The Return on Investments in Crime Control Policies and Programs

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Overview of the Presentation

- Why crime control may become an increasingly important social policy issue
- Cost (Benefit) Results from Recent Evaluations:
  - Treating Drug Involved Offenders through Drug Court;
  - Providing Services to Reentering Prisoners;
  - Using DNA to Solve Property Crimes.
- Issues in using ROI to create policy

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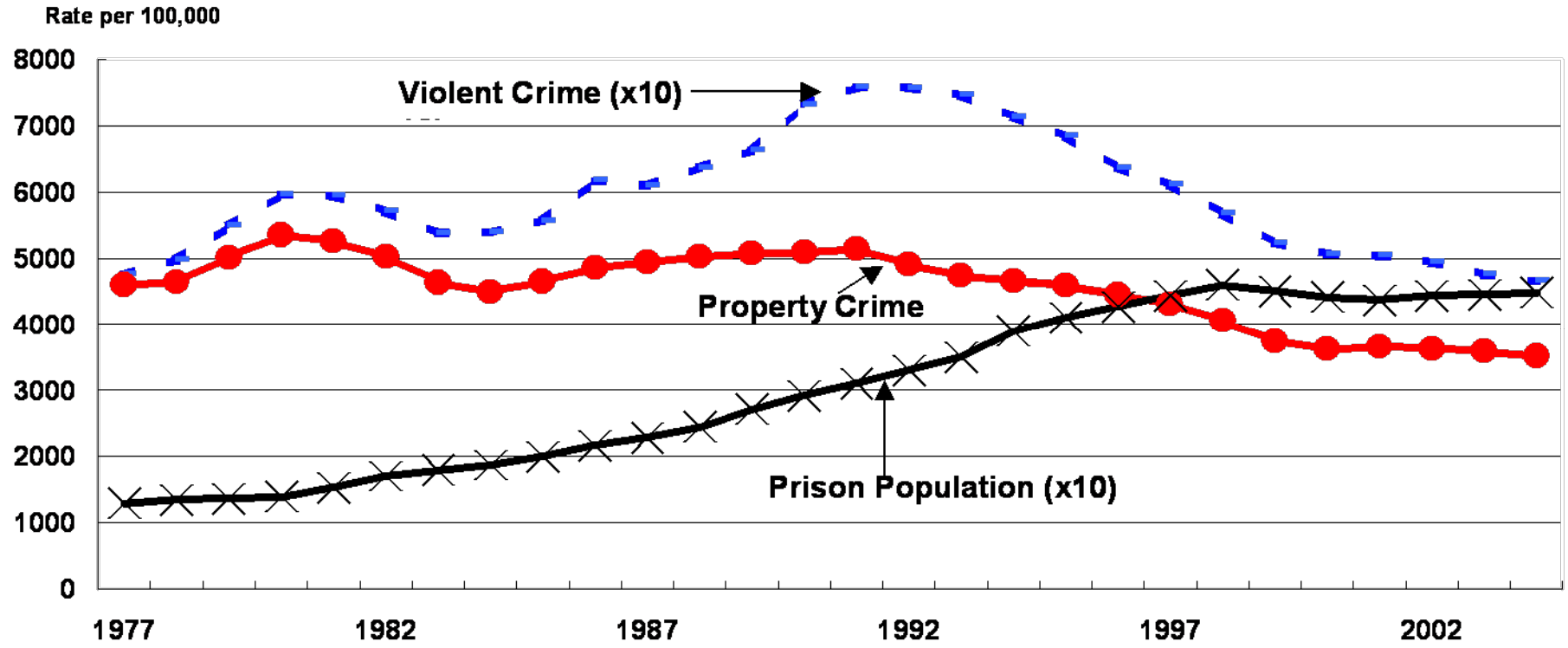
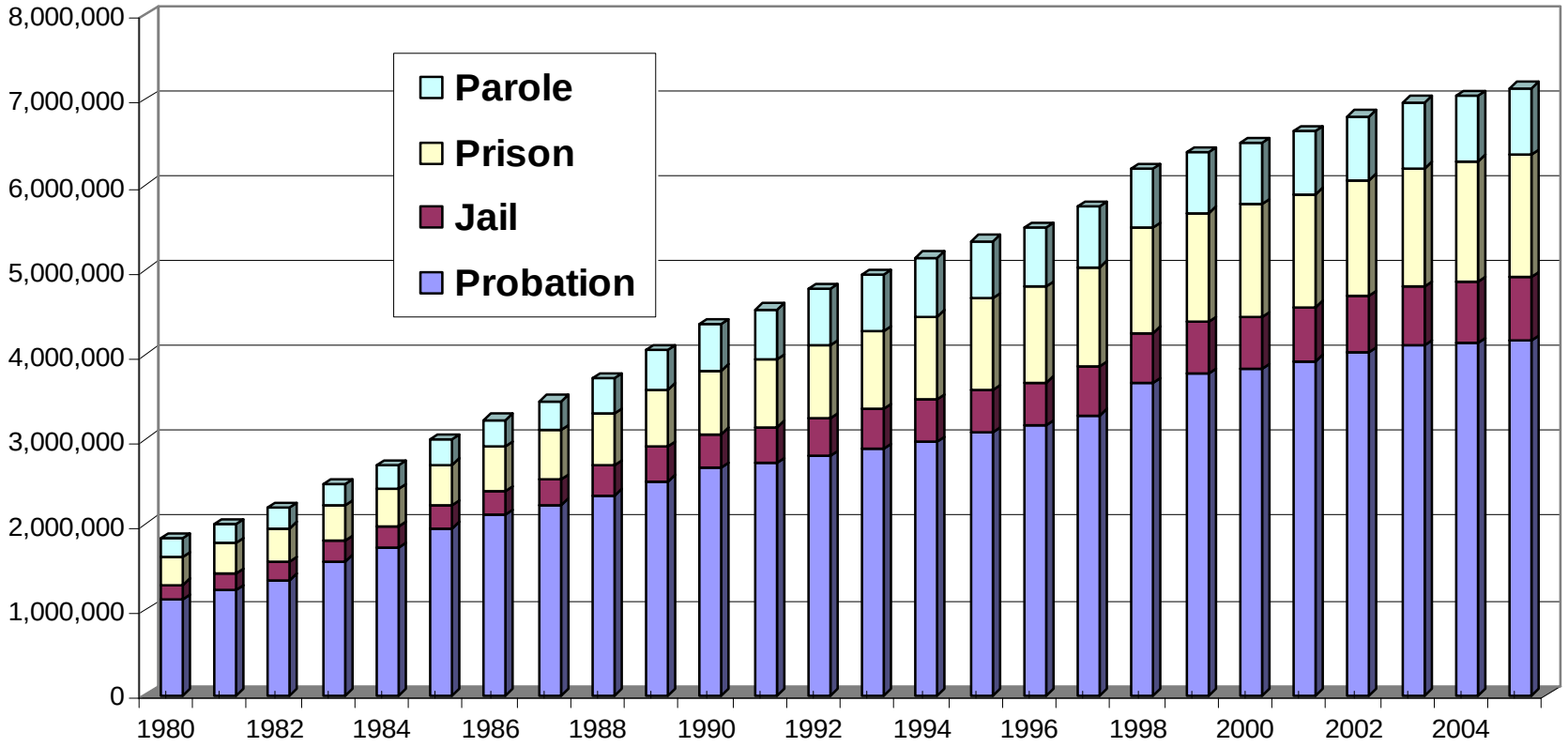
Why crime control matters… Huge prison populations, steady (but high) crime rates



