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IZA DP No. 15866

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ABSTRACT

Border Apprehensions and Federal Sentencing of Hispanic Citizens in the United States*

We provide evidence that Hispanic citizens receive significantly longer sentences than non-Hispanic citizens in the Federal Criminal Justice System in the United States when a higher number of illegal aliens are apprehended along the southwest border. Apprehensions can increase the salience of Hispanic ethnic identity, which is associated with persistent negative stereotypes, and can also deteriorate attitudes toward Hispanics. We rule out concerns that apprehensions might be conveying legally relevant information to judges. Thus, we provide direct evidence for time-varying discrimination toward Hispanic defendants. Our estimated effect is only at play for defendants without a heavy previous criminal record.

JEL Classification: K42, J15, F22

Keywords: immigration, ethnic identity, discrimination, attitudes, salience, sentences

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"[T]o some extent people choose their identity [...]
Identity "choice," however, is very often limited. In a society with racial and ethnic categories, for example, those with non distinguishing physical features may be able to "pass" as a member of another group. But others will be constrained by their appearance, voice, or accent."
Akerlof and Kranton (2000), pp. 725–6.

1 Introduction

Crossing international borders can expose migrants to a negative attitude of the native population, thus possibly confronting them with difficult choices concerning their own identity. Immigrants can take deliberate actions, such as changing their names and opting for native-sounding names for their children (Biavaschi et al., 2017; Abramitzky et al., 2020), which can facilitate their integration, and possibly contribute to shaping the effects of immigration on the host society (Collier, 2013; Borjas, 2016). Among these possible actions, recent advances in the literature report for instance that naturalization improves substantially immigrants' labor market outcomes such as wages or employment rates (Gathmann and Keller, 2018; Hainmueller et al., 2019; Govind, 2021). However, some distinguishing features can constrain these choices, as the initial quote from Akerlof and Kranton (2000) suggests. Immigrants' ethnic origin ("appearance, voice, or accent") can effectively limit their ability (and the one of their descendants) to modify natives' perception of their identity, and hence their attitude toward them, albeit the extent to which some specific individual characteristics represent a binding constraint on the choice of identity can evolve over time (Tabellini, 2019; Fouka and Tabellini, 2022; Fouka et al., 2021). This paper focuses on the Hispanics (or Latinos) in the United States,[1] which represent a fast-growing minority group, currently amounting to 18.5 percent of the overall population.[2] This group is exposed to persistent negative stereotypes (see, for instance, Dixon and Rosenbaum, 2004), and the ability of Hispanics to assimilate has been often called into question, with concerns about an ensuing so-called Latino threat for the United States (see Chavez, 2013).

This paper draws on case-level records from the US Sentencing Commission (USSC there-

[1]We use the adjective Hispanic or Latino interchangeably in this paper, consistently with the practice of the US Census Bureau (see https://www.census.gov/topics/population/hispanic-origin/about.html, last accessed on January 10, 2022).

[2]Source: https://www.census.gov/quickfacts/fact/table/US/RHI725219 (last accessed on March 2, 2022).

after) for all defendants sentenced in the federal courts to analyze whether the differential in the number of months of imprisonment between Hispanic and non-Hispanic citizens is correlated with variations in apprehensions of illegal aliens along the border with Mexico.[3] We rely on data on the monthly number of apprehensions of illegal aliens along the nine sectors of the southwest border, combined with the geodesic distance between each sector and each federal district court, to define a time-varying district-specific measure of exposure to border apprehensions. The number of (essentially Latino) illegal aliens that are apprehended along the border is strongly correlated with media coverage of immigration, and the evolution of the public interest toward immigration, measured with state-level data from Google Trends, is positively correlated with our variable of interest.

We assume that federal judges have their own perceptions about the adequate sentence length for each case, which can reflect the objective elements of a case, the judge's perception of the likelihood of recidivism, her individual characteristics, and (possibly time-varying) attitudes. The time that judges can devote to each sentence is limited,[4] and judges sentence defendants belonging to three groups defined on the basis of citizenship and ethnicity: (*i*) non-Hispanic citizens, (*ii*) Hispanic citizens, and (*iii*) Hispanic non-citizens.[5] We assume that judges are non-Hispanic citizens,[6] and we thus refer to the defendants belonging to the group (*i*) as the in-group, while those belonging to group (*iii*) are the out-group. The defendants in group (*ii*) are in an intermediate position, as they share one observable characteristic (citizenship) with the in-group, and another one (ethnicity) with the out-group. Defendants belonging to each of the three groups can be characterized, on average, by differences in their unobserved (for the econometrician, but not for the judge) characteristics. Consistently with

[3]The ethnic identity of the defendant is included in the pre-sentencing report, compiled by an independent probation officer, upon which federal judges base their sentencing decisions; federal judges meet the defendant in person for the initial appearance and the sentencing hearing, so that the possibility of a strategic misreporting of ethnic identity is limited to nonexistent.

[4]Sentencing represents just one of the activities of Federal judges (see https://www.uscourts.gov/judges-judgeships/about-federal-judges, last accessed on September 14, 2022), and the case-level records from the USSC reveal that each judge sentences around 90 defendants each year for criminal fillings only.

[5]The econometric analysis will also consider other minority groups, and notably Black defendants; we do not discuss this here for the sake of simplicity.

[6]Hispanics (and other minorities) are significantly underrepresented in the judicial system (McConnell and Rasul, 2021); less than 7 percent of Federal judges serving between 2001 and 2017 were Hispanics, according to the data from the Federal Judicial Center.

the evidence provided by Benjamin et al. (2010) and Chen and Li (2009) on the effect of salience, federal judges might be, *ceteris paribus*, more lenient toward defendants belonging to the in-group, thus possibly discriminating against out-group defendants.[7] However, differences in average sentence length between the in-group and the other two groups do not necessarily reflect discrimination, as they can be confounded by unobserved heterogeneity across groups, e.g., the ability to afford the assistance of a good defense counsel. The effect of ethnicity on discrimination can be therefore identified if some factors that are orthogonal to the unobserved characteristics of the defendants belonging to the intermediate group (*ii*) deteriorate judges' attitudes toward them, or induce a shift in the salience of ethnicity in defining judges' perception of their identity. In our case, salience is closely related to the idea of prominence, one of the three possible sources of salience described by Bordalo et al. (2022): "[p]rominence refers to the idea that stimuli highly available to our senses or in our memory are more significant [...] stimuli that have recently attracted attention continue to do so, even if they are no longer task-relevant [...] prominence comes from factors exogenous to the stimulus itself".[8] Indeed, a greater salience of their ethnic identity makes Hispanic citizens more likely to be perceived as members of the out-group, something that may produce a larger differential in sentence length between Hispanic and non-Hispanic citizens. Variations in the number of (Latino) illegal aliens apprehended at the US-Mexico border appear as a natural candidate for our analysis. They can increase the prominence of Hispanic ethnic identity, as media reports and public attention focus on the apprehensions of Hispanic illegal aliens, and reinforce negative stereotypes toward them while being uncorrelated with the unobserved characteristics of the defendants in the intermediate group (*ii*).[9]

The choice of this admittedly peculiar angle to analyze the implications of the time-varying salience of the Hispanic ethnicity has a triple justification. First, it resonates well with one of the typical negative stereotypes that Latinos face in the United States, namely being repeatedly portrayed as criminals. As a matter of fact, a recent article by *The New York Times* described a specific implication of these stereotypes, notably the extent to

[7] Discrimination might reflect taste-based (Becker, 1957) or unconscious animosity, or statistical discrimination (Phelps, 1972; Arrow, 1972), if ethnicity or citizenship are perceived to convey information, for instance, on the likelihood of recidivism.

[8] Colussi et al. (2021) adopt a similar notion of salience.

[9] As discussed in Section 5 below, apprehensions might be correlated with the unobserved characteristics of the defendants in the out-group (*iii*), which are not included in our main analysis.

which Hollywood movies over-represent Latino actors in criminal roles.[10] Second, and more importantly, sentences relate to criminal offenses that occurred long before the sentencing hearing with the federal judge. This implies that the objective elements that represent the basis of the judgment are predetermined, and thus are uncorrelated with temporary variations in the apprehensions of illegal aliens at the border. Third, the US Federal Justice System ensures that the matching between federal judges and defendants is random (Cohen and Yang, 2019), which makes our effect unlikely to be driven by judges' unobservable characteristics.

We take advantage of data provided by the USSC, using case-level records for 969,547 individual offenders sentenced in 90 federal courts between October 2001 and September 2017. Controlling for differences in observables, defendants who are Hispanic non-citizens (the out-group) receive sentences that are, on average, 4.9 months longer than non-Hispanic citizens (the in-group), while Hispanic citizens receive sentences that are in between those for the two other groups. The differential in sentence length between Hispanic and non-Hispanic defendants, which stands at 2.6 months, is independent from the citizenship status, and is stable when we restrict the sample to citizens only (597,934 observations). The estimates on this subset of cases reveal that an increase in border apprehensions results in a significantly larger differential in sentence length between Hispanic and non-Hispanic White citizens. A one standard deviation increase in our measure of border apprehensions increases this differential by 13 days, i.e., approximately one-sixth of the estimated average gap in sentences between the two groups of defendants. Importantly, the effect that we uncover is obtained on a sample that does not include immigration offenses, as apprehensions might convey legally relevant information to judges dealing with charges related to human smuggling. Furthermore, our estimated effect is robust when we allow the influence of the primary offense type on judges' decisions to vary each month, thus dismissing legitimate concerns about the correlation between border apprehensions and the severity of sentences related to illegal cross-border activities, such as drugs trafficking, that represents a larger share of the charges for Hispanic defendants. As the differential in sentence length between Hispanic and non-Hispanic citizens responds to the variations in a legally irrelevant factor

[10] "[O]f the 100 top-grossing films each year from 2007 to 2018, only three percent featured Latino actors in lead or co-lead roles. [...] Latino characters ended up playing into unfounded stereotypes. Nearly one-quarter of speaking roles portrayed them as criminal." (Source: *The New York Times*, August 26, 2019, "Latinos Are Underrepresented in Hollywood, Study Finds").

(apprehensions) that is plausibly orthogonal to the unobserved characteristics of this subset of defendants, this implies that Hispanic defendants are exposed to discrimination.

We show that the level of discrimination against Hispanic citizens in terms of sentencing varies depending on the fluctuations of apprehensions of illegal immigrants. This relationship could be driven by two different underlying mechanisms: it makes the Hispanic ethnic identity of the defendant more salient, and/or it deteriorates the attitude of federal judges toward all Hispanic defendants. For instance, concerning this second mechanism, this could be due to a perceived increase in the likelihood of recidivism of Hispanic defendants, which might be related to media reports constantly associating Hispanics with words denoting illegal behavior, or because judges anticipate that increased immigration will deteriorate the future labor market prospects of Hispanic defendants. We provide suggestive evidence that discrimination might be driven by an increase in salience, as we find no effect for two groups that are admittedly more exposed to a deterioration in attitudes induced by apprehension: defendants with a heavy past criminal record, and Hispanic non-citizens. Indeed, the effect of fluctuations in border apprehensions on the sentencing gap is only significant in "low-information" cases, i.e., for defendants with no heavy past criminal history where judges have fewer elements to determine "the defendant's latent criminality and likelihood to recidivate" (Berdejó, 2018). This means that, in the absence of perfect information, federal judges may infer unobservable and legally relevant characteristics, using the defendants' ethnicity. Additionally, the differential in sentence length between Hispanic non-citizens (the out-group) and Hispanic citizens (the in-group) is uncorrelated to variations in apprehensions. These two results provide suggestive evidence that border apprehensions of Latino illegal aliens could make one of the facets of the defendant's profile more salient, and Hispanic citizens end up receiving sentences that are closer to the (longer) sentences received by Latino immigrants. Moreover, we show that our effect is stronger for defendants that have the modal characteristics of Latino immigrants, and when the district-specific share of judges appointed by a Republican President is higher. The five districts located along the border play a key role in our results, consistently with the more direct exposure to apprehensions of Federal judges serving there, even though offenses related to illegal entry or re-entry are overwhelmingly dealt with by magistrate judges (McCabe, 2014, p. 33).

This paper is related to three main strands of the literature. First, it contributes to the wide literature on sentencing toward members of minority groups in the US, which

extensively reports sentencing gaps between Black and White defendants (see Abrams et al., 2012; Anwar et al., 2012; Alesina and La Ferrara, 2014; Rehavi and Starr, 2014; Yang, 2015; Arnold et al., 2018; Berdejó, 2018; Cohen and Yang, 2019, among others). So far, fewer papers provide evidence of a Hispanic penalty in sentencing (Mustard, 2001; Steffensmeier and Demuth, 2000; Feldmeyer and Ulmer, 2011; Ulmer and Parker, 2020).[11]

Second, our paper contributes to the fast-growing literature on time-varying bias in sentencing as recent papers show that external factors may also affect sentencing decisions and disparities across different groups such as in the case of electoral cycles (Berdejó and Chen, 2017), judges' political cycles (Berdejó and Yuchtman, 2013), changes in public opinion (Nelson, 2014) or media attention on unrelated criminal justice events (Philippe and Ouss, 2018). Closely related to our analysis, Shayo and Zussman (2011) and McConnell and Rasul (2021) provide evidence that sentences toward members of minority groups may also respond to the time-varying salience of their identity and to the animosity of the majority group toward the latter. Shayo and Zussman (2011) document judicial in-group bias in Israeli claims courts, showing that its incidence increases with the number of fatalities in the area surrounding the court in the year before the judicial decision, as terrorist attacks increase the tensions between Jewish and Arab Israeli citizens. Differently from Shayo and Zussman (2011), we provide evidence that time-varying salience can play a role also in higher-stakes decisions (imprisonment rather than small claims) in the judicial system. McConnell and Rasul (2021) provide evidence of contagious animosity on Hispanic defendants in the Federal Criminal Justice System after the terrorist attacks of September 11, 2001. Comparing defendants convicted and sentenced before 9/11 with defendants convicted before but sentenced after 9/11, they find that Hispanics received longer sentences after the terrorist attacks. Differently from their paper, we explore a continuously fluctuating treatment variable rather than an extreme one-off event. More broadly, our paper also contributes to the literature providing evidence about the noise induced by irrelevant information in judicial decisions (see, for instance, Danziger et al., 2011; Eren and Mocan, 2018; Heyes and Saberian, 2019; Chen and Philippe, 2021; Chen and Loecher, 2021).[12]

Third, our results also contribute to the strand of literature analyzing the salience of

[11] Additional papers analyze various aspects of the discrimination to which Hispanics are exposed to in the US, notably with respect to their relationship with the police (Raphael and Rozo, 2019) or on the labor market (Quillian et al., 2017; Kenney and Wissoker, 1994).

[12] See also Chapter 1 in Kahneman et al. (2021) for a review.

identity and priming effects (Benjamin et al., 2010; Desmet et al., 2017; Atkin et al., 2021; Colussi et al., 2021; Alesina et al., 2022), particularly in the case of the justice system (Graham and Lowery, 2004; Rachlinski et al., 2008).

The rest of the paper is structured as follows: Section 2 introduces the case-level data on sentences. Section 3 presents the data on border apprehensions and some stylized facts on the relationship between the apprehensions and public interest toward immigration. Section 4 describes the sample of analysis, provides the relevant descriptive statistics, and presents evidence on the differences in sentences across groups of defendants. Section 5 outlines the identification strategy and presents the main econometric results. Section 6 presents some relevant heterogeneity analysis. Finally, Section 7 concludes.

2 Sentences in the US Federal Criminal Justice System

The main data source is represented by the United States Sentencing Commission (USSC), which keeps a case-level record for all offenders sentenced in the US federal courts in each fiscal year (except those receiving a death penalty since 2006). We consider all observations from October 2001 to September 2017 in 90 district courts located in all states and in the District of Columbia.[13] We do not use for the analysis the data from four district courts corresponding to insular areas (Guam, Puerto Rico, Northern Marina Islands, and the Virgin Islands). This dataset includes the district courts where the defendant was sentenced, the sentencing month and year,[14] the final sentence (in months). It also provides information on the case, such as whether it was settled by plea agreement or trial, the primary offense type, the final offense level, and the final defendant's criminal history category.[15] Concerning

[13]Data are obtained from the USSC website. Source: https://www.ussc.gov/research/datafiles/commission-datafiles (accessed on May 14, 2019). As data on border apprehensions are available since January 2000, we extend the analysis as a robustness check to the 2000-2002 period using sentencing data from Monitoring of Federal Criminal Sentences of the USSC, which we harmonize with the main dataset. Source: https://www.icpsr.umich.edu/icpsrweb/ICPSR/series/83/studies (accessed on May 14, 2019). The main conclusions remain unchanged and are reported in Table A.6 in the Appendix. We do not extend the analysis to the 2018-2020 period as the USSC implemented methodological changes in their data after 2017, only providing harmonized data for the period after 2014.

[14]The USSC does not provide information on the exact sentencing date after 2004.

[15]Information on the type of defense counsel, e.g., privately retained, court-appointed, federal public defender, is not coded by the USSC since 2003.

individual characteristics of the defendants, we use data on age, sex, race, Hispanic origin, level of education, citizenship,[16] and her number of dependents.

While the great majority of criminal prosecutions in the United States take place in state courts, serious offenses which violate US federal laws such as drug trafficking, murder, robbery, burglary, or rape for instance fall under federal jurisdiction.[17] For these crimes, once defendants have been charged with a federal offense and after a prosecutor filed the initial charges, they are assigned to a district court judge during their initial appearance. The matching between defendants and federal judges within a district is random (Cohen and Yang, 2019). Defendants have the opportunity to offer a plea and avoid the trial in a federal court.[18]

After a defendant is either found guilty by a jury trial or pleads guilty, she has to return to the federal court to be sentenced.[19] Sentencing in the US Criminal Justice System is the sole responsibility of federal judges, who are life appointees nominated by the President of the United States and confirmed by the Senate.[20] Two weeks before the sentencing hearing, the federal judge assigned to the case receives a pre-sentence investigation report (PSR thereafter) on the defendant that has been filled by an independent probation officer, and which has been possibly modified following the objections of the prosecutor and the defense counsel. The PSR contains any information that could be relevant for sentencing including information on the offender's criminal history or personal background for instance. The PSR includes information on the Hispanic origin and on the race of the defendant (see Figure A.1 in the Appendix), even though these defendants' characteristics are legally irrelevant in the determination of the sentence.[21] This information is collected while the defendant is interviewed by the probation officer and using forms related to the defendant's life history

[16] The USSC does not provide information on the country of birth of the defendants, and this prevents us from separating natives from naturalized first-generation immigrants.

