

The Supply of Doping Products and the Potential of Criminal Law Enforcement: An Examination of Italy's Experience

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From athletes' testing to law enforcement

- Thanks to WADA's Code uniform policy in elite sports but focus on athletes' testing increasingly seen as ineffective and costly
 - Only about 1% of athletes tests positive
 - Despite 6,000 tests, only 9 athletes tested positive at London Olympics
 - €129 million spent in 258,000 tests worldwide in 2010
- Sports governing bodies increasingly see criminal law enforcement as attractive option
 - For WADA President Fahey, law enforcement is “future of anti-doping”
- Wide differences in state policies concerning possession of, and trade in, doping products
 - A few countries, *in primis* Italy, have criminalized trade in doping products and actively prosecute suppliers

What can anti-doping criminal law enforcement achieve?

Doping: a rising public health problem, but no attention to supply yet

- Doping products (i.e., banned substances and methods) are used to enhance not only performance but also image and aggressiveness
- Lifetime prevalence of steroid use estimated in at least 3% in young men worldwide (Kanayama et al. 2009)
 - Some tens of millions of people worldwide have used steroids
 - Comparable to prevalence of some illegal drugs
- Some substances are at least as harmful as illegal drugs
- Numerous studies on demand, but hardly any study on supply

How do doping products research final users?

Who are the suppliers and which distribution systems do their form?

What are their motivations, modus operandi, revenues and profits?

Aims and objectives

- Aims: on the basis of Italy's anti-doping criminal law experience
 1. To analyze production and distribution (supply) of doping products
 2. To understand how anti-doping criminal provisions and their enforcement can contribute to improve control of doping
- Seven objectives support aims:
 - To assess size of the market for doping products
 - To identify types of suppliers and examine their modus operandi
 - To assess relative importance of different sources of products
 - To map distribution system of doping products
 - To estimate financial dimensions of the doping market
 - To account for and assess anti-doping law enforcement and judicial activities and identify challenges
 - To draw policy implications from analysis

Research design

- Thanks to intense collaboration with Comando Carabinieri per la Tutela della Salute (NAS), we have drawn on multiple data sources, largely from criminal justice system
 - Official documents of 46 anti-doping investigations
 - 80 data files on major NAS investigations from 1999 to 2009
 - Data on anti-doping activities of all 38 NAS Branch Offices
 - Seizure data from all police forces
 - Interviews with 26 NAS officers
 - Interviews with 7 prosecutors and 2 other experts
 - All relevant statistics
 - Scientific and grey literature and media
- Triangulated data to validate findings

Doping is conceived as semi-legal market

- A market approach has not yet been applied to doping
- Legal status of doping products suffers the burden and ambiguity of contextual specificity
 - Even in Italy, users of the same doping products may or may not commit a legal offense, depending on the goals of their use
- Legal status of supply-side activities varies depending on legislation in different countries and, even within each country, depending on
 - Products exchanged and their final use
 - Bona fide of some suppliers (e.g., pharmacists)
 - Applicable offences
- Illegality must be ascertained empirically for each country, product, and supplying activity

Outline

➤ Findings:

- **The market for doping products**
- Anti-doping criminal provisions and their enforcement in Italy

➤ Generic conclusions and lessons for policy-making

A large market, a public health issue

	Users of doping products	Percent of total	Users w/o cannabis or cocaine	Percent of total
Athletes	185,000	73%	150,000	69%
Body-builders	68,700	27%	68,700	31%
Total	253,700	100%	218,700	100%

- Roughly same amount of people consume doping products as heroin
 - Most users are athletes (73% or 69%) of total
 - Super elite athletes targeted by CONI (10,000) represent tiny minority (3.9%)
- No estimate of use among non-competitive sports-persons and physically inactive people
- Estimate is very conservative: based on rate of positive results in CVD's anti-doping tests and on investigation results for body-builders

CONI v. CVD

Anti-doping-tests carried out by the Italian National Olympic Committee (CONI) and sports federations on elite athletes – 2002-07

	2002	2003	2004	2005	2007	Average
Total tests	7,823	9,431	9,950	8,791	11,154	9,430
Positive results	48	62	65	52	69	59
Percent of positive results	0.61	0.66	0.65	0.59	0.62	0.63

Source: CONI, 2012.

NB: CONI has published no data about positive results since 2007; it published in late 2012 data on adverse results.

