. The English translation of the question of interest is the following:

> *Among the following national issues, please mention up to three issues which the administration of President [Name of President] must act on immediately. You may mention others not included in this list. Which issue should be acted on first by the current administration? The second? The third?*

The possible answers are: (*i*) fighting criminality; (*ii*) enforcing the law on all, whether influential or ordinary people; (*iii*) improving/increasing the pay of workers; (*iv*) controlling inflation; (*v*) reducing poverty of many Filipinos; (*vi*) stopping the destruction and abuse of our environment; (*vii*) increasing peace in the country; (*viii*) fighting graft and corruption in government; (*ix*) creating more jobs; and (*x*) controlling fast population growth.[7] Although not its own category, illegal drug use is a crime and would therefore fall under the umbrella of "fighting criminality."

We have access to nine surveys conducted from September 2014 to January 2017. Figure B2 reports the share of Pulse Asia respondents in each survey wave who report each of the following issues as the most urgent national concern: crime, pay, inflation, poverty, graft, or jobs.[8] Between January 2016 and July 2016, we detect a large increase in the share of respondents reporting crime as the most urgent national concern. The share more than doubles, from 0.1 in January to 0.25 in July, after hovering between 0.06 and 0.12 for the two years prior. Figure B3 shows that trends in the share of individuals who report crime as their first priority are similar across various characteristics: age, gender, socioeconomic class, and education levels.

[7] These options were available in all nine waves used. The following options were included in later waves only: changing the constitution; defending the integrity of Philippine territory against foreigners; preparing to successfully face any kind of terrorism; reducing the amount of taxes paid; and protecting the welfare of overseas Filipino workers.

[8] In each survey wave, approximately 80% of individuals listed one of these six options as their primary national concern.

In short, like *Google* searches, the prioritization of crime as a policy issue increases substantially right after the inauguration. While we are unable to definitively identify whether this is driven by concern about illegal drugs, the only other crime category beyond drugs mentioned in Duterte's speech concerns corruption. Section 6.2.1 and Appendix C consider the associated *Google Trends* and survey data pertaining to that topic. The results show that crime rose to the top of respondents' policy concerns, whether we explore absolute rankings or rankings relative to the prioritization of corruption.

Further, data from other sources show drastic changes in perceptions about drugs around this time. The Annual Poverty Indicators Survey (APIS) is a nationally representative household survey that includes questions about how respondents perceive drug abuse in their communities. The share of APIS respondents who view drug abuse as a serious problem more than doubled from 11% in July 2014 to 26% in July 2016, while the share responding it was no problem at all dropped from over 60% to 35% (see Figure B4). While we do not use this data in our main analysis due to the two year gap between surveys, this evidence does suggest concerns about illegal drugs could have been a driving force behind the increase in the prioritization of crime depicted in Figure B2.

An important strength of the Pulse Asia data is that it provides a direct measure of policy priorities. In addition, this survey provides individual-level data with province identifiers (as opposed to aggregated region-level data). Unfortunately, because this data lacks the same degree of frequency as *Google Trends*, we do not know whether the increase from January to July of 2016 was gradual or a sudden jump around the time of Duterte's inauguration. Thus, viewing the corresponding results in conjunction with those from exploring *Google Trends* provides a more complete picture of a potential shift in Filipinos' policy priorities.

4 Trend Break Analysis

First, we formally test for structural breaks in the time series data for various national-level, daily *Google Trends* searches for the six-month period centered on Duterte's inauguration (April

1 to September 30, 2016). Specifically, we test for a trend break at τ using three different models:

$$Y_t = \alpha_0 + \alpha_1 1(t \geq \tau) + \epsilon_t \tag{1}$$

$$Y_t = \alpha_0 + \alpha_1 1(t \geq \tau) + \alpha_2 Y_{t-1} + \alpha_3 Y_{t-1} 1(t \geq \tau) + \epsilon_t \tag{2}$$

$$Y_t = \alpha_0 + \alpha_1 1(t \geq \tau) + \alpha_2 Y_{t-1} + \alpha_3 Y_{t-1} 1(t \geq \tau) + \alpha_4 t + \alpha_5 t 1(t \geq \tau) + \epsilon_t, \tag{3}$$

where Y_t constitutes the *Google Trends* value for date t. We run each specification multiple times, allowing τ to equal every date from April 29 to September 3 (this drops 15% of the data on either end of the 6-month interval in order to leave sufficient data on either side of the break point). For each τ, we test the null hypothesis of no trend break: $\alpha_1 = 0$ for equation (1), $\alpha_1 = \alpha_3 = 0$ for equation (2), and $\alpha_1 = \alpha_3 = \alpha_5 = 0$ for equation (3). The largest F-statistic from these regressions is then used to determine whether there is a statistically significant trend break and, if so, the date of this trend break. Similar to the empirical strategy used in Jayachandran et al. (2010), these methods rely on work by Quandt (1960), Andrews (1993), and Hansen (1997).

4.1 Drug-Related Online Searches

We begin with an illustration of the two main outcomes in Figure 2, followed by the results of the formal trend break tests in Table 1. Figure 2 illustrates *Google* searches for "drug" (topic) and "shabu" (search term, which exhibits a noisier pattern due to its lower search volume in general). There are large increases in both searches immediately after Duterte's inauguration. Consistent with this visual representation, columns (1) and (2) of Table 1 document a significant trend break on July 3-4 (for "drug") and July 3 (for "shabu"). The estimated trend break dates are fairly consistent across the three specifications from equations (1) – (3).

This pattern is specific to the Philippines. Table 1 and Appendix Figure B5 illustrate that the patterns for other Southeast Asian countries, as well as worldwide, look very different. The identified trend break dates are generally much earlier than Duterte's inauguration date and are estimated less consistently across specifications.[9]

[9]Worldwide "drug" topic searches reveal a trend break on June 30, but Panel D of Figure B5 actually reveals *negative* movement on this date. In two out of the three specifications, Indonesia's identified trend break date

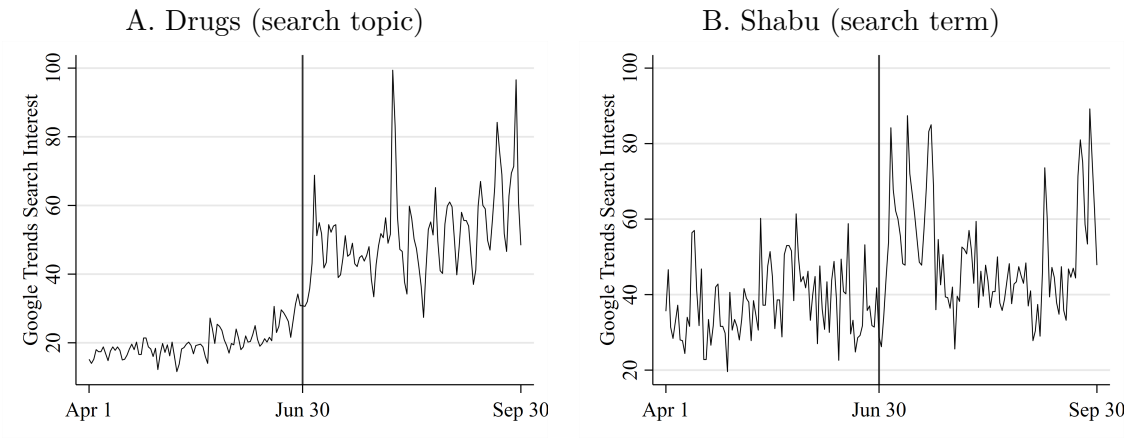

Figure 2: Daily *Google Trends* national data, Philippines.

Notes: Values obtained by averaging across five separate national-level queries for the Philippines.

Table 1: Trend Break Dates for *Google Trends* Data

	(1) Drug	(2) Shabu	(3) Malaysia	(4) Vietnam	(5) Indonesia	(6) Worldwide	(7) Pharm	(8) War on Drugs	(9) Extra-judicial
A. Constant (equation 1)									
Break Date	Jul. 4	Jul. 3	Apr. 29	May. 17	May. 20	May. 21	Jun. 21	Aug. 22	Aug. 21
Test Statistic	522.4	50.4	57.2	153.6	103.4	40.6	174.3	437.1	399.7
B. Constant, Lagged Value (equation 2)									
Break Date	Jul. 3	Jul. 3	Sep. 3	May. 17	Jul. 6	Apr. 30	Jun. 19	Aug. 22	Aug. 21
Test Statistic	35.1	21.5	15.4	44.7	25.6	9.9	41.1	37.7	46.8
C. Constant, Lagged Value, Linear Time Trend (equation 3)									
Break Date	Jul. 3	Jul. 3	Jul. 7	May. 17	Jul. 6	Jun. 30	Jun. 19	Jul. 12	Aug. 24
Test Statistic	13.4	15.0	27.5	78.3	57.6	18.5	8.0	52.0	34.3

Notes: Results obtained by testing for trend breaks on each date from April 29 to September 3, 2016. Each cell reports the trend break date and the Wald χ^2 statistic associated with the identified date.

4.2 Alternative Drug-Related Topics

Because the values for "drug" topic searches likely include searches for medication or other irrelevant searches, we note a few points regarding this issue. The related query lists in Figure B1 provide examples of the most popular searches that were either categorized as a "drug" topic search or made by the same person in the same window as a search that was categorized as a "drug" topic search. While both lists (one from the two weeks prior to the inauguration and one from the two weeks thereafter) do include a few medicine-related terms, "drugs" tops both lists, and the terms "drug addiction" and "illegal drugs" appear in one or both lists. If anything, comparing the lists before to after the inauguration suggests a shift in attention *towards* illegal drug topics. Thus, we may be underestimating the increase in illegal drug interest that took place at this time. In addition, the fact that the time series for "shabu" roughly corresponds to that for "drug" suggests we are indeed picking up interest in *illegal* drugs. Finally, we verify in column (7) of Table 1 and in Panel E of Figure B5 that the trends are not simply reflecting increasing interest in pharmaceutical drugs, which shows a very different pattern (and an earlier trend break) than the "drug" and "shabu" searches.

Another potential issue is that "drug" topic searches might be picking up interest in or concern about Duterte's policy approach. That is, people may not necessarily have revised their policy priorities but may have simply been curious about Duterte's policy response. To explore the plausibility of this explanation, we access search data on the term "war on drugs" and topic searches for "extrajudicial killings" – both phrases that have eventually become synonymous with Duterte's anti-drug campaign, which began almost as soon as he took office.

A priori, we would not expect searches for "war on drugs" to rise immediately after June 30 because Duterte's speech neither explicitly mentioned "war on drugs", nor did the media immediately start using such terminology. For example, international media outlets started reporting on the mounting death toll from Duterte's campaign from August 2016 onwards (ABS-CBN News, 2018) after killings started to soar in July (ABS-CBN News, 2021). On August 8,

also falls in the week after Duterte's inauguration, yet the graphical representation shows a very different pattern from that of the Philippines (first falling and then jumping back to normal levels – a pattern that also exists in previous and subsequent years around Indonesia's celebration of Eid al-Fitr, which took place on July 6 in 2016).

the US also started to voice concern over Duterte's 'controversial methods' (Timetoast, 2021), and the *New York Times* first mentioned the "war on drugs" in the Philippines in an article on August 2 (Gutierrez, 2016). Consistent with these facts, column (8) of Table 1 and Panel A of Appendix Figure B6 show that searches for "war on drugs" gradually increased over time, in contrast with the pattern exhibited for "drug" and "shabu" search interest.

