



## **Pretrial detention and incarceration decisions for foreign nationals: a mixed-methods approach**

**LSE Research Online URL for this paper:** <http://eprints.lse.ac.uk/115642/>

Version: Published Version

---

### **Article:**

Wermink, Hilde, Light, Michael T. and Krubnik, Alicja P. (2022) Pretrial detention and incarceration decisions for foreign nationals: a mixed-methods approach. *European Journal on Criminal Policy and Research*, 28 (3). 367 – 380. ISSN 0928-1371

<https://doi.org/10.1007/s10610-022-09519-5>

---

### **Reuse**

This article is distributed under the terms of the Creative Commons Attribution (CC BY) licence. This licence allows you to distribute, remix, tweak, and build upon the work, even commercially, as long as you credit the authors for the original work. More information and the full terms of the licence here: <https://creativecommons.org/licenses/>



# Pretrial Detention and Incarceration Decisions for Foreign Nationals: a Mixed-Methods Approach

Hilde Wermink<sup>1</sup> · Michael T. Light<sup>2</sup> · Alicja P. Krubnik<sup>3</sup>

Accepted: 9 June 2022  
© The Author(s) 2022

## Abstract

An increase in the mobility of persons across national borders coincides with an overrepresentation of foreign nationals in the penal systems of Western Europe, though this phenomenon is not yet well understood. This paper positions itself at the intersection of migration and criminology by examining citizenship disparities in pretrial detention and whether said disparities affect incarceration outcomes. Leveraging a mixed-methods strategy, we make use of individual-level criminal case and interview data from the Netherlands. Our quasi-experimental quantitative analyses show significant and substantive differences in the assignment of pretrial detention to foreign citizens, which affects the risk of future incarceration. Our interviews reveal that citizenship disparities manifest themselves through multiple mechanisms: (i) foreign defendants are viewed as flight risks, (ii) fewer non-prison sanctions are assigned in cases involving foreign defendants, and (iii) pretrial detention is seen as an efficient method for punishment.

**Keywords** Foreign defendants · Pretrial detention · Incarceration · Inequality

## Introduction

Two related lines of inquiry have gained traction in criminological research in recent years. One examines the erosion of the traditional distinctions between immigration and criminal law and the increasing use of the criminal justice system to regulate

---

Hilde Wermink, Michael T. Light, and Alicja P. Krubnik contributed equally.

An earlier version of this article was presented at the 2021 international expert meeting “An evidence-based approach to pre-trial detention and its harmonisation in Europe.”.

---

✉ Hilde Wermink  
h.t.wermink@law.leidenuniv.nl

<sup>1</sup> Institute of Criminal Law and Criminology, Leiden University, PO Box 9520, 2300 RA Leiden, the Netherlands

<sup>2</sup> Department of Sociology, University of Wisconsin-Madison, Madison, USA

<sup>3</sup> The London School of Economics and Political Science, London, UK

mobility, leading to the significant overrepresentation of foreign nationals in the prisons of many Western societies (Aas & Bosworth, 2013). The second investigates the deleterious consequences of early case processing decisions—particularly pretrial detention—on subsequent criminal case outcomes (Heaton et al., 2017). Yet rarely are these issues examined together. The few punishment studies that do examine citizenship often either use it as a control variable (Gaub & Holtfreter, 2015) or narrowly focus on final sentencing decisions (Light et al., 2014). And while this research generally suggests that citizenship is a salient dimension of sentencing inequality, how citizenship influences the earliest stages of criminal case processing remains underexplored.

This is a significant gap given the unique role pretrial detention plays in driving imprisonment disparities among foreign nationals. Across European countries, a full 40 percent of the foreign inmate population are held in pretrial detention rather than serving prison terms. Among national inmates, only 22 percent are not serving a final sentence (Aebi & Tiago, 2021). In the Netherlands, despite the fact that nearly half (48 percent) of foreign inmates are serving time prior to final adjudication, we still lack a clear empirical understanding of the intersection between foreign nationality, pretrial detention, and criminal case processing. In this article, we address this gap by leveraging a unique combination of criminal case and interview data from the Netherlands to answer three interrelated questions.