[17] Federal courts also hear cases based on state laws that involve parties from different states.

[18] In the sample, more than 95 percent of the cases correspond to a guilty plea (see Table 2 below).

[19] The sample provided by the USSC only includes individuals prosecuted and sentenced at the federal level. Thus, we are not able to track all defendants but only the convicted ones. However, the Federal Justice Statistics report that on average, 90 percent of charged defendants are convicted Source: Bureau of Justice Statistics, based on data from the Federal Bureau of Prisons.

[20] In 2018, there was a total of 667 authorized judgeships in the 94 US district courts; source: https://www.uscourts.gov/sites/default/files/districtauth.pdf (accessed on January 10, 2022).

[21] USSC (2018) (§5H1.10) clearly states that "race, sex, national origin, creed, religion, and socio-economic status" are factors that are not relevant in the determination of a sentence.

that the defense has to send to the probation officer.[22]

The probation officer in charge of the PSR has also to determine a sentencing range based on the USSC guidelines. Indeed, since the Sentencing Reform Act of 1984, the USSC provides a guideline manual that is used to compute sentencing ranges for similar crimes to reduce sentencing disparities and to limit the discretion of federal judges in sentencing. Under the guideline, each defendant is assigned to a given base offense level between 1 and 43, which describes the severity of the crime, and to a given base criminal history category between one and six, which reflects the defendant's prior criminal record.[23] The base offense level and the criminal history category are combined in a two-entry table provided by the USSC (see Figure A.2 in the Appendix), which determines the sentencing range (expressed in months of conviction) that is going to be included in the PSR. The USSC Sentencing Guidelines, which used to be mandatory, are now only "effectively advisory" since 2005 and *The United States v. Booker* when the US Supreme Court declared that the guideline infringed the Sixth Amendment of the US Constitution. Therefore, federal judges are now free to depart or vary from the advisory guideline range (USSC, 2020), but these departures have to be justified in the sentence and create a higher risk that the sentence is overruled by an appellate court (Schanzenbach and Tiller, 2008).

Concerning the timing of sentencing, it is crucial to note that, in most cases, the sentencing hearing takes place around three months after the defendant is convicted and thus long after the crime and the day of the arrest. It means that the objective elements that represent the basis of the judgment are predetermined and uncorrelated with temporary variations in border apprehensions. This time lag between conviction and sentencing makes the results unlikely to be affected by plea bargaining or by temporary variations in border apprehensions at the time of the crime. It also means that the results that we uncover are solely driven by judges' decisions during the sentencing hearing.

[22]Data from the Pew Research Center reports that 97 percent of US adults with Hispanic ancestry self-identify as Hispanic among foreign-born. This number only falls to 92 and 77 percent respectively for second- and third-generation immigrants. Source: https://www.pewresearch.org/hispanic/wp-content/uploads/sites/5/2017/12/Pew-Research-Center_Hispanic-Identity-Report_12.20.2017.pdf (accessed on January 10, 2022). Together with the verification made by the probation officer, this strongly reduces concerns that the defendant could intentionally manipulate the information on their identity in the PSR.

[23]Upward or downward adjustments can be made from these base levels based on relevant information such as defendant's acceptance of responsibility, obstruction to justice, or individual and crime characteristics.

3 Border apprehensions

This section describes the proxy for the time-varying salience of Hispanic identity computed at the district-month level in Section 3.1. Then, we provide suggestive evidence in Section 3.2 that this measure correlates with natives' interest in immigration.

3.1 Database

This paper takes advantage of monthly data from the United States Border Patrol on the total number of illegal alien apprehensions between 2000 and 2017, which stood at 13,425,738.[24] Until 2005, Mexicans apprehended were simply released on the other side of the border, so that repeated attempts to enter were the norm (Bazzi et al., 2021), while migrants from other countries were detained and then sent back, and prosecution was limited to cases of illegal reentry of a removed alien. Since 2005, also the illegal or improper entry into the United States can be subject to federal prosecution; however, these cases are overwhelmingly dealt with one-day improper entry proceedings managed by magistrate judges (US GAO, 2019), and with no involvement of federal judges, and the prosecution remains the exception rather than the rule.

The data are available for all the US terrestrial and maritime borders. Data on apprehensions relate to 15 different border sector levels: Big Bend, Del Rio, El Centro, El Paso, Laredo, Rio Grande Valley, San Diego, Tucson, and Yuma for the southwest border, and Livermore (closed after 2004), Miami, New Orleans, Ramey, Blaine, Buffalo, Detroit, Grand Forks, Havre, Houlton, Spokane and Swanton for the Coastal and Northern borders. On average, 63,032 individuals were apprehended each month between January 2000 and September 2017 at the US southwest border with substantial variations across months (the standard deviation of monthly border apprehensions stands at 40,251). These variations may reflect both fluctuations in labor market conditions at origin and in the United States, as well as changes in border patrolling efforts (Hanson and Spilimbergo, 1999), with the latter that can result in variations in smugglers' prices as well as in shifts in the geographical distribution of the attempts to cross the border (Gathmann, 2008; Allen et al., 2018). It

[24] Source: https://www.cbp.gov/sites/default/files/assets/documents/2019-Mar/bp-total-monthly-apps-sector-area-fy2018.pdf (accessed on June 10, 2019). Due to restrictions on USSC data, the empirical analysis will mainly focus on the 2002-2017 period.

is worth noting that the total number of illegal alien apprehensions by year substantially decreased between 2000 and 2017, down from 1,676,438 to 310,531.

Given the disproportionately high number of apprehensions at the southwest border, we restrict the analysis only to the nine sectors along the terrestrial border with Mexico as depicted in Figure A.5 in the Appendix.[25] Indeed, from 2000 to 2017, 98 percent of all the apprehensions occurred along this border, so most apprehensions are related to Hispanic illegal aliens. As a matter of fact, Mexicans accounted for 98 percent of the total number of apprehensions at the border in 2000. While this number decreased to 42 percent in 2017, the rest of the illegal aliens apprehended at the border still originated from Latin American countries such as Guatemala (21 percent), El Salvador (16), and Honduras (15).

We build on these data to gauge the extent of the exposure of different federal districts in the United States to border apprehensions as follows:

$$\text{Border app}_{cmy} = \sum_{s=1}^{9} \frac{1}{\text{dist}_{cs}} \times \text{Border app}_{smy}, \tag{1}$$

where Border app is the total number of border apprehensions in sector s in month m in year y and dist_{cs} the geodesic distance between the district court centroid c and the border sector headquarter s.[26] By construction, this variable is higher for districts located closer to the border, and it responds more to an identical proportional increase in apprehensions in all sectors. This is consistent with the assumption that apprehensions influence more the local salience of Hispanic identity in areas that are closer to Mexico. This echoes the paper by Newell and Ruths (2016), which finds that Twitter users residing in states located along with the Mexican border show greater concern about immigration issues. In the same way, Dunaway et al. (2010) find that individuals residing in border states are more likely to report immigration as a first-order issue.[27]

Figure A.4 in the Appendix plots the evolution of the monthly number of apprehensions for each of the nine sectors of the southwest border; Tuscon clearly stands out for most of the period, even though the Rio Grande Valley sector records most of the apprehensions in

[25] Figure A.5 in the Appendix also depicts the five federal districts along the border, and it reveals that a one-to-one mapping between border sectors and federal districts is not possible, as several border sectors fall under the jurisdiction of more than one district.

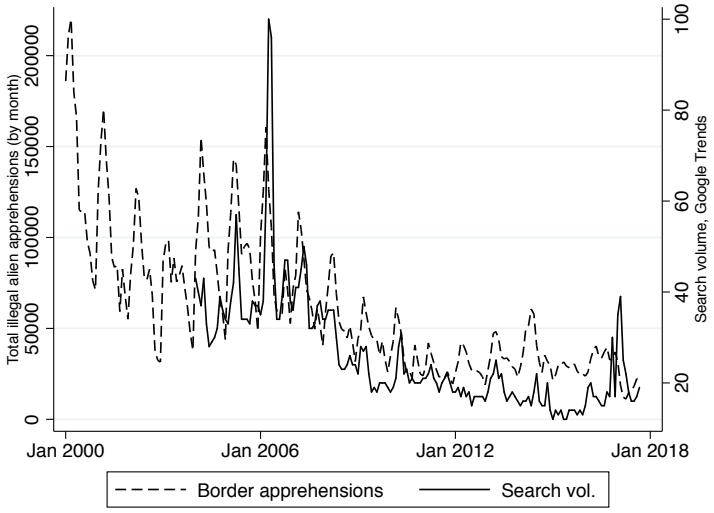
[26] The results are fully robust to the use of road rather than geodesic distance in Eq. (1).

[27] The results are robust to alternative definitions of the variable as reported in Section 5, and notably when we constrain the sum of the weights to be the same across districts.

more recent years, consistently with the effects produced by the expansion of the wall along the border (Allen et al., 2018).[28] Table A.15 in the Appendix presents descriptive statistics for each of the 90 districts of the variable defined in Eq. (1).

3.2 Public interest toward immigration

Figure 1: Countrywide data from Google Trends and monthly illegal alien apprehensions



Notes: Monthly search volumes represent the Google trends search interest for the Immigration Policy and Border Issues category. Google trends data are collected separately for each state over the 2004-2017 period. Search volumes represent the Google trends search interest for the Immigration Policy & Border Issues category.
Source: Authors' elaboration on data from Google Trends and the US Border Patrol.

We provide suggestive evidence on the relationship between variations in the total number of monthly apprehensions at the border, and the public interest toward immigration using Google Trends. This tool measures, on a scale ranging from 0 to 100, the volume of searches that Google includes in the Immigration Policy & Border Issues category since January 2004.[29]

[28] Our main conclusions are robust to the exclusion of Tucson from the analysis.

[29] We also provide in the Appendix, in Figure A.3, descriptive evidence that the monthly volume of searches from Google Trends is highly correlated with the share of immigration-related articles in eight major newspapers (*The New York Times*, *The Washington Post*, *The Wall Street Journal*, *The Chicago Tribune*, *The Los Angeles Times*, *The Boston Globe*, *USA Today* and *The San Jose Mercury*). These data

Table 1: Web Search and illegal alien apprehensions (2004-2017), Immigration Policy & Border Issues Category

	(1)	(2)	(3)
Border apprehensions	0.110***	0.222***	0.073***
	(0.034)	(0.052)	(0.021)
Observations	14,850	14,850	14,850
Adjusted R^2	0.078	0.292	0.529
Fixed effects			
District	No	Yes	Yes
Year	No	No	Yes
Std. dev. of border apprehensions	36.233	36.233	36.233

Notes: *** p <0.01, ** p <0.05, * p <0.1. Standard errors in parentheses are clustered at the district level. The dependent variable is the Google Trends search interest for the Immigration Policy & Border Issues category.
Source: Authors' elaboration on data from Google Trends and the US Border Patrol.

Figure 1 reveals a strong positive association between the evolution of apprehensions and web searches for the United States as a whole. The data from Google Trends can also be extracted at a finer spatial scale (for each US state), thus Table 1 reports the results from a regression of the level of public interest toward immigration measured via Google Trends at the monthly level for each state, and the variable of interest. District-month pairs with a higher value of Border app$_{cmy}$ are characterized by a significantly higher volume of searches on Google, and this association is robust to the inclusion of dummies for each district and each year. Column (3) implies that a one-standard-deviation increase in exposure to border apprehensions is associated with a 2.64, i.e. 0.073×36.233, increase in the measure of web searches, which is defined on a 0 to 100 scale. For the sake of comparison, the average monthly web search index across US states stands at 24.02 with a standard deviation of 14.32.

are taken from Factiva. We provide similar evidence measuring the share of tweets on immigration posted by the official Twitter accounts of the same eight journals. We focus on tweets including at least one of the following words: "immigr[...], migr[...], border, asylum, undocumented". One can observe, for instance, that the highest peak of the three series coincides with January and February 2017, around the signature (on January 25, 2017) by President Donald Trump of the Executive Order 13767 which ordered "executive departments and agencies to deploy all lawful means to secure the Nation's southern border, to prevent further illegal immigration into the United States".

Thus, the district-specific within-year variation in the public interest toward immigration is significantly associated with the measure of local exposure to border apprehensions defined in Eq. (1). We do not attempt to analyze how variations in border apprehensions influence the local coverage of immigration in the media as our analysis focuses on decisions (sentences) taken by a small and highly selected group of around 700 individuals: federal judges. Their sources of information are unknown to us, and might substantially differ from those of the overall population residing in each district.

4 Descriptive analysis

The sample includes observations for 969,547 individual offenders sentenced between October 2001 to September 2017 in 90 district courts located in all US states and in the District of Columbia for which all the variables used in the benchmark specification are non-missing. The yearly average number of sentences over the 16 fiscal years in the data stands at approximately 60,597 sentences, i.e., close to 90 sentences for each federal judge, who thus have a limited time to devote to each sentence. Table 2 reports the descriptive statistics, breaking down the set of defendants between citizens (*Panel A* - 597,935 observations), non-citizens (*Panel B* - 371,612 observations),[30] and across the majority and minority groups. Individual offenders are allocated across the three aforementioned groups, namely non-Hispanic White (28.9 percent), Black (24.4 percent), and Hispanic (46.7 percent).[31] These numbers must be placed in context with data from the US Census Bureau which report that these three (non-mutually exclusive) groups represented respectively 76, 13, and 18 percent of the 2018 total US resident population.[32] It is worth noting that Hispanics represent 19.4 percent of the citizens sentenced in federal courts, but 90.7 percent of the non-citizens.

The main dependent variable in the empirical analysis is the total prison sentence length

[30]The data allow differentiating non-citizens between legal aliens (44,304 observations), illegal aliens (205,518), non-citizens whose immigration status is unknown (12,232) and aliens who had been removed by the time of the sentence (1,761).

[31]We exclude from the analysis Hispanic Black defendants (less than 1 percent of the sample), as well as individuals classified in "Other races" (less than 4 percent) by the USSC. This allows us to obtain three mutually exclusive groups, namely Hispanic, Black, and White; the results remain virtually unchanged when Black Hispanics are included in the analysis.

[32]Source: https://www.census.gov/quickfacts/fact/table/US/PST045218 (accessed on January 10, 2022).

Table 2: Descriptive statistics by citizenship status, racial and ethnic group

Panel A - US citizens

	All		Whites		Blacks		Hispanics	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Sentence length	59.597	68.846	50.245	63.521	74.563	76.172	51.949	60.060
Criminal history cat.	2.617	1.822	2.258	1.700	3.233	1.888	2.241	1.628
Final offense level	20.568	8.908	19.778	9.008	21.443	8.885	20.664	8.559
Above range	0.033	0.179	0.030	0.170	0.044	0.205	0.020	0.140
Below range	0.459	0.498	0.494	0.500	0.400	0.490	0.494	0.500
Age	36.405	11.699	39.964	12.572	33.943	9.973	33.143	10.503
Female	0.173	0.378	0.188	0.391	0.140	0.347	0.200	0.400
Less than high school	0.316	0.465	0.209	0.407	0.365	0.481	0.463	0.499
High school	0.389	0.488	0.407	0.491	0.389	0.488	0.348	0.476
Some college	0.216	0.411	0.255	0.436	0.202	0.402	0.153	0.360
College	0.074	0.262	0.123	0.329	0.039	0.195	0.030	0.172
Nb. dependents	1.382	1.503	1.058	1.320	1.627	1.592	1.640	1.575
Trial	0.049	0.215	0.044	0.206	0.063	0.244	0.031	0.173
Border app.	42.528	50.721	41.371	52.168	31.020	30.799	67.079	66.941
Observations	597,935		259,900		221,814		116,221	

Panel B - Non-citizens

	All		Whites		Blacks		Hispanics	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Sentence length	31.537	40.639	32.368	44.345	43.755	56.292	30.970	39.519
Criminal history cat.	2.327	1.488	1.764	1.361	1.788	1.298	2.383	1.491
Final offense level	15.908	8.042	17.493	8.350	18.851	8.614	15.688	7.962
Above range	0.026	0.158	0.032	0.176	0.041	0.198	0.025	0.155
Below range	0.409	0.492	0.509	0.500	0.381	0.486	0.404	0.491
Age	34.395	9.433	36.939	11.007	36.810	9.393	34.139	9.293
Female	0.062	0.240	0.093	0.291	0.127	0.332	0.057	0.232
Less than high school	0.754	0.430	0.454	0.498	0.348	0.476	0.790	0.407
High school	0.140	0.347	0.225	0.418	0.308	0.462	0.127	0.333
Some college	0.059	0.235	0.174	0.379	0.229	0.420	0.044	0.206
College	0.024	0.152	0.128	0.334	0.104	0.305	0.014	0.117
Nb. dependents	1.928	1.637	1.363	1.538	1.872	1.681	1.964	1.634
Trial	0.018	0.133	0.047	0.212	0.083	0.276	0.014	0.116
Border app.	71.322	68.452	75.921	88.113	28.222	32.003	72.865	67.616
Observations	371,612		20,387		14,236		336,989	

Notes: Sentence length is the sentence length in months winsorized at 327 months (including life imprisonment). and probation sentences are coded as 0. Criminal history cat. is a categorical variable for the defendant's final criminal history category. Final offense level is a categorical variable for the defendant's final offense level, as determined by the court. Above (Below) range is a dummy variable equals to one when the final sentence is above (below) the sentence ranges prescribed in the sentencing report. Age is continuous variable for the age of the defendant. Female is a dummy variable for whether the defendant is a female (vs. male). Less than high school, Some college and College are dummy variables for the defendant's educational attainment. Nb. dependents is a categorical variable with 6 categories for the number of dependents whom the offender supports. Categories are 0, 1, 2, 3, 4 and, 5 dependents and more. Trial is a dummy variable which indicates whether the case was settled by plea agreement or trial. Source: Authors' elaboration on data from the US Sentencing Commission.

in months (excluding months of alternative confinement) with probation sentences coded as zero. We follow Cohen and Yang (2019) by winsorizing this variable at the 1 percent level. This allows us to eliminate concerns about potential outliers in the analysis such as life sentences for instance.[33] As reported in Table A.1 in the Appendix, the sentence lengths in the analysis range between zero and 327 months with an average of 48.8 and a standard deviation of 61.2. Around half of the defendants in the benchmark sample are sentenced by federal judges within the recommended guidelines range (53.0 percent), while 44.0 and 3.0 percent of defendants receive non-government sponsored below-range departures and above-range departures, respectively. The average sentence length is 59.6 months for citizens, and 31.5 months for non-citizens. This difference reflects both the higher final offense level and criminal history category for citizens and the markedly different distribution of these two groups of defendants by primary offense type (see Table A.3 in the Appendix). As a matter of fact, the main primary offense type for Hispanic defendants is drug trafficking for citizens (54.6 percent of the cases),[34] while it is immigration offenses for non-citizens (67.9 percent).