We also examine searches that fall under the topic of "extrajudicial killings." While searches for this topic could still be correlated with the prioritization of illegal drugs as a policy issue (and might therefore rise in response to the inauguration speech), we argue they are likely to be stronger reflections of curiosity or concern about Duterte's policy response, rather than concern about the illegal drug issue itself. If we find that the increase in "drug" topic search interest is driven primarily by increases in searches for "extrajudicial killings," this would suggest a different explanation for our main results. The last column of Table 1 and Panel B of Appendix Figure B6 show that this is not the case. Search interest in "extrajudicial killings" did not start increasing until later on – around the end of August.

These findings are consistent with the fact that neither of these search terms (nor anything related to deaths or killings) show up in the related queries list in Figure B1. In sum, the large increase in "drug" and "shabu" searches that took place immediately after the inauguration speech do not seem to be driven by curiosity about the war on drugs or drug-related killings.

5 Festival Analysis

The results described above provide firm evidence that internet search interest in illegal drugs changed substantially in the days following Duterte's inauguration speech. However, there could still be other contemporaneous explanations for the heightened interest in illegal drugs. Since we identify trend break dates a few days after June 30, it is possible that other actions taken by Duterte and his administration in the first week of his presidency contributed to the rise in online interest. Alternatively, search interest could have jumped because Duterte was known to

have campaigned on fighting illegal drugs, and the official shift to the Duterte presidency simply made these issues salient.

To explore alternative explanations, we test whether regions that were less exposed to Duterte's speech demonstrated smaller increases in search interest. An ideal experiment would randomly determine which individuals were exposed to the inauguration speech and compare their trends in search behavior. In lieu of this experiment, we take advantage of exogenous regional variation in the occurrence of local festivals, which we argue preoccupy the attention of residents and should have reduced their likelihood of watching or listening to the speech. This strategy is similar in spirit to those used by Enikolopov et al. (2011), Adena et al. (2015), and Martin and Yurukoglu (2017), who exploit geographic exogenous variation in exposure to the radio or specific television channels.

5.1 Festivals As Exogenous Distracters From Duterte's Speech

For centuries, local festivals have played an important role in Filipino society. Rooted in ancient indigenous tradition, the Philippine festival (or "fiesta") that exists today was shaped in large part by Spanish influence during the colonial period (Wendt, 1998; Hornedo, 2000). Today, over one thousand festivals take place in the Philippines every year, varying widely in terms of their scale, main purpose, and activities involved. Most festivals, however, are celebrated locally and for religious reasons. For example, each individual town usually hosts an annual festival to commemorate its patron saint (or some other religious icon adopted by the community) on the feast day of this religious figure. Notably, each town's adoption of a particular religious icon was typically the result of some unique event or arbitrary decision dating back to Spanish colonial rule.[10] This makes the date on which a community celebrates a festival plausibly exogenous.

[10]For example, the island of Cebu honors the Santo Niño, or Holy Child, because of the 16th century discovery of an unburned statue of the Santo Niño after a fire, believed to have been given as a gift by Magellan over 40 years earlier (Aluit, 1969; Reyes-Tinagan, 2001). In more recent times, Hornedo (2000) describes that "a Patron Saint is designated, sometimes spontaneously by the community, and sometimes with the suggestion of the parish clergy in the adjoining parish... Once there is a Patron Saint, the community fiesta is a natural result – the date of the fiesta is never a problem because each Saint in the Catholic martyrology has a designated feastday" (p. 11-12).

Similar arguments have been made about the timing of religious festivals in Mexico, also rooted in Spanish colonial rule (Atkinson and Fowler, 2014; Montero and Yang, 2021).[11]

Festivals will often include some combination of a mass, a parade, an artistic performance, and a feast. The local population is usually highly involved, either cooking food or preparing for and attending events. As we discuss shortly in Section 5.3, we use the occurrence of a festival as a source of variation in a region's "exposure" to Duterte's speech, as we posit that individuals preoccupied with a festival should have been less likely to have seen or heard the speech.

5.2 Festival Data

To identify which regions were celebrating festivals on June 30, 2016, we began with the Philippine Information Agency website, which (until March 2019) contained province-specific lists of festivals for 52 of the country's 81 provinces. Rough dates were included for the majority of provinces, but for the festivals without any date information we conducted separate *Google* searches to find a date. For the provinces without festival lists, we visited the official province websites. We obtained festival lists for an additional 11 provinces in this way. An additional 18 province lists were constructed from various tourism websites and travel blogs.

In total, we found over 1,000 festivals, and fewer than 20 completely lacked date information. However, for many festivals, the available date information was quite general (e.g., "late July" or "mid-March"). We therefore focused our attention on the 165 festivals held in June or July and conducted more detailed searches for each of these to find precise date information. For festivals with dates within two days of the inauguration, we conducted an additional check to confirm the date of the festival in 2016 specifically (typically using *Facebook* or *YouTube* to find posts of the actual event). A total of six festivals in five provinces across four regions were found to have taken place on inauguration day (see Figure B7 for a map).

Many festivals are celebrated locally (by a specific town or city), while others are larger, involving multiple towns or attracting non-residents. Because specific location information is

[11] Studying voter turnout in Mexico, Atkinson and Fowler (2014) derive exogenous variation in social capital and community activity via municipality-level saint's day fiestas that occur near election days. Montero and Yang (2021) study the long-term developmental impact of religious festivals in Mexico.

not available for many festivals, and because our outcome data only contains province identifiers (for the survey data) or region identifiers (for *Google Trends*), we calculate festival counts per province, acknowledging that a given festival may not affect all residents.[12]

5.3 Festival Estimation Strategy

5.3.1 Festivals and *Google* Searches

We test the hypothesis that regions celebrating a festival on inauguration day saw smaller increases in "drug" search interest than other regions. We regress *Google* search interest on a linear or quadratic function of time t, allowing for a discontinuity on inauguration day, accounting for different pre- and post-trends, and interacting these trends and discontinuities with the number of festivals in region r:

$$Y_{rt} = \delta_1 After_t \times Festivals_r + \delta_2 After_t + g(t) + f(t) \times After_t + h(t) \times Festivals_r + k(t) \times After_t \times Festivals_r + \mu_r + \epsilon_{rt}. \quad (4)$$

Y_{rt} represents various drug-related *Google Trends* variables for region r at date t (where t=0 on June 30). $After_t$ constitutes an indicator equal to one for dates on or after June 30. $g(t)$, $f(t)$, $h(t)$, and $k(t)$ represent either linear or quadratic functions of t. Region-fixed effects (μ_r) control for time-invariant region-specific unobservables (e.g., overall regional internet penetration, computer, or smart phone ownership, as these are unlikely to have changed substantially during the six month period of interest). $Festivals_r$ is the population-weighted number of festivals per province that took place in region r on June 30, 2016.

We explore several outcome variables, beginning with "drug" topic searches. Next, we calculate the log of the ratio of the "drug" search interest value to that of "health," "education," and "jobs." Finally, we calculate the average across all three ratios.

δ_1 constitutes our coefficient of interest. Because t is set to zero for inauguration day, δ_2 captures any discontinuous jump on June 30, while δ_1 indicates whether the magnitude of

[12]Regions are larger than provinces. There are 81 provinces and 17 regions in the Philippines.

this jump varied in regions with festivals. A negative δ_1, with a positive δ_2, would indicate regions with more festivals on inauguration day saw significantly smaller increases in drug-related *Google* searches. This would be consistent with our hypothesis that the inauguration speech was partially responsible for the trend break in drug-related online searches in early July.

In order for this to be a valid interpretation of results, we need to assume that, in the absence of the speech, drug-related *Google* search activity would have changed in similar ways on June 30 for regions with and without festivals. Table B1 shows that festival and non-festival regions are similar across a number of demographic and socioeconomic characteristics taken from the 2015 census.[13] The inclusion of region-fixed effects (μ_r) means that time-invariant differences across festival and non-festival regions do not pose a threat to identification, but the absence of drastic differences provides support for the assumption that the search activity of these regions would have shown similar changes on June 30 in the absence of the speech.

5.3.2 Festivals and Survey Responses

In addition, to investigate whether the speech affected more than just internet searches, we employ the same strategy to estimate the effect of Duterte's speech on policy priorities, as measured by the Pulse Asia opinion poll surveys. Specifically, we estimate:

$$Y_{ipt} = \delta_1 After_t \times Festivals_p + \delta_2 After_t + \delta_3 t + \delta_4 t \times After_t + \delta_5 t \times Festivals_p + \delta_6 t \times After_t \times Festivals_p + \mu_p + \epsilon_{pt}, \quad (5)$$

where Y_{ipt} is the outcome for individual i in province p and survey wave t (with t=0 for the July 2016 wave) – an indicator equal to one for those who listed "fighting criminality" as the most urgent national concern (or as one of the top three concerns). The reported results use a linear probability model, although probit models yield consistent results with comparable marginal effects (results available upon request).

[13] While the small sample sizes could mean that we simply do not have the statistical power to detect significant relationships, most coefficients are small in magnitude relative to sample averages.

Because we now have province-level instead of just region-level variation, we use $Festivals_p$, a count of the number of festivals that took place in province p on June 30. As in equation (4), a negative δ_1 and a positive δ_2 would be consistent with the hypothesis that Duterte's speech increased the prioritization of crime as a policy issue but less so for respondents in a festival province. In this specification, we only use linear functions of t (which we chose for parsimony due to the limited number of time periods) and cluster standard errors at the province level.

Although we lose the high-frequency time variation of the *Google Trends* data, the province-level variation means we are able to compare provinces within the same region. Therefore, in addition to estimating equation (5) for the full sample, we also restrict to regions with at least one festival, ensuring that effects are not driven by unobserved regional differences.

Another advantage of using the opinion poll data is that it contains outcome variables and basic covariates for each individual. This allows us to control for gender, education, age, and income categories. It also allows us to explore whether respondents in festival provinces differ from those in non-festival provinces along these characteristics. Appendix Table B2 reports the corresponding results for the full sample and for the sample of provinces in regions where at least one festival took place on inauguration day. Across both samples, some differences emerge along the festival variable, as secondary school completion rates are significantly lower and shares of low-income respondents are significantly higher.

While these differences do not directly imply a violation of our identification assumptions because the inclusion of province-fixed effects means we only need to be concerned with time-varying differences, they could be an indication of potential violations. If, for example, lower-income respondents started prioritizing crime more after June 30, but to a lesser extent than the rest of the sample, this could lead to a negative δ_1 and a positive δ_2 for reasons unrelated to the inauguration speech. To ensure that our results are not driven by differential trends in policy priorities across income and education categories, we estimate a version of regression (5) that includes interactions between a secondary school completion dummy and $After_t$, t, and $t \times After_t$, as well as low- and high-income dummies interacted with the same three variables.