Source: Bureau of Justice Statistics

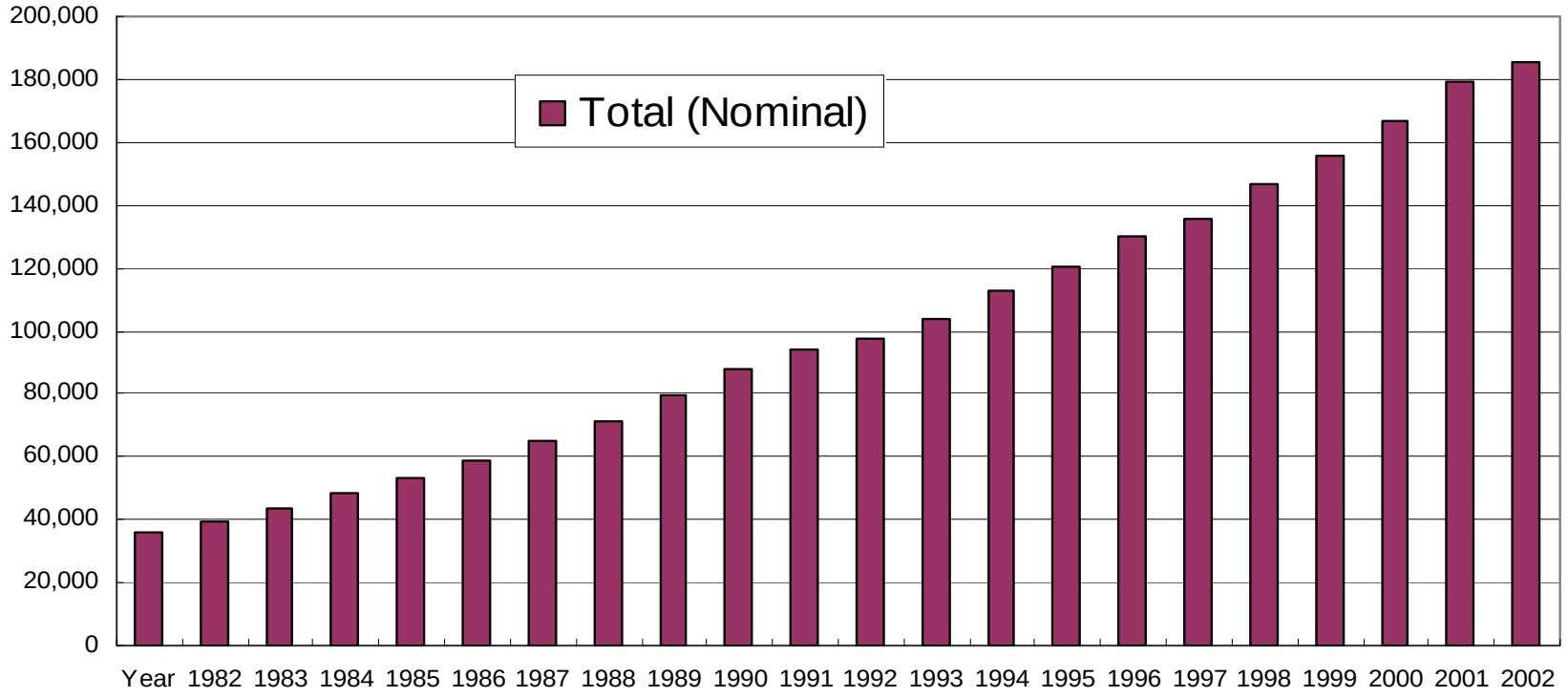
Increases in number under supervision across all CJ agencies