Anti-doping-tests carried out by Commissione per la vigilanza e il controllo sul doping e per la tutela della salute nelle attività sportive (CVD) on recreational athletes – 2003-11

	2003	2004	2005	2006	2007	2008	2009	2010	2011	Average 2008-11
Total tests	740	1,556	1,875	1,511	1,607	955	1,328	1,115	1,676	1,374
Positive results	20	42	37	37	46	39	42	53	52	46.5
Percent of positive results	2.7	2.7	2.0	2.4	2.9	4.1	3.2	4.8	3.1	3.8

Source: Ministero della Salute and ISS; several years.

Doping doses for the main types of doping substances seized by NAS

Doping substances	1 dose
Anabolic agents	10 mg
Peptide hormones, growth factors and related substances, of which	
- EPO and other similar peptide hormones	200 IU or 1 mcg
- GH and other similar peptide hormones	1 IU or 0.333 mg
- Chorionic gonadotrophin	1,000 IU
- Gonadorelin	1.2 mg
- Adrenocorticotrophic hormone (ACTH) and other corticotrophins	0.25 mg
- Insulin	10 IU
Beta-2 agonists	2 mcg
Hormones and metabolic modulators	10 mg
Diuretics and other masking agents	25 mg
Stimulants	25 mg
Narcotics	50 mg
Glucocorticosteroids	25 mg
Beta-blockers	5 mg

88 m doses seized by NAS in 1999-2009

Type of substance	Pills, ampoules and other packages seized	Active ingredients seized (mg)	No. of doping doses	% of total doses
Anabolic agents	3,531,232	745,476,230	74,547,623	83.16%
Peptide hormones, growth factors and related substances, of which:	45,812	Not comparable	1,604,608	1.79%
-EPO and similar hormones	12,430	Not comparable	626,335	0.70%
-GH and other growth factors	20,482	Not comparable	928,335	1.04%
-Related substances*	12,900	Not comparable	49,938	0.06%
Beta-2 agonists	640	9,780	4,890	0.01%
Hormones and metabolic modulators	35,561	355,610	35,561	0.04%
Diuretics and other masking agents	13,339	340,125	13,605	0.02%
Stimulants	3,373,570	291,379,175	11,655,167	13.00%
Narcotics	1	6,750	135	0.00%
Glucocorticosteroids	130,802	4,549,125	181,965	0.20%
Beta-blockers	11	55	11	0.00%
TOTAL	7,176,780	1,042,116,850	88,043,565	100.00%

Source: our elaboration on NAS data.

Steroids and body-builders account for lion's share of market

Substances	Athletes	Body-builders	Total doses per class	Percent of total
Anabolic agents	45,304,348	173,522,903	218,827,251	58.93%
Peptide hormones, growth factors and related substances*, of which	19,956,522	3,767,419	23,723,941	6.39%
- EPO	7,675,907	0	7,675,907	2,07%
- GH**	n.a.	3,564,001	3,767,419	0,96%
- Chorionic Gonadotropin	12,280,615	203,418	12,484,033	3,36%
Beta-2 agonists	13,130,435	11,081	13,141,515	3.54%
Hormones and metabolic modulators	0	132,968	132,968	0.04%
Diuretics and other masking agents	32,391,304	55,403	32,446,708	8.74%
Stimulants	24,739,130	27,036,774	51,775,905	13.94%
Narcotics	7,000,000	0	7,000,000	1.89%
Glucocorticosteroids	21,130,435	531,871	21,662,306	5.83%
Beta-blockers	2,608,696	0	2,608,696	0.70%
Total doses	166,260,870	205,058,419	371,319,290	
Percent of total	44.78%	55.22%	100.0%	

Key substances are excluded for which there are clues of misuse: e.g., gonadorelin