5.4 Festival Analysis of *Google Trends*

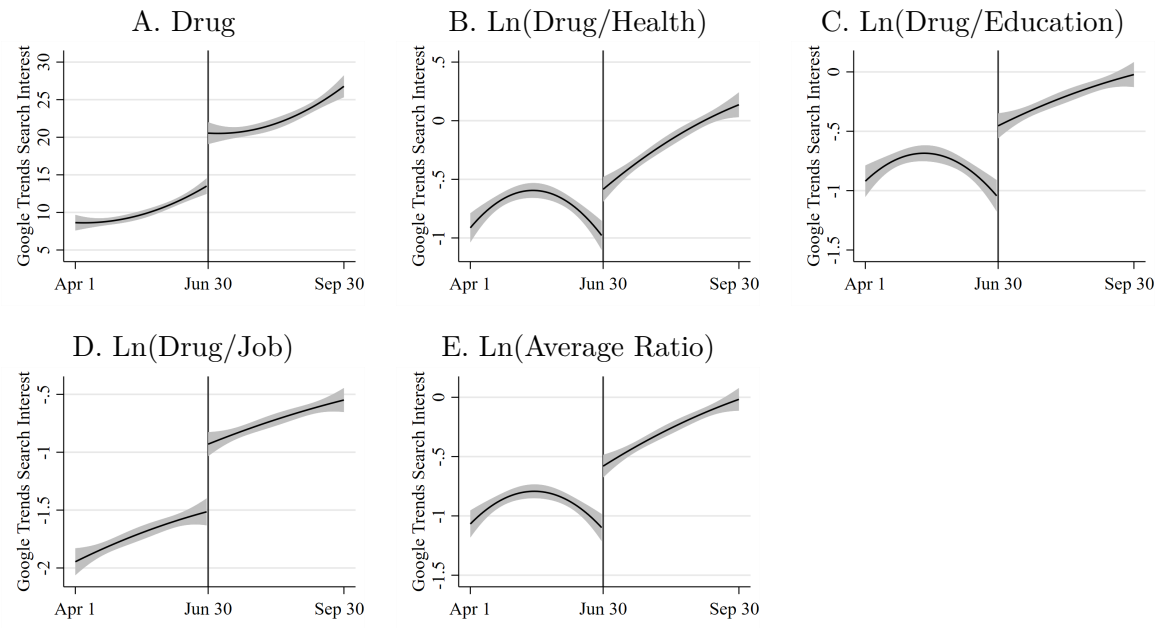

Figure 3: Daily *Google Trends* data from the Philippines at the regional level

Notes: All figures use local polynomial smoothing with region-level data obtained by averaging across five separate comparative search queries for each region of the Philippines. Gray shaded areas represent 95% confidence intervals.

We begin with graphical illustrations of the region-level data before moving to the regression specifications. In Figure 3, we employ local polynomial smoothing, separately for the three months before and after the speech, to illustrate trends in various search interest variables. In Panel A, consistent with the national data above, we document a large jump in search interest related to "drug" at the inauguration date. This jump is also apparent in the remaining panels, which focus on the popularity of "drug" *relative* to other topics.

We next explore whether these increases on inauguration day were smaller for festival regions. Panel A of Table 2 reports the regression results from specification (4). The *After* coefficient, which represents the increase in search interest on June 30 for regions without any festivals, is positive and statistically significant at conventional levels across specifications. The *After* $\times$ *Festivals* coefficient, however, is negative across all specifications, with magnitudes that are

sizeable relative to the main *After* coefficient. In columns (1) – (7), the corresponding coefficients are significant at varying conventional levels.[14]

Beyond statistical significance, how quantitatively relevant are these findings? The average number of festivals per province in regions with at least one festival is 0.4. Multiplying the interaction coefficients (in columns 1 and 2) by 0.4, and comparing this to the main effect of the *After* coefficient, reveals that regions with festivals saw an average increase in "drug" searches that was 17-25% smaller than the increase experienced by regions without any festivals. In terms of the popularity of "drug" searches relative to all other topics (in columns 3 and 4, where coefficients can already be interpreted in percentage terms), the increase experienced by the average region with at least one festival was 20-30% smaller than for those without.

These results remain robust to specifications that account for regional differences in Duterte support. Although we argue that the occurrence of a festival on inauguration day is exogenous, any coincidental correlation between this variable and region-level support for Duterte could result in spurious effects. For example, if regions that celebrated festivals also happened to be those featuring less support for Duterte, this could have resulted in smaller increases in "drug" searches due to their lack of interest in Duterte's actions in the first week of office – not necessarily because they were less likely to have seen the speech.[15] To rule this out, we control for the share of a region's provinces Duterte won in the election (which ranged from 0 to 1) and its interactions with $After_t$, t, and $t \times After_t$. The results, reported in Panel B of Table 2, show slightly smaller yet similarly sized interaction coefficients as in Panel A.

5.5 Festival Analysis of Opinion Poll Data

To further explore this hypothesis at the individual level, we turn to the Pulse Asia data. We focus on the prioritization of criminality, the category most likely to capture concerns about illegal drugs. Panel A of Table 3 reports the results of regression (5), asking whether the

[14] Estimates of the interaction coefficient are almost identical with the inclusion of day-of-week-fixed effects, as well as exact date-fixed effects, which absorb the main effect of the *After* indicator (results available on request).

[15] One could also imagine the opposite: If Duterte support was higher in regions that celebrated festivals, they might have been less responsive to Duterte's actions because they were less surprised by them.

Table 2: "Drug" topic search interest over time, by number of festivals

	(1) Drug	(2) Drug	(3) ln(Average Ratio)	(4) ln(Average Ratio)	(5) ln(Drug: Health)	(6) ln(Drug: Health)	(7) ln(Drug: Education)	(8) ln(Drug: Education)	(9) ln(Drug: Jobs)	(10) ln(Drug: Jobs)
A. Baseline Specification										
After × Festivals	-2.93**	-4.49**	-0.51**	-0.67*	-0.58***	-0.85**	-0.22**	-0.46	-0.29	-0.22
	(1.20)	(2.08)	(0.18)	(0.35)	(0.18)	(0.32)	(0.10)	(0.32)	(0.20)	(0.30)
After	6.84***	7.20***	0.39***	0.59***	0.25***	0.48***	0.43***	0.64***	0.60***	0.60***
	(0.71)	(1.25)	(0.06)	(0.16)	(0.06)	(0.15)	(0.06)	(0.16)	(0.08)	(0.15)
B. Controlling for Duterte Victories										
After × Festivals	-2.09**	-3.66*	-0.48**	-0.64*	-0.54**	-0.80**	-0.21*	-0.44	-0.24	-0.16
	(0.98)	(1.99)	(0.19)	(0.34)	(0.20)	(0.32)	(0.11)	(0.32)	(0.22)	(0.29)
After	5.59***	5.95***	0.34***	0.54***	0.19**	0.42***	0.41***	0.61***	0.51***	0.51***
	(0.77)	(1.17)	(0.09)	(0.14)	(0.08)	(0.12)	(0.09)	(0.17)	(0.11)	(0.14)
Mean of Dep. Var.	16.34	16.34	-0.56	-0.56	-0.43	-0.43	-0.49	-0.49	-1.19	-1.19
N	3,111	3,111	3,111	3,111	3,111	3,111	3,111	3,111	3,111	3,111
Polynomial Order	1	2	1	2	1	2	1	2	1	2
Date (Polynomial)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Date × After	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Date × Festivals	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Date × After × Festivals	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Fixed Effects	Region	Region	Region	Region	Region	Region	Region	Region	Region	Region

Notes: Standard errors clustered at the regional level are displayed in parentheses. * p< 0.1, ** p< 0.05, *** p< 0.01. Regressions use regional daily *Google Trends* data from April 1, 2016 to September 30, 2016. *After* equals one for dates on or after June 30, 2016. *Festivals* is the population-weighted number of inauguration day festivals per province in the given region. Panel B includes controls for the share of a region's provinces Duterte won in the election, along with its interactions with $After_t$, t, and $t \times After_t$.

prioritization of criminality increased after Duterte's speech, and whether it did so to a lesser extent among individuals living in provinces that celebrated a festival on June 30. We examine whether a respondent placed fighting criminality at the top of their list (columns 1-2) and in the top three priorities (columns 3-4).

Across all columns, we identify a positive and statistically significant *After* coefficient, implying that the share of respondents prioritizing crime substantially increased after Duterte's inauguration. In terms of magnitude, the coefficient of 0.13 (in column 1) reveals the share of respondents putting crime first more than doubled in provinces without a festival. However, the *After* $\times$ *Festivals* term produces a negative and statistically significant coefficient, i.e., this increase was significantly smaller for individuals in provinces celebrating a festival on June 30. For a province that celebrated one festival, the increase in the share of respondents prioritizing crime was seven percentage points smaller than (or less than half the size of) the increase experienced by a respondent from a province with no festivals. These patterns are robust to allowing for differential trends and discontinuities by income and education categories (columns 2 and 4). This alleviates concerns that the income and education differences (see Table B2) are driving the negative and statistically significant coefficient on the interaction term.

Because there is a six month gap between the two surveys conducted before and after Duterte's inauguration, other factors (e.g., his campaign or actions taken in the beginning of his presidency) could have contributed to the positive coefficient associated with the *After* indicator. However, the negative and statistically significant interaction coefficient provides evidence consistent with the idea that the inauguration speech had at least some effect on these priorities. Under the assumption that the priorities of people in festival provinces would have changed similarly to the priorities of those in non-festival provinces (if these festivals had not taken place), the negative and significant interaction coefficient indicates the occurrence of festivals mitigated the increased prioritization of crime. We argue that the only explanation for the differential jump in July 2016 is that contemporaneous festivals reduced the probability of residents witnessing Duterte's speech. This is supported by the estimates in columns (2) and (4), which show that our results hold even when we allow for differential trends across income and education groups.

Table 3: Prioritization of crime over time, by number of festivals

	Listed *Fighting Criminality*			
	(1) as Top Priority	(2) as Top Priority	(3) in Top 3 Priorities	(4) in Top 3 Priorities
A. Baseline Specification				
After × Festivals	-0.07**	-0.07*	-0.07***	-0.07***
	(0.04)	(0.04)	(0.02)	(0.02)
After	0.13***	0.12***	0.22***	0.23***
	(0.02)	(0.03)	(0.03)	(0.04)
B. Controlling for Duterte Victory Interactions				
After × Festivals	-0.07*	-0.07*	-0.05*	-0.05*
	(0.04)	(0.04)	(0.03)	(0.03)
After	0.15***	0.13***	0.17***	0.19***
	(0.02)	(0.03)	(0.03)	(0.05)
Mean of Dep. Var.	0.12	0.12	0.28	0.28
N	12,600	12,600	12,600	12,600
Wave	✓	✓	✓	✓
Wave × After	✓	✓	✓	✓
Wave × Festivals	✓	✓	✓	✓
Wave × After × Festivals	✓	✓	✓	✓
Additional Controls		✓		✓
Education Interactions		✓		✓
Income Interactions		✓		✓
Fixed Effects	Province	Province	Province	Province

Notes: Standard errors clustered at the province level are displayed in parentheses. * p< 0.1, ** p< 0.05, *** p< 0.01. The dependent variables are indicator variables equal to one if the respondent listed crime as the first national concern (columns 1-2), or in the top three most urgent national concerns (columns 3-4). *After* equals one for survey waves after June 30, 2016. *Festivals* is the number of inauguration day festivals in the given province. "Additional Controls" include gender, education, income, and age category-fixed effects. "Education Interactions" include interactions between a secondary school completion dummy and $After$, t, and $t \times After$. "Income Interactions" include interactions between a low-income, as well as a high-income dummy, and $After$, t, and $t \times After$. Panel B includes controls for an indicator equal to one for provinces Duterte won in the election, along with its interactions with $After_t$, t, and $t \times After_t$.

This is also supported by the evidence in Panel B of Table 3, showing results are robust to accounting for differential trends and discontinuities based on province-level Duterte support. These regressions control for a binary indicator capturing provinces Duterte won in the election, along with this variable's interactions with $After_t$, t, and $t \times After_t$.[16] The results are similar in magnitude to those in Panel A.

