



## Organizational structure, police activity and crime<sup>☆</sup>

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### ABSTRACT

How does the organizational structure of law enforcement agencies affect police activity and crime? We examine the consequences of an organizational reform in Israel that transferred the responsibility for housing arrestees from the police to the prison authority. Using the staggered rollout of the reform in different regions of the country, we document strong evidence that this organizational change led to an increase of 11% in the number of arrests and to a decrease of 4% in the number of reported crimes, with these effects concentrated in more minor crimes. The reform also led to a decrease in the quality of arrests, measured by the likelihood of being charged following an arrest. These findings are consistent with the idea that the reform externalized the cost of housing arrestees from the police's perspective, and therefore led the police to increase its activity against crime.

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### 1. Introduction

To enforce the law and prevent crime, the state must investigate crimes, adjudicate criminal cases, and house criminals upon conviction. These functions are typically undertaken, respectively, by three separate agencies: the police, the court and the prison authority. However, these functions may be organized in a different manner. For instance, in adversarial legal systems the investigative and adjudicative functions are independent of each other, while in inquisitorial legal systems the court is actively involved in investigating facts. Likewise, the investigative function and the function of housing criminal upon conviction may not be

independent of each other, as in the case of military prisons, which are often operated by the military police. How do the organizational boundaries between law enforcement agencies affect their activities and crime?

To address this question we investigate the consequences of an organizational reform that transferred the responsibility for housing arrestees from the police to the prison authority in Israel, thereby adjusting the organizational boundaries between the two agencies. Before the reform, arrestees were housed either at local police stations or at regional jails controlled and managed by the police. After the reform, arrestees were no longer housed at police stations, and the control over regional jails was transferred to the prison authority along with the personnel working at these jails.

Theoretically, what should be the consequences of the organizational reform we investigate? We assume that the police serves as an agent of the state, and in this agency relationship the police is incentivized to minimize crime. It does so subject to various constraints it faces, including budgetary and managerial time constraints. The transition of responsibility for arrestees from the police to the prison authority externalizes both the financial and the managerial costs of housing arrestees from the police's perspective. It should therefore result in an increased number arrests. Furthermore, if the police chooses optimally which crimes to pursue, focusing first on more severe crimes and on arrestees that are more likely to be charged, then the additional arrests following the reform should be concentrated in relatively minor crimes and in arrests that are less likely to result in charges. Lastly, the

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increased police activity should lead to a decrease in crime. This effect should be more significant in crimes that the police more actively pursued after the reform.

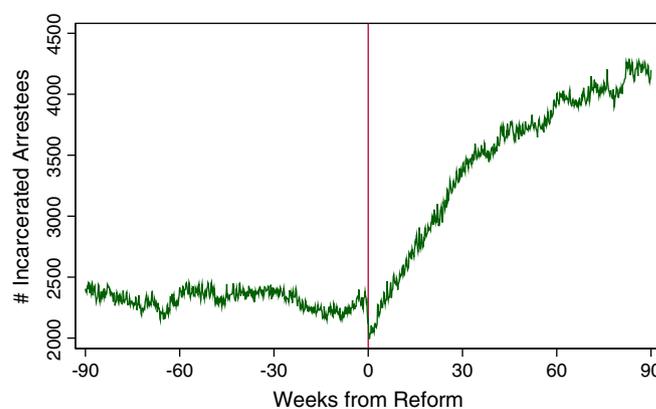
The organizational reform we investigate has particular relevance to a reform undertaken in California in October 2011. That reform, known as California's Corrections Realignment Plan, shifted responsibility from the state to counties for the custody, treatment, and supervision of individuals convicted of specified crimes. That reform was in the opposite direction to the reform we investigate, since instead of relieving local police of the responsibility for housing arrestees, the reform in California imposed on local police an additional responsibility for some prisoners.<sup>3</sup>

In our empirical analysis we use individual-level administrative data on the universe of arrests undertaken in Israel, as well as detailed data on the universe of reported crimes. Our empirical strategy relies on two important aspects of the organizational reform. First, the reform can be considered exogenous to police activity and crime because the decision to implement it was a direct consequence of a surprise escape of a notorious serial rapist from the hands of the police. Second, our analysis exploits the staggered rollout of the reform across geographical regions of Israel, starting in April 2007 and ending in January 2008.

The research design and the data we use enable us to identify the effects of the reform on various measures of police activity and crime. We begin by investigating how the reform influenced the number and duration of arrests. Fig. 1 shows the total number of arrestees before and after the control over jails was transferred from the police to the prison authority, using the date of the transition in each region as time zero. The figure indicates that following the reform there was a large increase in the total number of arrestees held in custody each week. Panel data regression estimates further indicate that the increase in the number of arrestees can be decomposed into an 11% increase in the number of arrests and a 38% increase in the duration of arrests.