Region/Province	Packages sold	Total value	Packages sold per 100,000	Total value per 100,000
Piedmont	28,178	7,342,211	635.7	165,642
- Novara province	4,063	1,113,759	1,184.4	324,673
Aosta Valley	28	8,106	22.0	6,379
Trentino Alto Adige	97	26,557	9.5	2,607
Venetium	5,675	1,661,377	116.2	34,006
Friuli	1,645	507,734	133.6	41,248
Liguria	814	235,196	50.4	14,563
Emilia Romagna	2,942	758,387	67.8	17,482
- Ferrara province	2,396	623,474	669.3	174,164
Tuscany	851	203,713	23.0	5,494
Umbria	12	1,576	1.3	176
Marche	867	242,723	55.2	15,464
Latium	872	233,825	15.5	4,156
Abruzzo	42	5,211	3.1	390
Molise	401	147,955	125.0	46,121
Campania	12,311	2,921,818	211.8	50,268
- Salerno Province	6,207	1,508,804	561.2	136,408
Apulia	157	35,247	3.4	864
Basilicata	270	89,674	45.7	15,184
Calabria	15,317	4,297,389	762.5	213,938
- Cosenza province	7,049	2,024,430	961.0	275,993
Sicilia	8,542	2,266,027	169.6	44,980
- Caltanissetta province	2,583	748,339	948.6	274,833
- Palermo province	5,406	1,393,428	434.3	111,951
Sardegna	431	78,859	25.8	4,719
Total	101,310	26,727,207	168.7	44,512
Selected provinces and region	35,972 (35.5%)	9,685,193 (36.2%)	674.5	181,616
Rest of country	65,338	17,042,014	119.4	31,148
Hypothetical sales in selected provinces and region at average rate	11,564	1,661,081	119.4	31,148
Difference effective and hypothetical sales	24,408 (24.1%)	8,024,112 (30.0%)	n.a.	n.a.

Source: CVD, 2010 and Istat, for the population data.

Suppliers are NOT marginalized

- Mostly men
- Mostly Italian
- Few have criminal records for doping-related offences or fights
 - Hardly anybody has traditional criminal career
- Most of them have legitimate profession or occupation
- Very limited mafia involvement
 - Only Neapolitan camorra groups are involved in two side-activities
 - “Receive” drugs stolen by truck robbers
 - Engage in fixing horse races in Naples area by administering doping substances to horses

Most suppliers are white-collar criminals

Category	Type
Gym	Gym managers or owners and body-building instructors Managers or owners of dietary supplement shops
Health care	Pharmacists Physicians Hospital, health clinic and nursing home employees Employees or salesmen of (para-) pharmaceutical companies
(Human) Organized sports world	Staff members of sports teams Staff members of sporting federations
Horseracing	Veterinary physicians Breeders Drivers
Use	Athletes Law enforcement officers practicing as body-builders
Other	People with no distinctive profession or occupation (e.g., truck robbers)

Many suppliers belong, or are close to, organized sports world

- Pharmacists:
 - E.g., Dr. Nigrelli
- Physicians:
 - E.g., Prof. Conconi, Dr. Ferrari and others
- Staff members of sports teams:
 - E.g., staff members of cycling teams as well as Giraud and Dr. Agricola, manager and chief team physician of Juventus football club
- Staff members of sports federations:
 - Dr. Faraggiana, FIDAL physician, and Camerini, FCI high-level official involved in “Oil for Drug”
- Veterinary physicians, breeders and horse riders
- Athletes:
 - E.g., many athletes from different sports

Many of them abuse position of authority and athletes' trust

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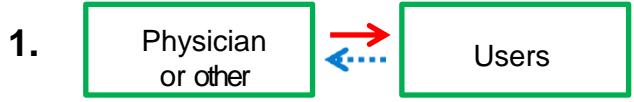
No evidence of use of violence or bribery

Distribution chains are also semi-legal

1. Doping methods
 - No separate distribution system
2. Substances manufactured for doping purposes
 - In pharmacies or in illegal labs, in Italy or abroad
 - “Producers-retailers” or distribution chain
 - Internet plays increasingly important role in sale of substances produced in illegal labs
3. Substances manufactured for legitimate purposes, in Italy or abroad, then diverted by
 - Manufacturing or distributing companies, their dependencies or employees
 - Traders, who sometimes sell drugs on the internet
 - Robbers stealing from trucks or deposits
 - Hospital or health clinic employees stealing from deposits
 - Pharmacists or their employees