Hispanic citizens receive, on average, a sentence of 51.9 months, slightly above the corresponding value for White defendants (50.2 months), but substantially below the average value for Black defendants (74.6 months). The three groups of defendants are characterized by significant differences in observable individual characteristics (notably, the level of education and the criminal history category), and their geographical distribution across the 90 federal district courts (see Figure A.6 in the Appendix for the share of Hispanic defendants among citizens). Similarly, the various groups of defendants defined on the basis of ethnicity and citizenship differ with respect to the primary offense type for which they are charged (see Table A.3 in the Appendix).[35]

[33]In the baseline sample between October 2001 and September 2017, life imprisonment corresponds to 2,822 cases and thus less than 0.3 percent of the overall observations. The results are robust to exclude life sentences from the analysis. It is also worth noting that the USSC data does not allow us to identify death penalty sentences that are screened out of the datafile after 2006. Still, the USSC reports that life sentences are very rare with an average of 226 cases per year between 2004 and 2013. Source: https://www.uscourts.gov/news/2015/08/13/life-sentences-federal-justice-system (accessed on January 10, 2022).

[34]Drug trafficking, especially across state borders, is likely to be judged at the federal level while simple possession is likely to be judged at the state level and thus not recorded in USSC data. Being charged at the federal or state level for drug crimes often depends on the seriousness of the crime such as the amount of the controlled substance.

[35]Table A.2 in the Appendix reports the same descriptive statistics as in Table 2 excluding defendants

4.1 Differences in sentences across groups

The differences in sentences across groups of defendants in Table 2 clearly reflect differences in observables. Some simple regressions, whose specifications are based on the existing literature, allow removing the influence of these differences. Specifically, let Sentence_{icmy} represent the sentence length (in months of imprisonment) for the defendant i, sentenced in the district court c, with $c = 1, ..., 90$, of the Federal Criminal Justice System in the month m of the year y, with $y = 2001, ..., 2017$. Let also define Non-citizen_i as a dummy identifying defendants who are not US citizens, and Hispanic_i and Black_i as dummies taking the value of one for Hispanic and Black defendants respectively, and zero otherwise. $\mathbf{X}_i$ represents a vector of individual controls, which closely follows previous specifications that have been adopted in the literature, e.g., Yang (2015), Cohen and Yang (2019) and McConnell and Rasul (2021) among others. More precisely, $\mathbf{X}_i$ includes age and age squared, a dummy for women, dummies for the number of dependents,[36] dummies for high-school, some college and complete college education (less than high school graduates being the omitted category).

We estimate the following specification on the entire sample of defendants:

$$\begin{aligned}\text{Sentence}_{icmy} =& \boldsymbol{\gamma}'\mathbf{X}_i + d_{\text{trial}} + d_{\text{offense type}} + d_{\text{history}} \times d_{\text{offense level}} + \\ &+ \alpha_1 \text{Non-citizen}_i + \alpha_2 \text{Hispanic}_i + \alpha_3 \text{Black}_i + d_c \times d_y + d_m \times d_y + \epsilon_{icmy}\end{aligned} \tag{2}$$

Eq. (2) also includes dummy variables related to the various characteristics of the case: d_{trial} takes the value of one for cases settled with a trial (as opposed to a plea agreement), $d_{\text{offense type}}$ identifies the primary offense type,[37] d_{history} and $d_{\text{offense level}}$ are respectively dummies identifying the criminal history category (from 1 to 6) and the final offense level (from 1 to 43). The last two sets of dummies are interacted, so that we have one dummy for each of the cells in the sentencing table reproduced in Figure A.2 in the Appendix, following Mustard (2001), Yang (2015), Berdejó and Yuchtman (2013) and McConnell and Rasul (2021). We also interact the dummies d_y both with the dummies for districts d_c, and with month-of-the-year dummies d_m. These interactive fixed effects capture possible differences in sentences across districts and years, e.g., because of differences in the political affiliation of the judges, and over time, e.g., because of changes in federal laws. The coefficients α_1, α_2

sentenced for immigration offenses.

[36] This variable is top-coded at 5.

[37] The main possible primary offense types are reported in Table A.3 in the Appendix.

and α_3 in Eq. (2) measure the average difference in sentence length between non-citizens, Hispanic and Black defendants with respect to defendants who are White citizens.

The first column in Table 3 reports the results obtained when estimating Eq. (2). Consistently with the literature, Black and Hispanic defendants receive, *ceteris paribus*, significantly longer sentences than White citizens (5.0 months and 2.6 months respectively). The difference between non-citizens and White citizens stands at 2.3 months and all coefficients are significant at the 1 percent confidence level. The two coefficients for Hispanics and non-citizens imply therefore that Hispanic non-citizens (the out-group) receive, on average, a prison term that are $2.6 + 2.3 = 4.9$ months longer than White citizens (the in-group). Column (2) reports also the estimates of an extended version of Eq. (2), which includes two interactions between the Non-citizen$_i$, Black$_i$ and, Hispanic$_i$ dummies and shows that the difference between Hispanic and White defendants is independent from the citizenship status of the defendant. The last column of Table 3 reveals that the size of the differential in sentence length between Hispanic and non-Hispanic defendants is stable when we restrict the sample to the 597,934 cases related to citizens.

The differences in sentences across groups in Table 3 could be reflecting discrimination against defendants from minority groups, unobserved heterogeneity or both. For instance, beyond concerns about differences in economic conditions that are only partly captured by the vector of individual controls, the USSC (2020) prescribes that upward departure from the sentencing range can reflect "[p]rior sentence(s) not used in computing the criminal history category", including notably sentences by foreign courts, and the (unobserved, for us) share of defendants that have been sentenced abroad is likely to vary across groups defined on the basis of ethnicity and citizenship. Thus, the stylized facts in Table 3 are uninformative about a possible discrimination against Hispanic defendants in the Federal Justice System.

Table 3: Average differences in sentences across groups

	(1) All	(2) All	(3) Citizens
Black	5.006***	5.168***	4.965***
	(0.356)	(0.383)	(0.362)
Hispanic	2.609***	2.635***	2.572***
	(0.373)	(0.464)	(0.350)
Non citizen	2.287***	3.159***	
	(0.442)	(0.456)	
Black × Non citizen		-2.340***	
		(0.829)	
Hispanic × Non citizen		-0.820	
		(0.666)	
Individual controls	Yes	Yes	Yes
Fixed effects:			
Criminal History × Offense level	Yes	Yes	Yes
Offense Type	Yes	Yes	Yes
Year × Month	Yes	Yes	Yes
District × Year	Yes	Yes	Yes
Observations	969,546	969,546	597,934
Adjusted R^2	0.794	0.794	0.775
Mean Sentence (White)	48.945	48.945	50.245
Mean Sentence (Black)	72.705	72.705	74.563
Mean Sentence (Hispanic)	36.350	36.350	51.949

Notes: *** p <0.01, ** p <0.05, * p < 0.1. Standard errors in parentheses are clustered at the district level. Sample is restricted to US citizens in column (3). The dependent variable is the sentence length in months winsorized at 327 months (including life imprisonment). Individual controls include age, age squared, sex, number of dependents dummies, trial vs. plea and education dummies.

Source: Authors' elaboration on data from the US Sentencing Commission, 2001(Oct.)-2017(Sep.)

5 Identification strategy and main results

If the significantly longer sentences for Hispanic defendants in Table 3 reflect, at least partly, the effect of discrimination, then variations in the prominence of the defendant's ethnic identity could influence the size of the estimated differential in the sentence length between Hispanic and non-Hispanic defendants. Such an effect would be absent if the differences across groups in Table 3 only reflected unobserved heterogeneity. Variations in the number of (largely Latino) immigrants being apprehended along the southwestern border could affect the level of discrimination against Hispanic defendants through two underlying mechanisms. It can increase the salience of the information on ethnic identity contained in the pre-sentencing report. Media coverage of these apprehensions could also negatively affect judges' attitudes toward Hispanic defendants, which could result in longer sentences for these individuals. If the differential in sentence length between Hispanic and non-Hispanic defendants is positively correlated with border apprehensions at the time of sentencing, this would provide evidence of discrimination against Latinos in the Federal Criminal Justice System provided that: (*i*) defendants' unobserved characteristics are orthogonal to apprehensions, and (*ii*) the scale of apprehensions do not convey any legally relevant information to the federal judge. To satisfy these conditions, sample selection criteria related to the type of offense and the citizenship of the defendants must be introduced.

With respect to point (*i*), we discard 371,612 observations related to non-citizens. Observations related to non-citizens are problematic in several respects: First, illegal entry and re-entry into the United States represent criminal offenses that are subject to federal prosecution, but there is a great deal of discretion with respect to which non-citizens are prosecuted for these offenses. Second, the ICE introduced the Secure Communities operation in 2008. This data-sharing program can interfere with the functioning of the justice system for non-citizens: non-citizens with pending charges can be deported before being convicted, and detention in ICE facilities (and possibly the removal before the sentence)[38] can interfere with defendants' ability to obtain legal counsel. Both the discretion in the prosecution of immigration offenses and the scale of interior enforcement operations, which influence the composition of the case-level records in our dataset, might be correlated with border patrolling efforts, and hence apprehensions. Third, the vast majority of defendants

[38] We do not have information on detention in ICE facilities before the sentence; 1,677 observations in our dataset correspond to sentences of non-citizens who had been removed before the sentence.

who are non-citizens in our dataset are undocumented immigrants (313,315 observations),[39] who are mostly sentenced in district courts located along the southwest border (205,518 observations), thus possibly shortly after their arrival in the United States. Their unobserved characteristics might systematically vary with border apprehensions, as the intensity of migrant non-random selection on unobservables is a function of the scale of migration (Borjas, 1987).

As far as point (*ii*) is concerned, we exclude the 22,033 observations related to cases in which citizens are sentenced for an immigration offense. These cases, which disproportionately relate to Hispanic defendants (see Table A.3 in the Appendix), are mostly related to charges of human smuggling (see US GAO, 2019, on this), and a legitimate concern is that apprehensions might convey legally relevant information to the federal judges, e.g., on the scale of the smuggling activities of the illegal organisation to which a defendant belongs to, or that efforts to curb down illegal immigration could be associated with directives by the attorney general to be tough on immigration offenses.[40]

The benchmark specification that we bring to the data, using the subset of observations for citizens sentenced for non-immigration offenses only, can be written as follows:

$$\begin{aligned}\text{Sentence}_{icmy} =& \boldsymbol{\gamma}'\mathbf{X}_i + d_{\text{trial}} + d_{\text{offense type}} + d_{\text{history}} \times d_{\text{offense level}} + \alpha \text{Border app}_{cmy} + \\ &+ \beta_1 \text{Hispanic}_i \times \text{Border app}_{cmy} + [\beta_2 \text{Black}_i \times \text{Border app}_{cmy} +] \\ &+ \text{Hispanic}_i \times d_c + \text{Hispanic}_i \times d_y + [\text{Black}_i \times d_c + \text{Black}_i \times d_y +] \\ &+ d_c \times d_y + d_m \times d_y + \epsilon_{icmy}\end{aligned} \tag{3}$$

where Border app_{cmy} is the time-varying district-specific exposure to border apprehensions defined in Eq. (1), which is first interacted with the Hispanic_i dummy, and then also with the Black_i dummy.[41] We also interact the dummies Hispanic_i and Black_i with dummies d_c for the district court and dummies d_y for the sentencing year. This allows for differences in the average length of the sentence across groups to vary both across space and over time.

The coefficient of interest in Eq. (3) is β_1, which reflects the differential effect of variations in border apprehensions on the sentences received by Hispanic defendants. The identifying

[39] All our results are robust to the inclusion of observations related to legal immigrants in the analysis.

[40] When we re-estimate Eq. (2) dropping immigration offenses, we obtain effects that are qualitatively unchanged and extremely similar in size to the ones obtained on the entire sample as reported in Table A.4 in the Appendix.

[41] We use contemporaneous border apprehensions in Eq. (1), but all the results are robust to the use of one (or longer) lag for border apprehensions; results are available from the Authors upon request.

assumption is that the interaction between Hispanic$_i$ and Border app$_{cmy}$ is orthogonal to the error term ϵ_{icmy}, and the structure of fixed effects plays a key role here. Indeed, consider what might happen if we had omitted the interactions between the dummies Hispanic$_i$ and Black$_i$ with district and year dummies, incorrectly assuming that the differential in sentences between Hispanic and White defendants was invariant across districts and constant over time. Since a positive phase of the business cycle in the United States can increase illegal migration attempts (Hanson and Spilimbergo, 1999), this would, in turn, increase Border app$_{cmy}$ more for districts that are located closer to the southwest border. The sentencing differential between Hispanic and non-Hispanic defendants could change as long as the two groups do not equally share the benefits of good economic conditions or could be differently exposed to competition with new immigrants. If the differential in sentences between Hispanic and White defendants varies across districts, then this would bias the estimate of β_1. Thus, the flexibility in the variation of the differential in sentences across space and time due to the structure of fixed effects is crucial in protecting us from this possible threat to identification.

The identifying variability essentially comes from the correlation between the average difference in sentence length between Hispanic and non-Hispanic citizens judged in different months of the same year for the same type of offense, with the same past criminal history and offense level in a given district court, and the values of the district-level measure of exposure to border apprehensions in that district across months of that year.[42,43] Time-invariant differences across districts in the differential in sentence length between Hispanic and non-Hispanic defendants, or time-varying changes in this differential that are common to all districts do not contribute to identifying β_1. Standard errors are clustered at the district level,[44] and we rely on the Stata command `reghdfe` by Correia (2016) to handle efficiently the rich structure of fixed effects.

While the identifying assumption that corr(Border app$_{cmy}$, ϵ_{icmy}) = 0 is clearly untestable,

[42]To be precise, we also get identifying variability from the varying distance of each district court from the nine sectors of the US-Mexico border, and the distribution of total apprehensions across sectors; the estimates remain virtually unchanged when we remove either or both of these additional sources of identifying variability, by normalizing to unity the sum of weights in Eq. (1), or assigning all apprehensions to El Paso; results are available from the authors upon request.

[43]The inclusion of $d_y \times d_m$ dummies implies that we are also absorbing the effect of common variations across sectors in the intensity of border patrolling efforts which can influence apprehensions.

[44]The results are robust to different choices concerning the level at which standard errors are clustered, as shown in Section 5.4.

we can corroborate its plausibility by running a regression with the variable of interest on the left-hand side, and using the same specification as in Eq. (3) for the other controls and for the structure of fixed effects. A F-test on the null hypothesis that all coefficients are equal to zero rejects it, but this is exclusively due to the dummies for the primary offense type, and in particular to infrequent types of offenses. If we exclude the coefficients of $d_{\text{offense type}}$, reassuringly the F-test has a p-value equal to 0.408.[45]

5.1 Benchmark Estimates

Table 4 reports the main estimates, obtained on a sample of defendants that are all US citizens.[46,47] Column (1) reproduces the estimates in Column (3) of Table 3 in order to gauge the magnitude of the effect of interest.

Column (2), which is based on Eq. (3), allows the differentials between groups of defendants defined on the basis of race and ethnicity to vary across districts and years, providing a test of discrimination against Hispanic defendants. The estimated coefficient for the interaction between border apprehensions and the dummy for Hispanic defendants is positive and significant at the 1 percent confidence level. It captures the effect of a variation in the measure of the local exposure to border apprehensions on the differential in sentences between Hispanic and non-Hispanic citizens. A one-standard-deviation increase in the district-level measure of border apprehensions results in a $0.009 \times 46.808 = 0.42$ months, i.e., approximately 13 days, increase in the differential in sentence length between Hispanic and non-Hispanic defendants; this represents roughly 16 percent of the average time-invariant differential of 2.65 months that is estimated in Column (1). This strongly suggests that this differential between Hispanic and non-Hispanic defendants captures, at least partly, discrimination rather than unobserved heterogeneity. We interpret these findings as reflecting the fact that border apprehensions increase the salience of the Hispanic ethnicity of the defendants, making them more likely to be perceived and judged as members of the out-group (Hispanic non-citizens).

[45] An extended specification of Eq. (3) will fully address any concern related to the different distribution of cases across offense types in periods with different values of apprehensions at the border (see Section 5.2).

[46] See Table A.5 in the Appendix, which reports the coefficients for all variables included in the vector of individual controls $\mathbf{X}_i$.

[47] The results remain virtually unchanged when focusing on the extended sample from January 2000 to October 2017 as reported in Table A.6 in the Appendix.

Table 4: Differential in sentence length between Hispanic and non-Hispanic citizens

	(1)	(2)	(3)
Black	5.021***		
	(0.361)		
Hispanic	2.647***		
	(0.359)		
Border app.		-0.005	-0.006
		(0.003)	(0.004)
Hispanic × Border app.		0.009***	0.011***
		(0.003)	(0.002)
Black × Border app.			0.006
			(0.006)
Individual controls	Yes	Yes	Yes
Fixed effects:			
Criminal History × Offense level	Yes	Yes	Yes
Offense Type	Yes	Yes	Yes
Year × Month	Yes	Yes	Yes
District × Year	Yes	Yes	Yes
Group × District	No	Yes	Yes
Group × Year	No	Yes	Yes
Observations	575,901	575,901	575,901
Adjusted R^2	0.771	0.772	0.772
Std. dev. Border app.	46.808	46.808	46.808
Mean Sentence (White)	50.990	50.990	50.990
Mean Sentence (Black)	74.991	74.991	74.991
Mean Sentence (Hispanic)	57.479	57.479	57.479

Notes: *** p <0.01, ** p <0.05, * p < 0.1. Standard errors in parentheses are clustered at the district level. Sample restricted to US citizens, excluding immigration offenses. Border apprehensions is the monthly weighted number of border apprehensions at the US-Mexico border. Weights are the inverse of the geodesic distance between each US district court and each US border patrol sector headquarter. The dependent variable is the sentence length in months winsorized at 327 months (including life imprisonment). Individual controls include age, age squared, sex, number of dependents dummies, trial vs. plea and education dummies.

Source: Authors' elaboration on data from the US Sentencing Commission, 2001(Oct.)-2017(Sep.) and the US Border Patrol.

