# A Online Appendix A

Figure A1: Distribution of Hispanic Complainants and Population in Dallas, by Census Tract (a) Share of incidents with Hispanic complainant (b) Share of Census Tract that is Hispanic



NOTE: Panel (a) uses incident-level data from the Dallas Police Department between 2014 and 2016, and shows the share of incidents in each Census tract with a Hispanic complainant. Panel (b) uses uses tract-level data from the 2010 Census (TIGER/Line Shapefiles, 2017) to show the share of each tract's population that is Hispanic.

Figure A2: Total Number of Incidents Reported, by Hispanic Ethnicity



(a) Raw Data

(b) Difference-in-Differences Estimates

(b) Difference-in-Differences Estimates



NOTE: This figure uses incident-level data from the Dallas Police Department between 2014 and 2016. Panel (a) plots the raw total number of incidents reported by Hispanic and non-Hispanic complainants (left and right y-axis, respectively). The dashed gray line represents the launch of PEP in the third quarter of 2015. Panel (b) plots the time coefficients from equation (1) (i.e., reporting by the control group) against the sum of the time coefficients and the corresponding Hispanic  $\times$  time interactions (i.e., reporting by the treatment group). The dependent variable is the logged number of all incidents reported by that ethnicity, in that tract, and time period; I add one to the count prior to applying the log transformation. The coefficient and standard error reported are the difference-in-differences estimates from equation (2). Standard errors are clustered at the Census tract level.

Figure A3: Dallas Police Department Clearance Rates, by Hispanic Ethnicity

05 Ξ Coefficient on Hispanic x Quarter Share cleared 60 c 08 0. 90 2016q1 2014q3 2014q1 2015q1 2015q3 2016q3 .05 Calendar time -5 -4 -3 -2 -1 0 2 - Hispanic ----- Non-Hispanic Quarters relative to Quarter 2 of 2015

NOTE: This figure uses incident-level data from the Dallas Police Department between 2014 and 2016. An incident is considered "cleared" if it was cleared by arrest or if it was marked as closed. Panel (a) plots the raw data of clearance rates for all incidents reported by Hispanics and non-Hispanics. The dashed gray line represents the launch of PEP in the third quarter of 2015. Panel (b) plots the coefficients on Hispanic  $\times$  Quarter from an analogous version of equation (1), in which the dependent variable is the clearance rate of incidents reported by ethnicity *h*, in neighborhood *n*, and time period *t*. Standard errors are clustered at the Census tract level.





NOTE: This figure plots the likelihood that an arrestee or suspect is Hispanic using data from the Dallas Police Department. Both panels only consider arrestees and suspects that can be linked to incidents that were reported by non-Hispanic individuals in the incident-level data. Data are missing for some months in 2014 and 2016 due to changes in the DPD's Records Management System. Hispanic arrestees and suspects are identified using the race or ethnicity marked down by the DPD. Both panels regress an indicator variable denoting whether an arrestee or suspect is Hispanic on year  $\times$  quarter, calendar month, and neighborhood fixed effects. The estimates shown are those from the year  $\times$  quarter coefficients (with the difference in probability centered at zero in the second quarter of 2015).



Figure A5: Number of Victimizations, by Hispanic Ethnicity

NOTE: This figure plots the number of criminal victimizations experienced by Hispanic and non-Hispanic individuals in each year and quarter using the National Crime Victimization Survey. Incidents include both violent and property victimizations. Panel (a) considers all incidents nationwide, and panel (b) considers incidents occurring in the Southern region of the country.



Figure A6: Changes in the Number of Hispanic Individuals Arrested for Traffic-Related Violations





NOTE: This figure uses arrest data from the Dallas Police Department and focuses on individuals arrested for traffic-related violations (e.g., speeding, DWIs) that do not have a corresponding incident report (96% of traffic-related arrests). Panel (a) plots the share of traffic violation arrestees that are Hispanic. Panel (b) plots the coefficients on Hispanic  $\times$  Quarter from an analogous version of equation (1), which uses the logged number of traffic violation arrestees of ethnicity *h*, in neighborhood *n*, and time period *t* as the dependent variable. I add one to the count prior to applying the log transformation. The dashed gray line indicates the launch of PEP.