Users bypass domestic distribution chains by buying stuff on internet

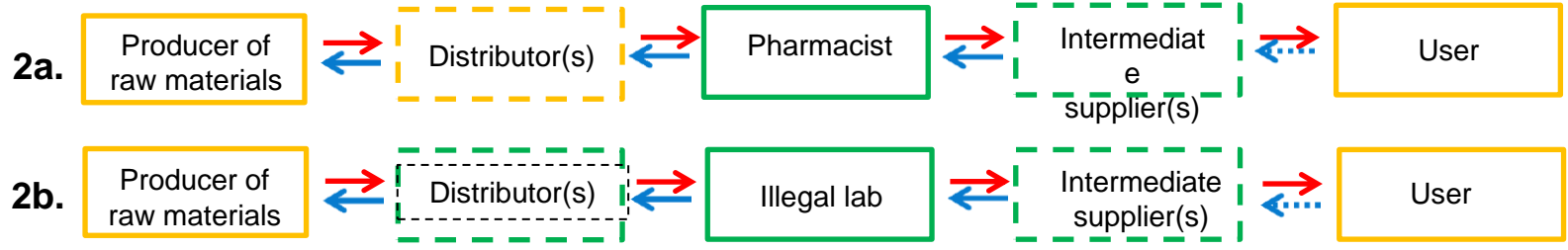
Methods



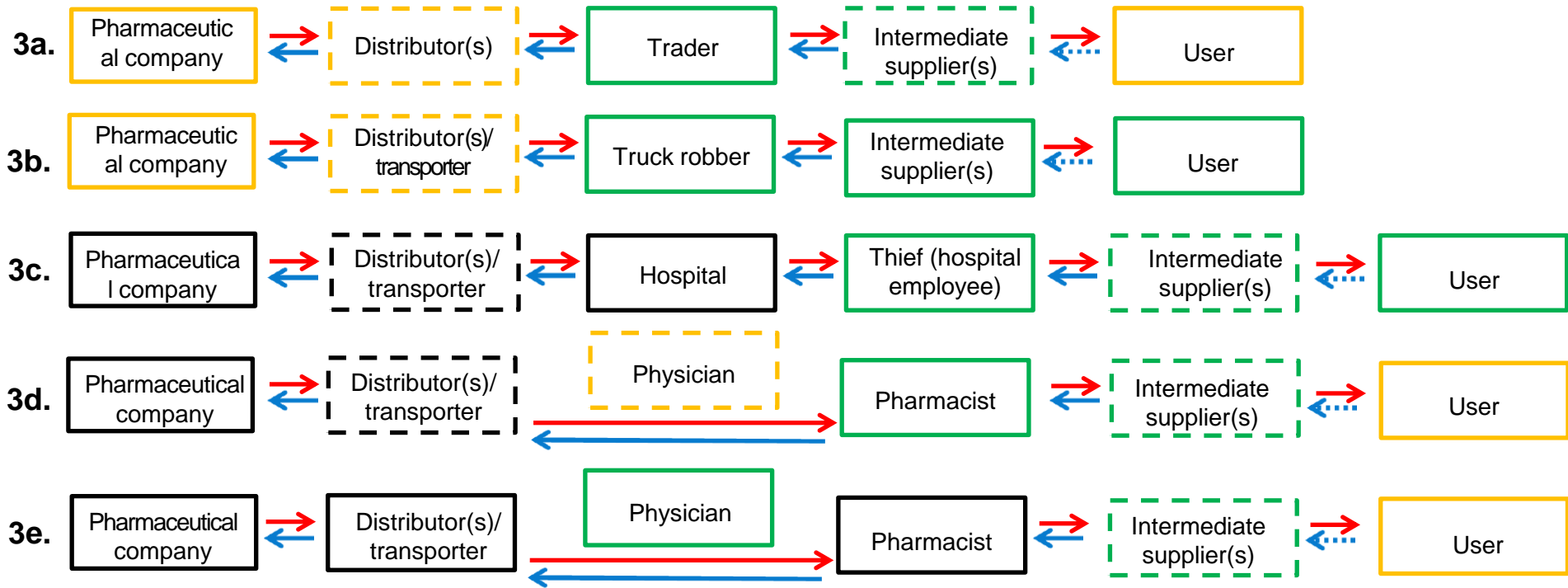
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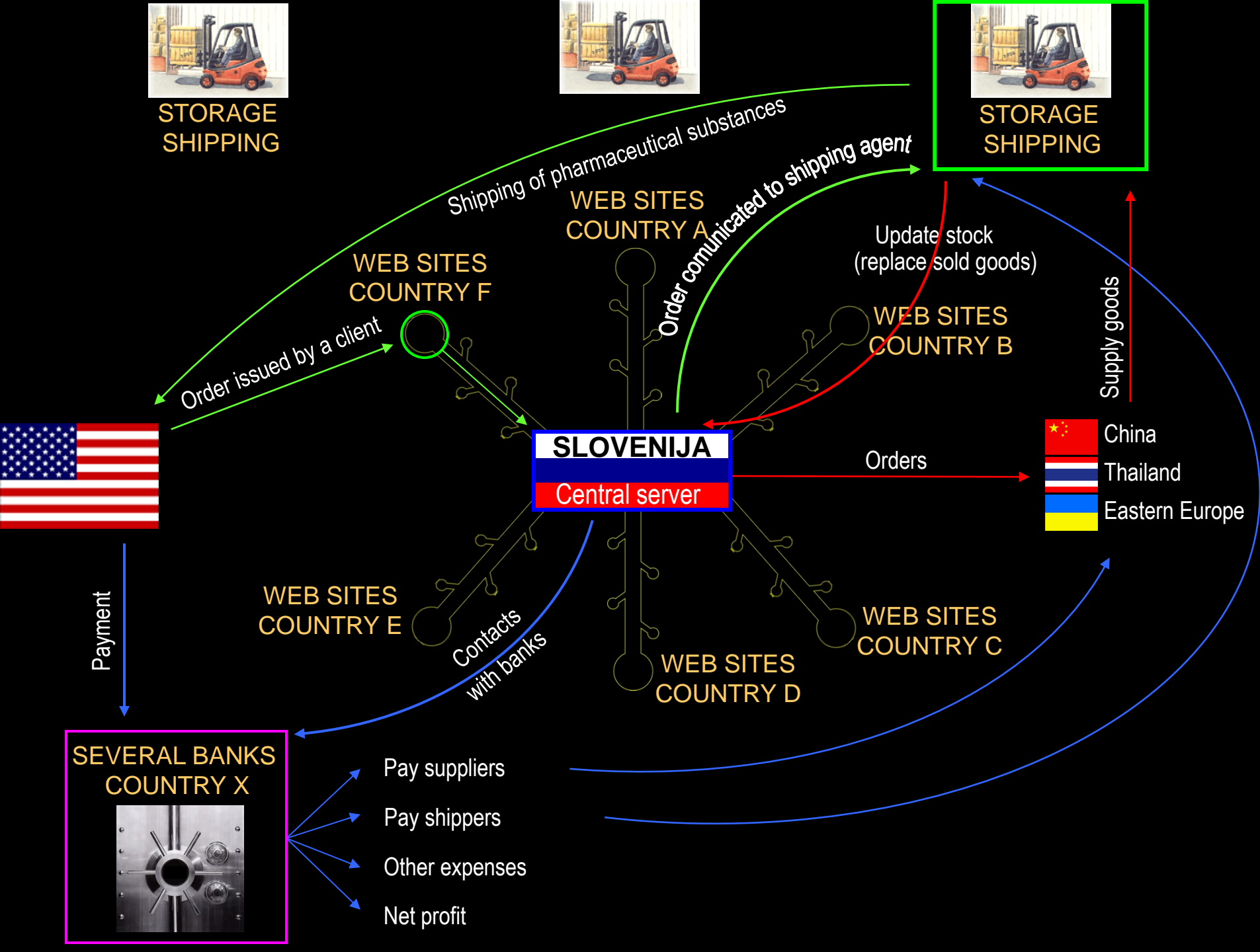
- Actor committing a crime
- Actor unaware of committing a crime
- Sale, transfer or administration of doping substance or method
- ← Money payment
- Possible actor
- Actor may or may not commit a crime
- ←···· Possible money payment

Substances manufactured for doping purposes



Substances manufactured for legitimate purposes by pharmaceutical companies





Protection of national sports bodies is most startling peculiarity of doping market

- Officials and staff members of sports bodies were openly accomplices of doping elite athletes until 1990s
 - Three CONI Presidents were charged of criminal organization together with Prof. Conconi for administering dangerous drugs to super elite athletes
 - IOC-accredited anti-doping lab in Rome was closed in 1998 because it did not test football players for steroids
 - Reports of doping practices were covered up by sport body officials
- Since 2000 lack of commitment in anti-doping and seeming tolerance of elite athletes' doping practices
 - Continuity in top management, CONI's delay in publishing results of anti-doping tests, sports federations' deficient collaboration with NAS, conflicts of interest for some CVD's board members