Finally, because only four provinces celebrated a festival on June 30, only a small fraction of the sample (less than seven percent) in Table 3 has a nonzero *Festivals* variable. This means the identification of the interaction coefficient is based on comparing trends of a small group of people to the rest of the sample, which includes respondents from geographically distant regions who may differ in meaningful unobservable ways from respondents in festival provinces. We therefore repeat the analysis in Table 3, this time restricting to people in regions with at least one festival. The corresponding results, reported in Appendix Table B3, reveal similar patterns – large and significant increases in crime prioritization but significantly smaller increases (around half the magnitude) among provinces with a larger share of festivals. Estimates are similar when we control for province-level Duterte support in Panel B.

6 Falsification Tests and Alternative Mechanisms

6.1 Falsification Tests

To test the validity of our findings, we conduct two falsification tests. Since only a small number of provinces celebrated a festival on inauguration day, we explore whether the empirical results (smaller effects for festival provinces) are spurious and could have occurred by chance.

First, we repeat our analysis using the number of festivals *one week before* the inauguration, i.e., we replace the $Festivals$ variables in equations (4) and (5) with the number of festivals that took place in the given region or province on June 23, 2016. If our findings were truly driven by provinces with festivals on inauguration day having less exposure to the speech, δ_1 (the coefficient on the interaction term) in these regressions should equal zero in statistical terms.

[16] In a few provinces, this is not a binary variable, but rather a share, because Duterte victories were reported separately for a major city in the province and the rest of the province.

Appendix Tables B4 and B5 confirm that this is indeed the case. None of the interaction terms differ from zero at any conventional level of statistical significance. This helps rule out various alternative interpretations, such as the possibility that locations with festivals at the end of June – or on weekdays in general or on Thursdays more specifically – are just fundamentally different. While we would have ideally repeated this process for multiple placebo dates, we were limited by the time-intensive nature of the data collection process, which involved searching on multiple platforms (*Google*, *Facebook*, *Youtube*, etc.) for specific festivals, which were often not widely publicized, to confirm their exact date in 2016.[17]

Instead, we conduct a second falsification test by generating 1,000 iterations of randomly assigning the actual distribution of festivals (one festival in four different provinces and two festivals in a fifth province) to the provinces that did not celebrate a festival on inauguration day. For each of these 1,000 placebo assignments, we repeat the *Google* search interest and opinion poll regressions from Tables 2 and 3. For each pair of specifications (one search interest and one opinion poll regression), we then calculate the share of placebo assignments resulting in interaction terms that were negative and larger in magnitude than our estimated interaction terms for both specifications (ignoring statistical significance). This informs us how likely it would have been to obtain our estimated results by chance. The results, reported in Panel A of Appendix Table B6, show it remains rare for placebo assignments to lead to similar conclusions as our actual results: Shares range from 0.01 to 0.07, and the majority are less than 0.05.[18]

Finally, we also calculate the share of placebo assignments resulting in interaction terms that were negative and statistically significant, ignoring magnitudes. Panel B of Appendix Table B6 reports the corresponding results, and all shares are 0.03 or less. In short, it would have been unlikely for us to uncover our combination of results just by chance.

[17] We selected June 23 as our single placebo date because it is close to the date of the actual speech and on the same day of the week as the speech. Another important reason is that it was before (rather than after) Duterte's inauguration, which makes it a true placebo – festivals after the speech could have their own separate effects if they distracted residents from other actions taken by Duterte during the beginning of his term.

[18] In Table B6, each row represents a different *Google* trends specification (defined by an outcome variable and polynomial order), while each column represents a different opinion poll specification (defined by a sample restriction and set of control variables).

6.2 Alternative Mechanism: Information-Seeking

We have interpreted our results as evidence of Filipinos adjusting their policy priorities. An alternative interpretation, however, is that people were simply seeking additional information about drugs and the drug problem, not necessarily updating their policy priorities. We present two avenues to explore this possibility.

6.2.1 Drugs vs. Other Crimes

First, while delineating information-seeking from updating policy priorities is difficult with *Google* searches, the survey data we study explicitly elicit respondents' policy priorities (see Section 5.5). One issue with the survey, however, is that it asks about criminality in general and not illegal drugs in particular, which means respondents may not necessarily have been thinking about illegal drugs in their response. To explore this issue, we first review Duterte's inauguration speech to understand which other crime-related topics are mentioned, aside from drugs. While other types of crimes (e.g., murder, robbery, or rape) remain absent, he does mention corruption three times. Thus, the results from Table 3 could theoretically be attributable to corruption, rather than illegal drugs.

Fortunately, corruption was included as its own response option in the opinion poll survey (see Section 3.2). Thus, respondents concerned about corruption would have likely ranked 'fighting graft and corruption in government' over 'fighting criminality.' Table C1 shows the results from repeating our main regressions, predicting respondents' ranking of corruption as a policy priority, as well as their implicit relative ranking of crime to corruption. There is no evidence that Duterte's inauguration speech meaningfully increased the prioritization of corruption as a policy issue. In fact, we find that Duterte's inauguration significantly increased concern about criminality relative to corruption. We come to similar conclusions using *Google Trends* data (Table C2): interest in drugs relative to corruption increased after the inauguration speech, but less so for festival regions.

In sum, as we discuss in more detail in Appendix C, we find little-to-no evidence of Duterte's inauguration speech affecting the prioritization of corruption as a policy issue, which suggests

the impacts on the prioritization of criminality were likely to be driven by concerns about illegal drugs. Concerns about corruption could have been less affected by Duterte's speech because this topic was also mentioned in several of Duterte's predecessors' speeches. That is, citizens may have been used to corruption being a topic in inauguration speeches, whereas the emphasis on illegal drugs was a novelty.[19]

6.2.2 Heterogeneity Analyses

Second, to further delineate information-seeking from policy priorities, we conduct several heterogeneity analyses. If our results were driven by people seeking information or growing curious about the drug problem, we would expect to see the largest effects among those who were largely unaware of a national drug problem before the speech. In Tables B7 and B8, we repeat our main regressions on "drug" topic search interest and crime prioritization, allowing for heterogeneity across regions with different perceptions of the drug abuse problem in the 2014 APIS (the survey used to generate Figure B4). Specifically, we generate a binary indicator for the eight (of 17) regions in which more than half the population reported drug abuse was not a problem in the 2014 APIS. We then repeat our main specification, interacting this binary indicator with all of the main effects and relevant interactions between the after dummy, time (or survey round), and festivals variable.

The results in both tables are inconsistent with an information-seeking narrative. First, the jump in outcomes after the speech is never significantly larger for those with low perceived drug severity at baseline (and is in fact sometimes significantly smaller). Moreover, the interaction between $After_t$ and $Festivals_p$ is never significantly larger in magnitude in the regions with low perceived drug severity (however, the opposite is true in several specifications). In short, our results do not appear to be driven by regions that did not perceive drug abuse to be a serious problem in 2014, which is what we should observe if our results were primarily driven by people seeking information about the illegal drug problem as a result of Duterte's speech.

[19] In the previous 30 years, none of the inauguration speeches mentioned drugs until Duterte in 2016. The term corruption, however, was mentioned in 1992, 2001, 2004, and 2010.

7 Conclusion

Are democratically elected politicians destined to follow the public's policy priorities or can they alter their constituents' policy agenda? Although seminal qualitative studies point to politicians' agenda setting powers (Jacobs and Shapiro, 2000; Canes-Wrone, 2010), systematic empirical evidence remains scarce. This paper studies the extraordinary case of Rodrigo Duterte's inauguration speech on June 30, 2016, in which he emphasized illegal drugs as a major public concern. We hypothesize that Duterte's speech significantly changed Filipinos' policy priorities, solidifying their perception of illegal drugs as a primary pressing issue facing the nation.

To test this hypothesis, we first examine day-to-day online search data for drug-related topics, both independently and relative to other main public policy categories like "health," "education," and "job." We identify a substantial rise in drug-related searches beginning in the days after Duterte's speech. Multiple placebo tests reveal these dynamics remain unique to drug-related searches in the Philippines.

To better identify causal relationships, we then exploit the exogenous timing of traditional local festivals. We argue that those living in provinces that happened to celebrate a festival on inauguration day were less likely to have watched or listened to Duterte's speech, everything else equal. Indeed, our estimations document much smaller increases in drug-related searches in regions celebrating a local festival on June 30.

Finally, we compare individual-level survey responses related to policy priorities before and after Duterte's inauguration, finding consistent results. After the speech, a much higher share of respondents prioritize "crime" over other policy topics, such as "pay", "inflation", "poverty", "corruption," or "jobs." Using local identifiers at the province level, we again take advantage of the fact that some of the 81 Filipino provinces happened to celebrate a festival on June 30. Indeed, the surge of "crime" to the top of the Filipinos' policy priorities is less than half as large in these provinces. Taken together, these results are consistent with the hypothesis that Duterte's speech was able to significantly affect policy priorities in the Philippines.

Of course, our study is not without limitations, and we want to briefly highlight two of the main candidates. First, our outcome variables related to online searches and survey responses measure attitudes and beliefs – rather than explicit actions, such as voting – that we take as a salience measure of a public policy issue. Nevertheless, a fundamental advantage of aggregated search data is a representative degree of general interest, especially in a country where usage of the internet and *Google* is so widespread (Lamb, 2019; Statcounter.com, 2020; Statista.com, 2020).[20] Analyzing individual, nationally representative survey responses provides an additional dimension to capture beliefs about the most pressing political issues. Second, it remains difficult to fully identify causal relationships in real-life settings. However, data from the 17 subnational regions and 81 provinces, combined with an identification strategy that exploits exogenous differences in exposure to Duterte's speech, provides a useful step to alleviate endogeneity concerns. We hope that future research can further explore whether, when, and how political leaders are able to alter the policy priorities of their constituents.

[20] We also refer to Stephens-Davidowitz (2017) for a detailed discussion of *Google* searches and what they reveal about a population.

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Online Appendix

Appendix A: Duterte's Inauguration Speech

President Fidel Ramos, sir, salamat po sa tulong mo (thank you for your help) making me President; President Joseph Ejercito Estrada; Senate President Franklin Drilon and the members of the Senate; Speaker Feliciano Belmonte and the members of the House of Representatives; Chief Justice Maria Lourdes Sereno and Associate Justices of the Supreme Court; His Excellency Guiseppe Pinto and the members of the Diplomatic Corps; incoming members of the Cabinet; fellow workers in government; my fellow countrymen.

No leader, however strong, can succeed at anything of national importance or significance unless he has the support and cooperation of the people he is tasked to lead and sworn to serve.

It is the people from whom democratic governments draw strength and this administration is no exception. That is why we have to listen to the murmurings of the people, feel their pulse, supply their needs and fortify their faith and trust in us whom they elected to public office.

There are many amongst us who advance the assessment that the problems that bedevil our country today which need to be addressed with urgency, are corruption, both in the high and low echelons of government, criminality in the streets, and the rampant sale of illegal drugs in all strata of Philippine society and the breakdown of law and order. True, but not absolutely so. For I see these ills as mere symptoms of a virulent social disease that creeps and cuts into the moral fiber of Philippine society. I sense a problem deeper and more serious than any of those mentioned or all of them put together. But of course, it is not to say that we will ignore them because they have to be stopped by all means that the law allows.

Erosion of faith and trust in government – that is the real problem that confronts us. Resulting therefrom, I see the erosion of the people's trust in our country's leaders; the erosion of faith in our judicial system; the erosion of confidence in the capacity of our public servants to make the people's lives better, safer and healthier.

Indeed, ours is a problem that dampens the human spirit. But all is not lost.

