



Research paper

Filling in the blanks. An estimation of illicit cannabis growers' profits in Belgium

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ARTICLE INFO

Article history:

Received 2 August 2013

Received in revised form

18 December 2013

Accepted 28 January 2014

Keywords:

Cannabis

Profits

Snowball sampling

Price setting

Rate of return on costs

ABSTRACT

Background: As a result of increased pressure on cannabis cultivation in The Netherlands, the number of confiscated indoor cannabis plantations in Belgium is rising. Although increases are reported for all plantations sizes, half of the seized plantations contain less than 50 plants. In this study, factors and variables that influence costs and benefits of indoor cannabis cultivation are investigated as well as how these costs and benefits vary between different cannabis grower types.

Methods: Real-situation data of four growers were used to perform financial analyses. Costs included fixed and variable material costs, as well as opportunity costs. Gross revenue per grow cycle was calculated based on most recent forensic findings for illicit Belgian cannabis plantations and was adjusted for the risk of getting caught. Finally, gross revenues and return on costs (ROC) were calculated over 1 year (4 cycles).

Findings: Financial analysis shows that in all cases gross revenues as well as ROC are considerable, even after a single growth cycle. Highest profitability was found for large-scale (600 plants, ROC = 6.8) and mid-scale plantations (150 plants, ROC = 6.0). However, industrial plantations (23,000 plants, ROC = 1.4) and micro-scale plantations (5 plants, ROC = 2.8) are also highly remunerative. Shift of police focus away from micro-scale growers, least likely to be involved in criminal gangs, to large-scale and industrial scale plantations would influence costs as a result of changing risks of getting caught. However, sensitivity analysis shows that this does not significantly influence the conclusions on profitability of different types of indoor cannabis growers.

Conclusion: Seizure and confiscation of profits are important elements in the integral and integrated policy approach required for tackling illicit indoor cannabis plantations. The large return of costs evidenced in the present study, underpin the policy relevance of confiscating those illicit profits as part of enforcement.

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Introduction

Over the past few years, the Belgian illicit indoor cannabis growing industry has developed into a booming business (De Ruyver, 2006; Decorte, 2010b). Police data show that the number of discovered plantations, with dimensions ranging from 2 to >1000

plants, has risen from 35 in 2003 to 1111 in 2012 (Table 1). Although these figures can be seen as a direct indicator of police efforts in discovering plantations, they may also reflect an increase in the Belgian cannabis supply. In addition to a manifest increase in small-scale plantations, the number of large plantations has been growing as well (source: Belgian Federal Police – Desk Production DJP/Drugs). This trend is most likely stimulated by an increased Dutch involvement in the ‘Belgian’ producer networks. Indeed, many of the discovered plantations are set up or organized by Dutch criminal entrepreneurs or persons having at least some connection with the Netherlands, whereas most of the materials used are sourced from Dutch growshops (Fijnaut & De Ruyver, 2008; Spapens & Fijnaut, 2005; Van Camp, 2008). The latter indicates a shift of cannabis-growing entrepreneurship from the Netherlands

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Table 1
Discovered active cannabis plantations by scale type in Belgium: 2007–2012.

Grower type	2007	2008	2009	2010	2011	2012
Micro-scale (2–5 plants)	68	136	138	211	190	172
Mini-scale (6–49 plants)	135	219	227	312	376	453
Small-scale (50–249 plants)	50	125	161	165	187	166
Middle-scale (250–499 plants)	37	58	73	94	101	89
Large-scale (500–999 plants)	42	63	67	104	119	142
Industrial scale (>1000 plants)	40	45	71	82	88	83
Total	372	646	737	968	1070	1111

Source: Belgian Federal Police – Desk Production DJP/Drugs.

to Belgium. This can be explained by what police term as ‘displacement’. At the end of the 1990s, the Netherlands had started to focus on the so-called backdoor of the coffee shops and cannabis-producing networks (Boekhout van Solinge, 2004; Korf, Van der Woude, Benschop, & Nabben, 2001; van de Bunt, 2006; van Ooyen-Houben, 2006). One of the main drivers was international pressure on the Netherlands as a result of the increasing stream of international drug tourists visiting both coffee shops and other dealing premises. These outlets cause potential public nuisance for local citizens and, according to neighboring countries, draw young people into the Netherlands to purchase illicit drugs (Boekhout van Solinge, 1996; De Ruyver, Surmont, De Moor, & Vandam, 2007; EMCDDA & Europol, 2013; Fijnaut & De Ruyver, 2008; Surmont, 2007).