Column (3) extends the analysis by interacting the dummy for Black defendants with border apprehensions (and with year and district dummies), as the increased salience of Hispanic identity could also influence sentences toward other minority groups in either direction. Indeed, McConnell and Rasul (2021) find that 9/11, which deteriorated attitudes toward Muslims in the US, also translated into contagious animosity toward other minority groups, notably Hispanics. Fouka and Tabellini (2022) report that recent waves of Mexican immigration improved attitudes toward African Americans, as the internal wave of Black migration had favored the integration of Italian immigrants and of their descendants around one century ago (Tabellini, 2019). The coefficient β_2 of this additional interaction term is not significant, and it does not modify the size of the estimated value of β_1 for Hispanics. This, in turn, implies that the estimated coefficient for the interaction effect in Column (2) is not capturing a variation in the sentence differential taking place within the group of non-Hispanic defendants, i.e., between non-Hispanic White and Black citizens. This also suggests, as in McConnell and Rasul (2021), that the main result might be reflecting an increase in out-group bias rather than greater in-group leniency, i.e., shorter sentences for White defendants.[48]

5.2 Threats to our interpretation

The proposed interpretation of the results in Table 4 suggests that an increase in border apprehensions exposes Hispanic citizens to discrimination. Nevertheless, there is a plausible alternative explanation that would produce the same pattern that we have (so far) uncovered in the data.

Eq. (3) controls for the primary offense type for which each defendant is charged, under the assumption that the effect of the primary offense type on the sentence length is time-invariant. This specification would produce a biased estimate of the coefficient of interest β_1 if: (i) Hispanics are mostly sentenced in districts that are closer to the border, (ii) Hispanic and non-Hispanic defendants are charged for different types of offenses, and either (iii) the share of cases for various offense types correlates with border apprehensions, or (iv) the severity with which judges sentence different types of offenses varies systematically with border apprehensions. More precisely, the estimate would be upward biased if either a

[48] The estimates do not allow us to rule out the possibility that higher in-group leniency is associated with a lower out-group bias toward Black defendants following a rise in the prominence of Hispanic ethnicity.

greater share of Hispanic defendants are sentenced with offenses that receive longer sentences, and whose frequency is positively correlated with apprehensions, or if the offenses for which Hispanics are over-represented are more severely judged when apprehensions increase.

With respect to points (*i*) and (*ii*), Figure A.6 and Table A.3 in the Appendix provide evidence of differences in the distribution across offense types and across districts for Hispanic defendants. As far as point (*iii*) is concerned, the coefficients of the dummies for the primary offense types are jointly significant in a regression where the variable of interest is put on the left-hand side (see Section 5). With respect to point (*iv*), one could, for instance, reasonably conjecture that an increase in border patrolling efforts, which drives up the number of apprehensions (Hanson and Spilimbergo, 1999), might be associated with a recommendation by the attorney general to be tougher on other illegal activities across the border, such as human smuggling and drug trafficking, and the exclusion of immigration offenses from the analysis does not suffice to dismiss this concern. Similarly, judges could be more severe when sentencing defendants charged with these types of offense when efforts to reduce drug trafficking results in more patrolling along the border. A greater severity toward offenses that Hispanic defendants are more likely to be charged with when the number of border apprehensions is high would clearly induce an upward bias in the estimate of β_1.

An approach that fully addresses these concerns is to generalize Eq. (3), introducing a triple interaction between year, month, and primary offense type dummies:

$$\begin{aligned}\text{Sentence}_{icmy} =& \boldsymbol{\gamma}'\mathbf{X}_i + d_{\text{trial}} + d_{\text{history}} \times d_{\text{offense level}} + \alpha \text{Border app}_{cmy} + \\ &+ \beta_1 \text{Hispanic}_i \times \text{Border app}_{cmy} + [\beta_2 \text{Black}_i \times \text{Border app}_{cmy} +] \\ &+ \text{Hispanic}_i \times d_c + \text{Hispanic}_i \times d_y + [\text{Black}_i \times d_c + \text{Black}_i \times d_y +] \\ &+ d_c \times d_y + d_{\text{offense type}} \times d_m \times d_y + \epsilon_{icmy}\end{aligned} \tag{4}$$

Table 5 reports the results obtained from estimating Eq. (4).[49] The estimated values of β_1 are slightly larger than those in Table 5, but the difference between them is not statistically significant. This, in turn, implies that the estimates obtained from the benchmark specification are not confounded by a penalty for offenses that Hispanic defendants are more likely to be charged and that becomes larger when border apprehensions increase.

[49] The sample in Table 5 includes 355 fewer observations than in Table 4, as the Stata command `reghdfe` drops singleton observations, i.e., cases for which a single defendant is judged for a given primary offense type in a given month-year pair.

Table 5: Differential in sentence length between Hispanic citizens and non-Hispanic citizens, with time-varying effects of each primary offense type

	(1)	(2)	(3)
Black	4.919***		
	(0.358)		
Hispanic	2.728***		
	(0.351)		
Border app.		-0.004	-0.004
		(0.004)	(0.004)
Hispanic × Border app.		0.011***	0.012***
		(0.002)	(0.002)
Black × Border app.			0.005
			(0.006)
Individual controls	Yes	Yes	Yes
Fixed effects:			
Criminal History × Offense level	Yes	Yes	Yes
District × Year	Yes	Yes	Yes
Group × District	No	Yes	Yes
Group × Year	No	Yes	Yes
Offense Type × Year × Month	Yes	Yes	Yes
Observations	575,546	575,546	575,546
Adjusted R^2	0.773	0.773	0.773
Std. dev. Border app.	46.810	46.810	46.810
Mean Sentence (White)	50.984	50.984	50.984
Mean Sentence (Black)	74.987	74.987	74.987
Mean Sentence (Hispanic)	57.466	57.466	57.466

Notes: *** p <0.01, ** p <0.05, * p < 0.1. Standard errors in parentheses are clustered at the district level. Sample restricted to US citizens, excluding immigration offenses. Border apprehensions is the monthly weighted number of border apprehensions at the US-Mexico border. Weights are the inverse of the geodesic distance between each US district court and each US border patrol sector headquarter. The dependent variable is the sentence length in months winsorized at 327 months (including life imprisonment). Individual controls include age, age squared, sex, number of dependents dummies, trial vs. plea and education dummies. Source: Authors' elaboration on data from the US Sentencing Commission, 2001(Oct.)-2017(Sep.) and the US Border Patrol.

5.3 Salience or more negative attitudes?

An increase in border apprehensions could deteriorate judges' attitudes toward Hispanic defendants, while their ethnic identity does not become more salient. For instance, federal judges might perceive that a surge in apprehensions is associated with a higher likelihood of recidivism for Hispanic citizens. This could reflect the fact that Hispanic citizens are more directly substitutable to (Latino) immigrant labor, and the increase in immigration could thus deteriorate their future labor market prospects (d'Amuri et al., 2010), or the fact that media reports of apprehensions could be reinforcing the negative stereotypes associated to criminal behavior.

We are not fully able to establish whether just one of the two channels (salience or more negative attitudes) is at play, or to gauge the relative importance of each of the two. Still, we can provide suggestive evidence that apprehensions appear to increase the salience of the ethnic identity of the defendants. We conjecture that Hispanic defendants with either a heavy past criminal record, or who are not US citizens, are presumably more exposed to a deterioration in judges' attitudes, as their profile (past criminal record) is more aligned with the negative stereotypes that surround this minority group, or because foreigners are more closely associated with Hispanic illegal aliens. Against this possibility, we first document that our effect is at play only for defendants without a heavy past criminal record. Then, we show that the differential in sentence length between Hispanic non-citizens and non-Hispanic citizens is uncorrelated with apprehensions.

5.3.1 Low-information cases

The analysis in Section 5 provides empirical evidence that Hispanic defendants can be exposed to discrimination in the Federal Criminal Justice System. Berdejó (2018) argues that discrimination is more likely to occur in so-called low-information cases, where the judge has fewer elements to determine "the defendant's latent criminality and likelihood to recidivate". Indeed, he finds that discrimination in the context of plea-bargaining is more likely to occur for defendants with no prior convictions. In our framework, we assume that federal judges might also be more inclined to rely on the ethnic identity of the defendant as conveying information on her *un*observed characteristics when they have fewer objective elements about the defendant on which they can base their judgment. This echoes the so-called tests of statistical discrimination, as described, for instance, by Farber and Gibbons (1996) and

Table 6: Criminal history category

	(1)	(2)	(3)
Criminal History cat.	All	>2	≤ 2
Border app.	-0.006	-0.004	-0.009***
	(0.004)	(0.006)	(0.003)
Hispanic × Border app.	0.011***	0.006	0.015***
	(0.002)	(0.006)	(0.004)
Black × Border app.	0.006	0.001	0.011
	(0.006)	(0.010)	(0.007)
Observations	575,901	255,628	320,273
Adjusted R^2	0.772	0.748	0.742
Std. dev. Border app.	46.808	43.440	49.266
Mean Sentence (White)	50.990	76.568	37.627
Mean Sentence (Black)	74.991	96.430	42.611
Mean Sentence (Hispanic)	57.479	81.986	44.065

Notes: *** p <0.01, ** p <0.05, * p < 0.1. Standard errors in parentheses are clustered at the district level. Sample restricted to US citizens, excluding immigration offenses. Border apprehensions is the monthly weighted number of border apprehensions at the US-Mexico border. Weights are the inverse of the geodesic distance between each US district court and each US border patrol sector headquarter. The dependent variable is the sentence length in months winsorized at 327 months (including life imprisonment). Individual controls include age, age squared, sex, number of dependents dummies, trial vs. plea and education dummies. All models include the same set of controls and fixed effects as Column (3) in Table 4.
Source: Authors' elaboration on data from the US Sentencing Commission, 2001(Oct.)-2017(Sep.) and the US Border Patrol.

Altonji and Pierret (2001), in the case of labor market discrimination.

Table 6 thus reports estimates on sub-samples defined on the basis of the median value

of the previous criminal history of the defendant. The threshold for the criminal history is 2 (on a one to six scale), and we denote the cases below with a criminal history not higher than this threshold as low-information cases. The estimated value of the coefficient for the interaction term is only significant for low-information cases. The estimates reported in Column (3) in Table 6 reveal that a one-standard-deviation increase in the district-level measure of border apprehensions results in a $0.015 \times 49.266 = 0.74$ months larger differential in sentences between Hispanic and non-Hispanic defendants (approximately 22 days). The size of this effect, which is larger than in the benchmark specification, can be gauged also against the lower average sentences for defendants without a heavy past criminal record reported in Table 6.

5.3.2 Sentences toward Hispanic non-citizens

Distinguishing between the two aforementioned potential explanations of the effect of border apprehensions on the differential in the sentence length between Hispanic and non-Hispanic citizens would be possible if we could identify a group of defendants for which one of these two effects does not play any role. Hispanic non-citizens, that have been excluded from the analysis, represent a plausible candidate as they are certainly even more exposed to labor market competition with new Latino immigrants, and they are five times more likely than Hispanic citizens to face a charge for an immigration offense. Furthermore, the identification of Hispanic non-citizen defendants as an out-group should be *un*related to variations in the salience of Hispanic ethnicity, as it reflects their foreign citizenship (and, for most of them, their illegal status in the United States). This reasoning, then, naturally calls for a placebo, which requires estimating Eq. (3) on a sample including non-Hispanic (White and Black) citizens and Hispanic non-citizens.

As reported in Table A.2 in the Appendix, the dataset includes a similar number of Hispanic citizens (101,103) and of Hispanic non-citizens (108,069) charged with non-immigration offenses, so that the size of this alternative sample is similar to the one used in the benchmark. We thus remove from the estimation sample defendants who are Hispanic citizens, and add defendants who are Hispanic non-citizens. We find no significant effect of the variable of interest on the differential in sentence length between Hispanic non-citizens and non-Hispanic citizens in Table 7, irrespective of whether we also differentiate the latter group

between White and Black defendants.[50] These results have to be interpreted with caution, given the limitations of the data for non-citizens described in Section 5 above. Thus, Table 7 provides only suggestive evidence that the effect of border apprehensions on the differential in the sentence length between Hispanic and non-Hispanic citizens is due to the influence of apprehensions on the salience of the ethnic identity of the defendant for federal judges.

5.4 Robustness checks

This section presents various specifications and robustness checks. We always present the results for the benchmark specification estimated in Column (3) in Table 4 with Hispanic and Black dummies interacted with border apprehensions and controlling for the full vector of fixed effects and controls.

Alternative dependent variables. We replicate the benchmark result using alternative definitions of the dependent variable as reported in Table A.7 in the Appendix. The increase in the sentences for Hispanic defendants uncovered in Table 4 might reflect a lower probability to obtain probation, or a lower (higher) probability of receiving a sentence reflecting a below (above) range departures from the prescribed sentencing range, which is non-mandatory since 2005, as discussed in Section 2. In all cases, we found no significant association between the variable of interest and federal sentences for Hispanic citizens. Thus, the effect that we have uncovered stems from higher sentences that still fall within the range prescribed by the USSC, differently from McConnell and Rasul (2021). This, in turn, entails that the longer sentences that Hispanic citizens receive when there is an increase in border apprehensions do not require the judge to justify her decision and are thus less exposed to the risk of being over-ruled in an appeal. In addition, the results are also robust when we standardize sentence length using the cell-specific mean and standard deviation for each sentencing year-month (Z-score), in line with Cohen and Yang (2019).

[50] It is worth observing that sentences for most Hispanic defendants, irrespective of their citizenship status, are not top-coded, i.e., equal to the upper bound of the sentencing range; only 9.6 and 9.9 percent of citizens and non-citizens respectively receive a within-range sentence that is above the 90 percentile of their recommended guideline range, while bottom-coding is much more frequent. This, in turn, suggests that, for both groups of defendants, federal judges have a similar ability to increase the length of sentences without resorting to an upward departure, which is more likely to be overruled by an appellate court (Schanzenbach and Tiller, 2008).

Alternative clustering. The benchmark specification relies on standard errors clustered at the district level that closely match the level of the treatment (Abadie et al., 2022). Following Cameron and Miller (2015) and MacKinnon and Webb (2020), we provide additional robustness check that the results are robust to clustering at a coarser level in Table A.9 in the Appendix. Indeed, when clustering at the state level in Column (2), the specification still reaches the rule of thumb that the number of clusters should always be above 50 for reliable inference, and allows the disturbances to be correlated within states but across districts. We also provide additional estimates that the significance of the variable of interest is not affected by using standard errors clustered at the district month, group-district, or group-month in Columns (3), (4), and (5) respectively.

Alternative distance. The results are fully robust to the use of road rather than geodesic distance in the definition of the district-level measure of border apprehensions. The correlation between the variable computed with road and geodesic distances stands at 0.99. These results are reported in Table A.10 in the Appendix. We also provide evidence that the results remain virtually unchanged when we normalize the sum of the inverse of all district-sector distances for each district to the mean value of this sum. The correlation between the benchmark variable of interest and the one computed with normalization stands at 0.85. These results are reported in Table A.11 in the Appendix.

Table 7: Differential in sentence between Hispanic non-citizens and non-Hispanic citizens

	(1)	(2)	(3)
Black	4.937***		
	(0.363)		
Hispanic	6.579***		
	(0.511)		
Border app.		-0.001	-0.002
		(0.003)	(0.003)
Hispanic × Border app.		0.003	0.004
		(0.004)	(0.004)
Black × Border app.			0.005
			(0.006)
Individual controls	Yes	Yes	Yes
Fixed effects:			
Criminal History × Offense level	Yes	Yes	Yes
Offense Type	Yes	Yes	Yes
Year × Month	Yes	Yes	Yes
District × Year	Yes	Yes	Yes
Group × District	No	Yes	Yes
Group × Year	No	Yes	Yes
Observations	582,867	582,867	582,867
Adjusted R^2	0.776	0.777	0.777
Std. dev. Border app.	50.611	50.611	50.611
Mean Sentence (White)	50.990	50.990	50.990
Mean Sentence (Black)	74.991	74.991	74.991
Mean Sentence (Hispanic)	54.526	54.526	54.526

Notes: *** p <0.01, ** p <0.05, * p < 0.1. Standard errors in parentheses are clustered at the district level. Sample restricted to non-Hispanic citizens and Hispanic non-citizens, excluding immigration offenses. Border apprehensions is the monthly weighted number of border apprehensions at the US-Mexico border. Weights are the inverse of the geodesic distance between each US district court and each US border patrol sector headquarter. The dependent variable is the sentence length in months winsorized at 327 months (including life imprisonment). Individual controls include age, age squared, sex, number of dependents dummies, trial vs. plea and education dummies.

Source: Authors' elaboration on data from the US Sentencing Commission, 2001(Oct.)-2017(Sep.) and the US Border Patrol.

6 Heterogeneity analysis

This section presents additional specifications, which aim at uncovering the existence of heterogeneity in the baseline effect identified in Table 4. We first split the sample according to defendants' past criminal history, primary offense type or individual characteristics (Section 6.2). Then, we test for the existence of a heterogeneous effect between judges appointed by a Republican or a Democrat president (Section 6.3), and for the districts located along the border with Mexico (Section 6.4).

6.1 Primary offense type

The estimates in Section 5.3.1 might actually reflect the non-random allocation of various offense types across different columns of the sentencing table, which correspond to different past criminal histories. Following Cohen and Yang (2019), Table A.8 in the Appendix breaks down the main sample between drug and non-drug convictions, focusing on all crimes in *Panel A* and only on cases with criminal history category not higher than 2 in *Panel B*.[51] The results suggest that the significance of the coefficient of interest is driven by offenses related to drug trafficking, as in Mustard (2001) and McConnell and Rasul (2021). These results have to be taken with caution since they can either reflect the higher propensity for judges to discriminate against Hispanic citizens convicted for drug trafficking (one of the recurrent stereotypes associated with Hispanics in the US), or a lack of statistical power in other sub-samples to detect any effect.

6.2 Defendants' characteristics

The data from the USSC allow identifying the sex, age and education of each defendant. These variables are used as controls in the benchmark specification, but the effect of interest might be heterogeneous with respect to these characteristics.

Table 8 breaks down the baseline sample by sex in Columns (2) and (3), by education (high school dropout, high school graduates and college graduates) in Columns (4)-(6) and

[51] It is important to note that this last set of results has to be taken with caution as USSC data only provide information on the offense type associated with the count of conviction with the highest statutory maximum. This means that the above offense categories category should not be considered as mutually exclusive.

by age (above and below the median of 34 years) in Columns (7) and (8). The estimates refer either to the entire sample (*Panel A*), or to the subset of low-information cases (*Panel B*).