Source: Bureau of Justice Statistics

Why crime control matters… Increased spending every year

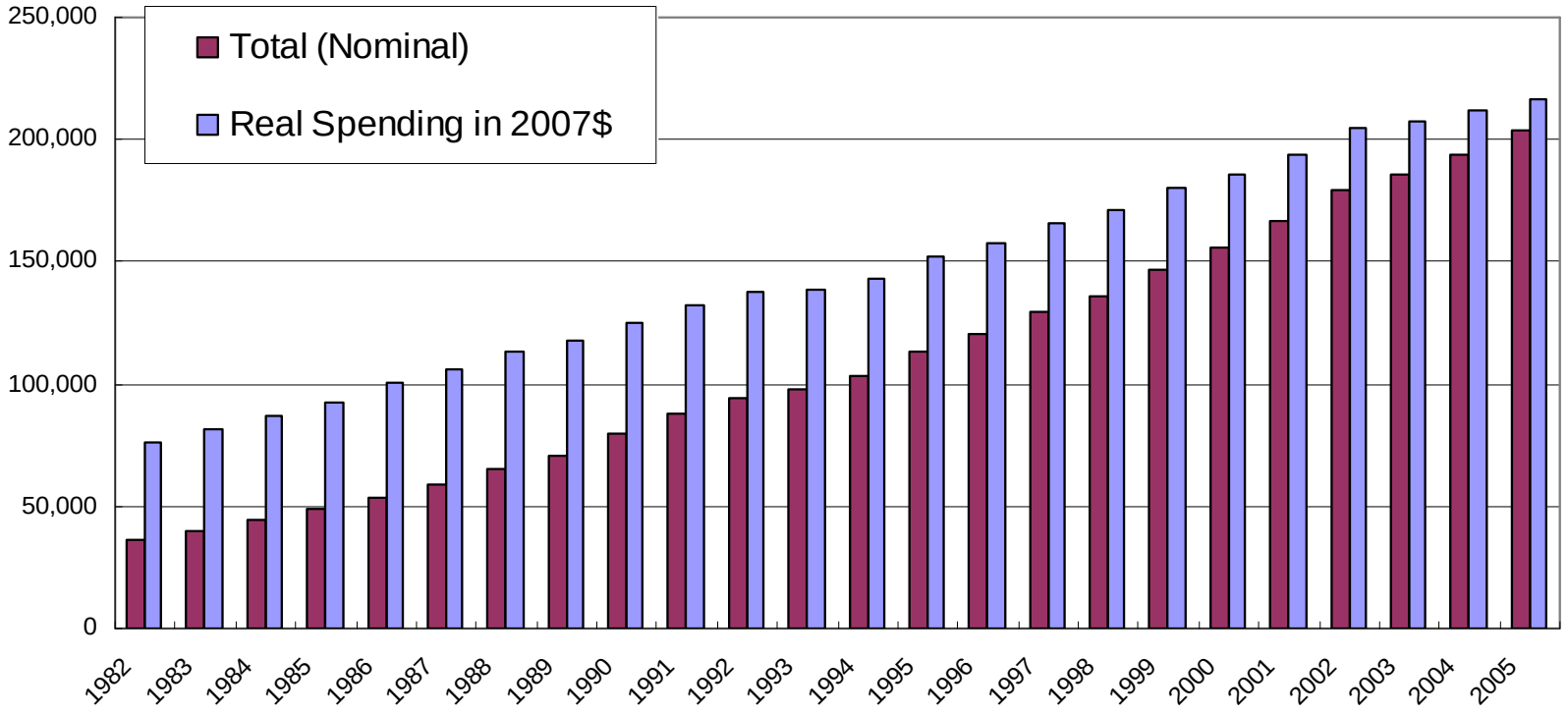
Total Spending on Crime Control



Source: Bureau of Justice Statistics

Why crime control matters… 3-6% increases over inflation.

Total Spending on Crime Control



Source: Bureau of Justice Statistics

But harms from crime seem to be increasing

- Crime is steady, but lower than in the late 1980s.
- The correctional system is growing steadily; and
- Expenditures on crime are increasing faster than inflation.

But harms from crime seem to be increasing

What does the future hold?

Hard to tell from these data - estimates of harms suffered by crime victims suggests that Americans put a higher value on victimization than in the past.

5 studies have used jury data to estimate crime losses

- Crime losses include injury, lost wages, pain and suffering, fear;
- The studies use data from jury awards premised on the idea that jurors are objective arbiters of harms.