**Unparalleled case of government-tolerated and funded (!)
system of illegality**

Low (official) prices per dose

Type of substance	Active ingredients of one dose	Average price/dose
Anabolic agents (including testosterone)	10 mg	1.12
Peptide hormones, growth factors and related substances,* of which:	Variable	4.76
- EPO and other similar hormones	200 IU or 1 mcg	3.09
- GH and other similar hormones	1 IU or 0.333 mg	13.90
- Related substances**, of which	Variable	2.50
*Chorionic gonadotrophin	1,000 IU	3.27
*Gonadorelin	1.2 mg	48.05
*ACTH and other corticotrophins	0.25 mg	3.70
*Insulin	10 IU	0.03
Beta-2 agonists	2 mcg	0.20
Hormones and metabolic modulators	10 mg	1.26
Diuretics and other masking agents	25 mg	0.40
Stimulants	25 mg	0.60
Narcotics	50 mg	1.28
Glucocorticosteroids	25 mg	0.49
Beta-blockers	5 mg	0.26

- Judging by official prices, doping doses of most doping products are cheaper than those of illegal drugs
 - Exceptions are GH and gonadorelin
 - By comparison, 0.25 gram doses of heroin and cocaine cost €10.49 and €17.29 and a hashish joint €3.73
- But, prices paid by users may differ greatly from official price

Source: Our calculations on the basis of the Database on NAS investigations.

Relatively modest revenues and profits

- By multiplying official prices per dose with estimate of doses consumed, we estimate yearly revenues of €537 million
 - Smaller than illegal drugs:
 - Retail revenues of cocaine market are about €3,685 million
 - Due to high price, peptide hormones account for 27% of the market (6%)
 - Estimate is very conservative, as it reflects limits of testing and excludes GH and gonadorelin
- No information on manufacturers' revenues and profits, as only one lab has been seized in Italy
- Most other suppliers do not earn much
 - Few physicians serving elite athletes constitute exception

Outline

➤ Findings:

- The market for doping products
- **Anti-doping criminal provisions and their enforcement in Italy**

➤ Generic conclusions and lessons for policy-making

Legislation: Act 376/2000 is key but other offences are also relevant

- Act 376/2000 is cornerstone of Italy's anti-doping policy
 - Establishes three offences of anti-doping
 - First two concern athletes and their support personnel for procuring, administering, assuming or even encouraging the use of doping substances or methods, to improve an athlete's performance or to modify test (art. 9, §§ 1 and 2)
 - The third tackles illegal suppliers trading in doping substances outside official distribution channels (art. 9, § 7)
 - Sets up CVD
- Other offences are also charged in investigations, e.g.:
 - Several offences of criminal code
 - E.g., “illegal exercise of a profession” (art. 348), “administration of drugs in a dangerous way for public health” (art. 445), theft (art. 624), fraud (art. 640) and receiving (art. 648)
 - Sporting fraud (art. 1 of Act 401/1989)
 - Other offences from drug law, customs law and law implementing European Directive 2001/83/CE on Human medicines

Actors: No optimal division of labor or cooperation yet

- CVD administers list, organizes tests for recreational athletes
- Contrary to Act 376/2000, CONI has remained in charge of testing elite athletes and is officially recognized as NADO
 - Tests cost about €5.5 million yearly
- NAS centers carry out bulk of anti-doping investigations
 - 3,794 suspects reported for doping and 446 arrested in 2001-2010,
 - Invest about 14% of their resources in doping
 - Direct personnel costs for anti-doping are €1.4 million
- Other law enforcement agencies occasionally seize doping substances and carry out investigations
- Prosecutors are fully independent on executive, few very resolute and have launched high-level investigations
 - Negative side-effects: lack of prioritization and coordination, dependence on single prosecutor's good will and competence

Outcomes: Significant number of cases initiated and persons charged ...

	Section 1		Section 7		Total	
	Cases	Persons charged	Cases	Persons charged	Cases	Persons charged
2001	1		0		1	
2002	3		1		4	
2003	9		9		18	
2004	14		8		22	
2005	10		15		25	
2006	31	76	42	156	73	232
2007	19	40	34	116	53	156
2008	27	73	22	44	49	117
2009	36	64	32	114	68	178
Total 2001-09	150	n.a.	163	n.a.	313	n.a.
Average 2001-09	17	n.a.	18	n.a.	35	n.a.
Total 2006--09	113	253	130	430	243	683
Average 2006-09	28	63	33	108	61	171

Source: our elaboration on Istat, 2012.