As a result of their highly dynamic and adaptive character, drug networks found a new operation base in Belgium. The displacement was also opportunity-driven: initially, plantations were not easily discovered by the Belgian police, because they lacked the know-how their Dutch colleagues had acquired after years of seizures (Spapens, van de Bunt, Rastovac, & Miralles Sueiro, 2007) Belgium did not have a long tradition in detecting cannabis plantations and subsequently identifying the networks they operate in (Van Camp, 2008).

Currently, when a plantation has been dismantled by the Belgian police, the prosecutor tries to estimate the financial benefits of the actors involved, based on the confiscated assets and/or calculated financial returns (Vanhove, Surmont, Van Damme, & De Ruyver, 2012). At production level, the prosecution currently uses a fixed price of €3 per g (Van Camp, 2008), without taking plantation type or grower characteristics into consideration. The fixed price is applied to the possible yield of the discovered plantation and possible former yields (in grams): the yield calculation is based on research by Toonen, Ribot, & Thissen (2006) and applied at 28.1 g per plant.

In 2010, an interdisciplinary study, funded by the Belgian Science Policy Office shed more light on agronomic and criminological aspects of Belgian indoor cannabis cultivation. The study found that (i) one cannabis cycle can be completed in 11 weeks so that a grower can theoretically conduct at least 4 cannabis grow cycles in one year; (ii) a reliable yield estimate of an indoor cannabis plantation is 575 g per m² of dried cannabis buds; (iii) the Belgian cannabis market chain has a highly complex structure in which unit prices are predominantly determined by transaction sizes, but where a broad range of product-related factors and social mechanisms also have a significant impact on price formation; (iv) Belgian cannabis growers across all scale types (micro-scale to large-scale) receive between €3.00 and €4.25 per g of dry cannabis buds, depending on the relationship of the grower with the wholesaler, transaction size and quality (apart from the scale of the grower). This means that the fixed price of €3.00 per g currently used by the Belgian prosecution is an underestimation of the current prevailing market prices. These results support the conclusion that an illicit Belgian cannabis grower can obtain a gross revenue of between €6900 and €9775 per m² per year (€3.00 or €4.25 per g × 575 g per m² × 4

cycles per year) (Vanhove, Surmont, et al., 2012; Vanhove, Van Damme, Surmont, Van Puyenbroeck, & De Ruyver, 2012a,b).

Although much is known about wholesale prices and profits in drug markets (EMCDDA, 2012) in general, little is known about precise monetized profit rates of different kinds of cannabis growers. Police and judiciary assume the latter are considerably higher than in legal economic activities, but estimations have never been provided. Here we aim to reveal returns on cost for different types of cannabis growing operations. Currently, the Belgian judiciary makes no distinction in prosecution of cannabis plantations of different scales. However, Decorte (2010a, 2010b) has argued that small-scale cannabis production should be considered as a specific segment of the Belgian cannabis market because small-scale-growers (i) desire a milder and more organic product than the cannabis sold through mainstream coffee shop channels; and (ii) are ideologically oriented growers that cultivate cannabis as part of a subculture and do not want to contribute to profits of criminal networks. As a result, Decorte (2010b) made a case for government-regulated production and trade of cannabis that would limit the possibilities for organized crime in the cannabis distribution chain. Data on profit margins for different plantation sizes would at least allow the development of a more finely tuned and differentiated policy towards containing illicit cannabis growing in Belgium.

However, the findings of Vanhove, Surmont, et al., 2012, do not allow determination of conclusive net profits of illicit cannabis growers in Belgium. Most interviewees at production level could not provide these researchers with adequate information on the type of investment made in growing installations nor other production costs (fertilizers, electricity, etc.) (Surmont, Vander Laenen, & De Ruyver, 2011; Vanhove, Surmont, et al., 2012; Vanhove, Van Damme, et al., 2012). In this paper, we combined findings from real case studies with information from grey literature resources in order to estimate gross revenues and return on costs of different types of Belgian indoor plantations.

Methods

We calculated costs and gross revenues of four separate (Belgian) cannabis growers: three growers (with 5, 150 and 600 plants, respectively) who were interviewed for the study of Vanhove, Surmont, et al. (2012) and one grower with an industrial-size plantation (>1000 plants). The latter was not included in the snowball sample of Vanhove, Surmont, et al. (2012); these types of grower are harder to recruit to scientific studies as they do not wish to compromise their business (Surmont et al., 2011). In interviews, growers were asked about objectively verifiable data such as the number of plants, environmental factors such as temperature and light regime, materials used, etc. In the case of the industrial grower, the latter information was obtained from grey literature and television coverage documenting his plantation at time of seizure.

Several studies have stated that snowball sampling works better with more marginalized groups of drug users than with cannabis smokers and dealers, because the latter belong to more socially

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