Figure A7: Share of Population that is Hispanic, 2012–2016

NOTE: This figure uses the 2012–2016 American Community Survey (Ruggles et al., 2019) to plot the share of the population that is Hispanic, that is non-citizen Hispanic, and that is non-citizen Hispanic with a high school education or less. The first panel considers the Dallas-Forth Worth-Arlington (DFW) metropolitan area and the second panel considers the Public Use Microdata Areas (PUMAs) representing Dallas County.





NOTE: This figure uses student enrollment reports from the Texas Education Agency's Public Education Information Management System (PEIMS) to plot the share of enrolled students who are Hispanic in Dallas County and in the Dallas Independent School District.



Figure A9: Employment and Economic Outcomes in Dallas Area

NOTE: Panel (a) uses the American Community Survey (Ruggles et al., 2019) to plot the share of the Hispanic and non-Hispanic population ages 25–64 that is employed in the Public Use Microdata Areas (PUMAs) representing Dallas County. Panel (b) uses the same data to plot the overall poverty rate for the Hispanic and non-Hispanic population in the PUMAs representing Dallas County. Panel (c) uses data from U.S. Bureau of Labor Statistics (2018) to plot the monthly unemployment rate in the Dallas-Forth Worth-Arlington (DFW) Metropolitan Area. Because 40% of Dallas' population is Hispanic, if the unemployment rate of the Hispanic population suddenly increased while that of non-Hispanics stayed constant, then we should expect the aggregate unemployment rate to increase as well.

|                                 | Violent & Prop. Crimes |                    | Mu                | rder             |  |
|---------------------------------|------------------------|--------------------|-------------------|------------------|--|
|                                 | (1)<br>Baseline        | (2)<br>Poisson     | (3)<br>Baseline   | (4)<br>Poisson   |  |
| Hispanic x Start of PEP         | 0.037**<br>[0.019]     | 1.043**<br>[0.018] | -0.011<br>[0.007] | 0.775<br>[0.188] |  |
| Mean of Outcome<br>Observations | 2.22<br>6,740          | 15.22<br>6,740     | 0.03<br>6,740     | 0.05<br>6,740    |  |

Table A1: Effect of PEP on Reporting of Serious Crimes Using Alternative Regression Specifications

NOTE: Columns 1 and 3 reproduce the main estimates (shown in Table 2). Columns 2 and 4 report incidence rate ratios from Poisson regressions, in which the dependent variable is the number of incidents reported by that ethnicity, in that neighborhood, and time period. Standard errors are clustered at the Census tract level.

Table A2: Effect of PEP on Reporting of Serious Crimes Using Alternative Definitions of Neighborhoods & Ethnicity and Ways of Measuring Reported Crime

|                         | (1)<br>Police<br>Beats | (2)<br>Using<br>Names | (3)<br>One<br>Complainant | (4)<br>Reported<br>Crime Rate |
|-------------------------|------------------------|-----------------------|---------------------------|-------------------------------|
| Hispanic x Start of PEP | 0.065***<br>[0.019]    | 0.041**<br>[0.018]    | 0.038**<br>[0.018]        | 0.078***<br>[0.028]           |
| Mean of Outcome         | 2.86                   | 2.15                  | 2.18                      | 0.98                          |
| Average Incidents       | 21.92                  | 13.92                 | 34.32                     | -                             |
| Observations            | 4,680                  | 6,740                 | 6,740                     | 6,163                         |

NOTE: Column 1 changes the definition of neighborhood from Census tract to DPD police beat. Column 2 uses a complainant's surname to identify whether he or she is Hispanic. For individuals with more than one surname, I match each surname individually and jointly to the 2010 genealogical records of surnames. If any of the probabilities are greater than 80%, then I identify that individual as Hispanic. Column 3 only counts each incident once in the incident-level data. If any of the complainants were non-Hispanic, I assume the incident was reported by a non-Hispanic individual. In columns 1–3, the dependent variable is the logged number of serious incidents reported by that ethnicity, in that neighborhood, and time period; I add one to the count prior to applying the log transformation. Column 4 uses the reported crime rate (the number of serious incidents reported by ethnicity h divided by the population of ethnicity h in that Census tract) as the dependent variable. "Average incidents" refers to the average number of incidents per neighborhood per quarter. Standard errors are clustered at the neighborhood level (i.e., police beat in column 1 and Census tract in the remaining columns).