- Among the persons charged, there are high-level athletes, support personnel and other suppliers

Outcomes: ... but very few criminal convictions

- No exact statistics but few final convictions are known
 - Some convictions have targeted high-level athletes
- Three explanations:
 - Many proceedings are still ongoing, most started after 2003
 - They often end with a *patteggiamento* (bargaining agreement)
 - Statute of limitations expires on many proceedings
- Criminal investigations provides evidence for successful disciplinary proceedings under sports rules
 - According to Haas, 90% of the cases he reviewed at CAS concerning support personnel comes from Italy
- Some prosecutors hesitate to share data with CONI due to mistrust

Five challenges hamper anti-doping criminal action

- General inefficiency of Italian criminal justice system is major obstruction
- Four are domestic:
 - Specific aspects of Act 376/2000
 - No provision for possession, no wiretapping for athletes and support personnel, focus on elite sports
 - Prosecutors and judges' insufficient knowledge of doping and anti-doping legislation, need to rely on external experts
 - CVD has organized training courses
 - Limited cooperation between law enforcement agencies and sports authorities
 - CVD's deficient coordination of Italy's anti-doping policy
- Fifth challenge concerns difficulties in international police and judicial cooperation

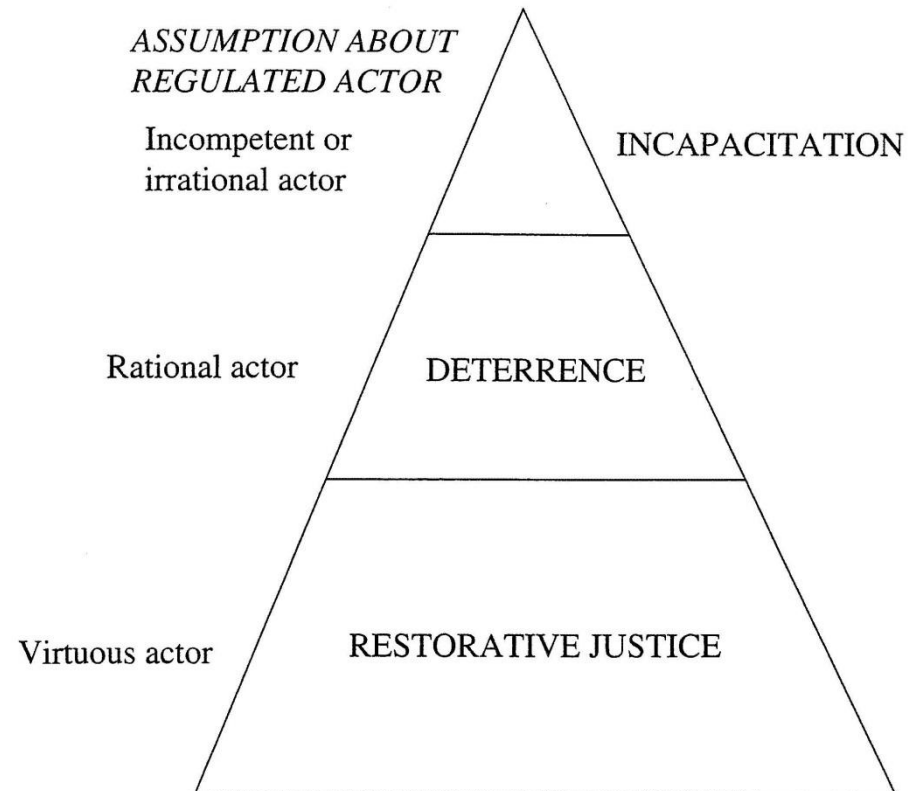
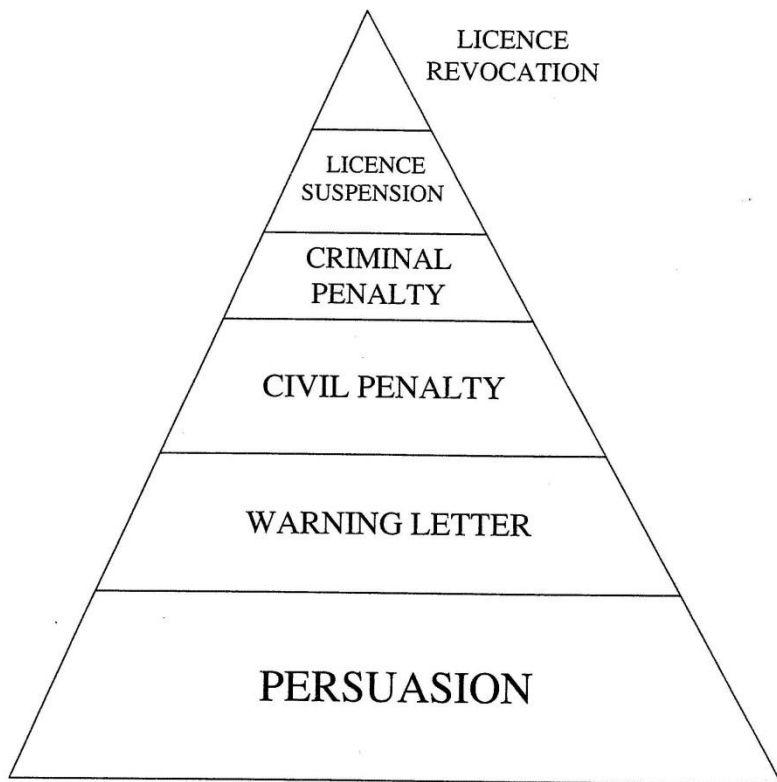
Outline