First, is the overrepresentation of non-Dutch citizens in pretrial detention attributable to differences in criminal conduct or differential treatment after arrest? Although there is a presumption that defendants should be released pending their trial, prior research provides ample reason to believe that foreign nationals are disadvantaged at the pretrial stage. For one, it is likely that non-Dutch citizens are more likely to be viewed as flight risks, especially if they lack a permanent residence in the Netherlands (Light & Wermink, 2021). In line with the focal concerns perspective (Kramer & Ulmer, 2009), citizenship may also be used as a cue to gauge the defendant's dangerousness and culpability. Lacking national membership and/or residence also raises a number of perceived challenges that limit the assignment of alternatives to pretrial detention (Eagly, 2013). For example, prosecutors and judges may seek pretrial detention when alternative sanctions such as probation or monetary fines seem unworkable due to the inability to monitor foreign nationals upon their release. The practice may also be used as a means of punishment in and of itself for foreign defendants who are expected to be ordered to serve a prison sanction and who risk absconding before their sentencing.

Our second question adds to the literature by asking how does being detained, independent of underlying criminal conduct and prior criminal history, affect the ultimate punishment given? Existing research suggests that pretrial detention can substantially diminish the likelihood of non-prison sanctions by increasing the incentives to plead guilty, reducing financial resources for defense, hindering the ability to display positive behavior, and increasing the probability of being sentenced to time served (Crijns et al., 2016; Spohn, 2009). In this regard, pretrial detention may work as a self-fulfilling prophecy (Stevens, 2010).

Combining insights from questions 1 and 2, our third research question examines the extent to which pretrial detention explains the differential likelihood of incarceration between Dutch citizens and foreign nationals. In other words, are similarly situated foreign

nationals more likely to receive an incarceration sentence *because* they were initially detained prior to adjudication?

A particular novelty of our study is the combination of quantitative and qualitative methods. We make use of rich criminal case data that tracks defendants from arrest through sentencing to examine how early case processing decisions influence final case outcomes. We then supplement these data with interviews with judges and prosecutors to illuminate the decision-making processes that lead to pretrial detention and incarceration for citizen and noncitizen defendants. In research on disparity in court processing, studies applying such mixed-methods are rare (Romain Dagenhardt, 2021) because most studies only rely on official data from standardized case files (Wermink et al., 2017). Our qualitative component responds to recent calls for mixed-methods approaches in sentencing research (Gaub & Holtfreter, 2015; Romain Dagenhardt, 2021), and in doing so, our study advances the literature by not just noting imprisonment differences by citizenship status, but by illuminating the potential *processes* driving these disparities.

## Data

We analyze individual-level data from Dutch criminal courts to investigate our research questions. The Netherlands is a particularly instructive context for studying disparities in sentencing and case processing because a single national system governs criminal punishment, and it is characterized by the lack of mandatory minimum prison sentences and broad statutory ranges. For this reason, criminal justice officials in the Netherlands have substantial discretionary powers in making both pretrial detention and incarceration decisions (Stevens, 2009).

The quantitative data used in this study are a representative sample of 10 percent of all criminal cases involving persons who were arrested and referred to the Public Prosecutor's Office in the Netherlands in 2012 ( $N = 18,274$ ), made available by the Research and Documentation Centre (WODC) of the Netherlands Ministry of Justice (MOJ). These data files allow us to follow suspects from arrest through final sentencing outcomes. These data come from the General Documentation Files (GDF) of the Criminal Record Office ("rap sheets") and include information about the case, the offense, the offender, and the subsequent case outcomes. For the purposes of the current study, we were also granted access to restricted citizenship information from the Dutch Judicial Information Service as the data files from the WODC typically do not contain measures of citizenship. These data were linked to the WODC data, and all identifying information was removed before the SPSS data file was made available electronically via a secure server of the MOJ. Importantly, this sample did not contain cases that ended in immigration detention because suspects with a Dutch passport are typically not "at risk" of this type of detention. We impose several additional restrictions on the original sample. All juvenile offenses are excluded ( $N = 1745$ ) because they are governed by special provisions in the criminal code. We also omit misdemeanors and traffic violations ( $N = 3997$ ) as well as cases where the defendant's citizenship is unknown ( $N = 654$ ). Lastly, we exclude cases that were not tried in one of the sub-district criminal courts and cases involving "other" or "unknown" offenses

as pretrial detention was never used in these cases. We exclude these cases to ensure that all individuals in our sample are “at risk” for pretrial detention ( $N=2298$ ). After these restrictions, our final analytical sample consists of 9580 individuals who were arrested and referred for prosecution.