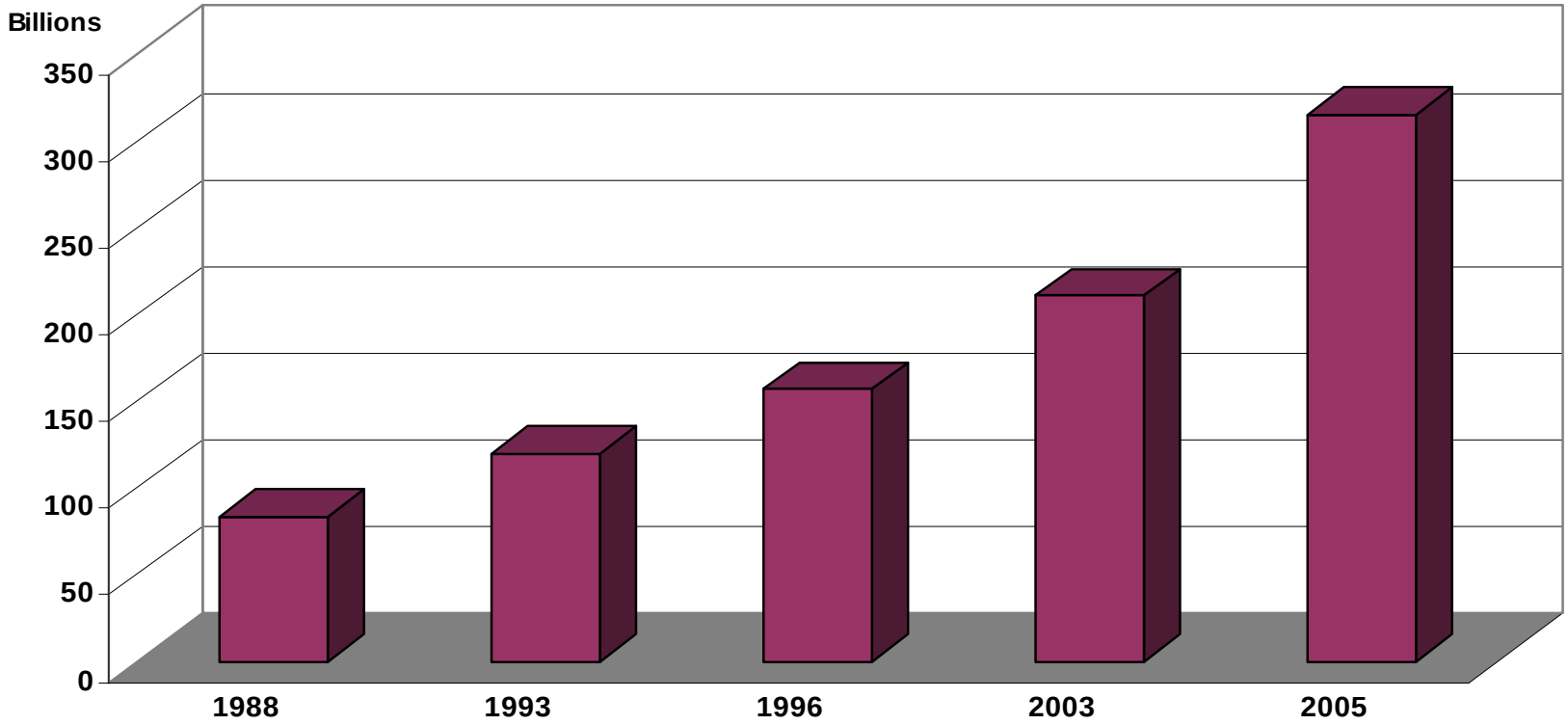
But harms from crime seem to be increasing

Monetized Harms Suffered by Victims of Crime

Year	Author	Murder	Rape	Robbery	Aggravated assault	Burglary	Larceny -theft	Motor vehicle theft
2005	Cohen	$10.8 M	$264,502	$258,922	$78,123	$27,901	$819	$5,412
2003	French & McCollister	8.5 M	200,037	46,484	111,801	3,974	1,344	8,328
1997	Rajkumar and French	7.8 M	74,271	32,040	32,040	1,909	1,067	1,666
1994	Miller & Cohen	4.2 M	123,638	18,475	21,317	2,558	526	5,684
1988	Cohen	2.8 M	97,347	24,017	22,880	2,132	341	5,969