The effect is significant only for Hispanic male citizens. The insignificant effect for women might reflect the absence of evidence rather than evidence of absence, as women represent just 17 percent of the observations in the benchmark sample and thus statistical power might be insufficient here. Regarding education, the coefficient of interest is only significant (*Panel A*) or at least larger (*Panel B*) for high school dropouts than for high school graduates. In addition, we find no significant effect for college graduates in either of the two panels. Finally, by comparing Columns (7) and (8) in *Panel B*, we find that the association between border apprehensions and the differential in sentence length between Hispanic and White defendants is stronger for younger defendants.

Thus, the estimated effect is larger for the defendants who share the same observable characteristics as the typical Latino immigrant in the US.[52] This set of results is consistent with the idea that Federal judges might be more likely to identify these Hispanic citizens as belonging to the out-group when apprehensions increase, but it does not represent a proper test of this hypothesis, e.g., the average difference in income between White and Hispanic defendants, which can influence the quality of the legal counsel, might vary across the subsamples used in Table 8.

6.3 Judges' characteristics

The USSC does not allow, for confidentiality reasons, to identify the judge who sentenced each case. Cohen and Yang (2019) use confidential data from the Transactional Records Access Clearinghouse (TRAC), to which we do not have access, to link individual defendants with their sentencing judge, and they analyze the influence of judge political affiliation on sentencing decisions in the Federal Justice System. They find that Republican-appointed judges give longer sentences to Black offenders than Democratic-appointed colleagues. Interestingly, they find no significant disparities for Hispanics.

[52] Using the American Community Survey between 2001 and 2017 (Ruggles et al., 2020), we find that the average Hispanic non-citizen is a male (51.8 percent), aged 39.4 years old, and with some secondary education (48.7 percent of Hispanic non-citizens are high school dropouts).

Table 8: Border apprehensions and defendants' characteristics

	All	Male	Female	Less HS	High School	College	Age $\leq$ 34	Age $>$ 34
				Panel A - All cases				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Border app.	-0.006	-0.006*	-0.004	-0.007	-0.003	-0.022***	-0.002	-0.010*
	(0.004)	(0.004)	(0.005)	(0.005)	(0.005)	(0.007)	(0.004)	(0.006)
Hispanic × Border app.	0.011***	0.013***	0.002	0.015**	0.004	0.008	0.009**	0.011**
	(0.002)	(0.003)	(0.004)	(0.006)	(0.003)	(0.008)	(0.005)	(0.004)
Black × Border app.	0.006	0.005	0.017	0.005	0.003	0.009	0.011	-0.003
	(0.006)	(0.006)	(0.010)	(0.012)	(0.006)	(0.017)	(0.013)	(0.006)
Observations	575,901	479,020	96,875	180,568	376,460	43,617	292,411	283,488
Adjusted R^2	0.772	0.765	0.725	0.765	0.777	0.745	0.759	0.787
Std. dev. Border app.	46.808	46.427	48.570	52.392	47.466	40.997	49.531	43.650
Mean Sentence (White)	50.990	56.350	27.680	54.696	52.039	35.680	51.626	50.594
Mean Sentence (Black)	74.991	83.397	23.303	84.712	70.591	34.891	78.215	70.143
Mean Sentence (Hispanic)	57.479	63.703	29.625	60.342	51.303	40.735	55.369	60.887
				Panel B - Cases with criminal history cat. ≤ 2				
	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Border app.	-0.009***	-0.012***	0.004	-0.009**	-0.007	-0.011*	-0.012**	-0.003
	(0.003)	(0.003)	(0.004)	(0.004)	(0.006)	(0.007)	(0.006)	(0.004)
Hispanic × Border app.	0.015***	0.019***	0.002	0.018***	0.011***	0.004	0.017***	0.010*
	(0.004)	(0.006)	(0.004)	(0.004)	(0.003)	(0.009)	(0.004)	(0.006)
Black × Border app.	0.011	0.008	0.018**	0.012	0.010	0.002	0.014	0.006
	(0.007)	(0.008)	(0.008)	(0.012)	(0.007)	(0.018)	(0.012)	(0.007)
Observations	320,273	243,086	77,181	81,850	218,075	39,709	145,528	174,745
Adjusted R^2	0.742	0.740	0.704	0.729	0.754	0.733	0.724	0.761
Std. dev. Border app.	49.266	49.562	48.314	58.627	49.827	40.582	54.541	43.931
Mean Sentence (White)	37.627	42.248	21.545	39.611	37.850	33.377	37.855	37.509
Mean Sentence (Black)	42.611	52.236	17.046	52.420	39.752	28.545	47.612	36.385
Mean Sentence (Hispanic)	44.065	49.808	26.157	47.337	40.374	38.752	42.680	46.258

Notes: *** p <0.01, ** p <0.05, * p < 0.1. Standard errors in parentheses are clustered at the district level. Sample restricted to US citizens, excluding immigration offenses. Border apprehensions is the monthly weighted number of border apprehensions at the US-Mexico border. Weights are the inverse of the geodesic distance between each US district court and each US border patrol sector headquarter. The dependent variable is the sentence length in months winsorized at 327 months (including life imprisonment). Individual controls include age, age squared, sex, number of dependents dummies, trial vs. plea and education dummies. All models include the same set of controls and fixed effects as Column (3) in Table 4.

Source: Authors' elaboration on data from the US Sentencing Commission, 2001(Oct.)-2017(Sep.) and the US Border Patrol.

6.3.1 Data from the *Biographical Directory of Federal Judges*

We take advantage of the information on judges' characteristics from the *Biographical Directory of Federal Judges*, provided by the Federal Judicial Center.[53] These data provide biographical information on presidentially appointed judges since 1789, including the district(s), and the corresponding time period(s), to which each judge was assigned to, his or her ethnicity, and the political affiliation of the President who appointed them. We can use these variables to reconstruct the set of judges serving in each district in a given month, as in McConnell and Rasul (2021), and then compute the month and district-specific share of Hispanic or Republican-appointed judges. As judges are randomly assigned to cases, a higher share of, say, Republican-appointed judges, corresponds to a higher probability that a defendant was sentenced by a Republican-appointed judge.

Over the period of analysis, 56.6 percent (43.4 percent) of federal judges in the period of analysis have been appointed by a Republican (Democratic) President.[54] Only 6.9 percent of Federal judges are Hispanics, and most districts have no Hispanic judge over the period of analysis, so that we do not have enough variability to explore this possible dimension of heterogeneity.

In Table 9, we run a very demanding specification including a triple interaction between the dummy for Hispanic citizens, the measure of border apprehensions, and the share of Republican-appointed judges at the district-month level.

Column (1) and (2) replicate the benchmark results. We find suggestive evidence that the marginal effect of the variable of interest is conditional on the share of Republican-appointed judges in the district as the coefficient of the triple interaction is only weakly significant. This coefficient becomes significant at the 5 percent level when more information is added and the sample extended from January 2000 to October 2017 from columns (3) to (4). The results in column (4) are displayed in Figure 2. Higher levels of border apprehensions increase the Hispanic penalty as long as the likelihood of a defendant being sentenced by a Republican-appointed judge is sufficiently high (which corresponds to a share of Republican-appointed judges in the district above 50 percent). Then, the higher the likelihood to be sentenced by a Republican-appointed judge, the higher the effect of border apprehensions on the sentence

[53] See https://www.fjc.gov/history.

[54] These numbers are very close to the ones found by Cohen and Yang (2019) who reports the number of 43.8 percent of judges appointed by Democratic presidents between 1999 and 2015.

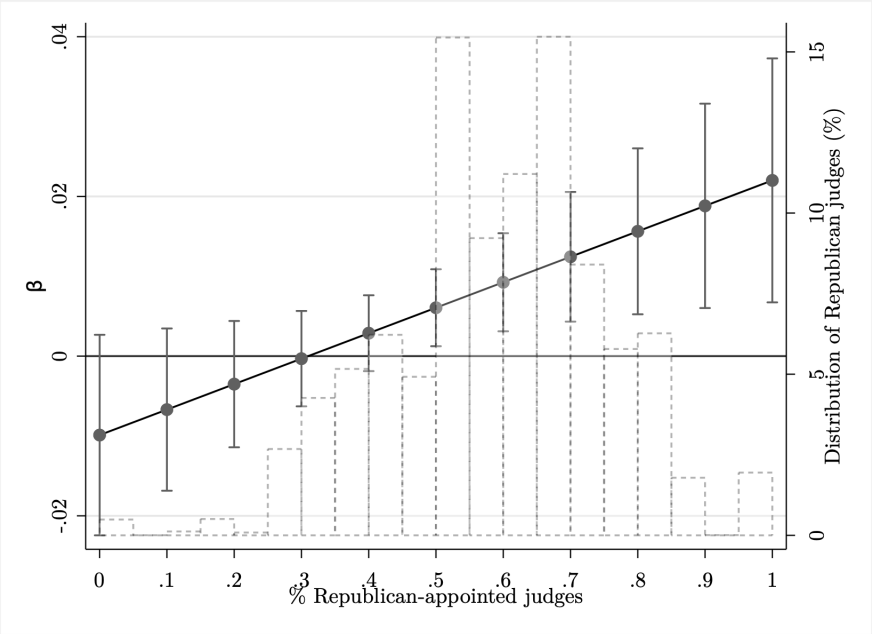
Table 9: Border apprehensions and share of Republican judges

Sample from	(1) Oct. 2001 All	(2) Oct. 2001 ≤ 2	(3) Jan. 2000 All	(4) Jan. 2000 ≤ 2
Border app.	-0.024	-0.015	-0.006	0.000
	(0.016)	(0.013)	(0.010)	(0.007)
Hispanic × Border app.	-0.001	-0.009	-0.006	-0.012
	(0.013)	(0.015)	(0.008)	(0.008)
Share of Rep. judges	-0.945	-0.314	0.190	0.240
	(3.497)	(3.536)	(3.263)	(3.195)
Border app. × Share of Rep. judges	0.031	0.011	0.008	-0.006
	(0.027)	(0.021)	(0.018)	(0.013)
Hispanic × Share of Rep. judges	0.789	-0.524	0.219	-1.216
	(3.001)	(3.754)	(2.971)	(3.163)
Hispanic × Border app. × Share of Rep. judges	0.019	0.040*	0.022	0.038**
	(0.021)	(0.023)	(0.015)	(0.015)
Black × Border app.	0.006	0.012	0.005	0.007
	(0.006)	(0.007)	(0.005)	(0.005)
Observations	575,901	320,273	634,408	355,934
Adjusted R^2	0.772	0.742	0.773	0.742
Std. dev. Border app.	46.808	49.266	60.540	63.824
Mean Sentence (White)	50.990	37.627	49.632	36.364
Mean Sentence (Black)	74.991	42.611	74.737	42.770
Mean Sentence (Hispanic)	57.479	44.065	56.741	43.526

Notes: *** p <0.01, ** p <0.05, * p < 0.1. Standard errors in parentheses are clustered at the district level. Sample restricted to US citizens, excluding immigration offenses. Border apprehensions is the monthly weighted number of border apprehensions at the US-Mexico border. Weights are the inverse of the geodesic distance between each US district court and each US border patrol sector headquarter. The dependent variable is the sentence length in months winsorized at 327 months (including life imprisonment). Individual controls include age, age squared, sex, number of dependents dummies, trial vs. plea and education dummies. All models include the same set of controls and fixed effects as Column (") in Table 4. The share of Republican-appointed judges at the district-month level is obtained from the History of the Federal Judiciary database provided by the Federal Judicial Center, Washington, DC.

Source: Authors' elaboration on data from the US Sentencing Commission, 2001(Oct.)-2017(Sep.) and the US Border Patrol.

Figure 2: Heterogeneity with the share of Republican-appointed judges in the district



Note: This graph depicts the marginal effect of Border app. for Hispanic citizens conditional on the share of democratic judges in the district. Coefficients are obtained from the interaction between the share of democratic judges in the district and the variable of interest in Eq. 3. The share of democratic judges at the district-month level is obtained from the History of the Federal Judiciary database provided by the Federal Judicial Center, Washington, DC. Confidence intervals are presented at the 95 percent level.
Source: Authors' elaboration on data from the US Sentencing Commission, 2000(Jan.)-2017(Sep.) and the US Border Patrol.

differential between White and Hispanic defendants. Figure 2 also suggests no significant discrimination in district-month pairs where Democratic-appointed judges are in the majority. This echoes previous results by Cohen and Yang (2019) who finds that Republican-appointed judges give longer sentences to Black offenders rather than Democratic-appointed judges.

6.3.2 Data from the JUSTFAIR database (Ciocanel et al., 2020)

Ciocanel et al. (2020) have recently combined data from multiple sources that allow identifying, for a large subset of the observations used in our benchmark analysis (310,269 observations), the federal judge that sentenced each case. Table A.12 in the Appendix reproduces our benchmark estimates on the subset of observations included in the JUSTFAIR database,

and then it presents the results obtained when adding a federal judge fixed-effect to Eq. (3). An increase in border apprehensions is associated, in the specification with judge fixed-effects with a significant increase in the differential in sentence length between Hispanic and non-Hispanic citizens.[55]

Table 10 splits the sample between cases sentenced by a federal judge appointed by a Republican or by a Democrat president, excluding or including judge fixed effects. Consistently with the results presented in Table 9, our effect seems to be driven by federal judges appointed by a Republican president, albeit the estimated effect is only marginally significant in Column (5), which includes judge fixed effects.

6.4 Border districts

Apprehensions could have a more direct and stronger influence on the federal judges in the five districts along the border with Mexico (California Southern, Arizona, New Mexico, Texas Western, and Texas Southern). This could be due to several possible factors. First, apprehensions could induce an ensuing increase in the workload of federal judges, as illegal entry (and not just re-entry) can be subject to prosecution in the Federal Justice System since 2005. This channel is probably limited, as most cases are dealt with by magistrate judges, as recalled in Section 2. Second, the prosecution of illegal entry can give federal judges (even though they do not handle these cases) a first-hand access to information about the scale of apprehensions. Third, apprehensions could increase the number of cases related to human smuggling. In the dataset, 22,033 observations correspond to citizens sentenced for an immigration offense (mostly human smuggling), and these observations are concentrated in the five districts along the border. Around two-thirds of these observations are related to Hispanics; more apprehensions increase the future workload of federal judges, and sentences for human smuggling (whose frequency is positively correlated with apprehensions) could deteriorate judges' attitudes toward all Hispanic defendants.

Notice that the vast majority of apprehensions results in a detention by the US Immigration and Customs Enforcement that does not involve federal prisons,[56] so that apprehensions

[55] The size of our effect of interest is larger with the more demanding structure of fixed-effects, where we interact the judge dummies with either geographical (district) or temporal dummies, or both. These additional results are available from the Authors upon request.

[56] "ICE detainees are housed in a variety of facilities across the United States, including but not limited to ICE-owned-and-operated facilities; local, county or state facilities contracted through Intergovernmen-

Table 10: Republican and Democratic judges

	(1) All	(2) Republicans	(3) Democrats	(4) All	(5) Republicans	(6) Democrats
Border app.	-0.010*	-0.010**	-0.007	-0.009*	-0.009*	-0.007
	(0.006)	(0.005)	(0.009)	(0.005)	(0.005)	(0.009)
Hispanic× Border app.	0.010**	0.009**	0.010	0.008**	0.007*	0.010
	(0.004)	(0.004)	(0.007)	(0.004)	(0.004)	(0.008)
Black × Border app.	0.012	0.003	0.025	0.013	0.004	0.025
	(0.012)	(0.012)	(0.019)	(0.012)	(0.012)	(0.019)
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes
Fixed effects:						
Criminal History × Offense level	Yes	Yes	Yes	Yes	Yes	Yes
Offense Type	Yes	Yes	Yes	Yes	Yes	Yes
Year × Month	Yes	Yes	Yes	Yes	Yes	Yes
District × Year	Yes	Yes	Yes	Yes	Yes	Yes
Group × District	Yes	Yes	Yes	Yes	Yes	Yes
Group × Year	Yes	Yes	Yes	Yes	Yes	Yes
Judge	No	No	No	Yes	Yes	Yes
Observations	310,269	176,465	133,725	310,252	176,455	133,719
Adjusted R^2	0.775	0.785	0.765	0.778	0.787	0.767
Std. dev. Border app.	39.383	41.562	36.165	39.384	41.563	36.165
Mean Sentence (White)	51.603	53.023	49.701	51.605	53.023	49.703
Mean Sentence (Black)	72.471	74.710	69.644	72.470	74.711	69.643
Mean Sentence (Hispanic)	56.151	56.342	55.858	56.148	56.342	55.858

Notes: *** p <0.01, ** p <0.05, * p < 0.1. Standard errors in parentheses are clustered at the district level. Sample is restricted to US citizens. Border apprehensions is the monthly weighted number of border apprehensions at the US-Mexico border. Weights are the inverse of the geodesic distance between each US district court and each US border patrol sector headquarter. The dependent variable is the sentence length in months winsorized at 327 months (including life imprisonment). Individual controls include age, age squared, sex, number of dependents dummies, trial vs. plea, and education dummies. Source: Authors' elaboration on data from Ciocanel et al. (2020), 2001(Oct.)-2017(Sep.) and the US Border Patrol.

do not influence the probability that a defendant sentenced in a border district is in or out of custody.[57]

tal Service Agreements, and contractor-owned-and-operated facilities." (Source: https://www.ice.gov/detain/detention-management, last accessed on July 9, 2022).

[57]This would have potentially influenced the estimates if the effect of congestion in detention facilities varied between Hispanic and other defendants.