I know that there are those who do not approve of my methods of fighting criminality, the sale and use of illegal drugs and corruption. They say that my methods are unorthodox and verge on the illegal. In response let me say this: I have seen how corruption bled the government of funds, which were allocated for the use in uplifting the poor from the mire that they are in. I have seen how illegal drugs destroyed individuals and ruined family relationships.

I have seen how criminality, by means all foul, snatched from the innocent and the unsuspecting, the years and years of accumulated savings. Years of toil and then, suddenly, they are back to where they started.

Look at this from that perspective and tell me that I am wrong.

In this fight, I ask Congress and the Commission on Human Rights and all others who are similarly situated to allow us a level of governance that is consistent to our mandate. The fight will be relentless and it will be sustained.

As a lawyer and a former prosecutor, I know the limits of the power and authority of the president. I know what is legal and what is not. My adherence to due process and the rule of law is uncompromising.

You mind your work and I will mind mine.

"Malasakit. Tunay na Pagbabago. Tinud-anay nga Kausaban (Compassion. Real change.)" – these are words which catapulted me to the presidency. These slogans were conceptualized not for the sole purpose of securing the votes of the electorate. "Tinud-anay nga kabag-uhan. Mao kana ang tumong sa atong pang-gobyerno (Real change. This is the direction of our government)."

Far from that. These were battle cries articulated by me in behalf of the people hungry for genuine and meaningful change. But the change, if it is to be permanent and significant, must start with us and in us.

To borrow the language of F. Sionil Jose, we have become our own worst enemies. And we must have the courage and the will to change ourselves. Love of country, subordination of personal interests to the common good, concern and care for the helpless and the impoverished – these are among the lost and faded values that we seek to recover and revitalize as we commence our journey towards a better Philippines. The ride will be rough. But come and join me just the same. Together, shoulder to shoulder, let us take the first wobbly steps in this quest.

There are two quotations from revered figures that shall serve as the foundation upon which this administration shall be built. "The test of government is not whether we add more to the abundance of those who have much; it is whether we provide for those who have little." – Franklin Delano Roosevelt

And from (Abraham) Lincoln I draw this expression: "You cannot strengthen the weak by weakening the strong; You cannot help the poor by discouraging the rich; You cannot help the wage earner by pulling down the wage payer; You cannot further the brotherhood by inciting class hatred among men." My economic and financial, political policies are contained in those quotations, though couched in general terms. Read between the lines. I need not go into specifics now. They shall be supplied to you in due time.

However, there are certain policies and specifics of which cannot wait for tomorrow to be announced.

Therefore, I direct all department secretaries and the heads of agencies to reduce requirements and the processing time of all applications, from the submission to the release. I order all department secretaries and heads of agencies to remove redundant requirements and compliance with one department or agency, shall be accepted as sufficient for all.

I order all department secretaries and heads of agencies to refrain from changing and bending the rules government contracts, transactions and projects already approved and awaiting implementation. Changing the rules when the game is on-going is wrong.

I abhor secrecy and instead advocate transparency in all government contracts, projects and business transactions from submission of proposals to negotiation to perfection and finally, to consummation.

Do them and we will work together. Do not do them, we will part sooner than later.

On the international front and community of nations, let me reiterate that the Republic of the Philippines will honor treaties and international obligations. On the domestic front, my administration is committed to implement all signed peace agreements in step with constitutional and legal reforms.

I am elated by the expression of unity among our Moro brothers and leaders, and the response of everyone else to my call for peace.

I look forward to the participation of all other stakeholders, particularly our indigenous peoples, to ensure inclusivity in the peace process.

Let me remind in the end of this talk, that I was elected to the presidency to serve the entire country. I was not elected to serve the interests of any one person or any group or any one class. I serve every one and not only one.

That is why I have adapted as an article of faith, the following lines written by someone whose name I could no longer recall. He said: "I have no friends to serve, I have no enemies to harm."

Prescinding there from, I now ask everyone, and I mean everyone, to join me as we embark on this crusade for a better and brighter tomorrow. But before I end, let me express the nations, on behalf of the people, our condolences to the Republic of Turkey of what has happened in the place. We offer our deepest condolences.

Why am I here? Hindi kasali ito diyan (This is not part of my speech). The past tense was, I am here because I love my country and I love the people of the Philippines. I am here, why? Because I am ready to start my work for the nation. Thank you and good afternoon.

Appendix B: Additional Figures and Tables

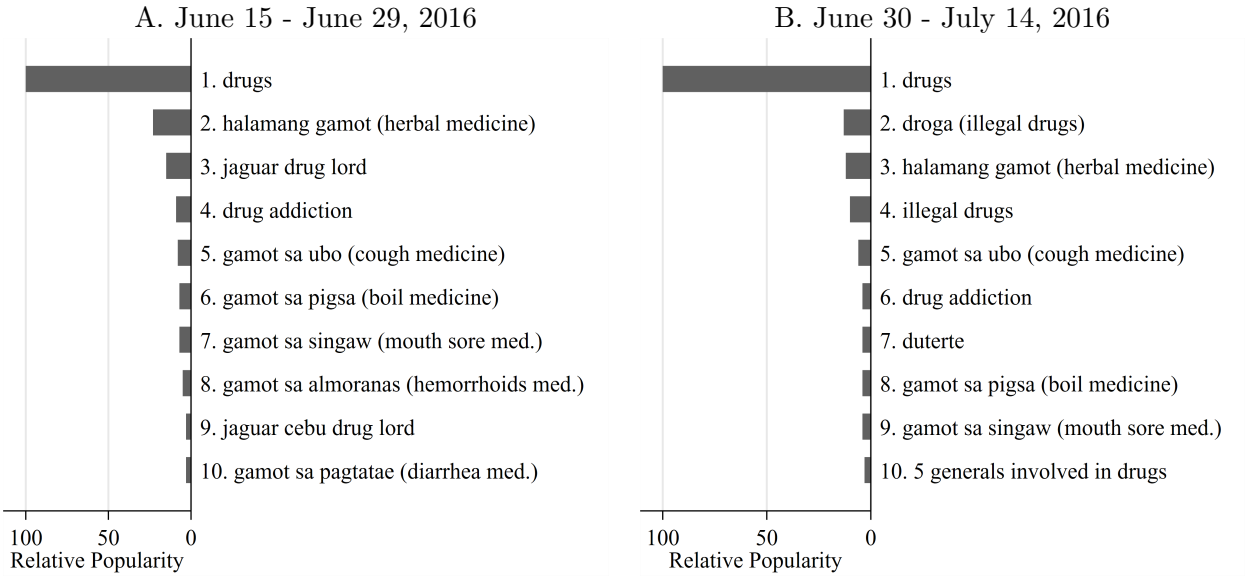

Figure B1: "Drug" Topic Related Queries

Notes: Related queries are examples of searches that were categorized under the "drug" topic (in the specified time frame), or searches that were made by the same person in the same time window as a search categorized under the "drug" topic. "Relative popularity" represents the popularity of a particular term relative to the most popular term in the list. Descriptions in parentheses are English translations of the search terms added by the authors (not included in the actual searches).

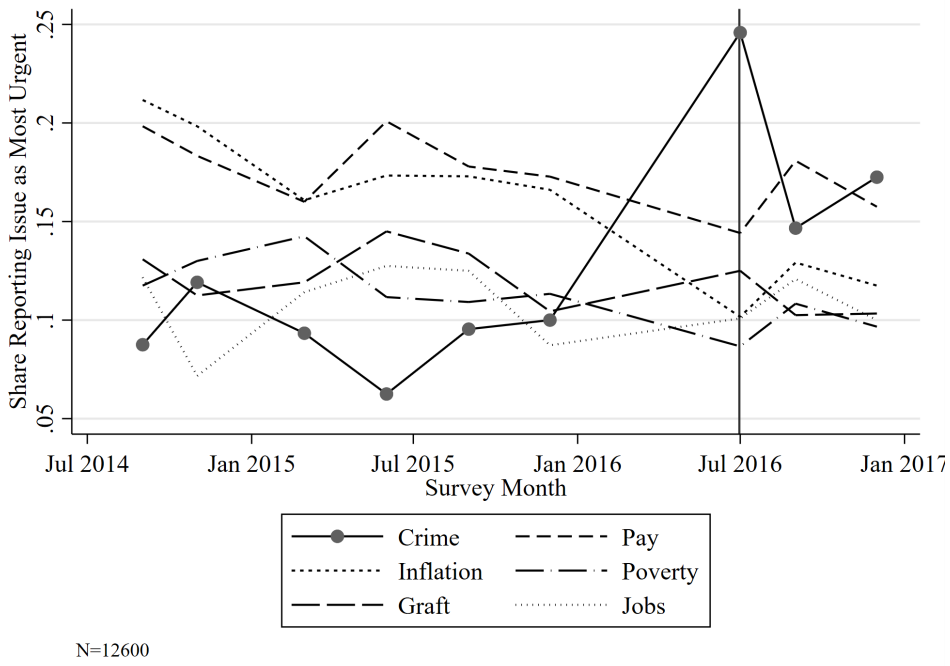

Figure B2: Most Urgent National Concerns from Pulse Asia Surveys, September 2014 to January 2017

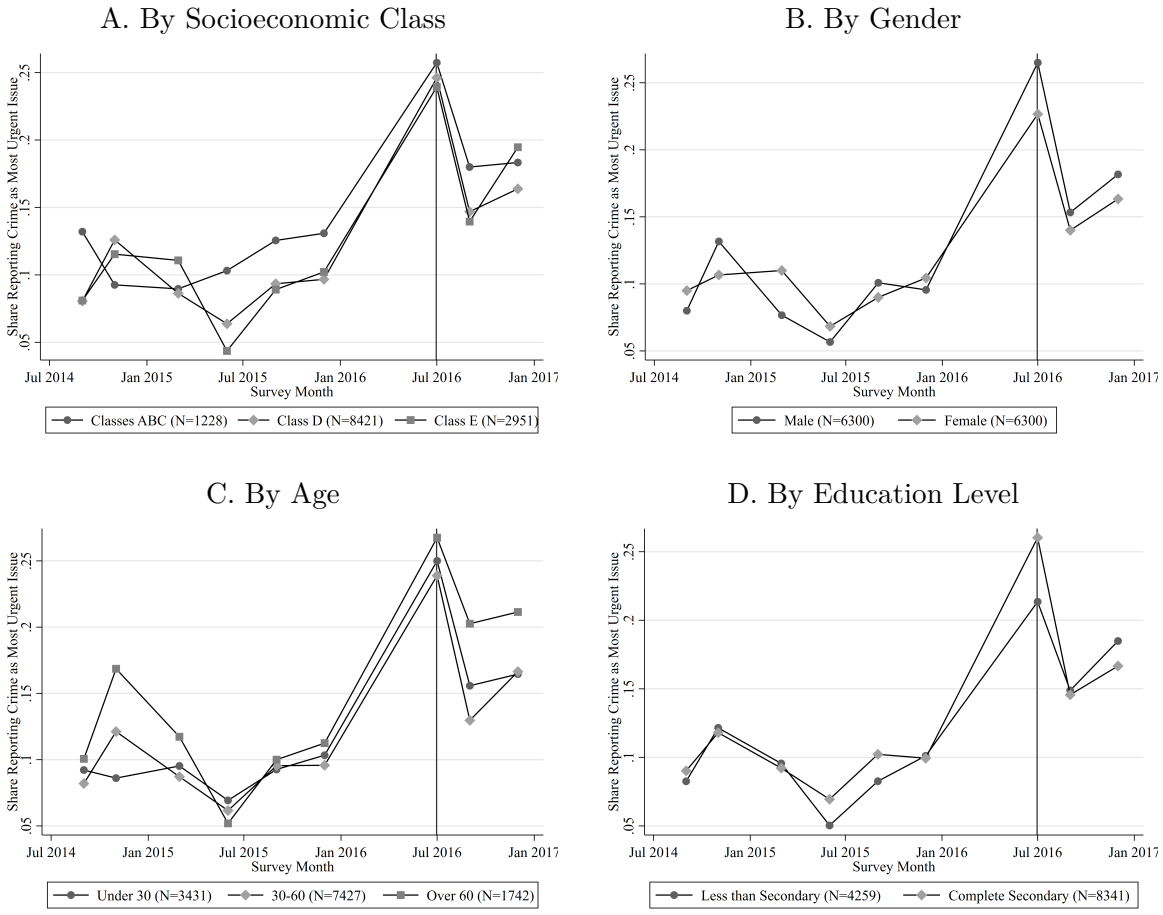

Figure B3: Most Urgent National Concerns and demographic characteristics

Notes: Data from 2014-2016 Pulse Asia surveys. Classes ABC make up the richest 10% of the sample, Class D to the next 60%, and Class E the poorest 30%.