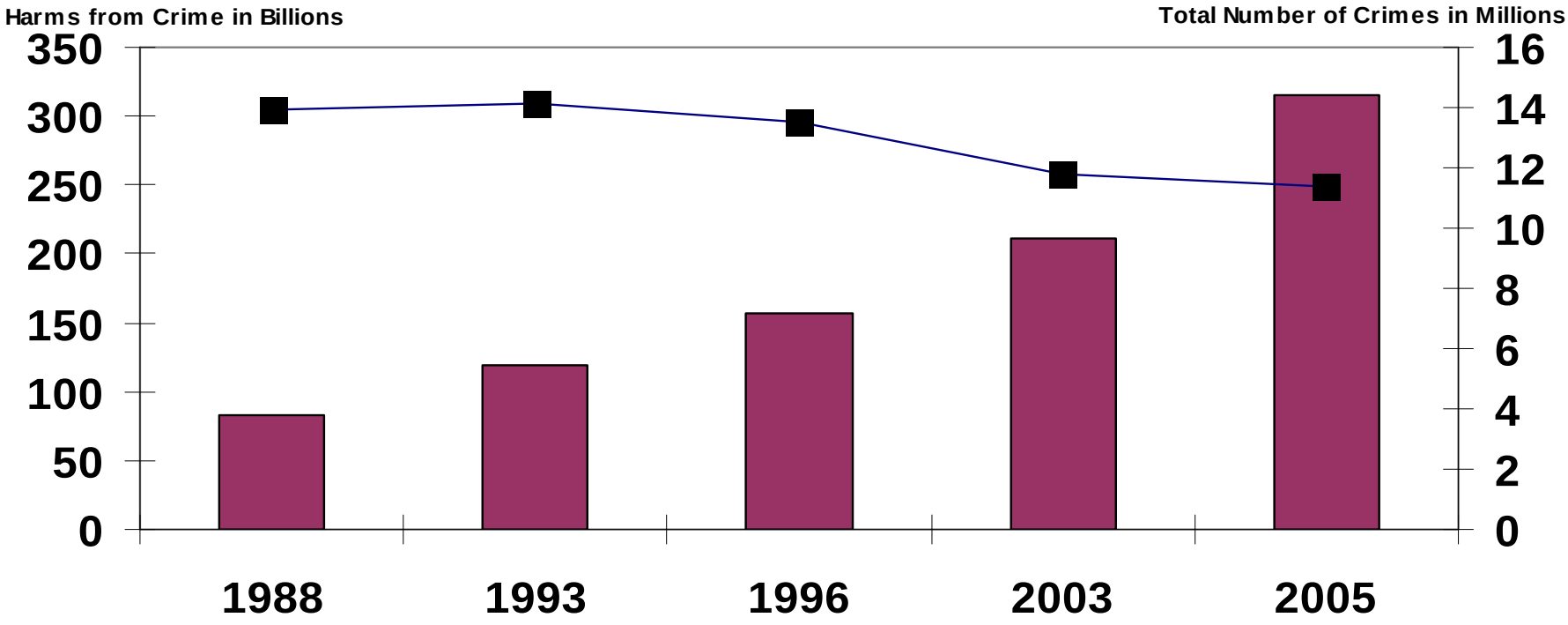
Total harms from crime appear to be increasing

Total Harm from all Crime (1988-2005)



Total harms from crime appear to be increasing

Total Harm from all Crime and Number of Crimes (1988-2006)



… And Why it May Matter More in the Future

Could indicate that America is becoming more risk-averse;

- On average, products are more valuable (greater wealth);
- Average age increased from 30 to 37 from 1980-2007
- Average family income increases from $47,000 to more than $66,000 in the same period…

If these trends continue, implies more crime control spending even if crime rates remain steady..

BUT, All spending is not created equal – so investments in better policies can reduce crime without increasing expenditures…

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  - Providing Services to Reentering Prisoners;
  - Using DNA to Solve Property Crimes
- Critical Issues in using ROI.

Drug Courts are the Main CJS-Treatment Delivery Mechanism

Many studies have found treatment to be more cost-effective than other anti-crime programs – although results are contentious.

RAND (1992) found treatment to be more cost-effective than longer sentences, source country controls and interdiction strategies;

Many treatment regimes found to be more effective than business as usual (mix of prison and probation); BTC, TASC, TC, FFT, MST, etc.

Drug Courts are the Main CJS-Treatment Delivery Mechanism

Despite this evidence, CJS-based treatment remains relatively rare, and is becoming increasingly rare…

Drug Courts are the most prevalent alternative to incarceration program and can crime by 10-20%..

We estimated (ex ante) less than 5% of arrestees entered a program.

Drug Courts Then, at best, drug courts might reduce crime by 1%. More likely, at current capacity and effectiveness, drug courts can reduce crime by less than one-half of one percent.

Why Have Drug Courts Growth Rates Stagnated (at such a Low Level)?

Drug court expansion is limited by two factors:

- Scarce Resources. Limited federal funding +limited state and local investment = limited expansion;
  - Result – while the number of drug courts is still increasing rapidly, the number of drug court clients is increasing more slowly (and the rate of increase is even slower).
- Risk-aversion (prosecution and defense);
  - Result – substantial barriers to eligibility in virtually all drug courts;

Research Questions

1) How many individuals annually enter the CJS who are at risk of drug abuse/dependence?;

2) How many crimes would be prevented if they received treatment (in the most common treatment modalities)?;

3) In sum, if access to treatment were expanded, how many crimes could be prevented and what are the costs and benefits of doing so?

Data Sources and Intended Uses

NSDUH	ADAM	DATOS
• National survey of households • Several questions overlapping with ADAM • Particularly, arrest in last 12mos	• Survey of arrestees • Drug abuse/dependence (DSM-IV) • Arrests in last 12mos	• Survey of treatment participants, various modalities • DSM-IV (almost) • Offense-specific arrests (at intake and 12mo follow up)

- Re-weight ADAM to resemble NSDUH
- Used re-weighted ADAM data to estimate potential client prevalence (number of arrestees)
- Used DATOS to estimate modality and risk specific treatment effects (number of crimes averted annually)
- Interpolated all data onto the synthetic dataset

Scaling Prevalence Estimates II
Current Treatment Slots

	Urban	Rural	Suburban	Overall
Size of the at-risk population	525,224	485,223	460,891	1,471,338
Size of the drug court-eligible population	39,238	36,250	34,433	109,921
Estimated number of drug court slots	18,998	25,106	11,261	55,365
Percentage of drug court eligible arrestees who were treated at drug court	48.4%	69.3%	32.7%	50.4%
Percentage of all arrestees who are eligible and treated at drug court	3.6%	5.2%	2.4%	3.8%

Source: Urban Institute analysis of MADCE surveys.