Table 11: Differential in sentence length between Hispanic citizens and non-Hispanic citizens in border districts and in other districts

Districts	(1) All	(2) Border	(3) Other	(4) All	(5) All
Border apprehensions				= 0 for other districts	= 0 for border districts
Border app.	-0.006	-0.004	-0.007	-0.005*	-0.004
	(0.004)	(0.007)	(0.007)	(0.003)	(0.006)
Hispanic × Border app.	0.011***	0.008***	0.006	0.011***	-0.004
	(0.002)	(0.002)	(0.007)	(0.002)	(0.006)
Black × Border app.	0.006	0.007	0.009	0.001	0.008
	(0.006)	(0.008)	(0.009)	(0.006)	(0.008)
Observations	575,901	79,702	496,197	575,901	575,901
Adjusted R^2	0.772	0.775	0.771	0.772	0.772
Std. dev. Border app.	46.808	81.317	25.350	47.802	25.621
Mean Sentence (White)	50.990	43.540	51.741	50.990	50.990
Mean Sentence (Black)	74.991	62.032	75.588	74.991	74.991
Mean Sentence (Hispanic)	57.479	48.647	65.064	57.479	57.479

Notes: *** p <0.01, ** p <0.05, * p < 0.1. Standard errors in parentheses are clustered at the district level. Samples restricted to US citizens, excluding immigration offenses. Border apprehensions is the monthly weighted number of border apprehensions at the US-Mexico border. Weights are the inverse of the geodesic distance between each US district court and each US border patrol sector headquarter. The dependent variable is the sentence length in months winsorized at 327 months (including life imprisonment). Individual controls include age, age squared, sex, number of dependents dummies, trial vs. plea and education dummies. All models include the same set of controls and fixed effects as Column (3) in Table 4.
Source: Authors' elaboration on data from the US Sentencing Commission, 2001(Oct.)-2017(Sep.) and the US Border Patrol.

We follow two different approaches to test whether the five districts along the border play a pivotal role in the results.[58] We either split the sample between the border districts (79,702

[58]We obtain qualitatively and quantitatively similar evidence when focusing on the eight districts belonging to the four states (California, Arizona, New Mexico and Texas) along the border; results are available

observations) and the remaining eighty-five districts (496,197 observations), or we use the entire sample replacing the district and month-specific measure of apprehensions to zero either for observations related to non-border districts or to the five border districts. In the first (second) case, the identifying variability comes only from border (non-border) districts, but the larger size of the sample gives us more precision for the identification of the other coefficients and fixed effects, as in Berman et al. (2017). The first data column in Table 11 reports the benchmark estimates, while the second data column reveals that the coefficient β_1 is significant at the one percent confidence level for border districts. Conversely, the point estimate of β_1 is not statistically significant in Column (3), which uses the larger subset of observations related to non-border districts. Column (2) implies that a one standard deviation increase in border apprehensions leads to a $0.008 \times 81.317 = 0.65$ months (19 days) increase in the sentence differential between Hispanic and White citizens, larger than the 13 days increase in the total sample. Column (4) in Table 11 reports the estimates obtained when replacing border apprehensions to zero for other (non-border) districts: the point estimate of β_1 stands at 0.011, and it is thus identical to the one obtained in the benchmark specification. Column (5), where border apprehensions are set to zero for border districts, reveals that the effect of interest is not statistically significant when the identifying variability only comes from the eighty-five non-border districts, consistently with Column (3).

The results in Table 11 suggest that 13.8 percent of the cases sentenced in district borders play a pivotal role in the analysis, and it is worth recalling that these are the districts in which the share of Hispanics that are sentenced in the Federal Justice System is the highest in the country (see Figure A.6). The data do not allow us to analyze which factors are driving this dimension of heterogeneity in the results.

7 Concluding remarks

This paper finds that the sentences received by Hispanic citizens in the US Federal Criminal Justice System correlate with large fluctuations in the number of apprehensions of illegal aliens along the US-Mexico border. A one standard deviation increase in the district-specific measure of border apprehensions is associated with an additional 13 days of imprisonment

from the Authors upon request.

for Hispanic citizens. The effect is sizeable when compared to the 80 additional days that Hispanic citizens receive on average compared to defendants who are White citizens with identical observable characteristics, and it suggests that Hispanic defendants are exposed to discrimination. The pattern that we uncover in the data is not explained by a possible time-varying severity (positively correlated with border apprehensions) toward certain types of offenses, and notably drugs trafficking, that represent a larger share of the cases for Hispanic defendants. The longer sentences that Hispanic defendants receive when there is an increase in apprehensions remain within the range prescribed by the US Sentencing Commission, and hence are not subject to justification. Our estimated effect is at play only in low-information cases, and does not apply to Hispanic non-citizens.

The econometric results are consistent with existing evidence that the Federal Justice System is not immune from the influence of legally irrelevant factors (Kahneman et al., 2021),[59] and it seems unlikely that removing the information on the ethnic identity of the defendant from the pre-sentencing report would suffice to remove the influence of the specific form of noise that we uncover. Regarding external validity, the analysis does not capture the effects of salience that can intervene at earlier stages of the judicial procedure and that can magnify differences across groups (Rehavi and Starr, 2014). Furthermore, federal judges are life appointees, so they are probably less exposed than state or local judges to shifts in natives' attitudes toward immigrants. Thus, we can plausibly conjecture that the effect that we uncover might be stronger in state-level courts.[60] Finally, the results focus on a very specific population, namely criminals. Further research would be needed to see whether such time-varying discriminatory behaviors, associated with an increase in the salience of a particular group in the population, may be found in other economic areas such as in the labor market for instance. The paper also suggests that, despite providing major economic gains (Gathmann and Keller, 2018), access to citizenship does not fully protect first and second-generation immigrants from discrimination.

[59] "It should not be surprising that legal procedure has evolved to constrain the influence of salience and other cognitive biases. [...] The legal system seems highly conscious of the influence of salience; we doubt, however, that this influence is wholly eliminated." (Bordalo et al., 2015, p. S31).

[60] We acknowledge that the pivotal role of the five border districts in driving the results weakens this conjecture, as the greater (albeit mostly indirect) exposure of Federal judges in these districts to cases related to apprehensions would not be at play in state-level courts.

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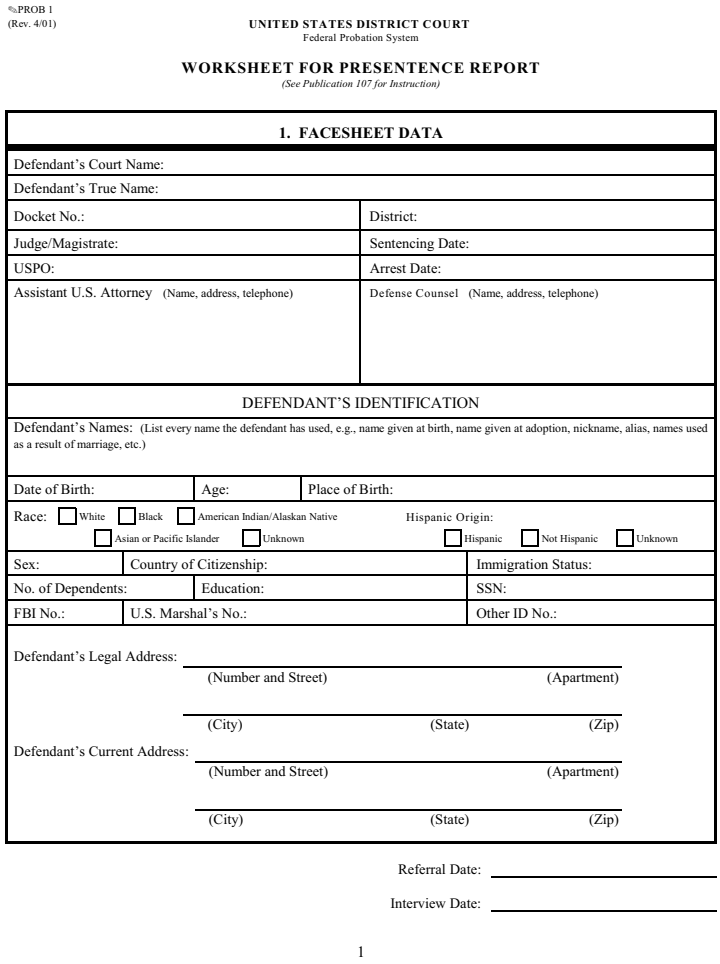
Appendix

Figure A.1: Worksheet for Presentence Investigation Report



PROB 1
(Rev. 4/01)

UNITED STATES DISTRICT COURT
Federal Probation System

WORKSHEET FOR PRESENTENCE REPORT
(See Publication 107 for Instruction)

1. FACESHEET DATA

Defendant's Court Name:	
Defendant's True Name:	
Docket No.:	District:
Judge/Magistrate:	Sentencing Date:
USPO:	Arrest Date:
Assistant U.S. Attorney (Name, address, telephone)	Defense Counsel (Name, address, telephone)

DEFENDANT'S IDENTIFICATION

Defendant's Names: (List every name the defendant has used, e.g., name given at birth, name given at adoption, nickname, alias, names used as a result of marriage, etc.)

Date of Birth:	Age:	Place of Birth:

Race: ☐ White ☐ Black ☐ American Indian/Alaskan Native ☐ Asian or Pacific Islander ☐ Unknown

Hispanic Origin: ☐ Hispanic ☐ Not Hispanic ☐ Unknown

Sex:	Country of Citizenship:	Immigration Status:
No. of Dependents:	Education:	SSN:
FBI No.:	U.S. Marshal's No.:	Other ID No.:

Defendant's Legal Address: _____
(Number and Street) (Apartment)

_____
(City) (State) (Zip)

Defendant's Current Address: _____
(Number and Street) (Apartment)

_____
(City) (State) (Zip)

Referral Date: _____

Interview Date: _____

1

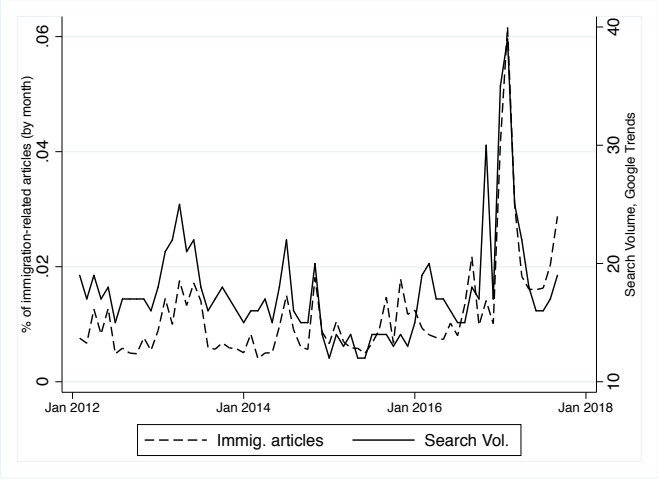
Source: United District Court.

Figure A.2: Sentencing table (months of imprisonment)

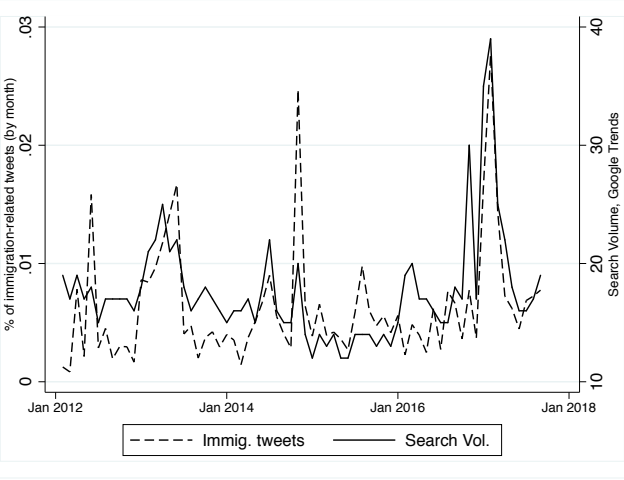
	Offense Level	Criminal History Category (Criminal History Points) I (0 or 1)	II (2 or 3)	III (4, 5, 6)	IV (7, 8, 9)	V (10, 11, 12)	VI (13 or more)
Zone A	1	0–6	0–6	0–6	0–6	0–6	0–6
	2	0–6	0–6	0–6	0–6	0–6	1–7
	3	0–6	0–6	0–6	0–6	2–8	3–9
	4	0–6	0–6	0–6	2–8	4–10	6–12
	5	0–6	0–6	1–7	4–10	6–12	9–15
	6	0–6	1–7	2–8	6–12	9–15	12–18
	7	0–6	2–8	4–10	8–14	12–18	15–21
	8	0–6	4–10	6–12	10–16	15–21	18–24
Zone B	9	4–10	6–12	8–14	12–18	18–24	21–27
	10	6–12	8–14	10–16	15–21	21–27	24–30
	11	8–14	10–16	12–18	18–24	24–30	27–33
Zone C	12	10–16	12–18	15–21	21–27	27–33	30–37
	13	12–18	15–21	18–24	24–30	30–37	33–41
Zone D	14	15–21	18–24	21–27	27–33	33–41	37–46
	15	18–24	21–27	24–30	30–37	37–46	41–51
	16	21–27	24–30	27–33	33–41	41–51	46–57
	17	24–30	27–33	30–37	37–46	46–57	51–63
	18	27–33	30–37	33–41	41–51	51–63	57–71
	19	30–37	33–41	37–46	46–57	57–71	63–78
	20	33–41	37–46	41–51	51–63	63–78	70–87
	21	37–46	41–51	46–57	57–71	70–87	77–96
	22	41–51	46–57	51–63	63–78	77–96	84–105
	23	46–57	51–63	57–71	70–87	84–105	92–115
	24	51–63	57–71	63–78	77–96	92–115	100–125
	25	57–71	63–78	70–87	84–105	100–125	110–137
	26	63–78	70–87	78–97	92–115	110–137	120–150
	27	70–87	78–97	87–108	100–125	120–150	130–162
	28	78–97	87–108	97–121	110–137	130–162	140–175
	29	87–108	97–121	108–135	121–151	140–175	151–188
	30	97–121	108–135	121–151	135–168	151–188	168–210
	31	108–135	121–151	135–168	151–188	168–210	188–235
	32	121–151	135–168	151–188	168–210	188–235	210–262
	33	135–168	151–188	168–210	188–235	210–262	235–293
	34	151–188	168–210	188–235	210–262	235–293	262–327
	35	168–210	188–235	210–262	235–293	262–327	292–365
	36	188–235	210–262	235–293	262–327	292–365	324–405
	37	210–262	235–293	262–327	292–365	324–405	360–life
	38	235–293	262–327	292–365	324–405	360–life	360–life
	39	262–327	292–365	324–405	360–life	360–life	360–life
	40	292–365	324–405	360–life	360–life	360–life	360–life
	41	324–405	360–life	360–life	360–life	360–life	360–life
	42	360–life	360–life	360–life	360–life	360–life	360–life
	43	life	life	life	life	life	life

Source: USSC (2018).

Figure A.3: Media reporting and public attention on immigration-related topics (2012-2017)



(a) Data collected on Factiva

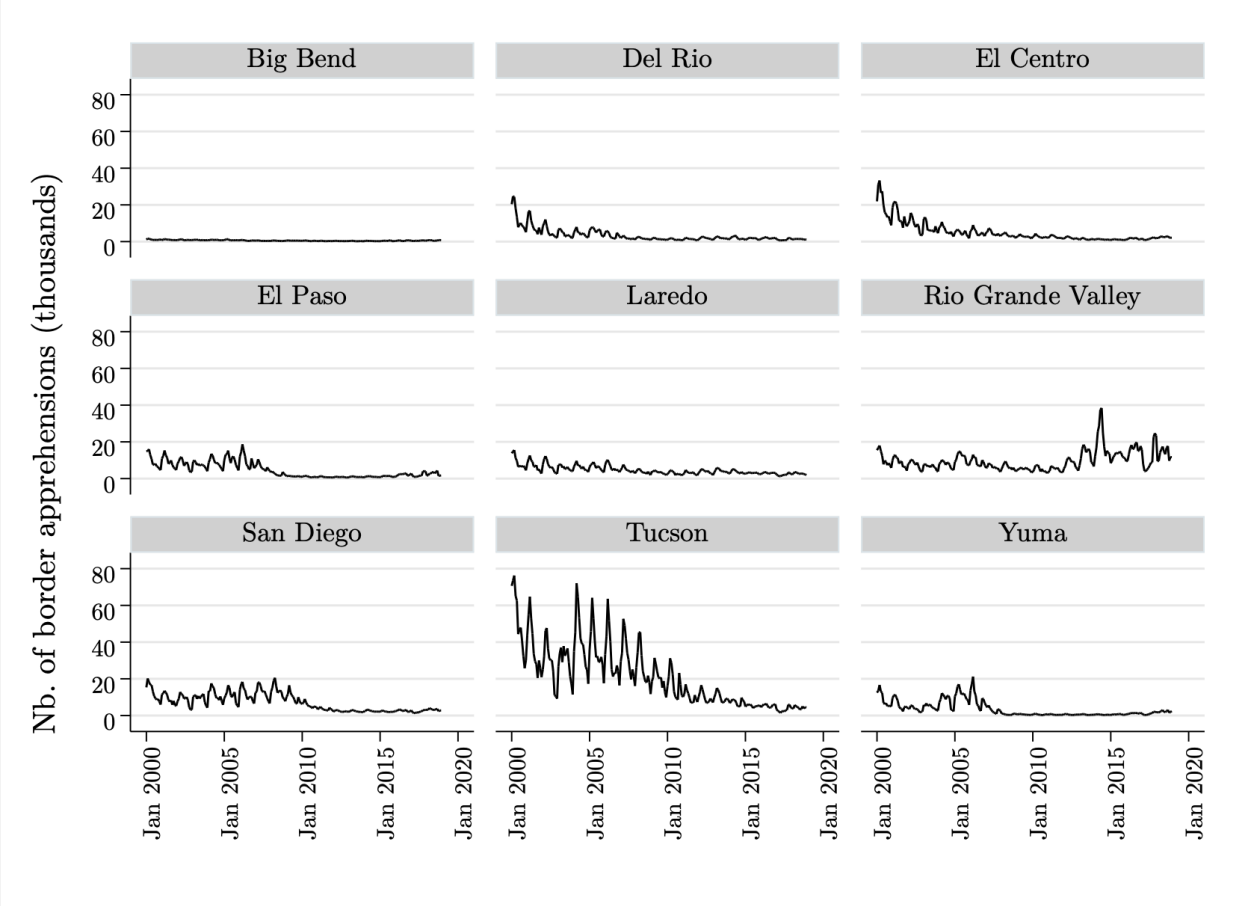


(b) Data collected on Twitter

Notes: For each graph we computed at the monthly level the share of Tweets (articles) in Twitter (Factiva) which are related to immigration over the total number of Tweets (articles) from 2012 to 2017 in eight newspapers. *The New York Times*, *The Washington Post*, *The Wall Street Journal*, *The Chicago Tribune*, *The Los Angeles Times*, *The Boston Globe*, *USA Today* and *The San Jose Mercury*. Data from Google Trends are collected for the United States over the 2004-2017 period. Search volumes represent the Google trends search interest for the Immigration Policy & Border Issues category. They are adjusted to represent a proportional deviation from the highest peak over the period which is scaled at 100.