The qualitative data used in this study are semi-structured interviews with seven prosecutors and nine judges from the Netherlands. After the council of the Judiciary and the organization’s office (“arrondissementsparket”) of the Public Prosecutors Office granted permission for our research, we contacted judges and prosecutors in each district via letter (in Dutch). All judges willing to participate signed consent forms in which the purpose of the study was reiterated, and protocols for ensuring participant anonymity and confidentiality were detailed. All interviews were strictly voluntary and conducted in-person. The in-depth interviews lasted on average 45 min and were digitally recorded and fully transcribed. The interviews were conducted between June 2016 and November 2017 in two large cities that are home to diverse populations of immigrants. The aim of these interviews was to shed light on the ways in which prosecutors and judges themselves consider the unique challenges posed by foreign defendants in their day-to-day decision-making. For more information about participant recruitment, see Light and Wermink (2021).

## Measures and Analytic Approach

The two dichotomous outcome variables for the quantitative analyses capture the initial pretrial decision (1 = detained pretrial; 0 = not detained up until the final sentencing stage) and the incarceration decision (1 = prison; 0 = no prison). Our primary independent variable, suspect’s citizenship status, is also captured dichotomously (1 = foreign citizen; 0 = Dutch citizen). The approach adopted in this study is a quasi-experimental method of estimating the effect of citizenship on pretrial detention and incarceration decisions. This particular approach has appeal over the commonly used regression analyses because it addresses estimating disparities in a transparent and straightforward way. Comparable to an experimental approach, where the experimental group and control group are *balanced* because individuals are assigned at random, propensity score analyses attempt to approximate the conditions of an experiment by creating “synthetic” experimental and control groups based on the propensity score (Rosenbaum & Rubin, 1983, 1984). This is a type of *balancing score* based on the conditional probability of assignment to treatment modeled from confounding pretreatment variables observed in the data. The approach is advantageous in situations where randomization is not possible (i.e., citizenship and pretrial detention are not randomly assigned), but the assignment mechanism is well understood. In the current study, we model the assignment mechanism using an extensive set of predictors. Most importantly, we include measures for the two primary determinants of punishment outcomes identified in prior literature: the type and severity of the offense and the defendant’s criminal history (Wermink et al., 2015). To isolate citizenship, we also include multiple sociodemographic measures including the defendants’ country of birth, age, and sex. Measurement properties for all variables are shown in Table 5 in the Appendix. To evaluate robustness, we use three different propensity score estimators: nearest neighbor, caliper, and kernel. All models are estimated using `psmatch2` in Stata version 15.

**Table 1** Differences between foreign nationals and Dutch suspects: full and matched sample ( $N=9580$ )

	Panel A: full sample			Panel B: matched sample		
	Foreign	Dutch	T-test	Foreign	Dutch	T-test
<i>Social demographics (arrestee)</i>						
Netherlands (ref.)						
Morocco	.10	.02	13.40***	.16	.17	-.58
Suriname	.03	.05	-3.12**	.05	.05	.12
Turkey	.07	.02	10.56***	.12	.12	.17
European country	.43	.01	66.36***	.12	.14	-.81
Other non-Western country	.16	.06	13.25***	.28	.25	1.17
Other Western country	.11	.02	17.42***	.15	.15	-.00
Unknown country	.04	.00	19.07***	.00	.00	-1.00
Age	32.47	34.56	-5.12***	33.84	33.00	1.37
Female	.17	.20	-2.80**	.18	.18	.07
<i>Criminal history</i>						
#convictions	2.32	3.52	-6.59***	3.42	3.17	.81
Prior prison sentence	.25	.23	1.64	.32	.30	.59
<i>Case characteristics</i>						
#crimes	1.35	1.37	-1.00	1.35	1.36	-.24
<i>Mild case (ref.)</i>						
Severe case	.81	.82	-.69	.79	.79	-.20
Very severe case	.10	.08	2.83**	.13	.12	.67
Offense type?		Yes			Yes	
District courts?		Yes			Yes	

\*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$

*Note.* The  $t$ -test reports the mean difference between Dutch citizens and foreign citizens. Propensity scores matched using a caliper range set to 0.01 and restricted to the region of common support. Models include 14 different offense types and 20 district courts (all balanced after matching)