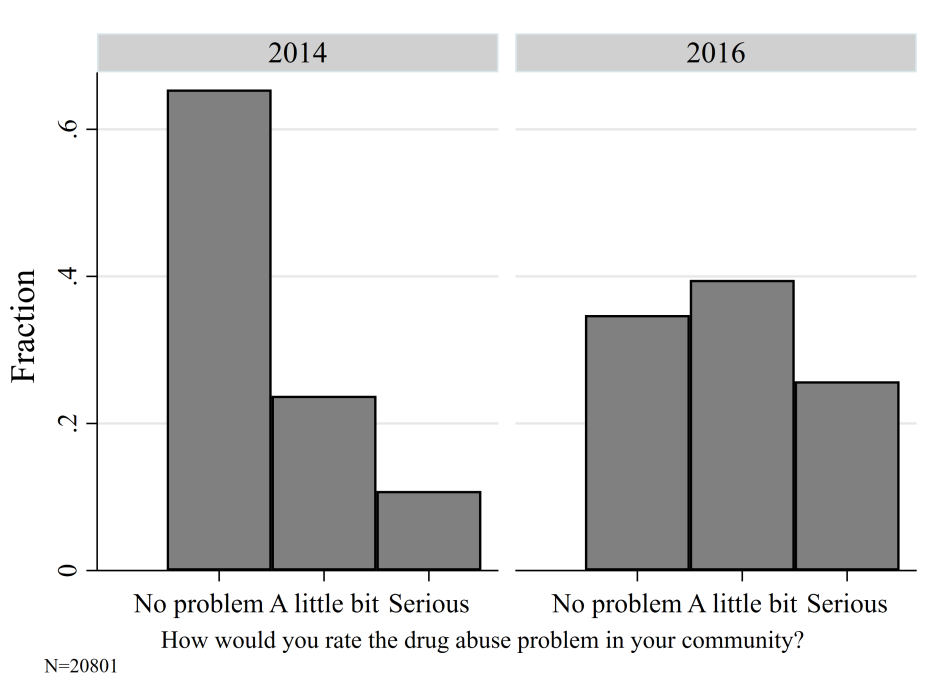

Figure B4: Perceptions of drug abuse problem in household surveys, using data from the 2014 and 2016 Annual Poverty Indicators Survey.

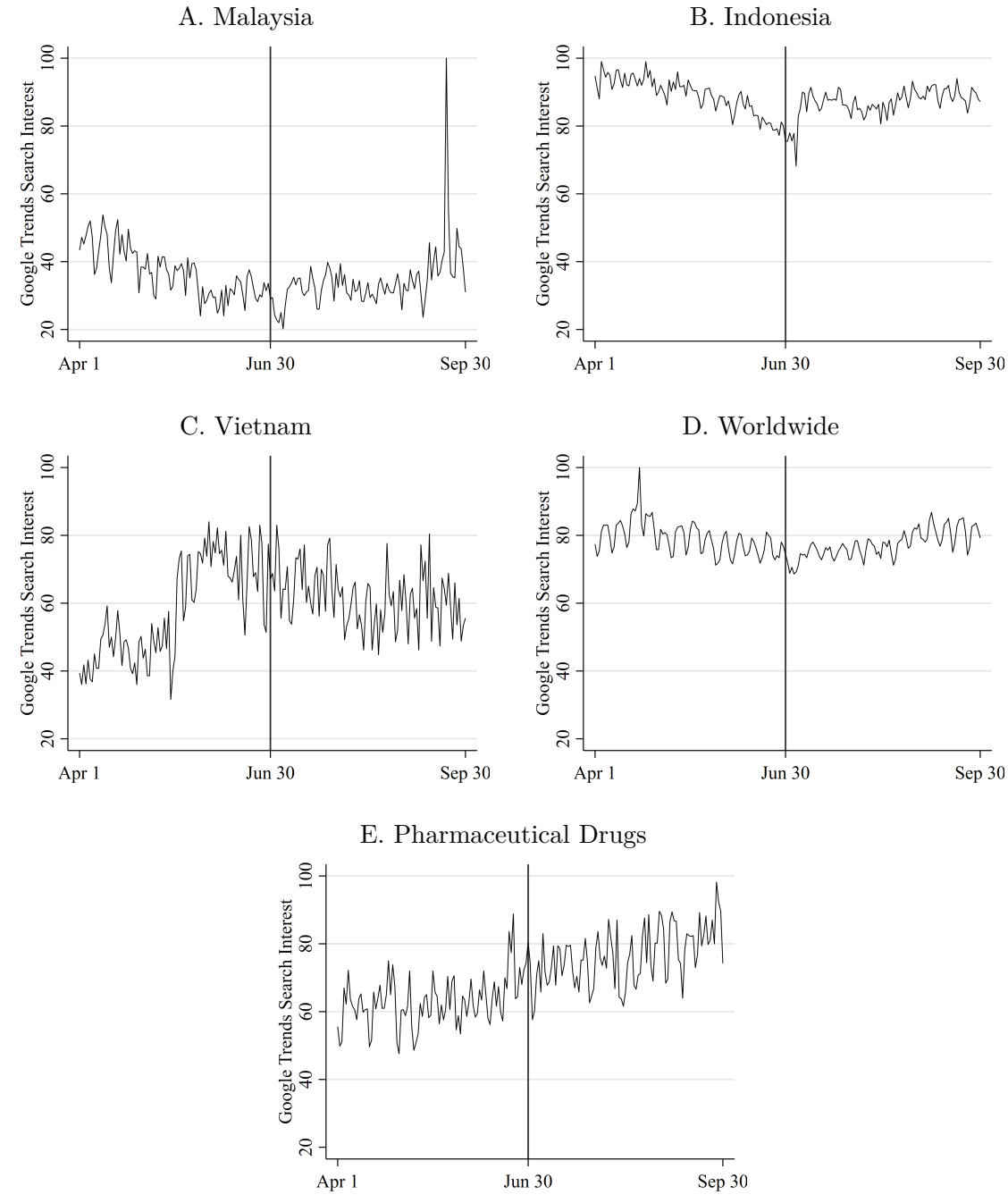

Figure B5: Daily *Google Trends*: Placebo Tests

Notes: Values obtained by averaging across five separate queries for the specified countries (or the Philippines, in Panel E). Panels A through D use "drug" topic searches for the specified countries. Panel E uses a "pharmaceutical drug" topic search in the Philippines.

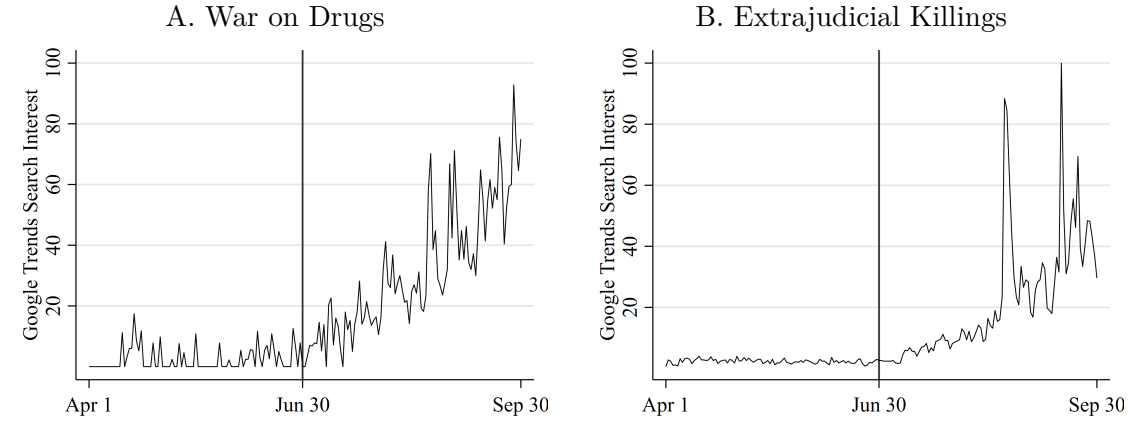

Figure B6: Daily *Google Trends* data from the Philippines, investigating searches for "extrajudicial killings" and the "war on drugs."

Notes: Values obtained by averaging across five separate national-level searches for the Philippines. Panel A uses a "war on drugs" term search, and Panel B uses an "extrajudicial killings" topic search.

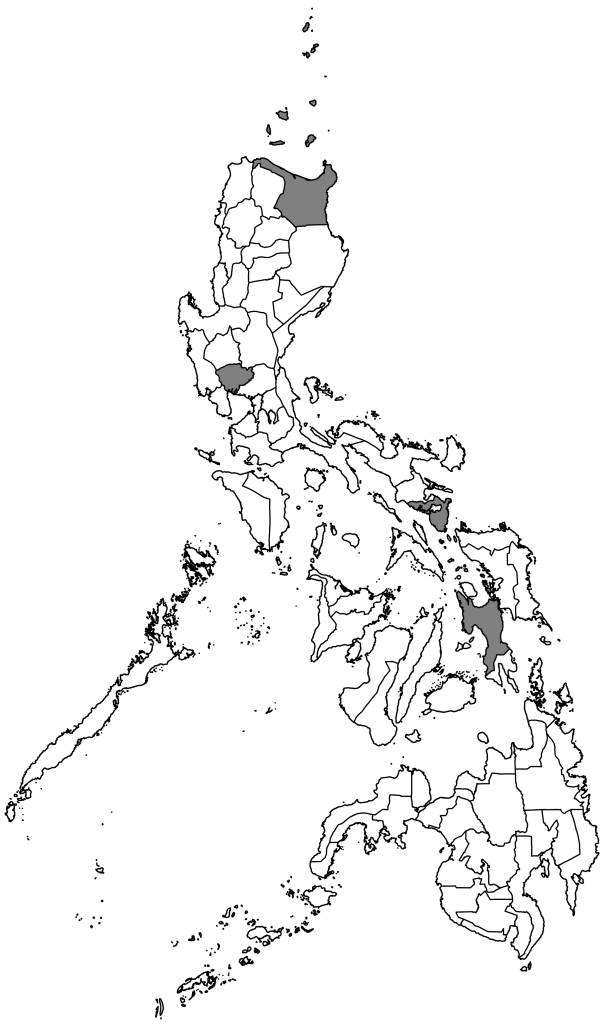

Figure B7: Festival Provinces

Notes: Gray areas represent the five provinces that celebrated a festival on June 30, 2016.