- The market for doping products and anti-doping policy in Italy
- **Generic conclusions and lessons for policy-making**
 - **Market for doping products**
 - **Potential and limits of anti-doping criminal law enforcement**
 - **Anti-doping policy in general**

Lessons for policy-making - Market

- Elite athletes targeted by CONI, sports federations and WADA constitute tiny minority of users
 - Policy focus must be broadened to include recreational users
- In other countries too, demand is met by semi-legal supply
 - There is a need to know more
- Users can obtain doping products from multiple sources, often through internet
 - No doping-free world is possible, no “war on doping” makes sense
- The embeddedness of exchanges in legitimate relationships is opportunity for controlling doping
 - Use all means of Braithwaite’s “regulatory pyramid”
- Organized sports world has not always been committed and even now, despite WADA, is unable to detect and prosecute suppliers of doping products
 - National governments need to intervene directly

Braithwaite's regulatory pyramid and its underlying philosophies



Lessons for policy-making - Enforcement

- Prosecution of key figures, under criminal law or sports rules, can play relevant symbolic and educational functions
 - Make criminal investigations possible in all countries
- Criminal investigations can better shed light on supply and are cheaper and “fairer” than testing
 - Complement testing with criminal investigations
- They presuppose no a priori distinction between use of doping products in elite sports and other contexts
 - Give up exclusive focus on elite sports
- They are hampered by lack of harmonized legislation
 - Harmonize national legislations, exploit equivalent offences
- They depend on law enforcement’s specialized knowledge
 - Create special units, train personnel, involve (NADO) experts
- Law enforcement agencies and NADOs can support each other
 - Foster cooperation between law enforcement agencies and NADOs

Lessons for policy making - General

- Many relevant pieces of information on demand, supply and policy outcomes are still unknown
 - Develop national and international monitoring system(s), exploiting existing networks (e.g., EMCDDA, UNODC), e.g.,
 - on the supply:
 - Amounts of doping substances seized in standardized units
 - Share of counterfeited products out of those seized and sold
 - Wholesale and retail prices of different substances
 - Share of worldwide production of some key drugs misused for doping purposes
 - New substances entering the market
 - on anti-doping criminal law enforcement:
 - Doping-related criminal offenses and sanctions foreseen
 - Number of criminal proceedings initiated and their outcomes (e.g., reports, suspects, defendants, case law and sanctions)

Key policy question

How can anti-doping criminal provisions and their enforcement contribute to improve control of doping?

Key conclusion and recommendation in a nutshell

- Criminal law enforcement has an unexploited, crucial (though limited) potential role in anti-doping
 - **All countries should pass appropriate legislation, on the basis of a standardized model so as to facilitate international police and judicial cooperation, provide their law enforcement agencies with the technical, institutional, and financial resources necessary to effectively investigate the problem of doping, foster the cooperation between these agencies and anti-doping organizations—and remain aware of the limits and harms of criminal law enforcement**