## Quantitative Results

### Balance and Representativeness

Panel A of Table 1 shows that foreign nationals and Dutch citizens differ significantly on most of the observed variables. Not surprisingly, foreign nationals are more likely to be non-Dutch-born. Moreover, they are younger on average, less likely to be female, and have a less extensive registered criminal history than their Dutch counterparts. Panel B shows that our caliper matching procedure was successful in achieving balance, as none of the statistically significant differences between foreign nationals and Dutch citizens remain. Thus, we can be confident that differences in pretrial detention do not reflect already existing differences in the observed variables between the two groups. Our matching procedure was able to match 95 percent of all individuals, including all Dutch citizens and 56 percent of foreign nationals. The nearest neighbor and kernel matching samples were more inclusive, capturing virtually all

**Table 2** Propensity score analyses estimating the differences in the probability of pretrial detention between foreign and Dutch nationals ( $N=9580$ )

Matching estimator	Pretrial detention	
Caliper		
Dutch citizen (predicted)	.10	
Foreign citizen (predicted)	.17	
Difference (ATT)	.07***	.02 (SE)
Nearest neighbor (5)		
Dutch citizen (predicted)	.10	
Foreign citizen (predicted)	.18	
Difference (ATT)	.07***	.02 (SE)
Kernel		
Dutch citizen (predicted)	.09	
Foreign citizen (predicted)	.18	
Difference (ATT)	.09***	.02 (SE)

\*  $p < .05$  \*\*  $< .01$  \*\*\*  $< .001$ . Caliper range is set to 0.01, and a bandwidth is set to 0.10 in the kernel propensity score model. All analyses are restricted to the region of common support. *ATT*: the average treatment effect on the treated

Dutch citizens and foreign nationals. However, these estimators were not as successful in creating balance (especially in our pretrial detention models). Still, we report the results from all three matching procedures to demonstrate that our results are not dependent on idiosyncrasies in any one particular method.

### Pretrial Detention and Incarceration

Table 2 reports our findings from the propensity score analyses examining differences in pretrial detention decisions between citizens and foreign nationals. The results

**Table 3** Propensity score analyses estimating the differences in the probability of incarceration between pretrial detained suspects and those who were not detained ( $N=9580$ )

Matching estimator	Incarceration	
Caliper		
Not detained pretrial (predicted)	.28	
Pretrial detention (predicted)	.82	
Difference (ATT)	.54***	.02 (SE)
Nearest neighbor (5)		
Not detained pretrial (predicted)	.28	
Pretrial detention (predicted)	.82	
Difference (ATT)	.54***	.02 (SE)
Kernel		
Not detained pretrial (predicted)	.27	
Pretrial detention (predicted)	.82	
Difference (ATT)	.55***	.02 (SE)

\*  $p < .05$  \*\*  $< .01$  \*\*\*  $< .001$ . Caliper range is set to 0.01, and a bandwidth is set to 0.10 in the kernel propensity score model. All analyses are restricted to the region of common support. *ATT*: the average treatment effect on the treated

show significant unexplained disparities in the likelihood of pretrial detention disfavoring foreign nationals. Not only are these differences statistically significant, but the effect sizes are substantively meaningful, ranging from 7 to 9 percentage points in the predicted probability of pretrial detention. This corresponds to foreign nationals being 1.7 to 2 times more likely to receive pretrial detention upon arrest compared to their matched Dutch citizen counterparts. Thus, the results provide a very clear answer to our first research question by documenting substantial citizenship disparity in pretrial detention decisions in Dutch courts. Importantly, each matching algorithm (nearest neighbor, caliper, and kernel) shows similar results in terms of significance, direction, and magnitude, providing greater confidence in the result.

Turning to the incarceration decision, we begin with the effect of pretrial detention on incarceration in Table 3. In this analysis, the “treatment” effect is pretrial detention, rather than citizenship. Net of controls for offense type and severity, criminal history, and other key defendant characteristics, the predicted probability of incarceration is increased by over 50 percentage points for those suspects who have been detained pretrial compared to those who were free during the adjudication process. The results across the different matching estimators again align. This offers suggestive evidence that, as expected, pretrial detention is an important “predictor” for the final incarceration decision. Pretrial detention is thus not only an important early stage sentencing outcome where foreign nationals receive more punitive treatment, but it is also highly consequential for the final incarceration decision. Our final analysis combines these two insights by examining whether pretrial detention helps explain differences in final sentencing decisions between citizens and foreign nationals.