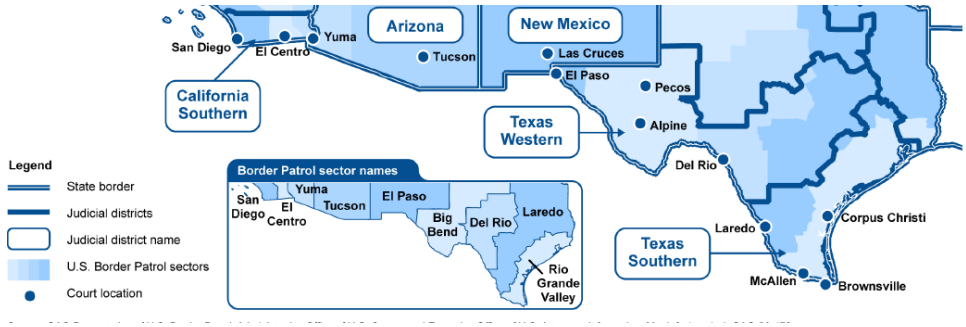
Source: Authors' elaboration on data collected from Factiva, Twitter and Google Trends.

Figure A.4: Monthly number of apprehensions at the southwest border



Source: Authors' elaboration on data from the US border patrol.

Figure A.5: Border patrol sectors at the Southwest border and Federal district courts



Source: GAO Presentation of U.S. Border Patrol, Administrative Office of U.S. Courts, and Executive Office of U.S. Attorneys information; Mapinfo (Map).

Table A.1: Descriptive statistics, Full sample

	Mean	Std. Dev.	Min	Max	Type
Sentence length	48.842	61.174	0	327	Continuous
Criminal history cat.	2.505	1.707	1	6	Categorical
Final offense level	18.782	8.880	1	43	Categorical
Above range	0.030	0.171	0	1	Dummy
Below range	0.440	0.496	0	1	Dummy
Age	35.634	10.930	16	97	Continuous
Female	0.130	0.336	0	1	Dummy
Less than high school	0.484	0.500	0	1	Dummy
High school	0.294	0.455	0	1	Dummy
Some college	0.155	0.362	0	1	Dummy
College	0.055	0.228	0	1	Dummy
Nb. Dependents	1.591	1.578	0	5	Categorical
Trial	0.037	0.189	0	1	Dummy
Border app.	53.565	59.821	2.161	664.741	Continuous
Observations	969,547				

Notes: Sentence length is the sentence length in months winsorized at 327 months (including life imprisonment). and probation sentences are coded as 0. Criminal history cat. is a categorical variable for the defendant's final criminal history category. Final offense level is a categorical variable for the defendant's final offense level, as determined by the court. Above (Below) range is a dummy variable equals to one when the final sentence is above (below) the sentence ranges prescribed in the sentencing report. Age is continuous variable for the age of the defendant. Female is a dummy variable for whether the defendant is a female (vs. male). Less than high school, Some college and College are dummy variables for the defendant's educational attainment. Nb. dependents is a categorical variable with 6 categories for the number of dependents whom the offender supports. Categories are 0, 1, 2, 3, 4 and, 5 dependents and more. Trial is a dummy variable which indicates whether the case was settled by plea agreement or trial.

Source: Authors' elaboration on data from the US Sentencing Commission.

Table A.2: Descriptive statistics by citizenship status, racial and ethnic group
Excluding immigration offenses

Panel A - US citizens

	All		Whites		Blacks		Hispanics	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Sentence length	61.308	69.505	50.990	63.927	74.991	76.257	57.479	62.215
Criminal history cat.	2.634	1.831	2.259	1.703	3.240	1.888	2.259	1.653
Final offense level	20.858	8.919	19.917	9.033	21.507	8.876	21.813	8.486
Above range	0.034	0.180	0.030	0.170	0.044	0.205	0.020	0.141
Below range	0.456	0.498	0.492	0.500	0.399	0.490	0.488	0.500
Age	36.507	11.704	40.027	12.567	33.916	9.965	33.286	10.498
Female	0.168	0.374	0.187	0.390	0.140	0.347	0.183	0.386
Less then high school	0.309	0.462	0.206	0.404	0.365	0.482	0.446	0.497
High school	0.392	0.488	0.409	0.492	0.389	0.488	0.356	0.479
Some college	0.219	0.413	0.256	0.437	0.202	0.401	0.161	0.367
College	0.076	0.265	0.124	0.330	0.039	0.194	0.033	0.179
Nb. dependents	1.371	1.496	1.057	1.317	1.627	1.592	1.607	1.556
Trial	0.050	0.218	0.045	0.207	0.063	0.244	0.033	0.179
Border app.	40.130	46.810	39.391	47.829	30.679	29.899	62.580	63.831
Observations	575,902		254,553		220,246		101,103	

Panel B - Non-citizens

	All		Whites		Blacks		Hispanics	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Sentence length	52.760	57.674	39.148	51.772	51.816	62.798	54.526	57.632
Criminal history cat.	1.443	1.008	1.336	0.902	1.578	1.187	1.443	1.000
Final offense level	21.586	8.604	19.693	8.707	20.796	8.629	21.894	8.554
Above range	0.023	0.150	0.033	0.178	0.040	0.195	0.020	0.141
Below range	0.437	0.496	0.533	0.499	0.413	0.492	0.428	0.495
Age	34.240	10.164	37.534	11.438	36.055	9.513	33.662	9.957
Female	0.095	0.293	0.107	0.310	0.133	0.340	0.090	0.286
Less than high school	0.634	0.482	0.345	0.476	0.324	0.468	0.699	0.459
High school	0.189	0.391	0.254	0.435	0.306	0.461	0.170	0.375
Some college	0.112	0.315	0.221	0.415	0.253	0.435	0.085	0.279
College	0.052	0.222	0.168	0.374	0.109	0.312	0.032	0.177
Nb. dependents	1.800	1.607	1.282	1.498	1.826	1.666	1.862	1.602
Trial	0.038	0.192	0.057	0.232	0.099	0.299	0.030	0.171
Border app.	63.984	74.106	60.972	79.812	28.468	32.515	67.719	75.294
Observations	131,611		13,305		10,237		108,069	

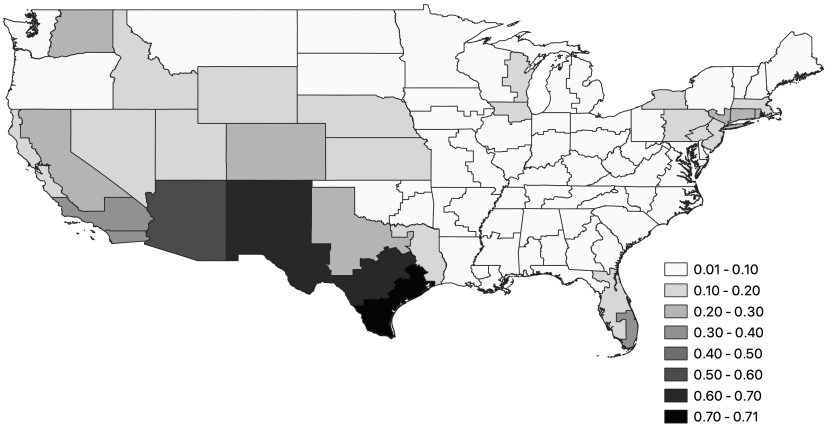
Notes: Sentence length is the sentence length in months winsorized at 327 months (including life imprisonment). and probation sentences are coded as 0. Criminal history cat. is a categorical variable for the defendant's final criminal history category. Final offense level is a categorical variable for the defendant's final offense level, as determined by the court. Upward (Downward) departure is a dummy variable equals to one when the final sentence is above (below) the sentence ranges prescribed in the sentencing report. Age is continuous variable for the age of the defendant. Female is a dummy variable for whether the defendant is a female (vs. male). Less than high school, Some college and College are dummy variables for the defendant's educational attainment. Nb. dependents is a categorical variable with 6 categories for the number of dependents whom the offender supports. Categories are 0, 1, 2, 3, 4 and, 5 dependents and more. Trial is a dummy variable which indicates whether the case was settled by plea agreement or trial. Source: Authors' elaboration on data from the US Sentencing Commission.

Table A.3: Main primary offense types

	All		Whites				Blacks				Hispanics			
	All		Citizens		Non-citizens		Citizens		Non-citizens		Citizens		Non-citizens	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Drugs - Trafficking	329,350	34.0	81,797	31.5	5,635	27.6	91,054	41.0	5,141	36.1	63,464	54.6	82,259	24.4
Immigration	262,034	27.0	5,347	2.1	7,082	34.7	1,568	0.7	3,999	28.1	15,118	13.0	228,920	67.9
Firearms	109,277	11.3	34,851	13.4	509	2.5	55,793	25.2	760	5.3	11,150	9.6	6,214	1.8
Fraud	95,632	9.9	44,509	17.1	3,792	18.6	29,481	13.3	2,665	18.7	7,788	6.7	7,397	2.2
Pornography/Prostitution	23,587	2.4	20,461	7.9	240	1.2	936	0.4	21	0.1	1,449	1.2	480	0.1
Larceny	18,841	1.9	9,747	3.8	279	1.4	6,230	2.8	194	1.4	1,705	1.5	686	0.2
Robbery	15,452	1.6	7,332	2.8	76	0.4	6,728	3.0	74	0.5	1,052	0.9	190	0.1
Administration of Justice	14,610	1.5	6,744	2.6	341	1.7	3,490	1.6	160	1.1	1,979	1.7	1,896	0.6
Traffic Violations and Other Offenses	14,388	1.5	8,501	3.3	407	2.0	3,147	1.4	146	1.0	1,305	1.1	882	0.3
Forgery/Counterfeiting	13,409	1.4	5,824	2.2	194	1.0	5,365	2.4	246	1.7	1,066	0.9	714	0.2
Money Laundering	11,034	1.1	4,099	1.6	598	2.9	1,642	0.7	249	1.7	1,989	1.7	2,457	0.7
Racketeering /Extortion	10,852	1.1	3,858	1.5	297	1.5	3,754	1.7	109	0.8	1,800	1.5	1,034	0.3
Tax Offenses	8,237	0.8	5,716	2.2	179	0.9	1,466	0.7	82	0.6	580	0.5	214	0.1
Embezzlement	6,175	0.6	4,002	1.5	33	0.2	1,592	0.7	37	0.3	445	0.4	66	0.0
Drugs - Communication Facilities	5,484	0.6	1,570	0.6	77	0.4	1,939	0.9	35	0.2	987	0.8	876	0.3
Prison Offenses	5,098	0.5	1,465	0.6	13	0.1	2,028	0.9	36	0.3	1,167	1.0	389	0.1
Assault	5,066	0.5	2,261	0.9	78	0.4	1,303	0.6	53	0.4	715	0.6	656	0.2
Drugs: - Simple Possession	4,941	0.5	2,340	0.9	33	0.2	1,348	0.6	29	0.2	633	0.5	558	0.2
Sexual Abuse	4,095	0.4	2,444	0.9	68	0.3	977	0.4	23	0.2	384	0.3	199	0.1
Bribery	2,743	0.3	1,276	0.5	96	0.5	707	0.3	37	0.3	502	0.4	125	0.0
Environmental Offenses	1,601	0.2	1,351	0.5	61	0.3	59	0.0	11	0.1	75	0.1	44	0.0
Gambling/Lottery	1,136	0.1	956	0.4	32	0.2	77	0.0	0	0.0	59	0.1	12	0.0
Auto Theft	1,037	0.1	488	0.2	48	0.2	310	0.1	24	0.2	103	0.1	64	0.0
Food and Drug Offenses	907	0.1	684	0.3	34	0.2	39	0.0	8	0.1	90	0.1	52	0.0
Civil Rights Offenses	887	0.1	609	0.2	7	0.0	160	0.1	4	0.0	82	0.1	25	0.0
National Defense Offenses	841	0.1	246	0.1	103	0.5	49	0.0	29	0.2	185	0.2	229	0.1
Arson	803	0.1	583	0.2	19	0.1	133	0.1	2	0.0	51	0.0	15	0.0
Murder	724	0.1	288	0.1	27	0.1	196	0.1	9	0.1	118	0.1	86	0.0
Kidnapping/Hostage Taking	653	0.1	150	0.1	12	0.1	115	0.1	50	0.4	95	0.1	231	0.1
Burglary/Breaking and Entering	311	0.0	187	0.1	2	0.0	88	0.0	1	0.0	30	0.0	3	0.0
Antitrust Violations	185	0.0	141	0.1	14	0.1	13	0.0	0	0.0	14	0.0	3	0.0
Manslaughter	157	0.0	73	0.0	1	0.0	27	0.0	2	0.0	41	0.0	13	0.0
Total	969,547		259,900		20,387		221,814		14,236		116,221		336,989	

Source: Authors' elaboration on data from the US Sentencing Commission.

Figure A.6: Share of Hispanic defendants among citizens across districts



Note: Average share of Hispanics among defendants who are US citizens between 2001 and 2017 across districts

Source: Authors' elaboration on data from the US Sentencing Commission.

Table A.4: Average differences in sentences across groups
Excluding immigration offenses

	(1) All	(2) All	(3) Citizens
Black	4.987***	5.086***	5.021***
	(0.353)	(0.370)	(0.361)
Hispanic	2.865***	2.598***	2.647***
	(0.339)	(0.351)	(0.359)
Non citizen	3.193***	2.914***	
	(0.354)	(0.541)	
Black × Non citizen		-1.926***	
		(0.721)	
Hispanic × Non citizen		0.749	
		(0.707)	
Individual controls	Yes	Yes	Yes
Fixed effects:			
Criminal History × Offense level	Yes	Yes	Yes
Offense Type	Yes	Yes	Yes
Year × Month	Yes	Yes	Yes
District × Year	Yes	Yes	Yes
Observations	707,512	707,512	575,901
Adjusted R^2	0.775	0.775	0.771
Mean Sentence (White)	50.402	50.402	50.990
Mean Sentence (Black)	73.962	73.962	74.991
Mean Sentence (Hispanic)	55.953	55.953	57.479

Notes: *** p <0.01, ** p <0.05, * p < 0.1. Standard errors in parentheses are clustered at the district level. Sample restricted to US citizens in column (3). The dependent variable is the sentence length in months winsorized at 327 months (including life imprisonment). Individual controls include age, age squared, sex, number of dependents dummies, trial vs. plea and education dummies.

Source: Authors' elaboration on data from the US Sentencing Commission, 2001(Oct.)-2017(Sep.)

Table A.5: Differential in sentence length between Hispanic and non-Hispanic citizens (All coefficients displayed).

	(1)	(2)	(3)
Black	5.021***		
	(0.361)		
Hispanic	2.647***		
	(0.359)		
Border app.		-0.005	-0.006
		(0.003)	(0.004)
Hispanic × Border app.		0.009***	0.011***
		(0.003)	(0.002)
Black × Border app.			0.006
			(0.006)
Age	0.284***	0.300***	0.300***
	(0.050)	(0.048)	(0.048)
Age^2	-0.004***	-0.004***	-0.004***
	(0.001)	(0.001)	(0.001)
Female	-6.402***	-6.294***	-6.294***
	(0.321)	(0.306)	(0.306)
Nb. dependents=1	-0.729***	-0.766***	-0.767***
	(0.151)	(0.143)	(0.143)
Nb. dependents=2	-1.096***	-1.154***	-1.154***
	(0.199)	(0.194)	(0.194)
Nb. dependents=3	-1.729***	-1.834***	-1.834***
	(0.242)	(0.239)	(0.239)
Nb. dependents=4	-1.865***	-2.010***	-2.010***
	(0.313)	(0.308)	(0.308)
Nb. dependents=5+	-1.024***	-1.160***	-1.160***
	(0.373)	(0.360)	(0.360)
Trial	26.752***	26.706***	26.706***
	(1.362)	(1.368)	(1.368)
High School	-0.993***	-0.920***	-0.921***
	(0.173)	(0.166)	(0.166)
Some College	-2.437***	-2.363***	-2.363***
	(0.217)	(0.212)	(0.212)
College	-4.562***	-4.620***	-4.621***
	(0.403)	(0.380)	(0.380)
Fixed effects:			
Criminal History × Offense level	Yes	Yes	Yes
Offense Type	Yes	Yes	Yes
Year × Month	Yes	Yes	Yes
District × Year	Yes	Yes	Yes
Group × District	No	Yes	Yes
Group × Year	No	Yes	Yes
Observations	575,901	575,901	575,901
Adjusted R^2	0.771	0.772	0.772
Std. dev. Border app.	46.808	46.808	46.808
Mean Sentence (White)	50.990	50.990	50.990
Mean Sentence (Black)	74.991	74.991	74.991
Mean Sentence (Hispanic)	57.479	57.479	57.479

Notes: *** p <0.01, ** p <0.05, * p < 0.1. Standard errors in parentheses are clustered at the district level. Sample restricted to US citizens, excluding immigration offenses. Border apprehensions is the monthly weighted number of border apprehensions at the US-Mexico border. Weights are the inverse of the geodesic distance between each US district court and each US border patrol sector headquarter. The dependent variable is the sentence length in months winsorized at 327 months (including life imprisonment).
Source: Authors' elaboration on data from the US Sentencing Commission, 2001(Oct.)-2017(Sep.) and the US Border Patrol.

Table A.6: Differential in sentence length between Hispanic and non-Hispanic citizens, 2000-2017.

	(1)	(2)	(3)
Black	4.366***		
	(0.276)		
Hispanic	2.373***		
	(0.349)		
Border app.		-0.001	-0.002
		(0.002)	(0.002)
Hispanic × Border app.		0.004**	0.005***
		(0.002)	(0.002)
Black × Border app.			0.005
			(0.005)
Individual controls	Yes	Yes	Yes
Fixed effects:			
Criminal History × Offense level	Yes	Yes	Yes
Offense Type	Yes	Yes	Yes
Year × Month	Yes	Yes	Yes
District × Year	Yes	Yes	Yes
Group × District	No	Yes	Yes
Group × Year	No	Yes	Yes
Observations	880,676	634,408	634,408
Adjusted R^2	0.762	0.773	0.773
Std. dev. Border app.	60.540	60.540	60.540
Mean Sentence (White)	45.127	49.632	49.632
Mean Sentence (Black)	73.368	74.737	74.737
Mean Sentence (Hispanic)	56.041	56.741	56.741

Notes: *** p <0.01, ** p <0.05, * p < 0.1. Standard errors in parentheses are clustered at the district level. Sample restricted to US citizens, excluding immigration offenses. Border apprehensions is the monthly weighted number of border apprehensions at the US-Mexico border. Weights are the inverse of the geodesic distance between each US district court and each US border patrol sector headquarter. The dependent variable is the sentence length in months winsorized at 327 months (including life imprisonment). Individual controls include age, age squared, sex, number of dependents dummies, trial vs. plea and education dummies.