Estimates of the Cost of CJS Treatment

	Average length of stay (weeks)	Economic Price per treatment episode
Long-term Residential	20	$16,448
Short-term Residential	3	$3,287
Outpatient Methadone	99	$8,609
Outpatient Drug-Free	17	$3,557

Source: Roebuck, French and McClellan gathered information on 53 outpatient and 32 residential (inpatient) programs between 1993 and 2002.

Average drug court cost is $4,060. Added to each modality.

CBA – Clients Currently Eligible to be Treated by Drug Court

	at risk of dependei Estimate	… at risk of abuse Estimate	Overall Estimate
Number of Clients	62,686	47,235	109,922
Total Costs under modalities			
LT Residential	82,613,160	62,250,361	144,863,521
ST Inpatient	56,697,752	42,722,679	99,420,431
OP Methadone	141,982,010	106,985,755	248,967,765
OP DrugFree	302,652,815	228,053,822	530,706,637
Total (costs)	**583,945,737**	**440,012,617**	**1,023,958,354**
Total Treatment Benefits ($ Averted - *only dollarizable crime categories*)			
Drug	966,506,397	1,215,856,445	2,182,362,842
Fraud	62,428,634	43,502,081	105,930,715
Burglary	63,607,132	90,098,643	153,705,775
Larceny	115,548,929	29,314,183	144,863,112
Robbery	-2,924,953	-21,760,060	-24,685,013
Agg. Assaults	-171,343,439	-197,435,533	-368,778,972
Oth. Assaults	29,551,534	-27,322,978	2,228,556
Total (Benefits)	1,063,374,235	1,132,252,780	2,195,627,015
Net Benefit/Cost Ratio	1.82	2.57	2.14
Net $ Saved to society	479,428,498	692,240,163	1,171,668,661

CBA – Clients Currently Treated by Drug Court

	at risk of dependei Estimate	… at risk of abuse Estimate	Overall Estimate
Number of Clients	31,805	23,560	55,365
Total Costs under modalities			
LT Residential	41,914,973	31,049,494	72,964,468
ST Inpatient	28,766,419	21,309,396	50,075,815
OP Methadone	72,036,612	53,362,801	125,399,413
OP DrugFree	153,555,252	113,749,636	267,304,888
Total (costs)	**296,273,255**	**219,471,328**	**515,744,583**
Total Treatment Benefits ($ Averted - *only dollarizable crime categories*)			
Drug	497,577,492	639,119,284	1,136,696,776
Fraud	32,101,602	20,383,360	52,484,962
Burglary	33,821,077	43,685,407	77,506,484
Larceny	58,546,304	13,795,785	72,342,089
Robbery	-1,983,991	-13,412,585	-15,396,575
Agg. Assaults	-88,819,870	-95,656,411	-184,476,281
Oth. Assaults	13,658,009	-12,847,150	810,859
Total (Benefits)	544,900,624	595,067,689	1,139,968,313
Net Benefit/Cost Ratio	1.84	2.71	2.21
Net $ Saved to society	248,627,369	375,596,361	624,223,730

Clients Currently Eligible to be Treated by Drug Court (All)

	. at risk of dependen Estimate	… at risk of abuse Estimate	Overall Estimate
Number of Clients	1,149,019	322,320	1,471,339
Total Costs under modalities			
LT Residential	1,514,269,637	424,779,165	1,939,048,802
ST Inpatient	1,039,249,493	291,527,691	1,330,777,185
OP Methadone	2,602,479,387	730,041,066	3,332,520,453
OP DrugFree	5,547,517,698	1,556,175,912	7,103,693,610
Total (costs)	10,703,516,216	3,002,523,834	13,706,040,050
Total Treatment Benefits ($ Averted - *only dollarizable crime categories*)			
Drug	15,753,804,547	5,393,134,402	21,146,938,948
Fraud	605,397,274	199,245,871	804,643,145
Burglary	1,224,719,286	619,071,043	1,843,790,330
Larceny	2,380,494,994	236,589,125	2,617,084,119
Robbery	894,547,162	279,344,514	1,173,891,676
Agg. Assaults	641,750,656	131,920,577	773,671,233
Oth. Assaults	12,533,570,326	5,172,398,098	17,705,968,424
Total (Benefits)	34,034,284,245	12,031,703,631	46,065,987,876
Net Benefit/Cost Ratio	3.18	4.01	3.36
Net $ Saved to society	23,330,768,029	9,029,179,797	32,359,947,826

The Maryland Reentry Partnership Initiative (REP)

Services

- Case management services that begin during incarceration and last until two years following release
- Substance abuse treatment
- Mental and physical health treatment
- Education programs
- Job readiness/employment
- Housing
- Family and community reunification

What was the Impetus for Developing the REP Program?

In 2001 nearly 1/3 of Maryland inmates were classified as 'idle'. In-prison and post-release programs and services were scarce:

- 17% of Maryland inmates were involved in education or vocational programming at any given time;
- 40% participated in educational or vocational programming;
- 7% participated in work release programs;
- 3% were admitted to the Maryland Division of Corrections' (MDOC) Residential Substance Abuse Treatment program (RSAT).
- In 2000, 15 % received therapy or counseling for mental health problems.