We test this possibility in Table 4. We first focus our analytical attention to citizenship disparities in the incarceration decision. The specification in model 1 is identical to our prior incarceration model, with the exception that pretrial detention is excluded. In line with recent research (Light & Wermink, 2021), we find clear evidence that foreign nationals receive more severe treatment: the odds of imprisonment for foreign nationals are 2.7 times higher. Model 2 introduces an indicator for pretrial detention. We find evidence that citizenship disparities remain after controlling for pretrial detention. At the same time, we observe that the citizenship disparity is substantially diminished (OR = 2.1), suggesting that pretrial detention does partially account for the incarceration gap between Dutch citizens and foreign nationals. By our estimates, pretrial detention accounts for roughly a quarter (26 percent) of the gap in the incarceration equation. This suggests that pretrial detention is indeed a critical stage in case processing that leads to more severe sentences for foreign nationals.

**Table 4** Logistic regression models of the incarceration decision ( $N=9580$ )

	Model 1: Not accounting for pretrial detention			Model 2: Accounting for pretrial detention		
	b	SE	OR	b	SE	OR
<i>Citizenship status (arrestee)</i>						
Dutch (ref.)						
Foreign	1.00	.30	2.71**	.74	.36	2.09*

\* $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$ . Standard errors are clustered by district. Models include all variables shown in Table 1 plus controls for 14 different offense types and 20 district specific effects



## Qualitative Results

The findings so far highlight three main conclusions: (1) foreign nationals are significantly more likely to be detained pretrial; (2) pretrial detention substantially increases the likelihood of incarceration; and (3) pretrial detention explains a significant proportion of the observed incarceration disparity between citizens and noncitizens in Dutch courts. The next stage in our analysis leverages interview data to help explain each of these findings. While these interviews were aimed to understand the case processing of foreign nationals in general, the topic of pretrial detention came up often. Throughout these discussions, the role of residency was a recurring theme.

Many foreign national defendants lacked a permanent address in the Netherlands. This has important implications because Dutch law allows for, but does not require, pretrial detention if a suspect does not have a fixed residence in the Netherlands (Paragraph 2, Article 67 of CCP). For many of our respondents, lacking residency weighed on case processing decisions in three primary ways. First, it was seen as a flight risk, and flight risk is one of the principal grounds for detaining suspects pending trial. As one prosecutor put it:

The most important is whether they have residence here in the Netherlands. If you are foreign, but you have a residence here, we know where to find you. So we can send you a fine, for instance, or we can send you an invitation to come to the court. But if you don't have any place where you're staying, then there is no way to do the execution of the penalty. So then it's more likely we choose for pretrial detention.

This view was echoed by judges as well.

So yeah, unfortunately, for those people, pretrial detention is a way to keep them in our influence, in our scope, in our – because yeah, the idea is that if we let them go in the pretrial phase of the stage, they are lost. We cannot find them back. (Dutch Judge)

The second way lacking residency mattered was that it left prosecutors and judges with fewer punishment options because alternative penalties such as community sanctions were often moot or unworkable. As the following prosecutor explained:

...you can give someone a fine, you can give someone a community sentence, and you can give someone a prison sentence. And if someone doesn't have an address, then where do you send the fine to, and where do you have the parole board contact him for a community sentence? It's actually not, for the community service, it's not the fact that someone is a foreigner. It's the fact that someone doesn't have an address.

The anticipation that sentencing judges had fewer punishment options affected pretrial decisions as well, as evidenced by the following quote:

...in the detention phase, you have less options. So that means, as a pretrial judge, you're already thinking about what options will the final judge have in the end? And because the options are also less in that respect, pretrial detention is more likely to be given, I would say.

Once in pretrial detention, this further reduced the sentencing choices available because defendants are required to be credited for time served. As the following judge informed us:

And as a judge, if someone has been in pretrial detention, my options are more limited, because I can't give someone a suspended sentence, because he has served his time already.