Table B1: Festivals and Region-Level Characteristics, Census Data

	(1) Average	(2) Festivals Coefficient
Completed Secondary	0.421	-0.073
	(0.100)	(0.112)
Literate	0.948	0.010
	(0.033)	(0.038)
Has Electricity	0.862	0.034
	(0.088)	(0.099)
Has Piped Water	0.810	0.101
	(0.123)	(0.136)
Male	0.507	0.008
	(0.006)	(0.006)
Aged Younger than 30	0.605	-0.010
	(0.032)	(0.036)
Aged 60 and Above	0.075	0.018
	(0.015)	(0.017)
Catholic	0.742	0.264
	(0.213)	(0.231)
Muslim	0.088	-0.167
	(0.223)	(0.250)
Observations	17	

Notes: Standard deviations (in odd-numbered columns) and standard errors (in even-numbered columns) in parentheses. * p< 0.1, ** p< 0.05, *** p< 0.01. Data obtained from the 2015 census. "Festivals Coefficient" is obtained by regressing the specified variable on the number of festivals in that region/province on inauguration day.

Table B2: Festivals and Individual Characteristics, Opinion Poll Data

	All Provinces		Provinces in Festival Regions	
	(1)	(2)	(3)	(4)
	Average	Festivals Coefficient	Average	Festivals Coefficient
Completed Secondary	0.662	-0.091***	0.582	-0.054**
	(0.473)	(0.027)	(0.493)	(0.024)
Male	0.500	0.001	0.500	0.001
	(0.500)	(0.002)	(0.500)	(0.002)
Aged Younger than 30	0.272	0.007	0.276	0.006
	(0.445)	(0.006)	(0.447)	(0.007)
Aged 60 and Above	0.138	0.000	0.140	-0.001
	(0.345)	(0.005)	(0.347)	(0.006)
Low Income	0.234	0.070**	0.277	0.059*
	(0.424)	(0.028)	(0.448)	(0.031)
High Income	0.097	-0.032	0.068	-0.018
	(0.297)	(0.020)	(0.252)	(0.017)
Observations	12,600		2,340	

Notes: Standard deviations (in odd-numbered columns) and standard errors (in even-numbered columns) in parentheses. * p< 0.1, ** p< 0.05, *** p< 0.01. "Festivals Coefficient" is obtained by regressing the specified variable on the number of festivals in that province on inauguration day. Columns (1) and (2) use the full sample. Columns (3) and (4) restrict to provinces in regions where at least one festival took place on inauguration day.

Table B3: Prioritization of crime over time, by number of festivals, restricting to festival regions

	Listed *Fighting Criminality*			
	(1) as Top Priority	(2) as Top Priority	(3) in Top 3 Priorities	(4) in Top 3 Priorities
A. Baseline Specification				
After × Festivals	-0.12***	-0.12***	-0.12***	-0.13***
	(0.04)	(0.04)	(0.04)	(0.04)
After	0.20***	0.25***	0.31***	0.29***
	(0.04)	(0.04)	(0.06)	(0.10)
B. Controlling for Duterte Victory Interactions				
After × Festivals	-0.13***	-0.14***	-0.17***	-0.18***
	(0.04)	(0.04)	(0.03)	(0.03)
After	0.20***	0.24***	0.26***	0.25**
	(0.04)	(0.04)	(0.06)	(0.09)
Mean of Dep. Var.	0.13	0.13	0.29	0.29
N	2,340	2,340	2,340	2,340
Wave	✓	✓	✓	✓
Wave × After	✓	✓	✓	✓
Wave × Festivals	✓	✓	✓	✓
Wave × After × Festivals	✓	✓	✓	✓
Additional Controls		✓		✓
Education Interactions		✓		✓
Income Interactions		✓		✓
Fixed Effects	Province	Province	Province	Province

Notes: Standard errors clustered at the province level are displayed in parentheses. * p< 0.1, ** p< 0.05, *** p< 0.01. The dependent variables are indicator variables equal to one if the respondent listed crime as the first national concern (columns 1-2), or in the top three most urgent national concerns (columns 3-4). *After* equals one for survey waves after June 30, 2016. *Festivals* is the number of inauguration day festivals in the given province. "Additional Controls" include gender, education, income, and age category-fixed effects. "Education Interactions" include interactions between a secondary school completion dummy and $After$, t, and $t \times After$. "Income Interactions" include interactions between a medium-income, as well as a high-income dummy, and $After$, t, and $t \times After$. Panel B includes controls for an indicator equal to one for provinces Duterte won in the election, along with its interactions with $After_t$, t, and $t \times After_t$. All regressions restrict to regions where at least one festival took place on inauguration day.

Table B4: "Drug" topic search interest over time, by number of festivals on June 23

	(1) Drug	(2) Drug	(3) ln(Average Ratio)	(4) ln(Average Ratio)	(5) ln(Drug: Health)	(6) ln(Drug: Health)	(7) ln(Drug: Education)	(8) ln(Drug: Education)	(9) ln(Drug: Jobs)	(10) ln(Drug: Jobs)
A. Baseline Specification										
After Speech × Festivals (Week Prior)	-1.74	-3.61	-0.21	-0.20	-0.17	-0.18	-0.16	-0.09	-0.23	-0.26
	(1.23)	(2.43)	(0.19)	(0.39)	(0.18)	(0.37)	(0.16)	(0.39)	(0.21)	(0.36)
After Speech	6.96***	7.59***	0.39***	0.57**	0.24***	0.44**	0.45***	0.61***	0.62***	0.64***
	(0.83)	(1.49)	(0.07)	(0.20)	(0.07)	(0.19)	(0.06)	(0.20)	(0.09)	(0.19)
B. Controlling for Duterte Victories										
After Speech × Festivals (Week Prior)	-0.36	-2.23	-0.16	-0.15	-0.08	-0.10	-0.16	-0.09	-0.16	-0.19
	(1.66)	(2.59)	(0.19)	(0.37)	(0.20)	(0.35)	(0.17)	(0.39)	(0.19)	(0.30)
After Speech	5.40***	6.04***	0.34***	0.51***	0.14	0.34**	0.45***	0.61***	0.54***	0.56***
	(1.27)	(1.62)	(0.08)	(0.16)	(0.09)	(0.15)	(0.10)	(0.20)	(0.11)	(0.14)
Mean of Dep. Var.	16.34	16.34	-0.56	-0.56	-0.43	-0.43	-0.49	-0.49	-1.19	-1.19
N	3,111	3,111	3,111	3,111	3,111	3,111	3,111	3,111	3,111	3,111
Polynomial Order	1	2	1	2	1	2	1	2	1	2
Date (Polynomial)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Date × After	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Date × Festivals	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Date × After × Festivals	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Fixed Effects	Region	Region	Region	Region	Region	Region	Region	Region	Region	Region

Notes: Standard errors clustered at the regional level are displayed in parentheses. * p< 0.1, ** p< 0.05, *** p< 0.01. Regressions use regional daily *Google Trends* data from April 1, 2016 to September 30, 2016. *After* equals one for dates on or after June 30, 2016. *Festivals (Week Prior)* is the population-weighted number of festivals on June 23, 2016 per province in the given region.

Table B5: Prioritization of crime over time, by number of festivals on June 23

	Listed *Fighting Criminality*			
	(1) as Top Priority	(2) as Top Priority	(3) in Top 3 Priorities	(4) in Top 3 Priorities
A. Baseline Specification				
After × Festivals (Week Prior)	0.00	0.00	-0.03	-0.04
	(0.02)	(0.02)	(0.02)	(0.03)
After	0.12***	0.11***	0.22***	0.23***
	(0.02)	(0.03)	(0.03)	(0.04)
B. Controlling for Duterte Victory Interactions				
After × Festivals (Week Prior)	0.00	-0.00	-0.02	-0.02
	(0.02)	(0.02)	(0.03)	(0.03)
After	0.13***	0.12***	0.17***	0.19***
	(0.03)	(0.03)	(0.05)	(0.05)
Mean of Dep. Var.	0.12	0.12	0.28	0.28
N	12,600	12,600	12,600	12,600
Wave	✓	✓	✓	✓
Wave × After	✓	✓	✓	✓
Wave × Festivals	✓	✓	✓	✓
Wave × After × Festivals	✓	✓	✓	✓
Additional Controls		✓		✓
Education Interactions		✓		✓
Income Interactions		✓		✓
Fixed Effects	Province	Province	Province	Province

Notes: Standard errors clustered at the province level are displayed in parentheses. * p< 0.1, ** p< 0.05, *** p< 0.01. The dependent variables are indicator variables equal to one if the respondent listed crime as the first national concern (columns 1-2), or in the top three most urgent national concerns (columns 3-4). *After* equals one for survey waves after June 30, 2016. *Festivals (Week Prior)* is the number of festivals on June 23, 2016 per province. "Additional Controls" include gender, education, income, and age category-fixed effects. "Education Interactions" include interactions between a secondary school completion dummy and $After$, t, and $t \times After$. "Income Interactions" include interactions between a medium-income, as well as a high-income dummy, and $After$, t, and $t \times After$. Panel B includes controls for an indicator equal to one for provinces Duterte won in the election, along with its interactions with $After_t$, t, and $t \times After_t$.

Table B6: Falsification Tests

		Opinion Poll Specification			
		All Regions		Fiesta Regions	
	Polynomial	(1)	(2)	(3)	(4)
Google Trends Variable	Order	No Controls	w/ Interactions	No Controls	w/ Interactions
A. Share of placebo regressions where both coefficients are negative and larger in magnitude than main estimates					
Drugs	1	0.06	0.06	0.04	0.04
Drugs	2	0.04	0.04	0.03	0.02
Average Ratio	1	0.02	0.02	0.01	0.01
Average Ratio	2	0.04	0.05	0.02	0.02
Drugs-to-Health Ratio	1	0.01	0.01	0.01	0.01
Drugs-to-Health Ratio	2	0.03	0.03	0.02	0.01
Drugs-to-Education Ratio	1	0.05	0.05	0.03	0.02
Drugs-to-Education Ratio	2	0.05	0.06	0.03	0.02
Drugs-to-Jobs Ratio	1	0.03	0.03	0.03	0.02
Drugs-to-Jobs Ratio	2	0.07	0.07	0.04	0.04
B. Share of placebo regressions where both coefficients are negative and statistically significant					
Drugs	1	0.02	0.02	0.02	0.01
Drugs	2	0.01	0.02	0.02	0.01
Average Ratio	1	0.01	0.01	0.01	0.01
Average Ratio	2	0.02	0.03	0.02	0.01
Drugs-to-Health Ratio	1	0.01	0.01	0.01	0.01
Drugs-to-Health Ratio	2	0.02	0.02	0.01	0.01
Drugs-to-Education Ratio	1	0.03	0.03	0.02	0.02
Drugs-to-Education Ratio	2	0.03	0.03	0.02	0.02
Drugs-to-Jobs Ratio	1	0.01	0.01	0.01	0.01
Drugs-to-Jobs Ratio	2	0.02	0.02	0.01	0.01

Notes: Rows describe a specific search interest regression, while columns describe a specific opinion poll regression. In Panel A, each cell reports the share of placebo regressions, for the relevant pair of specifications, where both interaction coefficients are negative and larger in magnitude than our main estimates (Tables 2 and 3). In Panel B, each cell reports the share of placebo regressions, for the relevant pair of specifications, where both interaction coefficients are negative and statistically significant. The dependent variable for all Pulse Asia specifications is an indicator for listing "fighting criminality" as the top priority.