Research Design

- The evaluation is a retrospective quasi-experimental comparison of prisoners released from MTC to REP-eligible and non-REP zip codes in Baltimore City.
- The comparison group was generated from a cohort of all prisoners released to non-REP Baltimore zip codes in the same period
- The comparison group was further restricted using propensity score matching to create balanced samples.

Research Questions

Tested five hypotheses about the impact of the REP program:

- Were REP participants less likely to be arrested (convicted) for a new crime following their release?
- Were REP participants arrested (convicted) fewer times following their release from prison?
- Did REP participants take longer to be re-arrested?

Results from the Evaluation of REP

Compares 229 REP clients to 370 prisoners released from the Maryland Transition Center to non-REP neighborhoods in Baltimore City. Studied for an average of 38 months.

- Reduced recidivism (72% compared to 77.6%) committed at least one new crime in the study period;
- REP participants committed a total of 68 fewer crimes;
- No significant differences in time to re-arrest, likelihood of a new conviction, number of new convictions, or time to a new conviction;
- REP yields about $3 in benefits for every dollar in new costs, for a total net benefit of $7.2 million, or $21,500 per REP participant.

A closer look….

The benefits of REP are largely driven by differences in homicide (7 homicides in comparison group vs. zero homicides in REP group):

- Result due to small sample size?
- Does REP have the effect of reducing the probability that offenders commit the most serious crimes?

The CEA of DNA Study Design

The goal of the study is to determine:

- Is DNA testing more **cost-effective** than traditional crime-solving strategies in cases of property crime – particularly residential burglaries;

Police Departments in 5 U.S. cities (LA, Orange County (CA), Phoenix, Denver, and Topeka), submit data for 500 property cases where biological evidence (i.e., saliva, blood, etc.) is present.

- Each case will be randomly assigned to either:

    1) **Test Condition (250)** = Investigation + DNA Testing
    2) **Control Condition (250)** = Investigation

Samples from control cases will not be tested for at least 60 days.

What are the *costs* associated with an investigation that includes DNA analysis?

- How much does it cost to process DNA per case? How much does each agency pay (police, the local and state lab)?
- Cost per arrest/ID/profile.
- Difference in outcomes:
  - The number of suspects identified and arrested
- What types of cases have the greatest returns by:
  - Evidence collector;
  - Type of crime (Commercial/Residential/Auto)
  - Type of evidence (cells, saliva, blood);

And, differences between fingerprint and DNA outcomes.

Number of Cases Assigned by Site

Site Location	Total Test Cases	Total Control Cases	Total cases
Topeka, KS	131	129	260
Los Angeles, CA	193	198	391
Denver, CO	255	255	510
Orange County, CA	250	251	501
Phoenix, AZ	251	249	500
Total	1080	1082	2162

Results of the Investigation

- Suspects identified in 31% of DNA cases;
- Suspects identified in 12% w/ traditional inv. only;

- Arrests in 16% of DNA cases (n=173);
- Arrests in 8% w/ traditional inv. only (n=86);

- Accepted for prosecution in 19% of DNA cases;
- Accepted for prosecution in 8% w/ traditional inv. only;

Investigative Approach used to Identify Suspects

Comparison Group, Suspects Identified in 12% of cases:

- 12% - traditional investigation (fingerprints, eyewitness, etc.).

Treatment Group, Suspects Identified in 31% of cases:

- 12% - traditional investigation (fingerprints, eyewitness, etc.)
- 16% - investigative lead from an offender hit;
- 3% - investigative lead from a forensic hit.

Comparison of DNA and Fingerprint Outcomes

Biological evidence was collected in every case, but fingerprints were collected in 1 out of 3 cases. Comparing just those cases with both types of evidence collected:

- DNA (16%) was twice as effective as traditional investigation (8%) in identifying suspects;
- DNA (9% yielded three times as many arrest (3%).

Comparing all cases:

- DNA (16%) was five times as likely to ID a suspect (3%); and,
- DNA (9%) was nine times as likely to yield an arrest (1%).

Criminal History of Arrestees

Suspects arrested via CODIS ID had substantially more prior arrests and convictions.

- DNA arrestees had 2.9 prior felony convictions and 5.6 prior felony arrests.
- Arrestees identified by traditional investigation had 0.9 prior felony convictions and 1.7 prior felony arrests.

The Cost-Effectiveness of DNA Processing in High Volume Crimes

The additional cost of a new suspect identification was $4,514;

The additional cost of a new arrest was $14,178; and,

The additional cost of a new case that was accepted for prosecution was $6,913.

DNA could lead to a revolution in policing in America:

- High arrest and conviction rate will lead to increasing demand for the use of DNA (CSI effect)
- May cause a shift in how resources are allocated in policing and prosecution.

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Issues in Using ROI to Create Policy

Most critical issue: two types of ROI.

- Social Return on Investment; and
- Financial Return on Investment.

Effective crime policy is likely (in the short-term) to have

- Positive social return on investment
- Negative financial return on investment

For instance, drug courts cost the court system more, and private citizens are the main beneficiary.

How to incentivize investment in policies with negative financial returns

Lesson #1: any positive financial returns will not be on the table at the end of the day, must be taken off the table upfront;

Lesson #2: Planning must be inclusive and long-term (see Washington State and WSIPP);

Lesson #3: If lesson #2 can not be implemented, some system must be put into place to reward agencies with higher costs and positive externalities.