Lastly, for foreign national suspects unlikely to stay in the Netherlands, pretrial detention was also viewed as one of the only viable methods of punishment, at least for relatively minor crimes. As the following judge explained:

there are certain rules, at least in the EU, that if you're talking small crimes, like max four months' imprisonment, you won't get them executed in the Netherlands. At least, you cannot get the person extradited to the Netherlands to have it executed... And then, you see what happens is that pretrial becomes a way of almost punishing already.

To recap then, our interviews help explicate each of our key findings. Many foreign suspects either lacked an address or were unlikely to stay in the Netherlands. This not only increased their risk of absconding for many of our respondents, but also limited the use of less punitive sanctions, such as community service. Combined, this led to greater use of pretrial detention, which in turn made incarceration sanctions far more likely. The following quote from a judge succinctly captures this process:

And if they don't have an address here, normally they are kept in pretrial detention. And so that's the reason why they are kept in pretrial detention more often. And, as a consequence, if people have been in pretrial detention, the chance that they will be sentenced to an unconditional sentence in prison is large.

## Discussion and Conclusions

Using a unique mixed-methods approach, this study reveals several key findings at the intersection between foreign nationality, pretrial detention, and criminal case processing. In line with theoretical expectations, we found that pretrial detention is 1.7 to 2 times more likely to be assigned to foreign nationals than Dutch citizens even when these groups are balanced on all measured, legally relevant variables. Our interviews identified multiple mechanisms that explain this early case processing disparity.

Factors that limit the ability for judges to allow defendants to be free during the adjudication process clearly played a role. We refer to this mechanism, that arose from the interview results, as the "flight risk" phenomenon. Judges are required to consider "flight risk," and for non-Dutch defendants, pretrial detention is more likely to be used as a way to keep them in the Dutch criminal justice system for the purposes of having the case processed in its entirety and bringing potentially guilty defendants to justice. The effects of this mechanism on pretrial detention assignment are exacerbated when defendants are without a registered fixed address in the Netherlands. Related to this point, prior work showed that flight risk is often quickly accepted as a reason for assigning pretrial detention, especially when lacking an official address in the Netherlands (Crijns et al., 2016). The stance taken by the European Court of Human Rights (ECtHR), however, outlines that a lack of an official fixed residence is not justification enough for assigning pretrial detention (*Sulaoja v Estonia*, no. 55939/00, 15 February 2005, para 64).

In addition to flight risk, our interviews revealed that judges and prosecutors do not always consider alternative sanctions as viable options for foreign nationals, which systematically restricts the *perceived* opportunities for non-Dutch citizens to receive sanctions considered less severe, such as community service, working or learning penalties, and rehabilitation or substance abuse treatment. Since pretrial detention is a possible option for defendants only when a prison sentence is the expected outcome, this means that foreign nationals who have fewer non-prison sanction options available to them will be more likely to be detained. We refer to this as the “limited alternatives” phenomenon. Importantly, the *perceived* difficulty should not preclude non-custodial sentences in practice, because alternative sanctions are available to noncitizens, even for those without a fixed address (ECLI:NL:HR:2019:1066 and ECLI:NL:PHR:2018:1237). Furthermore, judges and prosecutors described how pretrial detention is at times used as a means to bring defendants to justice *before* final sentencing, so that defendants, if found guilty, do not escape the justice that is expected to be conferred on them. We call this the “premature punishment” phenomenon.

Our results also show that the use of pretrial detention is important for its consequences on later stages of case processing. Persons who are detained are over 50 percent more likely to have their final sentencing outcome result in incarceration in comparison to those who were free throughout the adjudication. This finding is somewhat intuitive given that pretrial detention can only be assigned when incarceration is the expected outcome of a guilty verdict and judges are legally required to take pretrial detention into account (see Art. 27 C.C.P.). However, because pretrial detention counts toward time served already, a prison sentence upon final adjudication is also viewed as an efficient method by which to complete the adjudication process.

Our final analysis revealed the salience of early case processing decisions for explaining citizenship disparities in imprisonment by demonstrating that pretrial detention accounts for roughly a quarter of the disparity between Dutch citizens and foreign nationals in incarceration outcomes. Taken together, our results help explicate why foreign nationals are overrepresented in *both* pretrial detention and prison. In doing so, our study has significant legal and normative implications.