|                   | Official Clearance Rate |              |           | Logged Number of Clearances |              |           |
|-------------------|-------------------------|--------------|-----------|-----------------------------|--------------|-----------|
|                   | (1)                     | (2)          | (3)       | (4)                         | (5)          | (6)       |
|                   | Serious                 | Non-criminal | Low-level | Serious                     | Non-criminal | Low-level |
|                   | Crimes                  | Incidents    | Offenses  | Crimes                      | Incidents    | Offenses  |
| Hispanic x PEP    | 0.005                   | 0.008        | -0.004    | 0.031                       | 0.079***     | -0.002    |
|                   | [0.008]                 | [0.007]      | [0.011]   | [0.024]                     | [0.022]      | [0.021]   |
| Mean of Outcome   | 0.12                    | 0.11         | 0.13      | 0.73                        | 0.66         | 0.44      |
| Average Incidents | -                       | -            | -         | 1.89                        | 1.56         | 0.92      |
| Observations      | 5,917                   | 5,951        | 5,524     | 6,740                       | 6,740        | 6,740     |

Table A3: Effect of PEP on Official Clearance Rates and Number of Cleared Incidents

NOTE: In columns 1–3, the dependent variable is the Dallas Police Department's official clearance rate (the share of reported incidents that were cleared). Columns 4–6 use the logged number of cleared incidents as the dependent variable; I add one to the count prior to applying the log transformation. "Serious crimes" refers to violent and property crimes. In columns 4–6, "Average incidents" refers to the average number of cleared incidents per tract per quarter. Standard errors are clustered at the Census tract level.

Table A4: Effect of PEP on Reporting of Crimes Using Neighborhoods With More vs. Fewer Foreign-Born Non-Citizens from Latin America

|                   | Fewer Non-Citizens |              |           | More Non-Citizens |              |           |
|-------------------|--------------------|--------------|-----------|-------------------|--------------|-----------|
|                   | (1)                | (2)          | (3)       | (4)               | (5)          | (6)       |
|                   | Serious            | Non-criminal | Low-level | Serious           | Non-criminal | Low-level |
|                   | Crimes             | Incidents    | Offenses  | Crimes            | Incidents    | Offenses  |
| Hisp. x PEP       | 0.050*             | 0.055*       | 0.066***  | 0.025             | 0.099***     | 0.032     |
|                   | [0.030]            | [0.031]      | [0.025]   | [0.023]           | [0.026]      | [0.028]   |
| Mean of Outcome   | 1.87               | 1.81         | 1.33      | 2.57              | 2.43         | 1.89      |
| Average Incidents | 12.98              | 12.06        | 5.99      | 17.51             | 15.02        | 8.03      |
| Observations      | 3,360              | 3,360        | 3,360     | 3,360             | 3,360        | 3,360     |

NOTE: This table reports the difference-in-differences estimates from equation (2) after splitting Census tracts into two groups using data from Manson et al. (2017). "Fewer Non-Citizens" refers to tracts in which the share of foreign-born non-citizens from Latin America is in the bottom half of the distribution (i.e., less than 10% of the tract's population is foreign-born non-citizen from Latin America). "More Non-Citizens" refers to tracts in the top half of the same distribution. The dependent variable is the logged number of incidents reported by that ethnicity, in that tract, and time period; I add one to the count prior to applying the log transformation. "Average incidents" refers to the average number of incidents per tract per quarter in that subsample. Standard errors are clustered at the tract level.