A central strength of our dataset is that it enables us to investigate the impact of the reform on a quality measure of police activity. We assess quality according to the likelihood of an arrestee being charged. This seems a natural measure of arrest quality, since arrests can be undertaken only when there is probable cause, i.e. a reasonable belief that the suspect has committed a crime. Thus, the likelihood that an arrestee will be charged reflects the threshold level of probable cause that the police sets for undertaking arrests. Our regression estimates imply a reduction of 2 percentage points in the likelihood of an arrestee being charged following the reform. Given the 11% increase in the number of arrests, back-of-the-envelope calculations suggest that individuals arrested after the reform were 20 percentage points less likely to be charged compared with individuals who were arrested before the reform. These findings are consistent with the idea that the police pursued suspects that are less certain to be charged following the reform, and relates to the theoretical literature on the effect of public sector reforms on service quality (Hart et al., 1997).

We also examine the effect of the reform on the severity of crimes for which arrests were undertaken. We do this in two different ways. First, we measure a crime's severity using the maximum possible prison time associated with it. Our regression estimates suggest a reduction of 6% in the average maximum possible sentence of arrestees following the reform. Given the increase of 11% in the number of arrests, back-of-the-envelope calculations suggest that, relative to the original population of arrestees, individuals arrested after the reform were arrested for crimes whose maximum possible sentence was, on average, 60% lower. Second, we look at the composition of arrests, focusing on three categories of crime that account for 80% of arrests: public order, property, and bodily harm. We find that the increased number of arrests was driven by arrests in the public order and property categories of crime,



**Fig. 1.** Organizational reform and number of incarcerated arrestees. The figure plots the daily number of incarcerated arrestees (the stock of arrestees), aggregated over regions. Week zero marks the date of reform implementation in each region. The horizontal axis covers the 90 weeks before and after the reform. Because the reform date varies across regions, the number of incarcerated arrestees on any given day following the reform is the sum of the numbers of arrestees in the different regions on different dates. There is a small drop in the number of arrestees immediately following the transition due to some difficulties in adjusting to the new structure, primarily in the southern region.

rather than in the more severe category of bodily harm. These findings are consistent with the idea that the police pursued more minor crimes following the reform.

Our final analysis examines the impact of the reform on reported crimes. Regression estimates suggest that the reform led to a reduction of 4% in crime. Focusing on the three categories of crime mentioned above, we find that the reform led to a decrease in property and public order crimes, while it had no effect on bodily harm crimes. These findings lend further support to our conjecture that the reform enabled the police to pursue relatively minor crimes, while had little effect on more severe crimes. Interestingly, the reduction in crime that we document is comparable in magnitude to the effect on crime of a 10% increase in police resources, found in other studies (Levitt, 1997; DiTella and Schargrodsky, 2004; Evans and Owens, 2007; Machin and Marie, 2011; Draca et al., 2011).

The theoretical literature on the boundaries of the firm has established that organizational structure has important implications for economic outcomes (Williamson, 1985; Grossman and Hart, 1986). The empirical literature, however, has focused mostly on the determinants of integration decisions, with only few studies examining the effects of vertical integration (see, e.g., Mullainathan and Scharfstein, 2001; Afendulis and Kessler, 2007; Lafontaine and Slade, 2007; Forbes and Lederman, 2010). In their review of the literature on vertical integration, Bresnahan and Levin (2012) write that “in a very few cases, an attempt is made to link the integration decision to economic outcomes”. Studying public sector agencies is particularly important because traditional market mechanisms, such as prices and side payments, which can be used to align incentives, are usually not applicable to the public sector.

Following Becker (1968), the literature on the economics of crime has investigated how different factors affect crime, including police (e.g. Levitt, 1997; Klick and Tabarrok, 2005; Draca et al., 2011; Vollard and Hamed, 2012; Chalfin and McCrary, 2013), incarceration (e.g. Levitt, 1996; Drago et al., 2009; Barbarino and Mastrobuoni, forthcoming) and the length of imprisonment (e.g. Lee et al., 2009; Kuziemko, 2011; Abrams, 2012). Our study demonstrates that the organizational structure of law enforcement agencies should also be considered an effective policy instrument in the fight against crime.

The remainder of the paper is organized as follows. Section 2 provides institutional background about the organizational reform, describes the data we use and discusses our empirical strategy. In Section 3 we present our results. In Section 4 we discuss the results and in Section 5 we offer concluding remarks.

<sup>3</sup> For more details on the Californian realignment reform, see <http://www.calrealignment.org>, The Economist – <http://www.economist.com/node/21555611> and The New York Times – <http://www.nytimes.com/2011/10/09/us/california-begins-moving-prisoners.html>.

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