Most notably, our findings raise important questions about equal treatment under the law. The consideration of citizenship and residence are no doubt pragmatic concerns. But they also introduce procedural distortions in the case processing of non-Dutch citizens that expose them to harsher sanctions, even when they are accused of the same crimes and have the same prior records as Dutch citizens. Thus, the reliance on pretrial detention for many foreign defendants undermines their right to equitable treatment, which in turn can undermine the integrity of the courts and erode public perceptions of fairness in the criminal justice system. Indeed, three judgments in 2021 by the ECtHR strongly condemned the way pretrial detention is used in the Netherlands, finding cases of unlawful and arbitrary detention whereby the decisions by the Dutch courts lacked sufficient justification of pretrial assignment (*Hasselbaink v. The Netherlands*, no. 73329/16, 9 May 2021; *Maassen v. The Netherlands*, no. 10982/15, 9 May 2021; *Zohlandt v. The Netherlands*, no. 69491/16). Thus, the unequal application of pretrial detention not only subverts foundational legal principles but can also encourage legal cynicism. Against this backdrop, a concerted focus on immigrant equality is necessary to ensure foreign nationals are not subject to a second-class legal system.

## Appendix

**Table 5** Measurement properties for all variables

Variable	Possible values	Description
Sentencing outcomes		
Any pretrial detention	0, 1	Coded 1 for cases detained pretrial
Any incarceration	0, 1	Coded 1 for cases incarcerated
Citizenship status		
Foreign	0, 1	Coded 1 for foreign arrestees
Social demographics (arrestee)		
Netherlands	0, 1	Coded 1 for arrestees born in the Netherlands (including the Dutch Antilles)
Morocco	0, 1	Coded 1 for arrestees born in Morocco
Suriname	0, 1	Coded 1 for arrestees born in Suriname
Turkey	0, 1	Coded 1 for arrestees born in Turkey
European country	0, 1	Coded 1 for arrestees born in an European country
Other non-Western country	0, 1	Coded 1 for arrestees born in a non-Western country
Other Western country	0, 1	Coded 1 for arrestees born in another Western country
Unknown country	0, 1	Coded 1 for arrestees born in an unknown country
Age	[0, ∞)	Years of age of adult arrestees
Female	0, 1	Coded 1 for female arrestees
Criminal history		
#convictions	[0, ∞)	Number of previous convictions
Prior prison sentence	0, 1	Coded 1 for arrestees with a previous prison sentence
Case characteristics		
#crimes	[0, ∞)	Number of crimes in the case
Mild case	0, 1	Coded 1 for cases with a statutory maximum of up to 4 years
Severe case	0, 1	Coded 1 for cases with a statutory maximum between 4 and 8 years
Very severe case	0, 1	Coded 1 for cases with a statutory maximum of 8 years and over

**Table 5** (continued)

Variable	Possible values	Description
Offense type		
Theft	0, 1	Coded 1 if the most serious offense consist of theft
Sex	0, 1	Coded 1 if the most serious offense consist of a sex offense
Threatening	0, 1	Coded 1 if the most serious offense consist of an offense against personal safety, such as stalking (Art. 285 P.C. <sup>1</sup> )
Assault	0, 1	Coded 1 if the most serious offense consist of assault
Other violent	0, 1	Coded 1 if the most serious offense consist of another violent offense
Aggravated theft	0, 1	Coded 1 if the most serious offense consist of aggravated theft
Other property	0, 1	Coded 1 if the most serious offense consist of another property offense
Drug	0, 1	Coded 1 if the most serious offense consist of a drug offense
Firearms	0, 1	Coded 1 if the most serious offense consist of a weapons act offense
Public order	0, 1	Coded 1 if the most serious offense consist of a public order offense
Destruction	0, 1	Coded 1 if the most serious offense consist of destruction, such as damaging someone else's property (e.g., Art. 350, 351, 352, 354 P.C.)
Forgery	0, 1	Coded 1 if the most serious offense consist of falsity, such as forgery of documents (e.g., Art. 208, 209, 210, 219, 225, 227, 231, 232 P.C.)
Other	0, 1	Coded 1 if the most serious offense consist of other crimes
Unknown	0, 1	Coded 1 if the most serious offense consist of an unknown offense type