Transferable inter-agency credits?

Contact Information

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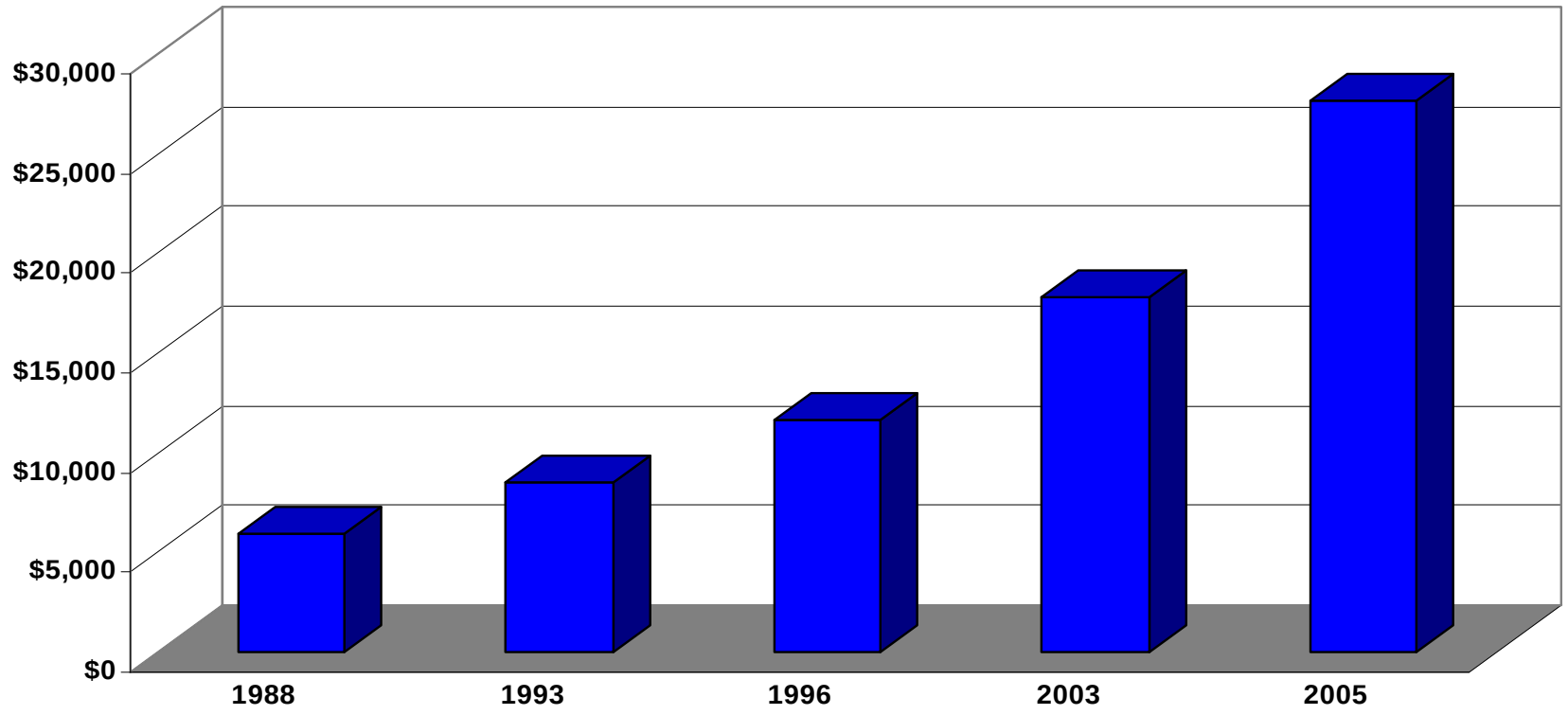
Average Harm per Crime (1988-2006)



What We Are Trying To Create?

	Profile's Prevelance in the Population of Arrestees	Probability that a particular profile will be at risk of drug …		Expected Benefits that Accrue by Treating a Particular Profile Under …															
				Treatment Modality 1 Long-term Residential				Treatment Modality 2 Short-Term Inpatient				Treatment Modality 3 Outpatient Methadone				Treatment Modality 4 Outpatient Drug Free			
				@ Risk of Abuse		@ Risk of Dependence		@ Risk of Abuse		@ Risk of Dependence		@ Risk of Abuse		@ Risk of Dependence		@ Risk of Abuse		@ Risk of Dependence	
		Dependence	Abuse	Crime Type I	Crime Type II	Crime Type I	Crime Type II	Crime Type I	Crime Type II	Crime Type I	Crime Type II	Crime Type I	Crime Type II	Crime Type I	Crime Type II	Crime Type I	Crime Type II	Crime Type I	Crime Type II
Profile 1																			
Profile 2																			
…																			

SOURCE: NSDUH AND ADAM

SOURCE: DATOS

AGE	20 / 25 / 30 / 35 / 40 / 45 / 50
RACE	BLACK / WHITE / OTHER
GENDER	MALE / FEMALE
LOCATION	NON-MSA / MSA (< 1 MIL) / MSA (> 1 MIL)
OFFENSE	VIOLENT / PROPERTY / DRUG / OTHER
VIOLENT HISTORY	YES / NO
TREATMENT HISTORY	YES / NO
ALCOHOL DEP / ABU PROBLEM	YES / NO