Table B7: "Drug" topic search interest over time, by number of festivals: Heterogeneity

	(1) Drug	(2) Drug	(3) ln(Average Ratio)	(4) ln(Average Ratio)	(5) ln(Drug: Health)	(6) ln(Drug: Health)	(7) ln(Drug: Education)	(8) ln(Drug: Education)	(9) ln(Drug: Jobs)	(10) ln(Drug: Jobs)
After x Festivals	-10.58**	-17.59*	-0.35	-0.35	-0.07	-0.19	-0.30	0.08	-0.81	-1.29
	(3.88)	(8.58)	(0.40)	(1.16)	(0.36)	(1.11)	(0.36)	(1.03)	(0.46)	(1.08)
After x Festivals x Low Perceived Drug Severity	10.40**	16.09*	-0.09	-0.38	-0.46	-0.71	0.12	-0.72	0.68	1.20
	(4.00)	(8.73)	(0.44)	(1.20)	(0.40)	(1.14)	(0.38)	(1.09)	(0.52)	(1.12)
After	8.20***	8.64***	0.43***	0.56*	0.29***	0.46*	0.45***	0.54**	0.68***	0.65**
	(0.90)	(2.00)	(0.09)	(0.27)	(0.08)	(0.26)	(0.08)	(0.24)	(0.11)	(0.25)
After x Low Perceived Drug Severity	-3.13**	-3.19	-0.09	0.07	-0.09	0.03	-0.04	0.22	-0.18	-0.10
	(1.10)	(2.18)	(0.12)	(0.31)	(0.10)	(0.29)	(0.12)	(0.32)	(0.14)	(0.29)
Observations	3111	3111	3111	3111	3111	3111	3111	3111	3111	3111
Mean of Dep. Var.	16.34	16.34	-0.56	-0.56	-0.43	-0.43	-0.49	-0.49	-1.19	-1.19
Polynomial Order	1	2	1	2	1	2	1	2	1	2
Date (Polynomial)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Date x After	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Date x Festivals	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Date x After x Festivals	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
All of the above interacted with Low Percieved Drug Severity	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Fixed Effects	Region	Region	Region	Region	Region	Region	Region	Region	Region	Region

Notes: Standard errors clustered at the regional level are displayed in parentheses. * p< 0.1, ** p< 0.05, *** p< 0.01. Regressions use regional daily *Google Trends* data from April 1, 2016 to September 30, 2016. *After* equals one for dates on or after June 30, 2016. *Festivals* is the population-weighted number of inauguration day festivals per province in the given region. *Low Perceived Drug Severity* is a dummy equal to one for regions where less than half of the sample responded that drug abuse was not a problem in their community in the 2014 APIS.

Table B8: Prioritization of crime over time, by number of festivals: Heterogeneity

	Listed *Fighting Criminality*			
	(1) as Top Priority	(2) as Top Priority	(3) in Top 3 Priorities	(4) in Top 3 Priorities
After × Festivals	-0.18***	-0.19***	-0.14***	-0.15***
	(0.02)	(0.03)	(0.03)	(0.04)
After × Festivals × Low Perceived Drug Severity	0.10**	0.10**	0.10**	0.10**
	(0.04)	(0.05)	(0.04)	(0.05)
After	0.12***	0.10***	0.22***	0.24***
	(0.02)	(0.03)	(0.03)	(0.04)
After × Low Perceived Drug Severity	0.04	0.04	-0.01	-0.02
	(0.04)	(0.04)	(0.05)	(0.05)
Mean of Dep. Var.	0.12	0.12	0.28	0.28
N	12,595	12,595	12,595	12,595
Wave	✓	✓	✓	✓
Wave × After	✓	✓	✓	✓
Wave × Festivals	✓	✓	✓	✓
Wave × After × Festivals	✓	✓	✓	✓
All of the above interacted with Low Perceived Drug Severity	✓	✓	✓	✓
Additional Controls		✓		✓
Education Interactions		✓		✓
Income Interactions		✓		✓
Fixed Effects	Province	Province	Province	Province

Notes: Standard errors clustered at the province level are displayed in parentheses. * p< 0.1, ** p< 0.05, *** p< 0.01. The dependent variables are indicator variables equal to one if the respondent listed crime as the first national concern (columns 1-2) or in the top three most urgent national concerns (columns 3-4). *After* is equal to one for survey waves after June 30, 2016. *Festivals* is the number of inauguration day festivals in the given province. *Low Perceived Drug Severity* is a dummy equal to one for regions where more than half of the sample responded that drug abuse was not a problem in their community in the 2014 APIS. "Additional Controls" include gender, education, income, and age category fixed effects. "Education Interactions" include interactions between a secondary school completion dummy and $After$, t, and $t \times After$. "Income Interactions" include interactions between a low-income, as well as a high-income dummy, and $After$, t, and $t \times After$.

Appendix C: Prioritization of Corruption

In addition to illegal drugs, Duterte's speech also mentioned corruption (three times). We therefore explore the extent to which people's prioritization of corruption may have also been affected by Duterte's speech. First, Table C1 uses the opinion poll data to examine corruption prioritization. In columns (1) and (2), we predict whether a respondent listed *fighting graft and corruption* as their top priority. However, we find no statistically or quantitatively meaningful coefficients for the $After$ variable or the interaction term between $After$ and the festival measure.

Table C1: Prioritization of corruption and crime over time, by number of festivals

	Listed *Fighting Graft and Corruption*				Priority Diff. Between	
	(1) as Top Priority	(2) as Top Priority	(3) in Top 3 Priorities	(4) in Top 3 Priorities	(5) Crime & Graft	(6) Crime & Graft
After × Festivals	0.00	0.00	0.09***	0.09***	-0.39***	-0.38***
	(0.01)	(0.02)	(0.02)	(0.02)	(0.08)	(0.07)
After	-0.00	0.02	-0.01	0.01	0.57***	0.50***
	(0.01)	(0.02)	(0.02)	(0.03)	(0.09)	(0.13)
Mean of Dep. Var.	0.12	0.12	0.37	0.37	-0.13	-0.13
N	12,600	12,600	12,600	12,600	12,600	12,600
Wave	✓	✓	✓	✓	✓	✓
Wave × After	✓	✓	✓	✓	✓	✓
Wave × Festivals	✓	✓	✓	✓	✓	✓
Wave × After × Festivals	✓	✓	✓	✓	✓	✓
Additional Controls		✓		✓		✓
Education Interactions		✓		✓		✓
Income Interactions		✓		✓		✓
Fixed Effects	Province	Province	Province	Province	Province	Province

Notes: Standard errors clustered at the province level are displayed in parentheses. * p< 0.1, ** p< 0.05, *** p< 0.01. The dependent variables are indicator variables equal to one if the respondent listed graft/corruption as the first national concern (columns 1-2) or in the top three most urgent national concerns (columns 3-4). In columns (5) and (6), the dependent variable is the difference between the prioritization of crime and corruption, where positive numbers represent higher prioritization of crime. *After* is equal to one for survey waves after June 30, 2016. *Festivals* is the number of inauguration day festivals in the given province. "Additional Controls" include gender, education, income, and age category fixed effects. "Education Interactions" include interactions between a secondary school completion dummy and $After$, t, and $t \times After$. "Income Interactions" include interactions between a low-income, as well as a high-income dummy, and $After$, t, and $t \times After$.

In columns (3) and (4), we predict whether the respondent listed corruption in their top three priorities. Here again, we find no evidence of respondents being more likely to rank corruption

highly after Duterte's speech; however, the interaction term with festivals actually produces a *positive* coefficient. Thus, those living in regions with festivals are more likely to list corruption in their top three policy priorities after Duterte's speech than those living in regions that did not experience a festival that day. This is the opposite of what we found for the prioritization of crime and is consistent with our primary hypothesis of Duterte's speech having systematically altered people's perceptions of drugs as a primary policy topic but not corruption.

The last two columns of Table C1 report results from predicting a respondent's difference in prioritization of crime versus corruption. To calculate that variable, we first assign a value of three to those who report the relevant issue to be the top national priority, a two for the second-highest national priority, a one for the third-highest priority, and a zero if the issue does not make the top three. We then calculate the difference between the crime and corruption values. The corresponding regressions produce estimates firmly in line with our main results: In general, respondents systematically assign a higher priority to drugs – but that is not the case for those from regions that experienced a festival on inauguration day.

Next, we access *Google Trends* for corruption-related search activity in Table C2. In columns (1) and (2), we predict topic searches for "corruption" with the familiar binary indicator for $After$ and the interaction term with $Festivals$. In columns (3)-(10), we predict comparative topic searches for "corruption" relative to "health," "education," and "job", analogous to those from Table 2.[21] While we identify a positive and statistically significant increase in the frequency of *Google* searches in three of these specifications, the overall evidence remains weaker than for the drug-related searches of our main analyses. Further, the interaction term emerges as a negative predictor in all but one of these eight estimations, some of which are statistically significant. While these results indicate online interest in corruption may have been somewhat affected by Duterte's speech, the results are less consistent than those for drug-related searches. As mentioned in Section 6.2.1, it is possible that the corruption topic was much more expected in an inauguration speech, given the topic featured in the previous three inauguration speeches before Duterte.

To directly pit online interest for drugs and corruption against each other, columns (11) and (12) document regression results from predicting a comparative search for the "drug" topic relative to "corruption". Now, results are clear in that the frequency of drug-related searches increased systematically more so than corruption-related searches throughout the country. Those regions featuring festivals saw no statistically significant rise, however. In short, while there is some evidence that Duterte's speech may have increased *Google* search interest in corruption as well, it does not appear to have shifted policy priorities, and online interest in drugs surged much more strongly.

[21] Corruption is much less common than any of the other topics: "Job" is ten times more popular on average, while the remaining topics are four to five times more popular.

Table C2: "Corruption" topic search interest over time, by number of festivals

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Corruption	Corruption	ln(Average Corruption Ratio)	ln(Average Corruption Ratio)	ln(Corr.: Health)	ln(Corr.: Health)	ln(Corr.: Education)	ln(Corr.: Education)	ln(Corr.: Jobs)	ln(Corr.: Jobs)	ln(Drug: Corr.)	ln(Drug: Corr.)
After × Festivals	-0.55	-1.17**	-0.35*	-0.73***	-0.22	-0.07	0.20	-0.32	-0.81***	-1.40***	-0.50*	-0.65
	(0.32)	(0.44)	(0.17)	(0.22)	(0.31)	(0.23)	(0.18)	(0.22)	(0.26)	(0.39)	(0.25)	(0.61)
After	0.07	0.38	-0.01	0.30***	-0.17	0.14	0.04	0.47***	0.18	0.27*	0.40***	0.47***
	(0.16)	(0.24)	(0.08)	(0.07)	(0.11)	(0.11)	(0.10)	(0.13)	(0.12)	(0.13)	(0.10)	(0.14)
Observations	3,111	3,111	3,111	3,111	3,111	3,111	3,111	3,111	3,111	3,111	3,111	3,111
Mean of Dep. Var.	0.68	0.68	-2.96	-2.96	-3.00	-3.00	-3.04	-3.04	-3.94	-3.94	3.15	3.15
Polynomial Order	1	2	1	2	1	2	1	2	1	2	1	2
Date (Polynomial)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Date × After	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Date × Festivals	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Date × After × Festivals	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Fixed Effects	Region	Region	Region	Region	Region	Region	Region	Region	Region	Region	Region	Region

Notes: Standard errors clustered at the regional level are displayed in parentheses. * p< 0.1, ** p< 0.05, *** p< 0.01. Regressions use regional daily *Google Trends* data from April 1, 2016 to September 30, 2016. *After* is equal to one for dates on or after June 30, 2016.