<sup>1</sup>P.C. refers to the Dutch Penal Code

We also coded dummy variables for the different Dutch district courts. These dummy variables are omitted from the table in the interest of space. The Dutch court districts include the following: Alkmaar, Almelo, Amsterdam, Arnhem, Assen, Breda, Den Bosch, Dordrecht, Groningen, Haarlem, Leeuwarden, Maastricht, Middelburg, Roermond, Rotterdam, the Hague, Utrecht, Zutphen, and Zwolle/Lelystad

**Acknowledgements** We thank the Research and Documentation Centre of the Dutch Ministry of Justice and the Dutch Public Prosecutors Office for facilitating access to the data and for providing advice on their use. We further thank the Council of the Dutch Judiciary, Lisan Wösten, at the Public Prosecutors office in the Hague, and Marc van Nimwegen at the Public Prosecutors Office in Rotterdam for granting permission to conduct interviews with judges and prosecutors.

**Funding** Financial support was provided by The Netherlands Organisation for Scientific Research (451–17-018) and by a Global Synergy Research Grant from Purdue University.

## Declarations

**Competing Interests** The authors declare no competing interests.

**Open Access** This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

## References

- Aas, K. F., & Bosworth, M. (2013). *The borders of punishment: Migration, citizenship, and social exclusion*. Oxford University Press.
- Aebi, M. F., & Tiago, M. M. (2021). *SPACE I - 2020 – Council of Europe annual penal statistics: Prison populations*. Council of Europe.
- Crijns, J. H., Leeuw, B. J. G., & Wermink, H. T. (2016). *Pre-trial detention in the Netherlands*. Research report. Eleven international publishing.
- Eagly, I. V. (2013). Criminal justice for noncitizens: An analysis of variation in local enforcement. *NYU Law Review*, 88, 1126–1223.
- Gaub, J. E., & Holtfreter, K. (2015). New directions in intersections, inequality, and sentencing. *Women and Criminal Justice*, 25, 298–312.
- Heaton, P., Mayson, S., & Stevenson, M. (2017). The downstream consequences of misdemeanor pretrial detention. *Stanford Law Review*, 69(3), 711–794.
- Kramer, J. H., & Ulmer, J. T. (2009). *Sentencing guidelines: Lessons from Pennsylvania*. Lynne Rienner Publishers.
- Light, M. T., & Wermink, H. T. (2021). The criminal case processing of foreign nationals in the Netherlands. *European Sociological Review*, 37(1), 104–120.
- Light, M. T., Massoglia, M., & King, R. D. (2014). Citizenship and punishment: The salience of national membership in U.S. criminal courts. *American Sociological Review*, 79, 825–847.
- Romain Dagenhardt, D. M. (2021). “You know baseball? 3 strikes”: Understanding racial disparity with mixed methods for probation review hearings. *Social Sciences*, 10, 235–257.
- Rosenbaum, P., & Rubin, D. (1983). The central role for the propensity score in observational studies of causal effects. *Biometrika*, 70, 41–55.
- Rosenbaum, P., & Rubin, D. (1984). Reducing bias in observational studies using subclassification on the propensity score. *Journal of the American Statistical Association*, 94, 516–524.
- Spohn, C. (2009). Race, sex, and pretrial detention in federal court: Indirect effects and cumulative disadvantage. *Kansas Law Review*, 57(4), 879–901.
- Stevens, L. (2009). Pre-trial detention: The presumption of innocence and Article 5 of the European convention on human rights cannot and does not limit its increasing use. *European Journal of Crime Criminal Law and Criminal Justice*, 17, 165–180.
- Stevens, L. (2010). Voorlopige hechtenis en vrijheidsstraf. De strafrechter voor voldongen feiten? [Pretrial detention and incarceration. An accomplished fact for the sentencing judge?] *Nederlands Juristenblad*, 24, 1520–1525.

- Wermink, H. T., Johnson, B. D., Nieuwbeerta, P., & de Keijser, J. W. (2015). Expanding the scope of sentencing research: Determinants of juvenile and adult punishment in the Netherlands. *European Journal of Criminology*, *12*, 739–768.
- Wermink, H.T., Johnson, B.D., de Keijser, J.W., Dirkzwager, A.J.E., Reef, J., & Nieuwbeerta, P. (2017). The influence of detailed offender characteristics on consecutive criminal processing decisions in the Netherlands. *Crime & Delinquency*, *63*, 12–79–1313.

**Publisher's Note** Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.