| Date         | Title  |
|--------------|--|
| January 8    | "Dallas County coalition forms to educate residents on new immigration initiatives"  |
| January 15   | "Dallas County Sheriff joins amicus brief in support of U.S. government's immigration measures"                                |
| February 18  | "Top Texas Republicans cheer temporary halt to Obama immigration actions as 'victory for the rule of law' "                    |
| March 16     | "Sanctuary cities bill resurfaces four years after going down hard in defeat"  |
| May 20       | "ICE chief says immigration removals focus on convicted criminals"   |
| May 25       | "Sheriff don't work with ICE"  |
| August 4     | "Sanctuary city advocates turn their fire on a former friend in the Senate"  |
| August 5     | "Senate will pass santuary cities bill in 2017"  |
| September 19 | "Activist group commends Dallas County Sheriff's Department for new policy"  |
| October 26   | "Dallas sheriff responds to Texas governor: ALL ICE detainers honored this year"   |
| October 27   | "Sheriff's leniency on illegal immigrants will only push Legislature to Act"   |
| October 27   | "Federal civil rights suit filed against Dallas County, Sheriff Lupe Valdez by immigrants over pretrial detention"             |
| October 28   | "Too tough? Not tough enough? Protesters take on Dallas County Sheriff Lupe Valdez on immigration"                             |
| October 29   | "Texas CrimeCast: Bernie Tiede back in court, Patti Stevens' suicide and the insanity plea"                                    |
| November 4   | "Does Texas Speaker Joe Straus hear thunder on the right? He asks lawmakers to study school choice, immigration, fetal tissue" |
| November 4   | "Gov. Abbott doubles down on sanctuary cities, vows to withhold grant funds to sheriffs"                                       |
| December 3   | "Already under fire, Dallas County sheriff wades back into sanctuaries cities debate"  |
| December 10  | "Dallas County sheriff: 'Sanctuary cities' law could lead to Ferguson-like protests"   |
| December 18  | "Jail inmates sue Dallas County, Sheriff Lupe Valdez over immigration detainers"   |

## Table A5: 2015 Articles About Immigration Policy in The Dallas Morning News

NOTE: This table lists articles that describe or reference the public's reaction to changes in immigration policy. These articles were accessed via Newsbank's archives of *The Dallas Morning News*, 1984–2016 and found by searching for "Priority Enforcement Program," "Secure Communities," or "Lupe Valdez" *and* "Immigration."

## **B** Online Appendix B

In this Online Appendix, I more formally consider the endogenous behavioral response that PEP would likely elicit from criminal offenders. More precisely, the classic Becker model of crime posits that criminal offenders commit crime if the expected utility of committing a crime exceeds the utility from abstention:

$$(1-p)U_{c1} + pU_{c2} > U_{nc}$$

where p is the probability of being punished,  $U_{c1}$  is the payoff from committing crime if the individual is not punished,  $U_{c2}$  is the payoff from committing crime if the offender is punished, and  $U_{nc}$  is the utility associated with the choice to abstain from crime (Becker, 1968).

I expand on this framework to allow (1) for victims to have different likelihoods of reporting based on their ethnicity, (2) for offenders to face different punishments based on their immigration status, and (3) for the possibility that offenders know the ethnicity of their victim. In this context, there are two types of offenders  $\alpha$ , where  $\alpha \in \{A, U\}$  represents authorized and unauthorized offenders. Similarly, there are two types of victims v, where  $v \in \{H, N\}$  represents Hispanic and non-Hispanic victims.<sup>50</sup>

## **B.1** Response to Increased Reporting

First, I consider the direct effect that increased reporting would likely have on offenders' serious criminal behavior. I consider two possible relationships between victims and offenders, as they yield slightly different predictions.

## **B.1.1** Offender Knows Victim Type

In scenarios where offenders know the potential victim's type, the expected utility for offender  $\alpha$  of committing a crime against victim *v* is:

$$EU_{\nu}^{\alpha} = (1 - p_{\nu})U_{c1}^{\alpha} + p_{\nu}U_{c2}^{\alpha}$$

<sup>&</sup>lt;sup>50</sup> Because Hispanic individuals with non-citizen contacts might be less willing to report a crime, I divide victims by ethnicity, rather than by immigration status.

I assume that  $p_N > p_H$  (i.e., Hispanic victims are less likely to report crime as a result of immigration-related costs).<sup>51</sup> This assumption implies that, all else equal,  $EU_H^{\alpha} > EU_N^{\alpha}$ , so that both types of offenders prefer to commit a crime against a Hispanic individual than against a non-Hispanic individual.