Source: Authors' elaboration on data from the US Sentencing Commission, 2000(Jan.)-2017(Sep.) and the US Border Patrol.

Table A.7: Border apprehensions and sentence differential for Hispanic citizens. Alternative dependent variables

	(1) Sentence length	(2) Z-score	(3) Probation	(4) Above range	(5) Below range
Border app.	-0.00567	-0.00016	0.00002	-0.00001	0.00005
	(0.004)	(0.000)	(0.000)	(0.000)	(0.000)
Hispanic × Border app.	0.01064***	0.00029***	-0.00002	0.00001	-0.00001
	(0.002)	(0.000)	(0.000)	(0.000)	(0.000)
Black × Border app.	0.00583	0.00047**	0.00004	0.00009***	-0.00008
	(0.006)	(0.000)	(0.000)	(0.000)	(0.000)
Observations	575,901	575,901	575,901	575,900	575,900
Adjusted R^2	0.772	0.134	0.461	0.042	0.248
Std. dev. Border app.	46.808	46.808	46.808	46.809	46.809
Mean Sentence (White)	50.990	50.990	50.990	50.990	50.990
Mean Sentence (Black)	74.991	74.991	74.991	74.991	74.991
Mean Sentence (Hispanic)	57.479	57.479	57.479	57.479	57.479
Mean Dep. var.	61.308	-0.013	0.154	0.034	0.456

Notes: *** p <0.01, ** p <0.05, * p < 0.1. Standard errors in parentheses are clustered at the district level. Sample restricted to US citizens, excluding immigration offenses. Border apprehensions is the monthly weighted number of border apprehensions at the US-Mexico border. Weights are the inverse of the geodesic distance between each US district court and each US border patrol sector headquarter. The dependent variable is the sentence length in months winsorized at 327 months (including life imprisonment) in Column (1), the standardize sentence length using the mean and standard deviation in each Guidelines cell in each sentencing year-month (Z-score) in Column (2), a dummy for probation vs. imprisonment in Column (3), a dummy for an above range departure in Column (4), and a dummy for a non-government sponsored below range departure in Column (5) Individual controls include age, age squared, sex, number of dependents dummies, trial vs. plea and education dummies. All models include the same set of controls and fixed effects as Column (3) in Table 4.

Source: Authors' elaboration on data from the US Sentencing Commission, 2001(Oct.)-2017(Sep.) and the US Border Patrol.

Table A.8: Border Apprehensions and Primary Offense Type.

	All	Drugs	No Drugs
Panel A - All cases			
	(1)	(2)	(3)
Border app.	-0.006	-0.004	-0.007
	(0.004)	(0.006)	(0.004)
Hispanic × Border app.	0.011***	0.008	0.007
	(0.002)	(0.006)	(0.005)
Black × Border app.	0.006	-0.010	0.025***
	(0.006)	(0.009)	(0.008)
Observations	575,901	245,127	330,769
Adjusted R^2	0.772	0.765	0.776
Std. dev. Border app.	46.808	54.676	39.498
Mean Sentence (White)	50.990	64.989	43.885
Mean Sentence (Black)	74.991	98.168	57.626
Mean Sentence (Hispanic)	57.479	64.916	44.044
Panel B - Cases with criminal history cat. ≤ 2			
	(1)	(2)	(3)
Border app.	-0.009***	-0.005	-0.009**
	(0.003)	(0.006)	(0.004)
Hispanic × Border app.	0.015***	0.012***	0.010
	(0.004)	(0.004)	(0.006)
Black × Border app.	0.011	-0.006	0.025**
	(0.007)	(0.007)	(0.011)
Observations	320,273	129,525	190,746
Adjusted R^2	0.742	0.735	0.745
Std. dev. Border app.	49.266	59.129	40.227
Mean Sentence (White)	37.627	44.826	34.449
Mean Sentence (Black)	42.611	62.885	29.220
Mean Sentence (Hispanic)	44.065	50.359	31.597

Notes: *** p <0.01, ** p <0.05, * p < 0.1. Standard errors in parentheses are clustered at the district level. Sample restricted to US citizens, excluding immigration offenses. Border apprehensions is the monthly weighted number of border apprehensions at the US-Mexico border. Weights are the inverse of the geodesic distance between each US district court and each US border patrol sector headquarter. The dependent variable is the sentence length in months winsorized at 327 months (including life imprisonment). Individual controls include age, age squared, sex, number of dependents dummies, trial vs. plea and education dummies. All models include the same set of controls and fixed effects as Column (2) in Table 4.
Source: Authors' elaboration on data from the US Sentencing Commission, 2001(Oct.)-2017(Sep.) and the US Border Patrol.

Table A.9: Border apprehensions and sentence differential for Hispanic citizens. Alternative clustering

	(1) District	(2) States	(3) District × Month	(4) District × Group	(5) Group × Month
Border app.	-0.006	-0.006*	-0.006	-0.006*	-0.006
	(0.004)	(0.003)	(0.004)	(0.003)	(0.004)
Hispanic × Border app.	0.011***	0.011***	0.011***	0.011***	0.011***
	(0.002)	(0.002)	(0.003)	(0.002)	(0.003)
Black × Border app.	0.006	0.006	0.006	0.006	0.006
	(0.006)	(0.006)	(0.005)	(0.005)	(0.005)
Observations	575,901	575,901	575,901	575,901	575,901
Adjusted R^2	0.772	0.772	0.772	0.772	0.772
Std. dev. Border app.	46.808	46.808	46.808	46.808	46.808
Mean Sentence (White)	50.990	50.990	50.990	50.990	50.990
Mean Sentence (Black)	74.991	74.991	74.991	74.991	74.991
Mean Sentence (Hispanic)	57.479	57.479	57.479	57.479	57.479

Notes: *** p <0.01, ** p <0.05, * p < 0.1. Standard errors in parentheses are clustered at the district level. Sample restricted to US citizens, excluding immigration offenses. Border apprehensions is the monthly weighted number of border apprehensions at the US-Mexico border. Weights are the inverse of the geodesic distance between each US district court and each US border patrol sector headquarter. The dependent variable is the sentence length in months winsorized at 327 months (including life imprisonment). Individual controls include age, age squared, sex, number of dependents dummies, trial vs. plea and education dummies. All models include the same set of controls and fixed effects as Column (3) in Table 4.

Source: Authors' elaboration on data from the US Sentencing Commission, 2001(Oct.)-2017(Sep.) and the US Border Patrol.

Table A.10: Border apprehensions and sentence differential for Hispanic citizens.

	(1)	(2)	(3)
Black	5.021***		
	(0.361)		
Hispanic	2.647***		
	(0.359)		
Border app. (Road)		-0.006	-0.007
		(0.005)	(0.005)
Hispanic × Border app. (Road)		0.012***	0.014***
		(0.004)	(0.003)
Black × Border app. (Road)			0.008
			(0.008)
Individual controls	Yes	Yes	Yes
Fixed effects:			
Criminal History × Offense level	Yes	Yes	Yes
Offense Type	Yes	Yes	Yes
Year × Month	Yes	Yes	Yes
District × Year	Yes	Yes	Yes
Group × District	No	Yes	Yes
Group × Year	No	Yes	Yes
Observations	575,901	575,901	575,901
Adjusted R^2	0.771	0.772	0.772
Std. dev. Border app.	46.808	46.808	46.808
Mean Sentence (White)	50.990	50.990	50.990
Mean Sentence (Black)	74.991	74.991	74.991
Mean Sentence (Hispanic)	57.479	57.479	57.479

Notes: *** p <0.01, ** p <0.05, * p < 0.1. Standard errors in parentheses are clustered at the district level. Sample restricted to US citizens, excluding immigration offenses. Border apprehensions is the monthly weighted number of border apprehensions at the US-Mexico border. Weights are the inverse of the road distance between each US district court and each US border patrol sector headquarter. The dependent variable is the sentence length in months winsorized at 327 months (including life imprisonment). Individual controls include age, age squared, sex, number of dependents dummies, trial vs. plea and education dummies.

Source: Authors' elaboration on data from the US Sentencing Commission, 2001(Oct.)-2017(Sep.) and the US Border Patrol.

Table A.11: Border apprehensions and sentence differential for Hispanic citizens.

	(1)	(2)	(3)
Black	5.021***		
	(0.361)		
Hispanic	2.647***		
	(0.359)		
Border app. (Norm.)		-0.016**	-0.017**
		(0.007)	(0.007)
Hispanic × Border app. (Norm.)		0.017***	0.019***
		(0.006)	(0.006)
Black × Border app. (Norm.)			0.006
			(0.011)
Individual controls	Yes	Yes	Yes
Fixed effects:			
Criminal History × Offense level	Yes	Yes	Yes
Offense Type	Yes	Yes	Yes
Year × Month	Yes	Yes	Yes
District × Year	Yes	Yes	Yes
Group × District	No	Yes	Yes
Group × Year	No	Yes	Yes
Observations	575,901	575,901	575,901
Adjusted R^2	0.771	0.772	0.772
Std. dev. Border app.	46.808	46.808	46.808
Mean Sentence (White)	50.990	50.990	50.990
Mean Sentence (Black)	74.991	74.991	74.991
Mean Sentence (Hispanic)	57.479	57.479	57.479

Notes: *** p <0.01, ** p <0.05, * p < 0.1. Standard errors in parentheses are clustered at the district level. Sample restricted to US citizens, excluding immigration offenses. Border apprehensions is the monthly weighted number of border apprehensions at the US-Mexico border. Weights are the inverse of the geodesic distance between each US district court and each US border patrol sector headquarter. The sum of all district-sector distances for each district is normalized to the mean. The dependent variable is the sentence length in months winsorized at 327 months (including life imprisonment). Individual controls include age, age squared, sex, number of dependents dummies, trial vs. plea and education dummies.

Source: Authors' elaboration on data from the US Sentencing Commission, 2001(Oct.)-2017(Sep.) and the US Border Patrol.

Table A.12: Differential in sentence length between Hispanic and non-Hispanic citizen, with judge fixed effects

	(1)	(2)	(3)	(4)
Border app.	-0.010*	-0.009*	-0.009*	-0.009
	(0.006)	(0.005)	(0.005)	(0.006)
Hispanic × Border app	0.010**	0.008**	0.008**	0.010**
	(0.004)	(0.004)	(0.004)	(0.004)
Black × Border app.	0.012	0.013	0.013	0.013
	(0.012)	(0.012)	(0.012)	(0.012)
Individual controls	Yes	Yes	Yes	Yes
Fixed effects:				
Criminal History × Offense level	Yes	Yes	Yes	Yes
Offense Type	Yes	Yes	Yes	Yes
Year × Month	Yes	Yes	Yes	Yes
District × Year	Yes	Yes	Yes	Yes
Group × District	Yes	Yes	Yes	Yes
Group × Year	Yes	Yes	Yes	Yes
Judge	No	Yes	No	No
Judge × District	No	No	Yes	No
Judge × Year	No	No	No	Yes
Observations	310,269	310,252	310,252	309,908
Adjusted R^2	0.775	0.778	0.778	0.779
Std. dev. Border app.	39.383	39.384	39.384	39.378
Mean Sentence (White)	51.603	51.605	51.605	51.608
Mean Sentence (Black)	72.471	72.470	72.470	72.470
Mean Sentence (Hispanic)	56.151	56.148	56.148	56.152

Notes: *** p <0.01, ** p <0.05, * p < 0.1. Standard errors in parentheses are clustered at the district level. Sample restricted to US citizens. Border apprehensions is the monthly weighted number of border apprehensions at the US-Mexico border. Weights are the inverse of the geodesic distance between each US district court and each US border patrol sector headquarter. The dependent variable is the sentence length in months winsorized at 327 months (including life imprisonment). Individual controls include age, age squared, sex, number of dependents dummies, trial vs. plea and education dummies.

Source: Authors' elaboration on data from Ciocanel et al. (2020), 2001(Oct.)-2017(Sep.) and the US Border Patrol.

Table A.13: Border app. by federal district (1/3)

Districts	Observations	Mean	Std. Dev.	Min	Max
Maine	2,468	15.038	8.360	3.104	42.389
Massachusetts	7,097	16.078	8.937	3.395	45.593
New Hampshire	2,720	15.639	8.579	3.324	44.988
Rhode Island	1,960	15.588	8.821	3.395	45.457
Connecticut	5,611	16.338	8.965	3.496	46.738
New York North	5,809	16.730	9.368	3.600	48.575
New York East	16,419	18.079	9.579	3.565	47.429
New York South	21,184	17.214	9.619	3.629	48.432
New York West	8,134	18.381	10.170	3.936	52.842
Vermont	2,722	16.193	9.433	3.390	45.958
Delaware	1,630	18.960	10.376	3.877	50.826
New Jersey	11,621	18.046	9.687	3.736	49.420
Penn. East	12,186	18.236	10.078	3.838	50.724
Penn. Mid	6,665	19.113	10.411	3.920	52.032
Penn. West	6,300	19.314	10.547	4.215	55.814
Maryland	10,565	17.473	9.776	4.025	52.666
N Carolina East	9,324	19.225	10.526	4.323	54.897
N Carolina Mid	6,705	20.672	11.572	4.647	58.762
N Carolina West	7,517	24.531	12.878	5.058	63.308
South Carolina	14,895	23.225	12.256	4.955	61.278
Virginia East	17,244	20.056	10.544	4.165	53.827
Virginia West	6,788	22.095	11.167	4.526	58.144
W Virginia North	4,787	20.194	11.167	4.420	57.600
W Virginia South	3,999	21.716	12.134	4.729	60.922
Alabama North	6,933	29.205	15.337	6.549	78.226
Alabama Mid	3,253	27.349	13.963	6.465	75.524
Alabama South	5,538	29.816	14.845	7.213	82.145
Florida North	5,255	26.898	13.650	6.193	71.510
Florida Mid	22,831	22.735	11.817	5.318	62.464
Florida South	30,063	21.150	11.091	4.998	58.873

Table A.14: Border app. by federal district (cont'd 2/3)

Districts	Observations	Mean	Std. Dev.	Min	Max
Georgia North	9,756	26.139	13.837	5.779	70.234
Georgia Mid	5,305	25.029	13.147	5.773	68.776
Georgia South	5,017	22.208	11.891	5.342	64.415
Louisiana East	5,592	36.150	17.613	9.097	95.956
Louisiana West	5,096	43.776	22.435	10.355	110.050
Mississippi North	2,685	32.658	17.041	7.504	88.506
Mississippi South	5,040	35.823	17.753	8.226	91.801
Texas North	16,813	58.933	33.092	13.596	174.923
Texas East	13,074	47.602	24.256	11.963	128.734
Texas South	98,946	84.001	37.193	26.141	202.213
Texas West	84,981	82.482	44.184	21.658	241.547
Kentucky East	7,798	23.337	12.614	5.195	66.415
Kentucky West	4,583	26.748	14.428	5.883	74.467
Michigan East	12,141	20.693	11.771	4.469	60.858
Michigan West	5,962	22.025	12.152	4.589	63.561
Ohio North	12,111	22.195	11.796	4.613	61.212
Ohio South	8,918	21.666	12.027	4.807	62.864
Tennessee East	10,741	23.453	12.769	5.543	69.000
Tennessee Mid	4,337	27.103	14.695	6.071	75.303
Tennessee West	8,389	29.798	16.351	6.797	83.453
Illinois North	13,645	26.981	14.752	5.381	73.116
Illinois Cent	5,382	27.352	14.989	5.814	77.574
Illinois South	5,176	27.400	15.091	6.146	79.411
Indiana North	5,796	24.242	13.612	5.123	68.296
Indiana South	5,026	23.485	13.155	5.451	71.001
Wisconsin East	5,450	23.077	13.202	4.879	67.892
Wisconsin West	2,427	25.432	14.296	5.049	71.327
Arkansas East	5,250	32.775	17.729	7.969	96.252
Arkansas West	3,663	35.171	18.856	8.914	106.812
Iowa North	5,744	28.679	16.308	5.866	82.932
Iowa South	5,743	29.055	16.486	6.230	86.552

Table A.15: Border app. by federal district (cont'd 3/3)

Districts	Observations	Mean	Std. Dev.	Min	Max
Minnesota	6,296	25.976	14.578	5.074	74.218
Missouri East	12,660	30.850	16.456	6.684	86.948
Missouri West	11,847	33.361	18.822	7.206	95.401
Nebraska	8,940	38.315	22.179	7.091	107.056
North Dakota	3,087	23.796	14.744	5.217	80.318
South Dakota	3,146	30.133	18.158	6.054	92.840
Arizona	67,744	124.395	89.809	17.727	442.471
California North	8,032	41.306	26.372	7.095	127.528
California East	9,466	47.587	30.265	8.068	147.737
California Central	18,691	107.099	69.832	17.465	327.452
California South	28,368	199.652	142.569	38.395	664.741
Hawaii	1,655	13.078	7.380	2.161	33.847
Idaho	4,019	32.674	21.005	6.202	107.718
Montana	4,021	30.971	18.783	5.515	91.095
Nevada	7,922	51.107	33.218	8.633	161.552
Oregon	6,475	31.192	19.232	5.715	99.553
Washington East	5,061	27.137	16.793	4.968	83.970
Washington West	7,952	26.800	16.012	4.687	79.088
Colorado	7,519	52.424	32.291	9.237	157.741
Kansas	9,279	40.333	23.033	8.338	118.567
New Mexico	45,621	69.664	48.920	14.816	271.996
Oklahoma North	2,745	39.300	21.314	8.822	114.395
Oklahoma East	1,210	44.437	23.593	9.890	121.170
Oklahoma West	4,133	44.283	25.946	10.319	139.094
Utah	10,853	56.774	36.243	9.301	175.939
Wyoming	3,829	38.086	23.419	7.006	118.363
Dist of Columbia	5,669	20.392	10.889	4.058	53.021
Alaska	1,994	11.592	7.125	2.223	34.622
Louisiana Middle	2,503	38.173	18.779	9.585	101.148

Note: Districts are ordered according to the district numeric code in the USSC dataset. The number of observations is the number of sentences in the USSC dataset by district; the descriptive statistics refer to the district and month-specific measure of apprehensions.

Source: Authors' elaboration on data from the US Sentencing Commission, 2001(Oct.)-2017(Sep.) and the US Border Patrol.