By altering the probability that immigrant victims report crime, PEP increased  $p_H$ , and therefore lowered  $EU_H^{\alpha}$  for both types of offenders. We therefore expect that the overall number of crimes committed against Hispanic victims likely decreased with the introduction of PEP.<sup>52</sup>

## **B.1.2** Offender Does Not Know Victim Type

There are also instances in which the offender does not know the potential victim's type. In this case, offender  $\alpha$  considers a weighted average of the two possible expected utilities:

$$EU^{\alpha} = S_{H} \underbrace{[(1 - p_{H})U^{\alpha}_{c1} + p_{H}U^{\alpha}_{c2}]}_{EU^{\alpha}_{H}} + S_{N} \underbrace{[(1 - p_{N})U^{\alpha}_{c1} + p_{N}U^{\alpha}_{c2}]}_{EU^{\alpha}_{N}}$$

where  $S_H$  and  $S_N$  are the shares of the population that are Hispanic and non-Hispanic, respectively, in that neighborhood. Similarly to above, we expect PEP to increase  $p_H$ , and thus decrease the total expected utility of committing crime for both types of offenders. We therefore expect that the policy will deter some criminal offenders from committing crime against *both* types of victims.

## **B.2** Additional Deterrence Effects

So far, I have considered two scenarios, which suggest that the number of victimizations against Hispanic individuals will decrease and that this decline will be greater than the decrease in the number of victimizations against non-Hispanic victims. I also consider here the possibility that PEP might have had an additional deterrence effect on offenders via an improved allocation of police resources. It is plausible that increased reporting by Hispanic individuals improved law

<sup>&</sup>lt;sup>51</sup> I also assume that  $U_{c1}^A = U_{c1}^U$  (i.e., offenders get the same payoff from committing crime if they are not punished, regardless of their type) and  $U_{c2}^A > U_{c2}^U$  (i.e., authorized offenders have a higher payoff from committing crime if they are punished since they do not face the possibility of deportation).

<sup>&</sup>lt;sup>52</sup> If  $EU_H^{\alpha}$  decreases, but  $(EU_H^{\alpha})' > EU_N^{\alpha}$ , then we expect offenders with relatively high outside options to be deterred from crime altogether, so that the number of crimes against Hispanic victims decreases (and the number of crimes against non-Hispanic offenders remains unchanged). If  $EU_H^{\alpha}$  decreases such that  $(EU_H^{\alpha})' = EU_N^{\alpha}$ , then we might expect some offenders to become indifferent between committing crimes against Hispanic and non-Hispanic individuals. In this scenario, we would expect the number of crimes against Hispanic victims to still decrease overall, but might expect the number of crimes against non-Hispanic victims to offset some of this decline.

enforcement's effectiveness (e.g., the distribution of police officers across the city). If so, then the probability of being punished likely increased for all offenders, and we again can expect that the policy will deter both types of offenders from committing crimes against both types of victims.

One final possibility is that the introduction of PEP improved immigrants' labor market prospects or safety net participation (Alsan & Yang, 2018; East et al., 2018). In such a case, then we might think that PEP increased  $U_{nc}$ , and might have therefore deterred some unauthorized immigrants from committing economically motivated crimes. We might therefore expect the policy to have an additional effect, deterring unauthorized offenders from committing crime against both types of victims.

#### **B.3** Differing Predictions for Low-Level Offenses

Finally, I note that the predictions up until this point have applied to the likelihood that offenders will be deterred from committing *serious* crimes. However, it is worth acknowledging that PEP's focus on detaining serious offenders might have also decreased the likelihood of deportation for low-level offenders. In other words, PEP might have increased an unauthorized offender's payoff from committing a low-level offense,  $U_{c2}^U$ .

If the change in the payoff outweighed the change in the probability of apprehension, such that the expected utility of committing crime  $EU^U$  increased for low-level offenses, then we might expect to see an increase in the overall number of low-level offenses committed. Analogously, for crimes in which the offender knows the victim type, if the change in  $U_{c2}^U$  outweighs the change in  $p_H$  such that  $EU_H^U$  increases for low-level offenses, then an increase in reported crime by Hispanic victims might partially be the result of unauthorized offenders committing more low-level offenses against them. However, an increase in  $U_{c2}^U$  would also increase  $EU_N^U$ , which suggests that we might also expect to see an increase in reported crime by non-Hispanic victims.

Overall, unlike with serious crimes, PEP's priorities might have altered the payoff for committing low-level offenses, and we thus might expect to see an increase in the amount of less-serious offenses reported by Hispanic and non-Hispanic victims.